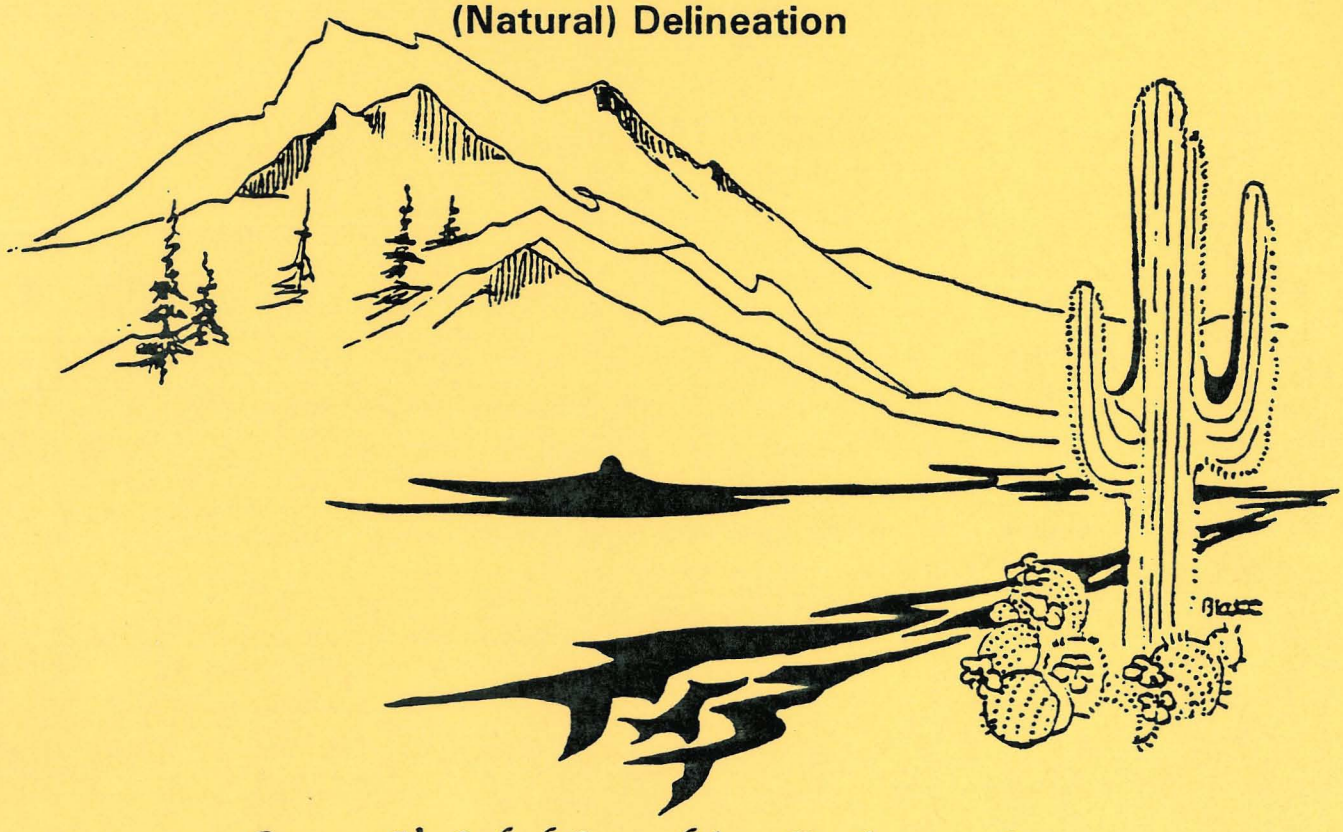
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
PHOENIX, ARIZONA

CAVE CREEK
ABOVE CAREFREE HIGHWAY
FLOODPLAIN DELINEATION STUDY
FCD 95-28

TECHNICAL DATA NOTEBOOK
HYDRAULICS
100-Year Floodplain and Floodway
(Natural) Delineation



George V. Sabol Consulting Engineers, Inc.
Scottsdale, Arizona

in association with
McLaughlin Kmetty Engineers, Ltd.

JULY 1997

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SECTION 1: GENERAL DOCUMENTATION AND CORRESPONDENCE

1.0 Introduction

This report contains the results and supporting computations for the hydraulics portion of the Cave Creek Above Carefree Highway Floodplain Delineation Study. A previous flood insurance study has delineated the floodplain and floodway for the study area; however, the purpose of this report is to delineate new 100-year floodplain and floodway limits based upon new hydrology developed in this study. The hydrology portion of this study is contained under separate cover in a report entitled Cave Creek Above Carefree Highway Floodplain Delineation Study Technical Data Notebook, Hydrology, herein called the Hydrology TDN.

This study delineates approximately 5.3 miles of floodplain and floodway along Cave Creek, from near the Carefree Highway (River Mile 30.2) to a point just north of Morning Star Road (River Mile 35.54). This portion of Cave Creek is located approximately 45 miles northeast of Phoenix, Arizona. Figure 1-1 is a Location Map for the Study Area. Figure 1-2 is a Vicinity Map showing the location of Cave Creek.

This report is prepared by McLaughlin Kmetty Engineers, Ltd., a subconsultant to the prime consultant, George V. Sabol Consulting Engineers, Inc. Appendix H contains the completed FEMA forms.

This study is coordinated with a concurrent study adjacent to the downstream end of this floodplain delineation. The adjacent study is titled "Cave Creek Below Carefree Highway Floodplain Delineation Study", and is performed by Willdan Associates [Willdan, 1997], and is herein referred to as the Willdan Study. The Technical Data Notebooks for this adjacent study should be consulted, as needed, to understand the coordination of these two studies.

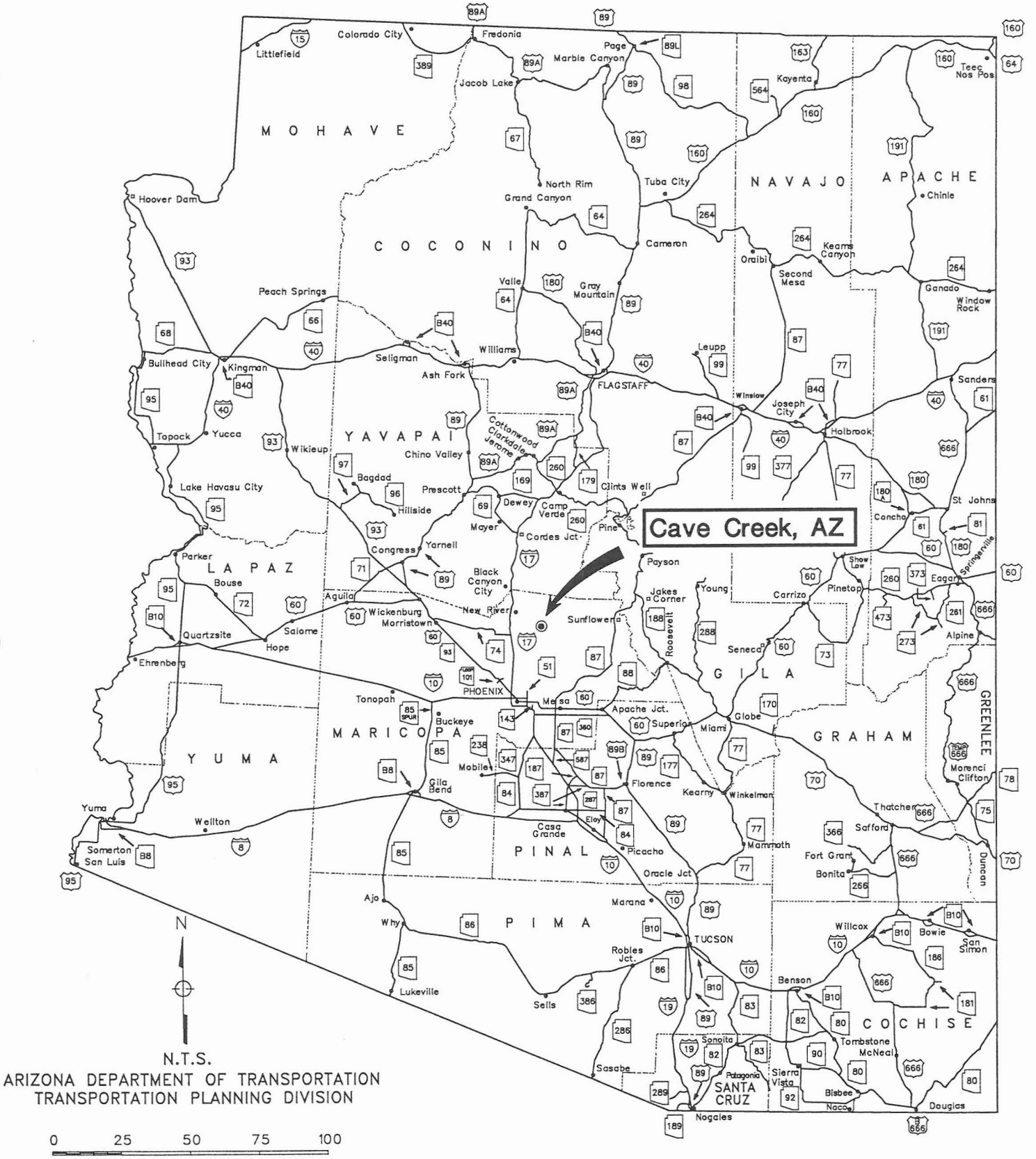

FIGURE 1-1

Location Map

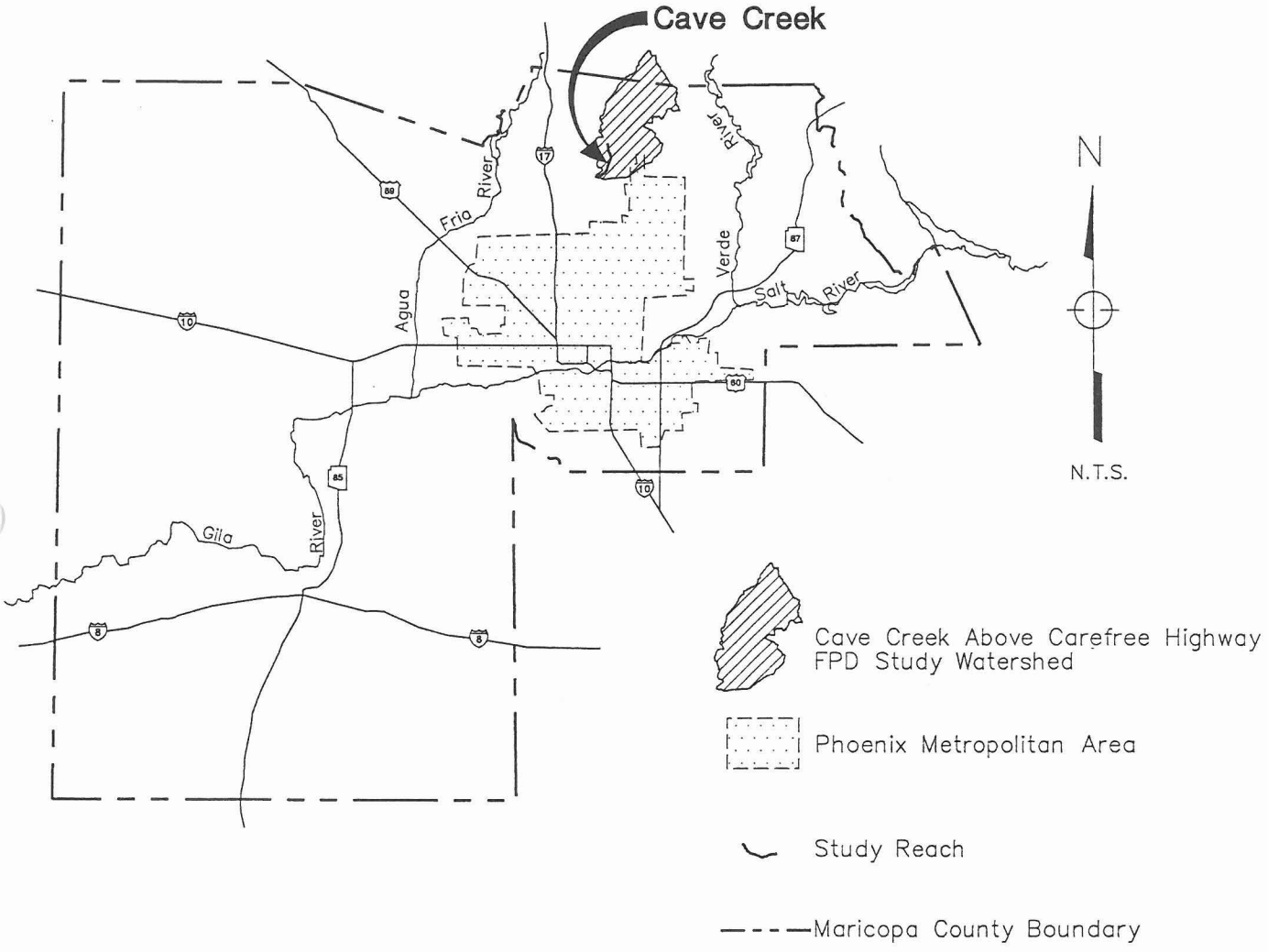

FIGURE 1-2

Vicinity Map

SECTION 2: MAPPING AND SURVEY INFORMATION

2.1 Description of Mapping

The base maps for the floodplain analysis were prepared by Aerial Mapping Company, Inc. (AMC) in 1996 under a subcontract with George V. Sabol Consulting Engineers, Inc. The aerial photography flight date was January 12, 1996. Alcocer Land Surveyors (ALS) provided surveying within the study limits. The coordinate grid system is based upon the North American Datum of 1927 (NAD 27) Arizona State Plane Coordinate System. The two concurrent studies (Above and Below Carefree Highway) are placed on the same horizontal and vertical coordinate system. The NAD 27 coordinate system was selected in order to tie into previous studies of Cave Buttes Dam, the downstream area (Cave Creek to ACDC) and the established benchmark system in use at Cave Buttes Dam. Elevations are based upon National Geodetic Vertical Datum of 1929 (NGVD 29). Conversion from NGVD 29 to the North American Vertical Datum of 1988 (NAVD 88) is accomplished by adding 1.87 feet to NGVD 29 elevations. This conversion was derived by the National Geodetic Survey using differential leveling at Bell 2 (retrieval date July 21,1992). A note discussing this conversion is found on the floodplain map.

Base map elevations for this study and the concurrent study are based upon benchmark elevations provided by Valco Surveying Corporation as part of the Willdan Study. Within the study limits, the effective model was prepared by Harris-Toups. Upstream of the study limits, the floodplain ties into the effective CH2M-Hill study, which is on a different vertical datum. An adjustment of +0.47 feet to previous (Harris-Toups and CH2M-Hill) map elevations is required to bring previous studies to the current datum. The adjustment was determined by comparing elevations at a previous benchmark, R.M. 127. The ALS survey for this study determined R.M. 127 to be at an elevation of 1924.07 as shown on Page 6 of the Level Book Notes near the end of Appendix B. FIRM Panel 815 sets the elevation of R.M. 127 at elevation 1923.60 [FEMA, 1989]. Therefore, adding 0.47 feet to the Harris Toups and CH2M-Hill elevations will raise them to the same level as that used for this study. No other previous FIRM benchmarks could be found by Alcocer Land Surveyors.

The base maps were verified in accordance with FEMA 37 guidelines, and the results of the verifications are included in Appendix G. The results conclude that the base maps meet FEMA 37

criteria. It should be noted that Cross Section 30.1 was utilized as a check section for this study. After coordination with the Willdan Study, this cross section was moved from this study to the adjacent study, yet remains as one of the mapping verification cross sections for this study.

The study area base maps cover the following areas:

T5N R3E: A portion of Section 1

T5N R4E: Portions of Section 5 and Section 6

T6N R4E: Portions of Sections 17, 20, 28, 29, 31 and 32

2.2 Index of Maps

The sheet index map for the floodplain and floodway maps is contained in Appendix E along with reduced scale copies of the maps. Refer to Section 2 of the Hydrology TDN, for an index of the hydrology maps.

2.3 Survey Field Notes

Alcocer Land Surveyors (ALS) was the surveying company within the study limits. Vertical control is based upon a benchmark provided by Valco Surveying Corporation as part of the Willdan Study. Descriptions of the applicable elevation reference marks (ERM's) are contained in Appendix A. A copy of the field survey notes along with any supplemental survey data provided by ALS is contained in Appendix B. For additional survey data, refer to the Willdan Study Technical Data Notebook.

2.4 Watershed Maps

Refer to Section 2 of the Hydrology TDN.

2.5 Hydraulic Analysis Maps

Reduced scale floodplain and floodway maps are provided in Appendix E. Full size copies are bound separately from this report.

2.6 Draft FIRM Maps

A copy of the draft Flood Insurance Rate Maps plotted at the same scale as the current FIRM map (1 inch = 1,000 feet) are bound separately from this report.

2.7 Community Maps

General street and corporate information for the study area is shown on the floodplain and floodway maps. Refer to Section 2 of the Hydrology TDN for community information relating to hydrology maps.

SECTION 3: HYDROLOGIC ANALYSIS

Refer to the separately bound Cave Creek Above Carefree Highway Floodplain Delineation Study, Technical Data Notebook, Hydrology. The next two pages are photocopies of each cover sheet for ease of reference. Table 3-1 contains a summary of the peak discharge rates at all hydrologic concentration points within the study wash. Other discharge rates were determined by the project hydrologist using interpolation. The discharge rates were then input into the hydraulics model.

TABLE 3-1
SUMMARY OF DISCHARGES

Location	Hydrologic Concentration Point	Drainage Area (S. M.)	100-year Flow Rate (cfs)
At Carefree Highway Bridge	C410	124.4	33,800
South of New River Rd near R.M. 30.95	C400R	118.1	31,400
Located just east of Andora Hills Wash Drive near R.M. 32.51	C390	115.0	31,200
Confluence with Andora Hills Wash near R.M. 32.90	C310	112.2	30,900
Confluence with Galloway Wash near R.M. 33.36	C260	91.4	24,700
Confluence with Willow Springs Wash near R.M. 33.66	C250	86.0	24,000
North of Willow Springs Wash confluence near R.M. 33.88	C240	80.1	23,400
South of Cahava Ranch Rd. near R.M. 35.00	C230	77.5	23,200

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FLOODPLAIN DELINEATION STUDY
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TECHNICAL DATA NOTEBOOK
HYDROLOGY
Existing Condition

Book 1 of 2

George V. Sabol Consulting Engineers, Inc.
Scottsdale, Arizona

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JULY 1997

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SECTION 4: HYDRAULIC ANALYSIS

4.1 Method Description

This study involves the floodplain and floodway delineation for approximately 5.3 miles of Cave Creek from just north of the Carefree Highway to a point just north of Morning Star Road. The study wash hydraulics are determined through the use of an enhanced version of the U. S. Army Corps of Engineers HEC-2 Water Surface Profiles Program, Version 4.6.2 dated May 1991 [U.S. C.O.E., 1991]. An enhanced version of the program, entitled ProHEC-2 developed by Dodson and Associates, has additional editing and on-screen graphics capabilities [Dodson & Associates, 1991]. The BOSS HEC-2 program was utilized to map the floodplain onto the digital base maps. All such computer-drawn lines were reviewed for accuracy and reasonableness.

The starting water surface elevation for Cave Creek is taken from the Willdan Study [Willdan, 1997]. The common point between the two studies occurs at River Mile 30.2, which is a short distance upstream of the Carefree Highway bridge. At this location, the channel roughness coefficient, the floodplain water surface elevation, the floodway water surface elevation and the floodway limits are exactly the same in both studies.

To provide a continuous water surface profile that ties into the previous study upstream of the study limits, three cross sections from the previous upstream study were added to the end of this study's HEC-2 analysis. Due to differences in hydrology between the studies, it was necessary to use the previous flow rates to provide a continuous water surface profile. It was also necessary to adjust the cross section elevations of the previous study by +0.47 feet to account for differences in mapping data (see Section 2.1).

The floodplains and floodways are prepared using the guidelines in the January, 1995 edition of FEMA Document 37, Flood Insurance Study Guidelines and Specification for Study Contractors [FEMA, 1995] and FIA Document 12, Appeals, Revisions, and Amendments to Flood Insurance Maps [FEMA,1990]. Floodways are initially determined using the equal conveyance encroachment method with the final analysis utilizing Encroachment Method 1 (specified encroachment stations). Additional floodway criteria was obtained from Floodway Determination Using Computer Program HEC-2 [U.S.C.O.E., 1988].

4.2 Parameter Estimation

4.2.1 Manning's n-Value

4.2.1.1 General

Cave Creek Wash is separated into reaches which have similar hydraulic characteristics, and therefore, have similar Manning's n roughness coefficient values. The reaches are numbered from downstream to upstream starting at Reach 50 (River Mile 30.2) and ending at Reach 56 (River Mile 35.54). The numbering sequence of the reaches is unique to this study and is not related to the numbering or naming of reaches in any other adjacent study.

Exhibit 1, Manning's n-Value Map, in Appendix C, shows the location and limit of each reach, estimated n-values, and the location and direction of photographs of typical reach characteristics. The photographs are shown in Appendix C along with the Determination of Manning's Roughness Coefficients Tables. The plastic grid shown in all bed material photographs and most of the channel photographs has an outside measurement of 1.5 feet x 1.5 feet. The grid inside of the frame measures 1.0 foot x 1.0 foot with 1 inch square grids. Unless otherwise noted, each page of photographs is arranged in the following sequence.

1 Left Overbank looking upstream or downstream	2 Bed Material
3 Looking upstream or downstream at main channel	4 Right Overbank looking upstream or downstream

4.2.1.2 Methodology

Each reach was identified based upon field reconnaissance, ground photographs and by examining 9 inch x 9 inch aerial photographs (1:8000 scale). The discerning characteristics are channel size and shape, similarities in bed material, vegetation, and the presence/absence of channel obstructions. The entire study length was viewed on foot during the field reconnaissance and each reach was photographed at representative locations. A representative from the Flood Control District of Maricopa County was present for a portion of the field reconnaissance.

Manning's roughness coefficients are estimated using a method accepted by the Flood Control District of Maricopa County and outlined in "Estimated Manning's Roughness Coefficients for Stream Channels and Flood Plains in Maricopa County, Arizona" [U.S.G.S, 1991]. The method is to select an initial value of Manning's n based upon the bed material and then adjust the n-value for channel irregularities, the effects of obstructions, vegetation, and variations in channel cross sections. If the channel has sufficient meander to increase roughness, then the sum of the base n-value plus subsequent adjustments is multiplied by a meander value, m. There is insufficient meander in the channel to warrant use of this factor. Tables for the determination of Manning's roughness coefficient for each reach are shown in Appendix C. Each reach is briefly described in the Determination of Manning's Roughness Coefficient Tables. Abbreviations LOB, ROB, and CH stand for left overbank, right overbank, and channel, respectively.

4.2.1.3 n-Value Determination

Base Roughness Value. The base n-value for bed material roughness is selected based upon field inspection and utilizing a photograph of the grid on the bed material. The grid allows for the determination of the size of the bed material. Base n-values ranged from 0.028 to 0.044, prior to any adjustments.

Adjustments to Base Value. Based upon field reconnaissance and photographs, adjustments are made to the base roughness value to account for vegetation, obstructions, irregularities and channel cross section variations. The defined main channel of the creek tends to be very rocky with little vegetation. The overbanks vary depending on the defined location of the left and right overbanks (refer to Section 4.3). Where the left and right overbanks are defined as the vegetated portions within the channel, the overbanks tend to be fairly well-vegetated with grass, medium-sized brush and occasional trees. The bed material remains extremely rough with a fair amount of cobbles and boulders. Where the overbanks are defined by elevated embankments, the bed material tends to be considerably less rocky and the overbanks are well-vegetated with grass, brush, trees and cacti. Final n values range from 0.045 to 0.075.

4.2.2 Expansion and Contraction Coefficients

Cave Creek has no culverts or other hydraulic structures located within the limits of the study and the wash is relatively free of any abrupt transitions. Therefore, gradual expansion and contraction coefficients of 0.3 and 0.1, respectively, are used for a majority of the Study. At River Mile 34.27, however, the wash naturally constricts and larger expansion and contraction coefficient values of 0.5 and 0.8 are used. Expansion and contraction coefficients are obtained from the HEC-2 User's Manual [U.S. C.O.E., 1990].

4.2.3 Hydraulic Jump/Drop Analysis

The channel slope is more or less uniform, and there are no abrupt changes in channel slope that would warrant a hydraulic jump analysis. Therefore, this type of analysis is not performed in this study.

4.3 Cross Section Description

4.3.1 Channel and Overbanks

Cross section shapes vary from reach to reach, but generally, most reaches have relatively wide flat channel bottoms (40 feet to 200 feet), sparsely vegetated, with gradually sloping sides (10 feet to 80 feet) which are more densely vegetated. The low-flow channel is comprised of relatively well-defined embankments of varying heights (2 feet to 10 feet). The side slopes at the floodplain edge are relatively steep.

Channel bank stations have been approximated from field reconnaissance and aerial photographs. Simple rough sketches of typical channel cross sections with proposed locations of channel bank stations were drawn in the field. These sketches are shown at the top right corner of the Manning's n-Value Determination Tables for each reach (Appendix C). Left and right channel bank stations are generally located at the edge of the unvegetated portion of the channel or at the toe of the channel side slopes. Because the sketch is only a general representation for the entire reach, only a general depiction of the channel shape and channel bank stations are indicated. The channel bank stations are denoted by the letters "L" and "R" for the left and right channel bank stations, respectively. The final location of the left and right channel back stations for each cross section is contained in Appendix D, Cross Section Plots.

4.3.2 Bridges or Constrictions

There are no bridges, culverts or other significant constrictions located within the study limits. A natural constriction is discussed in Section 4.2.2.

4.3.3 Grade Control Structures

There are no significant grade control structures located within the study limits.

4.4 Calibration

4.4.1 HEC-2 Model Calibration

There is no stream gauge data available within the study limits to calibrate the Cave Creek HEC-2 model. The mapped floodplain limits have been inspected for reasonableness and found to be appropriate. There are existing gauges downstream of the study limits, but they are not applicable for HEC-2 model calibration. Refer to Section 3.2.5 of the Hydrology TDN for discussion of the other existing gauges.

4.5 Special Problems

4.5.1 Tie-In to Existing Floodplain Delineation Studies

Appendix D contains the revised original HEC-2 output for Cave Creek north of Morning Star Road. The revision was necessary due to the datum difference discussed in Section 2.1. Appendix D also contains the final HEC-2 output for the new delineation. By comparing the two HEC-2 models, it is found that the new delineation ties into the previous delineation at River Mile 35.77. This tie-in point is outside the new mapping limits. Appendix D contains a spliced map detailing the floodway and floodplain tie-in.

4.5.2 Berms Located in Floodplain

Berm at River Mile 31.85

There is an existing berm in the floodway centered approximately on River Mile 31.85. This berm was constructed as part of a private pond adjacent to an existing residential structure. The pond's water level at the time of aerial photography is about 6.0 feet below the 100-year floodplain

elevation. No data is available concerning the construction of this berm, and it is assumed that this berm will be removed by the 100-year flood. The berm is assumed to completely wash out where the berm wraps around to tie into the left bank of Cave Creek (between River Mile 31.91 and River Mile 31.87). Once this upper portion is removed, the portion of the berm between River Mile 31.87 and River Mile 31.82 is assumed to remain in place, thus a divided flow message in the HEC-2 output can be found. The berm is modeled in the final HEC-2 model as being in place because it may, in fact, remain during a 100-year flood. However, in order to avoid showing a dry island, the floodplain is mapped as if the berm is removed.

Berm at River Mile 35.02:

There is an existing berm located at River Mile 35.02, between Sta. 10,030 and Sta. 9630 (eastern edge of floodplain). As shown on Floodplain Delineation Sheet 7 of 7, the lowest spot elevation next to the berm is 2116.8 and the highest spot elevation on the berm is 2124.8. The 100-year floodplain elevation is about 2122.5. According to an interview of a local resident, this berm has washed out in the past, from relatively shallow overbank flows. The berm was constructed in an effort to limit flooding in the sheds and on the property downstream of this berm. This berm is ignored for floodplain mapping purposes.

4.5.3 Structures Located Within Floodplain or Floodway

There are several structures that are located within the floodplain, and some structures that are located within the floodway. These structures were viewed in the field with a District representative on 18 September 1996. Each structure is briefly described in Table 4-1, which is separated into residential structures and other structures. A structure listed as in the floodplain is located between the floodway and the outside edge of the floodplain. When the floodplain and floodway are coincident, the structure is listed as being in the floodway. References to station and river mile refer to the same convention as discussed in Section 4.3.1. The river mile location is derived from a line that would mimic a HEC-2 cross section line perpendicular to the floodplain.

TABLE 4-1

Residential Structures in the Floodplain or Floodway

Approximate River Mile	Approximate Station	Description
31.88	9650	Edge of residence in the floodplain. Per field visit, flood hazard may be limited to the garage.
35.122	10200	Residence in the floodplain.
35.15	9700	Mobile home in the floodplain.
35.15	10100	Possible residence in the floodway. An adobe manufacturing site, comprised of a group of four attached buildings with separate roof lines. The middle building was under reconstruction at the time of site visit.
35.15	10200	Possible residence in the floodway, located a short distance west of building at Station 10100.
35.18	10400	Residence in the floodplain.
35.20	10850	Edge of mobile home located within the floodplain.

Other structures in the Floodplain or Floodway

Approximate River Mile	Approximate Station	Description
31.110	9800	Building in floodplain constructed after January, 1996.
31.114	9800	Building in floodplain constructed after January, 1996.
31.126	9800	Shed in the floodplain.
31.140	9750	Shed in the floodplain.
31.20	9450	Shed in the floodplain.
32.384	9780	Shed in the floodplain.
32.45	9750 to 9600	Four sheds in the floodway.
32.490	9800	Horse barn in the floodway. The number of open walls was not investigated.
34.813	9850	Shed in the floodway.
34.820	9850	Hay barn comprised of a roof with no walls in the floodway.
34.830	9900	Hay barn comprised of a roof with no walls in the floodway.
34.86	9900	Two large attached shade roofs with no walls in the floodway.
34.880	9800	Shed in the floodway.
34.980	9800	Shade roof in the floodway.
35.062	10100 and 10150	Two small sheds in the floodway and floodplain.
35.20	10850	What appears to be a shed located within the floodplain.
35.24	10800	Two car garage with attached storage shed located within the floodway.

In summary, there are five (5) residential structures, and two (2) additional structures that may be used for residential purposes that are located within the floodplain and/or floodway. There are twenty-three (23) structures (including one possible shed) that are sheds or shade roofs that are located within the floodplain and/or floodway.

4.6 Floodway Modeling

Within the study limits, Cave Creek is a wide channel with steep side slopes. The 100-year floodplain is generally contained within the limits of the wash. To delineate the floodway, encroachments are initially set through equal conveyance reduction, Floodway Method 4 to ensure floodway water surface elevations are not more than 1.0 foot higher than the 100-year floodplain water surface elevations. The values obtained from the Method 4 results are input into the final HEC-2 model using Floodway Method 1. Some minor floodway adjustments in the lower study reach were made to more closely conform the revised floodway to the effective floodway. In no case is the surcharge greater than 1.0 feet. These adjustments were made from River Mile 30.3 to 30.75, from 31.1 to 31.25, and from 31.34 to 31.7.

4.7 Final Results and Computer Output

The final HEC-2 analyses are presented in Appendix D. File CAVEFW1.OH2 is the final HEC-2 output file for the Existing Conditions 100-Year Floodplain and Floodway profiles. The cross section and stream profile plots follow the HEC-2 output. Table 4-2 describes the HEC-2 files used in this study.

TABLE 4-2
HEC-2 MODELS

Input File Name	Description
DUPEFF.IH2	Duplicate Effective Model Below River Mile 35.49. Hydraulic Analysis Supplemental HEC-2 File. The Harris-Toups HEC-2 analysis is reproduced on the requestor's equipment to generate the duplicate effective model.
CAVEFLDW.IH2	Corrected Effective Model Below River Mile 35.49. Hydraulic Analysis Supplemental HEC-2 File. The duplicate effective model is corrected by adding 0.47 feet to raise the duplicate effective model to the current datum.

CCMCEREV.IH2 Corrected Effective Model Above River Mile 35.49. Cave Creek 100-year base flood and floodway Encroachment Method 1 analysis upstream of the limits of this study, previously developed by CH2M-Hill. Analysis corrected by increasing all elevation data by +0.47 feet (as discussed in Section 4.1) in order to determine the location at which current water surface elevations will match previous water surface elevations. This is a supporting hydraulic analysis and is not used to delineate the floodplain or floodway. Results are compared to CAVEFW1.IH2 to determine tie-in point.

CAVEFW1.IH2 Cave Creek 100-year base flood and floodway Encroachment Method 1 analysis. Includes three upstream cross sections from previous study by CH2M-Hill, using flow rates obtained from the CH2M-Hill study, and cross section elevations are modified by +0.47 feet as discussed in Section 4.1. This is the final hydraulic analysis used to delineate the 100-year floodplain and floodway.

CCNOBERM.IH2 Cave Creek 100-year base flood analysis with a protective berm surrounding a residential pond near River Mile 31.82 and River Mile 31.86 removed. This is a supporting analysis to determine the impact of the berm of the water surface elevation. It was found that the presence or absence of the berm has no significant impact. The berm is not removed in CAVEFW1.IH2 but it is ignored when plotting the floodplain and floodway limits.

4.8 Diskette of HEC-2 Input and Output Files

A computer diskette containing all appropriate input and output files are contained in a plastic sleeve in back of the Hydraulics TDN. The file README.DOC contains information relevant to the enclosed files.

SECTION 5: EROSION/SEDIMENT TRANSPORT ANALYSIS

Erosion and sediment transport analyses are not performed because the channel appears to be relatively stable. Erosion and sedimentation are not issues in this floodplain delineation. The Flood Control District has not placed such analyses within the Scope of Work for this study.

SECTION 6: REFERENCE MATERIALS

6.1 Other Published Studies

Two previous studies established the current FIS floodplain and floodway delineations along the study reach and are summarized as follows:

1. Harris-Toups Associates, September 1978 (HTA,1978). A study of Cave Creek Wash and 6 tributaries: Andora Hills Wash, Grapevine Wash, Ocotillo Wash, Rowe Wash and Willow Springs Wash. The study limits are 0.7 miles downstream of Carefree Highway to 0.14 miles upstream of Morning Star Road. Hydrology was performed using the SCS TR-20 computer program. Water surface profiles were computed using HEC-2 for the 10-, 50-, 100-, and 500-year floods.

2. CH2M-Hill, March 1990, Final Hydrologic and Hydraulic Report for Cave Creek/Carefree Flood Delineation Study, (CH2M-Hill, 1990). A flood delineation study of Cave Creek and 5 tributaries prepared under contract with the FCDMC (FCD 88-53). The study limits are River Mile 35.49 to the Tonto National Forest boundary (3.3 miles). The 5 tributaries that were studied are Cottonwood Creek, Willow Springs Wash, Ocotillo Wash, Grapevine-Rowe Washes and the North Tributary to Galloway Wash. Hydrology was performed using a modified version of the Cave Creek/Bloody Basin HEC-1 model developed by the FCDMC. Water surface profiles were computed using HEC-2 for the 10-, 50-, 100-, and 500-year floods.

6.2 Previous FEMA Studies

Refer to Section 6.1.

6.3 Other Applicable Studies

The Cave Creek Below Carefree Highway Floodplain Delineation Study is a concurrent study by Willdan Associates which delineates the 100-year floodplain and floodway for a portion of Cave Creek below the limits of this study. The joint boundary between the two studies occurs at the cross section of River Mile 30.2.

6.4 Published and Unpublished Historical Flood Information

No other historical flood information is referenced in this report.

6.5 Referenced Documents

Arizona Department of Water Resources, Engineering Division, Flood Management Section, September 1991. Instructions for Organizing and Submitting Technical Documentation for Flood Studies (SS-1).

Arizona Department of Water Resources, Engineering Division, Flood Management Section, September 1992. Requirement For Floodplain Delineation In Riverine Environments.

BOSS International, 1993. BOSS HEC-2 for AutoCAD, Enhanced Version 2.0.

Chow, V.T., 1959. Open Channel Hydraulics, McGraw-Hill.

Dodson & Associates, Inc., 1991. ProHEC2 User's Manual and Program Reference.

Federal Emergency Management Agency, December 3, 1993. Maricopa County, Arizona, and Incorporated Areas, Flood Insurance Rate Map, Panel 802 of 4350.

Federal Emergency Management Agency, December 3, 1993. Maricopa County, Arizona, and Incorporated Areas, Flood Insurance Rate Map, Panel 805 of 4350.

Federal Emergency Management Agency, December 3, 1993. Flood Insurance Study, Maricopa County, Arizona and Incorporated Areas, Volumes 1 through 9.

Federal Emergency Management Agency, January, 1995. FEMA 37, Flood Insurance Study Guidelines and Specifications for Study Contractors.

Federal Emergency Management Agency, September 29, 1989. Maricopa County, Arizona, and Incorporated Areas, Flood Insurance Rate Map, Panel 815 of 4350.

Flood Control District of Maricopa County, September, 1992. Drainage Design Manual for Maricopa County, Volume I, Hydrology.

Flood Control District of Maricopa County, September, 1992. Drainage Design Manual for Maricopa County, Volume II, Hydraulics.

Flood Insurance Administration, January 1990. Appeals, Revisions and Amendments to Flood Insurance Maps, (FIA Document 12).

U.S. Army, Corps of Engineers, September, 1990. HEC-2 Water Surface Profiles User's Manual.

U.S. Army, Corps of Engineers, January 1988. Floodway Determination Using Computer Program HEC-2, Training Document No. 5.

U.S. Geological Survey, 1991. Manning's Roughness Coefficients for Stream Channels and Floodplains in Maricopa County, Arizona.

U.S. Geological Survey, Water Resources Division, April, 1991. Manning's Roughness Coefficients for Stream Channels and Flood Plains in Maricopa County, Arizona.

Willdan Associates, March 1997. Cave Creek Below Carefree Highway Floodplain Delineation Study.

SECTION 7: CROSS-REFERENCING AND LABELING INFORMATION

7.1 Other Studies Impacted

This study will impact a concurrent study, "Cave Creek Below Carefree Highway Floodplain Delineation Study" by Willdan Associates, and a previous study, "Final Hydrologic and Hydraulic Report for Cave Creek/Carefree Flood Delineation Study" by CH2M-Hill in 1990 (CH2M-Hill, 1990). The concurrent study ends at Cross Section 30.2. The results of the previous study are incorporated into this study to provide a continuous water surface profile at the upstream limits with some necessary modifications (refer to Section 4.1).

7.2 Key to Cross Section Labeling

Two FIS cross sections were originally incorporated into this study. After coordinating this study with the adjacent downstream study, Cross Section 30.1 was removed from this study. However, reference to Cross Section 30.1 must be maintained in this study due to its use as a mapping verification section. Please refer to the Willdan Study for the location of this cross section. FIS cross sections and corresponding study cross sections are shown in the following table:

Table 7.1
Key To Cross Section Labeling

Community Name: Town of Cave Creek
County: Maricopa County
State: Arizona

Prepared By: George V. Sabol Consulting Engineers, Inc., in association with McLaughlin Kmetty Engineers, Ltd.

Stream Name: Cave Creek
Run Date: 04/01/97

Field Survey Section No.	XS Letter - Draft FIS	Computer Stationing	XS Letter - Final FIS	EPA Reach No.
1	DA	30.10	DA	N/A
6	EA	35.54	EA	N/A

SECTION 8: DRAFT FLOOD INSURANCE STUDY REPORT

See Appendix F.

CAVE CREEK ABOVE CAREFREE HIGHWAY
FLOODPLAIN DELINEATION STUDY
FCD Contract 95-28

Flood Control District of Maricopa County

****

State: Arizona
Community: Cave Creek, Arizona
County: Maricopa

Consultant:
George V. Sabol Consulting Engineers,Inc.

Attn: Scott Ogden, P.E.

c/o SFC Engineering Company
7776 Pointe Parkway West, Suite 290
Phoenix, AZ 85044
(602) 438-2200

Sub-Consultant (Hydraulics):
McLaughlin Kmetty Engineers,Ltd

Attn: Frank Edward Brown, P.E

3501 North 16th Street
Phoenix, AZ 85016-6419
(602) 248-7702

****

HYDRAULIC ANALYSIS OF STUDY AREA WASH

HEC-2 input files were prepared for the existing condition floodplain for the Cave Creek Above Carefree Highway Study Area. Previous study HEC-2 files were run as duplicate effective and corrected effective files.

Input File	Description of File	Date
DUPEFF.IH2	Duplicate Effective Model below River Mile 35.49. Hydraulic Analysis Supplemental HEC-2 File. The Harris-Toups HEC-2 analysis is reproduced on the requestor's equipment to generate the duplicate effective model.	2-19-97
CAVEFLDW.IH2	Corrected Effective Model Below River Mile 35.49. Hydraulic Analysis Supplemental HEC-2 file. The duplicate effective model is corrected by adding 0.47 feet to raise the duplicate effective model to the current datum.	2-20-97
CAVEFW1.IH2	Cave Creek, 100-year base flood and floodway Method 1 analysis. Includes three upstream cross sections from previous study by CH2M-Hill, using CH2M-Hill flow rates, and cross section elevations are modified for use with current study topography (see Section 4.1 of the Cave Creek Above Carefree Highway FDS, Technical Data Notebook, Hydraulics). This hydraulic analysis	4-01-97

is for final 100-year floodplain/floodway delineation.

CCMCEREV.IH2	Corrected Effective Model Above River Mile 35.49. Cave Creek, 100-year base flood and floodway Method 1 analysis upstream of the limits of this study, previously developed by CH2M-Hill. Analysis modified by increasing all elevation data by +0.47' in order to obtain previous study water surface elevations at the same datum as current study. (see Section 4.1 of the Hydraulics TDN). This is a supporting hydraulic analysis and is not used for delineation. Results are compared to CAVEFW1.IH2 to determine tie-in point.	9-27-96
CCNOBERM.IH2	Cave Creek, 100-year base flood analysis removing a protective berm around a residential pond near River Mile 31.82 and River Mile 31.87. This is a supporting analysis to determine the impact of the berm on the water surface elevation. The berm was determined to have no significant impact. The berm is not removed in CAVEFW1.IH2 but it is ignored when plotting the floodplain and floodway. This analysis is not used for delineation of the floodplain or floodway.	2-11-97

Appendix A
Elevation Reference Marks

CAVE CREEK ABOVE CAREFREE HIGHWAY
FLOODPLAIN DELINEATION STUDY
FCD NO. 95-28

ELEVATION REFERENCE MARKS

Note: All elevations are based on National Geodetic Vertical Datum of 1929

I.D. Num.	Elev. (ft.)	Description/Location
CC061	1908.08	Located at the top of brass cap in a handhole at the south 1/4 corner of Section 6, T5N, R4E.
CC062	1914.48	Located at the top of brass cap in a handhole at the west 1/4 corner of Section 6, T5N, R4E.
CC063	1938.37	Located at the top of USGLO brass cap in a handhole at the east 1/4 corner of Section 6, T5N, R4E.
CC064	1993.22	Located at the top of USGLO brass cap at NE corner of Section 6, T5N, R4E.
CC321	1985.02	Located at the top of brass cap in concrete 7 ft. west of power line and 7 ft. west of power and telephone pole #P51007660 being in the southeast 1/4 of Section 32, T6N, R4E, approximate coordinates N1025619.4, E484463.9
CC322	2005.81	Located at the top of brass cap in concrete 10 ft. north and 6 ft. west of electric transformer #M66450 being on the west side of Andora Hills Wash Drive, being in the NE 1/4 of Section 32, T6N, R4E, approximate coordinates N1028278.3, E485054.4.
CC291	2057.34	Located at the top of brass cap in concrete 10 ft. south of Ocotillo Road and 55th Street, being in the NE 1/4 of Section 29, T6N, R4E, approximate coordinates N1032723.2, E486628.2.

CAVE CREEK ABOVE CAREFREE HIGHWAY
FLOODPLAIN DELINEATION STUDY
FCD NO. 95-28

ELEVATION REFERENCE MARKS (Continued)

Note: All elevations are based on National Geodetic Vertical Datum of 1929

I.D. Num.	Elev. (ft.)	Description/Location
CC201	2090.39	Located at the top of brass cap in concrete being in the SE 1/4 of Section 20, T6N, R4E, coordinates N1025191.926820, E484461.678362.
CC202	2154.03	Located at the top of brass cap in concrete in the NW corner of Cahava Ranch Road and Rockaway Hills Road and 15 ft. west of power pole #MTP 107.64, being in the NE 1/4 of Section 20, T6N, R4E, approximate coordinates N1039368.8, E485527.7.
CC171	2201.93	Located at the top of brass cap in concrete at the SE corner of Morning Star Road and Old Stage Road. Also 3 ft. west of power and telephone pole, being in the NE 1/4 of Section 17, T6N, R4E, approximate coordinates N1043306.6, E484315.0

Appendix B
Survey Field Notes

FLOOD DELINEATION STUDY OF CAVE CREEK
CONTRACT FCD 95-28

FLOOD CONTROL DISTRICT
OF
MARICOPA COUNTY

SURVEY FIELD NOTES

ALCOCER LAND SURVEYORS

(602) 263-7846
FAX (602) 248-7851

Alcocer Land Surveyors

3501 N. 16TH STREET
PHOENIX, ARIZONA 85016

September 25, 1996

Flood Control District of Maricopa County
Phoenix, Arizona

Re: Flood Delineatin Study of Cave Creek
Cave Creek, Arizona
Contract FCD 95-28

This is to certify that these notes correctly represent a survey made under my supervision.

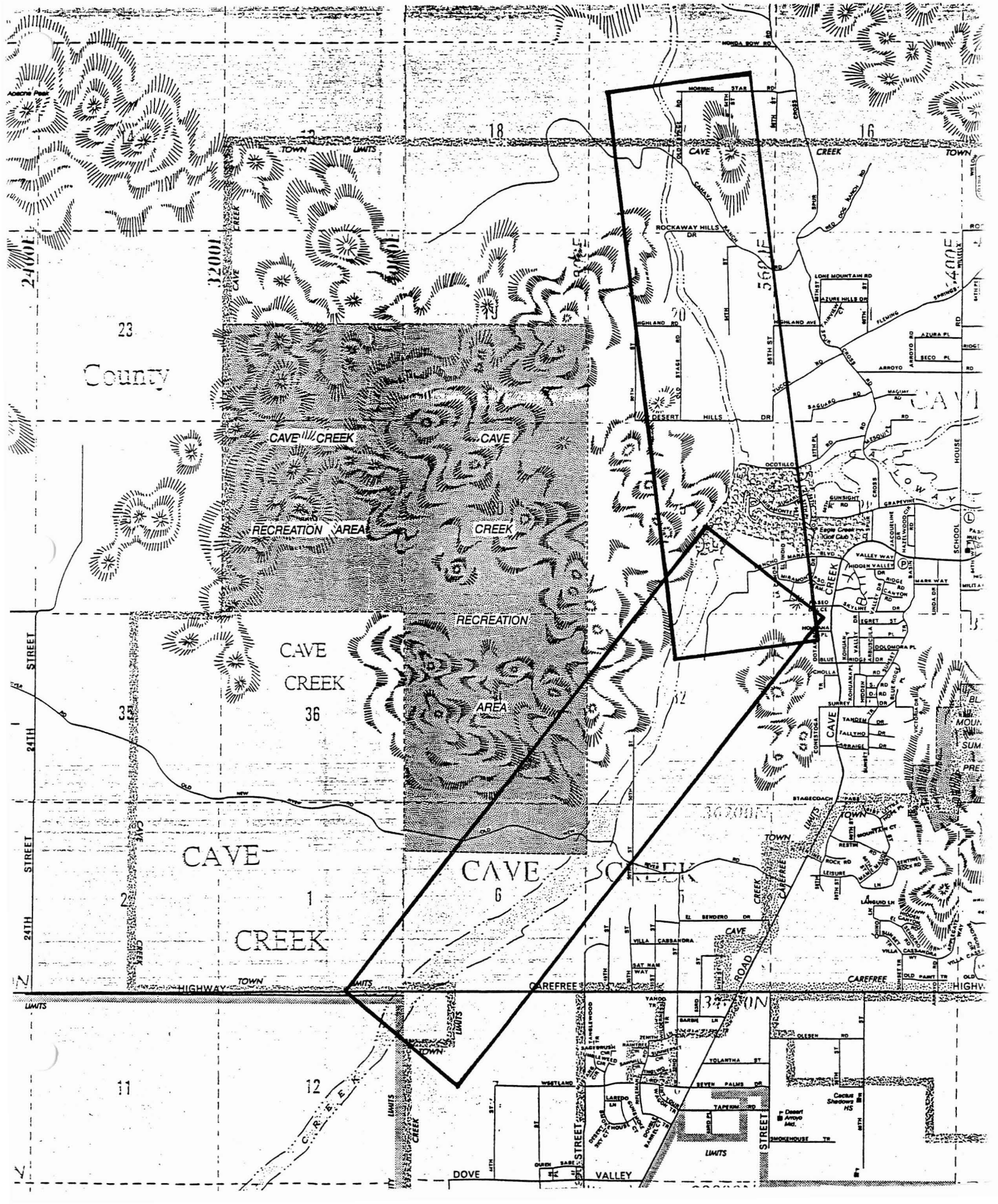
REGISTERED LAND SURVEYOR
CERTIFICATE NO.
13168
RICHARD
ALCOCER
Date Signed 9-25-96
ARIZONA, U.S.A.

FLOOD DELINEATION STUDY OF CAVE CREEK
CONTRACT FCD 95-28

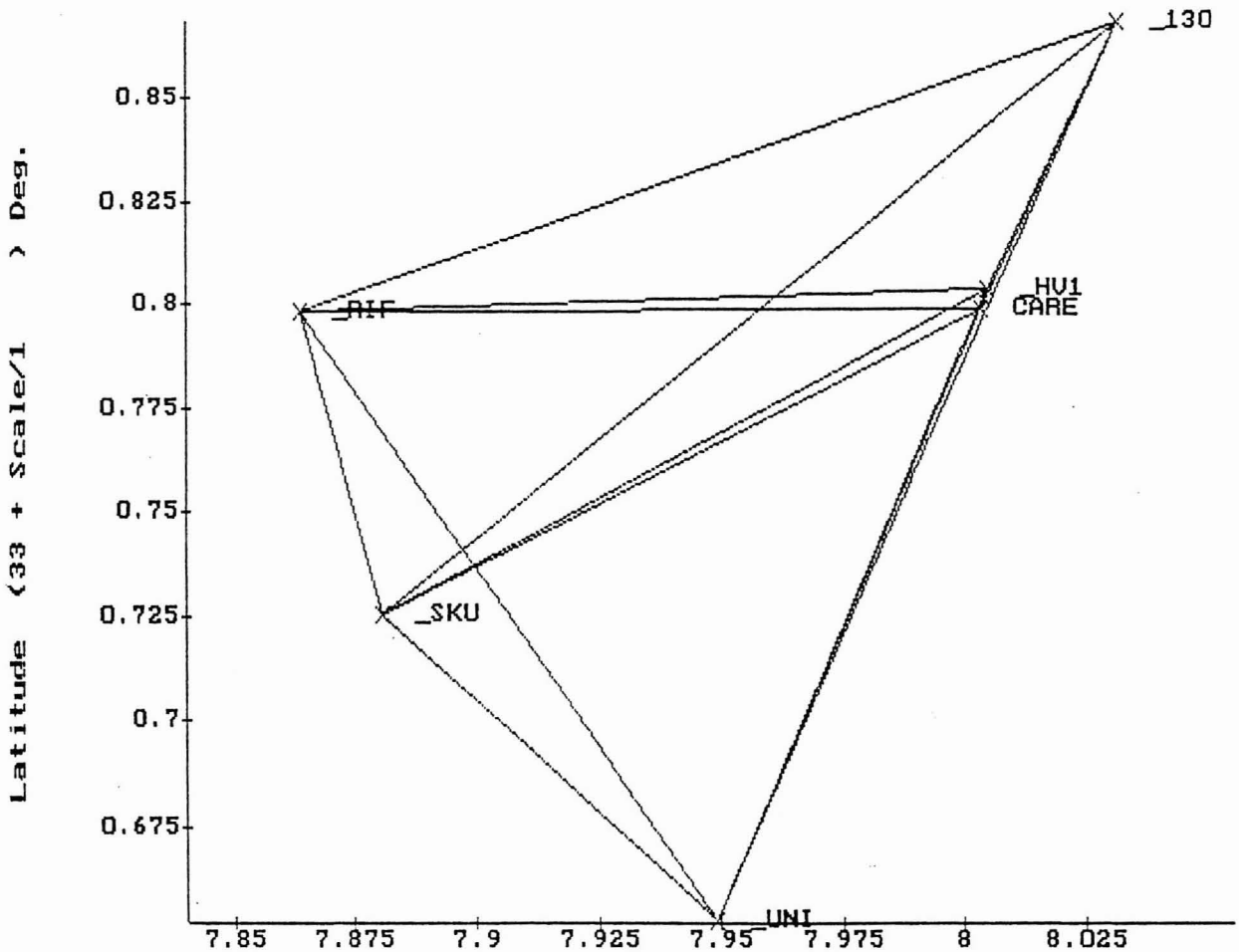
FLOOD CONTROL DISTRICT
OF
MARICOPA COUNTY

SURVEY FIELD NOTES
GPS CONTROL POINTS

ALCOCER LAND SURVEYORS


CAVE CREEK
RECREATION AREA
CAVE CREEK
RECREATION AREA
CAVE CREEK
36
CAVE CREEK
1
CAVE CREEK
6
County
23
18
16
12
11
2
3
TOWN LIMITS
CAREFREE
HIGHWAY
24TH STREET
CAVE CREEK
ROCKAWAY HILLS DR
DESERT HILLS DR
LONE MOUNTAIN RD
HIGHLAND RD
HIGHLAND AVE
MORNING STAR RD
MONDA BOW RD
ARROYO RD
SAGUARO RD
OCOTILLO
GUNSIGHT
GRAPEVINE
VALLEY WAY
HIDDEN VALLEY
SKYLINE DR
EGRET ST
DOLOMORA PL
SURREY
TAMREM DR
TALLYHO DR
STAGECOACH PASS
MOUNTAIN CT
REATA
ROCK RD
LEISURE
LANGUID LN
EL SENDERO DR
VILLA CASSANDRA
SAT NAM WAY
YAHOO TR
BARBIE LN
OLSEN RD
YOLANTHA ST
SEVEN PALMS DR
TAPERAM RD
SMOKEHOUSE TR
WESTLAND
LAREDO LN
DOVE VALLEY
CACTUS SHADOWS HS
Desert
Arroyo Mid.
Eagle Crest Golf Club
ACACIA PEAK

NETWORK PLOT



REGISTERED LAND SURVEYOR
CERTIFICATE NO.
25393
KARL M.
MORTENSEN
DATE SIGNED 1-16-96
ARIZONA, U.S.A.

Cave Creek GPS
Results of Survey
in NAD-27
+ NAD-83

by
Project Engineering
Consultants LTD

Path: C:\JOBS\CAVE_CRK.GPS
File: NAD-27 .SPC 897 .a.. 1-16-96 6:03:32 pm Page 1

Cave Creek GPS NAD-27

ARIZONA, CENTRAL ZONE

POINT	NORTHING-Y	EASTING-X	ELEV/FEET	LATITUDE	LONGITUDE	CONVERGENCE	SC.FACT	EL.FACT
CARE	1018300.267	475905.264	1877.073	33 47 57.19636	111 59 45.532650 -	0 02 38.84	0.99990066	0.99991022
_130	1043310.442	484305.349	2203.086	33 52 04.69760	111 58 06.137110 -	0 01 43.73	0.99990028	0.99989463
_HV1	1019911.281	476241.743	1911.197	33 48 13.13877	111 59 41.559740 -	0 02 36.65	0.99990065	0.99990859
_RIF	1018010.015	433618.124	1688.733	33 47 53.72034	112 08 06.643400 -	0 07 17.59	0.99990505	0.99991923
_SKU	991572.462	438686.609	1468.803	33 43 32.25100	112 07 05.968000 -	0 06 43.07	0.99990430	0.99992975
_UNI	965109.996	459325.622	1556.739	33 39 10.76070	112 03 01.191500 -	0 04 26.66	0.99990189	0.99992554

Note:

All field Trav. (Ground) distances must be multiplied by the SPC Grid Factor (SC. Fact. X EL. Fact.) to be on the SPC system.

The Average Grid Factor between Points 130 & HV1 of 0.999802085 can be applied to the whole Job for Convenience.

PROGRAM FILLNET, Version 2.0 (891207)
3-D Least Squares Adjustment

S.E. OF UNIT WEIGHT = 1.270

NUMBER OF -

OBS. EQUATIONS	47
UNKNOWNS	15
DEGREES OF FREEDOM	32
ITERATIONS	1

GROUP 1 ROT. ANGLES (sec.) AND SCALE DIFF. (ppm):

HOR. SYSTEM	0.000	0.000	-0.071	-17.409
STD. ERRORS	0.001	0.001	0.222	1.046
XYZ SYSTEM	0.022	0.054	-0.039	

ADJUSTED POSITIONS:

		LAT.	LON.	ELEV.	STD. ERRORS (m)
1	_UNI	33 39 10.76070	112 03 1.19150	474.495	0.000 0.000 0.018
2	CARE	33 47 57.19696	111 59 45.53265	572.133	0.018 0.018 0.015
3	_130	33 52 4.69760	111 58 6.13711	671.502	0.024 0.024 0.016
4	_HV1	33 48 13.13877	111 59 41.55974	582.534	0.018 0.018 0.015
5	_RIF	33 47 53.72034	112 08 6.64340	514.727	0.000 0.000 0.016
6	_SKU	33 43 32.25100	112 07 5.96800	447.692	0.000 0.000 0.000

ESTIMATES OF PRECISION

VECTOR		LENGTH	PPM(h)	RATIO(h)	PPM(v)	RATIO(v)
_UNI	CARE	16985.121	1.5	1: 667222	1.1	1: 943618
_UNI	_130	25027.556	1.4	1: 737354	0.7	1: 1390420
_UNI	_HV1	17484.657	1.5	1: 686843	1.0	1: 971370
_UNI	_RIF	17930.229	0.0	1: 0	1.1	1: 896511
_UNI	_SKU	10230.681	0.0	1: 0	1.8	1: 568371
_SKU	CARE	13969.436	1.8	1: 548744	1.1	1: 931296
_SKU	_130	21029.459	1.6	1: 619548	0.8	1: 1314341
_SKU	_HV1	14343.330	1.8	1: 563429	1.0	1: 956222
_SKU	_RIF	8206.611	0.0	1: 0	1.9	1: 512913
CARE	_130	8043.799	1.7	1: 597850	0.6	1: 1608760
CARE	_HV1	501.837	8.9	1: 112190	8.0	1: 125459
CARE	_RIF	12891.929	2.0	1: 506435	1.2	1: 859462
_HV1	_130	7545.711	1.8	1: 560834	0.7	1: 1509142
_HV1	_RIF	13007.183	2.0	1: 510961	1.2	1: 867146
_RIF	_130	17271.181	2.0	1: 508834	0.9	1: 1079449

Cave Creek GPS NAD-83 SPC
Convert Mtr. to Ft.

PROGRAM GPPC83

NATIONAL GEODETIC SURVEY
GP TO PC PROGRAM
1983 DATUM

VERSION 1.0

THE INTERNATIONAL FOOT WAS USED IN CONVERTING COORDINATES!

NAME	LATITUDE	LONGITUDE	NORTH(Y) METERS	EAST(X) METERS	NORTH(Y) FEET	EAST(X) FEET	ZONE	CONVERGENCE	SCALE
CARE	33 47 57.33274	111 59 48.06744	310392.658	205950.883	1018348.615	675691.873	AZ C	-0 2 40.25	0.99990068
_130	33 52 4.83177	111 58 8.66899	318015.931	208511.302	1043359.354	684092.198	AZ C	-0 1 45.14	0.99990029
_HV1	33 48 13.27443	111 59 44.09445	310883.706	206053.444	1019959.665	676028.360	AZ C	-0 2 38.06	0.99990066
_RIF	33 47 53.85431	112 8 9.19969	310304.219	193061.477	1018058.461	633403.796	AZ C	-0 7 19.01	0.99990508
_SKU	33 43 32.38631	112 7 8.52136	302245.830	194606.338	991620.177	638472.238	AZ C	-0 6 44.49	0.99990433
_UNI	33 39 10.90071	112 3 3.73154	294179.918	200897.266	965157.211	659111.765	AZ C	-0 4 28.07	0.99990191

PROGRAM FILLNET, Version 2.0 (891207)
3-D Least Squares Adjustment

S.E. OF UNIT WEIGHT = 0.727

NUMBER OF -

OBS. EQUATIONS	47
UNKNOWNS	15
DEGREES OF FREEDOM	32
ITERATIONS	0

GROUP 1 ROT. ANGLES (sec.) AND SCALE DIFF. (ppm):

HOR. SYSTEM	0.000	0.000	0.297	3.700
STD. ERRORS	0.001	0.001	0.127	0.599
XYZ SYSTEM	-0.092	-0.229	0.165	

ADJUSTED POSITIONS:

		LAT.	LON.	ELEV.	STD. ERRORS (m)		
1	_UNI	33 39 10.90071	112 03 3.73154	474.425	0.000	0.000	0.010
2	CARE	33 47 57.33274	111 59 48.06744	572.024	0.010	0.010	0.009
3	_130	33 52 4.83177	111 58 8.66899	671.375	0.014	0.014	0.009
4	_HV1	33 48 13.27443	111 59 44.09445	582.426	0.010	0.010	0.009
5	_RIF	33 47 53.85431	112 08 9.19969	514.750	0.000	0.000	0.009
6	_SKU	33 43 32.38631	112 07 8.52136	447.692	0.000	0.000	0.000

ESTIMATES OF PRECISION

VECTOR		LENGTH	PPM(h)	RATIO(h)	PPM(v)	RATIO(v)
_UNI	CARE	16985.458	0.8	1: 1201023	0.6	1: 1698546
_UNI	_130	25028.064	0.8	1: 1264062	0.4	1: 2275279
_UNI	_HV1	17485.005	0.8	1: 1236342	0.6	1: 1748500
_UNI	_RIF	17930.594	0.0	1: 0	0.6	1: 1630054
_UNI	_SKU	10230.878	0.0	1: 0	1.0	1: 1023088
_SKU	CARE	13969.762	1.0	1: 987762	0.6	1: 1552196
_SKU	_130	21029.935	0.9	1: 1062107	0.4	1: 2336659
_SKU	_HV1	14343.663	1.0	1: 1014195	0.6	1: 1593740
_SKU	_RIF	8206.811	0.0	1: 0	1.1	1: 911868
CARE	_130	8043.968	1.0	1: 1029854	0.4	1: 2681323
CARE	_HV1	501.848	4.5	1: 224385	4.0	1: 250924
CARE	_RIF	12892.187	1.1	1: 911602	0.7	1: 1432465
_HV1	_130	7545.870	0.9	1: 1067081	0.4	1: 2515290
_HV1	_RIF	13007.444	1.1	1: 919748	0.7	1: 1445272
_RIF	_130	17271.530	1.1	1: 872305	0.5	1: 1919059

MONUMENT RECORD

PROJECT ENG. CONSULT.
3130 N. 35th AVE.,# 1
PHOENIX, AZ 85017
(602)484-7691

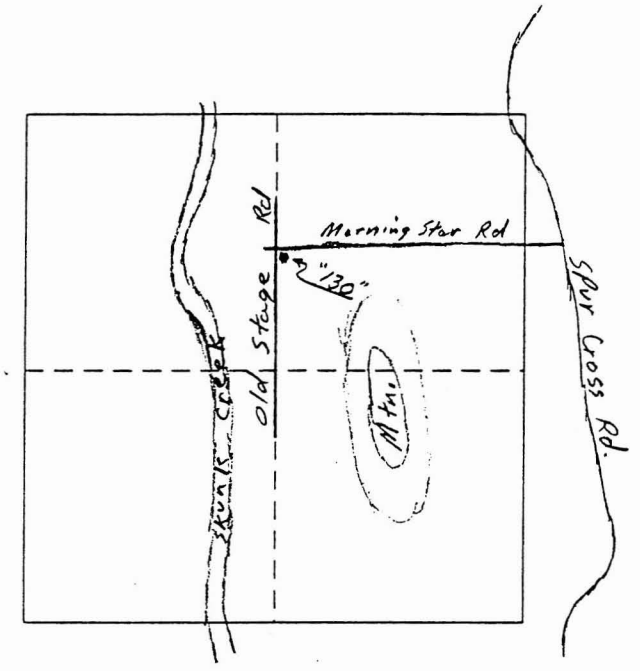
Point No. 130

Project Cave Creek

Rec. by: Karl Mortensen

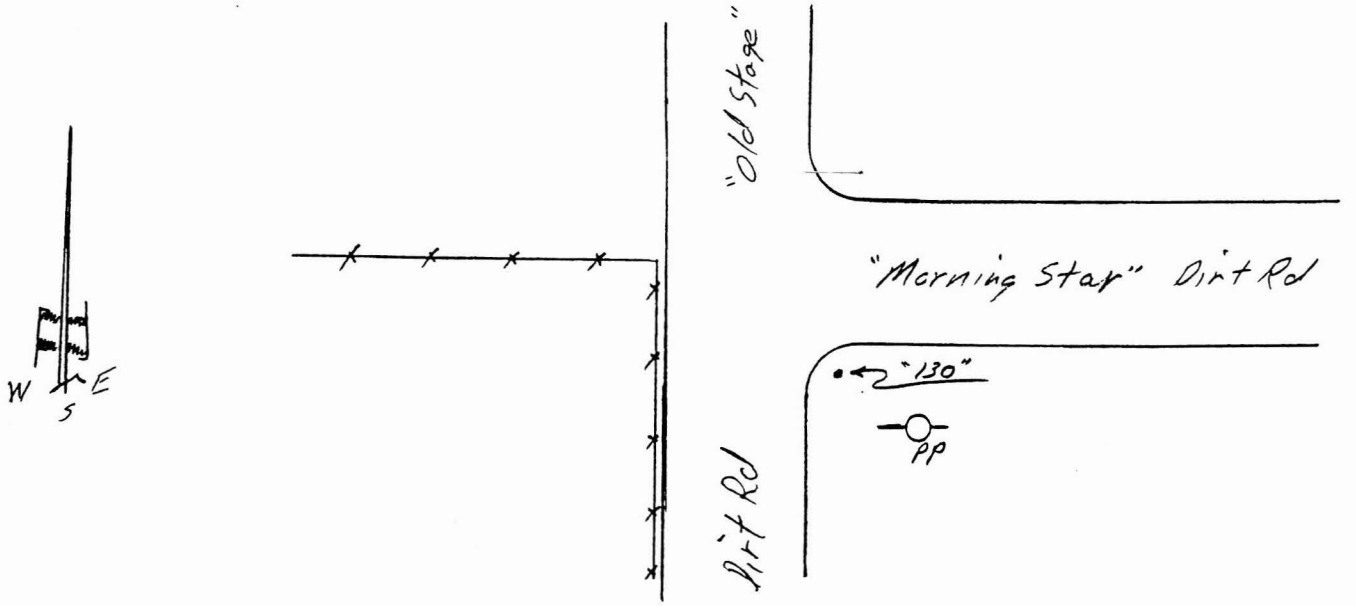
Sec 17 T 6N R 4E

Date: 1-11-95



Mon. Desc.

Fd ½" Rebar at SE Corner of Dirt Roads Morning Star Rd. and old Stage Rd.



Date	Sess	H.I. Ant.	Time On	Time Off	Operator	RCV
1-11-95	A	2.058 *	1:00	3:30 pm	Kmm	C

* 11½ [illegible]

MONUMENT RECORD

PROJECT ENG. CONSULT.
3130 N. 35th AVE.,# 1
PHOENIX, AZ 85017
(602)484-7691

Point No. HV 1

Project Cave Creek

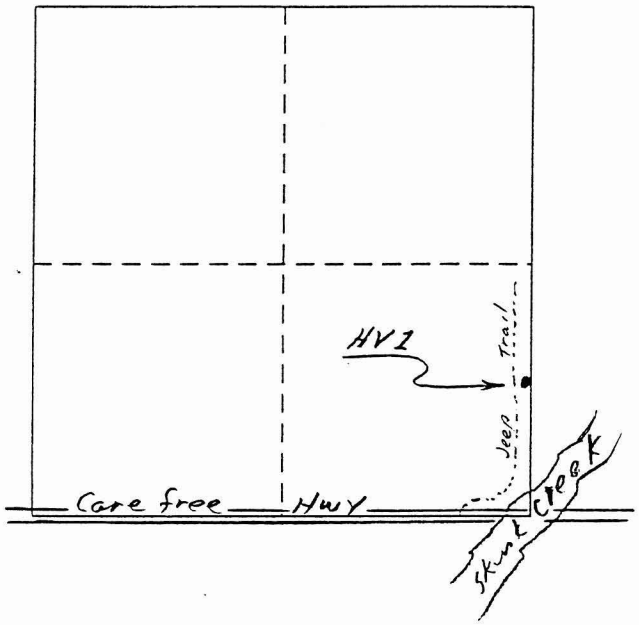
Rec. by: Karl Mortensen

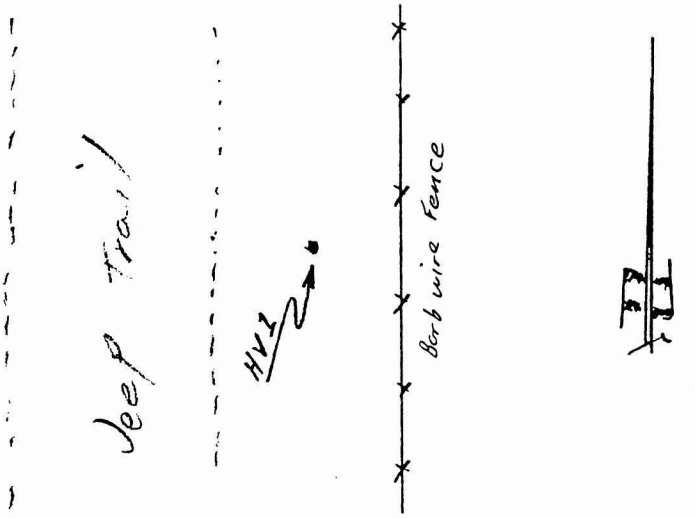
Date:

Sec 1 T 5N R 3E

Mon. Desc.

Fd Hub & Tack center of Pond
4' ± West of N-S Fence Line
with Lath marked HV #1
1/4 mi ± North of Carefree
Hwy Bridge over Skunk Creek





Date	Sess	H.I. Ant.	Time On	Time Off	Operator	RCV
1-11-95	A	1,734 m	1:30 pm	3:10 pm	Kmm	Y

MONUMENT RECORD

PROJECT ENG. CONSULT.
3130 N. 35th AVE.,# 1
PHOENIX, AZ 85017
(602)484-7691

Point No. CARE

Project Cave Creek

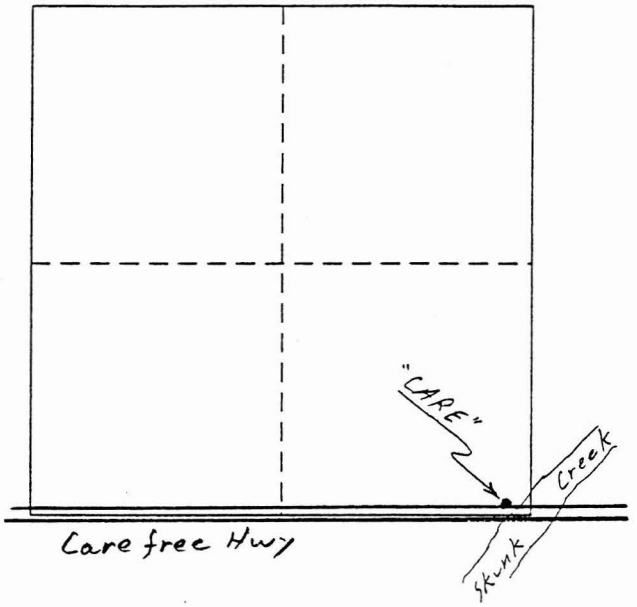
Rec. by: Karl Mortensen

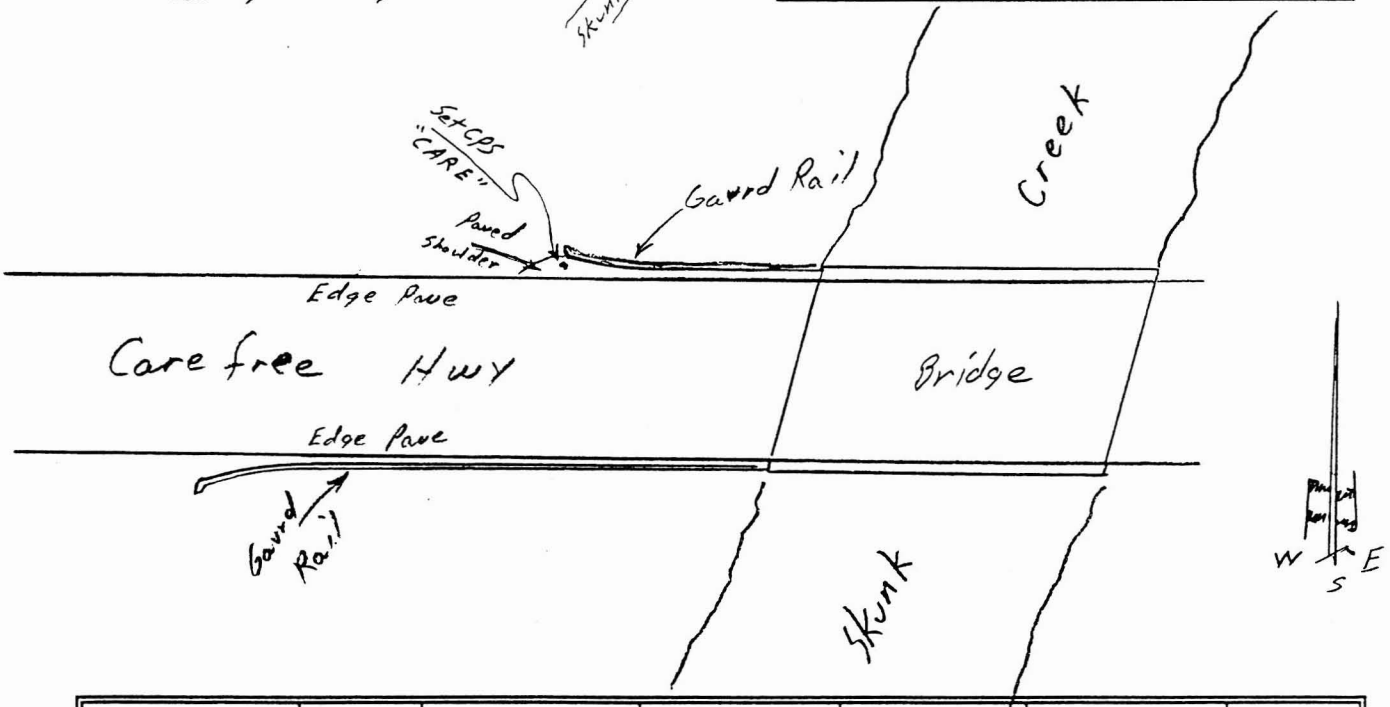
Date: 1-11-95

Sec 1 T 5N R 3E

Mon. Desc.

Set Cotton Picker spindle in Pavement shoulder 2' South of West end of Gaurd Rail at NW Corner of Bridge on Carefree Hwy over Skunk Creek





Date	Sess	H.I. Ant.	Time On	Time Off	Operator	RCV
1-11-95	A	1.764	2:07 pm	3:00 pm	KMM	2

MONUMENT RECORD

PROJECT ENG. CONSULT.
3130 N. 35th AVE.,# 1
PHOENIX, AZ 85017
(602)484-7691

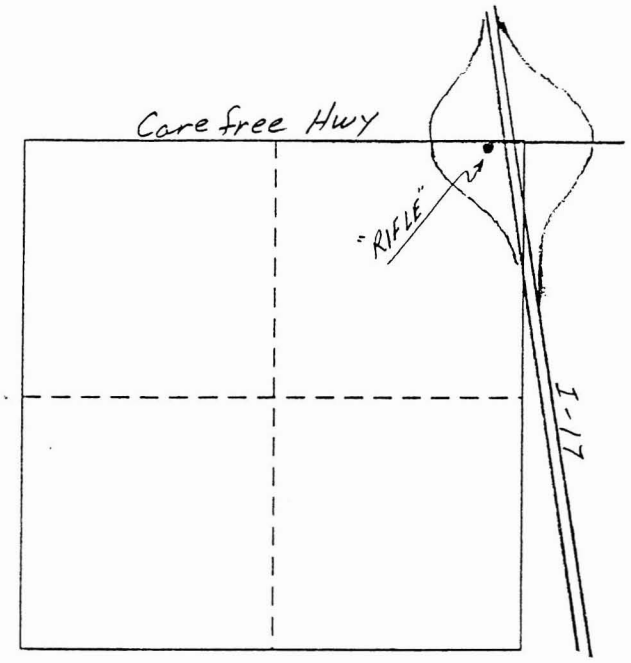
Point No. RIFLE

Project CAVECREEK

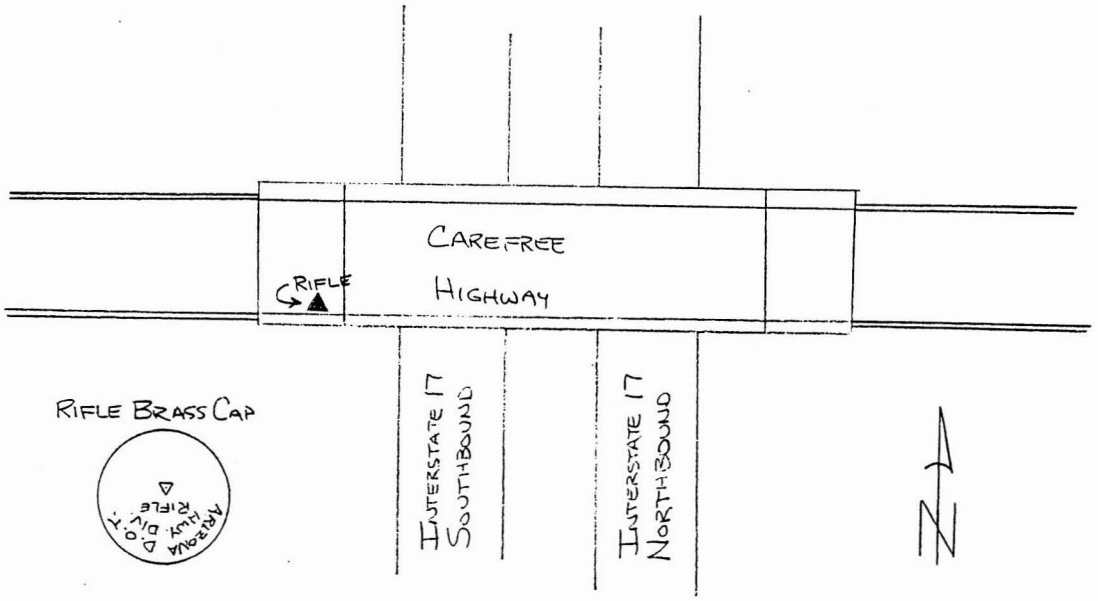
Rec. by: C Gardiner

Sec 10 T 5N R 2E

Date: 1-11-96



Mon. Desc. Found Arizona Dept of Transportation Brass Cap flush w/concrete in west abutment; ±2' West of East Edge of West Abutment, ±2' North of Conc S'W; On South Edge of Westbound Traffic Lane of Carefree Highway of Bridge over Interstate 17



RIFLE BRASS CAP

Date	Sess	H.I. Ant.	Time On	Time Off	Operator	RCV
1-11-96	A	2.058m	1:37pm	3:02pm	CFG	A

MONUMENT RECORD

PROJECT ENG. CONSULT.
3130 N. 35th AVE.,# 1
PHOENIX, AZ 85017
(602)484-7691

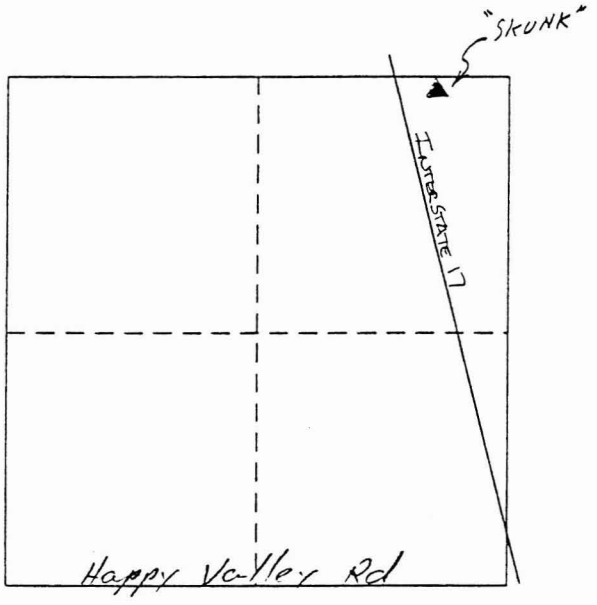
Point No. SKUNK

Project CAVE CREEK

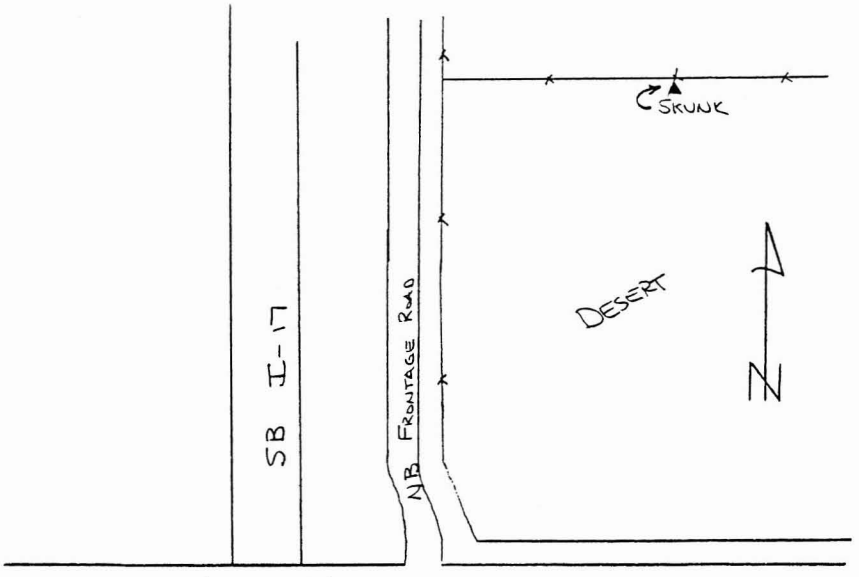
Rec. by: CFG

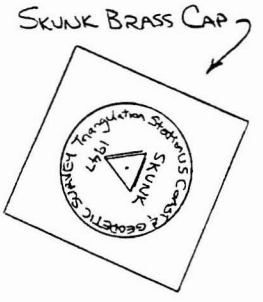
Sec 2 T 4N R 2E

Date: 1-11-96



Mon. Desc. Fd U.S. Coast and Geodetic Survey Brass Cap flush w/concrete in 12"x12" concrete pad ±0.2' above ground ±250' East of Northbound Frontage Road on Eastside of Interstate 17, ±1000' South of Skunk Creek, ±0.9 miles north of Happy Valley Road, ±1' South of E-W Barbed Wire Fence





Date	Sess	H.I. Ant.	Time On	Time Off	Operator	RCV
1-11-96	A	2.058m	1:37pm	3:33pm	CFG	A

MONUMENT RECORD

PROJECT ENG. CONSULT.
3130 N. 35th AVE.,# 1
PHOENIX, AZ 85017
(602)484-7691

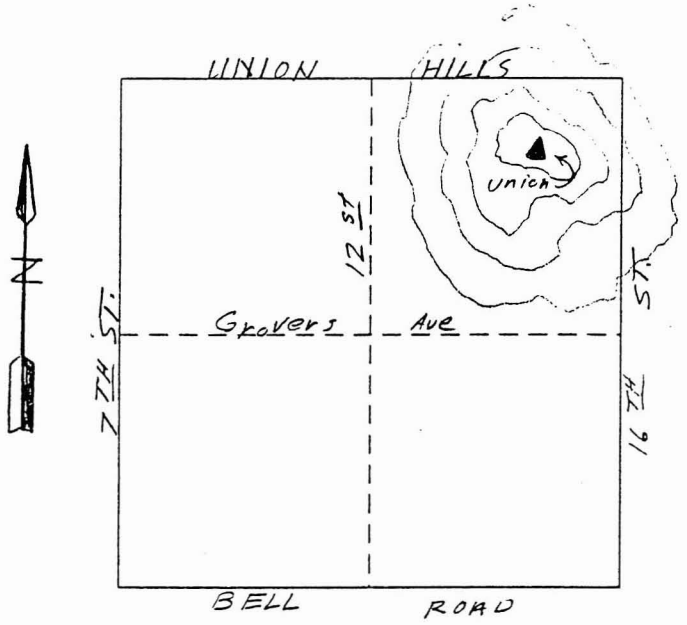
Point No. UNION

Project CAVE CREEK

Rec. by: Pete

Sec 33 T 4N R 3E

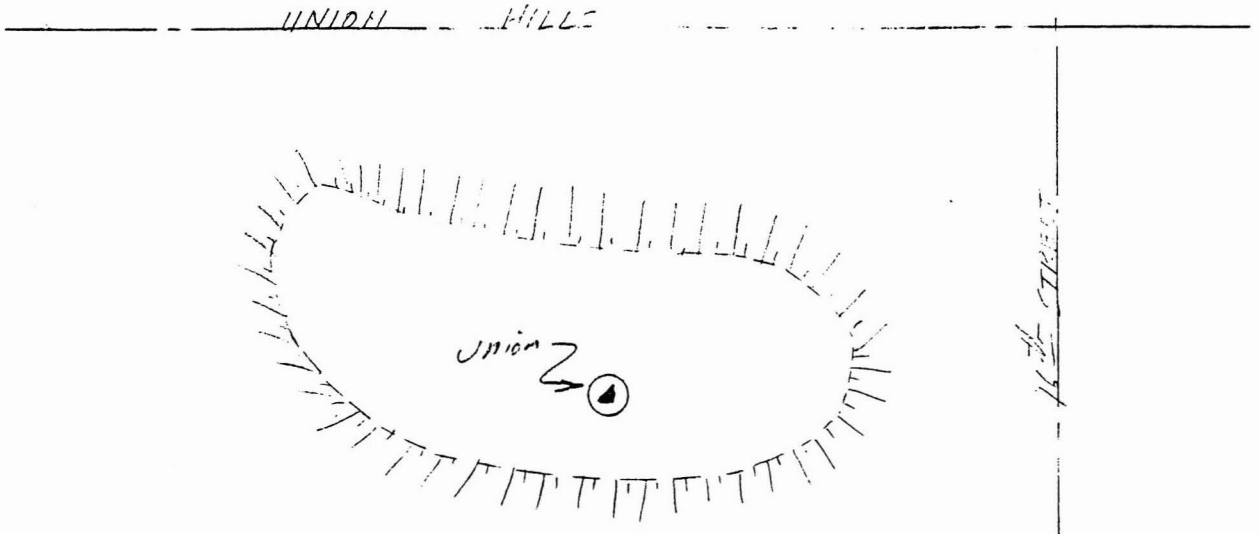
Date: 01-11-95



Mon. Desc.

BC Stamped "UNION"

on Top of Hill



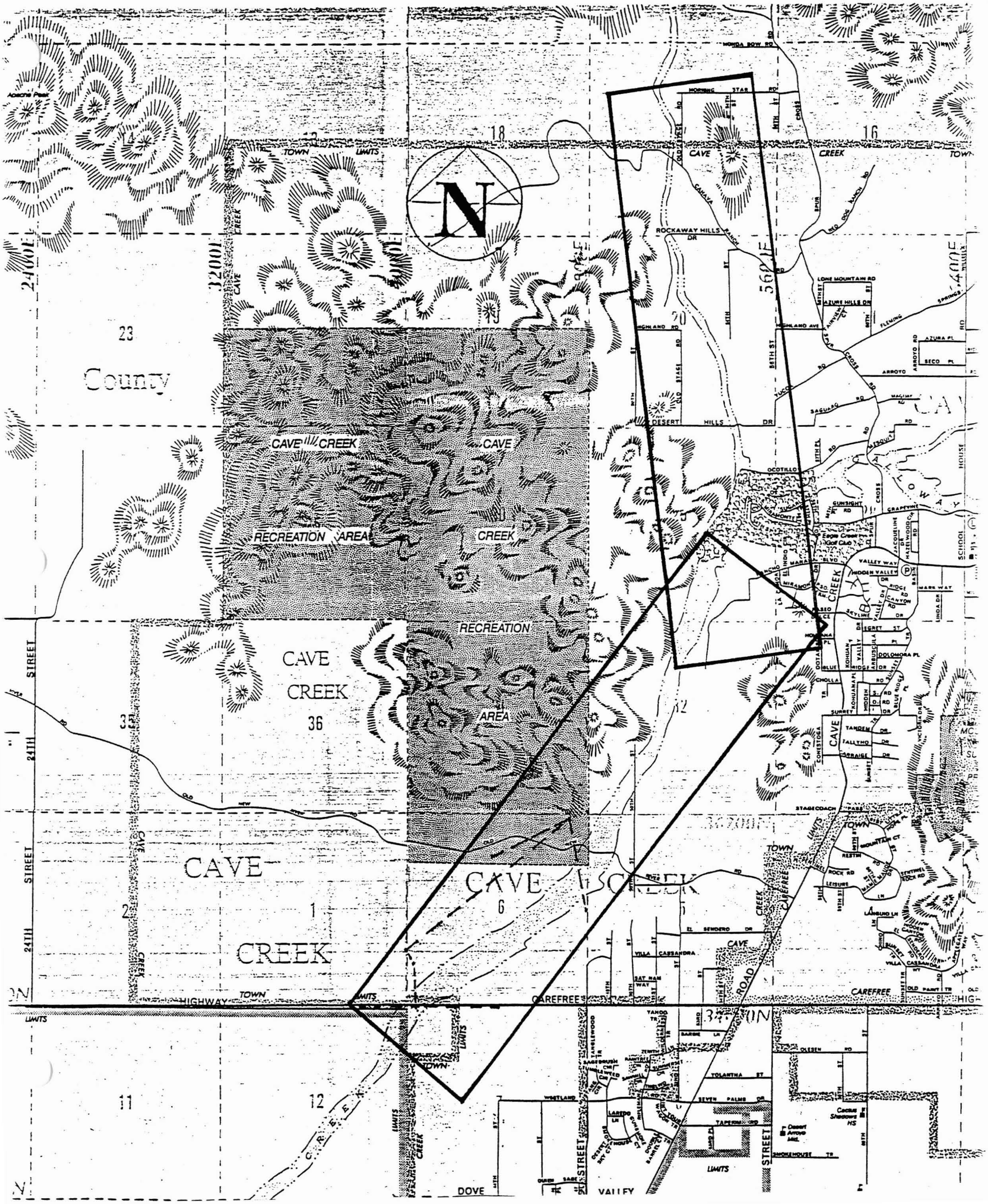
Date	Sess	H.I. Ant.	Time On	Time Off	Operator	RCV
01-11-96	A	1.778	1:15 P.M.	3:03 P.M.	PETE	X

FLOOD DELINEATION STUDY OF CAVE CREEK
CONTRACT FCD 95-28

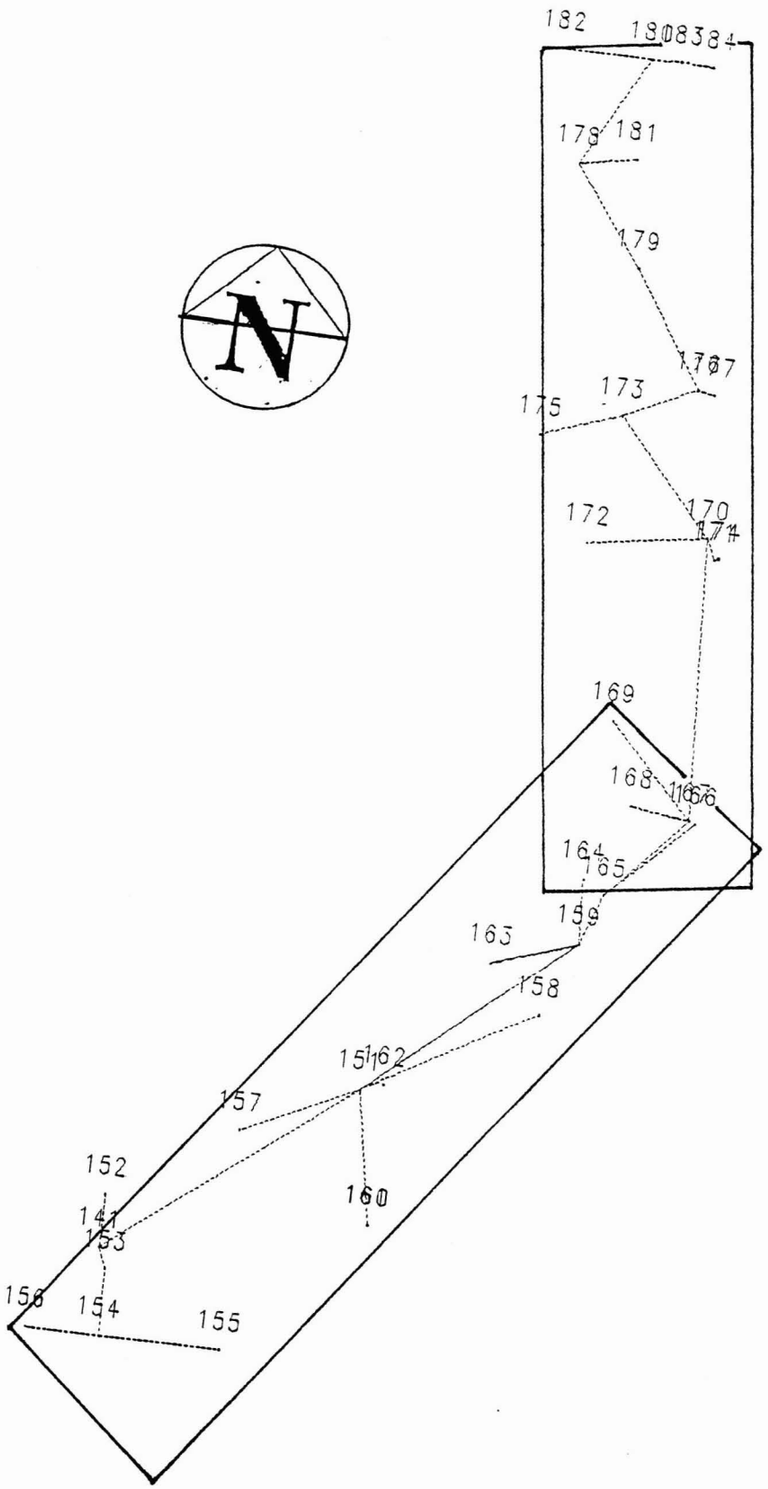
FLOOD CONTROL DISTRICT
OF
MARICOPA COUNTY

SURVEY FIELD NOTES
TRAVERSE

ALCOCER LAND SURVEYORS


N
TOWN LIMITS
CAVE CREEK
County
23
36
CAVE CREEK RECREATION AREA
CAVE CREEK
1
2
11
12
6
18
16
20
CAREFREE HIGHWAY
24TH STREET
ROCKAWAY HILLS DR
DESERT HILLS DR
LONE MOUNTAIN RD
OCOTILLO
GUNSIGHT
GRAPEVINE
STAGECOACH PASS
CAVE CREEK ROAD
EL SENDERO DR
VILLA CASSANDRA
SEVEN PALMS DR
TOLANTHA
WESTLAND
DOVE VALLEY
Cactus Shadows HS

AERIAL CONTROL PANELS



Point	Northing	Easting	Elevation	Note
100	1019911.281000	476241.743000	1909.560	
101	1023409.602340	481077.895027	0.000	
102	1020894.773500	476239.526356	1914.480	
103	1019520.291450	476403.518293	0.000	
104	1018251.099780	476445.596394	1876.360	
105	1018262.354220	478874.099316	1908.730	
106	1018267.004920	474885.737480	0.000	
107	1022391.394960	478757.158352	1943.960	
108	1025191.926820	484461.678362	1994.670	
109	1026571.977170	485080.281283	0.000	
110	1020906.535300	481558.536718	0.000	
111	1020914.540120	481526.550135	1936.920	
112	1023542.300010	481535.873656	1991.860	
113	1026026.084190	483391.899034	1976.220	
114	1027796.594600	485005.034911	2011.530	
115	1027544.814010	485447.440412	0.000	
116	1029081.489050	487084.888705	2152.340	
117	1029120.270920	486949.004927	0.000	
118	1029256.216260	485767.726712	2023.380	
119	1030798.431710	485210.892359	2013.420	
120	1034435.754380	486602.622620	0.000	
121	1034048.043410	486801.361806	2083.950	
122	1034072.919370	484246.630126	2121.300	
123	1036528.913060	484626.551354	0.000	
124	1034076.125160	486874.831985	0.000	
125	1035988.001790	483050.235851	2185.310	
126	1037183.791020	486049.440095	0.000	
127	1037117.123460	486376.849559	2101.630	
128	1041155.423230	483139.502169	0.000	
129	1039315.300860	484570.168704	2147.900	
130	1043310.442000	484305.349000	2200.360	
131	1041367.963390	484266.638222	2172.330	
132	1043322.914110	482562.265620	2285.340	
133	1043339.303300	484903.173734	0.000	
134	1043301.196100	485545.388140	2196.690	
140	1043310.442000	484305.349000	2203.086	
141	1019911.281000	476241.743000	1909.560	
151	1023410.291720	481078.848041	0.000	
152	1020894.968500	476239.525387	1914.480	
153	1019520.213920	476403.550619	0.000	
154	1018250.771410	476445.637720	1876.360	
155	1018262.029390	478874.621631	1908.730	
156	1018266.678870	474885.468814	0.000	
157	1022391.881400	478757.652213	1943.960	
158	1025192.970810	484463.300186	1994.670	
159	1026573.291800	485082.025067	0.000	
160	1020906.739800	481559.584236	0.000	
161	1020914.746310	481527.590858	1936.920	
162	1023543.014670	481536.916035	1991.860	
163	1026027.290720	483393.308878	1976.220	
164	1027798.151770	485006.763707	2011.530	

Point	Northing	Easting	Elevation	Note
165	1027546.329510	485449.257993	0.000	
166	1029083.312030	487087.027993	2152.340	
167	1029122.095180	486951.121816	0.000	
168	1029258.070510	485769.600435	2023.380	
169	1030800.590900	485212.668180	2013.420	
170	1034438.629320	486604.676817	0.000	
171	1034050.838040	486803.456638	2083.950	
172	1034075.725020	484248.217430	2121.300	
173	1036532.197970	484628.210920	0.000	
174	1034078.925420	486876.941793	0.000	
175	1035991.176560	483051.584320	2185.310	
176	1037187.209680	486051.381515	0.000	
177	1037120.528520	486378.861687	2101.630	
178	1041159.630890	483140.872553	0.000	
179	1039319.142930	484571.819922	2147.900	
180	1043315.067220	484306.947438	0.000	
181	1041372.212360	484268.234868	2172.330	
182	1043327.543190	482563.512076	2285.340	
183	1043343.933790	484904.891056	0.000	
184	1043305.818630	485547.231212	2196.690	

CAVE CREEK WASH

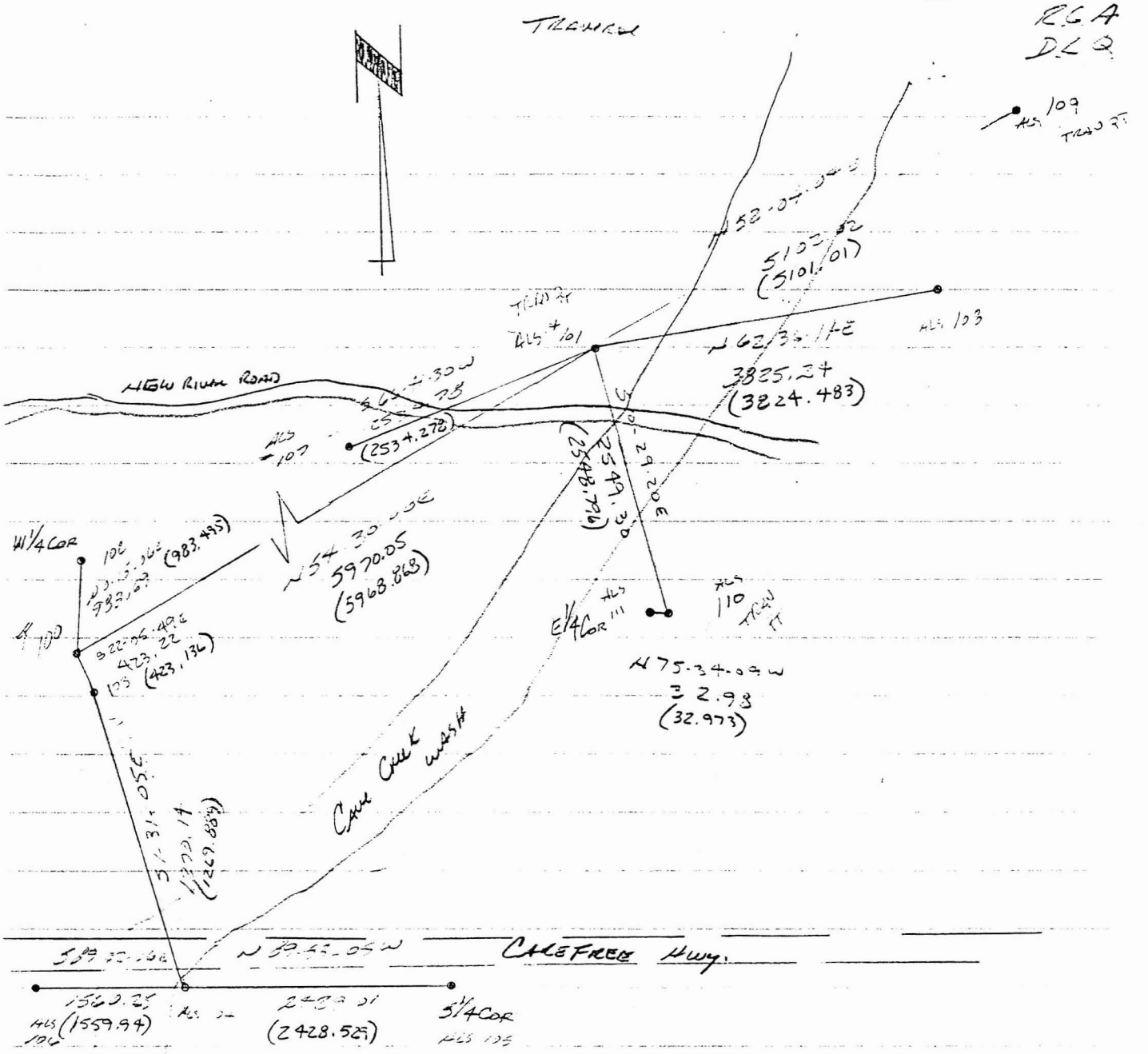
TRAVERSE

(1)

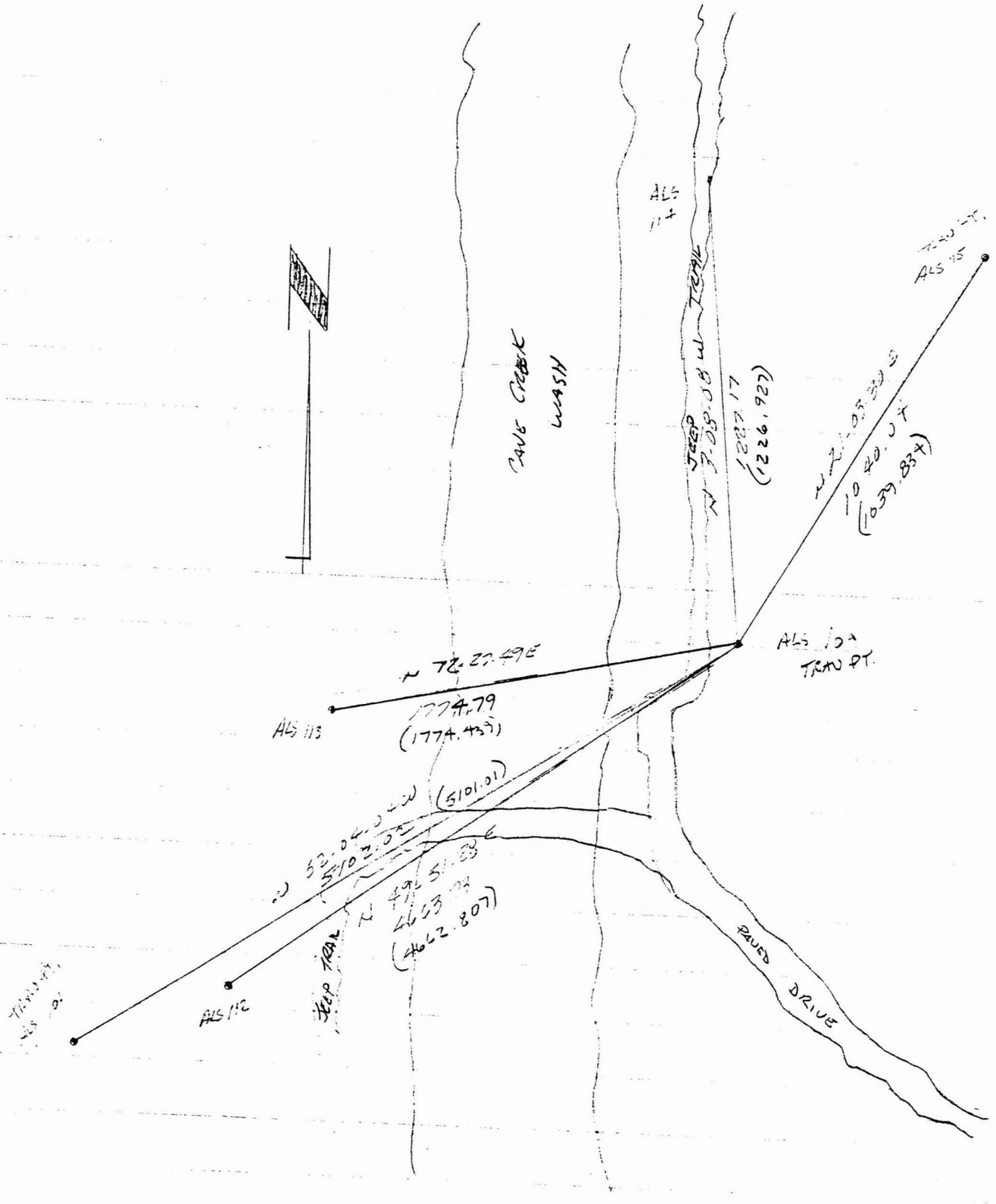
1-10-96

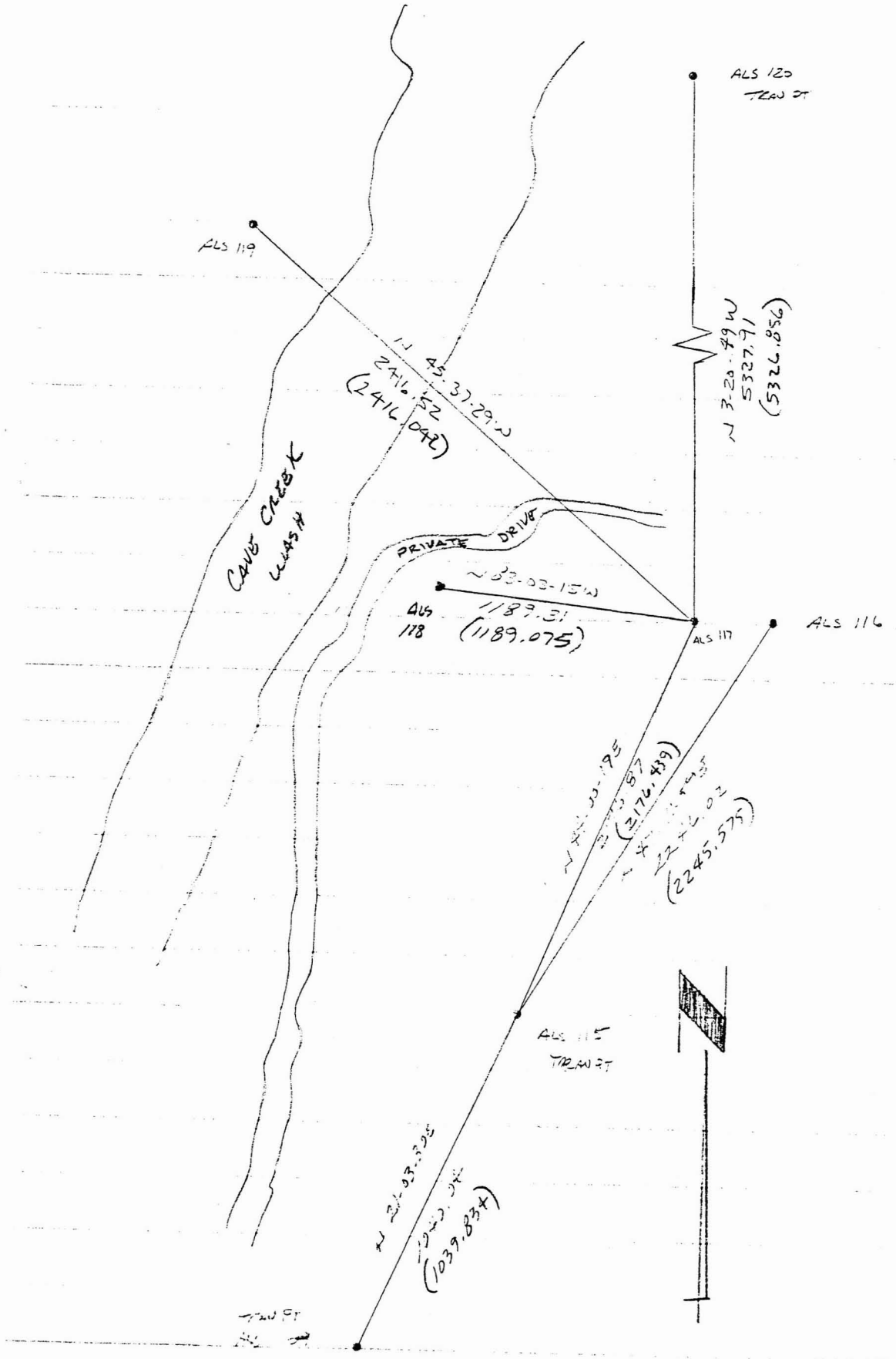
R.G.A.

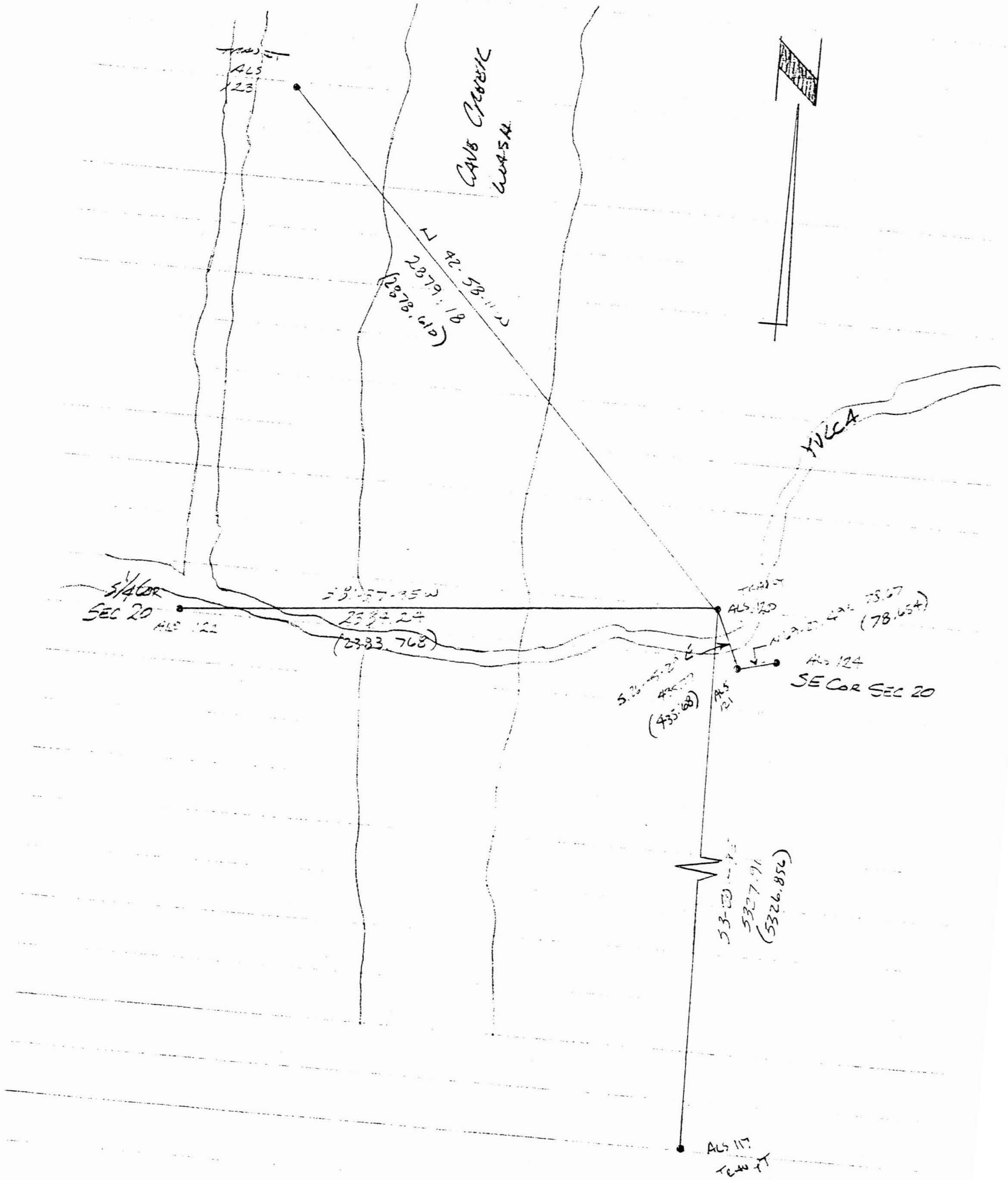
D.L.Q.

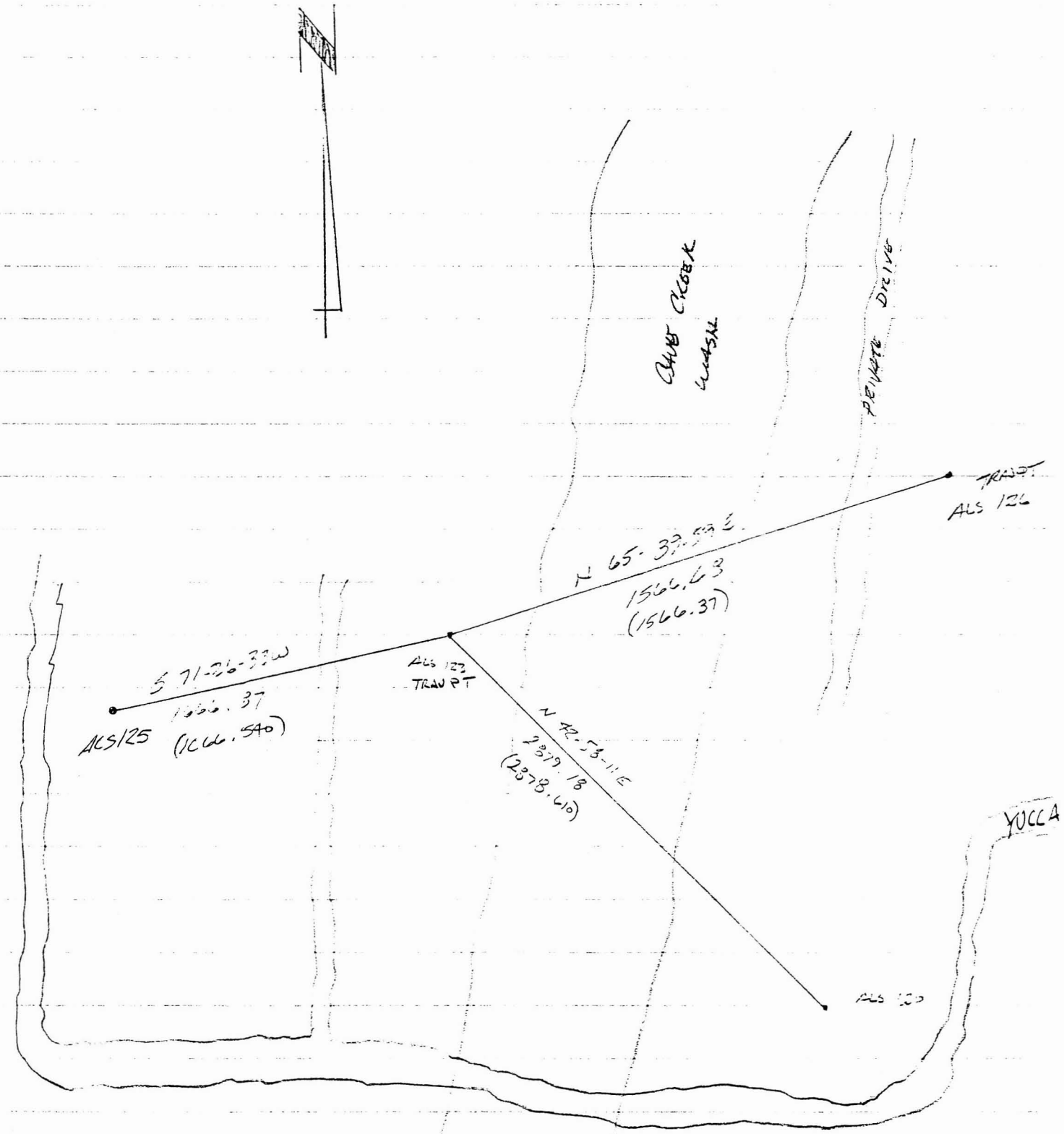


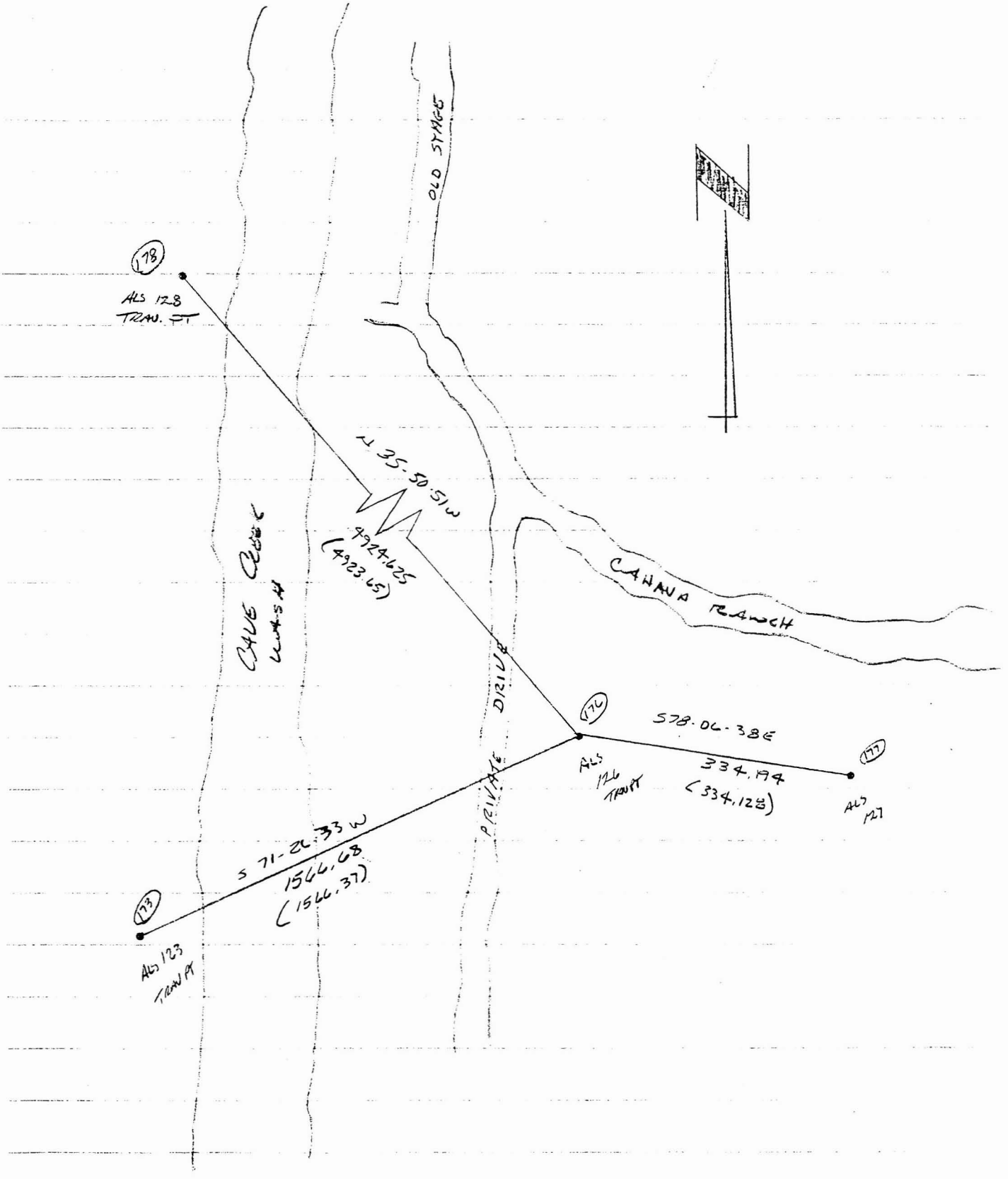
Cave Creek Basin

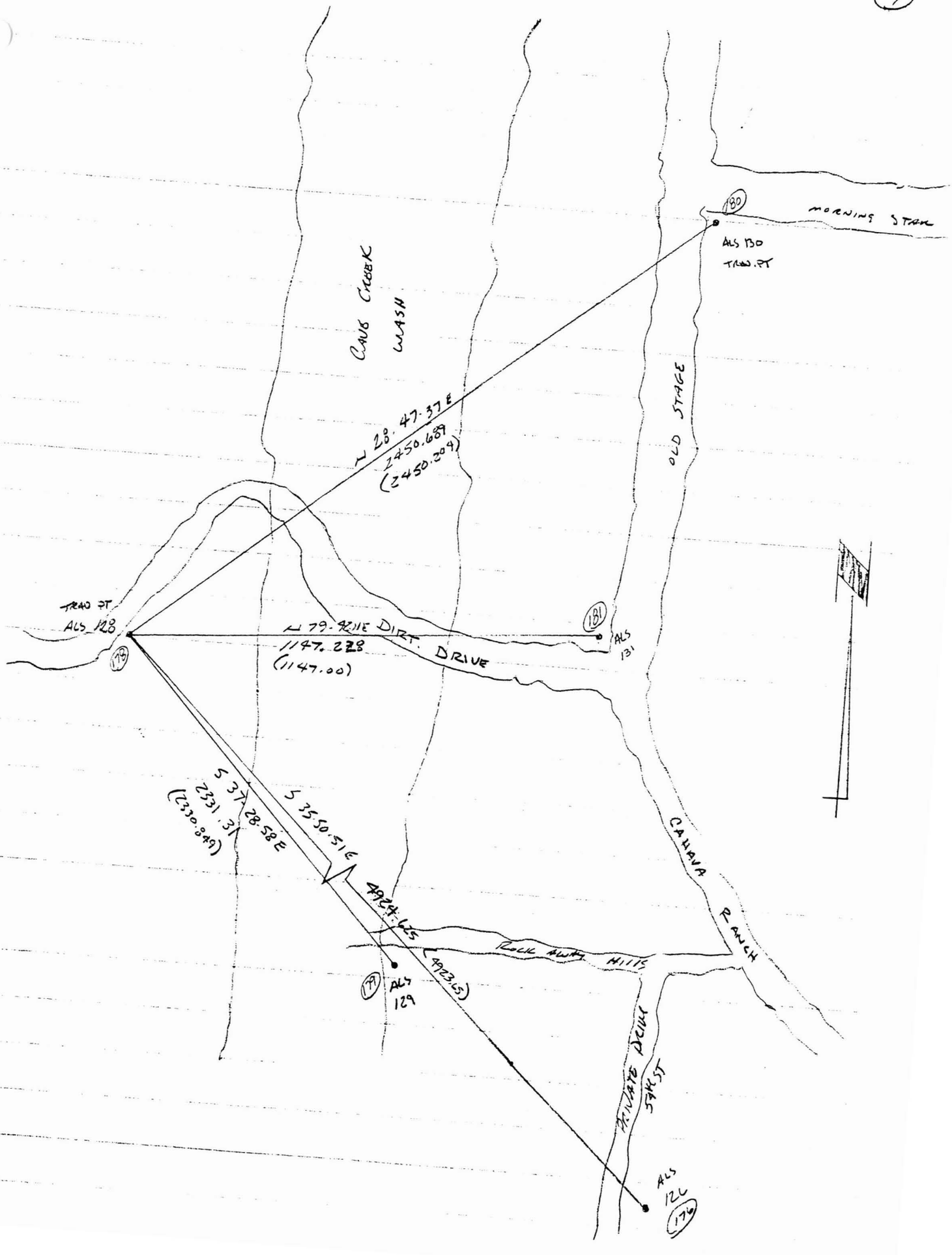


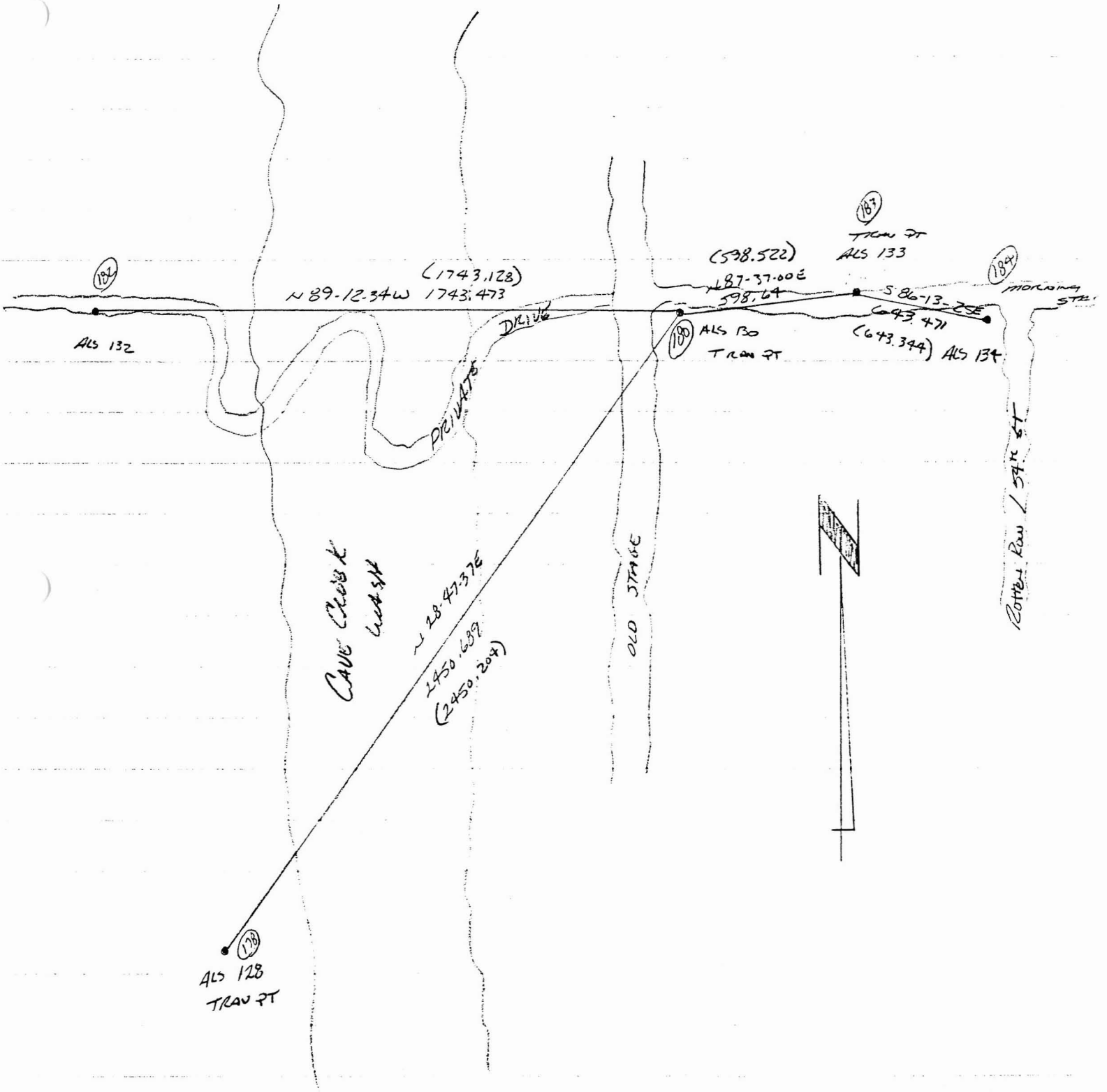

ALS 120
TRAN PT
ALS 119
N 3-20-49 W
5327.91
(5326.856)
N 45-37-29-W
2416.52
(2416.042)
CAVE CREEK
WASH
PRIVATE DRIVE
N 89-03-15 W
1189.31
(1189.075)
ALS 118
ALS 117
ALS 116
(2176.439)
(2245.575)
ALS 115
TRAN PT
(1039.834)


ALS
123
CAVE CREEK
WASH
2379.18
YUCCA
S 1/4 COR
SEC 20
ALS 122
(2333.768)
ALS 120
(78.654)
(435.68)
ALS 124
SE COR SEC 20
5327.91
(5326.856)
ALS 117


CHAT CREEK
WASH
PRIVATE DRIVE
TRANSIT
ALS 126
N 65° 37' 59" E
1566.63
(1566.37)
S 71°26'33"W
1666.37
ALS 125
(1666.540)
ALS 127
TRAV PT
N 42°53'11"E
2378.18
(2378.410)
YUCCA
ALS 123


178
ALS 128
TRAV. PT
OLD STAGE
N 25-50-51 W
4924.625
(4923.65)
CAVE CREEK
CANADA RANCH
176
S 78-06-38 E
334.194
(334.128)
ALS
126
TRAV PT
177
ALS
127
PRIVATE DRIVE
S 71-20-33 W
1566.68
(1566.37)
173
ALS 123
TRAV PT


CANE CREEK WASH
OLD STAGE
MORNING STAR
180
ALS 130
TRAV. PT
N 20° 47' 37" E
2450.689
(2450.309)
TRAV PT
ALS 128
179
N 79° 42'11" E DIRT DRIVE
1147.228
(1147.00)
181
ALS 131
S 37° 28' 58" E
2331.31
(2330.849)
S 35° 50' 51" E
4924.625
4923.65
ROCKY MTN HILLS
179
ALS 129
CAHAVA RANCH
ALTAIRE DRIVE
53rd ST
ALS 127
176


187
TRAV PT
ALS 133
(598.522)
N87-37-00E
598.64
184
MORNING STAR
S 86-13-25E
643.471
(643.344) ALS 134
187
ALS 132
(1743.128)
N 89-12-34W 1743.473
DRIVE
PRIVATE
180
ALS 130
TRAV PT
CAVE CREEK
CULVERT
OLD STAGE
Cotter Rd / 54th St
N 28-47-37E
2450.639
(2450.204)
178
ALS 128
TRAV PT

```
JOB: Name CAVECREK,Date 1-8-1996,Time 12:48:22.50
Mode Setup: North Azimuth,Dist feet,Scale 1.0000,Earth crv OFF
Store: Pt 100,N 5000.0000,E 5000.0000,Elv 100.0000,START
Store: Pt 101,N 8466.8257,E 9860.3104,Elv 100.0000,TRAVPT
Backsight: Occ 100,BS Pt 101,BS azm 54.3000,Back circle 0.0000
Accum: Back circle 1)0.0000
Accum: Ang-Rt 1)305.4510
Accum: Ang-Rt 2)201.1630
Rpt Dir: Backsight 1)201.1625
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)305.4505
Rpt Dir: Backsight rev 1)180.0000
Rpt Dir: Foresight rev 1)125.4505
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)305.4510
Rpt Dir: Backsight rev 2)179.5955
Rpt Dir: Foresight rev 2)125.4505
Rpt Dir: Backsight 3)359.5955
Rpt Dir: Fore 3)305.4510
Rpt Dir: Backsight rev 3)181.1120
Rpt Dir: Foresight rev 3)181.1120
Accum: Back circle 1)0.0000
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)305.4500
Rpt Dir: Backsight rev 1)179.5955
Rpt Dir: Foresight rev 1)125.4500
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)305.4500
Rpt Dir: Backsight rev 2)179.5955
Rpt Dir: Foresight rev 2)125.4505
Accum: Back circle 1)0.0000
Accum: Back circle 1)0.0000
Accum: Ang-Rt 1)305.4455
Accum: Ang-Rt 2)179.5955
Rpt Dir: Backsight 1)0.0005
Rpt Dir: Fore 1)305.4510
Rpt Dir: Backsight rev 1)180.0000
Rpt Dir: Foresight rev 1)125.4500
Rpt Dir: Backsight 2)0.0005
Rpt Dir: Fore 2)305.4515
Rpt Dir: Backsight rev 2)179.5955
Rpt Dir: Foresight rev 2)125.4505
HI / HR : Inst H 0.0000,Rod H 0.0000
Side Shot: 100-102,Ang-Rt 305.4506,Zenith 89.4220,Slp Dst 983.7000,R2
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)103.2420
Rpt Dir: Backsight rev 1)179.5950
Rpt Dir: Foresight rev 1)283.2420
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)103.2415
Rpt Dir: Backsight rev 1)179.5955
Rpt Dir: Foresight rev 1)283.2405
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)103.2415
Rpt Dir: Backsight rev 2)179.5955
Rpt Dir: Foresight rev 2)283.2400
Side Shot: 100-103,Ang-Rt 103.2411,Zenith 90.3720,Slp Dst 423.2400,TRAVPT
Occupy: Occ 103,N 4607.8705,E 5159.2024,Elv 95.4040,TRAVPT
```

Backsight: Occ 103,BS Pt 100,BS azm 337.5411,Back circle 0.0000
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)200.3445
Rpt Dir: Backsight rev 1)180.0000
Rpt Dir: Foresight rev 1)20.3440
Rpt Dir: Backsight 2)0.0015
Rpt Dir: Fore 2)200.3445
Rpt Dir: Backsight rev 2)179.5955
Rpt Dir: Foresight rev 2)20.3445
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)200.3445
Rpt Dir: Backsight rev 1)179.5950
Rpt Dir: Foresight rev 1)20.3440
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)200.3450
Rpt Dir: Backsight rev 2)180.0005
Rpt Dir: Foresight rev 2)20.3440
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)200.3445
Rpt Dir: Backsight rev 1)179.5955
Rpt Dir: Foresight rev 1)20.3435
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)200.3440
Rpt Dir: Backsight rev 2)179.5950
Rpt Dir: Foresight rev 2)20.3440
Traverse: 103-104,Ang-Rt 200.3444,Zenith 91.0115,Slp Dst 1270.3400,ALS 104
Backsight: Occ 104,BS Pt 103,BS azm 358.2855,Back circle 0.0000
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)91.3750
Rpt Dir: Backsight rev 1)180.0445
Rpt Dir: Foresight rev 1)180.0445
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)91.3800
Rpt Dir: Backsight rev 1)179.5950
Rpt Dir: Foresight rev 1)271.3750
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)91.3750
Rpt Dir: Backsight rev 2)179.5945
Rpt Dir: Foresight rev 2)271.3745
Side Shot: 104-105,Ang-Rt 91.3758,Zenith 89.1605,Slp Dst 2429.1800,ALS105
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)0.0000
Rpt Dir: Backsight rev 1)0.0000
Rpt Dir: Foresight rev 1)0.0000
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)272.2855
Rpt Dir: Backsight rev 1)179.5950
Rpt Dir: Foresight rev 1)92.2850
Rpt Dir: Backsight 2)0.0005
Rpt Dir: Fore 2)272.2905
Rpt Dir: Backsight rev 2)179.5950
Rpt Dir: Foresight rev 2)92.2850
Side Shot: 104-106,Ang-Rt 272.2859,Zenith 90.1005,Slp Dst 1560.2600,ALS106
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Rpt Dir: Fore 1)91.3755
Rpt Dir: Backsight rev 1)179.5950

Rpt Dir: Foresight rev 1)271.3755
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)91.3800
Rpt Dir: Backsight rev 1)179.5950
Rpt Dir: Foresight rev 1)271.3755
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)91.3755
Rpt Dir: Backsight rev 2)179.5950
Rpt Dir: Foresight rev 2)271.3750
Side Shot: 104-105,Ang-Rt 91.3800,Zenith 89.1625,Slp Dst 2429.2000,ALS105
Occupy: Occ 101,N 8466.8257,E 9860.3104,Elv 100.0000,TRAVPT
Backsight: Occ 101,BS Pt 100,BS azm 234.3000,Back circle 0.0000
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)12.1145
Rpt Dir: Backsight rev 1)180.0010
Rpt Dir: Foresight rev 1)192.1135
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)12.1135
Rpt Dir: Backsight rev 1)179.5955
Rpt Dir: Foresight rev 1)192.1125
Rpt Dir: Backsight 2)0.0005
Rpt Dir: Fore 2)12.1130
Rpt Dir: Backsight rev 2)180.0000
Rpt Dir: Foresight rev 2)192.1135
Backsight: Occ 101,BS Pt 100,BS azm 234.3000,Back circle 0.0000
Side Shot: 101-107,Ang-Rt 12.1130,Zenith 93.0540,Slp Dst 2538.4800,ALS107
Backsight: Occ 101,BS Pt 100,BS azm 234.3000,Back circle 0.0000
Backsight: Occ 101,BS Pt 100,BS azm 234.3000,Back circle 0.0000
Rpt Dir: Backsight 1)0.0005
Rpt Dir: Fore 1)188.0615
Rpt Dir: Backsight rev 1)179.5955
Rpt Dir: Foresight rev 1)8.0610
Rpt Dir: Backsight 2)359.5955
Rpt Dir: Fore 2)188.0610
Rpt Dir: Backsight rev 2)179.5955
Rpt Dir: Foresight rev 2)8.0610
Side Shot: 101-108,Ang-Rt 188.0614,Zenith 91.1340,Slp Dst 3826.1200,ALS108
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)174.0130
Rpt Dir: Backsight rev 1)174.0130
Rpt Dir: Foresight rev 1)174.0130
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)177.3405
Rpt Dir: Backsight rev 1)179.5955
Rpt Dir: Foresight rev 1)357.3400
Rpt Dir: Backsight 2)0.0005
Rpt Dir: Fore 2)177.3410
Rpt Dir: Backsight rev 2)180.0000
Rpt Dir: Foresight rev 2)357.3400
Side Shot: 101-109,Ang-Rt 177.3404,Zenith 89.5920,Slp Dst 5102.0200,ALS109
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)295.0040
Rpt Dir: Backsight rev 1)180.0000
Rpt Dir: Foresight rev 1)115.0040
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)295.0035

Rpt Dir: Backsight rev 2)179.5955
Rpt Dir: Foresight rev 2)115.0040
Side Shot: 101-110,Ang-Rt 295.0040,Zenith 93.1325,Slp Dst 2553.3400,ALS110
Occupy: Occ 110,N 5960.1241,E 10324.3972,Elv -43.5820,ALS110
Backsight: Occ 110,BS Pt 101,BS azm 349.3040,Back circle 0.0000
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)294.5515
Rpt Dir: Backsight rev 1)179.5955
Rpt Dir: Foresight rev 1)114.5505
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)294.5505
Rpt Dir: Backsight rev 2)179.5950
Rpt Dir: Foresight rev 2)114.5505
Side Shot: 110-111,Ang-Rt 294.5511,Zenith 88.1055,Slp Dst 33.0000,ALS111
Occupy: Occ 109,N 11603.1895,E 13884.4661,Elv 100.9890,ALS109
Backsight: Occ 109,BS Pt 101,BS azm 232.0404,Back circle 0.0000
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)357.4800
Rpt Dir: Backsight rev 1)180.0030
Rpt Dir: Foresight rev 1)177.4755
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)357.4720
Rpt Dir: Backsight rev 1)179.5940
Rpt Dir: Foresight rev 1)177.4705
Rpt Dir: Backsight 2)359.5955
Rpt Dir: Fore 2)357.4715
Rpt Dir: Backsight rev 2)179.5935
Rpt Dir: Foresight rev 2)177.4705
Side Shot: 109-112,Ang-Rt 357.4724,Zenith 91.0315,Slp Dst 4664.5200,ALS112
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)20.2345
Rpt Dir: Backsight rev 1)179.5945
Rpt Dir: Foresight rev 1)200.2335
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)20.2340
Rpt Dir: Backsight rev 2)179.5945
Rpt Dir: Foresight rev 2)200.2330
Side Shot: 109-113,Ang-Rt 20.2345,Zenith 93.1810,Slp Dst 1777.7400,ALS113
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)124.4740
Rpt Dir: Backsight rev 1)179.5940
Rpt Dir: Foresight rev 1)304.4735
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)124.4750
Rpt Dir: Backsight rev 1)179.5950
Rpt Dir: Foresight rev 1)304.4740
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)124.4745
Rpt Dir: Backsight rev 2)179.5950
Rpt Dir: Foresight rev 2)304.4740
Side Shot: 109-114,Ang-Rt 124.4749,Zenith 92.5915,Slp Dst 1228.8400,ALS114
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)148.5910
Rpt Dir: Backsight rev 1)179.5935
Rpt Dir: Foresight rev 1)328.5905

Rpt Dir: Backsight 1)0.0000

Rpt Dir: Fore 1)148.5925
Rpt Dir: Backsight rev 1)179.5950
Rpt Dir: Foresight rev 1)328.5915
Rpt Dir: Backsight 2)0.0005
Rpt Dir: Fore 2)148.5930
Rpt Dir: Backsight rev 2)179.5950
Rpt Dir: Foresight rev 2)328.5920
Side Shot: 109-115,Ang-Rt 148.5926,Zenith 90.0735,Slp Dst 1040.0400,ALS115
Occupy: Occ 115,N 12573.7681,E 14258.1705,Elv 98.6950,ALS115
Backsight: Occ 115,BS Pt 109,BS azm 201.0330,Back circle 0.0000
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)206.0850
Rpt Dir: Backsight rev 1)180.0015
Rpt Dir: Foresight rev 1)26.0845
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)206.0855
Rpt Dir: Backsight rev 1)180.0015
Rpt Dir: Foresight rev 1)26.0830
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)206.0840
Rpt Dir: Backsight rev 1)180.0010
Rpt Dir: Foresight rev 1)26.0835
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)206.0850
Rpt Dir: Backsight rev 1)179.5955
Rpt Dir: Foresight rev 1)26.0820
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)206.0850
Rpt Dir: Backsight rev 1)180.0005
Rpt Dir: Foresight rev 1)26.0825
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)206.0855
Rpt Dir: Backsight rev 1)0.0000
Rpt Dir: Foresight rev 1)206.0825
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)206.0830
Rpt Dir: Backsight rev 1)180.0010
Rpt Dir: Foresight rev 1)26.0835
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)206.0840
Rpt Dir: Backsight rev 2)180.0015
Rpt Dir: Foresight rev 2)26.0835
Side Shot: 115-116,Ang-Rt 206.0829,Zenith 87.5840,Slp Dst 2247.4200,ALS116
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)202.5645
Rpt Dir: Backsight rev 1)180.0000
Rpt Dir: Foresight rev 1)22.5650
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)202.5650
Rpt Dir: Backsight rev 2)180.0000
Rpt Dir: Foresight rev 2)22.5650
Traverse: 115-117,Ang-Rt 202.5649,Zenith 87.3810,Slp Dst 2178.7200,ALS117
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)52.5630
Rpt Dir: Backsight rev 1)180.0005
Rpt Dir: Foresight rev 1)232.5630

Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)52.5625

Rpt Dir: Backsight rev 2)180.0005
Rpt Dir: Foresight rev 2)232.5630
Side Shot: 117-118,Ang-Rt 52.5626,Zenith 96.2825,Slp Dst 1196.9400,ALS118
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)90.2220
Rpt Dir: Backsight rev 1)180.0000
Rpt Dir: Foresight rev 1)270.2215
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)90.2205
Rpt Dir: Backsight rev 2)179.5945
Rpt Dir: Foresight rev 2)270.2155
Side Shot: 117-119,Ang-Rt 90.2213,Zenith 93.2005,Slp Dst 2420.6200,ALS119
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)132.3855
Rpt Dir: Backsight rev 1)179.5950
Rpt Dir: Foresight rev 1)312.3850
Rpt Dir: Backsight 2)359.5955
Rpt Dir: Fore 2)132.3855
Rpt Dir: Backsight rev 2)179.5955
Rpt Dir: Foresight rev 2)312.3845
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)132.3850
Rpt Dir: Backsight rev 1)179.5955
Rpt Dir: Foresight rev 1)312.3850
Rpt Dir: Backsight 2)359.5955
Rpt Dir: Fore 2)132.3850
Rpt Dir: Backsight rev 2)179.5955
Rpt Dir: Foresight rev 2)312.3845
Traverse: 117-120,Ang-Rt 132.3853,Zenith 90.2235,Slp Dst 5328.0200,ALS120
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)336.3520
Rpt Dir: Backsight rev 1)180.0000
Rpt Dir: Foresight rev 1)156.3520
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)336.3500
Rpt Dir: Backsight rev 2)179.5945
Rpt Dir: Foresight rev 2)156.3520
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)336.3440
Rpt Dir: Backsight rev 1)179.5900
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)336.3455
Rpt Dir: Backsight rev 1)179.5935
Rpt Dir: Foresight rev 1)156.3500
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)336.3525
Rpt Dir: Backsight rev 1)180.0020
Rpt Dir: Foresight rev 1)156.3535
Rpt Dir: Backsight 2)0.0005
Rpt Dir: Fore 2)336.3525
Rpt Dir: Backsight rev 2)180.0000
Rpt Dir: Foresight rev 2)156.3520
Side Shot: 120-121,Ang-Rt 336.3520,Zenith 94.4225,Slp Dst 437.2400,ALS121
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)84.5820

Rpt Dir: Backsight rev 1)179.5955
Rpt Dir: Foresight rev 1)264.5820
Rpt Dir: Backsight 2)0.0000

Rpt Dir: Fore 2)84.5825
Rpt Dir: Backsight rev 2)179.5955
Rpt Dir: Foresight rev 2)264.5820
Side Shot: 120-122,Ang-Rt 84.5824,Zenith 90.0340,Slp Dst 2384.2400,ALS122
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)140.2245
Rpt Dir: Backsight rev 1)180.0020
Rpt Dir: Foresight rev 1)320.2230
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)140.2205
Rpt Dir: Backsight rev 1)179.5905
Rpt Dir: Foresight rev 1)320.2125
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)140.2235
Rpt Dir: Backsight rev 1)179.5945
Rpt Dir: Foresight rev 1)320.2215
Rpt Dir: Backsight 2)359.5955
Rpt Dir: Fore 2)140.2235
Rpt Dir: Backsight rev 2)180.0035
Rpt Dir: Foresight rev 2)320.2320
Side Shot: 120-123,Ang-Rt 140.2238,Zenith 89.0540,Slp Dst 2879.5400,ALS123
Occupy: Occ 121,N 19069.2527,E 15655.6353,Elv 117.6780,ALS121
Backsight: Occ 121,BS Pt 120,BS azm 333.1431,Back circle 0.0000
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)96.1320
Rpt Dir: Backsight rev 1)179.5950
Rpt Dir: Foresight rev 1)276.1315
Rpt Dir: Backsight 2)0.0005
Rpt Dir: Fore 2)96.1315
Rpt Dir: Backsight rev 2)179.5955
Rpt Dir: Foresight rev 2)276.1310
Side Shot: 121-124,Ang-Rt 96.1318,Zenith 90.5705,Slp Dst 78.6800,ALS124
Occupy: Occ 123,N 21565.0889,E 13496.9580,Elv 199.0670,ALS123
Backsight: Occ 123,BS Pt 120,BS azm 137.0149,Back circle 0.0000
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)114.2445
Rpt Dir: Backsight rev 1)179.5950
Rpt Dir: Foresight rev 1)294.2435
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)114.2445
Rpt Dir: Backsight rev 2)179.5955
Rpt Dir: Foresight rev 2)294.2435
Side Shot: 123-125,Ang-Rt 114.2444,Zenith 89.1945,Slp Dst 1666.9800,ALS125
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)288.3810
Rpt Dir: Backsight rev 1)179.5945
Rpt Dir: Foresight rev 1)108.3805
Rpt Dir: Backsight 2)0.0005
Rpt Dir: Fore 2)288.3810
Rpt Dir: Backsight rev 2)179.5955
Rpt Dir: Foresight rev 2)108.3800
Traverse: 123-126,Ang-Rt 288.3810,Zenith 90.3010,Slp Dst 1566.7400,ALS126
Backsight: Occ 126,BS Pt 123,BS azm 245.3959,Back circle 0.0000
Occupy: Occ 126,N 22210.6393,E 14924.4557,Elv 185.3190,ALS126

Backsight: Occ 126,BS Pt 123,BS azm 245.3959,Back circle 0.0000
Rpt Dir: Backsight 1)0.0000
Backsight: Occ 126,BS Pt 123,BS azm 245.3959,Back circle 0.0000
Rpt Dir: Backsight 1)0.0000

Rpt Dir: Fore 1)216.1320
Rpt Dir: Backsight rev 1)180.0000
Rpt Dir: Foresight rev 1)36.1325
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)216.1325
Rpt Dir: Backsight rev 2)180.0000
Rpt Dir: Foresight rev 2)36.1325
HI / HR : Inst H 0.0000,Rod H 0.0000
Side Shot: 126-127,Ang-Rt 216.1324,Zenith 98.3745,Slp Dst 338.0200,ALS127
Rpt Dir: Backsight 1)359.5955
Rpt Dir: Fore 1)359.5955
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)78.2905
Rpt Dir: Backsight rev 1)179.5955
Rpt Dir: Foresight rev 1)258.2905
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)78.2910
Rpt Dir: Backsight rev 2)180.0000
Rpt Dir: Foresight rev 2)258.2915
Side Shot: 126-128,Ang-Rt 78.2910,Zenith 89.0215,Slp Dst 4925.3200,ALS128
Occupy: Occ 128,N 26202.4315,E 12040.4434,Elv 268.0540,ALS128
Backsight: Occ 128,BS Pt 126,BS azm 144.0909,Back circle 0.0000
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)358.2150
Rpt Dir: Backsight rev 1)180.0000
Rpt Dir: Foresight rev 1)178.2150
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)358.2145
Rpt Dir: Backsight rev 2)179.5950
Rpt Dir: Foresight rev 2)178.2145
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)358.2145
Rpt Dir: Backsight rev 1)180.0000
Rpt Dir: Foresight rev 1)178.2150
Rpt Dir: Backsight 2)0.0005
Rpt Dir: Fore 2)358.2200
Rpt Dir: Backsight rev 2)180.0000
Rpt Dir: Foresight rev 2)178.2210
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)358.2155
Rpt Dir: Backsight rev 1)180.0000
Rpt Dir: Foresight rev 1)178.2155
Rpt Dir: Backsight 2)0.0005
Rpt Dir: Fore 2)358.2155
Rpt Dir: Backsight rev 2)180.0000
Rpt Dir: Foresight rev 2)178.2155
Side Shot: 128-129,Ang-Rt 358.2154,Zenith 92.0830,Slp Dst 2332.9400,ALS129
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)295.3255
Rpt Dir: Backsight rev 1)180.0005
Rpt Dir: Foresight rev 1)115.3310
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)295.3300

Rpt Dir: Backsight rev 1)180.0000
Rpt Dir: Foresight rev 1)115.3300
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)295.3305
Rpt Dir: Backsight rev 2)180.0000

FLOOD DELINEATION STUDY OF CAVE CREEK
CONTRACT FCD 95-28

FLOOD CONTROL DISTRICT
OF
MARICOPA COUNTY

SURVEY FIELD NOTES
POINTS WITH COORDINATE VALUES

ALCOCER LAND SURVEYORS

Point	Northing	Easting	Elevation	Note
141	1019911.281000	476241.743000	1909.560	START
151	1023410.291720	481078.848041	0.000	TRAVPT
152	1020894.968500	476239.525387	1914.480	PANEL PT
153	1019520.213920	476403.550619	0.000	TRAV PT
154	1018250.771410	476445.637720	1879.360	PANEL PT
155	1018262.029390	478874.621631	1908.730	PANEL PT
156	1018266.678870	474885.468814	0.000	TRAV PT
157	1022391.881400	478757.652213	1943.960	PANEL PT
158	1025192.970810	484463.300186	1994.690	PANEL PT
159	1026573.291800	485082.025067	0.000	TRAV PT
160	1020906.739800	481559.584236	0.000	TRAV PT
161	1020914.746310	481527.590858	1936.920	PANEL PT
162	1023543.014670	481536.916035	1991.860	PANEL PT
163	1026027.290720	483393.308878	1976.200	PANEL PT
164	1027798.151770	485006.763707	2011.530	PANEL PT
165	1027546.329510	485449.257993	-99999.990	TRAVPT
167	1029122.095180	486951.121816	-99999.990	TRAVPT
170	1034438.629320	486604.676817	-99999.990	TRAV PT
173	1036532.197970	484628.210920	2169.540	X SECTION 5 W
180	1043315.067220	484306.947400	2200.360	TRAVPT
183	1043343.933790	484904.891056	-99999.990	TRAVPT
200	1022888.241580	482474.176658	1943.719	X SEC PANEL2
201	1022919.473550	482429.470333	1943.427	IG
202	1022961.947990	482368.671236	1939.097	IG
203	1023001.900160	482311.482565	1937.295	IG
204	1023040.543130	482256.167929	1937.099	IG
205	1023043.453360	482252.002151	1935.527	IG
206	1023051.818890	482240.027499	1933.275	IG
207	1023062.980350	482224.050673	1931.928	IG
208	1023080.515870	482198.949826	1931.519	IG
209	1023096.086340	482176.661814	1933.212	IG
210	1023140.610340	482112.928916	1934.084	IG
211	1023145.708090	482105.631853	1933.126	IG
212	1023147.314270	482103.332726	1932.927	IG
213	1023152.935950	482095.285695	1935.404	IG
214	1023159.267670	482086.222293	1936.478	IG
215	1023164.438280	482078.820938	1935.093	IG
216	1023170.437930	482070.232857	1934.667	IG
217	1023175.603000	482062.839432	1932.882	IG
218	1023182.446600	482053.043318	1932.093	IG
219	1023186.107540	482047.802936	1932.930	IG
220	1023193.227900	482037.610663	1936.147	IG
221	1023201.121430	482026.311645	1936.595	IG
222	1023222.998310	481994.996456	1936.481	IG
223	1023226.352630	481990.194988	1935.990	IG
224	1023264.952720	481934.941739	1935.933	IG
225	1023271.180670	481926.026868	1935.106	IG
226	1023289.793750	481899.383583	1935.131	IG
227	1023297.654970	481888.130819	1932.393	IG
228	1023304.483560	481878.356174	1932.761	IG
229	1023306.687640	481875.201191	1931.507	IG

Point	Northing	Easting	Elevation	Note
230	1023316.872540	481860.622244	1931.854	IG
231	1023319.336480	481857.095290	1934.916	IG
232	1023326.291290	481847.139984	1935.762	IG
233	1023350.354610	481812.695058	1935.162	IG
234	1023358.534410	481800.986271	1935.873	IG
235	1023365.223340	481791.411545	1935.791	IG
236	1023372.390140	481781.152781	1934.454	IG
237	1023385.285020	481762.694690	1933.706	IG
238	1023390.061630	481755.857321	1933.784	IG
239	1023392.742950	481752.019208	1934.120	IG
240	1023408.984010	481728.771290	1955.424	IG
241	1023418.688940	481714.879381	1959.443	IG
242	1023431.868680	481696.013539	1968.542	IG
243	1023442.078590	481681.398779	1972.930	IG
244	1023446.320400	481675.326934	1972.261	IG
245	1023449.785070	481670.367501	1973.842	IG
246	1023463.356800	481650.940545	1976.565	IG
247	1023476.442990	481632.208617	1980.917	IG
248	1023503.214300	481593.887406	1986.072	IG
249	1023526.941980	481559.922929	1989.454	IG
250	1023533.423620	481550.644940	1989.300	IG
251	1019915.332700	477239.255949	1907.675	X SECTION PNL W
252	1018935.331300	477789.257064	1880.165	X SECTION PNL M
253	1018635.330570	478049.258259	1891.085	X SECTION PNL E
254	1018669.852270	478019.339391	1890.983	IG
255	1018688.622380	478003.071927	1877.884	IG
256	1018692.113350	478000.046412	1876.507	IG
257	1018698.739300	477994.303912	1876.732	IG
258	1018704.037580	477989.712054	1876.288	IG
259	1018704.778860	477989.069613	1875.443	IG
260	1018709.133490	477985.295594	1875.493	IG
261	1018712.603660	477982.288101	1875.964	IG
262	1018716.144220	477979.219609	1877.575	IG
263	1018735.737780	477962.238486	1878.028	IG
264	1018746.902760	477952.562154	1880.113	IG
265	1018754.328880	477946.126171	1880.461	IG
266	1018767.801200	477934.450128	1878.931	IG
267	1018772.575670	477930.312252	1878.744	IG
268	1018781.596970	477922.493768	1879.626	IG
269	1018798.195930	477908.107972	1879.811	IG
270	1018802.326970	477904.527736	1878.760	IG
271	1018818.207880	477890.764246	1879.217	IG
272	1018840.329630	477871.592019	1879.550	IG
273	1018848.777600	477864.270434	1880.153	IG
274	1018855.441250	477858.495254	1879.819	IG
275	1018861.198660	477853.505492	1879.799	IG
276	1018864.741350	477850.435156	1879.194	IG
277	1018868.122640	477847.504699	1878.954	IG
278	1018872.530630	477843.684433	1880.076	IG
279	1018889.886070	477828.643016	1879.684	IG

Point	Northing	Easting	Elevation	Note
280	1018897.390780	477822.138915	1878.510	IG
281	1018912.685630	477808.883354	1878.857	IG
282	1018918.485180	477803.857070	1879.874	IG
283	1018949.943300	477781.056447	1879.632	IG
284	1018956.652790	477777.290914	1880.293	IG
285	1018983.206250	477762.388453	1880.241	IG
286	1019000.665970	477752.589623	1879.923	IG
287	1019005.595370	477749.823122	1880.277	IG
288	1019045.840150	477727.236753	1880.758	IG
289	1019068.860220	477714.317317	1880.939	IG
290	1019083.888490	477708.640915	1876.830	IG
291	1019092.856930	477700.849772	1876.260	IG
292	1019111.249560	477690.527367	1874.434	IG
293	1019138.285830	477675.353943	1874.231	IG
294	1019157.842590	477664.378204	1872.166	IG
295	1019168.396050	477658.455338	1872.089	IG
296	1019180.396060	477651.720634	1873.535	IG
297	1019915.246360	477239.304404	1900.644	IG
298	1019210.282020	477634.947891	1876.313	IG
299	1019212.788160	477633.541387	1873.518	IG
300	1019222.451340	477628.118169	1871.788	IG
301	1019237.056160	477619.921585	1873.052	IG
302	1019241.508350	477617.422905	1874.161	IG
303	1019244.029750	477616.007830	1876.788	IG
304	1019255.014240	477609.843061	1878.723	IG
305	1019276.946400	477597.534187	1877.822	IG
306	1019291.287830	477589.485423	1877.752	IG
307	1019302.960430	477582.934472	1880.170	IG
308	1019317.277280	477574.899495	1881.215	IG
309	1019331.905490	477566.689785	1880.133	IG
310	1019335.262800	477564.805576	1878.893	IG
311	1019345.168430	477559.246294	1877.010	IG
312	1019358.315550	477551.867804	1877.365	IG
313	1019374.578440	477542.740664	1878.143	IG
314	1019384.572550	477537.131721	1879.266	IG
315	1019902.147060	477246.656058	1906.280	IG
316	1019888.081050	477254.551118	1904.775	IG
317	1019875.476180	477261.624416	1903.602	IG
318	1019840.332050	477281.348174	1900.012	IG
319	1019824.237150	477290.381035	1898.459	IG
320	1019795.184150	477306.686300	1896.674	IG
321	1019773.237530	477315.449373	1895.074	IG
322	1019770.981680	477310.292409	1895.102	IG
323	1019403.751550	477520.779712	1877.051	IG
324	1019405.473980	477519.792459	1874.012	IG
325	1019420.437420	477511.215779	1874.693	IG
326	1019428.911340	477506.358740	1871.313	IG
327	1019449.543370	477494.532967	1872.267	IG
328	1019454.085660	477491.929437	1871.069	IG
329	1019472.567350	477481.345793	1870.227	IG

Point	Northing	Easting	Elevation	Note
330	1019480.064070	477477.039249	1870.252	IG
331	1019486.884480	477473.129957	1868.957	IG
332	1019489.948510	477471.373727	1870.160	IG
333	1019493.254090	477469.479055	1870.481	IG
334	1019497.661140	477466.953041	1872.149	IG
335	1019504.637050	477462.954620	1873.430	IG
336	1019525.860460	477450.789880	1874.365	IG
337	1019537.683560	477444.840892	1874.735	IG
338	1019551.059400	477436.346468	1882.077	IG
339	1019554.716460	477434.250327	1880.634	IG
340	1019580.025220	477419.743971	1881.348	IG
341	1019592.328950	477412.691773	1880.816	IG
342	1019606.677130	477404.467749	1880.554	IG
343	1019617.004400	477398.548411	1879.223	IG
344	1019627.626160	477392.460276	1875.696	IG
345	1019634.141750	477388.725704	1875.023	IG
346	1019644.279720	477382.914865	1874.020	IG
347	1019682.291270	477361.127578	1872.994	IG
348	1019694.542540	477354.105450	1868.238	IG
349	1019738.141090	477329.115831	1867.393	IG
350	1019747.488090	477323.758357	1869.596	IG
351	1030970.976540	486188.732325	2046.420	X SECTION 4 E
352	1031025.343830	484189.571449	2046.630	X SECTION 4 E
353	1031307.316950	485350.979734	2036.957	X SECTION 4 W
354	1031301.290240	485365.990998	2032.810	IG
355	1031291.155980	485391.233286	2031.775	IG
356	1031290.657600	485392.474653	2028.761	IG
357	1031285.385210	485405.607061	2028.380	IG
358	1031284.547180	485407.694420	2027.980	IG
359	1031282.240770	485413.439197	2024.348	IG
360	1031276.388200	485428.016704	2020.212	IG
361	1031270.238460	485443.334385	2018.522	IG
362	1031262.659110	485462.162019	2011.952	IG
363	1031254.659150	485482.089605	2010.832	IG
364	1031250.899120	485491.455697	2011.653	IG
365	1031236.489930	485527.394828	2010.927	IG
366	1031223.116270	485560.705775	2010.028	IG
367	1031221.585790	485564.517865	2009.629	IG
368	1031216.458530	485577.288798	2009.264	IG
369	1031209.935390	485593.536551	2008.931	IG
370	1031200.158260	485617.889310	2008.363	IG
371	1031192.848310	485636.096846	2007.729	IG
372	1031186.755650	485651.272353	2008.374	IG
373	1031176.720420	485676.267976	2010.556	IG
374	1031171.808760	485688.501879	2011.247	IG
375	1031167.611360	485698.956714	2011.228	IG
376	1031152.171610	485737.413864	2011.950	IG
377	1031141.233270	485764.658941	2011.846	IG
378	1031136.349890	485776.822395	2013.428	IG
379	1031133.627190	485783.604087	2012.888	IG

Point	Northing	Easting	Elevation	Note
380	1031129.452880	485794.001406	2012.875	IG
381	1031121.339850	485814.209229	2014.266	IG
382	1031112.345860	485836.611341	2015.973	IG
383	1031106.240420	485851.818710	2015.560	IG
384	1031095.536100	485878.480902	2016.640	IG
385	1031087.432270	485898.665817	2018.406	IG
386	1031070.217370	485941.544474	2026.341	IG
387	1031047.594450	485997.893374	2037.070	IG
388	1031036.342130	486025.920523	2039.040	IG
389	1031015.001150	486079.076372	2040.651	IG
390	1031000.474480	486115.259218	2041.607	IG
391	1030988.247580	486145.713827	2043.238	IG
392	1030978.017930	486171.193725	2045.250	IG
393	1027581.833700	484463.436600	1993.270	X SECTION 3 E
394	1027944.331800	483651.368300	2016.250	X SECTION 3 W
395	1027944.553440	483650.871788	2016.098	X SECTION 3 W
396	1027940.846750	483659.175507	2013.237	IG
397	1027938.143620	483665.231052	2010.903	IG
398	1027930.917960	483681.417988	2006.641	IG
399	1027926.421160	483691.491712	2004.624	IG
400	1027925.015700	483694.640222	2001.904	IG
401	1027920.486870	483704.785719	1998.224	IG
402	1027917.891350	483710.600195	1995.229	IG
403	1027915.267190	483716.478838	1993.706	IG
404	1027912.125630	483723.516562	1991.889	IG
405	1027909.617340	483729.135641	1991.020	IG
406	1027898.241030	483754.620850	1989.145	IG
407	1027894.155760	483763.772673	1989.541	IG
408	1027888.613080	483776.189383	1989.063	IG
409	1027869.406960	483819.214949	1988.465	IG
410	1027840.166830	483884.718674	1986.387	IG
411	1027819.386630	483931.270493	1985.857	IG
412	1027804.606180	483964.381657	1984.415	IG
413	1027802.609090	483968.855526	1985.355	IG
414	1027786.412570	484005.138989	1976.611	IG
415	1027781.416040	484016.332213	1978.104	IG
416	1027778.810460	484022.169236	1977.366	IG
417	1027775.341040	484029.941434	1979.427	IG
418	1027767.239560	484048.063306	1978.777	IG
419	1027763.376320	484056.744786	1980.230	IG
420	1027756.712510	484071.673056	1974.432	IG
421	1027749.859120	484087.026019	1974.146	IG
422	1027746.518380	484094.509945	1973.014	IG
423	1027737.788260	484114.067161	1973.431	IG
424	1027732.205940	484126.572683	1972.583	IG
425	1027727.383530	484137.375840	1972.486	IG
426	1027723.545090	484145.974720	1972.747	IG
427	1027720.221060	484153.421221	1973.040	IG
428	1027715.336440	484164.363742	1973.169	IG
429	1027712.649950	484170.382016	1973.544	IG

Point	Northing	Easting	Elevation	Note
430	1027709.865600	484176.619511	1973.382	IG
431	1027706.134420	484184.978102	1974.838	IG
432	1027703.161080	484191.638974	1977.846	IG
433	1027702.271770	484193.631218	1980.780	IG
434	1027697.879730	484203.470263	1981.213	IG
435	1027689.756280	484221.668413	1980.789	IG
436	1027686.757590	484228.386083	1981.057	IG
437	1027683.984600	484234.598136	1979.903	IG
438	1027680.438000	484242.543235	1980.975	IG
439	1027674.553390	484255.725937	1981.302	IG
440	1027667.619640	484271.258928	1980.918	IG
441	1027662.386290	484282.982672	1981.111	IG
442	1027659.297730	484289.901672	1980.458	IG
443	1027647.900360	484315.434048	1980.121	IG
444	1027636.696630	484340.532645	1978.962	IG
445	1027632.462340	484350.018302	1979.465	IG
446	1027629.675130	484356.262221	1977.860	IG
447	1027628.498080	484358.899040	1977.833	IG
448	1027625.506900	484365.599891	1979.807	IG
449	1027621.476260	484374.629321	1979.912	IG
450	1027615.187810	484388.716727	1979.917	IG
451	1027609.705740	484400.997659	1983.493	IG
452	1027604.388460	484412.909424	1984.354	IG
453	1027596.641670	484430.263780	1987.762	IG
454	1027588.144200	484449.299818	1992.489	IG
455	1037067.226080	485510.565719	2119.400	X SECTION 5 E
456	1037033.061520	485454.222385	2119.155	IG
457	1036997.267320	485395.191496	2118.554	IG
458	1036981.193640	485368.683195	2118.403	IG
459	1036961.700210	485336.535125	2116.999	IG
460	1036940.362290	485301.345165	2113.423	IG
461	1036926.601010	485278.650420	2109.347	IG
462	1036912.776420	485255.851256	2105.135	IG
463	1036891.787600	485221.237019	2097.427	IG
464	1036887.626440	485214.374532	2095.154	IG
465	1036916.693820	485262.277057	2106.032	TRAV PT
466	1036877.994150	485198.458025	2091.871	IG
467	1036873.588010	485191.191927	2090.353	IG
468	1036866.245110	485179.082879	2087.634	IG
469	1036861.297110	485170.923206	2084.530	IG
470	1036856.514400	485163.036111	2082.616	IG
471	1036854.112450	485159.075085	2081.557	IG
472	1036847.151070	485147.595190	2080.245	IG
473	1036842.608790	485140.104581	2078.864	IG
474	1036830.315780	485119.832370	2078.420	IG
475	1036825.422200	485111.762441	2078.174	IG
476	1036817.486900	485098.676470	2078.526	IG
477	1036799.350730	485068.768395	2077.748	IG
478	1036796.928280	485064.773571	2076.856	IG
479	1036794.398500	485060.601742	2076.526	IG

Point	Northing	Easting	Elevation	Note
480	1036784.267370	485043.894651	2065.063	IG
481	1036781.267190	485038.947102	2065.196	IG
482	1036776.598580	485031.248178	2063.885	IG
483	1036774.498480	485027.784932	2060.120	IG
484	1036771.432910	485022.729540	2060.233	IG
485	1036769.545890	485019.617688	2059.892	IG
486	1036767.093230	485015.573045	2058.728	IG
487	1036765.677670	485013.238672	2057.622	IG
488	1036764.156080	485010.729432	2056.525	IG
489	1036762.484180	485007.972327	2057.766	IG
490	1036761.311240	485006.038061	2058.554	IG
491	1036759.258690	485002.653227	2060.366	IG
492	1036757.767200	485000.193633	2060.701	IG
493	1036755.896830	484997.109233	2063.799	IG
494	1036749.754090	484986.979333	2064.216	IG
495	1036741.044580	484972.616615	2066.519	IG
496	1036738.114420	484967.784545	2067.132	IG
497	1036730.451830	484955.148286	2066.959	IG
498	1036727.753990	484950.699316	2066.596	IG
499	1036723.631140	484943.900389	2067.218	IG
500	1036716.375940	484931.935956	2067.220	IG
501	1036711.914970	484923.900021	2069.805	IG
502	1036706.134310	484914.858539	2070.037	IG
503	1036703.609160	484910.326877	2069.671	IG
504	1036700.753640	484905.248664	2069.944	IG
505	1036697.434160	484900.148946	2070.639	IG
506	1036692.806240	484892.532523	2070.146	IG
507	1036690.297250	484888.403346	2070.250	IG
508	1036688.132620	484884.840902	2070.421	IG
509	1036685.331900	484880.231597	2071.043	IG
510	1036683.188270	484876.703719	2070.294	IG
511	1036681.525680	484873.967497	2070.119	IG
512	1036675.935670	484864.767720	2070.952	IG
513	1036672.372720	484858.903984	2070.787	IG
514	1036671.546690	484857.544552	2070.330	IG
515	1036670.579500	484855.952784	2070.321	IG
516	1036667.827140	484851.897309	2070.261	IG
517	1036665.157540	484847.495154	2071.318	IG
518	1036662.490730	484843.074685	2071.222	IG
519	1036660.016160	484838.993907	2070.236	IG
520	1036659.381290	484837.946953	2071.000	IG
521	1036655.557850	484831.641779	2071.427	IG
522	1036653.680100	484828.545215	2070.247	IG
523	1036652.166060	484826.048427	2070.533	IG
524	1036650.008720	484822.490806	2071.182	IG
525	1036648.080470	484819.310957	2071.062	IG
526	1036639.690940	484805.475906	2068.407	IG
527	1036636.490570	484800.198222	2068.456	IG
528	1036631.611930	484792.152943	2069.488	IG
529	1036629.219310	484788.207311	2070.432	IG

Point	Northing	Easting	Elevation	Note
530	1036625.284070	484781.717767	2070.433	IG
531	1036621.994310	484776.292666	2070.782	IG
532	1036619.290470	484771.833809	2070.962	IG
533	1036616.539620	484767.297427	2070.527	IG
534	1036612.406470	484760.481516	2070.572	IG
535	1036609.155140	484755.119793	2071.083	IG
536	1036605.350790	484748.846094	2069.566	IG
537	1036600.613210	484741.033427	2069.707	IG
538	1036597.526630	484735.943394	2070.280	IG
539	1036594.115830	484730.318703	2071.447	IG
540	1036592.487060	484727.632718	2072.845	IG
541	1036580.705810	484734.158591	2100.724	IG
542	1043226.794130	484151.744423	2198.380	X SECTION 6 E
543	1043272.925550	483018.653106	2226.795	X SECTION 6 W
544	1043236.136080	483922.285021	2192.082	IG TRAVPT
545	1043235.795790	483930.643349	2193.562	IG
546	1043235.103440	483942.020850	2194.871	IG
547	1043234.968880	483950.954273	2195.456	IG
548	1043234.360790	483965.890156	2196.438	IG
549	1043234.056540	483973.363298	2196.539	IG
550	1043233.950880	483975.958653	2196.790	IG
551	1043233.454280	483988.156127	2196.228	IG
552	1043232.915610	484001.387094	2196.195	IG
553	1043232.796730	484004.307088	2196.069	IG
554	1043232.520440	484011.093273	2196.667	IG
555	1043232.064150	484022.300872	2196.985	IG
556	1043230.626000	484057.625193	2197.804	IG
557	1043230.084100	484070.935381	2197.724	IG
558	1043229.463380	484086.181595	2197.918	IG
559	1043228.646500	484106.246104	2197.927	IG
560	1043227.953370	484123.271005	2198.117	IG
561	1043272.549030	483027.901175	2224.871	IG
562	1043272.303750	483033.925899	2224.478	IG
563	1043271.904060	483043.743155	2220.985	IG
564	1043271.373610	483056.772323	2219.528	IG
565	1043270.818200	483070.414239	2216.098	IG
566	1043270.579570	483076.275537	2215.564	IG
567	1043270.045530	483089.392825	2206.440	IG
568	1043269.916030	483092.573694	2206.576	IG
569	1043269.571870	483101.026986	2205.522	IG
570	1043269.317380	483107.277844	2205.260	IG
571	1043269.048180	483113.889973	2201.637	IG
572	1043268.958020	483116.104597	2200.980	IG
573	1043268.802820	483119.916658	2198.904	IG
574	1043268.701220	483122.412165	2198.664	IG
575	1043268.502720	483127.287855	2198.612	IG
576	1043268.266970	483133.078214	2197.111	IG
577	1043268.100380	483137.170187	2196.613	IG
578	1043268.040390	483138.643579	2196.009	IG
579	1043267.808950	483144.328213	2194.620	IG

Point	Northing	Easting	Elevation	Note
580	1043267.611420	483149.180148	2193.986	IG
581	1043267.541630	483150.894160	2193.171	IG
582	1043267.444130	483153.289162	2192.524	IG
583	1043267.118850	483161.278790	2191.474	IG
584	1043266.872450	483167.330837	2189.991	IG
585	1043266.654410	483172.686263	2188.604	IG
586	1043266.378520	483179.462757	2187.348	IG
587	1043266.251510	483182.582510	2186.584	IG
588	1043266.073190	483186.962320	2185.761	IG
589	1043265.973680	483189.406613	2184.617	IG
590	1043265.647640	483197.415020	2182.680	IG
591	1043265.557790	483199.621718	2181.805	IG
592	1043265.453510	483202.183129	2181.482	IG
593	1043265.428980	483202.785649	2181.209	IG
594	1043265.132760	483210.061434	2179.493	IG
595	1043264.646050	483222.016212	2177.923	IG
596	1043264.023460	483237.308522	2176.607	IG
597	1043262.901660	483264.862320	2174.147	IG
598	1043262.307040	483279.467580	2173.016	IG
599	1043261.488310	483299.577388	2171.139	IG
600	1043261.398110	483301.792992	2170.099	IG
601	1043261.365890	483302.584257	2169.781	IG
602	1043261.134570	483308.266065	2167.122	IG
603	1043261.046600	483310.426889	2165.679	IG
604	1043260.981930	483312.015329	2165.036	IG
605	1043260.768470	483317.258240	2161.635	IG
606	1043260.685660	483319.292158	2160.990	IG
607	1043260.600480	483321.384501	2160.017	IG
608	1043260.507940	483323.657387	2158.711	IG
609	1043260.404030	483326.209762	2156.460	IG
610	1043260.377010	483326.873326	2156.079	IG
611	1043260.343370	483327.699659	2155.014	IG
612	1043260.214540	483330.864074	2153.440	IG
613	1043260.109730	483333.438380	2152.375	IG
614	1043260.036580	483335.235092	2151.295	IG
615	1043259.987740	483336.434866	2149.636	IG
616	1043259.928930	483337.879314	2143.207	IG
617	1043259.830240	483339.956057	2141.153	IG
618	1043259.823090	483340.479008	2140.596	IG
619	1043259.721570	483342.972462	2140.217	IG
620	1043259.643200	483344.552840	2139.463	IG
621	1043259.353780	483352.006254	2138.495	IG
622	1043259.240290	483354.793899	2138.733	IG
623	1043259.020110	483360.201938	2138.054	IG
624	1043258.590810	483370.746482	2138.570	IG
625	1043258.267040	483378.699073	2138.193	IG
626	1043258.014550	483384.900627	2138.613	IG
627	1043257.916870	483387.299974	2138.699	IG
628	1043257.657930	483393.660137	2139.614	IG
629	1043257.207170	483404.731890	2140.308	IG

Point	Northing	Easting	Elevation	Note
630	1043256.943000	483411.220330	2140.422	IG
631	1043256.857280	483413.325907	2139.731	IG
632	1043256.642910	483418.591360	2141.952	IG
633	1043260.053760	483428.245603	2144.631	IG
634	1043257.813660	483436.488392	2145.998	IG
635	1043255.632550	483443.408099	2145.941	IG
636	1043255.435170	483448.255995	2145.738	IG
637	1043255.193410	483454.194328	2146.186	IG
638	1043255.029530	483458.219451	2146.740	IG
639	1043254.904740	483461.284534	2146.278	IG
640	1043254.382820	483474.104154	2146.446	IG
641	1043254.274390	483476.767417	2146.257	IG
642	1043253.412840	483497.928979	2142.828	IG
643	1043253.165260	483504.010038	2143.063	IG
644	1043252.996410	483508.157520	2143.360	IG
645	1043252.123810	483529.590507	2146.773	IG
646	1043251.654890	483541.108282	2147.666	IG
647	1043251.073310	483555.393083	2147.778	IG
648	1043250.695110	483564.469126	2147.794	IG
649	1043249.914060	483583.866816	2147.718	IG
650	1043249.381130	483596.956857	2147.876	IG
651	1043248.902540	483608.712021	2147.448	IG
652	1043247.393060	483645.788314	2147.285	IG
653	1043247.045650	483654.321400	2147.856	IG
654	1043246.687230	483663.125170	2147.795	IG
655	1043246.550550	483666.482309	2147.323	IG
656	1043245.559120	483685.177900	2146.845	IG
657	1043244.989580	483704.823294	2146.422	IG
658	1043246.130810	483714.164404	2146.095	IG
659	1043245.433700	483714.490037	2146.364	IG
660	1043244.411010	483719.034262	2147.315	IG
661	1043243.852350	483732.756227	2148.071	IG
662	1043243.700130	483736.494939	2148.522	IG
663	1043243.555030	483740.058952	2149.143	IG
664	1043242.690150	483749.228250	2150.154	IG
665	1043242.897870	483756.200408	2150.441	IG
666	1043242.277630	483782.445035	2151.538	IG
667	1043240.659110	483807.633713	2151.555	IG
668	1043240.367490	483818.352174	2151.782	IG
669	1043240.105860	483824.720149	2151.445	IG
670	1043239.505780	483841.446183	2151.863	IG
671	1043238.468470	483864.825017	2154.140	IG
672	1043238.370430	483868.432070	2155.274	IG
673	1043237.155780	483880.914610	2158.941	IG
674	1043236.925820	483887.319829	2174.576	IG
675	1043236.400820	483894.325121	2178.604	IG
676	1043234.105780	483903.023701	2183.541	IG
677	1043235.183700	483911.907655	2188.577	IG

FLOOD DELINEATION STUDY OF CAVE CREEK
CONTRACT FCD 95-28

FLOOD CONTROL DISTRICT
OF
MARICOPA COUNTY

SURVEY FIELD NOTES
MAP CHECK SECTIONS

ALCOCER LAND SURVEYORS

CAVE CREEK RECREATION AREA

CHECK SECTIONS

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JOB: Name CAVE3,Date 2-21-1996,Time 10:11:25.49
Mode Setup: North Azimuth,Dist feet,Scale 1.0000,Earth crv OFF
Store: Pt 141,N 1019911.2810,E 476241.7430,Elv 1909.5600,START
Store: Pt 151,N 1023410.2917,E 481078.8480,Elv 0.0000,TRAVPT
Store: Pt 152,N 1020894.9685,E 476239.5254,Elv 1814.4800,PANEL PT
Store: Pt 153,N 1019520.2139,E 476403.5506,Elv 0.0000,TRAV PT
Store: Pt 154,N 10118250.7714,E 476445.6377,Elv 1879.3600,PANEL PT
Store: Pt 155,N 1018262.0294,E 478874.6216,Elv 1908.7300,PANEL PT
Store: Pt 156,N 1018266.6789,E 474885.4688,Elv 0.0000,TRAV PT
Store: Pt 157,N 1022391.8814,E 478757.6522,Elv 1943.9600,PANEL PT
Store: Pt 158,N 1025192.9708,E 484463.3002,Elv 1994.6900,PANEL PT
Store: Pt 159,N 1026573.2918,E 485082.0251,Elv 0.0000,TRAV PT
Store: Pt 160,N 1020906.7398,E 481559.5842,Elv 0.0000,TRAV PT
Store: Pt 161,N 1020914.7463,E 481527.5909,Elv 1936.9200,PANEL PT
Store: Pt 162,N 1023543.0147,E 481536.9160,Elv 1991.8600,PANEL PT
Store: Pt 163,N 1026027.2907,E 483393.3089,Elv 1976.2000,PANEL PT
Store: Pt 164,N 1027798.1518,E 485006.7637,Elv 2011.5300,PANEL PT
Occupy: Occ 162,N 1023543.0147,E 481536.9160,Elv 1991.8600,PANEL PT
Backsight: Occ 162,BS Pt 158,BS azm 60.3505,Back circle 0.0000
HI / HR : Inst H 4.8600,Rod H 12.7300
HI / HR : Inst H 3.6400,Rod H 12.7300
Backsight: Occ 162,BS Pt 158,BS azm 60.3505,Back circle 0.0000
HI / HR : Inst H 5.0200,Rod H 12.7300
Rpt Dir: Backsight 1)0.0000
Rpt Dir: Fore 1)64.2110
Rpt Dir: Backsight rev 1)179.5955
Rpt Dir: Foresight rev 1)244.2105
Rpt Dir: Backsight 2)0.0000
Rpt Dir: Fore 2)64.2115
Rpt Dir: Backsight rev 2)179.5955
Rpt Dir: Foresight rev 2)244.2110
HI / HR : Inst H 5.0200,Rod H 5.3800
Side Shot: 162-200,Ang-Rt 64.2112,Zenith 92.2335,Slp Dst 1144.3200,X SEC PANEL
2
Backsight: Occ 162,BS Pt 200,BS azm 124.5618,Back circle 0.0000
HI / HR : Inst H 5.0200,Rod H 8.8500
Side Shot: 162-201,Ang-Rt 0.0000,Zenith 92.2045,Slp Dst 1089.7000,IG
Side Shot: 162-202,Ang-Rt 0.0000,Zenith 92.4540,Slp Dst 1015.8000,IG
Side Shot: 162-203,Ang-Rt 0.0000,Zenith 93.0425,Slp Dst 946.2200,IG
Side Shot: 162-204,Ang-Rt 0.0000,Zenith 93.1920,Slp Dst 878.8600,IG
Side Shot: 162-205,Ang-Rt 0.0000,Zenith 93.2640,Slp Dst 873.8800,IG
Side Shot: 162-206,Ang-Rt 0.0000,Zenith 93.3910,Slp Dst 859.4400,IG
Side Shot: 162-207,Ang-Rt 0.0000,Zenith 93.4945,Slp Dst 840.0800,IG
Side Shot: 162-208,Ang-Rt 0.0000,Zenith 94.0010,Slp Dst 809.5600,IG
Side Shot: 162-209,Ang-Rt 0.0000,Zenith 94.0105,Slp Dst 782.3200,IG
Side Shot: 162-210,Ang-Rt 0.0000,Zenith 94.2325,Slp Dst 704.7200,IG
Side Shot: 162-211,Ang-Rt 0.0000,Zenith 94.3130,Slp Dst 695.9200,IG
Side Shot: 162-212,Ang-Rt 0.0000,Zenith 94.3335,Slp Dst 693.1400,IG
Side Shot: 162-213,Ang-Rt 0.0000,Zenith 94.2505,Slp Dst 683.1600,IG
Occupy: Occ 200,N 1022888.2416,E 482474.1767,Elv 1943.7190,X SEC PANEL2
Backsight: Occ 200,BS Pt 162,BS azm 304.5618,Back circle 0.0000
Backsight: Occ 200,BS Pt 162,BS azm 304.5618,Back circle 0.0000
HI / HR : Inst H 4.9700,Rod H 5.3100
HI / HR : Inst H 4.9700,Rod H 8.8500
Side Shot: 200-214,Ang-Rt 3.5520,Zenith 90.2425,Slp Dst 473.2400,F
Side Shot: 200-214,Ang-Rt 0.0000,Zenith 90.2425,Slp Dst 473.2600,IG
Side Shot: 200-215,Ang-Rt 0.0000,Zenith 90.3350,Slp Dst 482.3000,IG
Side Shot: 200-216,Ang-Rt 0.0000,Zenith 90.3605,Slp Dst 492.7800,IG
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Side Shot: 200-217,Ang-Rt 0.0000,Zenith 90.4740,Slp Dst 501.8200,IG
Side Shot: 200-218,Ang-Rt 0.0000,Zenith 90.5150,Slp Dst 513.7800,IG
Side Shot: 200-219,Ang-Rt 0.0005,Zenith 90.4540,Slp Dst 520.1800,IG
Side Shot: 200-219,Ang-Rt 0.0000,Zenith 90.4540,Slp Dst 520.1600,IG
Side Shot: 200-220,Ang-Rt 0.0000,Zenith 90.2350,Slp Dst 532.5600,IG
Side Shot: 200-221,Ang-Rt 0.0000,Zenith 90.2025,Slp Dst 546.3400,IG
Side Shot: 200-222,Ang-Rt 0.0000,Zenith 90.1945,Slp Dst 584.5400,IG
Side Shot: 200-223,Ang-Rt 0.0000,Zenith 90.2225,Slp Dst 590.4000,IG
Side Shot: 200-224,Ang-Rt 0.0000,Zenith 90.2025,Slp Dst 657.8000,IG
Side Shot: 200-225,Ang-Rt 0.0000,Zenith 90.2420,Slp Dst 668.6800,IG
Side Shot: 200-226,Ang-Rt 0.0000,Zenith 90.2305,Slp Dst 701.1800,IG
HI / HR : Inst H 4.9700,Rod H 9.8500
Side Shot: 200-227,Ang-Rt 0.0000,Zenith 90.3100,Slp Dst 714.9200,IG
Side Shot: 200-228,Ang-Rt 0.0000,Zenith 90.2845,Slp Dst 726.8400,IG
Side Shot: 200-229,Ang-Rt 0.0000,Zenith 90.3430,Slp Dst 730.7000,IG
Side Shot: 200-230,Ang-Rt 0.0000,Zenith 90.3205,Slp Dst 748.4800,IG
Side Shot: 200-231,Ang-Rt 0.0000,Zenith 90.1755,Slp Dst 752.7600,IG
Side Shot: 200-232,Ang-Rt 0.0000,Zenith 90.1350,Slp Dst 764.9000,IG
Side Shot: 200-233,Ang-Rt 0.0000,Zenith 90.1540,Slp Dst 806.9200,IG
Side Shot: 200-234,Ang-Rt 0.0000,Zenith 90.1225,Slp Dst 821.2000,IG
Side Shot: 200-235,Ang-Rt 0.0000,Zenith 90.1235,Slp Dst 832.8800,IG
Side Shot: 200-236,Ang-Rt 0.0000,Zenith 90.1750,Slp Dst 845.4000,IG
Side Shot: 200-237,Ang-Rt 0.0000,Zenith 90.2020,Slp Dst 867.9200,IG
Side Shot: 200-238,Ang-Rt 0.0000,Zenith 90.1950,Slp Dst 876.2600,IG
Side Shot: 200-239,Ang-Rt 0.0000,Zenith 90.1825,Slp Dst 880.9400,IG
HI / HR : Inst H 4.9700,Rod H 8.8500
Side Shot: 200-240,Ang-Rt 0.0000,Zenith 89.0105,Slp Dst 909.4200,IG
Side Shot: 200-241,Ang-Rt 0.0000,Zenith 88.4715,Slp Dst 926.4400,IG
Side Shot: 200-242,Ang-Rt 0.0000,Zenith 88.1605,Slp Dst 949.6800,IG
Side Shot: 200-243,Ang-Rt 0.0000,Zenith 88.0225,Slp Dst 967.6400,IG
Side Shot: 200-244,Ang-Rt 0.0000,Zenith 88.0540,Slp Dst 975.0200,IG
Side Shot: 200-245,Ang-Rt 0.0000,Zenith 88.0050,Slp Dst 981.1200,IG
Side Shot: 200-246,Ang-Rt 0.0000,Zenith 87.5420,Slp Dst 1004.9000,IG
Side Shot: 200-247,Ang-Rt 0.0000,Zenith 87.4235,Slp Dst 1027.9000,IG
Side Shot: 200-248,Ang-Rt 0.0000,Zenith 87.3205,Slp Dst 1074.8200,IG
Side Shot: 200-249,Ang-Rt 0.0000,Zenith 87.2710,Slp Dst 1116.3600,IG
Side Shot: 200-250,Ang-Rt 0.0000,Zenith 87.2910,Slp Dst 1127.6600,IG
Store: Pt 152,N 1020894.9685,E 476239.5254,Elv 1914.4800,PANEL PT
Occupy: Occ 152,N 1020894.9685,E 476239.5254,Elv 1914.4800,PANEL PT
Backsight: Occ 152,BS Pt 151,BS azm 62.3210,Back circle 0.0000
Store: Pt 154,N 1018250.7714,E 476445.6377,Elv 1879.3600,PANEL PT
Occupy: Occ 154,N 1018250.7714,E 476445.6377,Elv 1879.3600,PANEL PT
Backsight: Occ 154,BS Pt 155,BS azm 89.4404,Back circle 0.0000
HI / HR : Inst H 0.0000,Rod H 0.0000
Traverse: 154-251,Ang-Lt 64.1438,Elv 0.0000,Horiz 1844.0700,X SECTION PNL W
Backsight: Occ 251,BS Pt 152,BS azm 314.2506,Back circle 0.0000
Traverse: 251-252,Azm 150.4152,Elv 0.0000,Horiz 1123.7900,X SECTION PNL M
Side Shot: 252-253,Azm 139.0508,Elv 0.0000,Horiz 396.9900,X SECTION PNL E
Store: Pt 251,N 1019915.3327,E 477239.2559,Elv 1907.6750,X SECTION PNL W
Store: Pt 252,N 1018935.3313,E 477789.2571,Elv 1879.2450,X SECTION PNL M
Store: Pt 253,N 1018635.3306,E 478049.2583,Elv 1891.0850,X SECTION PNL E
Occupy: Occ 252,N 1018935.3313,E 477789.2571,Elv 1879.2450,X SECTION PNL M
Backsight: Occ 252,BS Pt 253,BS azm 139.0508,Back circle 0.0000
HI / HR : Inst H 4.9300,Rod H 12.8400
Store: Pt 252,N 1018935.3313,E 477789.2571,Elv 1880.1650,X SECTION PNL M
Occupy: Occ 252,N 1018935.3313,E 477789.2571,Elv 1880.1650,X SECTION PNL M
Backsight: Occ 252,BS Pt 253,BS azm 139.0508,Back circle 0.0000

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HI / HR : Inst H 5.0500,Rod H 12.8400
Side Shot: 252-254,Ang-Rt 359.5040,Zenith 86.5735,Slp Dst 351.9000,IG
Side Shot: 252-254,Ang-Rt 0.0000,Zenith 86.5805,Slp Dst 351.8000,IG
HI / HR : Inst H 5.0500,Rod H 15.8400
Side Shot: 252-255,Ang-Rt 0.0000,Zenith 88.3025,Slp Dst 326.5800,IG
Side Shot: 252-256,Ang-Rt 0.0005,Zenith 88.3830,Slp Dst 321.9200,IG
HI / HR : Inst H 5.0500,Rod H 16.3400
Side Shot: 252-256,Ang-Rt 0.0000,Zenith 88.3830,Slp Dst 321.9400,IG
Side Shot: 252-257,Ang-Rt 0.0000,Zenith 88.3345,Slp Dst 313.1800,IG
Side Shot: 252-258,Ang-Rt 0.0000,Zenith 88.3645,Slp Dst 306.1600,IG
Side Shot: 252-259,Ang-Rt 359.5955,Zenith 88.4600,Slp Dst 305.1600,IG
Side Shot: 252-259,Ang-Rt 0.0000,Zenith 88.4600,Slp Dst 305.1600,IG
Side Shot: 252-260,Ang-Rt 0.0000,Zenith 88.4400,Slp Dst 299.4000,IG
Side Shot: 252-261,Ang-Rt 0.0000,Zenith 88.3720,Slp Dst 294.8200,IG
Side Shot: 252-262,Ang-Rt 0.0000,Zenith 88.1655,Slp Dst 290.1800,IG
Side Shot: 252-263,Ang-Rt 0.0000,Zenith 88.0055,Slp Dst 264.2800,IG
Side Shot: 252-264,Ang-Rt 0.0000,Zenith 87.2510,Slp Dst 249.6000,IG
Side Shot: 252-265,Ang-Rt 0.0000,Zenith 87.1350,Slp Dst 239.8000,IG
Side Shot: 252-266,Ang-Rt 0.0000,Zenith 87.2410,Slp Dst 221.9200,IG
Side Shot: 252-267,Ang-Rt 0.0000,Zenith 87.2235,Slp Dst 215.6000,IG
Side Shot: 252-268,Ang-Rt 0.0000,Zenith 86.5830,Slp Dst 203.7200,IG
Side Shot: 252-269,Ang-Rt 0.0000,Zenith 86.3305,Slp Dst 181.8000,IG
HI / HR : Inst H 5.0500,Rod H 12.8400
Side Shot: 252-270,Ang-Rt 0.0000,Zenith 87.5520,Slp Dst 176.1200,IG
Side Shot: 252-271,Ang-Rt 0.0000,Zenith 87.2820,Slp Dst 155.1400,IG
Side Shot: 252-272,Ang-Rt 0.0000,Zenith 86.4400,Slp Dst 125.9200,IG
Side Shot: 252-273,Ang-Rt 0.0000,Zenith 86.0655,Slp Dst 114.8000,IG
Side Shot: 252-274,Ang-Rt 0.0000,Zenith 85.5820,Slp Dst 105.9800,IG
Side Shot: 252-275,Ang-Rt 0.0000,Zenith 85.4020,Slp Dst 98.3800,IG
Side Shot: 252-276,Ang-Rt 0.0000,Zenith 85.4930,Slp Dst 93.6600,IG
Side Shot: 252-277,Ang-Rt 0.0000,Zenith 85.4610,Slp Dst 89.1800,IG
Side Shot: 252-278,Ang-Rt 0.0000,Zenith 84.4220,Slp Dst 83.4600,IG
Side Shot: 252-279,Ang-Rt 0.0000,Zenith 83.0415,Slp Dst 60.5800,IG
Side Shot: 252-280,Ang-Rt 0.0000,Zenith 83.0200,Slp Dst 50.5800,IG
Side Shot: 252-281,Ang-Rt 0.0000,Zenith 77.4740,Slp Dst 30.6600,IG
Side Shot: 252-282,Ang-Rt 0.0000,Zenith 71.2425,Slp Dst 23.5200,IG
Backsight: Occ 252,BS Pt 251,BS azm 330.4152,Back circle 0.0000
HI / HR : Inst H 5.0500,Rod H 9.0600
HI / HR : Inst H 5.0500,Rod H 12.8400
Side Shot: 252-283,Ang-Rt 0.0000,Zenith 66.3455,Slp Dst 18.2600,IG
Side Shot: 252-284,Ang-Rt 0.0000,Zenith 72.0320,Slp Dst 25.7000,IG
Side Shot: 252-285,Ang-Rt 0.0000,Zenith 81.5045,Slp Dst 55.4600,IG
Side Shot: 252-286,Ang-Rt 0.0000,Zenith 84.1450,Slp Dst 75.3000,IG
Side Shot: 252-287,Ang-Rt 0.0000,Zenith 84.2355,Slp Dst 80.9600,IG
Side Shot: 252-288,Ang-Rt 0.0000,Zenith 86.1255,Slp Dst 127.0000,IG
Side Shot: 252-289,Ang-Rt 0.0000,Zenith 86.4755,Slp Dst 153.3600,IG
Side Shot: 252-290,Ang-Rt 0.4855,Zenith 88.2925,Slp Dst 169.0800,IG
Side Shot: 252-291,Ang-Rt 0.0000,Zenith 88.4605,Slp Dst 180.6800,IG
Side Shot: 252-292,Ang-Rt 0.0000,Zenith 89.2455,Slp Dst 201.7400,IG
Side Shot: 252-293,Ang-Rt 0.0000,Zenith 89.3235,Slp Dst 232.7400,IG
HI / HR : Inst H 5.0500,Rod H 16.3400
Side Shot: 252-294,Ang-Rt 0.0000,Zenith 89.1540,Slp Dst 255.1800,IG
Side Shot: 252-295,Ang-Rt 0.0000,Zenith 89.1840,Slp Dst 267.2800,IG
Side Shot: 252-296,Ang-Rt 0.0000,Zenith 89.0300,Slp Dst 281.0600,IG
Side Shot: 252-297,Ang-Rt 0.0000,Zenith 88.2250,Slp Dst 1124.1400,IG
Side Shot: 252-298,Ang-Rt 0.0000,Zenith 88.3855,Slp Dst 315.3800,IG
Side Shot: 252-299,Ang-Rt 0.0000,Zenith 89.0950,Slp Dst 318.2000,IG
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Side Shot: 252-300,Ang-Rt 0.0000,Zenith 89.2935,Slp Dst 329.2600,IG
Side Shot: 252-301,Ang-Rt 0.0000,Zenith 89.1830,Slp Dst 346.0200,IG
Side Shot: 252-302,Ang-Rt 0.0000,Zenith 89.0815,Slp Dst 351.1400,IG
Side Shot: 252-303,Ang-Rt 0.0000,Zenith 88.4310,Slp Dst 354.0800,IG
Side Shot: 252-304,Ang-Rt 0.0000,Zenith 88.2740,Slp Dst 366.7200,IG
Side Shot: 252-305,Ang-Rt 0.0000,Zenith 88.4130,Slp Dst 391.8400,IG
Side Shot: 252-306,Ang-Rt 0.0000,Zenith 88.4515,Slp Dst 408.2800,IG
Side Shot: 252-307,Ang-Rt 0.0000,Zenith 88.2755,Slp Dst 421.7200,IG
Side Shot: 252-308,Ang-Rt 0.0000,Zenith 88.2310,Slp Dst 438.1600,IG
Side Shot: 252-309,Ang-Rt 0.0000,Zenith 88.3455,Slp Dst 454.9000,IG
Side Shot: 252-310,Ang-Rt 0.0000,Zenith 88.4455,Slp Dst 458.7200,IG
Side Shot: 252-311,Ang-Rt 0.0000,Zenith 89.0030,Slp Dst 470.0400,IG
Side Shot: 252-312,Ang-Rt 0.0000,Zenith 88.5950,Slp Dst 485.1200,IG
Side Shot: 252-313,Ang-Rt 0.0000,Zenith 88.5645,Slp Dst 503.7800,IG
Side Shot: 252-314,Ang-Rt 0.0000,Zenith 88.5040,Slp Dst 515.2600,IG
Occupy: Occ 251,N 1019915.3327,E 477239.2559,Elv 1907.6750,X SECTION PNL W
Backsight: Occ 251,BS Pt 154,BS azm 205.2926,Back circle 0.0000
Backsight: Occ 251,BS Pt 252,BS azm 150.4152,Back circle 0.0000
Backsight: Occ 251,BS Pt 252,BS azm 150.4152,Back circle 0.0000
HI / HR : Inst H 5.0000,Rod H 4.8400
Side Shot: 251-315,Ang-Rt 0.0000,Zenith 95.5215,Slp Dst 15.2000,IG
Side Shot: 251-316,Ang-Rt 359.5955,Zenith 95.3535,Slp Dst 31.4000,IG
Side Shot: 251-317,Ang-Rt 0.0000,Zenith 95.1730,Slp Dst 45.9000,IG
Side Shot: 251-318,Ang-Rt 0.0000,Zenith 95.1150,Slp Dst 86.3600,IG
HI / HR : Inst H 5.0000,Rod H 6.8600
Side Shot: 251-319,Ang-Rt 0.0000,Zenith 94.0140,Slp Dst 104.7200,IG
Side Shot: 251-320,Ang-Rt 0.0000,Zenith 93.4745,Slp Dst 138.0800,IG
HI / HR : Inst H 5.0000,Rod H 8.3400
Side Shot: 251-321,Ang-Rt 1.0605,Zenith 93.1715,Slp Dst 161.5000,IG
HI / HR : Inst H 5.0000,Rod H 8.8400
Side Shot: 251-322,Ang-Rt 3.0600,Zenith 93.0625,Slp Dst 161.1200,IG
Occupy: Occ 322,N 1019770.9817,E 477310.2924,Elv 1895.1020,IG
Backsight: Occ 322,BS Pt 251,BS azm 333.4752,Back circle 0.0000
Backsight: Occ 322,BS Pt 252,BS azm 150.1049,Back circle 0.0000
Backsight: Occ 322,BS Pt 251,BS azm 333.4752,Back circle 0.0000
Backsight: Occ 322,BS Pt 251,BS azm 333.4752,Back circle 0.0000
HI / HR : Inst H 5.0200,Rod H 8.8400
Side Shot: 322-323,Ang-Rt 176.2255,Zenith 91.2215,Slp Dst 423.4000,IG
HI / HR : Inst H 5.0200,Rod H 12.8400
Side Shot: 322-323,Ang-Rt 176.2255,Zenith 91.2305,Slp Dst 423.4000,IG
Side Shot: 322-324,Ang-Rt 176.2255,Zenith 91.4815,Slp Dst 421.5000,IG
Side Shot: 322-325,Ang-Rt 176.2255,Zenith 91.4705,Slp Dst 404.2400,IG
Side Shot: 322-326,Ang-Rt 176.2255,Zenith 92.1910,Slp Dst 394.6000,IG
Side Shot: 322-327,Ang-Rt 176.2255,Zenith 92.1915,Slp Dst 370.8000,IG
Side Shot: 322-328,Ang-Rt 176.2255,Zenith 92.3230,Slp Dst 365.6200,IG
Side Shot: 322-329,Ang-Rt 176.2250,Zenith 92.1300,Slp Dst 343.8600,IG
HI / HR : Inst H 5.0200,Rod H 16.5900
Side Shot: 322-330,Ang-Rt 176.2250,Zenith 92.1255,Slp Dst 344.1400,FF
Side Shot: 322-329,Ang-Rt 176.2250,Zenith 92.1255,Slp Dst 344.2200,IG
Side Shot: 322-330,Ang-Rt 176.2255,Zenith 92.1605,Slp Dst 335.5800,IG
Side Shot: 322-331,Ang-Rt 176.2255,Zenith 92.3255,Slp Dst 327.7800,IG
Side Shot: 322-332,Ang-Rt 176.2255,Zenith 92.2150,Slp Dst 324.2000,IG
Side Shot: 322-333,Ang-Rt 176.2255,Zenith 92.2005,Slp Dst 320.3800,IG
Side Shot: 322-334,Ang-Rt 176.2255,Zenith 92.0410,Slp Dst 315.2400,IG
Side Shot: 322-335,Ang-Rt 176.2255,Zenith 91.5305,Slp Dst 307.1600,IG
Side Shot: 322-336,Ang-Rt 176.2255,Zenith 91.5130,Slp Dst 282.6800,IG
Side Shot: 322-337,Ang-Rt 176.1345,Zenith 91.5215,Slp Dst 269.4600,IG

HI / HR : Inst H 5.0200,Rod H 12.8400

Side Shot: 322-338,Ang-Rt 176.2255,Zenith 91.1035,Slp Dst 253.5400,IG
Side Shot: 322-339,Ang-Rt 176.2255,Zenith 91.3140,Slp Dst 249.3600,IG
Side Shot: 322-340,Ang-Rt 176.2255,Zenith 91.3240,Slp Dst 220.1800,IG
Side Shot: 322-341,Ang-Rt 176.2255,Zenith 91.4755,Slp Dst 206.0200,IG
Side Shot: 322-342,Ang-Rt 176.2255,Zenith 92.0205,Slp Dst 189.5000,IG
Side Shot: 322-343,Ang-Rt 176.2255,Zenith 92.3600,Slp Dst 177.6600,IG
Side Shot: 322-344,Ang-Rt 176.2255,Zenith 94.0040,Slp Dst 165.6400,IG
Side Shot: 322-345,Ang-Rt 176.2255,Zenith 94.2640,Slp Dst 158.2000,IG
Side Shot: 322-346,Ang-Rt 176.2255,Zenith 95.1120,Slp Dst 146.6400,IG
Side Shot: 322-347,Ang-Rt 176.2255,Zenith 97.5725,Slp Dst 103.2200,IG
Side Shot: 322-348,Ang-Rt 176.2255,Zenith 102.1150,Slp Dst 90.1400,IG
Side Shot: 322-349,Ang-Rt 176.2255,Zenith 117.4310,Slp Dst 42.7600,IG
Off Center Shot: Ang-Rt 176.2255,Zenith 120.0500,Slp Dst 40.5400
Off Center Shot: Delta Distance -8.0000
HI / HR : Inst H 5.0200,Rod H 14.8400
Side Shot: 322-350,Ang-Rt 176.2255,Zenith 120.0500,Slp Dst 31.2950,IG
Store: Pt 167,N 1029122.0952,E 486951.1218,Elv -99999.9900,TRAVPT
Store: Pt 165,N 1027546.3295,E 485449.2580,Elv -99999.9900,TRAVPT
Occupy: Occ 167,N 1029122.0952,E 486951.1218,Elv -99999.9900,TRAVPT
Backsight: Occ 167,BS Pt 165,BS azm 223.3728,Back circle 0.0000
HI / HR : Inst H 0.0000,Rod H 0.0000
Traverse: 167-142,Ang-Rt 113.5800,Elv 0.0000,Horiz 1999.9000,X SECTION 4 E
Store: Pt 351,N 1030970.9765,E 486188.7323,Elv -99999.9900,X SECTION 4 E
Store: Pt 142,N -99999.9990,E -99999.9900,Elv -99999.9900,X SECTION 4 E
Occupy: Occ 351,N 1030970.9765,E 486188.7323,Elv -99999.9900,X SECTION 4 E
Backsight: Occ 351,BS Pt 167,BS azm 157.3528,Back circle 0.0000
Store: Pt 351,N 1030970.9765,E 486188.7323,Elv 2046.4200,X SECTION 4 E
Occupy: Occ 351,N 1030970.9765,E 486188.7323,Elv 2046.4200,X SECTION 4 E
Backsight: Occ 351,BS Pt 167,BS azm 157.3528,Back circle 0.0000
Backsight: Occ 351,BS Pt 167,BS azm 157.3528,Back circle 0.0000
HI / HR : Inst H 5.0700,Rod H 4.8600
Side Shot: 351-352,Ang-Rt 113.5800,Elv 0.0000,Horiz 1999.9000,X SECTION 4 E
Side Shot: 351-353,Ang-Rt 113.5800,Elv 0.0000,Horiz 1999.9000,X SECTION 4 E
Side Shot: 351-354,Ang-Rt 113.5800,Elv 0.0000,Horiz 1999.9000,X SECTION 4 E
Side Shot: 351-353,Ang-Rt 134.1700,Zenith 90.3650,Slp Dst 902.8000,X SECTION 4 W
Side Shot: 351-354,Ang-Rt 134.1700,Zenith 90.5335,Slp Dst 886.6800,IG
Side Shot: 351-355,Ang-Rt 134.1700,Zenith 90.5925,Slp Dst 859.5000,IG
Side Shot: 351-356,Ang-Rt 134.1700,Zenith 91.1135,Slp Dst 858.2200,IG
Side Shot: 351-357,Ang-Rt 134.1700,Zenith 91.1420,Slp Dst 844.0800,IG
Side Shot: 351-358,Ang-Rt 134.1700,Zenith 91.1610,Slp Dst 841.8400,IG
Side Shot: 351-359,Ang-Rt 134.1700,Zenith 91.3140,Slp Dst 835.7400,IG
Side Shot: 351-360,Ang-Rt 134.1700,Zenith 91.5045,Slp Dst 820.1600,IG
Side Shot: 351-361,Ang-Rt 134.1700,Zenith 92.0015,Slp Dst 803.7200,IG
Side Shot: 351-362,Ang-Rt 134.1655,Zenith 92.3210,Slp Dst 783.7000,IG
Side Shot: 351-363,Ang-Rt 134.1655,Zenith 92.4130,Slp Dst 762.3000,IG
Side Shot: 351-364,Ang-Rt 134.1655,Zenith 92.3955,Slp Dst 752.1800,IG
Side Shot: 351-365,Ang-Rt 134.1700,Zenith 92.5205,Slp Dst 713.5400,IG
Side Shot: 351-366,Ang-Rt 134.1700,Zenith 93.0545,Slp Dst 677.7400,IG
Side Shot: 351-367,Ang-Rt 134.1700,Zenith 93.0855,Slp Dst 673.6600,IG
Side Shot: 351-368,Ang-Rt 134.1700,Zenith 93.1445,Slp Dst 659.9400,IG
Side Shot: 351-369,Ang-Rt 134.1700,Zenith 93.2150,Slp Dst 642.4800,IG
Side Shot: 351-370,Ang-Rt 134.1700,Zenith 93.3335,Slp Dst 616.3200,IG
Side Shot: 351-371,Ang-Rt 134.1700,Zenith 93.4415,Slp Dst 596.7800,IG
Side Shot: 351-372,Ang-Rt 134.1700,Zenith 93.4645,Slp Dst 580.4200,IG
Side Shot: 351-373,Ang-Rt 134.1700,Zenith 93.4415,Slp Dst 553.4000,IG

Side Shot: 351-374,Ang-Rt 134.1700,Zenith 93.4520,Slp Dst 540.2000,IG
Side Shot: 351-375,Ang-Rt 134.1700,Zenith 93.5015,Slp Dst 528.9600,IG

HI / HR : Inst H 5.0700,Rod H 8.8600
Side Shot: 351-376,Ang-Rt 134.1700,Zenith 93.3635,Slp Dst 487.3000,IG
HI / HR : Inst H 5.0700,Rod H 10.8600
Side Shot: 351-377,Ang-Rt 134.1700,Zenith 93.3615,Slp Dst 457.8800,IG
Side Shot: 351-378,Ang-Rt 134.1700,Zenith 93.3025,Slp Dst 444.7000,IG
Side Shot: 351-379,Ang-Rt 134.1700,Zenith 93.3810,Slp Dst 437.4400,IG
Side Shot: 351-380,Ang-Rt 134.1700,Zenith 93.4400,Slp Dst 426.2600,IG
Side Shot: 351-381,Ang-Rt 134.1700,Zenith 93.4415,Slp Dst 404.4400,IG
Side Shot: 351-382,Ang-Rt 134.1700,Zenith 93.4305,Slp Dst 380.2400,IG
HI / HR : Inst H 5.0700,Rod H 12.6200
Side Shot: 351-383,Ang-Rt 134.1700,Zenith 93.4025,Slp Dst 363.8000,IG
Side Shot: 351-384,Ang-Rt 134.1700,Zenith 93.4815,Slp Dst 335.0600,IG
Side Shot: 351-385,Ang-Rt 134.1700,Zenith 93.4445,Slp Dst 313.2400,IG
Side Shot: 351-386,Ang-Rt 134.1700,Zenith 92.4135,Slp Dst 266.6600,IG
HI / HR : Inst H 5.0700,Rod H 8.8600
Side Shot: 351-387,Ang-Rt 134.1700,Zenith 91.3255,Slp Dst 205.7200,IG
Side Shot: 351-388,Ang-Rt 134.1700,Zenith 91.1020,Slp Dst 175.4800,IG
Side Shot: 351-389,Ang-Rt 134.1700,Zenith 90.5735,Slp Dst 118.1800,IG
Side Shot: 351-390,Ang-Rt 134.1700,Zenith 90.4425,Slp Dst 79.1800,IG
Side Shot: 351-391,Ang-Rt 134.1700,Zenith 89.1455,Slp Dst 46.3600,IG
Side Shot: 351-392,Ang-Rt 134.1700,Zenith 82.0630,Slp Dst 19.0800,IG
Store: Pt 394,N -99999.9900,E -99999.9900,Elv -99999.9900,
Store: Pt 393,N 1027581.8337,E 484463.4366,Elv 1993.2700,X SECTION 3 E
Store: Pt 394,N 1027944.3318,E 483651.3683,Elv 2016.2500,X SECTION 3 W
Occupy: Occ 393,N 1027581.8337,E 484463.4366,Elv 1993.2700,X SECTION 3 E
Backsight: Occ 393,BS Pt 394,BS azm 294.0320,Back circle 0.0000
HI / HR : Inst H 5.0700,Rod H 4.8600
Side Shot: 393-395,Ang-Rt 0.0000,Zenith 88.3135,Slp Dst 890.1600,X SECTION 3 W
Side Shot: 393-396,Ang-Rt 0.0000,Zenith 88.5025,Slp Dst 874.4800,IG
Side Shot: 393-397,Ang-Rt 0.0000,Zenith 88.5205,Slp Dst 870.4800,IG
HI / HR : Inst H 4.8400,Rod H 4.8600
Side Shot: 393-395,Ang-Rt 0.0000,Zenith 88.3145,Slp Dst 890.1400,X SECTION 3 W
Side Shot: 393-396,Ang-Rt 0.0000,Zenith 88.4200,Slp Dst 880.9800,IG
Side Shot: 393-397,Ang-Rt 0.0000,Zenith 88.5035,Slp Dst 874.3000,IG
Side Shot: 393-398,Ang-Rt 0.0000,Zenith 89.0615,Slp Dst 856.5000,IG
Side Shot: 393-399,Ang-Rt 0.0000,Zenith 89.1345,Slp Dst 845.4400,IG
Side Shot: 393-400,Ang-Rt 0.0000,Zenith 89.2440,Slp Dst 841.9600,IG
Side Shot: 393-401,Ang-Rt 0.0000,Zenith 89.3925,Slp Dst 830.8200,IG
Side Shot: 393-402,Ang-Rt 0.0000,Zenith 89.5145,Slp Dst 824.4400,IG
Side Shot: 393-403,Ang-Rt 0.0000,Zenith 89.5805,Slp Dst 818.0000,IG
HI / HR : Inst H 4.8400,Rod H 12.8600
Side Shot: 393-404,Ang-Rt 0.0000,Zenith 89.3150,Slp Dst 810.3200,IG
Side Shot: 393-405,Ang-Rt 0.0000,Zenith 89.3520,Slp Dst 804.1600,IG
Side Shot: 393-406,Ang-Rt 0.0000,Zenith 89.4245,Slp Dst 776.2400,IG
Side Shot: 393-407,Ang-Rt 0.0000,Zenith 89.4045,Slp Dst 766.2200,IG
Side Shot: 393-408,Ang-Rt 0.0000,Zenith 89.4235,Slp Dst 752.6200,IG
Side Shot: 393-409,Ang-Rt 0.0000,Zenith 89.4420,Slp Dst 705.5000,IG
Side Shot: 393-410,Ang-Rt 0.0000,Zenith 89.5350,Slp Dst 633.7600,IG
Side Shot: 393-411,Ang-Rt 0.0000,Zenith 89.5625,Slp Dst 582.7800,IG
Side Shot: 393-412,Ang-Rt 0.0000,Zenith 90.0515,Slp Dst 546.5200,IG
Side Shot: 393-413,Ang-Rt 0.0000,Zenith 89.5920,Slp Dst 541.6200,IG
Side Shot: 393-414,Ang-Rt 0.0000,Zenith 90.5910,Slp Dst 501.9600,IG
Side Shot: 393-415,Ang-Rt 0.0000,Zenith 90.5010,Slp Dst 489.6800,IG
Side Shot: 393-416,Ang-Rt 0.0000,Zenith 90.5605,Slp Dst 483.3000,IG
Side Shot: 393-417,Ang-Rt 0.0000,Zenith 90.4210,Slp Dst 474.7600,IG

Side Shot: 393-418,Ang-Rt 359.5955,Zenith 90.4855,Slp Dst 454.9200,IG
Side Shot: 393-419,Ang-Rt 0.0000,Zenith 90.3845,Slp Dst 445.4000,IG
Side Shot: 393-420,Ang-Rt 0.0000,Zenith 91.2640,Slp Dst 429.1600,IG

Side Shot: 393-421,Ang-Rt 0.0000,Zenith 91.3235,Slp Dst 412.3600,IG
Side Shot: 393-422,Ang-Rt 0.0000,Zenith 91.4405,Slp Dst 404.2000,IG
Side Shot: 393-423,Ang-Rt 0.0000,Zenith 91.4610,Slp Dst 382.7800,IG
Side Shot: 393-424,Ang-Rt 0.0000,Zenith 91.5800,Slp Dst 369.1200,IG
Side Shot: 393-425,Ang-Rt 0.0000,Zenith 92.0250,Slp Dst 357.3000,IG
Side Shot: 393-426,Ang-Rt 0.0000,Zenith 92.0335,Slp Dst 347.8800,IG
Side Shot: 393-427,Ang-Rt 0.0000,Zenith 92.0335,Slp Dst 339.7200,IG
Side Shot: 393-428,Ang-Rt 0.0000,Zenith 92.0645,Slp Dst 327.7400,IG
Side Shot: 393-429,Ang-Rt 0.0000,Zenith 92.0520,Slp Dst 321.1400,IG
Side Shot: 393-430,Ang-Rt 0.0000,Zenith 92.0950,Slp Dst 314.3200,IG
Side Shot: 393-431,Ang-Rt 0.0000,Zenith 91.5720,Slp Dst 305.1200,IG
Side Shot: 393-432,Ang-Rt 0.0000,Zenith 91.2530,Slp Dst 297.7400,IG
Side Shot: 393-433,Ang-Rt 0.0000,Zenith 90.5200,Slp Dst 295.5000,IG
Side Shot: 393-434,Ang-Rt 0.0000,Zenith 90.4845,Slp Dst 284.7200,IG
Side Shot: 393-435,Ang-Rt 0.0000,Zenith 90.5755,Slp Dst 264.8000,IG
Side Shot: 393-436,Ang-Rt 0.0000,Zenith 90.5600,Slp Dst 257.4400,IG
Side Shot: 393-437,Ang-Rt 0.0000,Zenith 91.1320,Slp Dst 250.6600,IG
Side Shot: 393-438,Ang-Rt 0.0000,Zenith 91.0045,Slp Dst 241.9400,IG
Side Shot: 393-439,Ang-Rt 0.0000,Zenith 90.5940,Slp Dst 227.5000,IG
Side Shot: 393-440,Ang-Rt 0.0000,Zenith 91.1045,Slp Dst 210.5000,IG
Side Shot: 393-441,Ang-Rt 0.0000,Zenith 91.1200,Slp Dst 197.6600,IG
Side Shot: 393-442,Ang-Rt 0.0000,Zenith 91.2640,Slp Dst 190.1000,IG
Side Shot: 393-443,Ang-Rt 0.0000,Zenith 91.4845,Slp Dst 162.1600,IG
Side Shot: 393-444,Ang-Rt 0.0000,Zenith 92.4030,Slp Dst 134.7400,IG
Side Shot: 393-445,Ang-Rt 0.0000,Zenith 92.4000,Slp Dst 124.3400,IG
Side Shot: 393-446,Ang-Rt 0.0000,Zenith 93.3610,Slp Dst 117.6000,IG
Side Shot: 393-447,Ang-Rt 0.0000,Zenith 93.4225,Slp Dst 114.7200,IG
Side Shot: 393-448,Ang-Rt 0.0000,Zenith 92.5430,Slp Dst 107.2800,IG
Side Shot: 393-449,Ang-Rt 0.0000,Zenith 93.0830,Slp Dst 97.4000,IG
Side Shot: 393-450,Ang-Rt 0.0000,Zenith 93.4345,Slp Dst 82.0000,IG
Side Shot: 393-451,Ang-Rt 0.0000,Zenith 91.2820,Slp Dst 68.4000,IG
Side Shot: 393-452,Ang-Rt 0.0000,Zenith 90.5540,Slp Dst 55.3400,IG
HI / HR : Inst H 4.8400,Rod H 4.8600
Side Shot: 393-453,Ang-Rt 0.0000,Zenith 98.3525,Slp Dst 36.7400,IG
Side Shot: 393-454,Ang-Rt 0.0000,Zenith 92.4850,Slp Dst 15.5000,IG
Store: Pt 173,N 1036532.1980,E 484628.2109,Elv -99999.9900,X SECTION 5 W
Store: Pt 170,N 1034438.6293,E 486604.6768,Elv -99999.9900,TRAV PT
Store: Pt 173,N 1036532.1980,E 484628.2109,Elv 2169.5400,X SECTION 5 W
Occupy: Occ 173,N 1036532.1980,E 484628.2109,Elv 2169.5400,X SECTION 5 W
Backsight: Occ 173,BS Pt 170,BS azm 136.3853,Back circle 0.0000
HI / HR : Inst H 4.9600,Rod H 4.8600
Side Shot: 173-455,Ang-Rt 282.0715,Zenith 92.4730,Slp Dst 1033.1200,X SECTION 5 W
Side Shot: 173-456,Ang-Rt 282.0715,Zenith 92.5930,Slp Dst 967.3200,IG
Side Shot: 173-457,Ang-Rt 282.0715,Zenith 93.1535,Slp Dst 898.4200,IG
Side Shot: 173-458,Ang-Rt 282.0715,Zenith 93.2310,Slp Dst 867.4800,IG
Side Shot: 173-459,Ang-Rt 282.0715,Zenith 93.3810,Slp Dst 830.0400,IG
Side Shot: 173-460,Ang-Rt 282.0715,Zenith 94.0505,Slp Dst 789.2200,IG
Side Shot: 173-461,Ang-Rt 282.0715,Zenith 94.3155,Slp Dst 763.0600,IG
Side Shot: 173-462,Ang-Rt 282.0715,Zenith 95.0120,Slp Dst 736.8400,IG
Side Shot: 173-463,Ang-Rt 282.0715,Zenith 95.5640,Slp Dst 697.2800,IG
Side Shot: 173-464,Ang-Rt 282.0715,Zenith 96.1205,Slp Dst 689.5400,IG
Side Shot: 173-465,Ang-Rt 282.0710,Zenith 94.5410,Slp Dst 744.2600,TRAV PT
Side Shot: 173-466,Ang-Rt 282.0710,Zenith 96.3905,Slp Dst 671.4200,IG

Side Shot: 173-467,Ang-Rt 282.0710,Zenith 96.5200,Slp Dst 663.1600,IG
Side Shot: 173-468,Ang-Rt 282.0710,Zenith 97.1515,Slp Dst 649.4400,IG
Side Shot: 173-469,Ang-Rt 282.0710,Zenith 97.3815,Slp Dst 640.3800,IG
Side Shot: 173-470,Ang-Rt 282.0710,Zenith 97.5515,Slp Dst 631.5000,IG

Side Shot: 173-471,Ang-Rt 282.0710,Zenith 98.0430,Slp Dst 627.0600,IG
Side Shot: 173-472,Ang-Rt 282.0710,Zenith 98.2220,Slp Dst 613.9600,IG
Side Shot: 173-473,Ang-Rt 282.0710,Zenith 98.3720,Slp Dst 605.5000,IG
Side Shot: 173-474,Ang-Rt 282.0710,Zenith 99.0055,Slp Dst 582.1400,IG
Side Shot: 173-475,Ang-Rt 282.0710,Zenith 99.1115,Slp Dst 572.8600,IG
Side Shot: 173-476,Ang-Rt 282.0710,Zenith 99.2410,Slp Dst 557.7000,IG
Side Shot: 173-477,Ang-Rt 282.0710,Zenith 100.0645,Slp Dst 523.3600,IG
Side Shot: 173-478,Ang-Rt 282.0710,Zenith 100.1800,Slp Dst 518.9200,IG
Side Shot: 173-479,Ang-Rt 282.0710,Zenith 100.2600,Slp Dst 514.1800,IG
HI / HR : Inst H 4.9600,Rod H 12.8600
Side Shot: 173-480,Ang-Rt 282.0710,Zenith 101.1410,Slp Dst 495.6400,IG
Side Shot: 173-481,Ang-Rt 282.0710,Zenith 101.2110,Slp Dst 489.9400,IG
Side Shot: 173-482,Ang-Rt 282.0710,Zenith 101.4300,Slp Dst 481.3800,IG
Side Shot: 173-483,Ang-Rt 282.0710,Zenith 102.1525,Slp Dst 478.2000,IG
Side Shot: 173-484,Ang-Rt 282.0710,Zenith 102.2345,Slp Dst 472.4000,IG
Side Shot: 173-485,Ang-Rt 282.0710,Zenith 102.3155,Slp Dst 468.9200,IG
Side Shot: 173-486,Ang-Rt 282.0710,Zenith 102.4755,Slp Dst 464.5600,IG
HI / HR : Inst H 4.9600,Rod H 15.8600
Side Shot: 173-487,Ang-Rt 282.0710,Zenith 102.3840,Slp Dst 461.4800,IG
Side Shot: 173-488,Ang-Rt 282.0710,Zenith 102.5130,Slp Dst 458.8600,IG
HI / HR : Inst H 4.9600,Rod H 16.8600
Side Shot: 173-489,Ang-Rt 282.0710,Zenith 102.4025,Slp Dst 455.2200,IG
HI / HR : Inst H 4.9600,Rod H 15.8600
Side Shot: 173-490,Ang-Rt 282.0710,Zenith 102.4545,Slp Dst 453.0600,IG
Side Shot: 173-491,Ang-Rt 282.0710,Zenith 102.3855,Slp Dst 448.8000,IG
Side Shot: 173-492,Ang-Rt 282.0710,Zenith 102.4115,Slp Dst 445.9200,IG
HI / HR : Inst H 4.9600,Rod H 12.8600
Side Shot: 173-493,Ang-Rt 282.0710,Zenith 102.4640,Slp Dst 442.3800,IG
Side Shot: 173-494,Ang-Rt 282.0710,Zenith 103.0420,Slp Dst 430.7400,IG
Side Shot: 173-495,Ang-Rt 282.0710,Zenith 103.1715,Slp Dst 413.8600,IG
Side Shot: 173-496,Ang-Rt 282.0710,Zenith 103.2310,Slp Dst 408.2200,IG
Side Shot: 173-497,Ang-Rt 282.0710,Zenith 103.5430,Slp Dst 393.9000,IG
Side Shot: 173-498,Ang-Rt 282.0710,Zenith 104.0840,Slp Dst 388.9400,IG
Side Shot: 173-499,Ang-Rt 282.0710,Zenith 104.2045,Slp Dst 381.0800,IG
Side Shot: 173-500,Ang-Rt 282.0710,Zenith 104.5310,Slp Dst 367.5400,IG
Side Shot: 173-501,Ang-Rt 282.0340,Zenith 104.5150,Slp Dst 358.0000,IG
Side Shot: 173-502,Ang-Rt 282.0610,Zenith 105.1650,Slp Dst 347.5800,IG
Side Shot: 173-503,Ang-Rt 282.0410,Zenith 105.3405,Slp Dst 342.6800,IG
Side Shot: 173-504,Ang-Rt 282.0205,Zenith 105.4720,Slp Dst 337.0000,IG
Side Shot: 173-505,Ang-Rt 282.0405,Zenith 105.5735,Slp Dst 330.9600,IG
Side Shot: 173-506,Ang-Rt 282.0405,Zenith 106.2845,Slp Dst 322.5400,IG
Side Shot: 173-507,Ang-Rt 282.0405,Zenith 106.4230,Slp Dst 317.8800,IG
Side Shot: 173-508,Ang-Rt 282.0405,Zenith 106.5350,Slp Dst 313.8400,IG
Side Shot: 173-509,Ang-Rt 282.0405,Zenith 107.0440,Slp Dst 308.5000,IG
Side Shot: 173-510,Ang-Rt 282.0405,Zenith 107.2625,Slp Dst 304.7800,IG
Side Shot: 173-511,Ang-Rt 282.0405,Zenith 107.3915,Slp Dst 301.7800,IG
Side Shot: 173-512,Ang-Rt 282.0405,Zenith 108.0825,Slp Dst 291.2800,IG
Side Shot: 173-513,Ang-Rt 282.0405,Zenith 108.3605,Slp Dst 284.8200,IG
Side Shot: 173-514,Ang-Rt 282.0405,Zenith 108.4730,Slp Dst 283.4600,IG
Side Shot: 173-515,Ang-Rt 282.0405,Zenith 108.5455,Slp Dst 281.7000,IG
Occupy: Occ 465,N 1036916.6938,E 485262.2771,Elv 2106.0320,TRAV PT
Backsight: Occ 465,BS Pt 173,BS azm 238.4603,Back circle 0.0000
Backsight: Occ 465,BS Pt 173,BS azm 238.4603,Back circle 0.0000

Occupy: Pt 455,N 1037067.2261,E 485510.5657,Elv 2119.4000,X SECTION 5 E
HI / HR : Inst H 5.0900,Rod H 12.8600
Side Shot: 465-516,Ang-Rt 359.5955,Zenith 93.2020,Slp Dst 480.7600,X SECTION 5 E
Side Shot: 465-517,Ang-Rt 359.5955,Zenith 93.1045,Slp Dst 485.8400,IG

Side Shot: 465-518,Ang-Rt 0.0000,Zenith 93.0925,Slp Dst 491.0000,IG
Side Shot: 465-519,Ang-Rt 0.0000,Zenith 93.1425,Slp Dst 495.8200,IG
Side Shot: 465-520,Ang-Rt 0.0000,Zenith 93.0840,Slp Dst 497.0000,IG
Side Shot: 465-521,Ang-Rt 0.0000,Zenith 93.0300,Slp Dst 504.3400,IG
Side Shot: 465-522,Ang-Rt 0.0000,Zenith 93.0940,Slp Dst 508.0200,IG
Side Shot: 465-523,Ang-Rt 0.0000,Zenith 93.0640,Slp Dst 510.9200,IG
Side Shot: 465-524,Ang-Rt 0.0000,Zenith 93.0050,Slp Dst 515.0400,IG
Side Shot: 465-525,Ang-Rt 0.0000,Zenith 93.0020,Slp Dst 518.7600,IG
Side Shot: 465-526,Ang-Rt 0.0000,Zenith 93.1155,Slp Dst 535.0600,IG
Side Shot: 465-527,Ang-Rt 0.0000,Zenith 93.0925,Slp Dst 541.2200,IG
Side Shot: 465-528,Ang-Rt 0.0000,Zenith 92.5945,Slp Dst 550.5600,IG
Side Shot: 465-529,Ang-Rt 0.0000,Zenith 92.5225,Slp Dst 555.1200,IG
Side Shot: 465-530,Ang-Rt 0.0000,Zenith 92.5005,Slp Dst 562.7000,IG
Side Shot: 465-531,Ang-Rt 0.0000,Zenith 92.4605,Slp Dst 569.0200,IG
Side Shot: 465-532,Ang-Rt 0.0000,Zenith 92.4330,Slp Dst 574.2200,IG
Side Shot: 465-533,Ang-Rt 0.0000,Zenith 92.4435,Slp Dst 579.5400,IG
Side Shot: 465-534,Ang-Rt 0.0000,Zenith 92.4205,Slp Dst 587.5000,IG
Side Shot: 465-535,Ang-Rt 0.0000,Zenith 92.3725,Slp Dst 593.7400,IG
Side Shot: 465-536,Ang-Rt 0.0000,Zenith 92.4410,Slp Dst 601.1400,IG
Side Shot: 465-537,Ang-Rt 0.0000,Zenith 92.4055,Slp Dst 610.2600,IG
Side Shot: 465-538,Ang-Rt 0.0000,Zenith 92.3610,Slp Dst 616.1800,IG
Side Shot: 465-539,Ang-Rt 0.0000,Zenith 92.2805,Slp Dst 622.7000,IG
Side Shot: 465-540,Ang-Rt 0.0000,Zenith 92.1940,Slp Dst 625.7800,IG
HI / HR : Inst H 5.0900,Rod H 0.2000
Side Shot: 465-541,Ang-Rt 358.4605,Zenith 90.5600,Slp Dst 626.0200,IG
Store: Pt 516,N 1036667.8271,E 484851.8973,Elv 2070.2614,IG
Store: Pt 180,N 1043315.0672,E 484306.9474,Elv 2200.3600,TRAVPT
Store: Pt 183,N 1043343.9338,E 484904.8911,Elv -99999.9900,TRAVPT
Occupy: Occ 180,N 1043315.0672,E 484306.9474,Elv 2200.3600,TRAVPT
Backsight: Occ 180,BS Pt 183,BS azm 87.1410,Back circle 0.0000
HI / HR : Inst H 0.0000,Rod H 0.0000
Traverse: 180-542,Ang-Rt 153.0804,Elv 0.0000,Horiz 178.5500,X SECTION 6 E
Store: Pt 542,N 1043226.7941,E 484151.7444,Elv 2198.3800,X SECTION 6 E
Occupy: Occ 542,N 1043226.7941,E 484151.7444,Elv 2198.3800,X SECTION 6 E
Backsight: Occ 542,BS Pt 180,BS azm 60.2214,Back circle 0.0000
HI / HR : Inst H 5.0100,Rod H 4.8600
Side Shot: 542-543,Ang-Rt 0.0000,Zenith 88.3420,Slp Dst 1134.3800,X SECTION 6
W
Side Shot: 542-544,Ang-Rt 0.0000,Zenith 91.3740,Slp Dst 229.7600,TRAV PT
Side Shot: 542-544,Ang-Rt 0.0000,Zenith 91.3630,Slp Dst 229.7400,IG TRAV PT
Side Shot: 542-545,Ang-Rt 0.0000,Zenith 91.1720,Slp Dst 221.6800,IG
Side Shot: 542-546,Ang-Rt 359.5745,Zenith 90.5745,Slp Dst 207.8000,IG
Side Shot: 542-547,Ang-Rt 359.5955,Zenith 90.3820,Slp Dst 186.0200,IG
Side Shot: 542-548,Ang-Rt 0.0000,Zenith 90.3810,Slp Dst 178.7000,IG
Side Shot: 542-549,Ang-Rt 0.0000,Zenith 90.3225,Slp Dst 175.9600,IG
Side Shot: 542-550,Ang-Rt 0.0000,Zenith 90.3855,Slp Dst 171.9000,IG
Side Shot: 542-551,Ang-Rt 0.0000,Zenith 90.4735,Slp Dst 164.0600,IG
Side Shot: 542-552,Ang-Rt 0.0000,Zenith 90.5250,Slp Dst 150.7000,IG
Side Shot: 542-553,Ang-Rt 0.0000,Zenith 90.5650,Slp Dst 147.8200,IG
Side Shot: 542-554,Ang-Rt 0.0000,Zenith 90.5015,Slp Dst 144.8200,IG
Side Shot: 542-555,Ang-Rt 0.0000,Zenith 90.3735,Slp Dst 133.6400,IG
Side Shot: 542-556,Ang-Rt 0.0000,Zenith 90.3550,Slp Dst 110.7800,IG

Side Shot: 542-557,Ang-Rt 0.0000,Zenith 90.2550,Slp Dst 94.6400,IG
Side Shot: 542-558,Ang-Rt 0.0000,Zenith 90.3345,Slp Dst 80.5200,IG
Side Shot: 542-559,Ang-Rt 0.0000,Zenith 90.3140,Slp Dst 65.6000,IG
Side Shot: 542-560,Ang-Rt 0.0000,Zenith 90.2450,Slp Dst 60.7800,IG
Side Shot: 542-561,Ang-Rt 0.0000,Zenith 90.4410,Slp Dst 37.6800,IG
Occupy: Occ 544,N 1043340.3302,E 484351.3652,Elv 2192.0820,IG TRAV PT

Backsight: Occ 544,BS Pt 543,BS azm 60.2214,Back circle 0.0000
Occupy: Occ 542,N 1043226.7941,E 484151.7444,Elv 2198.3800,X SECTION 6 E
Backsight: Occ 542,BS Pt 180,BS azm 60.2214,Back circle 0.0000
Backsight: Occ 542,BS Pt 180,BS azm 60.2214,Back circle 0.0000
HI / HR : Inst H 0.0000,Rod H 0.0000
Side Shot: 542-543,Ang-Rt 211.5739,Elv 0.0000,Horiz 1134.0300,X SECTION 6 W
Store: Pt 543,N 1043272.9256,E 483018.6531,Elv 2226.7952,X SECTION 6 W
Backsight: Occ 542,BS Pt 543,BS azm 272.1953,Back circle 0.0000
Backsight: Occ 542,BS Pt 543,BS azm 272.1953,Back circle 0.0000
HI / HR : Inst H 5.0100,Rod H 4.8600
Side Shot: 542-544,Ang-Rt 0.0000,Zenith 91.3630,Slp Dst 229.7400,X SECTION 6 W
Side Shot: 542-545,Ang-Rt 0.0000,Zenith 91.1710,Slp Dst 221.3400,IG
Side Shot: 542-546,Ang-Rt 359.5615,Zenith 90.5955,Slp Dst 209.9200,IG
Side Shot: 542-547,Ang-Rt 0.0000,Zenith 90.5235,Slp Dst 200.9800,IG
Side Shot: 542-548,Ang-Rt 0.0000,Zenith 90.3840,Slp Dst 186.0200,IG
Side Shot: 542-549,Ang-Rt 0.0000,Zenith 90.3820,Slp Dst 178.5400,IG
Side Shot: 542-550,Ang-Rt 0.0000,Zenith 90.3400,Slp Dst 175.9400,IG
Side Shot: 542-551,Ang-Rt 0.0000,Zenith 90.4820,Slp Dst 163.7400,IG
Side Shot: 542-552,Ang-Rt 0.0000,Zenith 90.5320,Slp Dst 150.5000,IG
Side Shot: 542-553,Ang-Rt 0.0000,Zenith 90.5720,Slp Dst 147.5800,IG
Side Shot: 542-554,Ang-Rt 0.0000,Zenith 90.4530,Slp Dst 140.7800,IG
Side Shot: 542-555,Ang-Rt 0.0000,Zenith 90.4100,Slp Dst 129.5600,IG
Side Shot: 542-556,Ang-Rt 0.0000,Zenith 90.2630,Slp Dst 94.2000,IG
Side Shot: 542-557,Ang-Rt 0.0000,Zenith 90.3415,Slp Dst 80.8800,IG
Side Shot: 542-558,Ang-Rt 0.0000,Zenith 90.3205,Slp Dst 65.6200,IG
Side Shot: 542-559,Ang-Rt 0.0000,Zenith 90.4530,Slp Dst 45.5400,IG
Side Shot: 542-560,Ang-Rt 0.0000,Zenith 90.4950,Slp Dst 28.5000,IG
Store: Pt 544,N 1043236.1361,E 483922.2850,Elv 2192.0819,IG TRAVPT
Occupy: Occ 544,N 1043236.1361,E 483922.2850,Elv 2192.0820,IG TRAVPT
Backsight: Occ 544,BS Pt 543,BS azm 272.1953,Back circle 0.0000
HI / HR : Inst H 5.0000,Rod H 4.8600
Side Shot: 544-561,Ang-Rt 0.0000,Zenith 87.5440,Slp Dst 895.7200,IG
Side Shot: 544-562,Ang-Rt 0.0000,Zenith 87.5520,Slp Dst 889.6800,IG
Side Shot: 544-563,Ang-Rt 0.0000,Zenith 88.0735,Slp Dst 879.7400,IG
Side Shot: 544-564,Ang-Rt 0.0000,Zenith 88.1140,Slp Dst 866.6600,IG
HI / HR : Inst H 5.0000,Rod H 7.8600
Side Shot: 544-565,Ang-Rt 359.5925,Zenith 88.1545,Slp Dst 853.0200,IG
HI / HR : Inst H 5.0000,Rod H 8.8600
Side Shot: 544-566,Ang-Rt 0.0000,Zenith 88.1300,Slp Dst 847.0600,IG
HI / HR : Inst H 5.0000,Rod H 7.8600
Side Shot: 544-565,Ang-Rt 0.0000,Zenith 88.1140,Slp Dst 853.0000,IG
Side Shot: 544-566,Ang-Rt 0.0000,Zenith 88.1305,Slp Dst 847.1200,IG
Side Shot: 544-567,Ang-Rt 0.0000,Zenith 88.4900,Slp Dst 833.7600,IG
Side Shot: 544-568,Ang-Rt 0.0000,Zenith 88.4810,Slp Dst 830.5800,IG
Side Shot: 544-569,Ang-Rt 0.0000,Zenith 88.5150,Slp Dst 822.1000,IG
Side Shot: 544-570,Ang-Rt 0.0000,Zenith 88.5225,Slp Dst 815.8400,IG
Side Shot: 544-571,Ang-Rt 0.0000,Zenith 89.0715,Slp Dst 809.1600,IG
HI / HR : Inst H 5.0000,Rod H 6.8600
Side Shot: 544-572,Ang-Rt 0.0000,Zenith 89.1410,Slp Dst 806.9200,IG
Side Shot: 544-573,Ang-Rt 0.0000,Zenith 89.2250,Slp Dst 803.0800,IG
Side Shot: 544-574,Ang-Rt 0.0000,Zenith 89.2345,Slp Dst 800.5800,IG

Side Shot: 544-575,Ang-Rt 0.0000,Zenith 89.2345,Slp Dst 795.7000,IG
HI / HR : Inst H 5.0000,Rod H 7.8600
Side Shot: 544-576,Ang-Rt 0.0000,Zenith 89.2540,Slp Dst 789.9000,IG
Side Shot: 544-577,Ang-Rt 0.0000,Zenith 89.2740,Slp Dst 785.8000,IG
Side Shot: 544-578,Ang-Rt 0.0000,Zenith 89.3015,Slp Dst 784.3200,IG
Side Shot: 544-579,Ang-Rt 0.0000,Zenith 89.3610,Slp Dst 778.6200,IG
Side Shot: 544-580,Ang-Rt 0.0000,Zenith 89.3850,Slp Dst 773.7600,IG

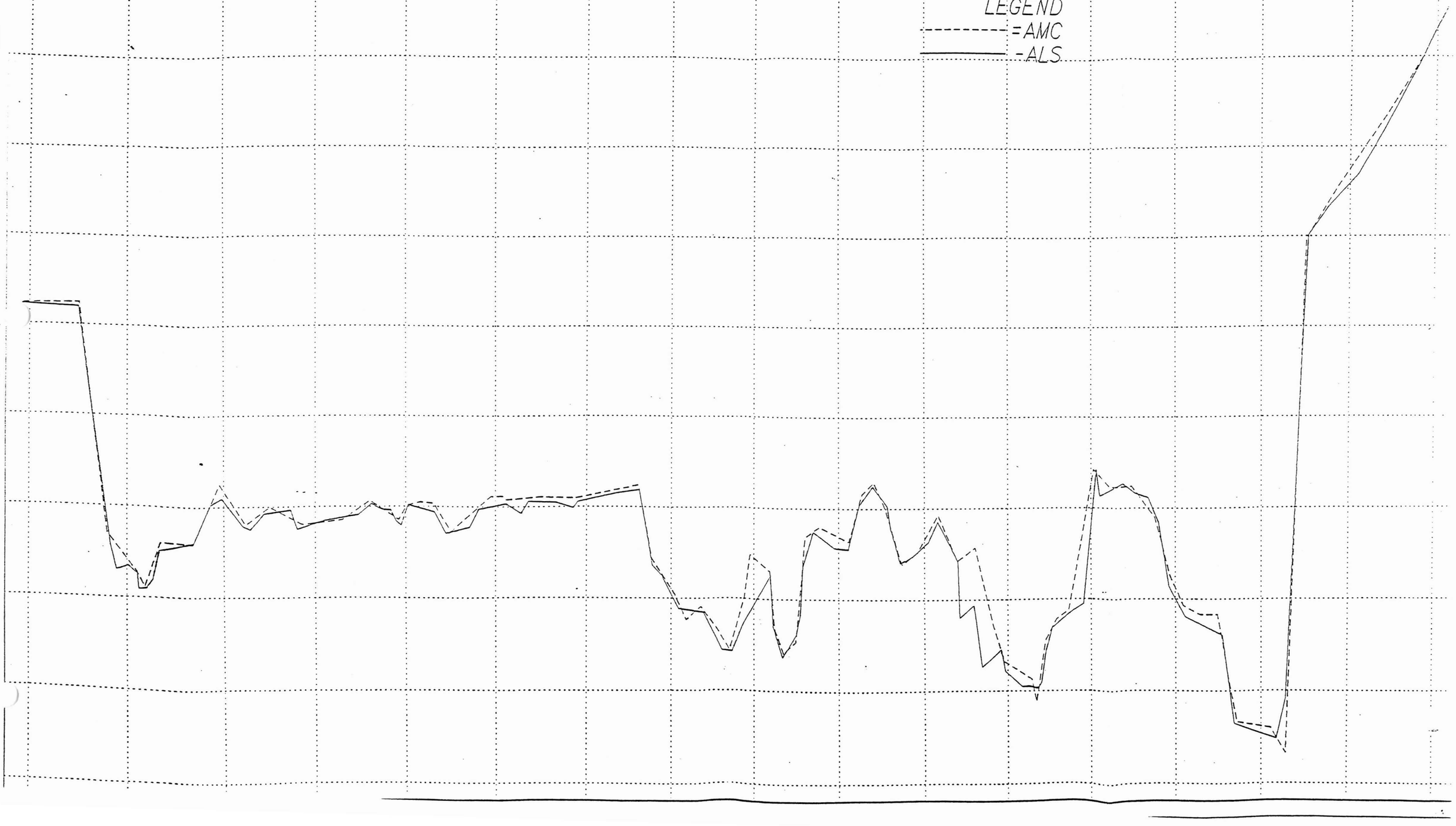
Side Shot: 544-581,Ang-Rt 0.0000,Zenith 89.4225,Slp Dst 772.0400,IG
Side Shot: 544-582,Ang-Rt 0.0000,Zenith 89.4515,Slp Dst 769.6400,IG
Side Shot: 544-583,Ang-Rt 0.0000,Zenith 89.4950,Slp Dst 761.6400,IG
Side Shot: 544-584,Ang-Rt 0.0000,Zenith 89.5630,Slp Dst 755.5800,IG
Side Shot: 544-585,Ang-Rt 0.0000,Zenith 90.0250,Slp Dst 750.2200,IG
Side Shot: 544-586,Ang-Rt 0.0000,Zenith 90.0840,Slp Dst 743.4400,IG
Side Shot: 544-587,Ang-Rt 0.0000,Zenith 90.1215,Slp Dst 740.3200,IG
Side Shot: 544-588,Ang-Rt 0.0000,Zenith 90.1610,Slp Dst 735.9400,IG
Side Shot: 544-589,Ang-Rt 0.0000,Zenith 90.2135,Slp Dst 733.5000,IG
Side Shot: 544-590,Ang-Rt 0.0000,Zenith 90.3100,Slp Dst 725.5000,IG
Side Shot: 544-591,Ang-Rt 0.0000,Zenith 90.3515,Slp Dst 723.3000,IG
Side Shot: 544-592,Ang-Rt 0.0000,Zenith 90.3655,Slp Dst 720.7400,IG
Side Shot: 544-593,Ang-Rt 0.0000,Zenith 90.3815,Slp Dst 720.1400,IG
Side Shot: 544-594,Ang-Rt 0.0000,Zenith 90.4655,Slp Dst 712.8800,IG
Side Shot: 544-595,Ang-Rt 0.0000,Zenith 90.5525,Slp Dst 700.9400,IG
Side Shot: 544-596,Ang-Rt 0.0000,Zenith 91.0315,Slp Dst 685.6600,IG
Side Shot: 544-597,Ang-Rt 0.0000,Zenith 91.1845,Slp Dst 658.1400,IG
HI / HR : Inst H 5.0000,Rod H 6.8600
Side Shot: 544-598,Ang-Rt 0.0000,Zenith 91.3155,Slp Dst 643.5800,IG
HI / HR : Inst H 5.0000,Rod H 4.8600
Side Shot: 544-599,Ang-Rt 0.0000,Zenith 91.5615,Slp Dst 623.5800,IG
Side Shot: 544-600,Ang-Rt 0.0000,Zenith 92.0225,Slp Dst 621.4000,IG
Side Shot: 544-601,Ang-Rt 0.0000,Zenith 92.0420,Slp Dst 620.6200,IG
Side Shot: 544-602,Ang-Rt 0.0000,Zenith 92.2020,Slp Dst 615.0400,IG
Side Shot: 544-603,Ang-Rt 0.0000,Zenith 92.2855,Slp Dst 612.9400,IG
Side Shot: 544-604,Ang-Rt 0.0000,Zenith 92.3255,Slp Dst 611.3800,IG
Side Shot: 544-605,Ang-Rt 0.0000,Zenith 92.5330,Slp Dst 606.3000,IG
Side Shot: 544-606,Ang-Rt 0.0000,Zenith 92.5745,Slp Dst 604.3000,IG
Side Shot: 544-607,Ang-Rt 0.0000,Zenith 93.0355,Slp Dst 602.2600,IG
Side Shot: 544-608,Ang-Rt 0.0000,Zenith 93.1205,Slp Dst 600.0600,IG
Side Shot: 544-609,Ang-Rt 0.0000,Zenith 93.2550,Slp Dst 597.6400,IG
Side Shot: 544-610,Ang-Rt 0.0000,Zenith 93.2815,Slp Dst 597.0000,IG
Side Shot: 544-611,Ang-Rt 0.0000,Zenith 93.3440,Slp Dst 596.2400,IG
Side Shot: 544-612,Ang-Rt 0.0000,Zenith 93.4455,Slp Dst 593.1800,IG
Side Shot: 544-613,Ang-Rt 0.0000,Zenith 93.5205,Slp Dst 590.6800,IG
Side Shot: 544-614,Ang-Rt 0.0000,Zenith 93.5905,Slp Dst 588.9600,IG
Side Shot: 544-615,Ang-Rt 0.0000,Zenith 94.0915,Slp Dst 587.8800,IG
Side Shot: 544-616,Ang-Rt 0.0000,Zenith 94.4725,Slp Dst 586.9400,IG
HI / HR : Inst H 5.0000,Rod H 12.8600
Side Shot: 544-617,Ang-Rt 359.5955,Zenith 94.1335,Slp Dst 584.4000,IG
Side Shot: 544-618,Ang-Rt 0.0000,Zenith 94.1705,Slp Dst 583.9200,IG
Side Shot: 544-619,Ang-Rt 0.0000,Zenith 94.2025,Slp Dst 581.4600,IG
Side Shot: 544-620,Ang-Rt 359.5955,Zenith 94.2535,Slp Dst 579.9400,IG
Side Shot: 544-621,Ang-Rt 0.0000,Zenith 94.3450,Slp Dst 572.5800,IG
Side Shot: 544-622,Ang-Rt 0.0000,Zenith 94.3445,Slp Dst 569.7800,IG
Side Shot: 544-623,Ang-Rt 0.0000,Zenith 94.4130,Slp Dst 564.4400,IG
Side Shot: 544-624,Ang-Rt 0.0000,Zenith 94.4340,Slp Dst 553.8800,IG
Side Shot: 544-625,Ang-Rt 0.0000,Zenith 94.5010,Slp Dst 545.9800,IG
Side Shot: 544-626,Ang-Rt 0.0000,Zenith 94.5050,Slp Dst 539.7600,IG
Side Shot: 544-627,Ang-Rt 0.0000,Zenith 94.5135,Slp Dst 537.3600,IG

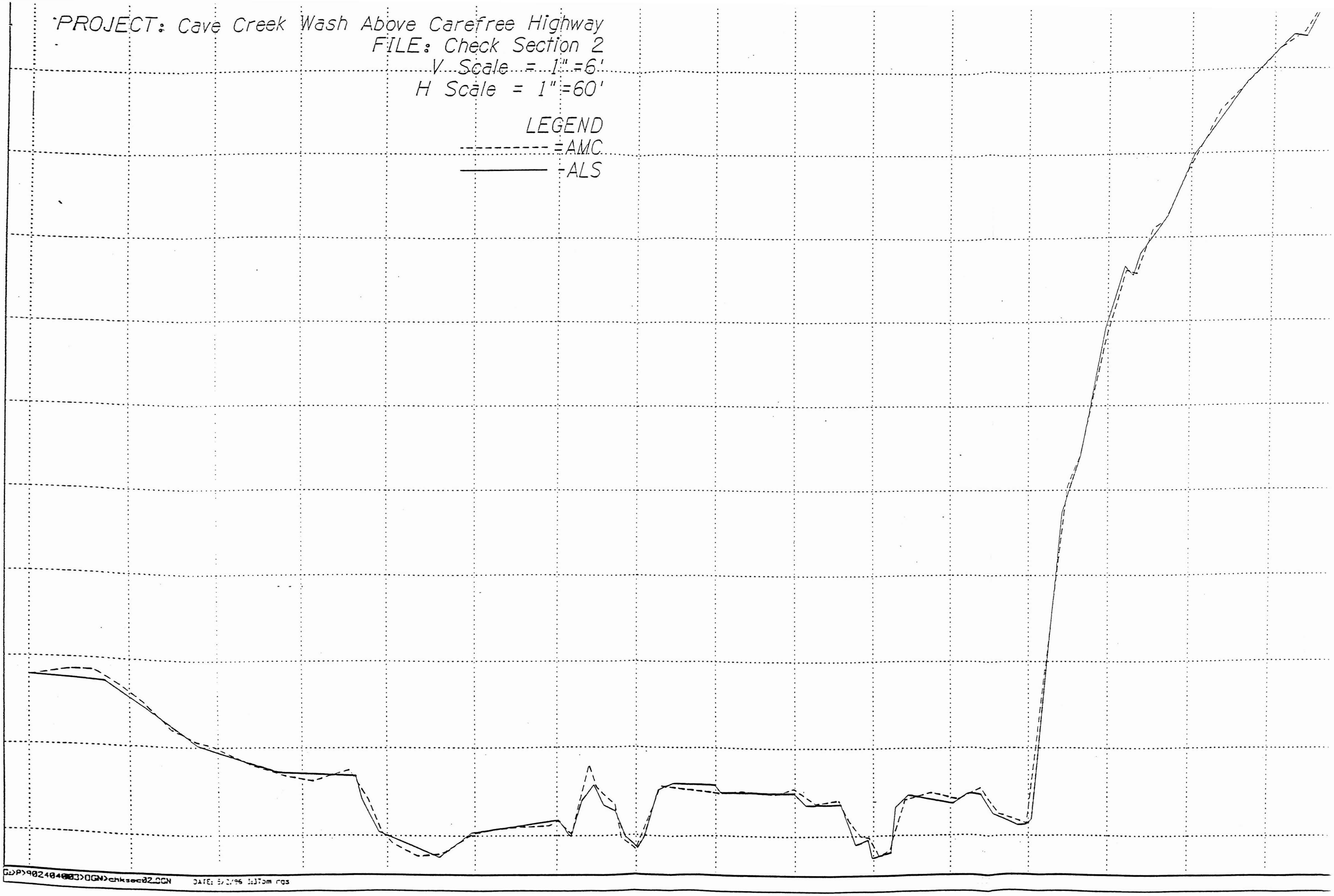
Side Shot: 544-628,Ang-Rt 0.0000,Zenith 94.4910,Slp Dst 530.9400,IG
Side Shot: 544-629,Ang-Rt 0.0000,Zenith 94.5045,Slp Dst 519.8400,IG
Side Shot: 544-630,Ang-Rt 0.0000,Zenith 94.5340,Slp Dst 513.3600,IG
Side Shot: 544-631,Ang-Rt 0.0000,Zenith 94.5930,Slp Dst 511.3200,IG
Side Shot: 544-632,Ang-Rt 0.0000,Zenith 94.4735,Slp Dst 505.8800,IG
Side Shot: 544-633,Ang-Rt 0.2625,Zenith 94.3435,Slp Dst 496.2000,IG
Side Shot: 544-634,Ang-Rt 0.1325,Zenith 94.2940,Slp Dst 487.7800,IG
Side Shot: 544-635,Ang-Rt 0.0000,Zenith 94.3400,Slp Dst 480.8000,IG

Side Shot: 544-636,Ang-Rt 0.0000,Zenith 94.3815,Slp Dst 475.9800,IG
Side Shot: 544-637,Ang-Rt 0.0000,Zenith 94.3830,Slp Dst 470.0200,IG
Side Shot: 544-638,Ang-Rt 0.0000,Zenith 94.3650,Slp Dst 465.9600,IG
Side Shot: 544-639,Ang-Rt 0.0000,Zenith 94.4205,Slp Dst 462.9400,IG
Side Shot: 544-640,Ang-Rt 0.0000,Zenith 94.4850,Slp Dst 450.1400,IG
Side Shot: 544-641,Ang-Rt 0.0000,Zenith 94.5200,Slp Dst 447.5000,IG
Side Shot: 544-642,Ang-Rt 0.0000,Zenith 95.3400,Slp Dst 426.7200,IG
Side Shot: 544-643,Ang-Rt 0.0000,Zenith 95.3655,Slp Dst 420.6400,IG
Side Shot: 544-644,Ang-Rt 0.0000,Zenith 95.3750,Slp Dst 416.4800,IG
Side Shot: 544-645,Ang-Rt 0.0000,Zenith 95.2635,Slp Dst 394.8000,IG
Side Shot: 544-646,Ang-Rt 0.0000,Zenith 95.2825,Slp Dst 383.2400,IG
Side Shot: 544-647,Ang-Rt 0.0000,Zenith 95.4005,Slp Dst 369.0000,IG
Side Shot: 544-648,Ang-Rt 359.5955,Zenith 95.4830,Slp Dst 359.9600,IG
Side Shot: 544-649,Ang-Rt 0.0000,Zenith 96.0905,Slp Dst 340.6600,IG
Side Shot: 544-650,Ang-Rt 0.0000,Zenith 96.2210,Slp Dst 327.6200,IG
Side Shot: 544-651,Ang-Rt 0.0000,Zenith 96.4100,Slp Dst 315.9800,IG
Side Shot: 544-652,Ang-Rt 0.0000,Zenith 97.3610,Slp Dst 279.1800,IG
Side Shot: 544-653,Ang-Rt 0.0000,Zenith 97.4320,Slp Dst 270.6400,IG
Side Shot: 544-654,Ang-Rt 0.0000,Zenith 97.5940,Slp Dst 261.9200,IG
Side Shot: 544-655,Ang-Rt 0.0000,Zenith 98.1205,Slp Dst 258.6600,IG
Side Shot: 544-656,Ang-Rt 359.5640,Zenith 98.5705,Slp Dst 240.2200,IG
Side Shot: 544-657,Ang-Rt 0.0000,Zenith 99.5110,Slp Dst 220.9000,IG
Side Shot: 544-658,Ang-Rt 0.2505,Zenith 100.2210,Slp Dst 211.8200,IG
Side Shot: 544-659,Ang-Rt 0.1350,Zenith 100.1855,Slp Dst 211.4200,IG
Side Shot: 544-660,Ang-Rt 0.0000,Zenith 100.1700,Slp Dst 206.7400,IG
Side Shot: 544-661,Ang-Rt 0.0000,Zenith 100.4725,Slp Dst 193.1000,IG
Side Shot: 544-662,Ang-Rt 0.0000,Zenith 100.5205,Slp Dst 189.3400,IG
Side Shot: 544-663,Ang-Rt 0.0000,Zenith 100.5315,Slp Dst 185.7200,IG
Side Shot: 544-664,Ang-Rt 359.5015,Zenith 101.0745,Slp Dst 176.5000,IG
Side Shot: 544-665,Ang-Rt 0.0000,Zenith 101.2915,Slp Dst 169.6200,IG
Side Shot: 544-666,Ang-Rt 0.1100,Zenith 103.0835,Slp Dst 143.7400,IG
Side Shot: 544-667,Ang-Rt 359.5540,Zenith 105.5330,Slp Dst 119.3000,IG
Side Shot: 544-668,Ang-Rt 0.0000,Zenith 107.1915,Slp Dst 108.9600,IG
Side Shot: 544-669,Ang-Rt 359.5955,Zenith 108.3320,Slp Dst 103.0000,IG
Side Shot: 544-670,Ang-Rt 0.0320,Zenith 111.4755,Slp Dst 87.1400,IG
Side Shot: 544-671,Ang-Rt 359.5935,Zenith 117.3650,Slp Dst 64.9000,IG
HI / HR : Inst H 5.0000,Rod H 15.8600
Side Shot: 544-672,Ang-Rt 0.0240,Zenith 115.4225,Slp Dst 59.8200,IG
Side Shot: 544-673,Ang-Rt 359.0450,Zenith 118.1755,Slp Dst 47.0000,IG
HI / HR : Inst H 5.0000,Rod H 12.8600
Side Shot: 544-674,Ang-Rt 358.5745,Zenith 105.2510,Slp Dst 36.2800,IG
Side Shot: 544-675,Ang-Rt 358.1240,Zenith 101.2140,Slp Dst 28.5200,IG
Side Shot: 544-676,Ang-Rt 351.3905,Zenith 92.0050,Slp Dst 19.3800,IG
HI / HR : Inst H 5.0000,Rod H 4.8600
Side Shot: 544-677,Ang-Rt 352.2530,Zenith 109.1640,Slp Dst 11.0400,IG

PROJECT: Cave Creek Wash Above Carefree Highway
FILE: Check Section 1
V Scale = 1" = 5'
H Scale = 1" = 50

LEGEND
--------= AMC
_____ - ALS





PROJECT: Cave Creek Wash Above Carefree Highway
FILE: Check Section 2
V Scale = 1" = 6'
H Scale = 1" = 60'
LEGEND
=AMC
-ALS

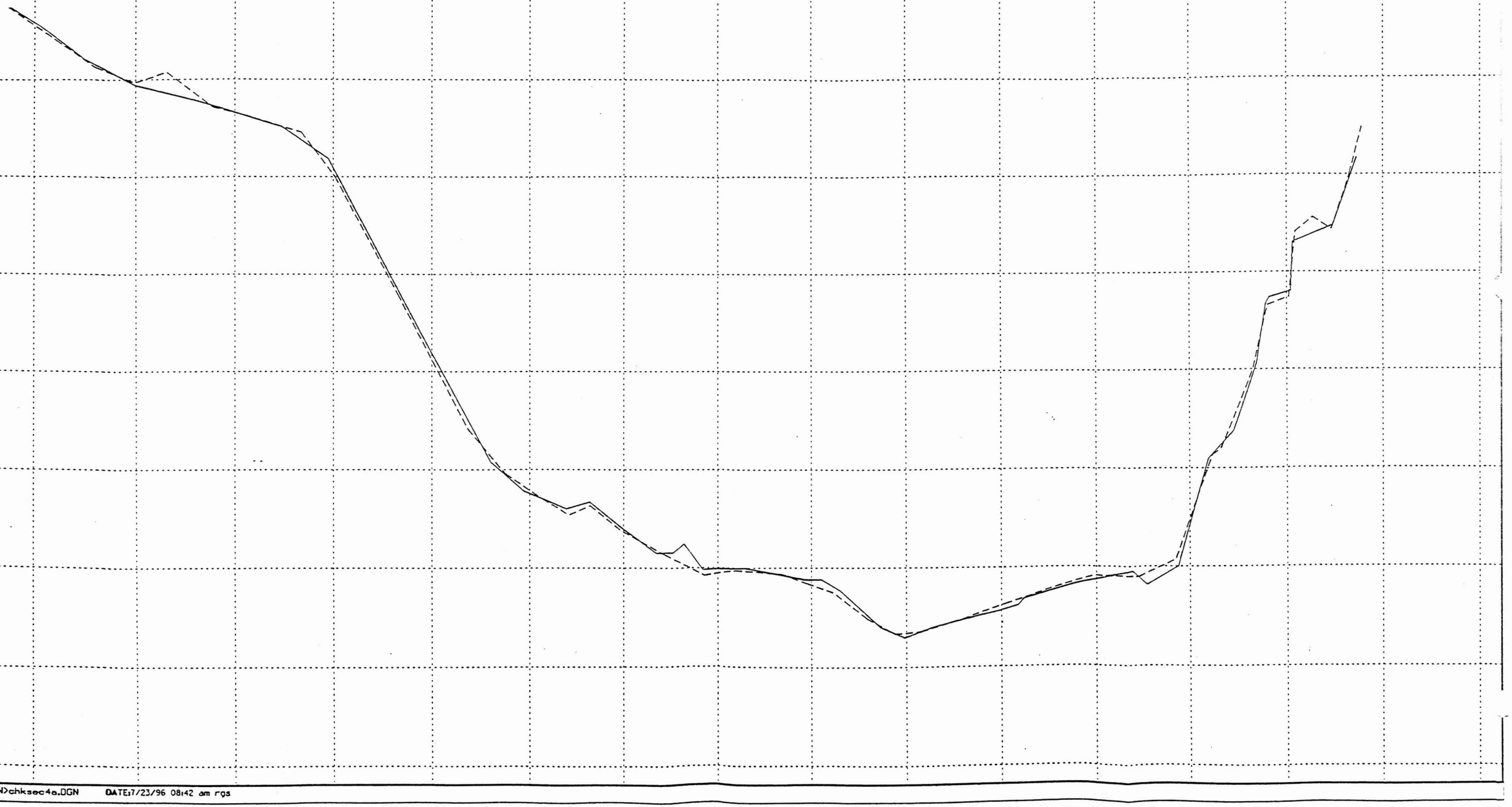
PROJECT: Cave Creek Wash Above Carefree Highway
FILE: Check Section 3
V Scale = 1"=5'
H Scale = 1"=50'

LEGEND
--------- =AMC
_____ -ALS

DATE:4/24/96 07:02pm drc G:\P\98240003\DGN\chksec03.DGN

PROJECT: Cave Creek Wash Above Carefree Highway
FILE: Check Section 4
V Scale = 1"=6'
H Scale = 1"=60'

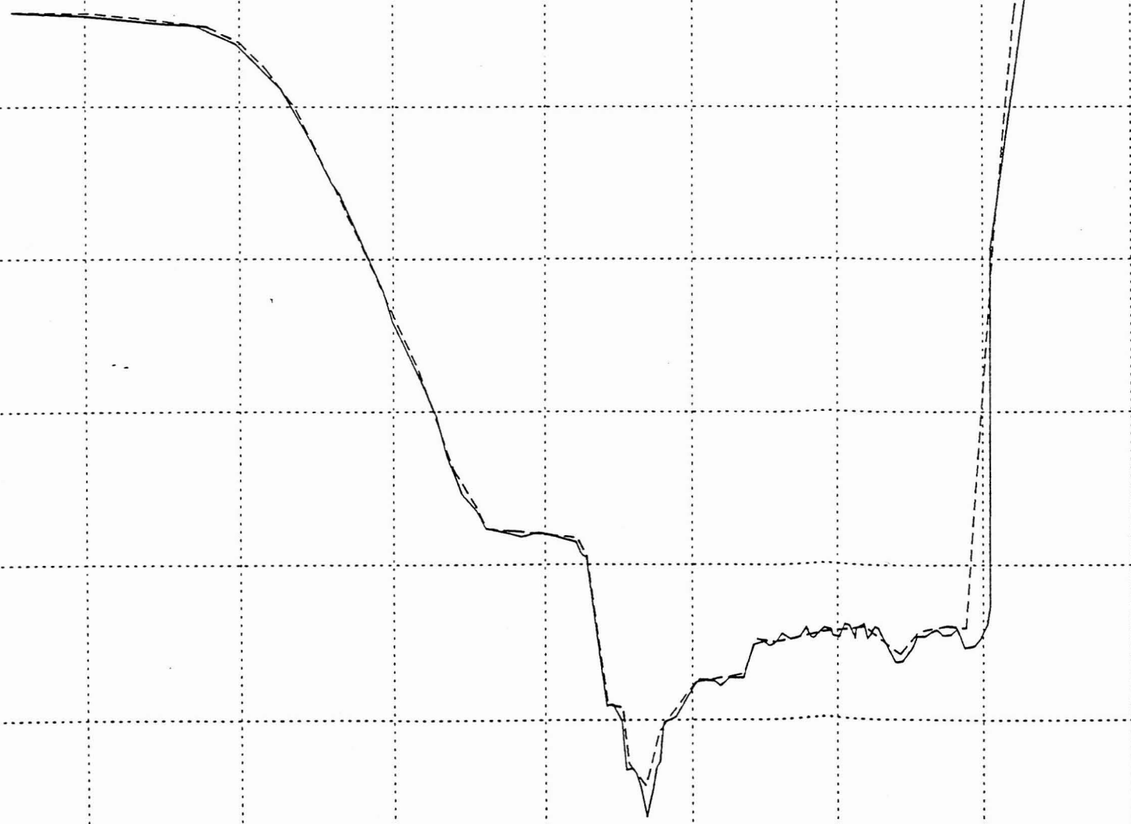
LEGEND
---------- =AMC
———— -ALS



G:>P>90240403>DGN>chksec4a.DGN DATE:7/23/96 08:42 am rgs

PROJECT: Cave Creek Wash Above Carefree Highway
FILE: Check Section 5
V Scale = 1" = 12'
H Scale = 1" = 120'

LEGEND
--------- = AMC
——— - ALS



G:>P>90240403>DGN>chksec5a.DGN DATE: 07/23/96 8:55am rgs

PROJECT: Cave Creek Wash Above Carefree Highway
FILE: Check Section 6
V Scale = 1" = 10'
H Scale = 1" = 100

LEGEND
---------- = AMC
———— = ALS

G:>P>902404003>DGN>chksec6a.DGN DATE:5/16/96 2:20pm rgs

Survey Field Notes
Level Book

Name ALCOCER LAND SURVEYORS

Address 3501 N. 16th STREET
PHOENIX, ARIZONA 85016

Phone

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DT-0659

Projects PAGE

SURVEYOR'S CERTIFICATION 1
PROJECT TITLE 2
BASIS OF ELEVATION 3
BENCH LOOPS 1 THRU 17 5-61
ELEVATION REFERENCE MARKS 60-66

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Projects (continued) .....

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I CERTIFY THAT THESE NOTES CORRECTLY REPRESENT A SURVEY MADE UNDER MY SUPERVISION.

CAVE CREEK WASH
FLOODPLAIN DELINEATION STUDY

FLOOD CONTROL DISTRICT
OF
MARICOPA COUNTY, ARIZONA

ALCOCER LAND SURVEYORS
SUPERVISOR - RICHARD ALCOCER
P.C. - RICHARD G. ALCOCER
T - DARIO LOPEZ QUINTERO
Φ - MIGUEL ALCOCER

BASIS OF ELEVATION

BRASS CAP AT STA. 25+00 AT CAVE BUTTE DAM.
ELEVATION = 1681.10

* HV1 - HUB & TACK (FLUSH) ±1700' NORTH OF CAREFREE HIGHWAY & WEST LINE OF SECTION 6.
ELEVATION = 1909.56

NOTE: *
HV1 BENCH MARK WAS PROVIDED BY VALCO SURVEYING CORPORATION.

BENCH LOOP #1

1-3-96

R.G. ALCOCER
D. LOPEZ-QUINTERO

CLEAR & COOL

STA	BS	H.I.	F.S.	ELEV.
HV1				1909.56
	6.095	15.655		
TP			4.225	1911.43
	6.04	17.47		
T.P.			5.26	1912.21
	7.13	19.34		
ERM1			4.86	1914.48
	4.89	19.37		
T.P.			6.02	191335
	4.69	18.04		
T.P.			2.54	191550
	10.32	25.82		
RM127			1.75	1924.07
	4.33	28.40		
T.P.			4.98	1923.42
	7.565	30.985		
T.P.			3.285	1927.70
	9.95	37.65		
T.P.			2.02	1935.63
	8.89	44.52		
T.P.			4.24	1940.28
	7.05	47.33		
P.P.107			3.37	1943.96
	6.65	50.61		
T.P.			1.125	1949.485

PANEL POINT - H&T (FLUSH) ±1700' NORTH OF CAREFREE HIGHWAY & WEST LINE OF SEC. 6

TOP OF BRASS CAP IN HANDHOLE AT W 1/4 CORNER OF SECTION 6

TOP OF USGS BRASS CAP

PANEL POINT #107

STA	B.S.	H.I.	F.S.	ELEV.	
	7.265	56.75			
T.P.			4.44	1952.31	
	2.81	55.12			
T.P.			20.66	1934.46	
	0.70	35.16			
T.P.			18.58	1916.58	
	6.80	23.38			
T.P.			13.42	1909.96	
	8.44	18.40			
T.P.			1.55	16.85	
	16.55	33.40			
T.P.			0.64	1932.76	
	6.90	39.66			
P.P.111			2.74	1936.92	
ERM 2			1.29	1938.37	
	2.52	40.89			
T.P.			2.88	1938.01	
	11.11	49.12			
T.P.			1.24	1947.88	
	4.35	52.23			
T.P.			6.91	1945.32	
	2.42	47.74			
T.P.			8.87	1938.87	
	1.11	39.98			
T.P.			9.28	1930.70	

NATL GROUND PANEL POINT #111
TOP OF USCO BRASS CAP AT E 1/4
CORNER OF SECTION 6

STA	B.S.	H.I.	F.S.	ELEV.
	1.83	32.53		
T.P.			9.72	1922.81
	3.29	26.10		
T.P.			7.62	1918.48
	1.37	19.85		
ERM3			11.77	1908.08
	3.60	11.68		
T.P.			6.51	1905.17
	1.44	06.61 ~~06.57~~		
T.P.			9.56	1897.05 ~~01~~
	0.64	97.69 ~~65~~		
T.P.			7.34	1890.35 ~~31~~
	0.75	91.10 ~~06~~		
T.P.			10.18	1880.92 ~~80~~
	0.42	81.34 ~~30~~		
T.P.			8.56	1872.78 ~~74~~
	6.75	79.53 ~~49~~		
P.P.104			3.17	1876.36 ~~32~~
BM 1880-29			0.13	1879.40 ~~36~~
	2.23	81.63 ~~59~~		
T.P.			9.90	1871.73 ~~69~~
	6.82	78.55 ~~51~~		
T.P.			2.47	1876.08 ~~04~~
	10.47	86.55 ~~51~~		
T.P.			2.125	1884.425 ~~385~~

AT

TOP BRASS CAP IN HANDHOLE AT S 1/4 CORNER OF SEC 6.

PANEL POINT EAST SIDE CAVE CREEK WASH SOUTH SIDE CAREFREE HIGHWAY
BM 1880-29 - ADOT ALUM CAP IN THE NE CORNER OF BRIDGE AT CAVE CREEK WASH AND CAREFREE HIGHWAY

STA	BS	HI	F.S.	ELEV.	
	13.49	~~97.875~~ 97.915			
T.P.			1.175	~~1896.70~~ 1896.74	
	15.21	~~11.94~~ 11.95			
HV1			2.37	~~1909.54~~ 1909.58	~~-0.02~~ +0.02

SEE PAGE 6

BENCH Loop #2

1-25-96

R. ALCOCER
D. LOPEZ-QUINTERO

CLEAR & COOL

STA	B.S.	H.I.	F.S.	ELEV.
P.P.#107				1943.96
	7.57	51.53		
T.P.			1.61	1949.92
	8.89	58.81		
T.P.			1.43	1957.38
	17.44	74.82		
T.P.			4.80	1970.02
	8.84	78.86		
T.P.			0.92	1977.94
	15.41	93.35		
T.P.			1.53	1991.82
	15.45	07.27		
T.P.			1.13	2006.14
	17.45	23.59		
T.P.			8.64	2014.95
	13.09	28.04		
T.P.			10.89	2017.15
	9.35	26.50		
T.P.			20.55	2005.95
	5.29	11.24		
P.P.#112			19.38	1991.86
ERM 4			18.02	1993.22
	0.23	93.45		
T.P.			19.13	1974.32
	2.22	76.54		

PANEL POINT #107

PANEL POINT #12 @ NE COR. SEC. 6
TOP G.L.O. BC @ NE COR. SEC. 6

STA	BS.	HI	FS	ELEV
T.P.			23.53	1953.01
	1.41	54.42		
T.P.			11.52	1942.90
	5.46	48.36		
T.P.			1.67	1946.69
	9.48	56.17		
T.P.			1.81	1954.36
	8.28	62.64		
T.P.			1.02	1961.62
	7.94	69.56		
T.P.			1.21	1968.35
	12.22	80.57		
T.P.			0.71	1979.86
	9.37	89.23		
TEMP. ERM 5			4.80	1984.43
	5.01	89.44		
T.P.			2.25	1987.19
	7.27	94.46		
T.P.			2.69	1991.77
	10.83	02.60		
T.P.			1.32	2001.28
	11.64	12.92		
PP 114			1.39	2011.53
	5.42	16.95		
TEMP. ERM 6			9.73	2007.22

½" Rebar ±70'W of Power Line &
±110'S of P. Pole #PS107660

NE Cor. of Elec Transformer #M66450

1-25-96 RETURN BENCH LOOP

STA	B.S.	H.I.	F.S.	ELEV.	
~~TEMP.~~ ERM 6				2007.22	
	9.76	1698			
T.P.			5.43	2011.55	
	1.56	13.11			
T.P.			11.82	2001.29	
	4.50	05.~~81~~ 79			
T.P.			13.21	1992.~~60~~ 58	
	1.48	94.~~08~~ 06			
T.P.			9.59	1984.~~49~~ 47	
	3.15	87.~~64~~ 62			
~~TEMP.~~ ERM 5			3.19	1984.~~05~~ 03	0.00 ~~0.02~~
	8.35	92.~~80~~ 78			
T.P.			1.00	1991.80	
	5.68	97.~~48~~ 46			
P.P. 108			2.79	1994.~~69~~ 67	
T.P.			3.96	1993.~~52~~ 50	
	1.30	94.~~82~~ 80			
T.P.			12.89	1981.~~93~~ 91	
	1.50	83.~~43~~ 41			
T.P.			7.58	1975.~~85~~ 83	
	0.59	76.~~94~~ 92			
T.P.			2.72	1973.~~72~~ 70	
	3.75	77.~~49~~ 45			
T.P.			9.80	1967.~~69~~ 67	
	2.02	69.~~69~~ 67			

See Page 12

1-26-96 CLEAR & COOL

PANEL POINT #108

STA	B.S.	H.I	F.S.	ELEV.	
T.P.			13.07	1956.60 62	
	2.17	58.37			
~~T.P.~~			5.45	1953.22 ~~54~~	
T.P.			4.91	1953.86 ~~88~~	
	8.11	61.77			
T.P.			5.11	1956.86 ~~88~~	
	3.21	60.07 ~~09~~			
T.P.			5.19	1954.88 ~~90~~	
	0.97	55.85 ~~87~~			
T.P.			15.97	1939.88 ~~90~~	
	4.82	44.70 ~~72~~			
T.P.			11.08	1933.62 ~~64~~	
	11.69	45.31 ~~33~~			
ERM 2			6.93	1938.38 ~~40~~	+0.01 ~~03~~

1-26-96 CLEAR & COOL

~~EAST PANEL POINT OF CHECK SECTION 2~~

TOP GLO BRASS CAP E 1/4 COR. SEC 6

BENCH LOOP #3

1-26-96

R.G. ALCOCER
M. ALCOCER

CLEAR & COOL

STA	B.S.	H.I.	F.S.	ELEV.	
~~TEMP~~ ERM 6				2007.22	
	4.66	11.88			
T.P.			9.465	2002.~~415~~ 42	
	12.22	14.635			
T.P.			4.065	2010.~~57~~ 59	1
	10.43	21.00			
T.P.			0.40	2020.60	
	10.025	30.625			
P.P. 118			7.275	2023.~~35~~ 38	2
	11.41	34.76			
T.P.			1.93	2032.~~85~~ 86	
	11.94	44.77			
T.P.			2.49	2042.~~28~~ 32	3
	4.35	46.63			
T.P.			0.41	2046.~~22~~ 26	
	14.85	61.07			
T.P.			1.16	2059.~~91~~ 96	4
	8.05	67.96			
T.P.			3.72	2064.~~24~~ 29	
	8.76	73.00			
T.P.			17.17	2055.~~85~~ 89	5
	11.15	66.98			
T.P.			1.98	2065.~~00~~ 06	
	6.45	71.45		2070.05	
T.P.			1.47	2069.~~98~~	6

SEE PAGE 12

PANEL POINT # 118

TOP PIPE 40'N. AURORA HILLS ENT. SIGN

" " ± 350'N. " " " "

STA	B.S.	H.I	F.S.	ELEV.
	16.61	86.59		
T.P.			6.43	2080.23 ~~2080.16~~
	4.05	84.21		
T.P.			18.95	2065.30 ~~2065.26~~
	1.63	66.89		
TEMP. ERM 7			9.40	2057.57 ~~2057.49~~
	7.92	65.41		
T.P.			4.48	2061.02 ~~2060.93~~
	17.62	78.55		
T.P.			0.48	2078.26 ~~2078.07~~
	6.72	84.79		
T.P.			0.58	2084.31 ~~2084.24~~
	12.62	96.83		
T.P.			9.27	2087.66 ~~2087.56~~
	7.92	95.48		
TEMP. ERM 8			5.40	2090.19 ~~2090.08~~
	RETURN CIRCUIT			
TEMP. ERM 8				2090.19 ~~2090.08~~
	3.87	93.95		
T.P.			7.28	2086.78 ~~2086.67~~
	6.00	92.67		
T.P.			8.28	2084.51 ~~2084.39~~
	5.51	89.90		
T.P.			8.55	2081.47 ~~2081.35~~

20' SOUTH OF ⊙ COR. 660 & 55th STREET

TOP ½" REBAR @ E. SEC. 20

STA	BS	HI	FS	ELEV.
x	2.01	83.36		
T.P.			5.32	2078.04
	2.00	80.04		
T.P.			20.54	2059.50
	2.69	62.19		
TEMP. BRM7			4.82	2057.37
	12.31	69.68		
T.P.			1.94	2067.74
	11.66	79.40		
T.P.			1.78	2077.62
	8.89	86.51		2070.00
T.P.			16.66	~~2069.85~~
	5.50	75.35		
T.P.			9.07	2066.28
	5.50	71.78		2062.09
T.P.			9.85	~~2061.93~~
	1.72	63.65		
T.P.			8.05	2055.60
	17.31	7291		
T.P.			8.89	2064.02
	3.73	67.75		
T.P.			9.09	2058.66
	0.83	59.49		
T.P.			18.84	2040.65
	8.65	49.30		

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STA	BS	H.I.	F.S.	ELEV.
T.P.			11.30	2038.19
	0.62	38.62		
T.P.			9.16	2029.65
	3.95	33.41		
P.P. 118			10.32	2023.38
T.P.			9.60	2024.10
	0.64	24.45		2023.81
T.P.			12.26	2012.40
	2.61	16.80		
T.P.			9.07	2007.95
	1.39	09.12		
T.P.			6.81	2002.53
	7.86	10.57		2007.22
TEMP. ERM 6			3.18	2006.99

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BENCH Loop #4

1-27-96

R.G. ALCOCER
M. ALCOCER

CLEAR & COOL

STA	B.S.	H.I.	F.S.	ELEV.
TEMP. ERM 8				2090.19
	5.38	95.57		
T.P.			3.05	2092.52
	3.46	95.98		
T.P.			15.67	2080.31
	2.14	82.45		
T.P.			13.57	2068.88
	16.90	85.78		
T.P.			6.71	2079.07
	5.18	84.25		
T.P.			2.99	2081.26
	13.36	94.62		
T.P.			0.48	2094.14
	19.68	113.82		
T.P.			0.52	2113.30
	8.03	121.33		
T.P.			2.61	2118.72
	8.35	127.07		
T.P.			4.32	2122.75
	2.14	124.89		
~~T.P.~~ PP 127			15.99	2108.90
T.P.			1.74	2123.15
	8.08	131.23		
T.P.			1.13	2130.10
	8.58	138.68		

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MAIC - EAST OF PP 455 - E. END X-SEC 5

Top ~~Rock~~ Rock

STA	B.S.	H.I.	F.S.	ELEV.
T.P.			0.50	2138.18
	9.92	48.10		
T.P.			1.25	2146.85
	10.08	56.93		
TEMP BRM #9			2.60	2154.33
	2.62	56.95		
T.P.			5.42	2151.53
	5.70	57.23		
T.P.			9.33	2147.90
	9.35	57.25		
T.P.			5.72	2151.53
	5.38	56.91		
T.P.			2.58	2154.33
	7.74	62.07		
T.P.			3.23	21.58.84
	9.51	68.35		
T.P.			2.12	2166.23
	7.35	73.58		
T.P.			3.52	2170.06
	8.96	79.02		
T.P.			6.63	2172.39
	11.39	83.78		
P.P. #131			11.45	2172.33
T.P.			0.69	2183.09
	12.27	95.36		

NAIL AT ROCKAWAY HILLS & CAHAVA ROAD

N 1/4 CORNER SEC 20 (PT 129)

TOP REBAR - W. OF OLD STAGE & CAHAVA RANCH ROAD

STA	B.S.	HI	F.S.	ELEV.
T.P.			1.95	2193.41
	9.94	03.35		
TEMP ERM 10			3.53	2199.82
	RETURN			
TEMP ERM 10				2199 83
	3 36	2203 18		
TP			6 52	2196 66
	0 98	2197 64		
TP			7 98	2189 66
	0 57	2190 23		
TP			10 55	2179 68
	0 22	2179 90		
TP			6 06	2173 09
	6 30	2179 34		
TP			6 22	2173 12
	3 10	2176 22		
TP			7 37	2168 85
	3 76	2172 61		
TP			7 13	2165 48
	0 50	2165 98		
TP			7 63	2158 35
	4 20	2162 55		
TEMP ERM #9			8 22	2154 33

TOP CONC. MON. W. OLD STAGE & MORNING STAR ROAD

STA	BS.	HI	F.S.	ELEV.
TEMP ELEV 9				2154.33
	2.69	2157.02		
			10.82	2146.20
	2.94	2149.14		
			10.36	2138.78
	1.94	2140.72		
			8.99	2131.73
	1.45	2133.18		
			9.49	2123.69
	2.91	2126.60		
			7.32	2119.28
	4.34	2123.62		
			7.06	2115.76
	2.11	2117.87		
			12.72	2105.15
	0.15	2105.30		
			22.43	2082.87
	2.10	2084.97		
			23.03	2061.94
	20.25	2082.19		
			17.88	2064.31
	19.33	2083.64		
			4.86	2078.78

	B.S	HI	FS	ELEV	
				2078 78	
	19 95	2098 73			
Temp. ERm 8			8 51	2090 22	+.03
	SIDE SHOT TO P.P. # 127				
TP*				2103.90	
	4.55	211345			
PP # 127			11.82	210.63	

TOP ROCK (SEE PAGE 21)

PANEL POINT # 127

Bench Coop *5

R.G. Alcock
D.L. Quintanno
M. Alcock

	BS.	HI	FS.	ELEV
ERM #4				1993.22
	1.27	1994.49		
TP			13.66	1980.83
	0.09	1980.92		
TP			15.22	1965.70
	1.43	1967.13		
TP			14.35	1952.78
	5.135	1957.915		
TP			15.60	1942.315
	0.57	1942.885		
TP			6.93	1935.955
	7.425	1943.38		
TP			5.17	1938.21
	8.60	1946.81		
TP			4.21	1942.60
	8.70	1951.30		
TP			2.99	1940.31
	8.14	1956.45		
TP			3.38	1953.07
	8.63	1961.70		
TP			3.29	1958.41
	7.09	1965.50		
TP			2.77	1962.73

Top 660 B.C. NE Cor Sec. 6

	BS	HI	FS	ELEV
TP				1962^{73}
	5^{58}	1968^{31}		
TP			2^{06}	1966^{25}
	14^{37}	1980^{62}		
P.P. +113			4^{405}	1976^{215}
	4^{365}	1980^{58}		
TP			14^{33}	1966^{25}
	2^{36}	1968^{61}		
TP			5^{775}	1962^{835}
	2^{48}	1965^{315}		
TP			6^{905}	1958^{41}
	3^{27}	1961^{68}		
TP			7^{03}	1954^{65}
	2^{25}	1956^{90}		
TP			6^{63}	1950^{27}
	1^{555}	1951^{885}		
TP			6^{28}	1945^{545}
	1^{92}	1947^{465}		
TP			5^{945}	1941^{52}
	14^{06}	1955^{58}		
TP			0^{88}	1954^{70}
	17^{52}	1972^{22}		
TP			0^{74}	1971^{48}

	BS.	HI	FS.	ELEV
TP				1971.48
	13.86	1985.34		
TP			0.60	1984.74
	10.17	1994.91		
ERM 4			1.67	1993.24 ±0.02

TOP GLO B.C NE Cor Sec 6

BENCH Loop #6

R.G. Alcock
M. Alcock

	B.S.	HI	F.S.	ELEV	
TEMP ERM #8				2090.19	
	3.90	2094.09			
TP			6.64	2087.45	
	10.52	2097.97			
TP			9.15	2088.82	
	5.77	2094.59			
TP			9.27	2085.32	
	7.03	2092.35			
PP# 121			8.40	2083.95	TOP 1/2" REBAR. PANEL POINT 121
TP			8.28	2084.07	
	8.24	2092.31			
TP			9.79	2082.52	
	0.25	2082.77			
TP			20.13	2062.64	
	1.33	2063.97			
TP			0.58	2063.39	
	16.625	2080.015			
TP			6.57	2073.445	
	11.20	2084.645			
TP			0.54	2084.105	
	17.28	2101.385			
TP			0.59	2100.795	
	11.53	2112.325			
			0.72	2111.605	

TOP 1/2" REBAR (PANEL 17)

	BS.	HI	FS	ELEV	
				2111.60	
	11.47	2123.07			
PP' 122			1.77	2121.30	
TP			1.58	2121.49	TOP OF 3/4" IB S 1/4 Cor Sec 20
	RETURN				
				2121.49	
	1.48	2122.97			
TP			14.80	2108.17	
	0.29	2108.46			
TP			14.84	2093.62	
	0.20	2093.82			
TP			10.80	2083.02	
	0.465	2083.485			
TP			10.06	2073.425	
	9.385	2002.81			
TP			13.95	2068.86	
	1.85	2070.71			
TP			0.35	2070.36	
	15.40	2085.76			
TP			1.07	2084.69	
	7.20	2091.89			
TP			6.21	2085.68	
	4.42	2090.10			

	B.S.	HI	F.S.	ELEV.
TP			2 52	2087 58
	6 935	2094 510		
Temp. ERM #8			4 30	2090 215 +0.00

LEVEL Loop #7

2-21-96

R. G. Alcocer
D. L. Quintenno
M. Alcocer

	BS.	HI	FS	ELEV	
PP#100				1909.56	
	5.18	1914.74			
TP			4.705	1910.035	
	1.92	1911.955			
TP			1.15	1910.803	
	5.03	1915.835			
PP#251			8.16	1907.675	
	8.14	1915.815			
TP			4.765	1911.05	
	3.27	1914.32			
TP			3.77	1910.55	
	4.23	1914.78			
PP#100			5.22	1909.56	0.00

HVI (VALCO) #100 ALS

PANEL PT WEST END "X" SECTION #1

LEVEL Loop # 8

2-21-96

R. G. Alcocer
D. L. Quintana
M. Alcocer

	BS.	HI	FS	ELEV	
PP# 105				1908.73	PANEL PT # 105 5 1/4 Cu Sec 6 T6R HH.
	7.12	1915.85			
TP			10.445	1905.405	
	1.485	1906.89			
TP			9.495	1897.395	
	1.02	1898.415			
TP			7.235	1891.18	
	4.305	1895.485			
PP# 253			4.40	1891.085	PANEL PT 253 EAST END "X" SECT. # 1
PP# 252			15.32	1880.165	PANEL PT 252 MID PT "X" SECT # 1
	16.26	1896.425			
TP			5.32	1891.105	
	4.54	1895.645			
TP			0.69	1894.955	
	8.45	1903.405			
TP			1.825	1901.58	
	8.90	1910.48			
PP # 105			1.76	1908.72 -0.01	SEE ABOVE

BS	HI	FS	ELEV

LEVEL Loop #9

2-26-96

RG. Alcorn
D L. Quicksall

	BS	HI	FS	ELEV
EIRm 4				1993.22
	6.48	1993.70		
TP			8.98	1984.72
	0.96	1985.68		
TP			12.87	1972.81
	0.19	1973.00		
TP			12.06	1960.94
	1.395	1962.335		
TP			20.05	1942.285
	6.045	1942.33		
TP			6.89	1935.44
	6.33	1941.77		
TP			5.965	1935.805
	5.26	1941.165		
TP			3.76	1937.405
	10.06	1947.465		
TP			3.24	1944.225
19+200			3.815	1943.65
	3.25	1947.475		
TP			10.15	1937.325
	3.47	1940.795		
TP			4.41	1936.385
	5.105	1941.49		
TP			5.99	1935.50

SEE PAGE 11

TOP OF REBAR @ 19+200
PANEL @ 19+200 EAST END "X" SECT "Z

	BS	HI	FS	ELEV
TP				1935^{50}
	9^{94}	1945^{44}		
TP			3^{12}	1942^{32}
	17^{50}	1959^{82}		
TP			2^{13}	1957^{67}
	11^{91}	1969^{60}		
TP			1^{12}	1968^{48}
	11^{03}	1979^{51}		
TP			2^{245}	1977^{265}
	12^{59}	1289^{855}		
TP			3^{365}	1986^{49}
	6^{97}	1993^{46}		
ERm 4			0^{245}	1993^{215}

LEVEL Loop * 10

3-5-96

R.G. Alcock
D.L. Quintana
M. Alcock

	BS.	HI	FS	ELEV	
PP # 114				2011 53	Panel PT # 114
	2 85	2014 38			
TP			11 33	2002 80	
	3 15	2005 95			
TP			6 03	1999 92	
	2 345	2002 265			
TP			9 315	1992 95	
	5 17	1998 12			
PP # 393			4 85	1993 27	Panel PT # 393 EAST END "X" Section 3
	4 82	1998 09			
TP			4 835	1993 255	
	11 21	2004 465			
TP			2 445	2002 02	
	11 325	2013 345			
PP # 114			1 815	2011 53	Panel PT # 114

LEVEL LOOP # 11

R.G. ALCOCER
D.L. QUINTANILLA
M. ALCOCER

	BS	HI	FS	ELEV	
TBm				2055.89	
	0.63	2056.52			
TP			8.905	2047.615	
	16.76	2064.375			
TP			7.93	2056.445	
	2.955	2059.40			
TP			10.61	2048.79	
	4.61	2053.19			
TP			9.245	2044.155	
	4.255	2048.41			
PP			6.45	2041.96	
	6.98	2048.94			
TP			3.31	2045.63	
	8.65	2054.28			
TP			6.36	2047.92	
	11.39	2059.31			
TP			2.98	2056.33	
	7.25	2063.58			
TBm			7.72	2055.86	-.03

Top 3/4" I.P. ± 350' N. Andorra Hills entr. Sign See pg 16

Found PT EAST END 'X' Sect. ++ ORIGINAL Location

LEVEL LOOP # 12

3-5-96

R.G. Alcocer
M. Alcocer

	B.S.	HI	F.S	ELEV	
P.P. #119				2013.42	Panel Pt #119
	6.38	2019.80			
TP			3.13	2016.67	
	7.39	2024.06			
TP			1.385	2022.675	
	6.665	2029.34			
PP			1.01	2028.33	Panel Pt West end "x" Sect. 4.
	6.795	2029.125			
TP			11.925	2017.20	
	4.52	2021.72			
TP			6.23	2015.49	
	3.65	2019.14			
PP #119			5.725	2013.415	Panel Pt. #119

LEVEL Loop # 13

3-5-96

R.G. Alcocer
D.L. Quintero

	BS.	HI	FS.	ELEV
TEMP. ERM 9				2154.33
	4.15	2158.48		
TP			10.57	2147.91
	2.43	2150.34		
TP			7.50	2142.84
	2.30	2145.14		
TP			8.48	2136.66
	1.84	2138.50		
TP			7.12	2131.38
	2.69	2134.07		
TP			8.51	2125.56
	3.29	2128.85		
TP			7.97	2120.88
	4.32	2125.30		
TP			6.56	2118.74
PP #455			5.90	2119.14

ERM #9 Rockaway Hills / Oshavia Ranch

NAIL DIRT IRON EAST P.P. #455 SEE PG 21

PANEL PT #455 EAST END "X" Sod. #5

LEVEL Loop "14

3-6-96

R. G. Alcorn
D. L. Quintanilla

	BS	HI	FS	ELEV	
PP #122				2121.30	S 1/4 Cor Sec 20 — Panel Pt # 122
	3.81	2125.11			
TP			11.11	2114.00	
	12.61	2126.61			
TP			1.01	2125.60	
	8.52	2134.17			
TP			12.92	2121.25	
	3.34	2124.59			
TP			1.55	2123.04	
	8.47	2131.51			
TP			9.31	2122.20	
	17.84	2140.04			
TP			4.00	2136.04	
	19.16	2155.20			
TP			8.30	2146.30	
	23.65	2169.95			
TP			3.21	2166.74	
	6.29	2173.03			
PP #173			3.49	2169.54	Panel Pt # 123 W post end "x" Sec. #5

LEVEL Loop #15

3-C-96

R. G. Alcorn
D. L. Quintana
M. Alcorn

	BS	HI	FS	ELEV
Temp. Elev 10				2199.30
	4.63	2203.93		
PP # 542			5.55	2198.38
TP			4.63	2199.30
	6.02	2205.32		
PP # 130			4.96	2200.36
TP			1.98	2203.34
	22.33	2225.67		
TP			2.09	2223.58
	13.95	2237.53		
TP			10.92	2226.61
	0.52	2227.13		
TP			16.31	2210.82
	0.15	2210.97		
TP			9.56	2201.41
	2.83	2204.24		
PP # 134			7.55	2196.69
	7.62	2204.31		
TP			2.90	2201.41
	9.75	2211.16		
TP			0.23	2210.93
	17.56	2228.49		
TP			1.12	2227.37

Temp. Elev Top Nail +1.52 Top Conc. Rod.

Panel PP # 542 East End "X" Sec 16

Morning Star

	BS.	HI	FS	ELEV
TP				2227 37
	10 12	2237 49		
TP			10 70	2226 79
	0 96	2227 75		
TP			13 35	2214 40
	0 65	2215 05		
TP			12 74	2202 31
	3 55	2205 82		
PANEL PT + 130			5 48	2200 38
			6 54	2199 32
TEMP ELEV 10			6 02	2199 84

PANEL PT + 130
ELEV 10 NAIL
ELEV 10 TOP CURB PED

LEVEL Loop #16

1-29-96

E.C. Alcock
D.L. Quintana
M. Alcock

	BS	HI	FS	ELEV
TBM				2064.29
	8.02	2072.31		
TP			9.04	2063.27
	9.785	2073.05		
TP			1.725	2071.33
	16.885	2088.15		
TP			0.93	2087.22
	18.94	2106.06		
TP			0.68	2105.38
	13.98	2119.26		
TP			0.583	2118.68
	16.00	2134.68		
TP			0.48	2134.20
	18.10	2152.30		
TP			0.22	2152.08
	10.98	2163.06		
PP# 116			10.705	2152.34
	8.94	2161.285		
TP			3.56	2157.72
	1.89	2159.61		
TP			22.975	2136.64
	0.13	2136.83		
TP			7.10	2129.73

TBM - Top 24" pipe ± 40' N Arizona Hills Entrance

	B.S.	HI	F.S.	ELEV	
TP				2129.73	
	0.50	2130.23			
TP			16.10	2114.13	
	1.45	2115.58			
TP			21.01	2094.57	
	1.205	2095.77			
TP			18.29	2077.48	
	0.605	2078.09			
TP			10.98	2067.11	
	1.515	2068.62			
TP			3.505	2065.12	
	6.556	2071.68			
TBM			7.38	2064.30	+0.01

Top ¾" TP ± 40' N. Indoor Hall Entrance.

LEVEL Loop #17

1-27-96
R. ALCOCER
D.C. QUINTERO

	BS	HI	F.S.	ELEV.
PP#22				2121.30
	3.20	2124.50		
T.P.			12.68	2111.82
	17.60	2129.42		
T.P.			7.52	2121.90
	5.29	2127.19		
T.P.			0.43	2126.76
	18.53	2145.29		
T.P.			1.85	2143.44
	18.06	2161.50		
T.P.			6.10	2155.40
	17.91	2173.31		
T.P.			18.23	2155.08
	9.15	2164.23		
T.P.			3.09	2161.14
	15.76	2176.90		
T.P.			2.30	2174.60
	12.25	2186.85		
PP#125			1.54	2185.31

PANEL POINT #122

PANEL POINT #125

ELEVATION REFERENCE MARKS

	BS	HI	FS	ELEV	
ERM #5				1934.66	SEE PAGE 12
	4.15	1989.18			
CC321			4.16	1985.02	TOP OF BRASS CAP IN CONCRETE 1' WEST OF POWER LINE AND 7' WEST OF POWER TELEPHONE POLE #PS1007660
CC061	(ERM #3)			1905.08	TOP OF BRASS CAP IN HANDHOLE AT S1/4 CORNER SEC 6 (PAGE 8)
CC062	(ERM #1)			1914.48	TOP OF BRASS CAP IN HANDHOLE AT W1/4 CORNER SEC 6 (PAGE 6)
CC063	(ERM #2)			1938.37	TOP OF USGLO BRASS CAP AT E1/4 CORNER SEC 6 (PAGE 7)
CC064	(ERM #4)			1993.22	TOP OF USGLO BRASS CAP AT NE CORNER SEC. 6 (PAGE 11)

	BS	HI	FS	ELEV
ERM #6				2007.22
	5.45	2012.67		
CC322			6.86	2005.81

SEE PAGE 12

TOP OF BRASS CAP IN CONCRETE 10'N & 6'W OF ELECTRIC TRANSFORMER # M66450 BEING ON THE WEST SIDE OF ALDORA HILLS WASH DRIVE

	BS	HI	FS	Elev
ERM #7				2057.57
	5.03	2062.60		
CC 291			5.26	2057.34

SEE PAGE 17

TOP OF BRASS CAP IN CONCRETE 10' SOUTH OF OCOTILLO ROAD & 55th STREET

	BS	HI	FS	ELEV
ERI #8				2090.19
	5.07	2095.26		
CC 201			9.87	2090.39

Jas Page 1

Top of brass cap in concrete
E= 484461.678362 N= 1025191.926820

	BS	HI	FS	ELEV
ERM #9				2154.33
	5.09	2159.42		
CC 202			5.39	2154.03

SEE PAGE 22

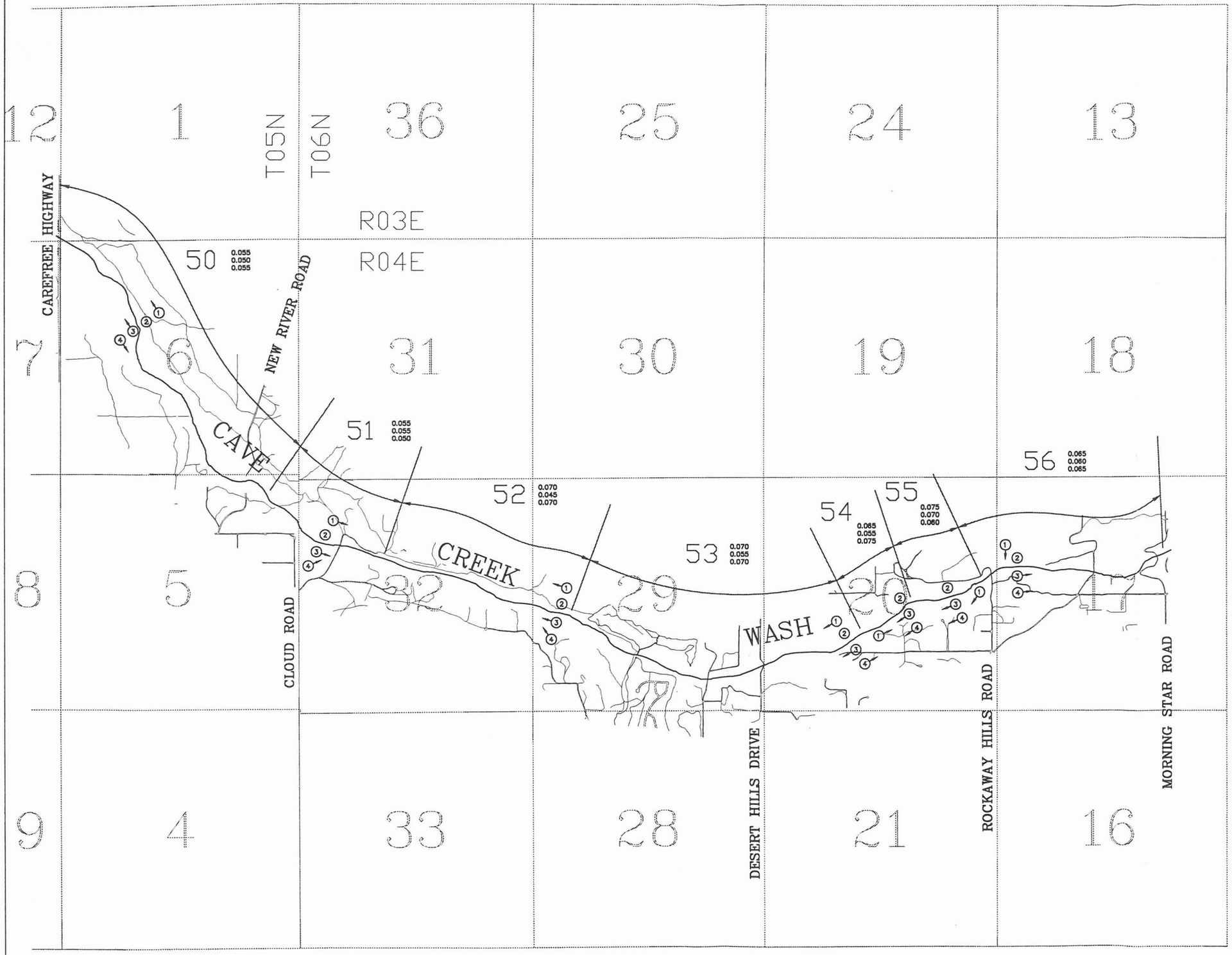
TOP OF BRASS CAP IN CONCRETE IN THE S.W. CORNER OF CAHAVA RANCH ROAD AND ROCKAWAY HILLS DRIVE AND 15' WEST OF POWER POLE # RATP 107.64

	BS	HI	FS	ELEV
ERM 10				2199.82
	5.97	220579		
CC171			3.83	2201.93

SEE PAGE 23

TOP OF KNAIL ON N CONCRETE AT THE SOUTHEAST CORNER OF MORNING STAR ROAD & OLD STAGE ROAD. ALSO 3' WEST OF POST

Appendix C
Manning's n Value Determination Calculations



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FLOOD DELINEATION STUDY OF
CAVE CREEK
ABOVE CAREFREE HIGHWAY

F.C.D. CONTRACT NO. 95-28

LEGEND

REACH LABEL	50
PHOTO LOCATION AND DIRECTION	③←
HYDRAULIC BASE LINE	
LEFT OVERBANK n VALUE	0.065
MAIN CHANNEL n VALUE	0.040
RIGHT OVERBANK n VALUE	0.055

NOTES

1. This map prepared from sheets 1 to 7, 1"=200', 2' C.I. maps.

EXHIBIT 1

MANNINGS n VALUE MAP

N

1000 0' 1000 2000

SCALE: 1"= 2000 ±

GEORGE V. SABOL CONSULTING ENGINEERS, INC.
in association with
McLAUGHLIN KMETTY ENGINEERS, LTD.

	BY	DATE
DESIGN	FEB	9/96
DESIGN CHK.	FCDMC	9/96
PLANS	CLJ	11/96
PLANS CHK.	FEB	11/96

SUBMITTED BY: _____ DATE: _____

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: _____ DATE _____

APPROVED BY: _____ DATE _____

CHIEF ENGINEER AND GENERAL MANAGER

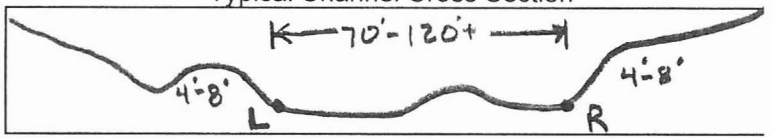
SHEET 1 OF 1

Dwg. Name: \P\92404003\ACAD\EXHIBIT1.DWG
Date: REV. NOV. 1, 1996 01:44 pm

Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Cave Creek Wash above Carefree Highway
Stream: Cave Creek, Reach 50
Photograph No.: A20, A21, A22 & A23 (Misc. Supplemental Photos: A9 - A19, A24 - A27)
Section Description: CH is rocky with large cobbles & boulders. There is little vegetation (grass & small brush). LOB & ROB are similar. Bed material is a firm soil with gravel. Overbanks are moderately vegetated with grass, brush, trees (palo verde, mesquite) and cacti (saguaro).

Rough Sketch of
Typical Channel Cross Section



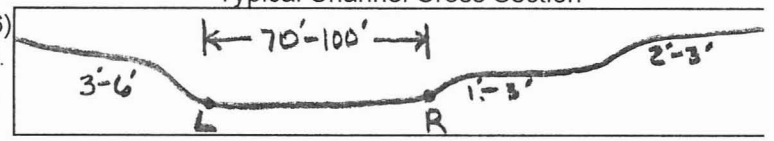
Channel Conditions		Manning's n Adjustment		Left Overbank	Main Channel	Right Overbank
Channel Bed Material	Concrete	n0	0.012 - 0.018			
	Rock Cut		0.025			
	Firm Soil		0.025 - 0.032	0.028		0.028
	Coarse Sand		0.026 - 0.035			
	Fine Gravel		0.024			
	Gravel		0.028 - 0.035			
	Coarse Gravel		0.028			
	Cobble		0.030 - 0.050		0.040	
	Boulder		0.040 - 0.070			
Degree of Irregularity	Smooth	n1	0.000			
	Minor		0.001 - 0.005		0.002	
	Moderate		0.006 - 0.010	0.006		0.006
	Severe		0.011 - 0.020			
Effects of Obstructions	Negligible	n2	0.000 - 0.004	0.004	0.003	0.004
	Minor		0.005 - 0.015			
	Appreciable		0.020 - 0.030			
	Severe		0.040 - 0.060			
Vegetation	Small	n3	0.002 - 0.010		0.004	
	Medium		0.010 - 0.025	0.016		0.016
	Large		0.025 - 0.050			
	Very Large		0.050 - 0.100			
Variations in the Channel Cross Sections	Gradual	n4	0.000			
	Alternating (occasionally)		0.001 - 0.005	0.001	0.001	0.001
	Alternating (frequently)		0.010 - 0.015			
Degree of Meandering	Minor	m	1.00	1	1	1
	Appreciable		1.15			
	Severe		1.30			
n = (n0 + n1 + n2 + n3 + n4)m				0.055	0.050	0.055

Reach 50

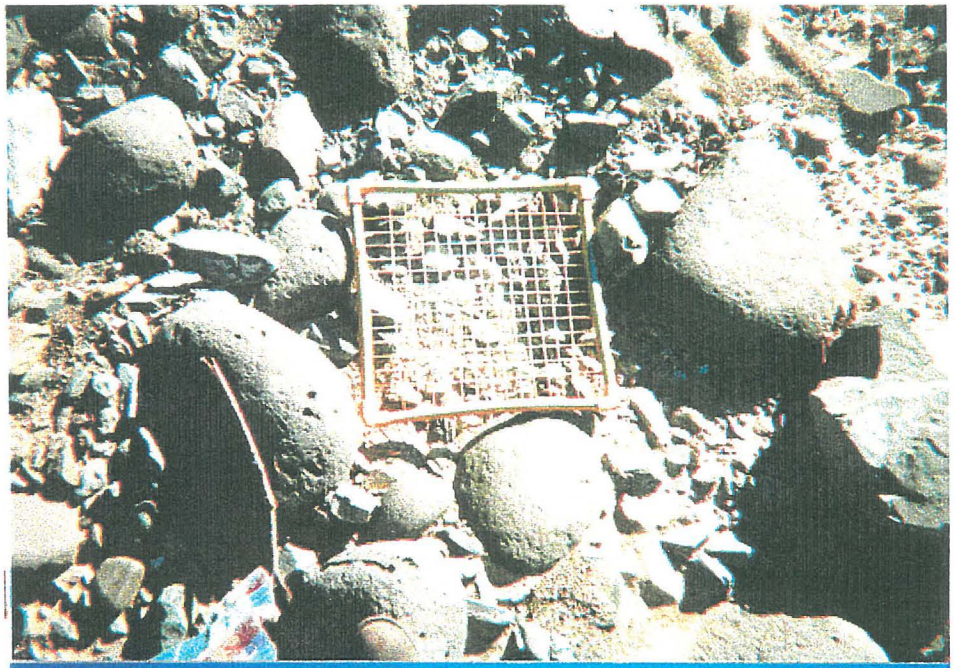
Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Cave Creek Wash above Carefree Highway
Stream: Cave Creek, Reach 51
Photograph No.: A7, B22, B25 & B27 (Misc. Supplemental Photos: A8, B8, B20-B24, B26)
Section Description: CH is rocky with large cobbles & boulders. There is little vegetation (grass & small brush). LOB & ROB bed material is a firm soil with gravel. LOB moderately vegetated with grass, brush, trees and cacti. ROB is less vegetated due to new development along the creek.

Rough Sketch of
Typical Channel Cross Section



Channel Conditions		Manning's n Adjustment		Left Overbank	Main Channel	Right Overbank
Channel Bed Material	Concrete	n0	0.012 - 0.018			
	Rock Cut		0.025			
	Firm Soil		0.025 - 0.032	0.028		0.028
	Coarse Sand		0.026 - 0.035			
	Fine Gravel		0.024			
	Gravel		0.028 - 0.035			
	Coarse Gravel		0.028			
	Cobble		0.030 - 0.050		0.040	
	Boulder		0.040 - 0.070			
Degree of Irregularity	Smooth	n1	0.000			
	Minor		0.001 - 0.005	0.004	0.002	0.004
	Moderate		0.006 - 0.010			
	Severe		0.011 - 0.020			
Effects of Obstructions	Negligible	n2	0.000 - 0.004			
	Minor		0.005 - 0.015	0.005	0.005	0.005
	Appreciable		0.020 - 0.030			
	Severe		0.040 - 0.060			
Vegetation	Small	n3	0.002 - 0.010		0.005	
	Medium		0.010 - 0.025	0.015		0.008
	Large		0.025 - 0.050			
	Very Large		0.050 - 0.100			
Variations in the Channel Cross Sections	Gradual	n4	0.000			
	Alternating (occasionally)		0.001 - 0.005	0.003	0.003	0.005
	Alternating (frequently)		0.010 - 0.015			
Degree of Meandering	Minor	m	1.00	1	1	1
	Appreciable		1.15			
	Severe		1.30			
n = (n0 + n1 + n2 + n3 + n4)m				0.055	0.055	0.050

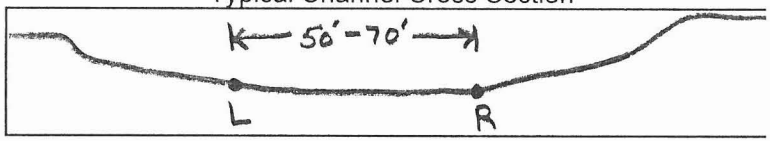


Reach 51

Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Cave Creek Wash above Carefree Highway
Stream: Cave Creek, Reach 52
Photograph No.: B1, B2, B4 & B5 (Misc. Supplemental Photos: B3, B6, B7)
Section Description: CH is rocky with cobbles & some boulders. Vegetation consists of grass & small brush. LOB & ROB are similar. Bed material is rocky with cobbles. Overbanks are vegetated with grass, brush, and trees. Cross sections less uniform and vary occasionally.

Rough Sketch of
Typical Channel Cross Section



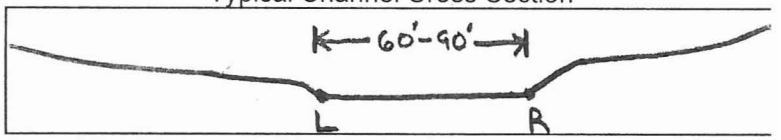
Channel Conditions		Manning's n Adjustment		Left Overbank	Main Channel	Right Overbank
Channel Bed Material	Concrete	n0	0.012 - 0.018			
	Rock Cut		0.025			
	Firm Soil		0.025 - 0.032			
	Coarse Sand		0.026 - 0.035			
	Fine Gravel		0.024			
	Gravel		0.028 - 0.035			
	Coarse Gravel		0.028			
	Cobble		0.030 - 0.050	0.032	0.030	0.032
	Boulder		0.040 - 0.070			
Degree of Irregularity	Smooth	n1	0.000			
	Minor		0.001 - 0.005	0.005	0.003	0.005
	Moderate		0.006 - 0.010			
	Severe		0.011 - 0.020			
Effects of Obstructions	Negligible	n2	0.000 - 0.004		0.003	
	Minor		0.005 - 0.015	0.008		0.008
	Appreciable		0.020 - 0.030			
	Severe		0.040 - 0.060			
Vegetation	Small	n3	0.002 - 0.010		0.006	
	Medium		0.010 - 0.025	0.020		0.020
	Large		0.025 - 0.050			
	Very Large		0.050 - 0.100			
Variations in the Channel Cross Sections	Gradual	n4	0.000			
	Alternating (occasionally)		0.001 - 0.005	0.005	0.003	0.005
	Alternating (frequently)		0.010 - 0.015			
Degree of Meandering	Minor	m	1.00	1	1	1
	Appreciable		1.15			
	Severe		1.30			
n = (n0 + n1 + n2 + n3 + n4)m				0.070	0.045	0.070

Reach 52

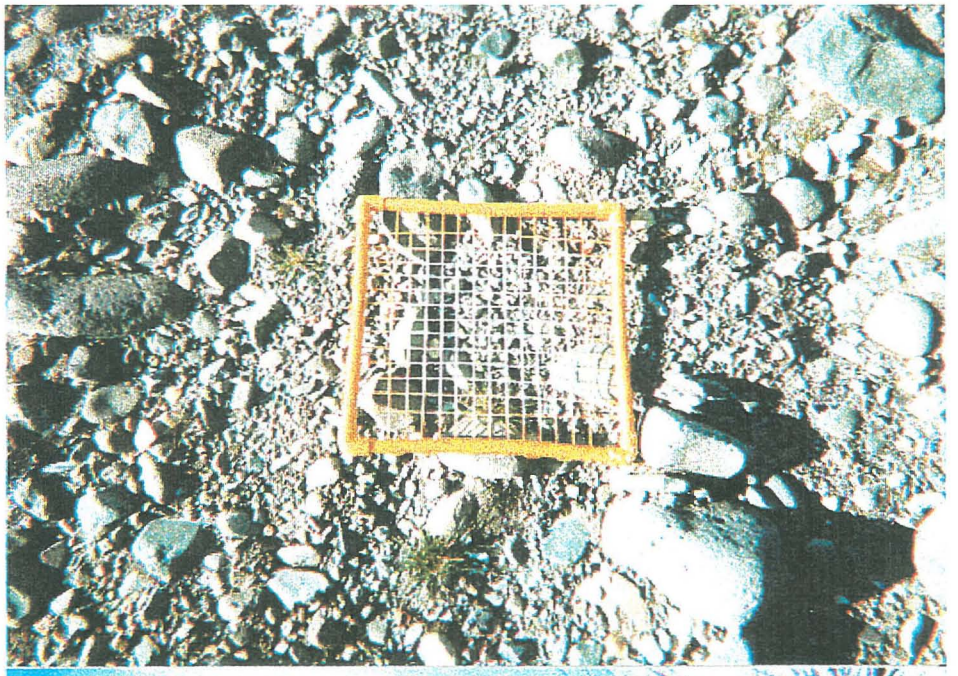
Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Cave Creek Wash above Carefree Highway
Stream: Cave Creek, Reach 53
Photograph No.: D6, D7, D8 & D10 (Misc. Supplemental Photos: A0 - A6, D9 - D27)
Section Description: Oversized boulders & debris obstruct flow in the CH & overbanks. Cross sections vary occasionally. CH & overbanks rocky with cobbles & boulders. CH vegetation consists of grass, brush & some trees. Overbanks have more trees & are more densely vegetated.

Rough Sketch of
Typical Channel Cross Section



Channel Conditions		Manning's n Adjustment		Left Overbank	Main Channel	Right Overbank
Channel Bed Material	Concrete	n0	0.012 - 0.018			
	Rock Cut		0.025			
	Firm Soil		0.025 - 0.032			
	Coarse Sand		0.026 - 0.035			
	Fine Gravel		0.024			
	Gravel		0.028 - 0.035			
	Coarse Gravel		0.028			
	Cobble		0.030 - 0.050	0.032	0.035	0.032
	Boulder		0.040 - 0.070			
Degree of Irregularity	Smooth	n1	0.000			
	Minor		0.001 - 0.005	0.003	0.002	0.003
	Moderate		0.006 - 0.010			
	Severe		0.011 - 0.020			
Effects of Obstructions	Negligible	n2	0.000 - 0.004			
	Minor		0.005 - 0.015	0.010	0.005	0.010
	Appreciable		0.020 - 0.030			
	Severe		0.040 - 0.060			
Vegetation	Small	n3	0.002 - 0.010		0.010	
	Medium		0.010 - 0.025	0.020		0.020
	Large		0.025 - 0.050			
	Very Large		0.050 - 0.100			
Variations in the Channel Cross Sections	Gradual	n4	0.000			
	Alternating (occasionally)		0.001 - 0.005	0.005	0.003	0.005
	Alternating (frequently)		0.010 - 0.015			
Degree of Meandering	Minor	m	1.00	1	1	1
	Appreciable		1.15			
	Severe		1.30			
n = (n0 + n1 + n2 + n3 + n4)m				0.070	0.055	0.070

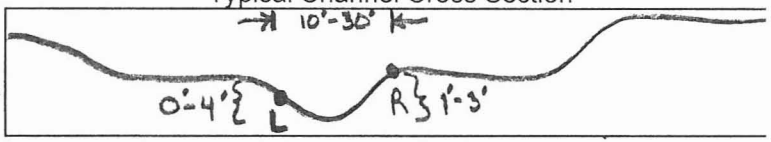


Reach 53

Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Cave Creek Wash above Carefree Highway
Stream: Cave Creek, Reach 54
Photograph No.: D1, D2, D3 & D5 (Misc. Supplemental Photos: D0, D4)
Section Description: Bedrock extends along much of the LOB & CH throughout the reach. ROB is rocky with cobbles & boulders. CH has little vegetation. LOB & ROB are vegetated with grass, reeds brush & large trees. ROB more densly vegetated. Obstructions present. In general, the reach is irregular and fairly diverse in bed material and vegetation.

Rough Sketch of
Typical Channel Cross Section



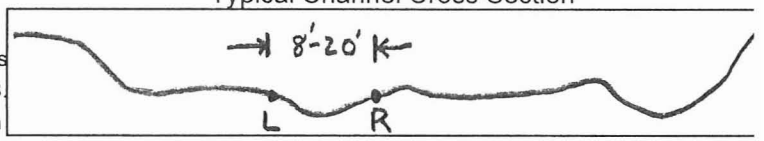
Channel Conditions		Manning's n Adjustment		Left Overbank	Main Channel	Right Overbank
Channel Bed Material	Concrete	n0	0.012 - 0.018			
	Rock Cut		0.025			
	Firm Soil		0.025 - 0.032			
	Coarse Sand		0.026 - 0.035			
	Fine Gravel		0.024			
	Gravel		0.028 - 0.035			
	Coarse Gravel		0.028			
	Cobble		0.030 - 0.050			0.037
	Boulder		0.040 - 0.070			
	Conglomerate "Bedrock"			0.030	0.030	
Degree of Irregularity	Smooth	n1	0.000			
	Minor		0.001 - 0.005			0.005
	Moderate		0.006 - 0.010	0.010	0.008	
	Severe		0.011 - 0.020			
Effects of Obstructions	Negligible	n2	0.000 - 0.004			
	Minor		0.005 - 0.015	0.006	0.008	0.006
	Appreciable		0.020 - 0.030			
	Severe		0.040 - 0.060			
Vegetation	Small	n3	0.002 - 0.010		0.004	
	Medium		0.010 - 0.025	0.014		0.022
	Large		0.025 - 0.050			
	Very Large		0.050 - 0.100			
Variations in the Channel Cross Sections	Gradual	n4	0.000			
	Alternating (occasionally)		0.001 - 0.005	0.005	0.005	0.005
	Alternating (frequently)		0.010 - 0.015			
Degree of Meandering	Minor	m	1.00	1	1	1
	Appreciable		1.15			
	Severe		1.30			
n = (n0 + n1 + n2 + n3 + n4)m				0.065	0.055	0.075

Reach 54

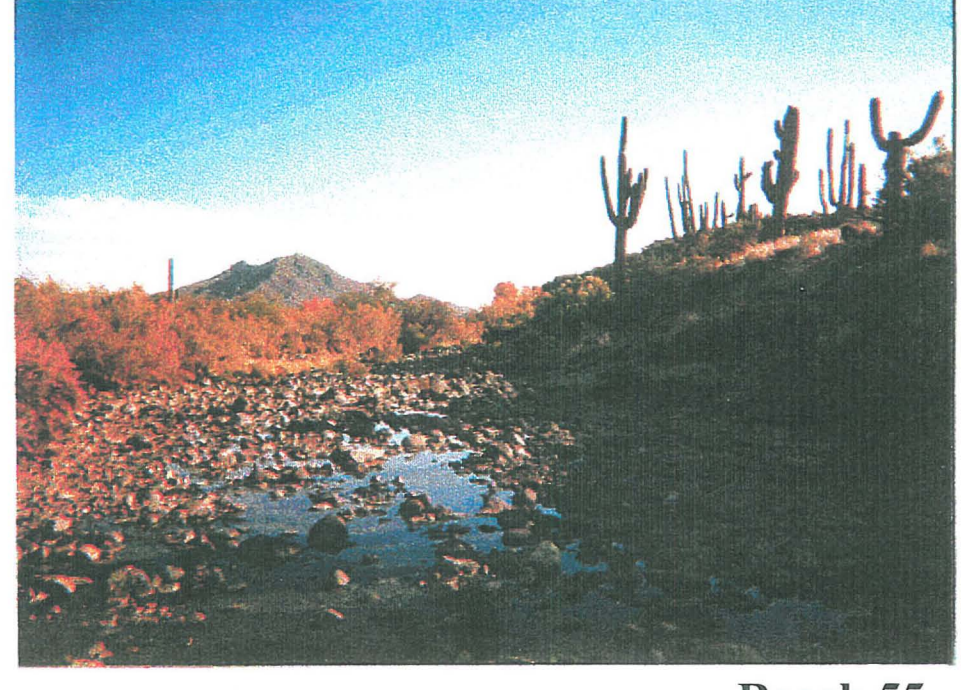
Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Cave Creek Wash above Carefree Highway
Stream: Cave Creek, Reach 55
Photograph No.: F18, F24, F25 & F26 (Misc. Supplemental Photos: F19 - F23, F27)
Section Description: Reach has 3 well-defined CHs. Low flow "main" CH is rocky with cobbles/boulders & winds thru dense vegetation of grass/brush & large trees. A middle & right CH make up the ROB. ROB rocky with cobbles/boulders but not as densely vegetated. LOB is similar to the main CH with slightly more vegetation and obstructions (debris & oversized boulders).

Rough Sketch of
Typical Channel Cross Section



Channel Conditions		Manning's n Adjustment		Left Overbank	Main Channel	Right Overbank
Channel Bed Material	Concrete	n0	0.012 - 0.018			
	Rock Cut		0.025			
	Firm Soil		0.025 - 0.032			
	Coarse Sand		0.026 - 0.035			
	Fine Gravel		0.024			
	Gravel		0.028 - 0.035			
	Coarse Gravel		0.028			
	Cobble		0.030 - 0.050	0.038	0.038	0.038
	Boulder		0.040 - 0.070			
Degree of Irregularity	Smooth	n1	0.000			
	Minor		0.001 - 0.005	0.002	0.002	0.002
	Moderate		0.006 - 0.010			
	Severe		0.011 - 0.020			
Effects of Obstructions	Negligible	n2	0.000 - 0.004			
	Minor		0.005 - 0.015	0.006	0.004	0.004
	Appreciable		0.020 - 0.030			
	Severe		0.040 - 0.060			
Vegetation	Small	n3	0.002 - 0.010			0.006
	Medium		0.010 - 0.025	0.019	0.016	
	Large		0.025 - 0.050			
	Very Large		0.050 - 0.100			
Variations in the Channel Cross Sections	Gradual	n4	0.000			
	Alternating (occasionally)		0.001 - 0.005			
	Alternating (frequently)		0.010 - 0.015	0.010	0.010	0.010
Degree of Meandering	Minor	m	1.00	1	1	1
	Appreciable		1.15			
	Severe		1.30			
n = (n0 + n1 + n2 + n3 + n4)m				0.075	0.070	0.060

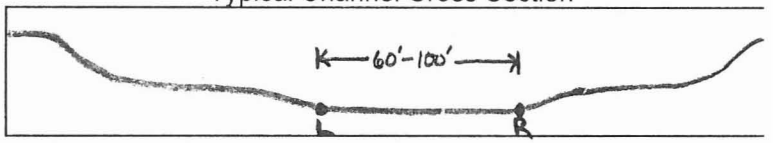


Reach 55

Determination of Manning's Roughness Coefficients by FCDMC Method

Project: Cave Creek Wash above Carefree Highway
Stream: Cave Creek, Reach 56
Photograph No.: C8, C9, C10, & C11 (Misc. Supplemental Photos: C1 - C7, F10 - F17)
Section Description: CH is rocky with large cobbles & boulders. There is little vegetation (grass & small brush). LOB & ROB are similar. Bed material is a firm soil with gravel & some cobbles. Overbanks are moderately vegetated with grass, brush, trees and cacti.

Rough Sketch of
Typical Channel Cross Section



Channel Conditions		Manning's n Adjustment		Left Overbank	Main Channel	Right Overbank
Channel Bed Material	Concrete	n0	0.012 - 0.018			
	Rock Cut		0.025			
	Firm Soil		0.025 - 0.032	0.032		0.032
	Coarse Sand		0.026 - 0.035			
	Fine Gravel		0.024			
	Gravel		0.028 - 0.035			
	Coarse Gravel		0.028			
	Cobble		0.030 - 0.050			
	Boulder		0.040 - 0.070		0.044	
Degree of Irregularity	Smooth	n1	0.000			
	Minor		0.001 - 0.005	0.005	0.003	0.005
	Moderate		0.006 - 0.010			
	Severe		0.011 - 0.020			
Effects of Obstructions	Negligible	n2	0.000 - 0.004			
	Minor		0.005 - 0.015	0.006	0.005	0.006
	Appreciable		0.020 - 0.030			
	Severe		0.040 - 0.060			
Vegetation	Small	n3	0.002 - 0.010		0.007	
	Medium		0.010 - 0.025	0.019		0.019
	Large		0.025 - 0.050			
	Very Large		0.050 - 0.100			
Variations in the Channel Cross Sections	Gradual	n4	0.000			
	Alternating (occasionally)		0.001 - 0.005	0.003	0.001	0.003
	Alternating (frequently)		0.010 - 0.015			
Degree of Meandering	Minor	m	1.00	1	1	1
	Appreciable		1.15			
	Severe		1.30			
n = (n0 + n1 + n2 + n3 + n4)m				0.065	0.060	0.065

Reach 56

Appendix D
HEC-2 Output, Cross Section Plots and Water Surface Profiles

Hydraulic Analysis
Supplemental HEC-2 Output File
DUPEFF.OH2

The Harris-Toups HEC-2 analysis is reproduced on the requestor's equipment to generate the duplicate effective model.

DUPLICATE EFFECTIVE MODEL
BELOW RIVER MILE 35.49

```
1*****************************************
 *  HEC-2 WATER SURFACE PROFILES          *
 *                                        *
 *  Version   4.6.2;  May 1991            *
 *                                        *
 *  RUN DATE    19FEB97    TIME   16:43:04 *
 *****************************************
```

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

```
X     X  XXXXXXX   XXXXX            XXXXX
X     X  X        X     X          X     X
X     X  X        X                      X
XXXXXXX  XXXX     X          XXXXX   XXXXX
X     X  X        X                X
X     X  X        X     X          X
X     X  XXXXXXX   XXXXX            XXXXXXX
```

```
1
    19FEB97      16:43:04                                                    PAGE    1


                                                    THIS RUN EXECUTED 19FEB97    16:43:04

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

  Version   4.6.2;  May 1991
 ************************************


T1          CAVE CREEK WASH      SECTIONS 29.00 - 35.49
T2          100YEAR FREQUENCY
T3          CAVE CREEK WASH              1978

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      -1        2         0         0   .010740                                 1833.33

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      1                 -1


J3  VARIABLE CODES FOR SUMMARY PRINTOUT

      38        43         1         2        26        39        21        22        27        28
      53        54         0        38        13        14        15        55        26        56
      63         1        51         4        42        57         0        38        39        33
       3        10        11        12         5         7         8        16        17        18
       0       200       150

NC     .050      .050      .042      .300      .500
ET       0.        0.       9.1        0.        0.       9.1        0.        0.     1940.     2386.
QT       2     36860     36860
          FLOWLINE AT STA. 2000
X1      29        12      1965      2080
GR    1856      1750      1852      1885      1848      1915      1844      1935      1840      1940
GR    1820      1965      1820      2030      1820      2050      1824      2080      1828      2180
GR    1832      2540      1840      3120         0         0         0         0         0         0

ET       0         0       9.1         0         0       9.1         0         0      1940      2386
X1  29.190        15      1940      2060      1080       920      1020
GR    1864      1820      1860      1890      1840      1940      1828      1960      1828      2000
GR    1830      2060      1832      2100      1836      2180      1840      2320      1839      2410
GR    1840      2550      1838      2760      1840      2815      1844      2850      1846      3140


                                Duplicate Effective HEC-2 below River Mile 35.49

File = DUPEFF.OH2                Cave Creek Wash as modeled by Harris-Toups.                Page 1
```

```
ET       0       0     9.1       0       0     9.1       0       0    1531    2082
X1   29.39      26    1960    2050     950     980    1020
GR    1879     960    1876    1265    1872    1390    1868    1430    1864    1440
GR    1860    1455    1840    1520    1839    1530    1840    1550    1844    1690
GR    1844    1730    1844    1830    1840    1960    1838    1970    1838    2025
GR    1840    2050    1844    2110    1848    2150    1849    2250    1848    2390
GR    1852    2420    1856    2435    1857    2480    1856    2570    1855    2650
GR    1856    2760       0       0       0       0       0       0       0       0

ET       0       0     9.1       0       0     9.1       0       0    1520    2050
X1   29.570      19    1950    2050    1050    1030     990
GR    1880     900    1872     990    1868    1010    1864    1050    1856    1160
GR    1860    1250    1856    1460    1856    1510    1858    1570    1856    1600
GR    1852    1650    1852    1800    1855    1860    1856    1950    1848    1980
GR    1848    2025    1856    2050    1868    2085    1869    2160

ET       0       0     9.1       0       0     9.1       0       0    1548    2083
X1    29.7      15    1915    2050     700     600     680
GR    1880     960    1876    1200    1868    1280    1863    1470    1865    1670
GR    1864    1800    1860    1840    1856    1915    1854    1950    1854    2040
GR    1860    2050    1864    2170    1868    2180    1872    2580    1876    2740

ET       0       0     9.1               0     9.1       0       0    1580    2100
X1   29.73      15    1890    2050     350      50     140
GR    1881    1000    1880    1130    1868    1190    1868    1280    1869    1380
GR    1868    1610    1864    1700    1860    1810    1860    1890    1856    1950
GR    1856    2040    1858    2050    1860    2080    1864    2250    1868    2380

ET       0       0     9.1       0       0     9.1       0       0    1570    2100
                CONTROL SECTION AT CAREFREE HIGHWAY CROSSING
X1   29.74      15    1910    2050      80      20      20
GR    1881    1000    1880    1075    1872    1120    1870    1300    1872    1360
GR    1872    1420    1868    1570    1864    1710    1860    1910    1856    1950
GR    1856    2040    1858    2050    1860    2100    1864    2260    1868    2390

ET       0       0     9.1       0       0     9.1       0       0    1550    2050
X1    29.8      18    1930    2050     130     280     330
GR    1880    1040    1872    1100    1876    1200    1872    1320    1868    1350
GR    1866    1410    1868    1560    1864    1680    1864    1800    1862    1835
GR    1864    1850    1865    1890    1864    1930    1860    1960    1860    2040
GR    1864    2050    1872    2070    1876    2150

ET       0       0     9.1       0       0     9.1       0       0    1250    2060
X1   29.94      19    1950    2060     600     800     750
GR    1887     760    1884     910    1876     950    1872     990    1870    1040
GR    1872    1100    1869    1300    1868    1590    1876    1720    1872    1930
GR    1868    1950    1864    1970    1862    2000    1864    2050    1868    2060
GR    1884    2080    1886    2200    1888    2400    1896    2460
```



```
ET       0       0     9.1       0       0     9.1       0       0    1250    2030
X1   30.1       26    1880    2030     600     950     880
GR    1888     750    1880     780    1878     820    1880     920    1879    1050
GR    1880    1140    1880    1200    1876    1260    1875    1320    1875    1370
GR    1874    1420    1876    1460    1878    1580    1876    1680    1874    1730
GR    1876    1770    1880    1800    1882    1830    1880    1850    1876    1880
GR    1872    1950    1868    1990    1868    2020    1872    2030    1904    2200
GR    1908    2290

QT       2   35900   35900
ET       0       0     9.1       0       0     9.1       0       0    1461    2040
X1   30.33      23    1870    2040    1150    1180    1200
```

GR	1912	550	1908	600	1904	740	1903	800	1904	960
GR	1903	1040	1904	1110	1900	1160	1892	1190	1889	1280
GR	1888	1420	1887	1480	1889	1540	1887	1590	1889	1630
GR	1888	1820	1884	1870	1882	1920	1882	2030	1892	2040
GR	1896	2210	1900	2310	1920	2580				
ET	0	0	9.1	0	0	9.1	0	0	1743	2070
X1	30.64	20	1950	2070	1800	1500	1650			
GR	1919	1140	1916	1200	1912	1225	1909	1300	1910	1500
GR	1908	1670	1904	1780	1901	1810	1902	1870	1901	1950
GR	1900	2000	1904	2070	1908	2090	1911	2150	1908	2225
GR	1907	2245	1908	2260	1932	2370	1940	2430	1944	2650
ET	0	0	9.1	0	0	9.1	0	0	1901	2592
X1	30.86	23	1940	2060	750	1150	1150			
GR	1930	1420	1928	1510	1920	1580	1916	1840	1912	1940
GR	1909	2000	1912	2060	1915	2140	1913	2240	1914	2260
GR	1912	2315	1913	2370	1912	2405	1910	2420	1912	2440
GR	1917	2500	1916	2540	1912	2600	1916	2660	1920	2680
GR	1924	2820	1928	2890	1940	2970				
ET	0	0	9.1	0	0	9.1	0	0	1898	2681
X1	31.06	16	1940	2100	1300	850	1030			
GR	1941	1630	1940	1715	1936	1760	1928	1785	1924	1820
GR	1925	1880	1924.5	1910	1924	1940	1924	2000	1924	2100
GR	1926	2480	1923	2590	1926	2670	1924	2710	1924	2760
GR	1960	2900								
ET	0	0	9.1	0	0	9.1	0	0	1950	2505
X1	31.3	19	1950	2100	1350	1200	1300			
GR	1960	1100	1956	1360	1944	1540	1943	1580	1944	1615
GR	1945	1690	1944	1810	1940	1870	1936	1950	1932	2000
GR	1934	2100	1936	2275	1937	2340	1936	2440	1935	2490
GR	1936	2545	1940	2570	1948	2790	1952	2840		
ET	0	0	9.1	0	0	9.1	0	0	1880	2431
X1	31.48	20	1880	2130	1000	1000	960			
GR	1980	770	1972	870	1968	1060	1964	1530	1960	1675
GR	1953	1785	1956	1830	1944	1880	1943	2000	1944	2130
GR	1947	2220	1944	2330	1943	2370	1945	2440	1943	2480
GR	1948	2520	1950	2615	1948	2730	1952	3140	1980	3215

1

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ET	0	0	9.1	0	0	9.1	0	0	1724	2225
X1	31.65	18	1930	2120	900	850	850			
GR	1980	1090	1976	1260	1972	1310	1968	1500	1964	1540
GR	1956	1580	1952	1800	1953	1850	1952	1930	1948	1950
GR	1948	2050	1952	2120	1954	2180	1952	2240	1956	2275
GR	1957	2450	1960	2750	1980	2820				
ET	0	0	9.1	0	0	9.1	0	0	1789	2090
X1	31.82	12	1920	2090	900	800	920			
GR	1980	1400	1976	1590	1972	1685	1960	1760	1956	1920
GR	1955	2000	1956	2020	1960	2090	1964	2150	1968	2215
GR	1972	2250	1980	2300						
ET	0	0	9.1	0	0	9.1	0	0	1625	2060
X1	32.03	15	1870	2060	1180	1060	1120			
GR	2000	1050	1996	1075	1988	1200	1984	1320	1980	1570
GR	1964	1615	1965	1740	1964	1870	1963	2000	1964	2060
GR	1968	2075	1972	2120	1976	2170	1984	2215	2000	2400
ET	0	0	9.1	0	0	9.1	0	0	1713	2080
X1	32.24	13	1950	2080	960	1080	1080			
GR	2000	1100	1996	1210	1992	1365	1988	1570	1984	1615
GR	1976	1640	1972	1950	1971	2000	1972	2080	1980	2140
GR	1984	2235	1988	2340	2000	2420				

```
ET       0       0     9.1       0       0     9.1       0       0    1706    2208
X1   32.47      14    1920    2090    1250    1250    1210
GR    2020    1105    2012    1320    2008    1390    2004    1410    2000    1530
GR    1992    1595    1988    1635    1984    1920    1982    2000    1984    2090
GR    1985    2180    1988    2270    2000    2320    2020    2630

QT       2   35000   35000
ET       0       0     9.1       0       0     9.1       0       0    1680    2050
X1   32.66      16    1930    2050     950     980    1000
GR    2020    1220    2008    1310    2004    1370    2000    1500    1996    1700
GR    1995    1725    1996    1750    1999    1785    1996    1820    1992    1930
GR    1990    2000    1992    2050    2008    2085    2012    2115    2016    2220
GR    2020    2280

ET       0       0     9.1       0       0     9.1       0       0 1767.69 2228.54
X1   32.91      13    1920    2110    1350    1370    1350
GR    2028    1720    2024    1745    2012    1770    2008    1810    2007    1830
GR    2008    1880    2004    1920    2004    2000    2006    2110    2005    2150
GR    2008    2195    2024    2300    2028    2350

ET       0       0     9.1       0       0     9.1       0       0 1668.31 2072.49
X1   33.11       8    1950    2050    1160    1000    1060
GR    2040    1620    2024    1670    2020    1720    2016    1950    2014    2000
GR    2016    2050    2020    2060    2060    2170
1
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NC    .050    .050    .045    .300    .500
ET       0       0     9.1       0       0     9.1       0       0 1898.87  2237.2
X1   33.32       9    1930    2030    1030    1040    1080
GR    2052    1865    2028    1910    2024    1930    2020    1970    2019    2000
GR    2020    2030    2024    2065    2028    2210    2052    2320

NC    .050    .050    .045    .100    .300
ET       0       0     9.1       0       0     9.1       0       0 1949.72 2229.14
                SEC. 200 FEET UPSTREAM OF OCOTILLO WASH CONFLUENCE
X1   33.48      18    1975    2050     820     750     800
GR    2072    1710    2064    1775    2056    1800    2052    1820    2048    1900
GR    2044    1945    2040    1960    2028    1975    2026    1976    2026    2020
GR    2028    2035    2032    2050    2036    2125    2040    2220    2052    2260
GR    2056    2335    2060    2370    2072    2540

NC    .050    .050    .042    .100    .300
ET       0       0     9.1       0       0     9.1       0       0 1926.26 2077.49
X1   33.66       8    1960    2040     950     910     940
GR    2080    1790    2060    1915    2040    1960    2038    1970    2038    2035
GR    2040    2040    2068    2110    2080    2180

ET       0       0     9.1       0       0     9.1       0       0 1830.04 2113.34
X1   33.78      14    1920    2070     460     530     500
GR    2080    1685    2072    1770    2060    1845    2056    1860    2052    1875
GR    2050    1910    2048    1920    2044    1965    2044    2000    2044    2045
GR  2043.5    2060    2044    2070    2048    2085    2080    2148

QT       2   23600   23600
ET       0       0     9.1       0       0     9.1       0       0 1884.2  2143.84
X1   33.84      15    1940    2040     430     460     440
GR    2092    1465    2080    1570    2076    1640    2072    1750    2068    1820
GR    2064    1880    2060    1905    2056    1910    2052    1940    2049    1970
GR    2049    2020    2052    2040    2056    2120    2060    2135    2092    2220

NC    .050    .050    .042    .300    .500
ET       0       0     9.1       0       0     9.1       0       0 1921.22 2374.79
X1   34.05      20    1940    2080    1170    1100    1100
GR    2120    1030    2112    1580    2108    1710    2100    1750    2092    1775
GR    2080    1800    2076    1825    2072    1855    2068    1930    2064    1940
GR    2059    1960    2059    2030    2060    2050    2064    2080    2067    2140
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GR     2064      2220      2065      2250      2063      2325      2064      2370      2120      2430

ET        0         0       9.1         0         0       9.1         0         0   1916.99   2175.83
X1    34.22        14      1930      2070       870       930       900
GR     2120      1520      2100      1700      2092      1730      2088      1755      2084      1900
GR     2080      1910      2076      1925      2072      1930      2068      1980      2064      2000
GR     2068      2015      2072      2070      2076      2170      2120      2290
1
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NC    .050      .050      .045      .300      .500
ET        0         0       9.1         0         0       9.1         0         0   1697.96   2142.04
X1    34.44        15      1930      2080      1030      1200      1130
GR     2128      1590      2124      1605      2120      1620      2088      1700      2080      1715
GR     2080      1790      2084      1810      2084      1930      2080      1950      2080      2060
GR     2084      2080      2084      2130      2096      2160      2100      2200      2128      2400

ET        0         0       9.1         0         0       9.1         0         0    1736.6   2099.06
          File received from FCDMC was revised to correct an apparent typo error.
          The elevation at station 2140 was corrected from elevation 2408 to 2108.
          This correction was made by McLaughlin Kmetty Engineers on 19 Feb 97.
X1    34.64        15      1970      2030      1100      1020      1050
GR     2140      1530      2120      1635      2100      1730      2096      1800      2092      1970
GR     2090      1980      2090      2020      2092      2030      2096      2090      2100      2100
GR     2108      2140      2112      2210      2120      2245      2124      2290      2140      2350

NC    .050      .050      .042      .300      .500
ET        0         0       9.1         0         0       9.1         0         0   1692.24   2123.28
X1    34.84        12      1980      2030       950      1070      1040
GR     2152      1510      2140      1560      2120      1680      2112      1700      2108      1980
GR     2102      1990      2102      2020      2108      2030      2112      2050      2112      2100
GR     2116      2130      2140      2200

ET        0         0       9.1         0         0       9.1         0         0   1643.49   2229.38
X1    35.03        14      1940      2050       950      1010      1020
GR     2164      1575      2124      1645      2120      1780      2123      1870      2120      1940
GR     2113      1960      2113      2040      2116      2050      2120      2060      2120      2100
GR     2124      2210      2128      2300      2140      2360      2160      2400

ET        0         0       9.1         0         0       9.1         0         0   1905.07   2620.39
X1    35.23        15      1920      2035      1080      1000      1050
GR     2180      1780      2172      1840      2140      1900      2128      1920      2124      1960
GR     2124      2030      2128      2035      2136      2130      2136      2420      2134      2530
GR     2136      2615      2144      2660      2148      2690      2160      2750      2180      2790

ET        0         0       9.1         0         0       9.1         0         0   1634.18   2059.05
            THIS IS THE UPSTREAM LIMIT OF THE STUDY
X1    35.49        14      1940      2040      1250      1260      1350
GR     2200       890      2196      1380      2192      1450      2180      1480      2160      1500
GR     2152      1515      2148      1650      2144      1870      2140      1940      2137      1960
GR     2137      2030      2140      2040      2160      2085      2200      2250
1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*PROF 1

CCHV=     .300 CEHV=     .500
*SECNO 29.000
3720 CRITICAL DEPTH ASSUMED
          FLOWLINE AT STA. 2000
   29.000     13.31   1833.31   1833.31   1833.33   1835.93      2.62       .00       .00   1820.00
```

36860.0	798.4	22982.5	13079.1	110.7	1470.2	1982.8	.0	.0	1824.00
.00	7.21	15.63	6.60	.050	.042	.050	.000	1820.00	1948.37
.006549	0.	0.	0.	0	5	0	.00	686.35	2634.71

*SECNO 29.190
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

29.190	13.12	1841.12	1841.12	.00	1843.41	2.29	6.69	.10	1840.00
36860.0	2.5	20919.6	15937.9	1.6	1394.0	2348.5	80.7	16.9	1830.00
.02	1.62	15.01	6.79	.050	.042	.050	.000	1828.00	1937.21
.007093	1080.	1020.	920.	2	5	0	.00	887.56	2824.77

*SECNO 29.390

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

29.390	10.61	1848.61	.00	.00	1849.99	1.38	6.31	.27	1840.00
36860.0	21602.5	11617.0	3640.5	2824.0	919.9	547.1	171.1	35.9	1840.00
.05	7.65	12.63	6.65	.050	.042	.050	.000	1838.00	1492.02
.005766	950.	1020.	980.	2	0	0	.00	809.05	2394.58

*SECNO 29.570

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
29.570	10.97	1858.97	1858.97	.00	1861.12	2.15	8.02	.39	1856.00
36860.0	23094.7	13714.7	50.6	2651.2	876.9	12.9	264.2	55.9	1856.00
.08	8.71	15.64	3.93	.050	.042	.050	.000	1848.00	1119.17
.011135	1050.	990.	1030.	4	8	0	.00	862.19	2058.66

*SECNO 29.700
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

29.700	12.22	1866.22	1866.22	.00	1868.57	2.35	5.77	.10	1856.00
36860.0	10356.1	23301.3	3202.6	1649.6	1584.6	512.5	321.6	69.3	1860.00
.10	6.28	14.70	6.25	.050	.042	.050	.000	1854.00	1347.66
.006584	700.	680.	600.	2	8	0	.00	827.89	2175.55

*SECNO 29.730

3265 DIVIDED FLOW

3280 CROSS SECTION 29.73 EXTENDED .85 FEET

3301 HV CHANGED MORE THAN HVINS

```
 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.62

    29.730     12.85   1868.85      .00      .00  1869.71      .86      .70      .45  1860.00
   36860.0    9535.9   17938.3   9385.8   1912.4   1925.2   1828.9    342.9     74.9  1858.00
       .10      4.99      9.32     5.13     .050     .042     .050     .000  1856.00  1185.77
   .002522      350.      140.     50.        3        0        0      .00  1143.15  2380.00


 *SECNO 29.740
 3280 CROSS SECTION     29.74 EXTENDED       .91 FEET

           CONTROL SECTION AT CAREFREE HIGHWAY CROSSING
    29.740     12.91   1868.91      .00      .00  1869.83      .92      .09      .03  1860.00
   36860.0    9078.3   16828.2  10953.5   1806.3   1717.9   1980.6    348.0     76.1  1858.00
       .10      5.03      9.80     5.53     .050     .042     .050     .000  1856.00  1535.74
   .002718       80.       20.      20.        2        0        0      .00   854.26  2390.00


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


 *SECNO 29.800

 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
    29.800       9.61   1869.61   1869.61      .00  1871.88     2.28     1.16      .68  1864.00
   36860.0   19970.9    16662.7     226.4   2401.0   1072.7     39.3    371.3     79.6  1864.00
       .11      8.32      15.53     5.76     .050     .042     .050     .000  1860.00  1337.96
   .010508       130.      330.     280.        2       19        0      .00   726.06  2064.01


 *SECNO 29.940

 3265 DIVIDED FLOW


 3301 HV CHANGED MORE THAN HVINS


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

    29.940     13.22   1875.22      .00      .00  1876.20      .99     3.93      .39  1868.00
   36860.0   22990.9    13750.1     119.0   4205.8   1253.8     32.5    437.5     92.4  1868.00
       .13      5.47      10.97     3.66     .050     .042     .050     .000  1862.00   957.83
   .003802       600.      750.     800.        3        0        0      .00  1057.33  2069.02


 *SECNO 30.100

 3265 DIVIDED FLOW


 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
    30.100      12.24   1880.24   1880.24      .00  1881.87     1.62     3.82      .32  1876.00
   36860.0   18222.4    17432.7     1204.9   2852.5   1316.7    180.5    514.4     109.3  1872.00
       .16      6.39      13.24     6.67     .050     .042     .050     .000  1868.00   779.08
   .007807       600.      880.     950.        3       10        0      .00  1250.82  2073.80
```

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

*SECNO 30.330
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

30.330	9.74	1891.74	1891.74	.00	1893.74	2.00	9.36	.19	1884.00
35900.0	14516.1	21383.9	.0	2286.5	1556.4	.0	624.3	137.1	1892.00
.19	6.35	13.74	.00	.050	.042	.000	.000	1882.00	1197.70
.008109	1150.	1200.	1180.	3	16	0	.00	842.05	2039.74

*SECNO 30.640

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

30.640	9.94	1909.94	1909.94	.00	1912.02	2.08	14.83	.04	1901.00
35900.0	20064.6	14582.5	1252.9	2097.3	1027.7	257.4	768.2	172.7	1904.00
.23	9.57	14.19	4.87	.050	.042	.050	.000	1900.00	1276.51
.009189	1800.	1650.	1500.	4	5	0	.00	927.44	2268.89

*SECNO 30.860

3301 HV CHANGED MORE THAN HVINS

30.860	9.71	1918.71	.00	.00	1919.78	1.07	7.46	.30	1912.00
35900.0	3707.7	10960.7	21231.6	708.6	984.7	3057.0	862.7	194.0	1912.00
.26	5.23	11.13	6.95	.050	.042	.050	.000	1909.00	1664.10
.005988	750.	1150.	1150.	3	0	0	.00	1009.43	2673.53

*SECNO 31.060

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

31.060	5.19	1928.19	1928.19	.00	1929.94	1.75	9.63	.34	1924.00
35900.0	5051.9	8825.5	22022.6	519.6	670.4	2284.7	952.7	216.3	1924.00
.29	9.72	13.16	9.64	.050	.042	.050	.000	1923.00	1784.41
.020488	1300.	1030.	850.	3	11	0	.00	991.89	2776.30

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

*SECNO 31.300

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.83

31.300	9.55	1941.55	.00	.00	1942.82	1.27	12.73	.14	1936.00
35900.0	1569.6	13869.4	20461.0	302.1	1232.6	2736.8	1063.0	241.3	1934.00
.33	5.20	11.25	7.48	.050	.042	.050	.000	1932.00	1846.74

```
    .006109     1350.     1300.     1200.        6        0        0      .00    765.90   2612.64

*SECNO 31.480

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS

    31.480     6.43  1949.43  1949.30      .00  1951.25     1.82     8.16      .28  1944.00
   35900.0    381.8  18805.2  16713.0     61.5  1483.1   1991.4   1151.4     260.9  1944.00
       .35     6.21    12.68     8.39     .050     .042     .050     .000  1943.00  1857.37
   .011959     1000.     960.     1000.        6       14        0      .00    959.83   2876.81


*SECNO 31.650
    31.650     9.54  1957.54      .00      .00  1959.33     1.79     8.07      .01  1952.00
   35900.0   9693.0  21093.4  5113.6   1440.2  1632.8    865.6   1225.2     279.6  1952.00
       .38     6.73    12.92     5.91     .050     .042     .050     .000  1948.00  1572.30
   .007600      900.      850.      850.        3        0        0      .00    931.79   2504.09


*SECNO 31.820

3301 HV CHANGED MORE THAN HVINS

    31.820    10.03  1965.03      .00      .00  1967.83     2.80     7.99      .51  1956.00
   35900.0  12976.6  21750.5  1172.9   1204.6  1445.7    190.7   1294.7     293.3  1960.00
       .40    10.77    15.04     6.15     .050     .042     .050     .000  1955.00  1728.54
   .010427      900.      920.      800.        2        0        0      .00    438.26   2166.80


*SECNO 32.030
1
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST


3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.79

    32.030     10.41  1973.41      .00      .00  1974.46     1.04     6.10      .53  1964.00
   35900.0  17095.6  17501.0  1303.4   2398.0  1883.8    277.4   1392.0     306.2  1964.00
       .43     7.13     9.29     4.70     .050     .042     .050     .000  1963.00  1588.52
   .003237     1180.     1120.     1060.        3        0        0      .00    549.17   2137.69


*SECNO 32.240

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    32.240     8.34  1979.34  1979.34      .00  1982.14     2.80     5.98      .88  1972.00
   35900.0  17630.8  16610.8  1658.4   1673.6  1019.5    202.2   1478.8     318.5  1972.00
       .46    10.53    16.29     8.20     .050     .042     .050     .000  1971.00  1629.56
   .013611      960.     1080.     1080.        3       15        0      .00    505.51   2135.07


*SECNO 32.470


                                  Duplicate Effective HEC-2 below River Mile 35.49

File = DUPEFF.OH2                 Cave Creek Wash as modeled by Harris-Toups.                    Page 9
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3301 HV CHANGED MORE THAN HVINS

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

32.470	9.58	1991.58	.00	.00	1992.88	1.30	10.28	.45	1984.00
35900.0	11352.4	16218.7	8328.8	1652.3	1457.5	1119.8	1579.9	335.4	1984.00
.49	6.87	11.13	7.44	.050	.042	.050	.000	1982.00	1599.27
.005639	1250.	1210.	1250.	4	0	0	.00	685.62	2284.89

*SECNO 32.660

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
32.660	11.00	2001.00	2001.00	.00	2003.52	2.52	6.89	.61	1992.00
35000.0	15564.7	18793.0	642.3	1904.2	1199.5	88.5	1662.7	349.7	1992.00
.52	8.17	15.67	7.26	.050	.042	.050	.000	1990.00	1467.65
.009113	950.	1000.	980.	3	8	0	.00	602.03	2069.68

*SECNO 32.910

32.910	9.11	2013.11	.00	.00	2015.31	2.20	11.69	.10	2004.00
35000.0	6877.4	21703.7	6418.9	802.9	1621.1	687.6	1760.6	366.2	2006.00
.55	8.57	13.39	9.33	.050	.042	.050	.000	2004.00	1767.69
.008213	1350.	1350.	1370.	2	0	0	.00	460.86	2228.54

*SECNO 33.110

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

33.110	10.54	2024.54	2024.54	.00	2027.66	3.12	10.60	.46	2016.00
35000.0	17704.0	16443.4	852.6	1632.4	954.2	93.8	1833.3	377.1	2016.00
.57	10.85	17.23	9.09	.050	.042	.050	.000	2014.00	1668.30
.011730	1160.	1060.	1000.	3	8	0	.00	404.19	2072.49

CCHV= .300 CEHV= .500
*SECNO 33.320

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.47

33.320	14.93	2033.93	.00	.00	2036.07	2.13	8.11	.30	2024.00
35000.0	1498.3	18401.4	15100.3	191.7	1343.5	1648.9	1904.2	386.1	2020.00
.60	7.82	13.70	9.16	.050	.045	.050	.000	2019.00	1898.87
.005403	1030.	1080.	1040.	3	0	0	.00	338.33	2237.20

CCHV= .100 CEHV= .300
*SECNO 33.480

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

3301 HV CHANGED MORE THAN HVINS

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

SEC. 200 FEET UPSTREAM OF OCOTILLO WASH CONFLUENCE

33.480	16.74	2042.74	2042.74	.00	2046.88	4.14	5.28	.60	2028.00
35000.0	1352.9	22396.0	11251.0	145.2	1179.7	1118.7	1954.3	391.5	2032.00
.61	9.32	18.99	10.06	.050	.045	.050	.000	2026.00	1949.72
.008669	820.	800.	750.	20	8	0	.00	279.42	2229.14

CCHV= .100 CEHV= .300
*SECNO 33.660

3301 HV CHANGED MORE THAN HVINS

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

33.660	16.99	2054.99	2054.99	.00	2061.57	6.57	8.27	.73	2040.00
35000.0	2577.5	29528.1	2894.4	252.9	1344.5	281.0	2000.5	396.1	2040.00
.62	10.19	21.96	10.30	.050	.042	.050	.000	2038.00	1926.26
.009036	950.	940.	910.	20	5	0	.00	151.22	2077.48

*SECNO 33.780

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.21

33.780	18.88	2062.38	.00	.00	2063.83	1.44	1.75	.51	2048.00
35000.0	4415.0	27709.2	2875.8	741.5	2673.8	449.4	2033.3	398.6	2044.00
.64	5.95	10.36	6.40	.050	.042	.050	.000	2043.50	1830.10
.001845	460.	500.	530.	3	0	0	.00	283.22	2113.32

*SECNO 33.840
1
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .51

33.840	14.29	2063.29	.00	.00	2064.87	1.57	1.00	.04	2052.00
23600.0	2255.5	15388.5	5956.0	338.8	1353.6	836.5	2065.8	401.3	2052.00
.65	6.66	11.37	7.12	.050	.042	.050	.000	2049.00	1884.46
.003216	430.	440.	460.	2	0	0	.00	259.27	2143.73

CCHV= .300 CEHV= .500
*SECNO 34.050

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .61

34.050	9.48	2068.48	.00	.00	2070.63	2.15	5.47	.29	2064.00
23600.0	121.4	15914.6	7564.1	26.9	1176.8	1106.6	2127.2	410.4	2064.00
.68	4.51	13.52	6.84	.050	.042	.050	.000	2059.00	1921.06
.008621	1170.	1100.	1100.	4	0	0	.00	453.74	2374.80

*SECNO 34.220

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

34.220	14.14	2078.14	2078.14	.00	2081.57	3.43	8.62	.64	2072.00
23600.0	164.3	20170.2	3265.5	29.2	1278.9	419.7	2169.4	417.9	2072.00
.69	5.62	15.77	7.78	.050	.042	.050	.000	2064.00	1916.99
.010525	870.	900.	930.	3	14	0	.00	258.83	2175.82

CCHV= .300 CEHV= .500
*SECNO 34.440

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.49

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
34.440	8.81	2088.81	.00	.00	2089.87	1.06	7.59	.71	2084.00
23600.0	10545.0	11545.6	1509.4	1448.3	1242.3	269.7	2229.0	426.8	2084.00
.73	7.28	9.29	5.60	.050	.045	.050	.000	2080.00	1697.96
.004760	1030.	1130.	1200.	3	0	0	.00	444.08	2142.04

*SECNO 34.640

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

34.640	9.62	2099.62	2099.62	.00	2102.23	2.61	7.87	.78	2092.00
23600.0	10754.0	9179.6	3666.4	1070.5	557.3	353.7	2289.8	436.8	2092.00
.76	10.05	16.47	10.37	.050	.045	.050	.000	2090.00	1736.61
.012852	1100.	1050.	1020.	9	8	0	.00	362.44	2099.06

CCHV= .300 CEHV= .500
*SECNO 34.840
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

34.840	13.10	2115.10	2115.10	.00	2117.46	2.36	10.54	.07	2108.00
23600.0	11848.6	9864.7	1886.6	1440.9	595.2	293.3	2338.9	445.8	2108.00
.78	8.22	16.58	6.43	.050	.042	.050	.000	2102.00	1692.24
.008798	950.	1040.	1070.	3	11	0	.00	431.03	2123.27

*SECNO 35.030

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 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
    35.030     11.86   2124.86   2124.86      .00   2126.79      1.93      6.92       .13   2120.00
   23600.0    4433.1   15967.2    3199.6     924.9    1219.8     586.2    2396.2     457.2   2116.00
       .81      4.79     13.09      5.46      .050      .042      .050      .000   2113.00   1643.49
   .005644      950.     1020.     1010.         2        10         0       .00    585.90   2229.39


 *SECNO 35.230
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
    35.230     12.96   2136.96   2136.96      .00   2139.15      2.19      5.59       .13   2128.00
   23600.0     347.4   18515.8    4736.7     66.9    1400.3    1133.7    2459.8     472.5   2128.00
       .83      5.19     13.22      4.18      .050      .042      .050      .000   2124.00   1905.07
   .005078      1080.    1050.     1000.         5        11         0       .00    715.32   2620.39


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


 *SECNO 35.490
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
           THIS IS THE UPSTREAM LIMIT OF THE STUDY
    35.490     11.47   2148.47   2148.47      .00   2151.12      2.65      8.05       .23   2140.00
   23600.0    6557.3   16534.2     508.5    1000.1    1102.0      80.7    2531.4     489.2   2140.00
       .86      6.56     15.00      6.30      .050      .042      .050      .000   2137.00   1634.13
   .007396      1250.    1350.     1260.         5        15         0       .00    424.93   2059.06


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 T1          CAVE CREEK WASH     SECTIONS 29.00 - 35.49
 T2          fldway run
 T3          CAVE CREEK WASH             1978

 J1  ICHECK    INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ

       0         3          0          0      .01074                                    1833.33

 J2  NPROF     IPLOT      PRFVS      XSECV      XSECH      FN         ALLDC      IBW        CHNIM      ITRACE

      15                   -1


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


 *PROF 2

 CCHV=     .300 CEHV=     .500
 *SECNO 29.000
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 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=     1940.0    2386.0  TYPE=      1  TARGET=      446.000
            FLOWLINE AT STA. 2000
    29.000     13.03   1833.03   1833.03   1833.31   1836.23      3.20       .00       .00   1820.00
   36860.0     822.5   24145.4   11892.2     106.1    1438.3    1502.9        .0        .0   1824.00
       .00      7.75     16.79      7.91      .050      .042      .050      .000   1820.00   1948.71
   .007778        0.        0.        0.         0         8         0       .00    437.28   2386.00


 *SECNO 29.190

 3470 ENCROACHMENT STATIONS=     1940.0    2386.0  TYPE=      1  TARGET=      446.000
    29.190     13.19   1841.19       .00   1841.12   1844.23      3.04      7.96       .05   1840.00
   36860.0        .0   22830.5   14029.5        .0    1402.6    1531.5      66.6       9.6   1830.00
       .02       .00     16.28      9.16      .000      .042      .050      .000   1828.00   1940.00
   .008384     1080.     1020.      920.         3         0         0       .00    446.00   2386.00


 *SECNO 29.390

 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=     1531.0    2082.0  TYPE=      1  TARGET=      551.000
    29.390     11.55   1849.55       .00   1848.61   1850.91      1.36      6.17       .51   1840.00
   36860.0   22549.5   12287.2    2023.3    3005.7    1004.4     271.4     147.9      20.8   1840.00
       .05      7.50     12.23      7.45      .050      .042      .050      .000   1838.00   1531.00
   .004812      950.     1020.      980.         2         0         0       .00    551.00   2082.00


 *SECNO 29.570

 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=     1520.0    2050.0  TYPE=      1  TARGET=      530.000
1
   19FEB97      16:43:04                                                                  PAGE   20

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


    29.570      11.00   1859.00   1859.00   1858.97   1861.76      2.76      7.65       .70   1856.00
   36860.0   22224.8   14635.2        .0    2096.0     879.8        .0     234.0      33.7 100000.00
       .07      10.60     16.63       .00      .050      .042      .000      .000   1848.00   1520.00
   .013033     1050.      990.     1030.         5        11         0       .00    530.00   2050.00


 *SECNO 29.700
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=     1548.0    2083.0  TYPE=      1  TARGET=      535.000
    29.700     12.33   1866.33   1866.33   1866.22   1869.38      3.05      6.77       .15   1856.00
   36860.0    9777.0   25628.7    1454.2    1273.2    1599.8     190.8     281.7      42.1   1860.00
       .09      7.68     16.02      7.62      .050      .042      .050      .000   1854.00   1548.00
   .007716      700.      680.      600.         3         8         0       .00    535.00   2083.00


 *SECNO 29.730
 3280 CROSS SECTION      29.73 EXTENDED      1.56 FEET
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 3301 HV CHANGED MORE THAN HVINS

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.62

 3470 ENCROACHMENT STATIONS=     1580.0    2100.0  TYPE=      1  TARGET=      520.000
    29.730     13.56   1869.56       .00   1868.85   1870.80      1.25       .88       .54   1860.00
   36860.0   12017.4   21348.1    3494.5    1961.0    2039.3     503.2     300.9      45.4   1858.00
       .09      6.13     10.47      6.94      .050      .042      .050      .000   1856.00   1580.00
   .002948      350.      140.      50.         4         0         0       .00    520.00   2100.00

 *SECNO 29.740
 3280 CROSS SECTION     29.74 EXTENDED      1.60 FEET

 3470 ENCROACHMENT STATIONS=     1570.0    2100.0  TYPE=      1  TARGET=      530.000
            CONTROL SECTION AT CAREFREE HIGHWAY CROSSING
    29.740     13.60   1869.60       .00   1868.91   1871.01      1.41       .13       .08   1860.00
   36860.0   12251.8   20657.7    3950.5    2025.1    1814.5     530.2     305.7      46.1   1858.00
       .09      6.05     11.39      7.45      .050      .042      .050      .000   1856.00   1570.00
   .003414        80.       20.       20.         2         0         0       .00    530.00   2100.00

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    19FEB97      16:43:04                                                                                PAGE   21

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

 *SECNO 29.800

 3301 HV CHANGED MORE THAN HVINS

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .63

 3470 ENCROACHMENT STATIONS=     1550.0    2050.0  TYPE=      1  TARGET=      500.000
    29.800     10.45   1870.45       .00   1869.61   1872.65      2.20      1.24       .40   1864.00
   36860.0   19822.9   17037.1        .0    2181.0    1173.8        .0     325.0      48.3 100000.00
       .10      9.09     14.51       .00      .050      .042      .000      .000   1860.00   1550.00
   .008720      130.      330.      280.         2         0         0       .00    500.00   2050.00

 *SECNO 29.940

 3265 DIVIDED FLOW

 3301 HV CHANGED MORE THAN HVINS

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.40

 3470 ENCROACHMENT STATIONS=     1250.0    2060.0  TYPE=      1  TARGET=      810.000
    29.940     13.71   1875.71       .00   1875.22   1876.96      1.25      4.02       .29   1868.00
   36860.0   21610.8   15249.2        .0    3371.1    1308.9        .0     384.6      57.6 100000.00
       .12      6.41     11.65       .00      .050      .042      .000      .000   1862.00   1250.00
   .004431      600.      750.      800.         2         0         0       .00    790.56   2060.00

 *SECNO 30.100
```

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .65

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

3470 ENCROACHMENT STATIONS= 1250.0 2030.0 TYPE= 1 TARGET= 780.000

30.100	12.02	1880.02	.00	1880.24	1882.20	2.18	4.77	.47	1876.00
36860.0	18058.3	18801.7	.0	2271.0	1282.4	.0	449.7	68.9	100000.00
.14	7.95	14.66	.00	.050	.042	.000	.000	1868.00	1250.00
.010623	600.	880.	950.	2	0	0	.00	730.40	2030.00

*SECNO 30.330
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 1461.0 2040.0 TYPE= 1 TARGET= 579.000

30.330	9.96	1891.96	1891.96	1891.74	1894.55	2.59	11.75	.20	1884.00
35900.0	12051.7	23848.3	.0	1641.2	1593.4	.0	540.9	86.4	100000.00
.17	7.34	14.97	.00	.050	.042	.000	.000	1882.00	1461.00
.009348	1150.	1200.	1180.	3	15	0	.00	578.96	2039.96

*SECNO 30.640

3470 ENCROACHMENT STATIONS= 1743.0 2070.0 TYPE= 1 TARGET= 327.000

30.640	9.84	1909.84	.00	1909.94	1912.90	3.06	18.11	.24	1901.00
35900.0	20061.8	15838.2	.0	1579.4	1016.0	.0	656.9	104.6	100000.00
.20	12.70	15.59	.00	.050	.042	.000	.000	1900.00	1743.00
.011999	1800.	1650.	1500.	4	0	0	.00	327.00	2070.00

*SECNO 30.860

3301 HV CHANGED MORE THAN HVINS

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

3470 ENCROACHMENT STATIONS= 1901.0 2592.0 TYPE= 1 TARGET= 691.000

30.860	10.72	1919.72	.00	1918.71	1920.79	1.07	7.28	.60	1912.00
35900.0	1813.8	11757.7	22328.5	270.7	1106.6	3245.1	743.7	116.9	1912.00
.23	6.70	10.62	6.88	.050	.042	.050	.000	1909.00	1901.00
.004670	750.	1150.	1150.	3	0	0	.00	691.00	2592.00

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

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*SECNO 31.060

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1898.0    2681.0  TYPE=      1  TARGET=      783.000
   31.060      5.76   1928.76   1928.76   1928.19   1930.81      2.05      7.81       .49   1924.00
  35900.0    1966.8   10608.9   23324.3     185.3     761.9    2272.7     826.4     132.3   1924.00
     .26     10.61     13.92     10.26      .050      .042      .050      .000   1923.00   1898.00
 .019330    1300.     1030.      850.         2        11         0       .00    783.00   2681.00


*SECNO 31.300

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.77


3470 ENCROACHMENT STATIONS=     1950.0    2505.0  TYPE=      1  TARGET=      555.000
   31.300     10.07   1942.07      .00   1941.55   1943.52      1.44     12.53       .18   1936.00
  35900.0       .0   15077.4   20822.6        .0    1311.1    2590.3     927.2     151.1   1934.00
     .29       .00     11.50      8.04      .000      .042      .050      .000   1932.00   1950.00
 .006196    1350.     1300.     1200.         5         0         0       .00    555.00   2505.00


*SECNO 31.480

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     1880.0    2431.0  TYPE=      1  TARGET=      551.000
   31.480      6.94   1949.94      .00   1949.43   1952.14      2.20      8.24       .38   1944.00
  35900.0       .0   21339.3   14560.7        .0    1610.8    1516.8    1006.5     163.6   1944.00
     .32       .00     13.25      9.60      .000      .042      .050      .000   1943.00   1880.00
 .012063    1000.      960.     1000.         3         0         0       .00    551.00   2431.00


*SECNO 31.650
1
   19FEB97      16:43:04                                                                    PAGE   24

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


3470 ENCROACHMENT STATIONS=     1724.0    2225.0  TYPE=      1  TARGET=      501.000
   31.650     10.07   1958.07      .00   1957.54   1960.19      2.11      8.03       .03   1952.00
  35900.0    8964.3   23150.1   3785.6    1133.6    1734.0     521.5    1070.8     174.0   1952.00
     .34      7.91     13.35      7.26      .050      .042      .050      .000   1948.00   1724.00
 .007492     900.      850.      850.         3         0         0       .00    501.00   2225.00


*SECNO 31.820

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     1789.0    2090.0  TYPE=      1  TARGET=      301.000
   31.820     10.56   1965.56      .00   1965.03   1968.73      3.17      8.02       .53   1956.00
  35900.0   12211.9   23688.1        .0    1037.9    1535.2        .0    1132.5     182.3 100000.00
     .36     11.77     15.43       .00      .050      .042      .000      .000   1955.00   1789.00
 .010566     900.      920.      800.         2         0         0       .00    301.00   2090.00


                                Duplicate Effective HEC-2 below River Mile 35.49

File = DUPEFF.OH2                  Cave Creek Wash as modeled by Harris-Toups.                  Page 17
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*SECNO 32.030

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.86

3470 ENCROACHMENT STATIONS= 1625.0 2060.0 TYPE= 1 TARGET= 435.000

32.030	11.20	1974.20	.00	1973.41	1975.28	1.07	5.91	.63	1964.00
35900.0	17251.8	18648.2	.0	2372.7	2033.6	.0	1224.6	192.0	100000.00
.39	7.27	9.17	.00	.050	.042	.000	.000	1963.00	1625.00
.003053	1180.	1120.	1060.	3	0	0	.00	435.00	2060.00

*SECNO 32.240

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 1713.0 2080.0 TYPE= 1 TARGET= 367.000

1

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
32.240	8.73	1979.73	1979.73	1979.34	1983.11	3.37	5.91	1.15	1972.00
35900.0	17771.8	18128.2	.0	1470.5	1070.4	.0	1305.4	201.3	100000.00
.41	12.09	16.94	.00	.050	.042	.000	.000	1971.00	1713.00
.014885	960.	1080.	1080.	3	15	0	.00	367.00	2080.00

*SECNO 32.470

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.70

3470 ENCROACHMENT STATIONS= 1706.0 2208.0 TYPE= 1 TARGET= 502.000

32.470	10.30	1992.30	.00	1991.58	1993.74	1.44	10.05	.58	1984.00
35900.0	10962.6	17762.2	7175.2	1454.9	1581.1	893.4	1397.0	213.6	1984.00
.45	7.53	11.23	8.03	.050	.042	.050	.000	1982.00	1706.00
.005156	1250.	1210.	1250.	3	0	0	.00	502.00	2208.00

*SECNO 32.660

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 1680.0 2050.0 TYPE= 1 TARGET= 370.000

32.660	11.02	2001.02	2001.02	2001.00	2004.35	3.33	7.29	.95	1992.00
35000.0	14534.4	20465.6	.0	1391.3	1202.6	.0	1470.1	223.3	100000.00
.47	10.45	17.02	.00	.050	.042	.000	.000	1990.00	1680.00
.011802	950.	1000.	980.	3	8	0	.00	370.00	2050.00

*SECNO 32.910

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.43

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

3470 ENCROACHMENT STATIONS= 1767.7 2228.5 TYPE= 1 TARGET= 460.850

32.910	9.92	2013.92	.00	2013.11	2015.66	1.74	10.83	.48	2004.00
35000.0	7230.9	21190.2	6579.0	926.0	1774.6	783.4	1564.4	236.2	2006.00
.51	7.81	11.94	8.40	.050	.042	.050	.000	2004.00	1767.69
.005791	1350.	1350.	1370.	4	0	0	.00	460.85	2228.54

*SECNO 33.110

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 1668.3 2072.5 TYPE= 1 TARGET= 404.180

33.110	10.48	2024.48	2024.48	2024.54	2027.66	3.18	8.80	.72	2016.00
35000.0	17654.8	16497.2	848.0	1615.0	948.1	92.4	1641.4	247.1	2016.00
.53	10.93	17.40	9.18	.050	.042	.050	.000	2014.00	1668.50
.012065	1160.	1060.	1000.	1	8	0	.00	403.82	2072.32

CCHV= .300 CEHV= .500
*SECNO 33.320

3301 HV CHANGED MORE THAN HVINS

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

3470 ENCROACHMENT STATIONS= 1898.9 2237.2 TYPE= 1 TARGET= 338.330

33.320	14.99	2033.99	.00	2033.93	2036.10	2.11	8.11	.32	2024.00
35000.0	1505.0	18363.5	15131.5	193.5	1349.2	1660.9	1712.2	256.0	2020.00
.55	7.78	13.61	9.11	.050	.045	.050	.000	2019.00	1898.87
.005304	1030.	1080.	1040.	3	0	0	.00	338.33	2237.20

CCHV= .100 CEHV= .300
*SECNO 33.480

3301 HV CHANGED MORE THAN HVINS

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

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

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 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=     1949.7    2229.1  TYPE=      1  TARGET=      279.420
            SEC. 200 FEET UPSTREAM OF OCOTILLO WASH CONFLUENCE
    33.480     16.74   2042.74   2042.74   2042.74   2046.88      4.14      5.22       .61   2028.00
   35000.0    1353.2   22393.2   11253.6     145.3    1179.8    1119.1    1762.6     261.5   2032.00
       .57      9.31     18.98     10.06      .050      .045      .050      .000   2026.00   1949.72
   .008662      820.      800.      750.        20         8         0       .00    279.42   2229.14


 CCHV=     .100 CEHV=     .300
 *SECNO 33.660

 3301 HV CHANGED MORE THAN HVINS

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

 3470 ENCROACHMENT STATIONS=     1926.3    2077.5  TYPE=      1  TARGET=      151.230
    33.660     17.20   2055.20   2055.20   2054.99   2061.56      6.36      8.07       .67   2040.00
   35000.0    2624.1   29428.2    2947.6     259.9    1361.2     288.8    1809.1     266.1   2040.00
       .58     10.10     21.62     10.21      .050      .042      .050      .000   2038.00   1926.26
   .008614      950.      940.      910.        20         8         0       .00    151.23   2077.49


 *SECNO 33.780

 3301 HV CHANGED MORE THAN HVINS


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.15


 3470 ENCROACHMENT STATIONS=     1830.0    2113.3  TYPE=      1  TARGET=      283.300
    33.780     18.83   2062.33       .00   2062.38   2063.78      1.45      1.73       .49   2048.00
   35000.0    4400.5   27727.3    2872.3     736.7    2665.7     447.1    1842.0     268.6   2044.00
       .59      5.97     10.40      6.42      .050      .042      .050      .000   2043.50   1830.44
   .001866      460.      500.      530.         3         0         0       .00    282.77   2113.21


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    19FEB97      16:43:04                                                                                PAGE   28

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


 *SECNO 33.840

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .51


 3470 ENCROACHMENT STATIONS=     1884.2    2143.8  TYPE=      1  TARGET=      259.640
    33.840     14.25   2063.25       .00   2063.29   2064.84      1.59      1.01       .04   2052.00
   23600.0    2249.3   15406.7    5944.0     336.2    1349.0     831.8    1874.3     271.3   2052.00
       .61      6.69     11.42      7.15      .050      .042      .050      .000   2049.00   1884.75
   .003260      430.      440.      460.         2         0         0       .00    258.86   2143.61


 CCHV=     .300 CEHV=     .500
 *SECNO 34.050

 3301 HV CHANGED MORE THAN HVINS


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .62
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3470 ENCROACHMENT STATIONS=     1921.2    2374.8  TYPE=      1  TARGET=      453.570
    34.050      9.48   2068.48      .00   2068.48   2070.63      2.14      5.51      .28   2064.00
  23600.0     121.8   15907.4    7570.9      27.0    1177.6    1108.3    1935.6     280.4   2064.00
      .63      4.51     13.51      6.83      .050      .042      .050      .000   2059.00   1921.22
  .008593     1170.    1100.     1100.         4         0         0       .00    453.57   2374.79


*SECNO 34.220

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1917.0    2175.8  TYPE=      1  TARGET=      258.840
    34.220     14.14   2078.14   2078.14   2078.14   2081.57      3.43      8.59      .64   2072.00
  23600.0     164.7   20165.3    3270.0      29.3    1279.9     420.5    1977.8     287.8   2072.00
      .65      5.62     15.76      7.78      .050      .042      .050      .000   2064.00   1916.99
  .010493      870.      900.      930.         3        14         0       .00    258.84   2175.83


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   19FEB97      16:43:04                                                                    PAGE   29

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


CCHV=     .300 CEHV=     .500
*SECNO 34.440

3301 HV CHANGED MORE THAN HVINS

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.48

3470 ENCROACHMENT STATIONS=     1698.0    2142.0  TYPE=      1  TARGET=      444.080
    34.440      8.81   2088.81      .00   2088.81   2089.87      1.06      7.59      .71   2084.00
  23600.0   10544.2   11547.2    1508.5    1447.3    1241.6     269.5    2037.5     296.8   2084.00
      .69      7.29      9.30      5.60      .050      .045      .050      .000   2080.00   1697.97
  .004770     1030.    1130.     1200.         3         0         0       .00    444.05   2142.03


*SECNO 34.640

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1736.6    2099.1  TYPE=      1  TARGET=      362.460
    34.640      9.64   2099.64   2099.64   2099.62   2102.23      2.59      7.84      .77   2092.00
  23600.0   10768.2    9162.3    3669.6    1075.6     558.6     355.2    2098.4     306.8   2092.00
      .71     10.01     16.40     10.33      .050      .045      .050      .000   2090.00   1736.60
  .012705     1100.    1050.     1020.         7         8         0       .00    362.46   2099.06


CCHV=     .300 CEHV=     .500
*SECNO 34.840
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1692.2    2123.3  TYPE=      1  TARGET=      431.040
    34.840     13.13   2115.13   2115.13   2115.10   2117.46      2.33     10.39      .08   2108.00
  23600.0   11873.1    9827.6    1899.3    1449.8     596.7     296.2    2147.7     315.7   2108.00
```

.74	8.19	16.47	6.41	.050	.042	.050	.000	2102.00	1692.24
.008656	950.	1040.	1070.	2	11	0	.00	431.04	2123.28

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

*SECNO 35.030
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 1643.5 2229.4 TYPE= 1 TARGET= 585.890

35.030	11.63	2124.63	2124.63	2124.86	2126.79	2.16	7.35	.05	2120.00
23600.0	4148.6	16388.4	3062.9	856.2	1194.3	545.3	2203.6	327.1	2116.00
.76	4.85	13.72	5.62	.050	.042	.050	.000	2113.00	1643.90
.006379	950.	1020.	1010.	2	15	0	.00	580.28	2224.18

*SECNO 35.230
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 1905.1 2620.4 TYPE= 1 TARGET= 715.320

35.230	12.98	2136.98	2136.98	2136.96	2139.15	2.17	5.90	.01	2128.00
23600.0	348.0	18483.6	4768.5	67.1	1402.2	1143.4	2265.7	342.4	2128.00
.79	5.18	13.18	4.17	.050	.042	.050	.000	2124.00	1905.07
.005038	1080.	1050.	1000.	4	12	0	.00	715.32	2620.39

*SECNO 35.490
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 1634.2 2059.1 TYPE= 1 TARGET= 424.870
THIS IS THE UPSTREAM LIMIT OF THE STUDY

35.490	11.48	2148.48	2148.48	2148.47	2151.12	2.64	8.00	.23	2140.00
23600.0	6572.3	16518.3	509.4	1003.8	1103.2	80.9	2337.6	359.1	2140.00
.82	6.55	14.97	6.29	.050	.042	.050	.000	2137.00	1634.18
.007356	1250.	1350.	1260.	7	15	0	.00	424.87	2059.05

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THIS RUN EXECUTED 19FEB97 16:43:06

****
HEC-2 WATER SURFACE PROFILES

Version 4.6.2; May 1991
****

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

CAVE CREEK WASH

SUMMARY PRINTOUT

	SECNO	Q	CWSEL	CRIWS	VCH	XLCH	STCHL	STCHR	STENCL	STENCR	SSTA	ENDST
*	29.000	36860.00	1833.31	1833.31	15.63	.00	1965.00	2080.00	.00	.00	1948.37	2634.71
*	29.000	36860.00	1833.03	1833.03	16.79	.00	1965.00	2080.00	1940.00	2386.00	1948.71	2386.00
*	29.190	36860.00	1841.12	1841.12	15.01	1020.00	1940.00	2060.00	.00	.00	1937.21	2824.77
	29.190	36860.00	1841.19	.00	16.28	1020.00	1940.00	2060.00	1940.00	2386.00	1940.00	2386.00
	29.390	36860.00	1848.61	.00	12.63	1020.00	1960.00	2050.00	.00	.00	1492.02	2394.58
	29.390	36860.00	1849.55	.00	12.23	1020.00	1960.00	2050.00	1531.00	2082.00	1531.00	2082.00
*	29.570	36860.00	1858.97	1858.97	15.64	990.00	1950.00	2050.00	.00	.00	1119.17	2058.66
*	29.570	36860.00	1859.00	1859.00	16.63	990.00	1950.00	2050.00	1520.00	2050.00	1520.00	2050.00
*	29.700	36860.00	1866.22	1866.22	14.70	680.00	1915.00	2050.00	.00	.00	1347.66	2175.55
*	29.700	36860.00	1866.33	1866.33	16.02	680.00	1915.00	2050.00	1548.00	2083.00	1548.00	2083.00
*	29.730	36860.00	1868.85	.00	9.32	140.00	1890.00	2050.00	.00	.00	1185.77	2380.00
*	29.730	36860.00	1869.56	.00	10.47	140.00	1890.00	2050.00	1580.00	2100.00	1580.00	2100.00
	29.740	36860.00	1868.91	.00	9.80	20.00	1910.00	2050.00	.00	.00	1535.74	2390.00
	29.740	36860.00	1869.60	.00	11.39	20.00	1910.00	2050.00	1570.00	2100.00	1570.00	2100.00
*	29.800	36860.00	1869.61	1869.61	15.53	330.00	1930.00	2050.00	.00	.00	1337.96	2064.01
*	29.800	36860.00	1870.45	.00	14.51	330.00	1930.00	2050.00	1550.00	2050.00	1550.00	2050.00
*	29.940	36860.00	1875.22	.00	10.97	750.00	1950.00	2060.00	.00	.00	957.83	2069.02
*	29.940	36860.00	1875.71	.00	11.65	750.00	1950.00	2060.00	1250.00	2060.00	1250.00	2060.00
*	30.100	36860.00	1880.24	1880.24	13.24	880.00	1880.00	2030.00	.00	.00	779.08	2073.80
*	30.100	36860.00	1880.02	.00	14.66	880.00	1880.00	2030.00	1250.00	2030.00	1250.00	2030.00
*	30.330	35900.00	1891.74	1891.74	13.74	1200.00	1870.00	2040.00	.00	.00	1197.70	2039.74
*	30.330	35900.00	1891.96	1891.96	14.97	1200.00	1870.00	2040.00	1461.00	2040.00	1461.00	2039.96

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	SECNO	Q	CWSEL	CRIWS	VCH	XLCH	STCHL	STCHR	STENCL	STENCR	SSTA	ENDST
*	30.640	35900.00	1909.94	1909.94	14.19	1650.00	1950.00	2070.00	.00	.00	1276.51	2268.89
	30.640	35900.00	1909.84	.00	15.59	1650.00	1950.00	2070.00	1743.00	2070.00	1743.00	2070.00
	30.860	35900.00	1918.71	.00	11.13	1150.00	1940.00	2060.00	.00	.00	1664.10	2673.53
*	30.860	35900.00	1919.72	.00	10.62	1150.00	1940.00	2060.00	1901.00	2592.00	1901.00	2592.00
*	31.060	35900.00	1928.19	1928.19	13.16	1030.00	1940.00	2100.00	.00	.00	1784.41	2776.30
*	31.060	35900.00	1928.76	1928.76	13.92	1030.00	1940.00	2100.00	1898.00	2681.00	1898.00	2681.00
*	31.300	35900.00	1941.55	.00	11.25	1300.00	1950.00	2100.00	.00	.00	1846.74	2612.64
*	31.300	35900.00	1942.07	.00	11.50	1300.00	1950.00	2100.00	1950.00	2505.00	1950.00	2505.00
	31.480	35900.00	1949.43	1949.30	12.68	960.00	1880.00	2130.00	.00	.00	1857.37	2876.81
	31.480	35900.00	1949.94	.00	13.25	960.00	1880.00	2130.00	1880.00	2431.00	1880.00	2431.00
	31.650	35900.00	1957.54	.00	12.92	850.00	1930.00	2120.00	.00	.00	1572.30	2504.09
	31.650	35900.00	1958.07	.00	13.35	850.00	1930.00	2120.00	1724.00	2225.00	1724.00	2225.00
	31.820	35900.00	1965.03	.00	15.04	920.00	1920.00	2090.00	.00	.00	1728.54	2166.80
	31.820	35900.00	1965.56	.00	15.43	920.00	1920.00	2090.00	1789.00	2090.00	1789.00	2090.00
*	32.030	35900.00	1973.41	.00	9.29	1120.00	1870.00	2060.00	.00	.00	1588.52	2137.69
*	32.030	35900.00	1974.20	.00	9.17	1120.00	1870.00	2060.00	1625.00	2060.00	1625.00	2060.00
*	32.240	35900.00	1979.34	1979.34	16.29	1080.00	1950.00	2080.00	.00	.00	1629.56	2135.07
*	32.240	35900.00	1979.73	1979.73	16.94	1080.00	1950.00	2080.00	1713.00	2080.00	1713.00	2080.00
*	32.470	35900.00	1991.58	.00	11.13	1210.00	1920.00	2090.00	.00	.00	1599.27	2284.89
*	32.470	35900.00	1992.30	.00	11.23	1210.00	1920.00	2090.00	1706.00	2208.00	1706.00	2208.00

*	32.660	35000.00	2001.00	2001.00	15.67	1000.00	1930.00	2050.00	.00	.00	1467.65	2069.68
*	32.660	35000.00	2001.02	2001.02	17.02	1000.00	1930.00	2050.00	1680.00	2050.00	1680.00	2050.00
	32.910	35000.00	2013.11	.00	13.39	1350.00	1920.00	2110.00	.00	.00	1767.69	2228.54
*	32.910	35000.00	2013.92	.00	11.94	1350.00	1920.00	2110.00	1767.69	2228.54	1767.69	2228.54
*	33.110	35000.00	2024.54	2024.54	17.23	1060.00	1950.00	2050.00	.00	.00	1668.30	2072.49
*	33.110	35000.00	2024.48	2024.48	17.40	1060.00	1950.00	2050.00	1668.31	2072.49	1668.50	2072.32
*	33.320	35000.00	2033.93	.00	13.70	1080.00	1930.00	2030.00	.00	.00	1898.87	2237.20
*	33.320	35000.00	2033.99	.00	13.61	1080.00	1930.00	2030.00	1898.87	2237.20	1898.87	2237.20
*	33.480	35000.00	2042.74	2042.74	18.99	800.00	1975.00	2050.00	.00	.00	1949.72	2229.14
*	33.480	35000.00	2042.74	2042.74	18.98	800.00	1975.00	2050.00	1949.72	2229.14	1949.72	2229.14
*	33.660	35000.00	2054.99	2054.99	21.96	940.00	1960.00	2040.00	.00	.00	1926.26	2077.48
*	33.660	35000.00	2055.20	2055.20	21.62	940.00	1960.00	2040.00	1926.26	2077.49	1926.26	2077.49
*	33.780	35000.00	2062.38	.00	10.36	500.00	1920.00	2070.00	.00	.00	1830.10	2113.32
*	33.780	35000.00	2062.33	.00	10.40	500.00	1920.00	2070.00	1830.04	2113.34	1830.44	2113.21

	SECNO	Q	CWSEL	CRIWS	VCH	XLCH	STCHL	STCHR	STENCL	STENCR	SSTA	ENDST
*	33.840	23600.00	2063.29	.00	11.37	440.00	1940.00	2040.00	.00	.00	1884.46	2143.73
*	33.840	23600.00	2063.25	.00	11.42	440.00	1940.00	2040.00	1884.20	2143.84	1884.75	2143.61
*	34.050	23600.00	2068.48	.00	13.52	1100.00	1940.00	2080.00	.00	.00	1921.06	2374.80
*	34.050	23600.00	2068.48	.00	13.51	1100.00	1940.00	2080.00	1921.22	2374.79	1921.22	2374.79
*	34.220	23600.00	2078.14	2078.14	15.77	900.00	1930.00	2070.00	.00	.00	1916.99	2175.82
*	34.220	23600.00	2078.14	2078.14	15.76	900.00	1930.00	2070.00	1916.99	2175.83	1916.99	2175.83
*	34.440	23600.00	2088.81	.00	9.29	1130.00	1930.00	2080.00	.00	.00	1697.96	2142.04
	34.440	23600.00	2088.81	.00	9.30	1130.00	1930.00	2080.00	1697.96	2142.04	1697.97	2142.03
*	34.640	23600.00	2099.62	2099.62	16.47	1050.00	1970.00	2030.00	.00	.00	1736.61	2099.06
*	34.640	23600.00	2099.64	2099.64	16.40	1050.00	1970.00	2030.00	1736.60	2099.06	1736.60	2099.06
*	34.840	23600.00	2115.10	2115.10	16.58	1040.00	1980.00	2030.00	.00	.00	1692.24	2123.27
*	34.840	23600.00	2115.13	2115.13	16.47	1040.00	1980.00	2030.00	1692.24	2123.28	1692.24	2123.28
*	35.030	23600.00	2124.86	2124.86	13.09	1020.00	1940.00	2050.00	.00	.00	1643.49	2229.39
*	35.030	23600.00	2124.63	2124.63	13.72	1020.00	1940.00	2050.00	1643.49	2229.38	1643.90	2224.18
*	35.230	23600.00	2136.96	2136.96	13.22	1050.00	1920.00	2035.00	.00	.00	1905.07	2620.39
*	35.230	23600.00	2136.98	2136.98	13.18	1050.00	1920.00	2035.00	1905.07	2620.39	1905.07	2620.39
*	35.490	23600.00	2148.47	2148.47	15.00	1350.00	1940.00	2040.00	.00	.00	1634.13	2059.06
*	35.490	23600.00	2148.48	2148.48	14.97	1350.00	1940.00	2040.00	1634.18	2059.05	1634.18	2059.05

CAVE CREEK WASH

SUMMARY PRINTOUT

	SECNO	QLOB	QCH	QROB	VLOB	VCH	VROB	TELMX	CWSEL	DIFWSX	TOPWID	ELMIN	ALPHA
*	29.000	798.41	22982.49	13079.10	7.21	15.63	6.60	1840.00	1833.31	.00	686.35	1820.00	1.58
*	29.000	822.47	24145.37	11892.17	7.75	16.79	7.91	1840.00	1833.03	.00	437.28	1820.00	1.41
*	29.190	2.52	20919.61	15937.88	1.62	15.01	6.79	1846.00	1841.12	7.81	887.56	1828.00	1.52

Duplicate Effective HEC-2 below River Mile 35.49

	29.190	.00	22830.48	14029.52	.00	16.28	9.16	1846.00	1841.19	8.16	446.00	1828.00	1.24
	29.390	21602.48	11617.04	3640.48	7.65	12.63	6.65	1856.00	1848.61	7.49	809.05	1838.00	1.21
	29.390	22549.55	12287.16	2023.29	7.50	12.23	7.45	1856.00	1849.55	8.36	551.00	1838.00	1.18
*	29.570	23094.71	13714.72	50.57	8.71	15.64	3.93	1869.00	1858.97	10.36	862.19	1848.00	1.28
*	29.570	22224.78	14635.22	.00	10.60	16.63	.00	1869.00	1859.00	9.45	530.00	1848.00	1.16
*	29.700	10356.12	23301.33	3202.55	6.28	14.70	6.25	1876.00	1866.22	7.25	827.89	1854.00	1.56
*	29.700	9777.02	25628.75	1454.23	7.68	16.02	7.62	1876.00	1866.33	7.33	535.00	1854.00	1.36
*	29.730	9535.92	17938.29	9385.79	4.99	9.32	5.13	1868.00	1868.85	2.63	1143.15	1856.00	1.31
*	29.730	12017.39	21348.09	3494.52	6.13	10.47	6.94	1868.00	1869.56	3.23	520.00	1856.00	1.20
	29.740	9078.28	16828.17	10953.55	5.03	9.80	5.53	1868.00	1868.91	.06	854.26	1856.00	1.32
	29.740	12251.84	20657.68	3950.48	6.05	11.39	7.45	1868.00	1869.60	.04	530.00	1856.00	1.28
*	29.800	19970.93	16662.66	226.42	8.32	15.53	5.76	1876.00	1869.61	.69	726.06	1860.00	1.33
*	29.800	19822.94	17037.06	.00	9.09	14.51	.00	1876.00	1870.45	.85	500.00	1860.00	1.17
*	29.940	22990.94	13750.06	119.00	5.47	10.97	3.66	1887.00	1875.22	5.61	1057.33	1862.00	1.41
*	29.940	21610.83	15249.17	.00	6.41	11.65	.00	1896.00	1875.71	5.26	790.56	1862.00	1.29
*	30.100	18222.44	17432.65	1204.91	6.39	13.24	6.67	1888.00	1880.24	5.03	1250.82	1868.00	1.46
*	30.100	18058.32	18801.68	.00	7.95	14.66	.00	1908.00	1880.02	4.30	730.40	1868.00	1.31
*	30.330	14516.08	21383.92	.00	6.35	13.74	.00	1912.00	1891.74	11.50	842.05	1882.00	1.48
*	30.330	12051.68	23848.31	.00	7.34	14.97	.00	1920.00	1891.96	11.95	578.96	1882.00	1.35
*	30.640	20064.60	14582.54	1252.85	9.57	14.19	4.87	1919.00	1909.94	18.20	927.44	1900.00	1.19
	30.640	20061.85	15838.15	.00	12.70	15.59	.00	1944.00	1909.84	17.88	327.00	1900.00	1.03
	30.860	3707.72	10960.72	21231.56	5.23	11.13	6.95	1930.00	1918.71	8.77	1009.43	1909.00	1.21
*	30.860	1813.82	11757.68	22328.50	6.70	10.62	6.88	1940.00	1919.72	9.88	691.00	1909.00	1.14
*	31.060	5051.87	8825.49	22022.64	9.72	13.16	9.64	1941.00	1928.19	9.48	991.89	1923.00	1.06
*	31.060	1966.76	10608.92	23324.32	10.61	13.92	10.26	1960.00	1928.76	9.04	783.00	1923.00	1.06
	31.300	1569.65	13869.38	20460.98	5.20	11.25	7.48	1952.00	1941.55	13.36	765.90	1932.00	1.16
*	31.300	.00	15077.38	20822.62	.00	11.50	8.04	1952.00	1942.07	13.31	555.00	1932.00	1.10
	31.480	381.79	18805.22	16712.99	6.21	12.68	8.39	1980.00	1949.43	7.88	959.83	1943.00	1.14
	31.480	.00	21339.31	14560.69	.00	13.25	9.60	1980.00	1949.94	7.86	551.00	1943.00	1.08

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	SECNO	QLOB	QCH	QROB	VLOB	VCH	VROB	TELMX	CWSEL	DIFWSX	TOPWID	ELMIN	ALPHA
	31.650	9693.00	21093.35	5113.65	6.73	12.92	5.91	1980.00	1957.54	8.11	931.79	1948.00	1.39
	31.650	8964.34	23150.08	3785.57	7.91	13.35	7.26	1980.00	1958.07	8.14	501.00	1948.00	1.21
	31.820	12976.64	21750.49	1172.88	10.77	15.04	6.15	1980.00	1965.03	7.48	438.26	1955.00	1.13
	31.820	12211.85	23688.15	.00	11.77	15.43	.00	1980.00	1965.56	7.49	301.00	1955.00	1.05
*	32.030	17095.60	17501.00	1303.40	7.13	9.29	4.70	2000.00	1973.41	8.39	549.17	1963.00	1.08
*	32.030	17251.76	18648.24	.00	7.27	9.17	.00	2000.00	1974.20	8.64	435.00	1963.00	1.04
*	32.240	17630.81	16610.79	1658.40	10.53	16.29	8.20	2000.00	1979.34	5.93	505.51	1971.00	1.17
*	32.240	17771.84	18128.16	.00	12.09	16.94	.00	2000.00	1979.73	5.53	367.00	1971.00	1.09
*	32.470	11352.43	16218.73	8328.85	6.87	11.13	7.44	2020.00	1991.58	12.24	685.62	1982.00	1.16
*	32.470	10962.58	17762.21	7175.21	7.53	11.23	8.03	2020.00	1992.30	12.56	502.00	1982.00	1.11
*	32.660	15564.70	18793.00	642.29	8.17	15.67	7.26	2020.00	2001.00	9.42	602.03	1990.00	1.35
*	32.660	14534.42	20465.57	.00	10.45	17.02	.00	2020.00	2001.02	8.72	370.00	1990.00	1.18
	32.910	6877.36	21703.70	6418.94	8.57	13.39	9.33	2028.00	2013.11	12.11	460.86	2004.00	1.12
*	32.910	7230.87	21190.16	6578.97	7.81	11.94	8.40	2028.00	2013.92	12.90	460.85	2004.00	1.11

*	33.110	17704.01	16443.44	852.55	10.85	17.23	9.09	2040.00	2024.54	11.44	404.19	2014.00	1.18
*	33.110	17654.76	16497.24	848.00	10.93	17.40	9.18	2060.00	2024.48	10.56	403.82	2014.00	1.18
*	33.320	1498.29	18401.41	15100.29	7.82	13.70	9.16	2052.00	2033.93	9.39	338.33	2019.00	1.14
*	33.320	1504.97	18363.54	15131.49	7.78	13.61	9.11	2052.00	2033.99	9.51	338.33	2019.00	1.14
*	33.480	1352.93	22396.03	11251.04	9.32	18.99	10.06	2072.00	2042.74	8.81	279.42	2026.00	1.30
*	33.480	1353.18	22393.21	11253.61	9.31	18.98	10.06	2072.00	2042.74	8.75	279.42	2026.00	1.30
*	33.660	2577.51	29528.05	2894.44	10.19	21.96	10.30	2080.00	2054.99	12.25	151.22	2038.00	1.22
*	33.660	2624.15	29428.21	2947.64	10.10	21.62	10.21	2080.00	2055.20	12.46	151.23	2038.00	1.22
*	33.780	4415.01	27709.20	2875.79	5.95	10.36	6.40	2080.00	2062.38	7.39	283.22	2043.50	1.13
*	33.780	4400.46	27727.25	2872.29	5.97	10.40	6.42	2080.00	2062.33	7.13	282.77	2043.50	1.13
*	33.840	2255.52	15388.53	5955.96	6.66	11.37	7.12	2092.00	2063.29	.91	259.27	2049.00	1.16
*	33.840	2249.29	15406.69	5944.01	6.69	11.42	7.15	2092.00	2063.25	.92	258.86	2049.00	1.16
*	34.050	121.36	15914.58	7564.05	4.51	13.52	6.84	2120.00	2068.48	5.18	453.74	2059.00	1.33
*	34.050	121.75	15907.39	7570.85	4.51	13.51	6.83	2120.00	2068.48	5.23	453.57	2059.00	1.33
*	34.220	164.33	20170.16	3265.51	5.62	15.77	7.78	2120.00	2078.14	9.66	258.83	2064.00	1.19
*	34.220	164.74	20165.31	3269.95	5.62	15.76	7.78	2120.00	2078.14	9.66	258.84	2064.00	1.19
*	34.440	10545.03	11545.60	1509.37	7.28	9.29	5.60	2128.00	2088.81	10.68	444.08	2080.00	1.07
*	34.440	10544.24	11547.24	1508.52	7.29	9.30	5.60	2128.00	2088.81	10.67	444.05	2080.00	1.07
*	34.640	10754.01	9179.58	3666.42	10.05	16.47	10.37	2140.00	2099.62	10.81	362.44	2090.00	1.19
*	34.640	10768.15	9162.26	3669.59	10.01	16.40	10.33	2140.00	2099.64	10.83	362.46	2090.00	1.19

	SECNO	QLOB	QCH	QROB	VLOB	VCH	VROB	TELMX	CWSEL	DIFWSX	TOPWID	ELMIN	ALPHA
*	34.840	11848.63	9864.73	1886.64	8.22	16.58	6.43	2140.00	2115.10	15.48	431.03	2102.00	1.48
*	34.840	11873.08	9827.58	1899.34	8.19	16.47	6.41	2140.00	2115.13	15.49	431.04	2102.00	1.48
*	35.030	4433.13	15967.22	3199.65	4.79	13.09	5.46	2160.00	2124.86	9.76	585.90	2113.00	1.66
*	35.030	4148.64	16388.41	3062.95	4.85	13.72	5.62	2160.00	2124.63	9.50	580.28	2113.00	1.68
*	35.230	347.44	18515.83	4736.74	5.19	13.22	4.18	2180.00	2136.96	12.10	715.32	2124.00	1.71
*	35.230	347.97	18483.56	4768.46	5.18	13.18	4.17	2180.00	2136.98	12.35	715.32	2124.00	1.72
*	35.490	6557.26	16534.19	508.55	6.56	15.00	6.30	2200.00	2148.47	11.51	424.93	2137.00	1.46
*	35.490	6572.27	16518.34	509.39	6.55	14.97	6.29	2200.00	2148.48	11.51	424.87	2137.00	1.46

CAVE CREEK WASH

SUMMARY PRINTOUT

	SECNO	XLCH	K*CHSL	EG	HV	HL	OLOSS	10*KS	VOL	DEPTH	K*XNL	K*XNCH	K*XNR
*	29.000	.00	.00	1835.93	2.62	.00	.00	65.49	.00	13.31	50.00	42.00	50.00
*	29.000	.00	.00	1836.23	3.20	.00	.00	77.78	.00	13.03	50.00	42.00	50.00
*	29.190	1020.00	7.84	1843.41	2.29	6.69	.10	70.93	80.66	13.12	50.00	42.00	50.00
	29.190	1020.00	7.84	1844.23	3.04	7.96	.05	83.84	66.62	13.19	.00	42.00	50.00
	29.390	1020.00	9.80	1849.99	1.38	6.31	.27	57.66	171.14	10.61	50.00	42.00	50.00
	29.390	1020.00	9.80	1850.91	1.36	6.17	.51	48.12	147.86	11.55	50.00	42.00	50.00
*	29.570	990.00	10.10	1861.12	2.15	8.02	.39	111.35	264.17	10.97	50.00	42.00	50.00

*	29.570	990.00	10.10	1861.76	2.76	7.65	.70	130.33	233.97	11.00	50.00	42.00	.00
*	29.700	680.00	8.82	1868.57	2.35	5.77	.10	65.84	321.56	12.22	50.00	42.00	50.00
*	29.700	680.00	8.82	1869.38	3.05	6.77	.15	77.16	281.70	12.33	50.00	42.00	50.00
*	29.730	140.00	14.29	1869.71	.86	.70	.45	25.22	342.85	12.85	50.00	42.00	50.00
*	29.730	140.00	14.29	1870.80	1.25	.88	.54	29.48	300.94	13.56	50.00	42.00	50.00
	29.740	20.00	.00	1869.83	.92	.09	.03	27.18	347.98	12.91	50.00	42.00	50.00
	29.740	20.00	.00	1871.01	1.41	.13	.08	34.14	305.73	13.60	50.00	42.00	50.00
*	29.800	330.00	12.12	1871.88	2.28	1.16	.68	105.08	371.32	9.61	50.00	42.00	50.00
*	29.800	330.00	12.12	1872.65	2.20	1.24	.40	87.20	325.03	10.45	50.00	42.00	.00
*	29.940	750.00	2.67	1876.20	.99	3.93	.39	38.02	437.51	13.22	50.00	42.00	50.00
*	29.940	750.00	2.67	1876.96	1.25	4.02	.29	44.31	384.64	13.71	50.00	42.00	.00
*	30.100	880.00	6.82	1881.87	1.62	3.82	.32	78.07	514.41	12.24	50.00	42.00	50.00
*	30.100	880.00	6.82	1882.20	2.18	4.77	.47	106.23	449.67	12.02	50.00	42.00	.00
*	30.330	1200.00	11.67	1893.74	2.00	9.36	.19	81.09	624.26	9.74	50.00	42.00	.00
*	30.330	1200.00	11.67	1894.55	2.59	11.75	.20	93.48	540.92	9.96	50.00	42.00	.00
*	30.640	1650.00	10.91	1912.02	2.08	14.83	.04	91.89	768.21	9.94	50.00	42.00	50.00
	30.640	1650.00	10.91	1912.90	3.06	18.11	.24	119.99	656.88	9.84	50.00	42.00	.00
	30.860	1150.00	7.83	1919.78	1.07	7.46	.30	59.88	862.68	9.71	50.00	42.00	50.00
*	30.860	1150.00	7.83	1920.79	1.07	7.28	.60	46.70	743.66	10.72	50.00	42.00	50.00
*	31.060	1030.00	13.59	1929.94	1.75	9.63	.34	204.88	952.70	5.19	50.00	42.00	50.00
*	31.060	1030.00	13.59	1930.81	2.05	7.81	.49	193.30	826.40	5.76	50.00	42.00	50.00
*	31.300	1300.00	6.92	1942.82	1.27	12.73	.14	61.09	1062.99	9.55	50.00	42.00	50.00
*	31.300	1300.00	6.92	1943.52	1.44	12.53	.18	61.96	927.18	10.07	.00	42.00	50.00
	31.480	960.00	11.46	1951.25	1.82	8.16	.28	119.59	1151.36	6.43	50.00	42.00	50.00
	31.480	960.00	11.46	1952.14	2.20	8.24	.38	120.63	1006.52	6.94	.00	42.00	50.00

	SECNO	XLCH	K*CHSL	EG	HV	HL	OLOSS	10*KS	VOL	DEPTH	K*XNL	K*XNCH	K*XNR
	31.650	850.00	5.88	1959.33	1.79	8.07	.01	76.00	1225.15	9.54	50.00	42.00	50.00
	31.650	850.00	5.88	1960.19	2.11	8.03	.03	74.92	1070.76	10.07	50.00	42.00	50.00
	31.820	920.00	7.61	1967.83	2.80	7.99	.51	104.27	1294.68	10.03	50.00	42.00	50.00
	31.820	920.00	7.61	1968.73	3.17	8.02	.53	105.66	1132.50	10.56	50.00	42.00	.00
*	32.030	1120.00	7.14	1974.46	1.04	6.10	.53	32.37	1391.98	10.41	50.00	42.00	50.00
*	32.030	1120.00	7.14	1975.28	1.07	5.91	.63	30.53	1224.58	11.20	50.00	42.00	.00
*	32.240	1080.00	7.41	1982.14	2.80	5.98	.88	136.11	1478.78	8.34	50.00	42.00	50.00
*	32.240	1080.00	7.41	1983.11	3.37	5.91	1.15	148.85	1305.40	8.73	50.00	42.00	.00
*	32.470	1210.00	9.09	1992.88	1.30	10.28	.45	56.39	1579.87	9.58	50.00	42.00	50.00
*	32.470	1210.00	9.09	1993.74	1.44	10.05	.58	51.56	1397.02	10.30	50.00	42.00	50.00
*	32.660	1000.00	8.00	2003.52	2.52	6.89	.61	91.13	1662.74	11.00	50.00	42.00	50.00
*	32.660	1000.00	8.00	2004.35	3.33	7.29	.95	118.02	1470.06	11.02	50.00	42.00	.00
	32.910	1350.00	10.37	2015.31	2.20	11.69	.10	82.13	1760.60	9.11	50.00	42.00	50.00
*	32.910	1350.00	10.37	2015.66	1.74	10.83	.48	57.91	1564.42	9.92	50.00	42.00	50.00
*	33.110	1060.00	9.43	2027.66	3.12	10.60	.46	117.30	1833.33	10.54	50.00	42.00	50.00
*	33.110	1060.00	9.43	2027.66	3.18	8.80	.72	120.65	1641.44	10.48	50.00	42.00	50.00
*	33.320	1080.00	4.63	2036.07	2.13	8.11	.30	54.03	1904.18	14.93	50.00	45.00	50.00
*	33.320	1080.00	4.63	2036.10	2.11	8.11	.32	53.04	1712.23	14.99	50.00	45.00	50.00

*	33.480	800.00	8.75	2046.88	4.14	5.28	.60	86.69	1954.35	16.74	50.00	45.00	50.00
*	33.480	800.00	8.75	2046.88	4.14	5.22	.61	86.62	1762.58	16.74	50.00	45.00	50.00
*	33.660	940.00	12.77	2061.57	6.57	8.27	.73	90.36	2000.55	16.99	50.00	42.00	50.00
*	33.660	940.00	12.77	2061.56	6.36	8.07	.67	86.14	1809.12	17.20	50.00	42.00	50.00
*	33.780	500.00	11.00	2063.83	1.44	1.75	.51	18.45	2033.30	18.88	50.00	42.00	50.00
*	33.780	500.00	11.00	2063.78	1.45	1.73	.49	18.66	1841.97	18.83	50.00	42.00	50.00
*	33.840	440.00	12.50	2064.87	1.57	1.00	.04	32.16	2065.77	14.29	50.00	42.00	50.00
*	33.840	440.00	12.50	2064.84	1.59	1.01	.04	32.60	1874.29	14.25	50.00	42.00	50.00
*	34.050	1100.00	9.09	2070.63	2.15	5.47	.29	86.21	2127.16	9.48	50.00	42.00	50.00
*	34.050	1100.00	9.09	2070.63	2.14	5.51	.28	85.93	1935.57	9.48	50.00	42.00	50.00
*	34.220	900.00	5.56	2081.57	3.43	8.62	.64	105.25	2169.38	14.14	50.00	42.00	50.00
*	34.220	900.00	5.56	2081.57	3.43	8.59	.64	104.93	1977.84	14.14	50.00	42.00	50.00
*	34.440	1130.00	14.16	2089.87	1.06	7.59	.71	47.60	2229.05	8.81	50.00	45.00	50.00
*	34.440	1130.00	14.16	2089.87	1.06	7.59	.71	47.70	2037.50	8.81	50.00	45.00	50.00
*	34.640	1050.00	9.52	2102.23	2.61	7.87	.78	128.52	2289.84	9.62	50.00	45.00	50.00
*	34.640	1050.00	9.52	2102.23	2.59	7.84	.77	127.05	2098.37	9.64	50.00	45.00	50.00

	SECNO	XLCH	K*CHSL	EG	HV	HL	OLOSS	10*KS	VOL	DEPTH	K*XNL	K*XNCH	K*XNR
*	34.840	1040.00	11.54	2117.46	2.36	10.54	.07	87.98	2338.93	13.10	50.00	42.00	50.00
*	34.840	1040.00	11.54	2117.46	2.33	10.39	.08	86.56	2147.70	13.13	50.00	42.00	50.00
*	35.030	1020.00	10.78	2126.79	1.93	6.92	.13	56.44	2396.18	11.86	50.00	42.00	50.00
*	35.030	1020.00	10.78	2126.79	2.16	7.35	.05	63.79	2203.57	11.63	50.00	42.00	50.00
	35.230	1050.00	10.48	2139.15	2.19	5.59	.13	50.78	2459.79	12.96	50.00	42.00	50.00
*	35.230	1050.00	10.48	2139.15	2.17	5.90	.01	50.38	2265.69	12.98	50.00	42.00	50.00
*	35.490	1350.00	9.63	2151.12	2.65	8.05	.23	73.96	2531.44	11.47	50.00	42.00	50.00
*	35.490	1350.00	9.63	2151.12	2.64	8.00	.23	73.56	2337.59	11.48	50.00	42.00	50.00

CAVE CREEK WASH

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	29.000	.00	.00	.00	1820.00	36860.00	1833.31	1833.31	1835.93	65.49	15.63	3563.71	4554.88
*	29.000	.00	.00	.00	1820.00	36860.00	1833.03	1833.03	1836.23	77.78	16.79	3047.24	4179.48
*	29.190	1020.00	.00	.00	1828.00	36860.00	1841.12	1841.12	1843.41	70.93	15.01	3744.02	4376.52
	29.190	1020.00	.00	.00	1828.00	36860.00	1841.19	.00	1844.23	83.84	16.28	2934.04	4025.58
	29.390	1020.00	.00	.00	1838.00	36860.00	1848.61	.00	1849.99	57.66	12.63	4291.10	4854.39
	29.390	1020.00	.00	.00	1838.00	36860.00	1849.55	.00	1850.91	48.12	12.23	4281.56	5313.65
*	29.570	990.00	.00	.00	1848.00	36860.00	1858.97	1858.97	1861.12	111.35	15.64	3541.04	3493.06
*	29.570	990.00	.00	.00	1848.00	36860.00	1859.00	1859.00	1861.76	130.33	16.63	2975.88	3228.72
*	29.700	680.00	.00	.00	1854.00	36860.00	1866.22	1866.22	1868.57	65.84	14.70	3746.73	4542.63
*	29.700	680.00	.00	.00	1854.00	36860.00	1866.33	1866.33	1869.38	77.16	16.02	3063.77	4196.17
*	29.730	140.00	.00	.00	1856.00	36860.00	1868.85	.00	1869.71	25.22	9.32	5666.54	7340.19

Duplicate Effective HEC-2 below River Mile 35.49

*	29.730	140.00	.00	.00	1856.00	36860.00	1869.56	.00	1870.80	29.48	10.47	4503.42	6788.56
	29.740	20.00	.00	.00	1856.00	36860.00	1868.91	.00	1869.83	27.18	9.80	5504.78	7069.92
	29.740	20.00	.00	.00	1856.00	36860.00	1869.60	.00	1871.01	34.14	11.39	4369.72	6308.88
*	29.800	330.00	.00	.00	1860.00	36860.00	1869.61	1869.61	1871.88	105.08	15.53	3512.95	3595.76
*	29.800	330.00	.00	.00	1860.00	36860.00	1870.45	.00	1872.65	87.20	14.51	3354.72	3947.27
*	29.940	750.00	.00	.00	1862.00	36860.00	1875.22	.00	1876.20	38.02	10.97	5492.22	5977.63
*	29.940	750.00	.00	.00	1862.00	36860.00	1875.71	.00	1876.96	44.31	11.65	4679.99	5537.08
*	30.100	880.00	.00	.00	1868.00	36860.00	1880.24	1880.24	1881.87	78.07	13.24	4349.67	4171.59
*	30.100	880.00	.00	.00	1868.00	36860.00	1880.02	.00	1882.20	106.23	14.66	3553.42	3576.21
*	30.330	1200.00	.00	.00	1882.00	35900.00	1891.74	1891.74	1893.74	81.09	13.74	3842.92	3986.74
*	30.330	1200.00	.00	.00	1882.00	35900.00	1891.96	1891.96	1894.55	93.48	14.97	3234.58	3713.16
*	30.640	1650.00	.00	.00	1900.00	35900.00	1909.94	1909.94	1912.02	91.89	14.19	3382.47	3745.01
	30.640	1650.00	.00	.00	1900.00	35900.00	1909.84	.00	1912.90	119.99	15.59	2595.37	3277.32
	30.860	1150.00	.00	.00	1909.00	35900.00	1918.71	.00	1919.78	59.88	11.13	4750.38	4639.20
*	30.860	1150.00	.00	.00	1909.00	35900.00	1919.72	.00	1920.79	46.70	10.62	4622.47	5253.16
*	31.060	1030.00	.00	.00	1923.00	35900.00	1928.19	1928.19	1929.94	204.88	13.16	3474.75	2508.09
*	31.060	1030.00	.00	.00	1923.00	35900.00	1928.76	1928.76	1930.81	193.30	13.92	3219.94	2582.13
*	31.300	1300.00	.00	.00	1932.00	35900.00	1941.55	.00	1942.82	61.09	11.25	4271.46	4593.27
*	31.300	1300.00	.00	.00	1932.00	35900.00	1942.07	.00	1943.52	61.96	11.50	3901.37	4560.93
	31.480	960.00	.00	.00	1943.00	35900.00	1949.43	1949.30	1951.25	119.59	12.68	3535.95	3282.78
	31.480	960.00	.00	.00	1943.00	35900.00	1949.94	.00	1952.14	120.63	13.25	3127.63	3268.58

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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	31.650	850.00	.00	.00	1948.00	35900.00	1957.54	.00	1959.33	76.00	12.92	3938.64	4117.93
	31.650	850.00	.00	.00	1948.00	35900.00	1958.07	.00	1960.19	74.92	13.35	3389.05	4147.60
	31.820	920.00	.00	.00	1955.00	35900.00	1965.03	.00	1967.83	104.27	15.04	2841.00	3515.79
	31.820	920.00	.00	.00	1955.00	35900.00	1965.56	.00	1968.73	105.66	15.43	2573.13	3492.51
*	32.030	1120.00	.00	.00	1963.00	35900.00	1973.41	.00	1974.46	32.37	9.29	4559.20	6310.32
*	32.030	1120.00	.00	.00	1963.00	35900.00	1974.20	.00	1975.28	30.53	9.17	4406.25	6496.80
*	32.240	1080.00	.00	.00	1971.00	35900.00	1979.34	1979.34	1982.14	136.11	16.29	2895.22	3077.15
*	32.240	1080.00	.00	.00	1971.00	35900.00	1979.73	1979.73	1983.11	148.85	16.94	2540.94	2942.54
*	32.470	1210.00	.00	.00	1982.00	35900.00	1991.58	.00	1992.88	56.39	11.13	4229.53	4780.78
*	32.470	1210.00	.00	.00	1982.00	35900.00	1992.30	.00	1993.74	51.56	11.23	3929.42	4999.75
*	32.660	1000.00	.00	.00	1990.00	35000.00	2001.00	2001.00	2003.52	91.13	15.67	3192.12	3666.32
*	32.660	1000.00	.00	.00	1990.00	35000.00	2001.02	2001.02	2004.35	118.02	17.02	2593.89	3221.77
	32.910	1350.00	.00	.00	2004.00	35000.00	2013.11	.00	2015.31	82.13	13.39	3111.66	3862.01
*	32.910	1350.00	.00	.00	2004.00	35000.00	2013.92	.00	2015.66	57.91	11.94	3484.01	4599.45
*	33.110	1060.00	.00	.00	2014.00	35000.00	2024.54	2024.54	2027.66	117.30	17.23	2680.40	3231.58
*	33.110	1060.00	.00	.00	2014.00	35000.00	2024.48	2024.48	2027.66	120.65	17.40	2655.49	3186.43
*	33.320	1080.00	.00	.00	2019.00	35000.00	2033.93	.00	2036.07	54.03	13.70	3184.10	4761.68
*	33.320	1080.00	.00	.00	2019.00	35000.00	2033.99	.00	2036.10	53.04	13.61	3203.67	4805.80
*	33.480	800.00	.00	.00	2026.00	35000.00	2042.74	2042.74	2046.88	86.69	18.99	2443.57	3759.04
*	33.480	800.00	.00	.00	2026.00	35000.00	2042.74	2042.74	2046.88	86.62	18.98	2444.28	3760.53
*	33.660	940.00	.00	.00	2038.00	35000.00	2054.99	2054.99	2061.57	90.36	21.96	1878.45	3682.04
*	33.660	940.00	.00	.00	2038.00	35000.00	2055.20	2055.20	2061.56	86.14	21.62	1909.90	3771.05

*	33.780	500.00	.00	.00	2043.50	35000.00	2062.38	.00	2063.83	18.45	10.36	3864.78	8147.64
*	33.780	500.00	.00	.00	2043.50	35000.00	2062.33	.00	2063.78	18.66	10.40	3849.50	8101.30
*	33.840	440.00	.00	.00	2049.00	23600.00	2063.29	.00	2064.87	32.16	11.37	2528.96	4161.79
*	33.840	440.00	.00	.00	2049.00	23600.00	2063.25	.00	2064.84	32.60	11.42	2517.00	4133.30
*	34.050	1100.00	.00	.00	2059.00	23600.00	2068.48	.00	2070.63	86.21	13.52	2310.27	2541.72
*	34.050	1100.00	.00	.00	2059.00	23600.00	2068.48	.00	2070.63	85.93	13.51	2312.93	2545.82
*	34.220	900.00	.00	.00	2064.00	23600.00	2078.14	2078.14	2081.57	105.25	15.77	1727.84	2300.33
*	34.220	900.00	.00	.00	2064.00	23600.00	2078.14	2078.14	2081.57	104.93	15.76	1729.67	2303.86
*	34.440	1130.00	.00	.00	2080.00	23600.00	2088.81	.00	2089.87	47.60	9.29	2960.34	3420.67
*	34.440	1130.00	.00	.00	2080.00	23600.00	2088.81	.00	2089.87	47.70	9.30	2958.39	3417.16
*	34.640	1050.00	.00	.00	2090.00	23600.00	2099.62	2099.62	2102.23	128.52	16.47	1981.59	2081.78
*	34.640	1050.00	.00	.00	2090.00	23600.00	2099.64	2099.64	2102.23	127.05	16.40	1989.38	2093.76

1

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	34.840	1040.00	.00	.00	2102.00	23600.00	2115.10	2115.10	2117.46	87.98	16.58	2329.35	2516.11
*	34.840	1040.00	.00	.00	2102.00	23600.00	2115.13	2115.13	2117.46	86.56	16.47	2342.72	2536.59
*	35.030	1020.00	.00	.00	2113.00	23600.00	2124.86	2124.86	2126.79	56.44	13.09	2730.93	3141.33
*	35.030	1020.00	.00	.00	2113.00	23600.00	2124.63	2124.63	2126.79	63.79	13.72	2595.84	2954.76
*	35.230	1050.00	.00	.00	2124.00	23600.00	2136.96	2136.96	2139.15	50.78	13.22	2600.79	3311.67
*	35.230	1050.00	.00	.00	2124.00	23600.00	2136.98	2136.98	2139.15	50.38	13.18	2612.67	3325.00
*	35.490	1350.00	.00	.00	2137.00	23600.00	2148.47	2148.47	2151.12	73.96	15.00	2182.83	2744.10
*	35.490	1350.00	.00	.00	2137.00	23600.00	2148.48	2148.48	2151.12	73.56	14.97	2187.90	2751.71

CAVE CREEK WASH

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	29.000	36860.00	1833.31	.00	.00	-.02	686.35	.00
*	29.000	36860.00	1833.03	-.28	.00	-.28	437.28	.00
*	29.190	36860.00	1841.12	.00	7.81	.00	887.56	1020.00
	29.190	36860.00	1841.19	.07	8.16	.07	446.00	1020.00
	29.390	36860.00	1848.61	.00	7.49	.00	809.05	1020.00
	29.390	36860.00	1849.55	.94	8.36	.94	551.00	1020.00
*	29.570	36860.00	1858.97	.00	10.36	.00	862.19	990.00
*	29.570	36860.00	1859.00	.03	9.45	.03	530.00	990.00
*	29.700	36860.00	1866.22	.00	7.25	.00	827.89	680.00
*	29.700	36860.00	1866.33	.11	7.33	.11	535.00	680.00
*	29.730	36860.00	1868.85	.00	2.63	.00	1143.15	140.00
*	29.730	36860.00	1869.56	.71	3.23	.71	520.00	140.00
	29.740	36860.00	1868.91	.00	.06	.00	854.26	20.00
	29.740	36860.00	1869.60	.69	.04	.69	530.00	20.00
*	29.800	36860.00	1869.61	.00	.69	.00	726.06	330.00

*	29.800	36860.00	1870.45	.84	.85	.84	500.00	330.00
*	29.940	36860.00	1875.22	.00	5.61	.00	1057.33	750.00
*	29.940	36860.00	1875.71	.50	5.26	.50	790.56	750.00
*	30.100	36860.00	1880.24	.00	5.03	.00	1250.82	880.00
*	30.100	36860.00	1880.02	-.23	4.30	-.23	730.40	880.00
*	30.330	35900.00	1891.74	.00	11.50	.00	842.05	1200.00
*	30.330	35900.00	1891.96	.22	11.95	.22	578.96	1200.00
*	30.640	35900.00	1909.94	.00	18.20	.00	927.44	1650.00
	30.640	35900.00	1909.84	-.10	17.88	-.10	327.00	1650.00
	30.860	35900.00	1918.71	.00	8.77	.00	1009.43	1150.00
*	30.860	35900.00	1919.72	1.02	9.88	1.02	691.00	1150.00
*	31.060	35900.00	1928.19	.00	9.48	.00	991.89	1030.00
*	31.060	35900.00	1928.76	.57	9.04	.57	783.00	1030.00
*	31.300	35900.00	1941.55	.00	13.36	.00	765.90	1300.00
*	31.300	35900.00	1942.07	.53	13.31	.53	555.00	1300.00
	31.480	35900.00	1949.43	.00	7.88	.00	959.83	960.00
	31.480	35900.00	1949.94	.50	7.86	.50	551.00	960.00

1

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	31.650	35900.00	1957.54	.00	8.11	.00	931.79	850.00
	31.650	35900.00	1958.07	.53	8.14	.53	501.00	850.00
	31.820	35900.00	1965.03	.00	7.48	.00	438.26	920.00
	31.820	35900.00	1965.56	.54	7.49	.54	301.00	920.00
*	32.030	35900.00	1973.41	.00	8.39	.00	549.17	1120.00
*	32.030	35900.00	1974.20	.79	8.64	.79	435.00	1120.00
*	32.240	35900.00	1979.34	.00	5.93	.00	505.51	1080.00
*	32.240	35900.00	1979.73	.39	5.53	.39	367.00	1080.00
*	32.470	35900.00	1991.58	.00	12.24	.00	685.62	1210.00
*	32.470	35900.00	1992.30	.72	12.56	.72	502.00	1210.00
*	32.660	35000.00	2001.00	.00	9.42	.00	602.03	1000.00
*	32.660	35000.00	2001.02	.03	8.72	.03	370.00	1000.00
	32.910	35000.00	2013.11	.00	12.11	.00	460.86	1350.00
*	32.910	35000.00	2013.92	.81	12.90	.81	460.85	1350.00
*	33.110	35000.00	2024.54	.00	11.44	.00	404.19	1060.00
*	33.110	35000.00	2024.48	-.06	10.56	-.06	403.82	1060.00
*	33.320	35000.00	2033.93	.00	9.39	.00	338.33	1080.00
*	33.320	35000.00	2033.99	.06	9.51	.06	338.33	1080.00
*	33.480	35000.00	2042.74	.00	8.81	.00	279.42	800.00
*	33.480	35000.00	2042.74	.00	8.75	.00	279.42	800.00
*	33.660	35000.00	2054.99	.00	12.25	.00	151.22	940.00
*	33.660	35000.00	2055.20	.21	12.46	.21	151.23	940.00
*	33.780	35000.00	2062.38	.00	7.39	.00	283.22	500.00
*	33.780	35000.00	2062.33	-.05	7.13	-.05	282.77	500.00
*	33.840	23600.00	2063.29	.00	.91	.00	259.27	440.00
*	33.840	23600.00	2063.25	-.04	.92	-.04	258.86	440.00

*	34.050	23600.00	2068.48	.00	5.18	.00	453.74	1100.00
*	34.050	23600.00	2068.48	.01	5.23	.01	453.57	1100.00
*	34.220	23600.00	2078.14	.00	9.66	.00	258.83	900.00
*	34.220	23600.00	2078.14	.01	9.66	.01	258.84	900.00
*	34.440	23600.00	2088.81	.00	10.68	.00	444.08	1130.00
*	34.440	23600.00	2088.81	.00	10.67	.00	444.05	1130.00
*	34.640	23600.00	2099.62	.00	10.81	.00	362.44	1050.00
*	34.640	23600.00	2099.64	.02	10.83	.02	362.46	1050.00

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	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	34.840	23600.00	2115.10	.00	15.48	.00	431.03	1040.00
*	34.840	23600.00	2115.13	.03	15.49	.03	431.04	1040.00
*	35.030	23600.00	2124.86	.00	9.76	.00	585.90	1020.00
*	35.030	23600.00	2124.63	-.23	9.50	-.23	580.28	1020.00
*	35.230	23600.00	2136.96	.00	12.10	.00	715.32	1050.00
*	35.230	23600.00	2136.98	.02	12.35	.02	715.32	1050.00
*	35.490	23600.00	2148.47	.00	11.51	.00	424.93	1350.00
*	35.490	23600.00	2148.48	.01	11.51	.01	424.87	1350.00

1
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SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 29.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 29.000 PROFILE= 2 CRITICAL DEPTH ASSUMED

CAUTION SECNO= 29.190 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 29.190 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 29.570 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 29.570 PROFILE= 1 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 29.570 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 29.570 PROFILE= 2 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 29.700 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 29.700 PROFILE= 1 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 29.700 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 29.700 PROFILE= 2 MINIMUM SPECIFIC ENERGY

WARNING SECNO= 29.730 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 29.730 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 29.800 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 29.800 PROFILE= 1 MINIMUM SPECIFIC ENERGY
WARNING SECNO= 29.800 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 29.940 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 29.940 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 30.100 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 30.100 PROFILE= 1 MINIMUM SPECIFIC ENERGY
WARNING SECNO= 30.100 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

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 CAUTION SECNO=     30.330  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     30.330  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     30.330  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     30.330  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 CAUTION SECNO=     30.640  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     30.640  PROFILE=  1  MINIMUM SPECIFIC ENERGY

 WARNING SECNO=     30.860  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 CAUTION SECNO=     31.060  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     31.060  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     31.060  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     31.060  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 WARNING SECNO=     31.300  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     31.300  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=     32.030  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     32.030  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
1
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 CAUTION SECNO=     32.240  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     32.240  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     32.240  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     32.240  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 WARNING SECNO=     32.470  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     32.470  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 CAUTION SECNO=     32.660  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     32.660  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     32.660  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     32.660  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 WARNING SECNO=     32.910  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 CAUTION SECNO=     33.110  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     33.110  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     33.110  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     33.110  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 WARNING SECNO=     33.320  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     33.320  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 CAUTION SECNO=     33.480  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     33.480  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     33.480  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
 CAUTION SECNO=     33.480  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     33.480  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     33.480  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

 CAUTION SECNO=     33.660  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     33.660  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     33.660  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
 CAUTION SECNO=     33.660  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     33.660  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     33.660  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

 WARNING SECNO=     33.780  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     33.780  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=     33.840  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     33.840  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=     34.050  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     34.050  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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 CAUTION SECNO=     34.220  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     34.220  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     34.220  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     34.220  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 WARNING SECNO=     34.440  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     34.440  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
1
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 CAUTION SECNO=     34.640  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     34.640  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     34.640  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     34.640  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 CAUTION SECNO=     34.840  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     34.840  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     34.840  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     34.840  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 CAUTION SECNO=     35.030  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     35.030  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     35.030  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     35.030  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 CAUTION SECNO=     35.230  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     35.230  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     35.230  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     35.230  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 CAUTION SECNO=     35.490  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     35.490  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     35.490  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     35.490  PROFILE=  2  MINIMUM SPECIFIC ENERGY
)
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 FLOODWAY DATA,       CAVE CREEK WASH
 PROFILE NO.  2

             -------- FLOODWAY --------      WATER SURFACE ELEVATION
   STATION    WIDTH    SECTION    MEAN       WITH     WITHOUT  DIFFERENCE
                        AREA    VELOCITY  FLOODWAY  FLOODWAY

     29.000    437.      3047.    12.1     1833.0    1833.3      -.3
     29.190    446.      2934.    12.6     1841.2    1841.1       .1
     29.390    551.      4282.     8.6     1849.5    1848.6       .9
     29.570    530.      2976.    12.4     1859.0    1859.0       .0
     29.700    535.      3064.    12.0     1866.3    1866.2       .1
     29.730    520.      4503.     8.2     1869.6    1868.9       .7
     29.740    530.      4370.     8.4     1869.6    1868.9       .7
     29.800    500.      3355.    11.0     1870.4    1869.6       .8
     29.940    810.      4680.     7.9     1875.7    1875.2       .5
     30.100    780.      3553.    10.4     1880.0    1880.2      -.2
     30.330    579.      3235.    11.1     1891.9    1891.7       .2
     30.640    327.      2595.    13.8     1909.8    1909.9      -.1
     30.860    691.      4622.     7.8     1919.7    1918.7      1.0
     31.060    783.      3220.    11.1     1928.8    1928.2       .6
     31.300    555.      3901.     9.2     1942.0    1941.5       .5
     31.480    551.      3128.    11.5     1949.9    1949.4       .5
     31.650    501.      3389.    10.6     1958.0    1957.5       .5
     31.820    301.      2573.    14.0     1965.5    1965.0       .5
)
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32.030	435.	4406.	8.1	1974.2	1973.4	.8
32.240	367.	2541.	14.1	1979.7	1979.3	.4
32.470	502.	3929.	9.1	1992.3	1991.6	.7
32.660	370.	2594.	13.5	2001.0	2001.0	.0
32.910	461.	3484.	10.0	2013.9	2013.1	.8
33.110	404.	2655.	13.2	2024.4	2024.5	-.1
33.320	338.	3204.	10.9	2034.0	2033.9	.1
33.480	279.	2444.	14.3	2042.7	2042.7	.0
33.660	151.	1910.	18.3	2055.2	2055.0	.2
33.780	283.	3850.	9.1	2062.3	2062.4	-.1
33.840	259.	2517.	9.4	2063.3	2063.3	.0
34.050	454.	2313.	10.2	2068.5	2068.5	.0
34.220	259.	1730.	13.6	2078.1	2078.1	.0
34.440	444.	2958.	8.0	2088.8	2088.8	.0
34.640	362.	1989.	11.9	2099.6	2099.6	.0
34.840	431.	2343.	10.1	2115.1	2115.1	.0
35.030	580.	2596.	9.1	2124.7	2124.9	-.2
35.230	715.	2613.	9.0	2137.0	2137.0	.0
35.490	425.	2188.	10.8	2148.5	2148.5	.0

Hydraulic Analysis
Supplemental HEC-2 Output File
CAVEFLDW.OH2

The duplicate effective model is corrected by adding 0.47 feet to raise the duplicate effective model to the current datum.

CORRECTED EFFECTIVE MODEL
BELOW RIVER MILE 35.49

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1*****************************************
 *  HEC-2 WATER SURFACE PROFILES          *
 *                                        *
 *  Version   4.6.2;  May 1991            *
 *                                        *
 )  RUN DATE    19FEB97    TIME   16:18:08 *
 *****************************************
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**************************************
*  U.S. ARMY CORPS OF ENGINEERS      *
*  HYDROLOGIC ENGINEERING CENTER     *
*  609 SECOND STREET, SUITE D        *
*  DAVIS, CALIFORNIA 95616-4687      *
*         (916) 756-1104             *
**************************************
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X     X  XXXXXXX   XXXXX            XXXXX
X     X  X       X     X          X     X
X     X  X       X                      X
XXXXXXX  XXXX    X          XXXXX   XXXXX
X     X  X       X                X
X     X  X       X     X          X
X     X  XXXXXXX   XXXXX           XXXXXXX
```

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1
   19FEB97      16:18:09                                                    PAGE    1


                                                        THIS RUN EXECUTED 19FEB97    16:18:09
**************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
**************************************


T1          CAVE CREEK WASH      SECTIONS 29.00 - 35.49
T2          100YEAR FREQUENCY
T3          CAVE CREEK WASH                1978
        The duplicate effective HEC-2 was revised to correct for a datum
        difference that is documented in the Hydraulic TDN Section 2.1.
        An elevation value of 0.47 feet is added to all starting water elevation
        This correction was made by McLaughlin Kmetty Engineers on 19 Feb 97.

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

     -1        2         0         0    .010740                                    1833.8

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     1                   -1


J3  VARIABLE CODES FOR SUMMARY PRINTOUT

     38        43         1         2        26        39        21        22        27        28
     53        54         0        38        13        14        15        55        26        56
     63         1        51         4        42        57         0        38        39        33
      3        10        11        12         5         7         8        16        17        18
      0       200       150

NC    .050      .050      .042      .300      .500
ET      0.        0.        9.1       0.        0.        9.1       0.        0.      1940.     2386.
QT      2     36860     36860
        The duplicate effective HEC-2 was revised to correct for a datum
        difference that is documented in the Hydraulic TDN Section 2.1.
        An elevation value of 0.47 feet is added to all GR elevation points.
        This correction was made by McLaughlin Kmetty Engineers on 19 Feb 97.
            FLOWLINE AT STA. 2000
X1     29        12      1965      2080                                          0.47
GR   1856      1750      1852      1885      1848      1915      1844      1935      1840      1940


                                                  Corrected Effective HEC-2 below River Mile 35.49

File = CAVEFLDW.OH2              Cave Creek Wash as modeled by Harris-Toups with 0.5' added.          Page 1
```

GR	1820	1965	1820	2030	1820	2050	1824	2080	1828	2180
GR	1832	2540	1840	3120	0	0	0	0	0	0

1

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ET	0	0	9.1	0	0	9.1	0	0	1940	2386
X1	29.190	15	1940	2060	1080	920	1020		0.47	
GR	1864	1820	1860	1890	1840	1940	1828	1960	1828	2000
GR	1830	2060	1832	2100	1836	2180	1840	2320	1839	2410
GR	1840	2550	1838	2760	1840	2815	1844	2850	1846	3140
ET	0	0	9.1	0	0	9.1	0	0	1531	2082
X1	29.39	26	1960	2050	950	980	1020		0.47	
GR	1879	960	1876	1265	1872	1390	1868	1430	1864	1440
GR	1860	1455	1840	1520	1839	1530	1840	1550	1844	1690
GR	1844	1730	1844	1830	1840	1960	1838	1970	1838	2025
GR	1840	2050	1844	2110	1848	2150	1849	2250	1848	2390
GR	1852	2420	1856	2435	1857	2480	1856	2570	1855	2650
GR	1856	2760	0	0	0	0	0	0	0	0
ET	0	0	9.1	0	0	9.1	0	0	1520	2050
X1	29.570	19	1950	2050	1050	1030	990		0.47	
GR	1880	900	1872	990	1868	1010	1864	1050	1856	1160
GR	1860	1250	1856	1460	1856	1510	1858	1570	1856	1600
GR	1852	1650	1852	1800	1855	1860	1856	1950	1848	1980
GR	1848	2025	1856	2050	1868	2085	1869	2160		
ET	0	0	9.1	0	0	9.1	0	0	1548	2083
X1	29.7	15	1915	2050	700	600	680		0.47	
GR	1880	960	1876	1200	1868	1280	1863	1470	1865	1670
GR	1864	1800	1860	1840	1856	1915	1854	1950	1854	2040
GR	1860	2050	1864	2170	1868	2180	1872	2580	1876	2740
ET	0	0	9.1		0	9.1	0	0	1580	2100
X1	29.73	15	1890	2050	350	50	140		0.47	
GR	1881	1000	1880	1130	1868	1190	1868	1280	1869	1380
GR	1868	1610	1864	1700	1860	1810	1860	1890	1856	1950
GR	1856	2040	1858	2050	1860	2080	1864	2250	1868	2380
ET	0	0	9.1	0	0	9.1	0	0	1570	2100
		CONTROL SECTION AT CAREFREE HIGHWAY CROSSING								
X1	29.74	15	1910	2050	80	20	20		0.47	
GR	1881	1000	1880	1075	1872	1120	1870	1300	1872	1360
GR	1872	1420	1868	1570	1864	1710	1860	1910	1856	1950
GR	1856	2040	1858	2050	1860	2100	1864	2260	1868	2390
ET	0	0	9.1	0	0	9.1	0	0	1550	2050
X1	29.8	18	1930	2050	130	280	330		0.47	
GR	1880	1040	1872	1100	1876	1200	1872	1320	1868	1350
GR	1866	1410	1868	1560	1864	1680	1864	1800	1862	1835
GR	1864	1850	1865	1890	1864	1930	1860	1960	1860	2040
GR	1864	2050	1872	2070	1876	2150				

1

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ET	0	0	9.1	0	0	9.1	0	0	1250	2060
X1	29.94	19	1950	2060	600	800	750		0.47	
GR	1887	760	1884	910	1876	950	1872	990	1870	1040
GR	1872	1100	1869	1300	1868	1590	1876	1720	1872	1930
GR	1868	1950	1864	1970	1862	2000	1864	2050	1868	2060
GR	1884	2080	1886	2200	1888	2400	1896	2460		
ET	0	0	9.1	0	0	9.1	0	0	1250	2030
X1	30.1	26	1880	2030	600	950	880		0.47	
GR	1888	750	1880	780	1878	820	1880	920	1879	1050
GR	1880	1140	1880	1200	1876	1260	1875	1320	1875	1370

```
GR    1874    1420    1876    1460    1878    1580    1876    1680    1874    1730
GR    1876    1770    1880    1800    1882    1830    1880    1850    1876    1880
GR    1872    1950    1868    1990    1868    2020    1872    2030    1904    2200
GR    1908    2290

QT       2   35900   35900
ET       0       0     9.1       0       0     9.1       0       0    1461    2040
X1   30.33      23    1870    2040    1150    1180    1200                0.47
GR    1912     550    1908     600    1904     740    1903     800    1904     960
GR    1903    1040    1904    1110    1900    1160    1892    1190    1889    1280
GR    1888    1420    1887    1480    1889    1540    1887    1590    1889    1630
GR    1888    1820    1884    1870    1882    1920    1882    2030    1892    2040
GR    1896    2210    1900    2310    1920    2580

ET       0       0     9.1       0       0     9.1       0       0    1743    2070
X1   30.64      20    1950    2070    1800    1500    1650                0.47
GR    1919    1140    1916    1200    1912    1225    1909    1300    1910    1500
GR    1908    1670    1904    1780    1901    1810    1902    1870    1901    1950
GR    1900    2000    1904    2070    1908    2090    1911    2150    1908    2225
GR    1907    2245    1908    2260    1932    2370    1940    2430    1944    2650

ET       0       0     9.1       0       0     9.1       0       0    1901    2592
X1   30.86      23    1940    2060     750    1150    1150                0.47
GR    1930    1420    1928    1510    1920    1580    1916    1840    1912    1940
GR    1909    2000    1912    2060    1915    2140    1913    2240    1914    2260
GR    1912    2315    1913    2370    1912    2405    1910    2420    1912    2440
GR    1917    2500    1916    2540    1912    2600    1916    2660    1920    2680
GR    1924    2820    1928    2890    1940    2970

ET       0       0     9.1       0       0     9.1       0       0    1898    2681
X1   31.06      16    1940    2100    1300     850    1030                0.47
GR    1941    1630    1940    1715    1936    1760    1928    1785    1924    1820
GR    1925    1880  1924.5    1910    1924    1940    1924    2000    1924    2100
GR    1926    2480    1923    2590    1926    2670    1924    2710    1924    2760
GR    1960    2900

ET       0       0     9.1       0       0     9.1       0       0    1950    2505
X1    31.3      19    1950    2100    1350    1200    1300                0.47
GR    1960    1100    1956    1360    1944    1540    1943    1580    1944    1615
GR    1945    1690    1944    1810    1940    1870    1936    1950    1932    2000
GR    1934    2100    1936    2275    1937    2340    1936    2440    1935    2490
GR    1936    2545    1940    2570    1948    2790    1952    2840
1
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ET       0       0     9.1       0       0     9.1       0       0    1880    2431
X1   31.48      20    1880    2130    1000    1000     960                0.47
GR    1980     770    1972     870    1968    1060    1964    1530    1960    1675
GR    1953    1785    1956    1830    1944    1880    1943    2000    1944    2130
GR    1947    2220    1944    2330    1943    2370    1945    2440    1943    2480
GR    1948    2520    1950    2615    1948    2730    1952    3140    1980    3215

ET       0       0     9.1       0       0     9.1       0       0    1724    2225
X1   31.65      18    1930    2120     900     850     850                0.47
GR    1980    1090    1976    1260    1972    1310    1968    1500    1964    1540
GR    1956    1580    1952    1800    1953    1850    1952    1930    1948    1950
GR    1948    2050    1952    2120    1954    2180    1952    2240    1956    2275
GR    1957    2450    1960    2750    1980    2820

ET       0       0     9.1       0       0     9.1       0       0    1789    2090
X1   31.82      12    1920    2090     900     800     920                0.47
GR    1980    1400    1976    1590    1972    1685    1960    1760    1956    1920
GR    1955    2000    1956    2020    1960    2090    1964    2150    1968    2215
GR    1972    2250    1980    2300

ET       0       0     9.1       0       0     9.1       0       0    1625    2060
X1   32.03      15    1870    2060    1180    1060    1120                0.47
GR    2000    1050    1996    1075    1988    1200    1984    1320    1980    1570
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GR     1964      1615      1965      1740      1964      1870      1963      2000      1964      2060
GR     1968      2075      1972      2120      1976      2170      1984      2215      2000      2400

ET        0         0       9.1         0         0       9.1         0         0      1713      2080
X1    32.24        13      1950      2080       960      1080      1080                0.47
GR     2000      1100      1996      1210      1992      1365      1988      1570      1984      1615
GR     1976      1640      1972      1950      1971      2000      1972      2080      1980      2140
GR     1984      2235      1988      2340      2000      2420

ET        0         0       9.1         0         0       9.1         0         0      1706      2208
X1    32.47        14      1920      2090      1250      1250      1210                0.47
GR     2020      1105      2012      1320      2008      1390      2004      1410      2000      1530
GR     1992      1595      1988      1635      1984      1920      1982      2000      1984      2090
GR     1985      2180      1988      2270      2000      2320      2020      2630

QT        2     35000     35000
ET        0         0       9.1         0         0       9.1         0         0      1680      2050
X1    32.66        16      1930      2050       950       980      1000                0.47
GR     2020      1220      2008      1310      2004      1370      2000      1500      1996      1700
GR     1995      1725      1996      1750      1999      1785      1996      1820      1992      1930
GR     1990      2000      1992      2050      2008      2085      2012      2115      2016      2220
GR     2020      2280

ET        0         0       9.1         0         0       9.1         0         0   1767.69   2228.54
X1    32.91        13      1920      2110      1350      1370      1350                0.47
GR     2028      1720      2024      1745      2012      1770      2008      1810      2007      1830
GR     2008      1880      2004      1920      2004      2000      2006      2110      2005      2150
GR     2008      2195      2024      2300      2028      2350
1
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ET        0         0       9.1         0         0       9.1         0         0   1668.31   2072.49
X1    33.11         8      1950      2050      1160      1000      1060                0.47
GR     2040      1620      2024      1670      2020      1720      2016      1950      2014      2000
GR     2016      2050      2020      2060      2060      2170

NC     .050      .050      .045      .300      .500
ET        0         0       9.1         0         0       9.1         0         0   1898.87    2237.2
X1    33.32         9      1930      2030      1030      1040      1080                0.47
GR     2052      1865      2028      1910      2024      1930      2020      1970      2019      2000
GR     2020      2030      2024      2065      2028      2210      2052      2320

NC     .050      .050      .045      .100      .300
ET        0         0       9.1         0         0       9.1         0         0   1949.72   2229.14
                SEC. 200 FEET UPSTREAM OF OCOTILLO WASH CONFLUENCE
X1    33.48        18      1975      2050       820       750       800                0.47
GR     2072      1710      2064      1775      2056      1800      2052      1820      2048      1900
GR     2044      1945      2040      1960      2028      1975      2026      1976      2026      2020
GR     2028      2035      2032      2050      2036      2125      2040      2220      2052      2260
GR     2056      2335      2060      2370      2072      2540

NC     .050      .050      .042      .100      .300
ET        0         0       9.1         0         0       9.1         0         0   1926.26   2077.49
X1    33.66         8      1960      2040       950       910       940                0.47
GR     2080      1790      2060      1915      2040      1960      2038      1970      2038      2035
GR     2040      2040      2068      2110      2080      2180

ET        0         0       9.1         0         0       9.1         0         0   1830.04   2113.34
X1    33.78        14      1920      2070       460       530       500                0.47
GR     2080      1685      2072      1770      2060      1845      2056      1860      2052      1875
GR     2050      1910      2048      1920      2044      1965      2044      2000      2044      2045
GR   2043.5      2060      2044      2070      2048      2085      2080      2148

QT        2     23600     23600
ET        0         0       9.1         0         0       9.1         0         0    1884.2   2143.84
X1    33.84        15      1940      2040       430       460       440                0.47
GR     2092      1465      2080      1570      2076      1640      2072      1750      2068      1820
GR     2064      1880      2060      1905      2056      1910      2052      1940      2049      1970
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 GR     2049       2020       2052       2040       2056       2120       2060       2135       2092       2220

 NC      .050       .050       .042       .300       .500
 ET         0          0        9.1          0          0        9.1          0          0    1921.22    2374.79
 X1     34.05         20       1940       2080       1170       1100       1100                  0.47
 GR     2120       1030       2112       1580       2108       1710       2100       1750       2092       1775
 GR     2080       1800       2076       1825       2072       1855       2068       1930       2064       1940
 GR     2059       1960       2059       2030       2060       2050       2064       2080       2067       2140
 GR     2064       2220       2065       2250       2063       2325       2064       2370       2120       2430

 ET         0          0        9.1          0          0        9.1          0          0    1916.99    2175.83
 X1     34.22         14       1930       2070        870        930        900                  0.47
 GR     2120       1520       2100       1700       2092       1730       2088       1755       2084       1900
 GR     2080       1910       2076       1925       2072       1930       2068       1980       2064       2000
 GR     2068       2015       2072       2070       2076       2170       2120       2290
1
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 NC      .050       .050       .045       .300       .500
 ET         0          0        9.1          0          0        9.1          0          0    1697.96    2142.04
 X1     34.44         15       1930       2080       1030       1200       1130                  0.47
 GR     2128       1590       2124       1605       2120       1620       2088       1700       2080       1715
 GR     2080       1790       2084       1810       2084       1930       2080       1950       2080       2060
 GR     2084       2080       2084       2130       2096       2160       2100       2200       2128       2400

 ET         0          0        9.1          0          0        9.1          0          0     1736.6    2099.06
          File received from FCDMC was revised to correct an apparent typo error.
          The elevation at station 2140 was corrected from elevation 2408 to 2108.
          This correction was made by McLaughlin Kmetty Engineers on 19 Feb 97.
 X1     34.64         15       1970       2030       1100       1020       1050                  0.47
 GR     2140       1530       2120       1635       2100       1730       2096       1800       2092       1970
 GR     2090       1980       2090       2020       2092       2030       2096       2090       2100       2100
 GR     2108       2140       2112       2210       2120       2245       2124       2290       2140       2350

 NC      .050       .050       .042       .300       .500
 ET         0          0        9.1          0          0        9.1          0          0    1692.24    2123.28
 X1     34.84         12       1980       2030        950       1070       1040                  0.47
 GR     2152       1510       2140       1560       2120       1680       2112       1700       2108       1980
 GR     2102       1990       2102       2020       2108       2030       2112       2050       2112       2100
 GR     2116       2130       2140       2200

 ET         0          0        9.1          0          0        9.1          0          0    1643.49    2229.38
 X1     35.03         14       1940       2050        950       1010       1020                  0.47
 GR     2164       1575       2124       1645       2120       1780       2123       1870       2120       1940
 GR     2113       1960       2113       2040       2116       2050       2120       2060       2120       2100
 GR     2124       2210       2128       2300       2140       2360       2160       2400

 ET         0          0        9.1          0          0        9.1          0          0    1905.07    2620.39
 X1     35.23         15       1920       2035       1080       1000       1050                  0.47
 GR     2180       1780       2172       1840       2140       1900       2128       1920       2124       1960
 GR     2124       2030       2128       2035       2136       2130       2136       2420       2134       2530
 GR     2136       2615       2144       2660       2148       2690       2160       2750       2180       2790

 ET         0          0        9.1          0          0        9.1          0          0    1634.18    2059.05
                 THIS IS THE UPSTREAM LIMIT OF THE STUDY
 X1     35.49         14       1940       2040       1250       1260       1350                  0.47
 GR     2200        890       2196       1380       2192       1450       2180       1480       2160       1500
 GR     2152       1515       2148       1650       2144       1870       2140       1940       2137       1960
 GR     2137       2030       2140       2040       2160       2085       2200       2250
1
     19FEB97        16:18:09                                                                      PAGE     7

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

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*PROF 1

CCHV=     .300 CEHV=     .500
*SECNO 29.000
3720 CRITICAL DEPTH ASSUMED
           FLOWLINE AT STA. 2000
    29.000     13.31   1833.78   1833.78   1833.80   1836.40      2.62       .00       .00   1820.47
   36860.0     798.4   22984.0   13077.6     110.7    1470.2    1982.4        .0        .0   1824.47
      .00      7.22     15.63      6.60      .050      .042      .050      .000   1820.47   1948.37
   .006551        0.        0.        0.         0         5         0       .00    686.29   2634.66


*SECNO 29.190
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    29.190     13.12   1841.59   1841.59       .00   1843.88      2.29      6.69       .10   1840.47
   36860.0       2.5   20919.0   15938.5       1.6    1394.0    2348.7      80.7      16.9   1830.47
      .02      1.62     15.01      6.79      .050      .042      .050      .000   1828.47   1937.21
   .007092      1080.     1020.      920.         2         5         0       .00    887.56   2824.77


*SECNO 29.390

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS

    29.390     10.61   1849.08       .00       .00   1850.46      1.38      6.31       .27   1840.47
   36860.0   21602.4   11617.3    3640.4    2823.9     919.9     547.1     171.1      35.9   1840.47
      .05      7.65     12.63      6.65      .050      .042      .050      .000   1838.47   1492.02
   .005766      950.     1020.      980.         2         0         0       .00    808.98   2394.58


*SECNO 29.570

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
1
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK         EG         HV         HL      OLOSS   L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB          ACH        AROB       VOL     TWA     R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL           XNCH       XNR        WTN     ELMIN   SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL        IDC        ICONT      CORAR   TOPWID  ENDST

    29.570     10.97   1859.44   1859.44       .00   1861.59      2.15      8.02       .39   1856.47
   36860.0   23095.4   13714.0      50.6    2651.6      877.0      12.9     264.2      55.9   1856.47
      .08      8.71     15.64      3.93      .050      .042      .050      .000   1848.47   1119.16
   .011132      1050.      990.      1030.         4         8         0       .00    862.24   2058.66


*SECNO 29.700
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    29.700     12.22   1866.69   1866.69       .00   1869.04      2.35      5.77       .10   1856.47
   36860.0   10357.0   23300.2    3202.8    1649.9    1584.7     512.6     321.6      69.3   1860.47
      .10      6.28     14.70      6.25      .050      .042      .050      .000   1854.47   1347.64
   .006583      700.      680.      600.         2         8         0       .00    827.91   2175.55


*SECNO 29.730
```

3265 DIVIDED FLOW

3280 CROSS SECTION 29.73 EXTENDED .84 FEET

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.62

29.730	12.85	1869.32	.00	.00	1870.18	.86	.70	.45	1860.47
36860.0	9535.5	17938.9	9385.5	1912.1	1925.2	1828.8	342.9	74.9	1858.47
.10	4.99	9.32	5.13	.050	.042	.050	.000	1856.47	1185.78
.002522	350.	140.	50.	3	0	0	.00	1142.98	2380.00

*SECNO 29.740
3280 CROSS SECTION 29.74 EXTENDED .91 FEET

CONTROL SECTION AT CAREFREE HIGHWAY CROSSING

29.740	12.91	1869.38	.00	.00	1870.30	.92	.09	.03	1860.47
36860.0	9077.9	16828.8	10953.3	1806.1	1717.8	1980.4	348.0	76.1	1858.47
.10	5.03	9.80	5.53	.050	.042	.050	.000	1856.47	1535.76
.002719	80.	20.	20.	2	0	0	.00	854.24	2390.00

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

*SECNO 29.800

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

29.800	9.61	1870.08	1870.08	.00	1872.35	2.28	1.16	.68	1864.47
36860.0	19970.5	16663.1	226.4	2400.8	1072.7	39.3	371.3	79.6	1864.47
.11	8.32	15.53	5.76	.050	.042	.050	.000	1860.47	1337.96
.010510	130.	330.	280.	2	19	0	.00	726.05	2064.01

*SECNO 29.940

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

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

29.940	13.22	1875.69	.00	.00	1876.67	.99	3.93	.39	1868.47
36860.0	22991.3	13749.7	119.0	4206.1	1253.9	32.6	437.5	92.4	1868.47
.13	5.47	10.97	3.66	.050	.042	.050	.000	1862.47	957.83
.003802	600.	750.	800.	3	0	0	.00	1057.35	2069.02

*SECNO 30.100

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

30.100	12.24	1880.71	1880.71	.00	1882.34	1.62	3.82	.32	1876.47
36860.0	18222.1	17432.9	1204.9	2852.3	1316.6	180.5	514.4	109.3	1872.47
.16	6.39	13.24	6.67	.050	.042	.050	.000	1868.47	779.08
.007808	600.	880.	950.	3	10	0	.00	1250.82	2073.80

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

*SECNO 30.330
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

30.330	9.74	1892.21	1892.21	.00	1894.21	2.00	9.36	.19	1884.47
35900.0	14515.2	21384.8	.0	2286.3	1556.4	.0	624.3	137.1	1892.47
.19	6.35	13.74	.00	.050	.042	.000	.000	1882.47	1197.71
.008110	1150.	1200.	1180.	3	16	0	.00	842.03	2039.74

*SECNO 30.640

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

30.640	9.94	1910.41	1910.41	.00	1912.49	2.08	14.83	.04	1901.47
35900.0	20064.7	14582.3	1253.0	2097.4	1027.8	257.5	768.2	172.7	1904.47
.23	9.57	14.19	4.87	.050	.042	.050	.000	1900.47	1276.50
.009188	1800.	1650.	1500.	4	5	0	.00	927.53	2268.89

*SECNO 30.860

3301 HV CHANGED MORE THAN HVINS

30.860	9.71	1919.18	.00	.00	1920.25	1.07	7.46	.30	1912.47
35900.0	3707.6	10960.8	21231.5	708.6	984.7	3056.9	862.7	194.0	1912.47
.26	5.23	11.13	6.95	.050	.042	.050	.000	1909.47	1664.11
.005989	750.	1150.	1150.	3	0	0	.00	1009.42	2673.53

*SECNO 31.060

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

31.060	5.19	1928.66	1928.66	.00	1930.41	1.75	9.63	.34	1924.47
35900.0	5051.9	8825.5	22022.6	519.6	670.4	2284.7	952.7	216.3	1924.47
.29	9.72	13.16	9.64	.050	.042	.050	.000	1923.47	1784.41
.020488	1300.	1030.	850.	3	11	0	.00	991.89	2776.30

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

*SECNO 31.300

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.83

31.300	9.55	1942.02	.00	.00	1943.29	1.27	12.73	.14	1936.47
35900.0	1569.6	13869.4	20461.0	302.1	1232.6	2736.8	1063.0	241.3	1934.47
.33	5.20	11.25	7.48	.050	.042	.050	.000	1932.47	1846.74
.006109	1350.	1300.	1200.	6	0	0	.00	765.90	2612.64

*SECNO 31.480

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

31.480	6.43	1949.90	1949.77	.00	1951.72	1.82	8.16	.28	1944.47
35900.0	381.8	18805.2	16713.0	61.5	1483.1	1991.4	1151.4	260.9	1944.47
.35	6.21	12.68	8.39	.050	.042	.050	.000	1943.47	1857.37
.011959	1000.	960.	1000.	6	14	0	.00	959.83	2876.81

*SECNO 31.650

31.650	9.54	1958.01	.00	.00	1959.80	1.79	8.07	.01	1952.47
35900.0	9693.0	21093.4	5113.6	1440.2	1632.8	865.6	1225.1	279.6	1952.47
.38	6.73	12.92	5.91	.050	.042	.050	.000	1948.47	1572.30
.007600	900.	850.	850.	3	0	0	.00	931.79	2504.09

*SECNO 31.820

3301 HV CHANGED MORE THAN HVINS

31.820	10.03	1965.50	.00	.00	1968.30	2.80	7.99	.51	1956.47
35900.0	12976.6	21750.5	1172.9	1204.6	1445.7	190.7	1294.7	293.3	1960.47
.40	10.77	15.04	6.15	.050	.042	.050	.000	1955.47	1728.54
.010427	900.	920.	800.	2	0	0	.00	438.26	2166.80

*SECNO 32.030

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

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.79

32.030	10.41	1973.88	.00	.00	1974.93	1.04	6.10	.53	1964.47
35900.0	17095.6	17501.0	1303.4	2398.0	1883.8	277.4	1392.0	306.2	1964.47
.43	7.13	9.29	4.70	.050	.042	.050	.000	1963.47	1588.52
.003237	1180.	1120.	1060.	3	0	0	.00	549.17	2137.69

*SECNO 32.240

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

32.240	8.34	1979.81	1979.81	.00	1982.61	2.80	5.98	.88	1972.47

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   35900.0   17630.8   16610.8    1658.4    1673.6    1019.5     202.2    1478.8     318.5   1972.47
      .46     10.53     16.29      8.20      .050      .042      .050      .000   1971.47   1629.56
  .013611      960.      1080.      1080.         3        15         0       .00    505.51   2135.07


*SECNO 32.470

3301 HV CHANGED MORE THAN HVINS


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

   32.470      9.58   1992.05       .00       .00   1993.35      1.30     10.28       .45   1984.47
   35900.0   11352.4   16218.7    8328.8    1652.3    1457.5    1119.8    1579.9     335.4   1984.47
      .49      6.87     11.13      7.44      .050      .042      .050      .000   1982.47   1599.27
  .005639      1250.     1210.      1250.         4         0         0       .00    685.62   2284.89


*SECNO 32.660

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
1
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK         EG         HV         HL      OLOSS   L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB          ACH        AROB       VOL     TWA     R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL           XNCH       XNR        WTN     ELMIN   SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL        IDC        ICONT      CORAR   TOPWID  ENDST


   32.660     11.00   2001.47   2001.47       .00   2003.99      2.52      6.89       .61   1992.47
   35000.0   15564.7   18793.0    642.3    1904.2    1199.5      88.5    1662.7     349.7   1992.47
      .52      8.17     15.67      7.26      .050      .042      .050      .000   1990.47   1467.65
  .009113      950.      1000.      980.         3         8         0       .00    602.03   2069.68


*SECNO 32.910
   32.910      9.11   2013.58       .00       .00   2015.78      2.20     11.69       .10   2004.47
   35000.0   6877.4   21703.7    6418.9    802.9     1621.1     687.6    1760.6     366.2   2006.47
      .55      8.57     13.39      9.33      .050      .042      .050      .000   2004.47   1767.69
  .008213      1350.     1350.      1370.         2         0         0       .00    460.86   2228.54


*SECNO 33.110

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   33.110     10.54   2025.01   2025.01       .00   2028.13      3.12     10.60       .46   2016.47
   35000.0   17704.0   16443.4    852.6    1632.4     954.2      93.8    1833.3     377.1   2016.47
      .57     10.85     17.23      9.09      .050      .042      .050      .000   2014.47   1668.30
  .011730      1160.     1060.      1000.         3         8         0       .00    404.19   2072.49


CCHV=     .300 CEHV=     .500
*SECNO 33.320

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.47

   33.320     14.93   2034.40       .00       .00   2036.54      2.13      8.11       .30   2024.47
   35000.0   1498.3   18401.4   15100.3    191.7     1343.5    1648.9    1904.2     386.1   2020.47
      .60      7.82     13.70      9.16      .050      .045      .050      .000   2019.47   1898.87
```

Corrected Effective HEC-2 below River Mile 35.49

.005403	1030.	1080.	1040.	3	0	0	.00	338.33	2237.20

CCHV= .100 CEHV= .300
*SECNO 33.480

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

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
SEC. 200 FEET UPSTREAM OF OCOTILLO WASH CONFLUENCE

33.480	16.74	2043.21	2043.21	.00	2047.35	4.14	5.28	.60	2028.47
35000.0	1352.9	22396.0	11251.0	145.2	1179.7	1118.7	1954.3	391.5	2032.47
.61	9.32	18.99	10.06	.050	.045	.050	.000	2026.47	1949.72
.008669	820.	800.	750.	20	8	0	.00	279.42	2229.14

CCHV= .100 CEHV= .300
*SECNO 33.660

3301 HV CHANGED MORE THAN HVINS

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

33.660	16.99	2055.46	2055.46	.00	2062.04	6.57	8.27	.73	2040.47
35000.0	2577.5	29528.1	2894.4	252.9	1344.5	281.0	2000.5	396.1	2040.47
.62	10.19	21.96	10.30	.050	.042	.050	.000	2038.47	1926.26
.009036	950.	940.	910.	20	5	0	.00	151.22	2077.48

*SECNO 33.780

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.21

33.780	18.88	2062.85	.00	.00	2064.30	1.44	1.75	.51	2048.47
35000.0	4415.1	27709.1	2875.8	741.6	2673.9	449.4	2033.3	398.6	2044.47
.64	5.95	10.36	6.40	.050	.042	.050	.000	2043.97	1830.10
.001845	460.	500.	530.	3	0	0	.00	283.22	2113.32

*SECNO 33.840
1

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

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .51

33.840	14.29	2063.76	.00	.00	2065.34	1.57	1.00	.04	2052.47

23600.0	2255.5	15388.5	5956.0	338.8	1353.6	836.5	2065.8	401.3	2052.47
.65	6.66	11.37	7.12	.050	.042	.050	.000	2049.47	1884.46
.003216	430.	440.	460.	2	0	0	.00	259.27	2143.73

CCHV= .300 CEHV= .500
*SECNO 34.050

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .61

34.050	9.48	2068.95	.00	.00	2071.10	2.15	5.47	.29	2064.47
23600.0	121.4	15914.6	7564.1	26.9	1176.8	1106.6	2127.2	410.4	2064.47
.68	4.51	13.52	6.84	.050	.042	.050	.000	2059.47	1921.06
.008621	1170.	1100.	1100.	4	0	0	.00	453.74	2374.80

*SECNO 34.220

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

34.220	14.14	2078.60	2078.60	.00	2082.04	3.43	8.62	.64	2072.47
23600.0	164.3	20170.2	3265.5	29.2	1278.9	419.7	2169.4	417.9	2072.47
.69	5.62	15.77	7.78	.050	.042	.050	.000	2064.47	1916.99
.010525	870.	900.	930.	3	14	0	.00	258.83	2175.82

CCHV= .300 CEHV= .500
*SECNO 34.440

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.49

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

34.440	8.81	2089.28	.00	.00	2090.34	1.06	7.59	.71	2084.47
23600.0	10545.0	11545.6	1509.4	1448.3	1242.3	269.7	2229.0	426.8	2084.47
.73	7.28	9.29	5.60	.050	.045	.050	.000	2080.47	1697.96
.004760	1030.	1130.	1200.	3	0	0	.00	444.08	2142.04

*SECNO 34.640

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

34.640	9.62	2100.09	2100.09	.00	2102.70	2.61	7.87	.78	2092.47
23600.0	10754.0	9179.6	3666.4	1070.5	557.3	353.7	2289.8	436.8	2092.47
.76	10.05	16.47	10.37	.050	.045	.050	.000	2090.47	1736.61
.012852	1100.	1050.	1020.	9	8	0	.00	362.44	2099.06

CCHV= .300 CEHV= .500
*SECNO 34.840
7185 MINIMUM SPECIFIC ENERGY

```
3720 CRITICAL DEPTH ASSUMED
    34.840     13.10   2115.57   2115.57      .00   2117.93      2.36     10.54      .07   2108.47
   23600.0   11848.6    9864.7    1886.6    1440.9     595.2     293.3    2338.9     445.8   2108.47
       .78      8.22     16.58      6.43      .050      .042      .050      .000   2102.47   1692.24
   .008798      950.     1040.     1070.         3        11         0       .00    431.03   2123.27


*SECNO 35.030
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    35.030     11.86   2125.33   2125.33      .00   2127.26      1.93      6.92      .13   2120.47
   23600.0    4433.7   15966.4    3199.9     925.0    1219.9     586.3    2396.2     457.2   2116.47
       .81      4.79     13.09      5.46      .050      .042      .050      .000   2113.47   1643.49
   .005643      950.     1020.     1010.         2        10         0       .00    585.91   2229.40


*SECNO 35.230
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    35.230     12.96   2137.43   2137.43      .00   2139.62      2.19      5.59      .13   2128.47
   23600.0     347.4   18518.2    4734.4     66.9    1400.1    1132.9    2459.8     472.5   2128.47
       .83      5.20     13.23      4.18      .050      .042      .050      .000   2124.47   1905.07
   .005081     1080.     1050.     1000.         5        11         0       .00    715.32   2620.39


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


*SECNO 35.490
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
          THIS IS THE UPSTREAM LIMIT OF THE STUDY
    35.490     11.47   2148.94   2148.94      .00   2151.59      2.65      8.06      .23   2140.47
   23600.0    6556.6   16534.8     508.5     999.9    1102.0      80.7    2531.4     489.2   2140.47
       .86      6.56     15.00      6.30      .050      .042      .050      .000   2137.47   1634.15
   .007398     1250.     1350.     1260.         5        15         0       .00    424.91   2059.06


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T1          CAVE CREEK WASH     SECTIONS 29.00 - 35.49
T2          fldway run
T3          CAVE CREEK WASH            1978

J1  ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ

        0         3          0          0     .01074                                     1833.8

J2  NPROF      IPLOT      PRFVS      XSECV      XSECH      FN         ALLDC      IBW        CHNIM      ITRACE

      15                   -1


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

*PROF 2

CCHV=     .300 CEHV=     .500
*SECNO 29.000
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1940.0    2386.0  TYPE=      1  TARGET=      446.000
           FLOWLINE AT STA. 2000
    29.000     13.03   1833.50   1833.50   1833.78   1836.70     3.20      .00       .00   1820.47
   36860.0     822.5   24145.0   11892.5     106.1    1438.3   1503.0       .0        .0   1824.47
      .00       7.75     16.79      7.91      .050      .042     .050      .000   1820.47   1948.71
   .007777       0.        0.        0.         0         8        0       .00    437.28   2386.00


*SECNO 29.190

3470 ENCROACHMENT STATIONS=     1940.0    2386.0  TYPE=      1  TARGET=      446.000
    29.190     13.19   1841.66       .00   1841.59   1844.70     3.04      7.96       .05   1840.47
   36860.0        .0   22830.9   14029.1        .0    1402.5   1531.4      66.6       9.6   1830.47
       .02       .00     16.28      9.16      .000      .042     .050      .000   1828.47   1940.00
   .008385     1080.     1020.      920.         3         0        0       .00    446.00   2386.00


*SECNO 29.390

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     1531.0    2082.0  TYPE=      1  TARGET=      551.000
    29.390     11.55   1850.02       .00   1849.08   1851.38     1.36      6.17       .51   1840.47
   36860.0   22549.7   12287.0    2023.3    3005.8    1004.5    271.4     147.9      20.8   1840.47
       .05       7.50     12.23      7.45      .050      .042     .050      .000   1838.47   1531.00
   .004812      950.     1020.      980.         2         0        0       .00    551.00   2082.00


*SECNO 29.570

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1520.0    2050.0  TYPE=      1  TARGET=      530.000
1
   19FEB97      16:18:09                                                                  PAGE   20

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


    29.570     11.00   1859.47   1859.47   1859.44   1862.23     2.76      7.65       .70   1856.47
   36860.0   22224.0   14636.0        .0    2095.7     879.8       .0     234.0      33.7 100000.00
       .07      10.60     16.64       .00      .050      .042     .000      .000   1848.47   1520.00
   .013038     1050.      990.     1030.         5        11        0       .00    530.00   2050.00


*SECNO 29.700
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1548.0    2083.0  TYPE=      1  TARGET=      535.000
    29.700     12.33   1866.80   1866.80   1866.69   1869.85     3.05      6.77       .14   1856.47
   36860.0    9778.1   25627.6    1454.3    1273.5    1599.9    190.8     281.7      42.1   1860.47
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Corrected Effective HEC-2 below River Mile 35.49

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      .09      7.68     16.02      7.62      .050      .042      .050      .000   1854.47   1548.00
   .007714      700.      680.      600.         3         8         0       .00    535.00   2083.00

*SECNO 29.730
3280 CROSS SECTION     29.73 EXTENDED      1.09 FEET

3301 HV CHANGED MORE THAN HVINS

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.62

3470 ENCROACHMENT STATIONS=     1580.0    2100.0  TYPE=      1  TARGET=      520.000
   29.730     13.56   1870.03       .00   1869.32   1871.27      1.25       .88       .54   1860.47
  36860.0   12017.0   21348.5    3494.5    1960.8    2039.2     503.2     300.9      45.4   1858.47
      .09      6.13     10.47      6.95      .050      .042      .050      .000   1856.47   1580.00
   .002949      350.      140.       50.         4         0         0       .00    520.00   2100.00

*SECNO 29.740
3280 CROSS SECTION     29.74 EXTENDED      1.13 FEET

3470 ENCROACHMENT STATIONS=     1570.0    2100.0  TYPE=      1  TARGET=      530.000
          CONTROL SECTION AT CAREFREE HIGHWAY CROSSING
   29.740     13.60   1870.07       .00   1869.38   1871.48      1.41       .13       .08   1860.47
  36860.0   12251.1   20658.4    3950.6    2024.9    1814.4     530.1     305.7      46.1   1858.47
      .09      6.05     11.39      7.45      .050      .042      .050      .000   1856.47   1570.00
   .003414       80.       20.       20.         2         0         0       .00    530.00   2100.00

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

*SECNO 29.800

3301 HV CHANGED MORE THAN HVINS

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .63

3470 ENCROACHMENT STATIONS=     1550.0    2050.0  TYPE=      1  TARGET=      500.000
   29.800     10.45   1870.92       .00   1870.08   1873.12      2.20      1.24       .40   1864.47
  36860.0   19822.7   17037.3        .0    2180.9    1173.7        .0     325.0      48.3 100000.00
      .10      9.09     14.52       .00       .050      .042      .000      .000   1860.47   1550.00
   .008721      130.      330.      280.         2         0         0       .00    500.00   2050.00

*SECNO 29.940

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.40

3470 ENCROACHMENT STATIONS=     1250.0    2060.0  TYPE=      1  TARGET=      810.000
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    29.940     13.71   1876.18       .00   1875.69   1877.43      1.25      4.02       .29   1868.47
   36860.0   21611.0   15249.0        .0    3371.2    1308.9        .0     384.6      57.6 100000.00
       .12      6.41     11.65       .00      .050      .042      .000      .000   1862.47   1250.00
   .004431      600.      750.      800.         2         0         0       .00    790.57   2060.00

*SECNO 30.100

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .65

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


3470 ENCROACHMENT STATIONS=     1250.0    2030.0  TYPE=      1  TARGET=      780.000
    30.100     12.02   1880.49       .00   1880.71   1882.67      2.18      4.77       .47   1876.47
   36860.0   18058.3   18801.7        .0    2271.0    1282.4        .0     449.7      68.9 100000.00
       .14      7.95     14.66       .00      .050      .042      .000      .000   1868.47   1250.00
   .010623      600.      880.      950.         2         0         0       .00    730.40   2030.00

*SECNO 30.330
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1461.0    2040.0  TYPE=      1  TARGET=      579.000
    30.330      9.96   1892.43   1892.43   1892.21   1895.02      2.59     11.75       .20   1884.47
   35900.0   12051.7   23848.3        .0    1641.2    1593.4        .0     540.9      86.4 100000.00
       .17      7.34     14.97       .00      .050      .042      .000      .000   1882.47   1461.00
   .009348      1150.     1200.     1180.         3        15         0       .00    578.96   2039.96

*SECNO 30.640

3470 ENCROACHMENT STATIONS=     1743.0    2070.0  TYPE=      1  TARGET=      327.000
    30.640      9.84   1910.31       .00   1910.41   1913.37      3.06     18.11       .24   1901.47
   35900.0   20061.8   15838.2        .0    1579.4    1016.0        .0     656.9     104.6 100000.00
       .20     12.70     15.59       .00      .050      .042      .000      .000   1900.47   1743.00
   .011999      1800.     1650.     1500.         4         0         0       .00    327.00   2070.00

*SECNO 30.860

3301 HV CHANGED MORE THAN HVINS

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

3470 ENCROACHMENT STATIONS=     1901.0    2592.0  TYPE=      1  TARGET=      691.000
    30.860     10.72   1920.19       .00   1919.18   1921.26      1.07      7.28       .60   1912.47
   35900.0    1813.8   11757.7   22328.5     270.7    1106.6    3245.1     743.7     116.9   1912.47
       .23      6.70     10.62      6.88      .050      .042      .050      .000   1909.47   1901.00
   .004670      750.     1150.     1150.         3         0         0       .00    691.00   2592.00

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

*SECNO 31.060

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 1898.0 2681.0 TYPE= 1 TARGET= 783.000

31.060	5.76	1929.23	1929.23	1928.66	1931.28	2.05	7.81	.49	1924.47
35900.0	1966.8	10608.9	23324.3	185.3	761.9	2272.7	826.4	132.3	1924.47
.26	10.61	13.92	10.26	.050	.042	.050	.000	1923.47	1898.00
.019330	1300.	1030.	850.	2	11	0	.00	783.00	2681.00

*SECNO 31.300

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.77

3470 ENCROACHMENT STATIONS= 1950.0 2505.0 TYPE= 1 TARGET= 555.000

31.300	10.07	1942.54	.00	1942.02	1943.99	1.44	12.53	.18	1936.47
35900.0	.0	15077.4	20822.6	.0	1311.1	2590.3	927.2	151.1	1934.47
.29	.00	11.50	8.04	.000	.042	.050	.000	1932.47	1950.00
.006196	1350.	1300.	1200.	5	0	0	.00	555.00	2505.00

*SECNO 31.480

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 1880.0 2431.0 TYPE= 1 TARGET= 551.000

31.480	6.94	1950.41	.00	1949.90	1952.61	2.20	8.24	.38	1944.47
35900.0	.0	21339.3	14560.7	.0	1610.8	1516.8	1006.5	163.6	1944.47
.32	.00	13.25	9.60	.000	.042	.050	.000	1943.47	1880.00
.012063	1000.	960.	1000.	3	0	0	.00	551.00	2431.00

*SECNO 31.650
1

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

3470 ENCROACHMENT STATIONS= 1724.0 2225.0 TYPE= 1 TARGET= 501.000

31.650	10.07	1958.54	.00	1958.01	1960.66	2.11	8.03	.03	1952.47
35900.0	8964.3	23150.1	3785.6	1133.6	1734.0	521.5	1070.8	174.0	1952.47
.34	7.91	13.35	7.26	.050	.042	.050	.000	1948.47	1724.00
.007492	900.	850.	850.	3	0	0	.00	501.00	2225.00

*SECNO 31.820

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 1789.0 2090.0 TYPE= 1 TARGET= 301.000

31.820	10.56	1966.03	.00	1965.50	1969.20	3.17	8.02	.53	1956.47
35900.0	12211.9	23688.1	.0	1037.9	1535.2	.0	1132.5	182.3	100000.00
.36	11.77	15.43	.00	.050	.042	.000	.000	1955.47	1789.00
.010566	900.	920.	800.	2	0	0	.00	301.00	2090.00

*SECNO 32.030

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.86

3470 ENCROACHMENT STATIONS= 1625.0 2060.0 TYPE= 1 TARGET= 435.000

32.030	11.20	1974.67	.00	1973.88	1975.75	1.07	5.91	.63	1964.47
35900.0	17251.8	18648.2	.0	2372.7	2033.6	.0	1224.6	192.0	100000.00
.39	7.27	9.17	.00	.050	.042	.000	.000	1963.47	1625.00
.003053	1180.	1120.	1060.	3	0	0	.00	435.00	2060.00

*SECNO 32.240

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 1713.0 2080.0 TYPE= 1 TARGET= 367.000

1

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
32.240	8.73	1980.20	1980.20	1979.81	1983.58	3.37	5.91	1.15	1972.47
35900.0	17771.8	18128.2	.0	1470.5	1070.4	.0	1305.4	201.3	100000.00
.41	12.09	16.94	.00	.050	.042	.000	.000	1971.47	1713.00
.014885	960.	1080.	1080.	3	15	0	.00	367.00	2080.00

*SECNO 32.470

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.70

3470 ENCROACHMENT STATIONS= 1706.0 2208.0 TYPE= 1 TARGET= 502.000

32.470	10.30	1992.77	.00	1992.05	1994.21	1.44	10.05	.58	1984.47
35900.0	10962.6	17762.2	7175.2	1454.9	1581.1	893.4	1397.0	213.6	1984.47
.45	7.53	11.23	8.03	.050	.042	.050	.000	1982.47	1706.00
.005156	1250.	1210.	1250.	3	0	0	.00	502.00	2208.00

*SECNO 32.660

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

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3470 ENCROACHMENT STATIONS=     1680.0    2050.0  TYPE=      1  TARGET=      370.000
    32.660     11.02    2001.49    2001.49    2001.47    2004.82       3.33       7.29        .95    1992.47
   35000.0   14534.4    20465.6         .0     1391.3     1202.6         .0     1470.1      223.3  100000.00
       .47     10.45      17.02        .00        .050       .042       .000       .000    1990.47    1680.00
   .011802      950.       1000.       980.          3          8          0        .00     370.00    2050.00


*SECNO 32.910

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.43

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


3470 ENCROACHMENT STATIONS=     1767.7    2228.5  TYPE=      1  TARGET=      460.850
    32.910      9.92    2014.39         .00    2013.58    2016.13       1.74      10.83         .48    2004.47
   35000.0    7230.9    21190.2      6579.0       926.0     1774.6      783.4     1564.4      236.2    2006.47
       .51      7.81      11.94        8.40        .050       .042       .050       .000    2004.47    1767.69
   .005791      1350.       1350.       1370.          4          0          0        .00     460.85    2228.54


*SECNO 33.110

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1668.3    2072.5  TYPE=      1  TARGET=      404.180
    33.110     10.48    2024.95    2024.95    2025.01    2028.13       3.18       8.80        .72    2016.47
   35000.0   17654.8    16497.2       848.0     1615.0      948.1       92.4     1641.4      247.1    2016.47
       .53     10.93      17.40        9.18        .050       .042       .050       .000    2014.47    1668.50
   .012065      1160.       1060.       1000.          1          8          0        .00     403.82    2072.32


CCHV=      .300 CEHV=      .500
*SECNO 33.320

3301 HV CHANGED MORE THAN HVINS


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


3470 ENCROACHMENT STATIONS=     1898.9    2237.2  TYPE=      1  TARGET=      338.330
    33.320     14.99    2034.46         .00    2034.40    2036.57       2.11       8.11        .32    2024.47
   35000.0    1505.0    18363.5     15131.5       193.5     1349.2     1660.9     1712.2      256.0    2020.47
       .55      7.78      13.61        9.11        .050       .045       .050       .000    2019.47    1898.87
   .005304      1030.       1080.       1040.          3          0          0        .00     338.33    2237.20


CCHV=      .100 CEHV=      .300
*SECNO 33.480

3301 HV CHANGED MORE THAN HVINS

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

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

3470 ENCROACHMENT STATIONS= 1949.7 2229.1 TYPE= 1 TARGET= 279.420
SEC. 200 FEET UPSTREAM OF OCOTILLO WASH CONFLUENCE

33.480	16.74	2043.21	2043.21	2043.21	2047.35	4.14	5.22	.61	2028.47
35000.0	1353.2	22393.2	11253.6	145.3	1179.8	1119.1	1762.6	261.5	2032.47
.57	9.31	18.98	10.06	.050	.045	.050	.000	2026.47	1949.72
.008662	820.	800.	750.	20	8	0	.00	279.42	2229.14

CCHV= .100 CEHV= .300
*SECNO 33.660

3301 HV CHANGED MORE THAN HVINS

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

3470 ENCROACHMENT STATIONS= 1926.3 2077.5 TYPE= 1 TARGET= 151.230

33.660	17.20	2055.67	2055.67	2055.46	2062.03	6.36	8.07	.67	2040.47
35000.0	2624.1	29428.2	2947.6	259.9	1361.2	288.8	1809.1	266.1	2040.47
.58	10.10	21.62	10.21	.050	.042	.050	.000	2038.47	1926.26
.008614	950.	940.	910.	20	8	0	.00	151.23	2077.49

*SECNO 33.780

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.15

3470 ENCROACHMENT STATIONS= 1830.0 2113.3 TYPE= 1 TARGET= 283.300

33.780	18.83	2062.80	.00	2062.85	2064.25	1.45	1.73	.49	2048.47
35000.0	4400.5	27727.3	2872.3	736.7	2665.7	447.1	1842.0	268.6	2044.47
.59	5.97	10.40	6.42	.050	.042	.050	.000	2043.97	1830.44
.001866	460.	500.	530.	3	0	0	.00	282.77	2113.21

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

*SECNO 33.840

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .51

3470 ENCROACHMENT STATIONS= 1884.2 2143.8 TYPE= 1 TARGET= 259.640

33.840	14.25	2063.72	.00	2063.76	2065.31	1.59	1.01	.04	2052.47
23600.0	2249.3	15406.7	5944.0	336.2	1349.0	831.8	1874.3	271.3	2052.47
.61	6.69	11.42	7.15	.050	.042	.050	.000	2049.47	1884.75
.003260	430.	440.	460.	2	0	0	.00	258.86	2143.61

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CCHV=     .300 CEHV=     .500
*SECNO 34.050

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .62


3470 ENCROACHMENT STATIONS=     1921.2    2374.8  TYPE=      1  TARGET=      453.570
    34.050      9.48   2068.95       .00   2068.95   2071.10      2.14      5.51       .28   2064.47
  23600.0     121.8   15907.4    7570.9      27.0    1177.6    1108.3    1935.6     280.4   2064.47
      .63      4.51      13.51      6.83      .050      .042      .050      .000   2059.47   1921.22
  .008593     1170.     1100.     1100.         4         0         0       .00    453.57   2374.79


*SECNO 34.220

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1917.0    2175.8  TYPE=      1  TARGET=      258.840
    34.220     14.14   2078.61   2078.61   2078.60   2082.04      3.43      8.59       .64   2072.47
  23600.0     164.7   20165.3    3270.0      29.3    1279.9     420.5    1977.8     287.8   2072.47
      .65      5.62      15.76      7.78      .050      .042      .050      .000   2064.47   1916.99
  .010493      870.      900.      930.         3        14         0       .00    258.84   2175.83


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   19FEB97      16:18:09                                                                                PAGE   29

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

CCHV=     .300 CEHV=     .500
*SECNO 34.440

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.48


3470 ENCROACHMENT STATIONS=     1698.0    2142.0  TYPE=      1  TARGET=      444.080
    34.440      8.81   2089.28       .00   2089.28   2090.34      1.06      7.59       .71   2084.47
  23600.0   10544.2   11547.2    1508.5    1447.3    1241.6     269.5    2037.5     296.8   2084.47
      .69      7.29      9.30      5.60      .050      .045      .050      .000   2080.47   1697.97
  .004770     1030.     1130.     1200.         3         0         0       .00    444.05   2142.03


*SECNO 34.640

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1736.6    2099.1  TYPE=      1  TARGET=      362.460
    34.640      9.64   2100.11   2100.11   2100.09   2102.70      2.59      7.84       .77   2092.47
  23600.0   10768.2    9162.3    3669.6    1075.6     558.6     355.2    2098.4     306.8   2092.47
      .71     10.01     16.40     10.33      .050      .045      .050      .000   2090.47   1736.60
  .012705     1100.     1050.     1020.         7         8         0       .00    362.46   2099.06
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 CCHV=     .300 CEHV=     .500
 *SECNO 34.840
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=     1692.2    2123.3  TYPE=      1  TARGET=      431.040
    34.840     13.13   2115.60   2115.60   2115.57   2117.93      2.33     10.39       .08   2108.47
 23600.0    11873.1    9827.6    1899.3    1449.8     596.7     296.2    2147.7     315.7   2108.47
       .74       8.19     16.47      6.41      .050      .042      .050      .000   2102.47   1692.24
  .008656     950.      1040.     1070.        2        11         0       .00    431.04   2123.28


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   19FEB97      16:18:09                                                                          PAGE   30

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


 *SECNO 35.030
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=     1643.5    2229.4  TYPE=      1  TARGET=      585.890
    35.030     11.63   2125.10   2125.10   2125.33   2127.26      2.16      7.35       .05   2120.47
 23600.0    4148.9   16388.0    3063.1     856.3    1194.3     545.3    2203.6     327.1   2116.47
       .76       4.85     13.72      5.62      .050      .042      .050      .000   2113.47   1643.90
  .006379     950.      1020.     1010.        2        15         0       .00    580.29   2224.18


 *SECNO 35.230
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=     1905.1    2620.4  TYPE=      1  TARGET=      715.320
    35.230     12.98   2137.45   2137.45   2137.43   2139.62      2.17      5.90       .01   2128.47
 23600.0     348.0    18483.1    4768.9      67.1    1402.2    1143.5    2265.7     342.4   2128.47
       .79       5.18     13.18      4.17      .050      .042      .050      .000   2124.47   1905.07
  .005037    1080.      1050.     1000.        4        12         0       .00    715.32   2620.39


 *SECNO 35.490
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=     1634.2    2059.1  TYPE=      1  TARGET=      424.870
            THIS IS THE UPSTREAM LIMIT OF THE STUDY
    35.490     11.48   2148.95   2148.95   2148.94   2151.59      2.64      8.00       .23   2140.47
 23600.0    6570.7   16520.0     509.3    1003.4    1103.1      80.9    2337.6     359.1   2140.47
       .82       6.55     14.98      6.29      .050      .042      .050      .000   2137.47   1634.18
  .007360    1250.      1350.     1260.        7        15         0       .00    424.87   2059.05


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   19FEB97      16:18:09                                                                          PAGE   31


                                                                    THIS RUN EXECUTED 19FEB97     16:18:11

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

 Version   4.6.2;  May 1991
 **********************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

CAVE CREEK WASH

SUMMARY PRINTOUT

	SECNO	Q	CWSEL	CRIWS	VCH	XLCH	STCHL	STCHR	STENCL	STENCR	SSTA	ENDST
*	29.000	36860.00	1833.78	1833.78	15.63	.00	1965.00	2080.00	.00	.00	1948.37	2634.66
*	29.000	36860.00	1833.50	1833.50	16.79	.00	1965.00	2080.00	1940.00	2386.00	1948.71	2386.00
*	29.190	36860.00	1841.59	1841.59	15.01	1020.00	1940.00	2060.00	.00	.00	1937.21	2824.77
	29.190	36860.00	1841.66	.00	16.28	1020.00	1940.00	2060.00	1940.00	2386.00	1940.00	2386.00
	29.390	36860.00	1849.08	.00	12.63	1020.00	1960.00	2050.00	.00	.00	1492.02	2394.58
	29.390	36860.00	1850.02	.00	12.23	1020.00	1960.00	2050.00	1531.00	2082.00	1531.00	2082.00
*	29.570	36860.00	1859.44	1859.44	15.64	990.00	1950.00	2050.00	.00	.00	1119.16	2058.66
*	29.570	36860.00	1859.47	1859.47	16.64	990.00	1950.00	2050.00	1520.00	2050.00	1520.00	2050.00
*	29.700	36860.00	1866.69	1866.69	14.70	680.00	1915.00	2050.00	.00	.00	1347.64	2175.55
*	29.700	36860.00	1866.80	1866.80	16.02	680.00	1915.00	2050.00	1548.00	2083.00	1548.00	2083.00
*	29.730	36860.00	1869.32	.00	9.32	140.00	1890.00	2050.00	.00	.00	1185.78	2380.00
*	29.730	36860.00	1870.03	.00	10.47	140.00	1890.00	2050.00	1580.00	2100.00	1580.00	2100.00
	29.740	36860.00	1869.38	.00	9.80	20.00	1910.00	2050.00	.00	.00	1535.76	2390.00
	29.740	36860.00	1870.07	.00	11.39	20.00	1910.00	2050.00	1570.00	2100.00	1570.00	2100.00
*	29.800	36860.00	1870.08	1870.08	15.53	330.00	1930.00	2050.00	.00	.00	1337.96	2064.01
*	29.800	36860.00	1870.92	.00	14.52	330.00	1930.00	2050.00	1550.00	2050.00	1550.00	2050.00
*	29.940	36860.00	1875.69	.00	10.97	750.00	1950.00	2060.00	.00	.00	957.83	2069.02
*	29.940	36860.00	1876.18	.00	11.65	750.00	1950.00	2060.00	1250.00	2060.00	1250.00	2060.00
*	30.100	36860.00	1880.71	1880.71	13.24	880.00	1880.00	2030.00	.00	.00	779.08	2073.80
*	30.100	36860.00	1880.49	.00	14.66	880.00	1880.00	2030.00	1250.00	2030.00	1250.00	2030.00
*	30.330	35900.00	1892.21	1892.21	13.74	1200.00	1870.00	2040.00	.00	.00	1197.71	2039.74
*	30.330	35900.00	1892.43	1892.43	14.97	1200.00	1870.00	2040.00	1461.00	2040.00	1461.00	2039.96

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19FEB97 16:18:09 PAGE 32

	SECNO	Q	CWSEL	CRIWS	VCH	XLCH	STCHL	STCHR	STENCL	STENCR	SSTA	ENDST
*	30.640	35900.00	1910.41	1910.41	14.19	1650.00	1950.00	2070.00	.00	.00	1276.50	2268.89
	30.640	35900.00	1910.31	.00	15.59	1650.00	1950.00	2070.00	1743.00	2070.00	1743.00	2070.00
	30.860	35900.00	1919.18	.00	11.13	1150.00	1940.00	2060.00	.00	.00	1664.11	2673.53
*	30.860	35900.00	1920.19	.00	10.62	1150.00	1940.00	2060.00	1901.00	2592.00	1901.00	2592.00
*	31.060	35900.00	1928.66	1928.66	13.16	1030.00	1940.00	2100.00	.00	.00	1784.41	2776.30
*	31.060	35900.00	1929.23	1929.23	13.92	1030.00	1940.00	2100.00	1898.00	2681.00	1898.00	2681.00
*	31.300	35900.00	1942.02	.00	11.25	1300.00	1950.00	2100.00	.00	.00	1846.74	2612.64
*	31.300	35900.00	1942.54	.00	11.50	1300.00	1950.00	2100.00	1950.00	2505.00	1950.00	2505.00
	31.480	35900.00	1949.90	1949.77	12.68	960.00	1880.00	2130.00	.00	.00	1857.37	2876.81
	31.480	35900.00	1950.41	.00	13.25	960.00	1880.00	2130.00	1880.00	2431.00	1880.00	2431.00
	31.650	35900.00	1958.01	.00	12.92	850.00	1930.00	2120.00	.00	.00	1572.30	2504.09
	31.650	35900.00	1958.54	.00	13.35	850.00	1930.00	2120.00	1724.00	2225.00	1724.00	2225.00
	31.820	35900.00	1965.50	.00	15.04	920.00	1920.00	2090.00	.00	.00	1728.54	2166.80
	31.820	35900.00	1966.03	.00	15.43	920.00	1920.00	2090.00	1789.00	2090.00	1789.00	2090.00

*	32.030	35900.00	1973.88	.00	9.29	1120.00	1870.00	2060.00	.00	.00	1588.52	2137.69
*	32.030	35900.00	1974.67	.00	9.17	1120.00	1870.00	2060.00	1625.00	2060.00	1625.00	2060.00
*	32.240	35900.00	1979.81	1979.81	16.29	1080.00	1950.00	2080.00	.00	.00	1629.56	2135.07
*	32.240	35900.00	1980.20	1980.20	16.94	1080.00	1950.00	2080.00	1713.00	2080.00	1713.00	2080.00
*	32.470	35900.00	1992.05	.00	11.13	1210.00	1920.00	2090.00	.00	.00	1599.27	2284.89
*	32.470	35900.00	1992.77	.00	11.23	1210.00	1920.00	2090.00	1706.00	2208.00	1706.00	2208.00
*	32.660	35000.00	2001.47	2001.47	15.67	1000.00	1930.00	2050.00	.00	.00	1467.65	2069.68
*	32.660	35000.00	2001.49	2001.49	17.02	1000.00	1930.00	2050.00	1680.00	2050.00	1680.00	2050.00
	32.910	35000.00	2013.58	.00	13.39	1350.00	1920.00	2110.00	.00	.00	1767.69	2228.54
*	32.910	35000.00	2014.39	.00	11.94	1350.00	1920.00	2110.00	1767.69	2228.54	1767.69	2228.54
*	33.110	35000.00	2025.01	2025.01	17.23	1060.00	1950.00	2050.00	.00	.00	1668.30	2072.49
*	33.110	35000.00	2024.95	2024.95	17.40	1060.00	1950.00	2050.00	1668.31	2072.49	1668.50	2072.32
*	33.320	35000.00	2034.40	.00	13.70	1080.00	1930.00	2030.00	.00	.00	1898.87	2237.20
*	33.320	35000.00	2034.46	.00	13.61	1080.00	1930.00	2030.00	1898.87	2237.20	1898.87	2237.20
*	33.480	35000.00	2043.21	2043.21	18.99	800.00	1975.00	2050.00	.00	.00	1949.72	2229.14
*	33.480	35000.00	2043.21	2043.21	18.98	800.00	1975.00	2050.00	1949.72	2229.14	1949.72	2229.14
*	33.660	35000.00	2055.46	2055.46	21.96	940.00	1960.00	2040.00	.00	.00	1926.26	2077.48
*	33.660	35000.00	2055.67	2055.67	21.62	940.00	1960.00	2040.00	1926.26	2077.49	1926.26	2077.49
*	33.780	35000.00	2062.85	.00	10.36	500.00	1920.00	2070.00	.00	.00	1830.10	2113.32
*	33.780	35000.00	2062.80	.00	10.40	500.00	1920.00	2070.00	1830.04	2113.34	1830.44	2113.21

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	SECNO	Q	CWSEL	CRIWS	VCH	XLCH	STCHL	STCHR	STENCL	STENCR	SSTA	ENDST
*	33.840	23600.00	2063.76	.00	11.37	440.00	1940.00	2040.00	.00	.00	1884.46	2143.73
*	33.840	23600.00	2063.72	.00	11.42	440.00	1940.00	2040.00	1884.20	2143.84	1884.75	2143.61
*	34.050	23600.00	2068.95	.00	13.52	1100.00	1940.00	2080.00	.00	.00	1921.06	2374.80
*	34.050	23600.00	2068.95	.00	13.51	1100.00	1940.00	2080.00	1921.22	2374.79	1921.22	2374.79
*	34.220	23600.00	2078.60	2078.60	15.77	900.00	1930.00	2070.00	.00	.00	1916.99	2175.82
*	34.220	23600.00	2078.61	2078.61	15.76	900.00	1930.00	2070.00	1916.99	2175.83	1916.99	2175.83
*	34.440	23600.00	2089.28	.00	9.29	1130.00	1930.00	2080.00	.00	.00	1697.96	2142.04
*	34.440	23600.00	2089.28	.00	9.30	1130.00	1930.00	2080.00	1697.96	2142.04	1697.97	2142.03
*	34.640	23600.00	2100.09	2100.09	16.47	1050.00	1970.00	2030.00	.00	.00	1736.61	2099.06
*	34.640	23600.00	2100.11	2100.11	16.40	1050.00	1970.00	2030.00	1736.60	2099.06	1736.60	2099.06
*	34.840	23600.00	2115.57	2115.57	16.58	1040.00	1980.00	2030.00	.00	.00	1692.24	2123.27
*	34.840	23600.00	2115.60	2115.60	16.47	1040.00	1980.00	2030.00	1692.24	2123.28	1692.24	2123.28
*	35.030	23600.00	2125.33	2125.33	13.09	1020.00	1940.00	2050.00	.00	.00	1643.49	2229.40
*	35.030	23600.00	2125.10	2125.10	13.72	1020.00	1940.00	2050.00	1643.49	2229.38	1643.90	2224.18
*	35.230	23600.00	2137.43	2137.43	13.23	1050.00	1920.00	2035.00	.00	.00	1905.07	2620.39
*	35.230	23600.00	2137.45	2137.45	13.18	1050.00	1920.00	2035.00	1905.07	2620.39	1905.07	2620.39
*	35.490	23600.00	2148.94	2148.94	15.00	1350.00	1940.00	2040.00	.00	.00	1634.15	2059.06
*	35.490	23600.00	2148.95	2148.95	14.98	1350.00	1940.00	2040.00	1634.18	2059.05	1634.18	2059.05

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CAVE CREEK WASH

SUMMARY PRINTOUT

	SECNO	QLOB	QCH	QROB	VLOB	VCH	VROB	TELMX	CWSEL	DIFWSX	TOPWID	ELMIN	ALPHA
*	29.000	798.42	22983.99	13077.59	7.22	15.63	6.60	1840.47	1833.78	.00	686.29	1820.47	1.58
*	29.000	822.47	24145.01	11892.53	7.75	16.79	7.91	1840.94	1833.50	.00	437.28	1820.47	1.41
*	29.190	2.52	20919.03	15938.45	1.62	15.01	6.79	1846.47	1841.59	7.81	887.56	1828.47	1.52
	29.190	.00	22830.94	14029.05	.00	16.28	9.16	1846.94	1841.66	8.16	446.00	1828.47	1.24
	29.390	21602.36	11617.26	3640.38	7.65	12.63	6.65	1856.47	1849.08	7.49	808.98	1838.47	1.21
	29.390	22549.72	12287.00	2023.28	7.50	12.23	7.45	1856.94	1850.02	8.36	551.00	1838.47	1.18
*	29.570	23095.43	13713.98	50.59	8.71	15.64	3.93	1869.47	1859.44	10.36	862.24	1848.47	1.28
*	29.570	22223.97	14636.03	.00	10.60	16.64	.00	1869.94	1859.47	9.45	530.00	1848.47	1.16
*	29.700	10357.00	23300.20	3202.80	6.28	14.70	6.25	1876.47	1866.69	7.25	827.91	1854.47	1.56
*	29.700	9778.10	25627.59	1454.30	7.68	16.02	7.62	1876.94	1866.80	7.33	535.00	1854.47	1.36
*	29.730	9535.54	17938.93	9385.53	4.99	9.32	5.13	1868.47	1869.32	2.63	1142.98	1856.47	1.31
*	29.730	12017.01	21348.45	3494.54	6.13	10.47	6.95	1868.94	1870.03	3.23	520.00	1856.47	1.20
	29.740	9077.91	16828.77	10953.32	5.03	9.80	5.53	1868.47	1869.38	.06	854.24	1856.47	1.32
	29.740	12251.08	20658.36	3950.56	6.05	11.39	7.45	1868.94	1870.07	.04	530.00	1856.47	1.28
*	29.800	19970.51	16663.08	226.41	8.32	15.53	5.76	1876.47	1870.08	.69	726.05	1860.47	1.33
*	29.800	19822.68	17037.32	.00	9.09	14.52	.00	1876.94	1870.92	.85	500.00	1860.47	1.17
*	29.940	22991.29	13749.70	119.01	5.47	10.97	3.66	1887.47	1875.69	5.61	1057.35	1862.47	1.41
*	29.940	21610.98	15249.02	.00	6.41	11.65	.00	1896.94	1876.18	5.27	790.57	1862.47	1.29
*	30.100	18222.15	17432.95	1204.90	6.39	13.24	6.67	1888.47	1880.71	5.03	1250.82	1868.47	1.46
*	30.100	18058.32	18801.68	.00	7.95	14.66	.00	1908.94	1880.49	4.30	730.40	1868.47	1.31
*	30.330	14515.20	21384.80	.00	6.35	13.74	.00	1912.47	1892.21	11.50	842.03	1882.47	1.48
*	30.330	12051.68	23848.31	.00	7.34	14.97	.00	1920.94	1892.43	11.95	578.96	1882.47	1.35
*	30.640	20064.71	14582.30	1252.99	9.57	14.19	4.87	1919.47	1910.41	18.20	927.53	1900.47	1.19
	30.640	20061.85	15838.15	.00	12.70	15.59	.00	1944.94	1910.31	17.88	327.00	1900.47	1.03
	30.860	3707.64	10960.85	21231.51	5.23	11.13	6.95	1930.47	1919.18	8.77	1009.42	1909.47	1.21
*	30.860	1813.82	11757.68	22328.50	6.70	10.62	6.88	1940.94	1920.19	9.88	691.00	1909.47	1.14
*	31.060	5051.87	8825.49	22022.64	9.72	13.16	9.64	1941.47	1928.66	9.48	991.89	1923.47	1.06
*	31.060	1966.76	10608.92	23324.32	10.61	13.92	10.26	1960.94	1929.23	9.04	783.00	1923.47	1.06
*	31.300	1569.65	13869.38	20460.98	5.20	11.25	7.48	1952.47	1942.02	13.36	765.90	1932.47	1.16
*	31.300	.00	15077.38	20822.62	.00	11.50	8.04	1952.94	1942.54	13.31	555.00	1932.47	1.10
	31.480	381.79	18805.22	16712.99	6.21	12.68	8.39	1980.47	1949.90	7.88	959.83	1943.47	1.14
	31.480	.00	21339.31	14560.69	.00	13.25	9.60	1980.94	1950.41	7.86	551.00	1943.47	1.08

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	SECNO	QLOB	QCH	QROB	VLOB	VCH	VROB	TELMX	CWSEL	DIFWSX	TOPWID	ELMIN	ALPHA
	31.650	9693.00	21093.35	5113.65	6.73	12.92	5.91	1980.47	1958.01	8.11	931.79	1948.47	1.39
	31.650	8964.34	23150.08	3785.57	7.91	13.35	7.26	1980.94	1958.54	8.14	501.00	1948.47	1.21
	31.820	12976.64	21750.49	1172.88	10.77	15.04	6.15	1980.47	1965.50	7.48	438.26	1955.47	1.13
	31.820	12211.85	23688.15	.00	11.77	15.43	.00	1980.94	1966.03	7.49	301.00	1955.47	1.05
*	32.030	17095.60	17501.00	1303.40	7.13	9.29	4.70	2000.47	1973.88	8.39	549.17	1963.47	1.08
*	32.030	17251.76	18648.24	.00	7.27	9.17	.00	2000.94	1974.67	8.64	435.00	1963.47	1.04
*	32.240	17630.81	16610.79	1658.40	10.53	16.29	8.20	2000.47	1979.81	5.93	505.51	1971.47	1.17
*	32.240	17771.84	18128.16	.00	12.09	16.94	.00	2000.94	1980.20	5.53	367.00	1971.47	1.09
*	32.470	11352.43	16218.73	8328.85	6.87	11.13	7.44	2020.47	1992.05	12.24	685.62	1982.47	1.16

Corrected Effective HEC-2 below River Mile 35.49

*	32.470	10962.58	17762.21	7175.21	7.53	11.23	8.03	2020.94	1992.77	12.56	502.00	1982.47	1.11
*	32.660	15564.70	18793.00	642.29	8.17	15.67	7.26	2020.47	2001.47	9.42	602.03	1990.47	1.35
*	32.660	14534.42	20465.57	.00	10.45	17.02	.00	2020.94	2001.49	8.72	370.00	1990.47	1.18
	32.910	6877.36	21703.70	6418.94	8.57	13.39	9.33	2028.47	2013.58	12.11	460.86	2004.47	1.12
*	32.910	7230.87	21190.16	6578.97	7.81	11.94	8.40	2028.94	2014.39	12.90	460.85	2004.47	1.11
*	33.110	17704.01	16443.44	852.55	10.85	17.23	9.09	2040.47	2025.01	11.44	404.19	2014.47	1.18
*	33.110	17654.76	16497.24	848.00	10.93	17.40	9.18	2060.94	2024.95	10.56	403.82	2014.47	1.18
*	33.320	1498.29	18401.41	15100.29	7.82	13.70	9.16	2052.47	2034.40	9.39	338.33	2019.47	1.14
*	33.320	1504.97	18363.54	15131.49	7.78	13.61	9.11	2052.94	2034.46	9.51	338.33	2019.47	1.14
*	33.480	1352.93	22396.03	11251.04	9.32	18.99	10.06	2072.47	2043.21	8.81	279.42	2026.47	1.30
*	33.480	1353.18	22393.21	11253.61	9.31	18.98	10.06	2072.94	2043.21	8.75	279.42	2026.47	1.30
*	33.660	2577.46	29528.14	2894.40	10.19	21.96	10.30	2080.47	2055.46	12.25	151.22	2038.47	1.22
*	33.660	2624.15	29428.21	2947.64	10.10	21.62	10.21	2080.94	2055.67	12.46	151.23	2038.47	1.22
*	33.780	4415.08	27709.12	2875.80	5.95	10.36	6.40	2080.47	2062.85	7.39	283.22	2043.97	1.13
*	33.780	4400.46	27727.25	2872.29	5.97	10.40	6.42	2080.94	2062.80	7.13	282.77	2043.97	1.13
*	33.840	2255.52	15388.53	5955.96	6.66	11.37	7.12	2092.47	2063.76	.91	259.27	2049.47	1.16
*	33.840	2249.29	15406.69	5944.01	6.69	11.42	7.15	2092.94	2063.72	.92	258.86	2049.47	1.16
*	34.050	121.36	15914.58	7564.05	4.51	13.52	6.84	2120.47	2068.95	5.18	453.74	2059.47	1.33
*	34.050	121.75	15907.39	7570.85	4.51	13.51	6.83	2120.94	2068.95	5.23	453.57	2059.47	1.33
*	34.220	164.33	20170.16	3265.51	5.62	15.77	7.78	2120.47	2078.60	9.66	258.83	2064.47	1.19
*	34.220	164.74	20165.31	3269.95	5.62	15.76	7.78	2120.94	2078.61	9.66	258.84	2064.47	1.19
*	34.440	10545.03	11545.60	1509.37	7.28	9.29	5.60	2128.47	2089.28	10.68	444.08	2080.47	1.07
*	34.440	10544.24	11547.24	1508.52	7.29	9.30	5.60	2128.94	2089.28	10.67	444.05	2080.47	1.07
*	34.640	10754.01	9179.58	3666.42	10.05	16.47	10.37	2140.47	2100.09	10.81	362.44	2090.47	1.19
*	34.640	10768.15	9162.26	3669.59	10.01	16.40	10.33	2140.94	2100.11	10.83	362.46	2090.47	1.19

	SECNO	QLOB	QCH	QROB	VLOB	VCH	VROB	TELMX	CWSEL	DIFWSX	TOPWID	ELMIN	ALPHA
*	34.840	11848.63	9864.73	1886.64	8.22	16.58	6.43	2140.47	2115.57	15.48	431.03	2102.47	1.48
*	34.840	11873.08	9827.58	1899.34	8.19	16.47	6.41	2140.94	2115.60	15.49	431.04	2102.47	1.48
*	35.030	4433.71	15966.36	3199.93	4.79	13.09	5.46	2160.47	2125.33	9.76	585.91	2113.47	1.66
*	35.030	4148.95	16387.96	3063.10	4.85	13.72	5.62	2160.94	2125.10	9.50	580.29	2113.47	1.68
*	35.230	347.41	18518.18	4734.40	5.20	13.23	4.18	2180.47	2137.43	12.10	715.32	2124.47	1.71
*	35.230	347.98	18483.08	4768.93	5.18	13.18	4.17	2180.94	2137.45	12.35	715.32	2124.47	1.72
*	35.490	6556.65	16534.82	508.53	6.56	15.00	6.30	2200.47	2148.94	11.51	424.91	2137.47	1.46
*	35.490	6570.74	16519.96	509.31	6.55	14.98	6.29	2200.94	2148.95	11.51	424.87	2137.47	1.46

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CAVE CREEK WASH

SUMMARY PRINTOUT

	SECNO	XLCH	K*CHSL	EG	HV	HL	OLOSS	10*KS	VOL	DEPTH	K*XNL	K*XNCH	K*XNR
*	29.000	.00	.00	1836.40	2.62	.00	.00	65.51	.00	13.31	50.00	42.00	50.00
*	29.000	.00	.00	1836.70	3.20	.00	.00	77.77	.00	13.03	50.00	42.00	50.00

*	29.190	1020.00	7.84	1843.88	2.29	6.69	.10	70.92	80.66	13.12	50.00	42.00	50.00
	29.190	1020.00	7.84	1844.70	3.04	7.96	.05	83.85	66.62	13.19	.00	42.00	50.00
	29.390	1020.00	9.80	1850.46	1.38	6.31	.27	57.66	171.14	10.61	50.00	42.00	50.00
	29.390	1020.00	9.80	1851.38	1.36	6.17	.51	48.12	147.86	11.55	50.00	42.00	50.00
*	29.570	990.00	10.10	1861.59	2.15	8.02	.39	111.32	264.17	10.97	50.00	42.00	50.00
*	29.570	990.00	10.10	1862.23	2.76	7.65	.70	130.38	233.96	11.00	50.00	42.00	.00
*	29.700	680.00	8.82	1869.04	2.35	5.77	.10	65.83	321.56	12.22	50.00	42.00	50.00
*	29.700	680.00	8.82	1869.85	3.05	6.77	.14	77.14	281.70	12.33	50.00	42.00	50.00
*	29.730	140.00	14.29	1870.18	.86	.70	.45	25.22	342.86	12.85	50.00	42.00	50.00
*	29.730	140.00	14.29	1871.27	1.25	.88	.54	29.49	300.94	13.56	50.00	42.00	50.00
	29.740	20.00	.00	1870.30	.92	.09	.03	27.19	347.98	12.91	50.00	42.00	50.00
	29.740	20.00	.00	1871.48	1.41	.13	.08	34.14	305.72	13.60	50.00	42.00	50.00
*	29.800	330.00	12.12	1872.35	2.28	1.16	.68	105.10	371.32	9.61	50.00	42.00	50.00
*	29.800	330.00	12.12	1873.12	2.20	1.24	.40	87.21	325.02	10.45	50.00	42.00	.00
*	29.940	750.00	2.67	1876.67	.99	3.93	.39	38.02	437.51	13.22	50.00	42.00	50.00
*	29.940	750.00	2.67	1877.43	1.25	4.02	.29	44.31	384.63	13.71	50.00	42.00	.00
*	30.100	880.00	6.82	1882.34	1.62	3.82	.32	78.08	514.41	12.24	50.00	42.00	50.00
*	30.100	880.00	6.82	1882.67	2.18	4.77	.47	106.23	449.66	12.02	50.00	42.00	.00
*	30.330	1200.00	11.67	1894.21	2.00	9.36	.19	81.10	624.26	9.74	50.00	42.00	.00
*	30.330	1200.00	11.67	1895.02	2.59	11.75	.20	93.48	540.92	9.96	50.00	42.00	.00
*	30.640	1650.00	10.91	1912.49	2.08	14.83	.04	91.88	768.21	9.94	50.00	42.00	50.00
	30.640	1650.00	10.91	1913.37	3.06	18.11	.24	119.99	656.88	9.84	50.00	42.00	.00
	30.860	1150.00	7.83	1920.25	1.07	7.46	.30	59.89	862.68	9.71	50.00	42.00	50.00
*	30.860	1150.00	7.83	1921.26	1.07	7.28	.60	46.70	743.66	10.72	50.00	42.00	50.00
*	31.060	1030.00	13.59	1930.41	1.75	9.63	.34	204.88	952.69	5.19	50.00	42.00	50.00
*	31.060	1030.00	13.59	1931.28	2.05	7.81	.49	193.30	826.39	5.76	50.00	42.00	50.00
*	31.300	1300.00	6.92	1943.29	1.27	12.73	.14	61.09	1062.99	9.55	50.00	42.00	50.00
*	31.300	1300.00	6.92	1943.99	1.44	12.53	.18	61.96	927.18	10.07	.00	42.00	50.00
	31.480	960.00	11.46	1951.72	1.82	8.16	.28	119.59	1151.36	6.43	50.00	42.00	50.00
	31.480	960.00	11.46	1952.61	2.20	8.24	.38	120.63	1006.52	6.94	.00	42.00	50.00

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	SECNO	XLCH	K*CHSL	EG	HV	HL	OLOSS	10*KS	VOL	DEPTH	K*XNL	K*XNCH	K*XNR
	31.650	850.00	5.88	1959.80	1.79	8.07	.01	76.00	1225.15	9.54	50.00	42.00	50.00
	31.650	850.00	5.88	1960.66	2.11	8.03	.03	74.92	1070.75	10.07	50.00	42.00	50.00
	31.820	920.00	7.61	1968.30	2.80	7.99	.51	104.27	1294.68	10.03	50.00	42.00	50.00
	31.820	920.00	7.61	1969.20	3.17	8.02	.53	105.66	1132.50	10.56	50.00	42.00	.00
*	32.030	1120.00	7.14	1974.93	1.04	6.10	.53	32.37	1391.97	10.41	50.00	42.00	50.00
*	32.030	1120.00	7.14	1975.75	1.07	5.91	.63	30.53	1224.57	11.20	50.00	42.00	.00
*	32.240	1080.00	7.41	1982.61	2.80	5.98	.88	136.11	1478.78	8.34	50.00	42.00	50.00
*	32.240	1080.00	7.41	1983.58	3.37	5.91	1.15	148.85	1305.40	8.73	50.00	42.00	.00
*	32.470	1210.00	9.09	1993.35	1.30	10.28	.45	56.39	1579.86	9.58	50.00	42.00	50.00
*	32.470	1210.00	9.09	1994.21	1.44	10.05	.58	51.56	1397.02	10.30	50.00	42.00	50.00
*	32.660	1000.00	8.00	2003.99	2.52	6.89	.61	91.13	1662.74	11.00	50.00	42.00	50.00
*	32.660	1000.00	8.00	2004.82	3.33	7.29	.95	118.02	1470.06	11.02	50.00	42.00	.00
	32.910	1350.00	10.37	2015.78	2.20	11.69	.10	82.13	1760.60	9.11	50.00	42.00	50.00

*	32.910	1350.00	10.37	2016.13	1.74	10.83	.48	57.91	1564.42	9.92	50.00	42.00	50.00
*	33.110	1060.00	9.43	2028.13	3.12	10.60	.46	117.30	1833.33	10.54	50.00	42.00	50.00
*	33.110	1060.00	9.43	2028.13	3.18	8.80	.72	120.65	1641.43	10.48	50.00	42.00	50.00
*	33.320	1080.00	4.63	2036.54	2.13	8.11	.30	54.03	1904.18	14.93	50.00	45.00	50.00
*	33.320	1080.00	4.63	2036.57	2.11	8.11	.32	53.04	1712.23	14.99	50.00	45.00	50.00
*	33.480	800.00	8.75	2047.35	4.14	5.28	.60	86.69	1954.35	16.74	50.00	45.00	50.00
*	33.480	800.00	8.75	2047.35	4.14	5.22	.61	86.62	1762.57	16.74	50.00	45.00	50.00
*	33.660	940.00	12.77	2062.04	6.57	8.27	.73	90.36	2000.54	16.99	50.00	42.00	50.00
*	33.660	940.00	12.77	2062.03	6.36	8.07	.67	86.14	1809.11	17.20	50.00	42.00	50.00
*	33.780	500.00	11.00	2064.30	1.44	1.75	.51	18.45	2033.30	18.88	50.00	42.00	50.00
*	33.780	500.00	11.00	2064.25	1.45	1.73	.49	18.66	1841.96	18.83	50.00	42.00	50.00
*	33.840	440.00	12.50	2065.34	1.57	1.00	.04	32.16	2065.76	14.29	50.00	42.00	50.00
*	33.840	440.00	12.50	2065.31	1.59	1.01	.04	32.60	1874.29	14.25	50.00	42.00	50.00
*	34.050	1100.00	9.09	2071.10	2.15	5.47	.29	86.21	2127.16	9.48	50.00	42.00	50.00
*	34.050	1100.00	9.09	2071.10	2.14	5.51	.28	85.93	1935.56	9.48	50.00	42.00	50.00
*	34.220	900.00	5.56	2082.04	3.43	8.62	.64	105.25	2169.38	14.14	50.00	42.00	50.00
*	34.220	900.00	5.56	2082.04	3.43	8.59	.64	104.93	1977.83	14.14	50.00	42.00	50.00
*	34.440	1130.00	14.16	2090.34	1.06	7.59	.71	47.60	2229.05	8.81	50.00	45.00	50.00
*	34.440	1130.00	14.16	2090.34	1.06	7.59	.71	47.70	2037.50	8.81	50.00	45.00	50.00
*	34.640	1050.00	9.52	2102.70	2.61	7.87	.78	128.52	2289.84	9.62	50.00	45.00	50.00
*	34.640	1050.00	9.52	2102.70	2.59	7.84	.77	127.05	2098.36	9.64	50.00	45.00	50.00

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	SECNO	XLCH	K*CHSL	EG	HV	HL	OLOSS	10*KS	VOL	DEPTH	K*XNL	K*XNCH	K*XNR
*	34.840	1040.00	11.54	2117.93	2.36	10.54	.07	87.98	2338.93	13.10	50.00	42.00	50.00
*	34.840	1040.00	11.54	2117.93	2.33	10.39	.08	86.56	2147.69	13.13	50.00	42.00	50.00
*	35.030	1020.00	10.78	2127.26	1.93	6.92	.13	56.43	2396.18	11.86	50.00	42.00	50.00
*	35.030	1020.00	10.78	2127.26	2.16	7.35	.05	63.79	2203.57	11.63	50.00	42.00	50.00
*	35.230	1050.00	10.48	2139.62	2.19	5.59	.13	50.81	2459.78	12.96	50.00	42.00	50.00
*	35.230	1050.00	10.48	2139.62	2.17	5.90	.01	50.37	2265.69	12.98	50.00	42.00	50.00
*	35.490	1350.00	9.63	2151.59	2.65	8.06	.23	73.98	2531.42	11.47	50.00	42.00	50.00
*	35.490	1350.00	9.63	2151.59	2.64	8.00	.23	73.60	2337.58	11.48	50.00	42.00	50.00

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CAVE CREEK WASH

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	29.000	.00	.00	.00	1820.47	36860.00	1833.78	1833.78	1836.40	65.51	15.63	3563.20	4554.15
*	29.000	.00	.00	.00	1820.47	36860.00	1833.50	1833.50	1836.70	77.77	16.79	3047.35	4179.68
*	29.190	1020.00	.00	.00	1828.47	36860.00	1841.59	1841.59	1843.88	70.92	15.01	3744.23	4376.80
	29.190	1020.00	.00	.00	1828.47	36860.00	1841.66	.00	1844.70	83.85	16.28	2933.88	4025.30
	29.390	1020.00	.00	.00	1838.47	36860.00	1849.08	.00	1850.46	57.66	12.63	4290.90	4854.10
	29.390	1020.00	.00	.00	1838.47	36860.00	1850.02	.00	1851.38	48.12	12.23	4281.69	5313.91

*	29.570	990.00	.00	.00	1848.47	36860.00	1859.44	1859.44	1861.59	111.32	15.64	3541.46	3493.58
*	29.570	990.00	.00	.00	1848.47	36860.00	1859.47	1859.47	1862.23	130.38	16.64	2975.49	3228.11
*	29.700	680.00	.00	.00	1854.47	36860.00	1866.69	1866.69	1869.04	65.83	14.70	3747.14	4543.16
*	29.700	680.00	.00	.00	1854.47	36860.00	1866.80	1866.80	1869.85	77.14	16.02	3064.16	4196.79
*	29.730	140.00	.00	.00	1856.47	36860.00	1869.32	.00	1870.18	25.22	9.32	5665.99	7339.43
*	29.730	140.00	.00	.00	1856.47	36860.00	1870.03	.00	1871.27	29.49	10.47	4503.16	6788.01
	29.740	20.00	.00	.00	1856.47	36860.00	1869.38	.00	1870.30	27.19	9.80	5504.36	7069.20
	29.740	20.00	.00	.00	1856.47	36860.00	1870.07	.00	1871.48	34.14	11.39	4369.34	6308.08
*	29.800	330.00	.00	.00	1860.47	36860.00	1870.08	1870.08	1872.35	105.10	15.53	3512.77	3595.50
*	29.800	330.00	.00	.00	1860.47	36860.00	1870.92	.00	1873.12	87.21	14.52	3354.60	3947.05
*	29.940	750.00	.00	.00	1862.47	36860.00	1875.69	.00	1876.67	38.02	10.97	5492.48	5978.00
*	29.940	750.00	.00	.00	1862.47	36860.00	1876.18	.00	1877.43	44.31	11.65	4680.08	5537.23
*	30.100	880.00	.00	.00	1868.47	36860.00	1880.71	1880.71	1882.34	78.08	13.24	4349.51	4171.42
*	30.100	880.00	.00	.00	1868.47	36860.00	1880.49	.00	1882.67	106.23	14.66	3553.42	3576.21
*	30.330	1200.00	.00	.00	1882.47	35900.00	1892.21	1892.21	1894.21	81.10	13.74	3842.61	3986.31
*	30.330	1200.00	.00	.00	1882.47	35900.00	1892.43	1892.43	1895.02	93.48	14.97	3234.58	3713.16
*	30.640	1650.00	.00	.00	1900.47	35900.00	1910.41	1910.41	1912.49	91.88	14.19	3382.70	3745.25
	30.640	1650.00	.00	.00	1900.47	35900.00	1910.31	.00	1913.37	119.99	15.59	2595.37	3277.32
	30.860	1150.00	.00	.00	1909.47	35900.00	1919.18	.00	1920.25	59.89	11.13	4750.26	4639.03
*	30.860	1150.00	.00	.00	1909.47	35900.00	1920.19	.00	1921.26	46.70	10.62	4622.47	5253.16
*	31.060	1030.00	.00	.00	1923.47	35900.00	1928.66	1928.66	1930.41	204.88	13.16	3474.75	2508.09
*	31.060	1030.00	.00	.00	1923.47	35900.00	1929.23	1929.23	1931.28	193.30	13.92	3219.94	2582.13
*	31.300	1300.00	.00	.00	1932.47	35900.00	1942.02	.00	1943.29	61.09	11.25	4271.46	4593.27
*	31.300	1300.00	.00	.00	1932.47	35900.00	1942.54	.00	1943.99	61.96	11.50	3901.37	4560.93
	31.480	960.00	.00	.00	1943.47	35900.00	1949.90	1949.77	1951.72	119.59	12.68	3535.95	3282.78
	31.480	960.00	.00	.00	1943.47	35900.00	1950.41	.00	1952.61	120.63	13.25	3127.63	3268.58

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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	31.650	850.00	.00	.00	1948.47	35900.00	1958.01	.00	1959.80	76.00	12.92	3938.64	4117.93
	31.650	850.00	.00	.00	1948.47	35900.00	1958.54	.00	1960.66	74.92	13.35	3389.05	4147.60
	31.820	920.00	.00	.00	1955.47	35900.00	1965.50	.00	1968.30	104.27	15.04	2841.00	3515.79
	31.820	920.00	.00	.00	1955.47	35900.00	1966.03	.00	1969.20	105.66	15.43	2573.13	3492.51
*	32.030	1120.00	.00	.00	1963.47	35900.00	1973.88	.00	1974.93	32.37	9.29	4559.20	6310.32
*	32.030	1120.00	.00	.00	1963.47	35900.00	1974.67	.00	1975.75	30.53	9.17	4406.25	6496.80
*	32.240	1080.00	.00	.00	1971.47	35900.00	1979.81	1979.81	1982.61	136.11	16.29	2895.22	3077.15
*	32.240	1080.00	.00	.00	1971.47	35900.00	1980.20	1980.20	1983.58	148.85	16.94	2540.94	2942.54
*	32.470	1210.00	.00	.00	1982.47	35900.00	1992.05	.00	1993.35	56.39	11.13	4229.53	4780.78
*	32.470	1210.00	.00	.00	1982.47	35900.00	1992.77	.00	1994.21	51.56	11.23	3929.42	4999.75
*	32.660	1000.00	.00	.00	1990.47	35000.00	2001.47	2001.47	2003.99	91.13	15.67	3192.12	3666.32
*	32.660	1000.00	.00	.00	1990.47	35000.00	2001.49	2001.49	2004.82	118.02	17.02	2593.89	3221.77
	32.910	1350.00	.00	.00	2004.47	35000.00	2013.58	.00	2015.78	82.13	13.39	3111.66	3862.01
*	32.910	1350.00	.00	.00	2004.47	35000.00	2014.39	.00	2016.13	57.91	11.94	3484.01	4599.45
*	33.110	1060.00	.00	.00	2014.47	35000.00	2025.01	2025.01	2028.13	117.30	17.23	2680.40	3231.58
*	33.110	1060.00	.00	.00	2014.47	35000.00	2024.95	2024.95	2028.13	120.65	17.40	2655.49	3186.43
*	33.320	1080.00	.00	.00	2019.47	35000.00	2034.40	.00	2036.54	54.03	13.70	3184.10	4761.68

Corrected Effective HEC-2 below River Mile 35.49

*	33.320	1080.00	.00	.00	2019.47	35000.00	2034.46	.00	2036.57	53.04	13.61	3203.67	4805.80
*	33.480	800.00	.00	.00	2026.47	35000.00	2043.21	2043.21	2047.35	86.69	18.99	2443.57	3759.04
*	33.480	800.00	.00	.00	2026.47	35000.00	2043.21	2043.21	2047.35	86.62	18.98	2444.28	3760.53
*	33.660	940.00	.00	.00	2038.47	35000.00	2055.46	2055.46	2062.04	90.36	21.96	1878.42	3681.94
*	33.660	940.00	.00	.00	2038.47	35000.00	2055.67	2055.67	2062.03	86.14	21.62	1909.90	3771.05
*	33.780	500.00	.00	.00	2043.97	35000.00	2062.85	.00	2064.30	18.45	10.36	3864.85	8147.85
*	33.780	500.00	.00	.00	2043.97	35000.00	2062.80	.00	2064.25	18.66	10.40	3849.50	8101.30
*	33.840	440.00	.00	.00	2049.47	23600.00	2063.76	.00	2065.34	32.16	11.37	2528.96	4161.79
*	33.840	440.00	.00	.00	2049.47	23600.00	2063.72	.00	2065.31	32.60	11.42	2517.00	4133.30
*	34.050	1100.00	.00	.00	2059.47	23600.00	2068.95	.00	2071.10	86.21	13.52	2310.27	2541.72
*	34.050	1100.00	.00	.00	2059.47	23600.00	2068.95	.00	2071.10	85.93	13.51	2312.93	2545.82
*	34.220	900.00	.00	.00	2064.47	23600.00	2078.60	2078.60	2082.04	105.25	15.77	1727.84	2300.33
*	34.220	900.00	.00	.00	2064.47	23600.00	2078.61	2078.61	2082.04	104.93	15.76	1729.67	2303.86
*	34.440	1130.00	.00	.00	2080.47	23600.00	2089.28	.00	2090.34	47.60	9.29	2960.34	3420.67
*	34.440	1130.00	.00	.00	2080.47	23600.00	2089.28	.00	2090.34	47.70	9.30	2958.39	3417.16
*	34.640	1050.00	.00	.00	2090.47	23600.00	2100.09	2100.09	2102.70	128.52	16.47	1981.59	2081.78
*	34.640	1050.00	.00	.00	2090.47	23600.00	2100.11	2100.11	2102.70	127.05	16.40	1989.38	2093.76

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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	34.840	1040.00	.00	.00	2102.47	23600.00	2115.57	2115.57	2117.93	87.98	16.58	2329.35	2516.11
*	34.840	1040.00	.00	.00	2102.47	23600.00	2115.60	2115.60	2117.93	86.56	16.47	2342.72	2536.59
*	35.030	1020.00	.00	.00	2113.47	23600.00	2125.33	2125.33	2127.26	56.43	13.09	2731.22	3141.73
*	35.030	1020.00	.00	.00	2113.47	23600.00	2125.10	2125.10	2127.26	63.79	13.72	2595.98	2954.96
*	35.230	1050.00	.00	.00	2124.47	23600.00	2137.43	2137.43	2139.62	50.81	13.23	2599.92	3310.70
*	35.230	1050.00	.00	.00	2124.47	23600.00	2137.45	2137.45	2139.62	50.37	13.18	2612.84	3325.19
*	35.490	1350.00	.00	.00	2137.47	23600.00	2148.94	2148.94	2151.59	73.98	15.00	2182.62	2743.80
*	35.490	1350.00	.00	.00	2137.47	23600.00	2148.95	2148.95	2151.59	73.60	14.98	2187.39	2750.93

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CAVE CREEK WASH

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	29.000	36860.00	1833.78	.00	.00	-.02	686.29	.00
*	29.000	36860.00	1833.50	-.28	.00	-.28	437.28	.00
*	29.190	36860.00	1841.59	.00	7.81	.00	887.56	1020.00
	29.190	36860.00	1841.66	.07	8.16	.07	446.00	1020.00
	29.390	36860.00	1849.08	.00	7.49	.00	808.98	1020.00
	29.390	36860.00	1850.02	.94	8.36	.94	551.00	1020.00
*	29.570	36860.00	1859.44	.00	10.36	.00	862.24	990.00
*	29.570	36860.00	1859.47	.03	9.45	.03	530.00	990.00
*	29.700	36860.00	1866.69	.00	7.25	.00	827.91	680.00
*	29.700	36860.00	1866.80	.11	7.33	.11	535.00	680.00

*	29.730	36860.00	1869.32	.00	2.63	.00	1142.98	140.00
*	29.730	36860.00	1870.03	.71	3.23	.71	520.00	140.00
	29.740	36860.00	1869.38	.00	.06	.00	854.24	20.00
	29.740	36860.00	1870.07	.69	.04	.69	530.00	20.00
*	29.800	36860.00	1870.08	.00	.69	.00	726.05	330.00
*	29.800	36860.00	1870.92	.84	.85	.84	500.00	330.00
*	29.940	36860.00	1875.69	.00	5.61	.00	1057.35	750.00
*	29.940	36860.00	1876.18	.50	5.27	.50	790.57	750.00
*	30.100	36860.00	1880.71	.00	5.03	.00	1250.82	880.00
*	30.100	36860.00	1880.49	-.23	4.30	-.23	730.40	880.00
*	30.330	35900.00	1892.21	.00	11.50	.00	842.03	1200.00
*	30.330	35900.00	1892.43	.22	11.95	.22	578.96	1200.00
*	30.640	35900.00	1910.41	.00	18.20	.00	927.53	1650.00
	30.640	35900.00	1910.31	-.10	17.88	-.10	327.00	1650.00
	30.860	35900.00	1919.18	.00	8.77	.00	1009.42	1150.00
*	30.860	35900.00	1920.19	1.02	9.88	1.02	691.00	1150.00
*	31.060	35900.00	1928.66	.00	9.48	.00	991.89	1030.00
*	31.060	35900.00	1929.23	.57	9.04	.57	783.00	1030.00
*	31.300	35900.00	1942.02	.00	13.36	.00	765.90	1300.00
*	31.300	35900.00	1942.54	.53	13.31	.53	555.00	1300.00
	31.480	35900.00	1949.90	.00	7.88	.00	959.83	960.00
	31.480	35900.00	1950.41	.50	7.86	.50	551.00	960.00

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SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
31.650	35900.00	1958.01	.00	8.11	.00	931.79	850.00
31.650	35900.00	1958.54	.53	8.14	.53	501.00	850.00
31.820	35900.00	1965.50	.00	7.48	.00	438.26	920.00
31.820	35900.00	1966.03	.54	7.49	.54	301.00	920.00
* 32.030	35900.00	1973.88	.00	8.39	.00	549.17	1120.00
* 32.030	35900.00	1974.67	.79	8.64	.79	435.00	1120.00
* 32.240	35900.00	1979.81	.00	5.93	.00	505.51	1080.00
* 32.240	35900.00	1980.20	.39	5.53	.39	367.00	1080.00
* 32.470	35900.00	1992.05	.00	12.24	.00	685.62	1210.00
* 32.470	35900.00	1992.77	.72	12.56	.72	502.00	1210.00
* 32.660	35000.00	2001.47	.00	9.42	.00	602.03	1000.00
* 32.660	35000.00	2001.49	.03	8.72	.03	370.00	1000.00
32.910	35000.00	2013.58	.00	12.11	.00	460.86	1350.00
* 32.910	35000.00	2014.39	.81	12.90	.81	460.85	1350.00
* 33.110	35000.00	2025.01	.00	11.44	.00	404.19	1060.00
* 33.110	35000.00	2024.95	-.06	10.56	-.06	403.82	1060.00
* 33.320	35000.00	2034.40	.00	9.39	.00	338.33	1080.00
* 33.320	35000.00	2034.46	.06	9.51	.06	338.33	1080.00
* 33.480	35000.00	2043.21	.00	8.81	.00	279.42	800.00
* 33.480	35000.00	2043.21	.00	8.75	.00	279.42	800.00
* 33.660	35000.00	2055.46	.00	12.25	.00	151.22	940.00

*	33.660	35000.00	2055.67	.21	12.46	.21	151.23	940.00
*	33.780	35000.00	2062.85	.00	7.39	.00	283.22	500.00
*	33.780	35000.00	2062.80	-.05	7.13	-.05	282.77	500.00
*	33.840	23600.00	2063.76	.00	.91	.00	259.27	440.00
*	33.840	23600.00	2063.72	-.04	.92	-.04	258.86	440.00
*	34.050	23600.00	2068.95	.00	5.18	.00	453.74	1100.00
*	34.050	23600.00	2068.95	.01	5.23	.01	453.57	1100.00
*	34.220	23600.00	2078.60	.00	9.66	.00	258.83	900.00
*	34.220	23600.00	2078.61	.01	9.66	.01	258.84	900.00
*	34.440	23600.00	2089.28	.00	10.68	.00	444.08	1130.00
*	34.440	23600.00	2089.28	.00	10.67	.00	444.05	1130.00
*	34.640	23600.00	2100.09	.00	10.81	.00	362.44	1050.00
*	34.640	23600.00	2100.11	.02	10.83	.02	362.46	1050.00

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	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	34.840	23600.00	2115.57	.00	15.48	.00	431.03	1040.00
*	34.840	23600.00	2115.60	.03	15.49	.03	431.04	1040.00
*	35.030	23600.00	2125.33	.00	9.76	.00	585.91	1020.00
*	35.030	23600.00	2125.10	-.23	9.50	-.23	580.29	1020.00
*	35.230	23600.00	2137.43	.00	12.10	.00	715.32	1050.00
*	35.230	23600.00	2137.45	.02	12.35	.02	715.32	1050.00
*	35.490	23600.00	2148.94	.00	11.51	.00	424.91	1350.00
*	35.490	23600.00	2148.95	.01	11.51	.01	424.87	1350.00

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SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 29.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 29.000 PROFILE= 2 CRITICAL DEPTH ASSUMED

CAUTION SECNO= 29.190 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 29.190 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 29.570 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 29.570 PROFILE= 1 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 29.570 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 29.570 PROFILE= 2 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 29.700 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 29.700 PROFILE= 1 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 29.700 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 29.700 PROFILE= 2 MINIMUM SPECIFIC ENERGY

WARNING SECNO= 29.730 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 29.730 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 29.800 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 29.800 PROFILE= 1 MINIMUM SPECIFIC ENERGY
WARNING SECNO= 29.800 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

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 WARNING SECNO=     29.940  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     29.940  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 CAUTION SECNO=     30.100  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     30.100  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 WARNING SECNO=     30.100  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 CAUTION SECNO=     30.330  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     30.330  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     30.330  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     30.330  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 CAUTION SECNO=     30.640  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     30.640  PROFILE=  1  MINIMUM SPECIFIC ENERGY

 WARNING SECNO=     30.860  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 CAUTION SECNO=     31.060  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     31.060  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     31.060  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     31.060  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 WARNING SECNO=     31.300  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     31.300  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=     32.030  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     32.030  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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 CAUTION SECNO=     32.240  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     32.240  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     32.240  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     32.240  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 WARNING SECNO=     32.470  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     32.470  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 CAUTION SECNO=     32.660  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     32.660  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     32.660  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     32.660  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 WARNING SECNO=     32.910  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 CAUTION SECNO=     33.110  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     33.110  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     33.110  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     33.110  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 WARNING SECNO=     33.320  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     33.320  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 CAUTION SECNO=     33.480  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     33.480  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     33.480  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
 CAUTION SECNO=     33.480  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     33.480  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     33.480  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

 CAUTION SECNO=     33.660  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     33.660  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     33.660  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
 CAUTION SECNO=     33.660  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     33.660  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     33.660  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

 WARNING SECNO=     33.780  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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```
 WARNING SECNO=     33.780  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=     33.840  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     33.840  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=     34.050  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     34.050  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 CAUTION SECNO=     34.220  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     34.220  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     34.220  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     34.220  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 WARNING SECNO=     34.440  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     34.440  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
1
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 CAUTION SECNO=     34.640  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     34.640  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     34.640  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     34.640  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 CAUTION SECNO=     34.840  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     34.840  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     34.840  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     34.840  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 CAUTION SECNO=     35.030  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     35.030  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     35.030  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     35.030  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 CAUTION SECNO=     35.230  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     35.230  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     35.230  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     35.230  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 CAUTION SECNO=     35.490  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     35.490  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     35.490  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     35.490  PROFILE=  2  MINIMUM SPECIFIC ENERGY

1
    19FEB97      16:18:09                                                    PAGE   49


 FLOODWAY DATA,       CAVE CREEK WASH
 PROFILE NO.  2

                 -------- FLOODWAY --------      WATER SURFACE ELEVATION
   STATION       WIDTH     SECTION     MEAN      WITH     WITHOUT  DIFFERENCE
                            AREA     VELOCITY  FLOODWAY  FLOODWAY

     29.000      437.      3047.      12.1     1833.5    1833.8      -.3
     29.190      446.      2934.      12.6     1841.7    1841.6       .1
     29.390      551.      4282.       8.6     1850.0    1849.1       .9
     29.570      530.      2975.      12.4     1859.4    1859.4       .0
     29.700      535.      3064.      12.0     1866.8    1866.7       .1
     29.730      520.      4503.       8.2     1870.0    1869.3       .7
     29.740      530.      4369.       8.4     1870.1    1869.4       .7
     29.800      500.      3355.      11.0     1870.9    1870.1       .8
     29.940      810.      4680.       7.9     1876.2    1875.7       .5
     30.100      780.      3553.      10.4     1880.5    1880.7      -.2
     30.330      579.      3235.      11.1     1892.4    1892.2       .2
```

30.640	327.	2595.	13.8	1910.3	1910.4	-.1
30.860	691.	4622.	7.8	1920.2	1919.2	1.0
31.060	783.	3220.	11.1	1929.3	1928.7	.6
31.300	555.	3901.	9.2	1942.5	1942.0	.5
31.480	551.	3128.	11.5	1950.4	1949.9	.5
31.650	501.	3389.	10.6	1958.5	1958.0	.5
31.820	301.	2573.	14.0	1966.0	1965.5	.5
32.030	435.	4406.	8.1	1974.7	1973.9	.8
32.240	367.	2541.	14.1	1980.2	1979.8	.4
32.470	502.	3929.	9.1	1992.7	1992.0	.7
32.660	370.	2594.	13.5	2001.5	2001.5	.0
32.910	461.	3484.	10.0	2014.4	2013.6	.8
33.110	404.	2655.	13.2	2024.9	2025.0	-.1
33.320	338.	3204.	10.9	2034.5	2034.4	.1
33.480	279.	2444.	14.3	2043.2	2043.2	.0
33.660	151.	1910.	18.3	2055.7	2055.5	.2
33.780	283.	3850.	9.1	2062.8	2062.9	-.1
33.840	259.	2517.	9.4	2063.8	2063.8	.0
34.050	454.	2313.	10.2	2068.9	2068.9	.0
34.220	259.	1730.	13.6	2078.6	2078.6	.0
34.440	444.	2958.	8.0	2089.3	2089.3	.0
34.640	362.	1989.	11.9	2100.1	2100.1	.0
34.840	431.	2343.	10.1	2115.6	2115.6	.0
35.030	580.	2596.	9.1	2125.1	2125.3	-.2
35.230	715.	2613.	9.0	2137.4	2137.4	.0
35.490	425.	2187.	10.8	2148.9	2148.9	.0

Hydraulic Analysis
Supplemental HEC-2 Output File
CCMCEREV.OH2

Revised CH2M-Hill HEC-2 analysis used to determine the location at which this study's analysis ties into the existing FEMA floodplain. CH2M-Hill elevation data increased by +0.47' to set both studies on the same elevation datum (refer to Section 2.1 of Hydraulics TDN).

CORRECTED EFFECTIVE MODEL
ABOVE RIVER MILE 35.49

```
1*****************************************
 *  HEC-2 WATER SURFACE PROFILES          *
 *                                        *
 *  Version   4.6.2;  May 1991            *
 *                                        *
 *  RUN DATE    27SEP96    TIME   14:51:29 *
 *****************************************
```

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

```
X     X  XXXXXXX   XXXXX            XXXXX
X     X  X        X     X          X     X
X     X  X        X                      X
XXXXXXX  XXXX     X         XXXXX    XXXXX
X     X  X        X                  X
X     X  X        X     X            X
X     X  XXXXXXX   XXXXX             XXXXXXX
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1

THIS RUN EXECUTED 27SEP96 14:51:29

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

 Version   4.6.2;  May 1991
************************************
```

```
T1        FLOOD CONTROL DISTRICT OF MARICOPA CO - LA027815.H2
T2        100-YEAR FLOOD FREQUENCY MODEL (NATURAL CONDITIONS)
T3        CAVE CREEK              (CC.MCE)
          added 0.47 feet to starting water surface due to datum change per GVSCE

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

                2                             0                                   2148.94

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     1                  -1

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

     38        43        26        8         42        39        1         34        4         53
     21        22        54        0         38        43        1         50        51        27
     21        22        28        5         3         61        200
      suppress summary printout only on J5
      J5   -10     -10


QT        2      28338     28338
NC     .055       .055      .045        .1         .3
ET                          9.1                                                   9768.16     10089.6
          ***** STREAM REACH DISTANCES REVISED 9-18-90
          THIS FLOODWAY MODEL IS BASED ON A PREVIOUS MODEL OF NATURAL CONDITIONS
          REFER TO FILE CC.OUT (CH2M HILL, 1990)

X1    35490        18      9962.8    10089.6      370.0     350.0     370.0                 0.47
GR   2163.0     9518.5     2153.1     9540.2     2150.5    9577.6    2150.8    9631.6    2148.8     9682.5
GR   2143.4     9712.2     2145.8     9791.8     2146.1    9862.9    2143.8    9910.1    2141.6     9944.2
GR   2141.1     9947.5     2143.1     9962.8     2137.8    9990.4    2138.3   10000.0    2139.8    10042.1
```

```
GR   2141.2     10089.6     2149.9     10106.8     2162.2     10129.8

NC      .06         .06       .045
ET                              9.1                                                  9596.8     10031.4
```



```
X1    35590          23     9932.1     10031.4       520.0       550.0       530.0                  0.47
GR   2175.5      9355.2     2152.3      9383.2      2153.1      9422.1      2153.6      9489.0     2150.8      9565.5
GR   2149.6      9596.8     2147.3      9612.8      2149.5      9644.1      2151.6      9674.1     2151.1      9698.4
GR   2148.5      9739.3     2150.0      9801.8      2151.0      9856.1      2150.1      9901.6     2146.7      9916.0
GR   2146.4      9932.1     2142.8      9941.3      2142.3      9974.3      2139.9     10000.0     2139.1     10013.4
GR   2147.2     10031.4     2178.6     10068.4      2182.6     10076.3

ET                              9.1                                                  9755.33    10208.3
X1    35690          21     9937.0     10050.0       460.0       470.0       530.0                  0.47
GR   2178.4      9549.8     2159.7      9571.8      2156.8      9605.2      2154.8      9639.6     2155.3      9703.8
GR   2156.3      9734.9     2154.4      9768.1      2157.9      9804.5      2159.0      9931.6     2159.3      9937.0
GR   2147.7      9952.2     2145.8      9971.8      2145.7     10000.0      2146.9     10031.8     2148.8     10050.0
GR   2152.8     10140.7     2151.4     10171.5      2149.4     10203.6      2150.5     10228.2     2169.6     10240.7
GR   2180.5     10260.7

QT        2         28319      28319
NC     .065          .065       .045
ET                              9.1                                                  9805.57    10190.8
X1    35770          21     9931.1     10092.1       450.0       450.0       450.0                  0.47
GR   2181.6      9633.5     2165.3      9659.3      2160.2      9681.6      2159.6      9716.2     2161.3      9752.1
GR   2161.3      9772.7     2159.2      9793.5      2160.3      9861.7      2161.2      9922.8     2161.2      9931.1
GR   2153.2      9949.6     2153.7      9984.7      2153.4     10000.0      2152.8     10023.9     2154.4     10042.7
GR   2156.7     10092.1     2158.4     10124.4      2156.8     10167.8      2154.2     10204.0     2164.5     10216.5
GR   2184.2     10245.1

ET                              9.1                                                  9928.56    10219.8
X1    35870          19     9968.0     10120.8       520.0       520.0       530.0                  0.47
GR   2200.8      9639.0     2170.9      9681.8      2170.9      9697.1      2166.2      9706.8     2165.9      9757.3
GR   2168.4      9814.7     2167.8      9863.8      2164.8      9934.0      2164.3      9968.0     2157.1      9983.3
GR   2157.4     10000.0     2158.3     10054.9      2160.0     10085.0      2162.4     10120.8     2162.5     10132.7
GR   2161.8     10199.7     2162.2     10227.1      2167.2     10260.7      2181.3     10295.1

NC     .065          .065       .035
ET                              9.1                                                  9729.72    10054.2
X1    35960          21     9929.7     10054.2       450.0       450.0       480.0                  0.47
GR   2194.0      9536.6     2178.8      9560.9      2171.7      9581.7      2170.1      9601.2     2171.2      9637.4
GR   2171.1      9730.1     2169.8      9778.9      2168.9      9827.3      2170.5      9891.1     2170.4      9910.4
GR   2172.0      9925.5     2166.8      9929.7      2164.1      9956.0      2160.0      9971.3     2161.9      9983.2
GR   2159.3     10000.0     2161.0     10038.0      2165.7     10054.2      2174.2     10067.5     2192.8     10093.2
GR   2193.6     10098.6

ET                              9.1                                                  9672.86    10048.3
X1    36060          22     9957.6     10048.3       560.0       560.0       580.0                  0.47
GR   2191.0      9405.7     2179.3      9435.6      2177.4      9501.1      2173.6      9552.2     2173.3      9585.6
GR   2173.0      9718.0     2171.5      9786.7      2171.0      9836.8      2171.3      9851.7     2174.5      9866.0
GR   2172.5      9876.3     2172.4      9886.6      2170.5      9914.1      2167.2      9957.6     2161.8      9970.2
GR   2160.5      9997.2     2160.4     10000.0      2163.4     10027.2      2169.5     10048.3     2193.6     10062.9
GR   2198.7     10081.5     2200.8     10091.8
1
```



```
NC     .065          .065        .06
ET                              9.1                                                  9957.10    10144.0
X1    36180          22     9957.1     10144.0       580.0       630.0       630.0                  0.47
GR   2201.5      9846.0     2200.1      9863.1      2198.7      9875.8      2180.0      9907.2     2179.6      9934.3
GR   2179.0      9944.4     2173.8      9957.1      2172.5      9973.8      2171.3     10000.0     2171.4     10011.3
GR   2174.2     10020.8     2174.1     10037.5      2175.8     10051.4      2175.5     10080.7     2170.7     10106.6
GR   2169.5     10127.2     2178.7     10144.0      2194.1     10173.6      2203.9     10198.7     2211.5     10228.7
GR   2222.2     10257.0     2228.1     10276.0
```

ET			9.1						9969.00	10226.9
X1	36230	20	9969.0	10130.4	240.0	250.0	260.0		0.47	
GR	2197.7	9917.0	2196.2	9927.9	2185.0	9958.2	2181.9	9969.0	2177.6	9979.9
GR	2174.5	9994.9	2174.4	10000.0	2176.6	10005.7	2176.1	10027.6	2180.1	10054.6
GR	2180.8	10062.6	2178.9	10082.7	2176.6	10098.2	2179.3	10130.4	2183.8	10158.1
GR	2183.5	10180.4	2181.8	10249.0	2185.3	10273.2	2192.1	10286.9	2227.3	10335.2
NC	.065	.065	.045							
ET			9.1						9868.28	10042.3
X1	36310	16	9965.0	10027.1	350.0	430.0	420.0		0.47	
GR	2205.2	9792.2	2193.7	9826.5	2191.6	9844.9	2190.7	9857.1	2183.9	9871.1
GR	2183.3	9882.2	2185.6	9908.1	2187.2	9940.9	2186.6	9953.0	2184.4	9965.0
GR	2178.9	9970.2	2178.9	10000.0	2183.8	10027.1	2185.0	10045.5	2226.8	10104.0
GR	2227.5	10113.1								
QT	2	28271	28271							
NC	.065	.065	.065							
ET			9.1						9876.40	10100.2
X1	36400	13	9876.4	10085.3	510.0	490.0	480.0		0.47	
GR	2228.2	9837.8	2194.0	9876.4	2189.8	9900.8	2192.3	9928.8	2193.1	9963.1
GR	2189.0	10000.0	2188.4	10047.9	2188.3	10073.8	2194.9	10085.3	2198.1	10123.6
GR	2202.5	10201.9	2204.1	10223.1	2215.1	10266.5				
ET			9.1						9945.24	10128.0
X1	36490	18	9971.6	10114.1	420	330	400		0.47	
GR	2221.9	9892.6	2203.9	9920.3	2201.4	9934.3	2201.4	9952.1	2199.0	9971.6
GR	2196.2	9983.0	2194.1	9996.0	2193.9	10000.0	2196.7	10015.5	2197.9	10040.6
GR	2197.5	10048.8	2196.5	10080.3	2194.0	10104.4	2198.8	10114.1	2199.4	10133.6
GR	2210.3	10152.5	2228.1	10183.8	2228.4	10185.6				
ET			9.1						9900.02	10046.9
X1	36520	13	9928.0	10011.7	200	210	200		0.47	
GR	2218.9	9857.6	2204.2	9897.7	2203.9	9913.2	2200.9	9928.0	2200.1	9933.5
GR	2199.0	9941.7	2200.3	9974.7	2194.9	9995.5	2194.5	10000.0	2199.4	10011.7
GR	2202.2	10030.7	2208.5	10067.3	2238.4	10119.6				
ET			9.1						9923.26	10085.9
X1	36610	12	9955.2	10031.1	400.0	470.0	480.0		0.47	
GR	2222.6	9889.2	2208.1	9929.5	2204.5	9955.2	2202.9	9956.1	2200.6	9995.3
GR	2200.6	10000.0	2203.0	10011.6	2204.4	10031.1	2206.2	10060.2	2212.6	10087.5
GR	2229.6	10122.6	2234.2	10132.7						

1

ET			9.1						9954.00	10107.0
X1	36690	12	9957.0	10037.3	380.0	390.0	380.0		0.47	
GR	2229.2	9918.3	2209.3	9957.0	2208.1	9962.7	2203.9	9990.5	2205.0	10000.0
GR	2208.3	10024.8	2209.8	10037.3	2212.5	10066.0	2215.8	10101.6	2215.7	10118.1
GR	2222.7	10135.5	2230.6	10152.3						
QT	2	28381	28381							
ET			9.1						9976.02	10125.3
X1	36780	13	9976.3	10093.2	470.0	500.0	480.0		0.47	
GR	2258.5	9913.2	2256.9	9918.2	2226.5	9960.8	2215.4	9976.3	2211.0	9977.6
GR	2209.9	9987.7	2211.6	10000.0	2211.4	10021.1	2213.3	10046.9	2218.7	10093.2
GR	2217.3	10116.0	2224.5	10138.9	2236.6	10167.9				
ET			9.1						9917.06	10026.0
X1	36880	13	9954.8	10023.3	550.0	560.0	530.0		0.47	
GR	2265.9	9831.8	2259.6	9854.4	2246.4	9885.0	2229.6	9919.8	2228.1	9938.4
GR	2226.6	9944.1	2226.3	9954.8	2222.8	9974.7	2221.5	10000.0	2226.5	10023.3
GR	2227.4	10024.7	2247.0	10058.6	2257.0	10068.9				
ET			9.1						9922.69	10149.7
X1	36960	15	9943.8	10059.8	380.0	420.0	420.0		0.47	
GR	2259.2	9880.5	2234.8	9922.8	2228.3	9943.8	2228.8	9957.0	2228.5	9985.5
GR	2226.0	10000.0	2229.0	10028.9	2228.4	10030.4	2230.7	10059.8	2236.8	10092.7
GR	2240.9	10115.2	2239.8	10144.4	2240.2	10178.1	2244.8	10193.5	2250.4	10206.9

ET			9.1						9829.95	10069.7
X1	37010	20	9935.4	10061.1	320	300	300		0.47	
GR	2260.6	9721.3	2248.9	9744.1	2245.5	9779.3	2242.5	9814.5	2236.9	9847.1
GR	2238.1	9863.7	2238.4	9899.3	2236.2	9932.6	2235.5	9935.4	2233.8	9964.8
GR	2229.0	10000.0	2232.1	10025.3	2231.8	10030.5	2241.5	10061.1	2245.8	10100.7
GR	2245.9	10127.8	2243.2	10157.5	2245.1	10192.4	2247.5	10217.3	2255.9	10244.0
ET			9.1						9947.80	10151.2
X1	37080	20	9947.8	10081.6	400.0	320.0	370.0		0.47	
GR	2273.1	9810.2	2257.0	9839.7	2251.7	9859.2	2250.3	9886.1	2248.4	9930.8
GR	2241.5	9938.8	2240.4	9947.8	2237.5	9972.9	2237.1	10000.0	2236.4	10017.0
GR	2235.8	10049.3	2239.2	10081.6	2238.2	10137.6	2241.0	10151.1	2246.4	10170.5
GR	2249.5	10200.4	2253.8	10225.0	2255.7	10247.2	2260.0	10261.3	2265.1	10278.9
ET			9.1						9969.00	10163.9
X1	37120	17	9969.0	10060.6	210.0	180.0	210.0		0.47	
GR	2271.9	9925.0	2251.8	9964.5	2247.2	9969.0	2240.3	9984.1	2234.9	10000.0
GR	2233.7	10013.1	2245.4	10049.4	2246.8	10060.6	2246.0	10078.1	2244.8	10115.6
GR	2242.6	10141.9	2241.7	10169.7	2249.5	10193.1	2258.6	10209.2	2261.5	10220.4
GR	2270.3	10275.9	2271.2	10287.2						
ET			9.1						9898.73	10095.8
X1	37200	19	9978.7	10095.8	380	320	370		0.47	
GR	2269.3	9799.5	2262.6	9826.6	2256.2	9835.0	2255.8	9861.6	2253.3	9888.5
GR	2250.9	9914.3	2246.4	9934.0	2251.6	9950.3	2251.3	9950.4	2248.9	9978.7
GR	2243.1	10000.0	2245.0	10018.9	2246.4	10048.2	2246.3	10076.6	2251.6	10095.8
GR	2266.5	10105.3	2278.5	10122.3	2291.0	10150.5	2295.1	10165.0		

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ET			9.1						9766.35	10031.7
X1	37270	19	9937.0	10027.7	240.0	350.0	370.0		0.47	
GR	2271.2	9707.2	2267.6	9728.4	2261.2	9745.4	2252.3	9764.9	2250.0	9793.1
GR	2254.3	9829.1	2255.6	9857.4	2254.8	9890.0	2252.7	9922.8	2254.4	9937.0
GR	2251.7	9954.5	2246.7	10000.0	2256.6	10027.7	2258.6	10047.0	2259.6	10085.8
GR	2261.6	10138.9	2263.1	10178.6	2271.7	10207.3	2270.9	10228.4		
NC	.065	.065	.06							
ET			9.1						9807.04	10044.4
X1	37310	19	9885.7	10031.9	200.0	220.0	210.0		0.47	
GR	2273.5	9752.5	2273.4	9771.1	2254.2	9803.6	2255.4	9816.9	2257.2	9851.3
GR	2256.1	9885.7	2254.3	9924.0	2253.4	9931.6	2252.7	9975.7	2249.6	9998.7
GR	2249.9	10000.0	2253.9	10019.4	2259.2	10031.9	2262.5	10108.7	2264.0	10245.4
GR	2264.9	10275.1	2266.8	10292.0	2278.6	10327.5	2284.4	10343.5		
QT	2	10979	10979							
NC	.065	.065	.035							
ET			9.1						9945.70	10106.0
X1	37370	20	9945.7	10095.8	320.0	340.0	320.0		0.47	
GR	2280.5	9883.0	2277.1	9910.6	2270.1	9928.4	2261.2	9945.7	2258.8	9953.8
GR	2254.5	9965.3	2255.6	9988.8	2255.5	10000.0	2253.7	10015.2	2258.0	10027.5
GR	2257.8	10049.7	2258.7	10077.4	2261.1	10095.8	2265.3	10242.3	2267.6	10338.1
GR	2269.5	10452.6	2274.5	10580.0	2277.9	10603.0	2282.8	10627.0	2288.7	10655.7
ET			9.1						9969.80	10292.5
X1	37470	24	9969.8	10062.0	480.0	450.0	530.0		0.47	
GR	2291.1	9896.5	2290.6	9938.2	2289.0	9953.0	2262.3	9969.8	2258.6	9985.8
GR	2257.7	10000.0	2258.1	10012.8	2259.1	10035.3	2262.2	10048.8	2266.1	10062.0
GR	2266.9	10103.0	2266.6	10166.1	2265.9	10260.4	2266.3	10341.6	2264.7	10382.1
GR	2260.3	10388.8	2265.2	10404.5	2264.2	10427.8	2266.8	10465.3	2270.4	10536.4
GR	2272.5	10614.9	2271.5	10695.2	2272.3	10714.4	2291.6	10755.4		
ET			9.1						9968	10111
X1	37570	29	9963.9	10065.5	520.0	490.0	530.0		0.47	
GR	2288.3	9854.8	2285.0	9869.5	2279.9	9906.8	2277.7	9929.7	2277.1	9945.0
GR	2272.7	9963.9	2261.7	9980.4	2259.8	9997.9	2259.4	10000.0	2261.5	10019.5
GR	2264.2	10036.1	2269.2	10065.5	2268.1	10103.9	2268.3	10115.7	2271.2	10138.2

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GR   2272.1   10251.7   2272.2   10346.5   2270.5   10409.2   2268.7   10437.4   2264.7   10454.1
GR   2268.4   10477.6   2268.3   10494.5   2271.0   10518.8   2271.7   10544.1   2273.3   10654.6
GR   2275.4   10681.4   2276.4   10711.4   2284.9   10728.5   2295.1   10749.3

NC     .065      .065      .045
ET                         9.1                                                   9923.40   10128.4
X1     37660       25      9923.4   10128.4    500.0     490.0     480.0             0.47
GR   2292.6    9865.8    2281.1    9898.5    2277.9    9916.5    2272.8    9923.4   2272.1    9938.2
GR   2274.1    9953.3    2273.7    9966.6    2273.0    9976.8    2270.0    9990.3   2271.0   10000.0
GR   2272.5   10016.0    2275.2   10028.9    2271.1   10040.0    2271.1   10067.9   2271.2   10099.4
GR   2277.0   10128.4    2276.2   10187.4    2276.9   10241.7    2276.3   10298.4   2273.5   10347.9
GR   2270.6   10362.1    2272.2   10375.1    2276.2   10391.3    2295.3   10422.8   2300.8   10456.5
1
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ET                         9.1                                                   9959.60   10186.4
X1     37750       27      9959.6   10186.4    450.0     450.0     480.0             0.47
GR   2306.7    9883.0    2306.1    9905.4    2295.7    9928.7    2286.0    9948.9   2281.8    9959.6
GR   2281.5    9962.4    2279.8    9974.9    2276.5    9983.7    2278.5   10000.0   2279.4   10026.6
GR   2280.5   10040.3    2281.3   10069.7    2281.9   10101.8    2280.5   10113.8   2279.7   10140.2
GR   2280.2   10168.3    2280.9   10186.4    2284.8   10213.0    2284.2   10249.7   2280.1   10284.5
GR   2281.0   10315.9    2283.4   10337.5    2285.2   10361.7    2286.1   10378.6   2296.8   10406.7
GR   2305.8   10432.4    2306.8   10444.5

NC     .065      .065      .035
ET                         9.1                                                   9917.10   10138.7
X1     37800       19      9917.1   10138.7    280.0     280.0     260.0             0.47
GR   2308.0    9663.1    2300.0    9687.5    2295.0    9703.3    2292.9    9749.4   2288.7    9825.8
GR   2285.5    9917.1    2282.9    9958.8    2282.9    9974.8    2283.0    9992.8   2282.7   10000.0
GR   2283.0   10042.7    2283.0   10051.8    2283.0   10087.4    2284.8   10109.3   2287.3   10138.7
GR   2291.7   10191.9    2293.8   10237.0    2297.8   10272.5    2309.8   10312.6

QT       2      27603     27603
NC     .065      .065      .040
ET                         9.1                                                   9828.11   10053.2
X1     37930       22      9928.9   10053.2    670.0     730.0     690.0             0.47
GR   2305.7    9747.6    2302.6    9758.5    2292.7    9776.0    2292.2    9790.3   2293.5    9830.3
GR   2293.5    9844.3    2288.4    9858.8    2294.0    9880.3    2290.2    9928.9   2285.7    9945.0
GR   2286.6    9955.4    2284.3    9997.2    2283.7   10000.0    2285.8   10027.5   2285.9   10038.4
GR   2289.0   10053.2    2294.5   10084.7    2300.8   10109.7    2300.7   10163.2   2303.8   10175.0
GR   2305.6   10204.1    2312.1   10235.8

ET                         9.1                                                   9954.50   10162.7
X1     38030       19      9954.5   10115.4    520.0     520.0     530.0             0.47
GR   2319.3    9870.7    2306.3    9908.3    2301.7    9936.6    2297.8    9954.5   2296.7    9967.4
GR   2293.0    9986.7    2292.8   10000.0    2295.0   10048.7    2295.2   10059.4   2295.2   10092.6
GR   2298.3   10115.4    2301.3   10176.7    2302.9   10247.1    2305.1   10326.4   2306.7   10395.5
GR   2309.0   10449.0    2309.3   10497.9    2312.0   10517.9    2316.5   10544.1

ET                         9.1                                                   9858.07   10185.6
NC     .065      .065       .06
X1     38140       22      9953.8   10027.7    590.0     560.0     580.0             0.47
GR   2321.8    9825.2    2306.5    9845.3    2301.8    9860.8    2302.6    9877.2   2303.5    9899.9
GR   2301.7    9918.9    2301.6    9927.9    2301.6    9953.8    2296.7    9961.9   2297.9    9978.2
GR   2295.1   10000.0    2294.5   10011.3    2301.8   10027.7    2304.5   10079.3   2307.7   10182.7
GR   2310.0   10285.7    2309.9   10306.6    2313.0   10342.2    2314.9   10414.3   2316.1   10486.3
GR   2316.9   10539.5    2316.6   10540.9

NC     .065      .065      .045
ET                         9.1                                                   9929.90   10180.1
X1     38250       19      9929.9   10111.7    470.0     390.0     580.0             0.47
GR   2334.4    9876.6    2320.8    9907.0    2303.9    9929.9    2307.2    9949.2   2305.7    9963.9
GR   2305.4    9996.5    2305.5   10000.0    2305.9   10022.4    2305.2   10031.1   2304.0   10045.7
GR   2306.6   10077.4    2309.0   10111.7    2308.9   10137.3    2312.2   10267.6   2314.7   10359.8
GR   2315.7   10396.6    2318.1   10414.3    2330.4   10443.6    2337.7   10456.0
1
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NC     .065      .065      .04
ET                         9.1                                                  9769.40    10064.8
X1    38320        20     9963.2    10064.8     360.0     400.0     370.0                    0.47
GR   2335.0     9707.6    2312.0     9751.6    2308.6    9773.9    2309.5    9791.2    2313.0    9822.9
GR   2314.4     9858.0    2312.7     9890.1    2315.2    9903.0    2314.5    9941.3    2315.8    9963.2
GR   2308.1     9976.4    2306.5     9997.2    2306.1   10000.0    2309.0   10028.8    2309.5   10037.9
GR   2313.3    10064.8    2313.8    10091.4    2323.4   10111.5    2338.6   10140.4    2340.8   10164.4

ET                         9.1                                                  9523.12    10050.1
X1    38430        17     9936.8    10050.1     480.0     590.0     580.0                    0.47
GR   2341.9     9426.7    2335.6     9449.4    2314.3    9490.7    2315.3    9515.5    2317.9    9568.5
GR   2320.3     9638.6    2320.5     9754.6    2319.8    9833.3    2320.9    9911.9    2320.4    9936.8
GR   2316.9     9968.5    2316.4     9981.3    2318.0   10000.0    2316.8   10036.8    2320.6   10050.1
GR   2346.3    10091.1    2347.3    10094.5

ET                         9.1                                                  9651.39    10019.4
X1    38500        18     9949.5    10019.4     370.0     360.0     370.0                    0.47
GR   2339.5     9583.9    2321.1     9629.1    2319.8    9650.0    2322.9    9689.9    2327.4    9743.8
GR   2329.3     9775.1    2327.4     9821.6    2326.1    9858.2    2324.8    9917.4    2325.2    9919.3
GR   2322.9     9949.5    2318.7     9979.9    2314.9    9997.1    2315.6   10000.0    2315.6   10013.8
GR   2317.8    10019.4    2342.7    10054.2    2343.4   10055.5

NC     .065      .065      .06
ET                         9.1                                                  9830.36    10058.7
X1    38610        14     9997.1    10056.0     520.0     570.0     580.0                    0.47
GR   2351.5     9776.0    2332.6     9812.7    2332.8    9850.0    2332.5    9896.5    2329.9    9921.3
GR   2327.2     9952.3    2326.5     9974.3    2327.2    9977.0    2327.6    9997.1    2326.8   10000.0
GR   2323.7    10028.5    2324.0    10056.0    2343.4   10081.9    2358.5   10100.9

NC     .065      .065      .045
ET                         9.1                                                  9971.20    10198.7
X1    38710        15     9971.2    10046.3     530.0     470.0     530.0                    0.47
GR   2362.3     9935.3    2359.1     9942.1    2331.9    9971.2    2326.3    9993.5    2328.1   10000.0
GR   2328.2    10012.3    2330.7    10031.0    2334.6   10046.3    2336.1   10071.4    2336.7   10080.2
GR   2338.1    10135.2    2336.7    10219.7    2335.7   10235.8    2344.6   10255.9    2356.8   10267.4

NC     .065      .065      .040
ET                         9.1                                                  9948.12    10152.3
X1    38790        16     9948.5    10093.4     430.0     390.0     422.0                    0.47
GR   2370.4     9870.2    2346.3     9905.9    2346.0    9922.8    2341.7    9948.5    2339.1    9957.8
GR   2337.6     9977.4    2337.9    10000.0    2338.2   10033.8    2338.8   10052.9    2339.7   10064.4
GR   2341.4    10093.4    2345.5    10136.5    2347.0   10168.7    2344.0   10201.8    2347.8   10223.2
GR   2356.0    10255.4
1
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST


 *PROF 1
0

 CCHV=      .100 CEHV=      .300
 *SECNO 35490.000
 3720 CRITICAL DEPTH ASSUMED
          ***** STREAM REACH DISTANCES REVISED 9-18-90
          THIS FLOODWAY MODEL IS BASED ON A PREVIOUS MODEL OF NATURAL CONDITIONS
          REFER TO FILE CC.OUT (CH2M HILL, 1990)

  35490.000     11.26   2149.53   2149.53   2148.94   2152.31      2.77       .00       .00   2143.57
    28338.0     9693.0    18235.6     409.3    1209.0    1171.9      61.1        .0        .0   2141.67
        .00       8.02      15.56      6.69      .055      .045      .055      .000   2138.27   9675.76
    .011514      370.      370.       350.         0         7         0       .00    429.38  10105.15
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*SECNO 35590.000

3301 HV CHANGED MORE THAN HVINS

35590.000	15.26	2154.83	.00	.00	2156.94	2.11	4.57	.07	2146.87
28338.0	10811.9	17405.6	120.5	2001.1	1221.6	30.2	34.3	6.5	2147.67
.01	5.40	14.25	3.98	.060	.045	.060	.000	2139.57	9380.71
.006781	520.	530.	550.	3	0	0	.00	659.13	10039.84

*SECNO 35690.000

3265 DIVIDED FLOW

35690.000	12.37	2158.54	.00	.00	2160.48	1.94	3.52	.02	2159.77
28338.0	2003.4	16079.3	10255.3	513.3	1199.9	1307.7	69.5	13.0	2149.27
.03	3.90	13.40	7.84	.060	.045	.060	.000	2146.17	9590.59
.007231	460.	530.	470.	3	0	0	.00	527.91	10233.15

*SECNO 35770.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

35770.000	10.04	2163.31	2163.31	.00	2165.85	2.54	4.09	.18	2161.67
28319.0	2971.9	19627.5	5719.6	640.7	1342.9	709.4	99.0	18.5	2157.17
.04	4.64	14.62	8.06	.065	.045	.065	.000	2153.27	9670.05
.011752	450.	450.	450.	4	15	0	.00	544.43	10214.49

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

*SECNO 35870.000

35870.000	11.39	2168.96	2168.75	.00	2171.41	2.45	5.55	.01	2164.77
28319.0	2074.5	20391.0	5853.6	514.5	1434.3	805.0	131.9	25.2	2162.87
.05	4.03	14.22	7.27	.065	.045	.065	.000	2157.57	9702.06
.009501	520.	530.	520.	4	8	0	.00	561.81	10263.87

*SECNO 35960.000

3301 HV CHANGED MORE THAN HVINS

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

35960.000	14.69	2174.46	2174.46	.00	2177.64	3.18	3.21	.22	2167.27
28319.0	4831.8	23285.3	201.9	1252.7	1485.6	53.8	161.5	30.7	2166.17
.06	3.86	15.67	3.75	.065	.035	.065	.000	2159.77	9574.99
.005090	450.	480.	450.	20	14	0	.00	492.18	10067.17

*SECNO 36060.000

3301 HV CHANGED MORE THAN HVINS

36060.000	16.93	2177.80	.00	.00	2180.16	2.36	2.44	.08	2167.67
28319.0	9192.6	19085.7	40.7	2203.5	1294.6	18.5	202.7	37.5	2169.97
.07	4.17	14.74	2.20	.065	.035	.065	.000	2160.87	9502.11
.003594	560.	580.	560.	3	0	0	.00	550.93	10053.04

*SECNO 36180.000

3301 HV CHANGED MORE THAN HVINS

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

36180.000	12.61	2182.58	2182.58	.00	2186.48	3.91	4.62	.46	2174.27
28319.0	1367.2	26900.2	51.7	167.0	1663.6	11.2	240.1	42.9	2179.17
.08	8.18	16.17	4.63	.065	.060	.065	.000	2169.97	9903.66
.023671	580.	630.	630.	20	19	0	.00	246.88	10150.55

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

*SECNO 36230.000

3301 HV CHANGED MORE THAN HVINS

36230.000	13.85	2188.72	.00	.00	2190.92	2.20	4.26	.17	2182.37
28319.0	410.3	21661.7	6247.1	66.2	1679.3	795.1	253.0	44.6	2179.77
.09	6.20	12.90	7.86	.065	.060	.065	.000	2174.87	9949.40
.012163	240.	260.	250.	2	0	0	.00	329.74	10279.15

*SECNO 36310.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

36310.000	14.96	2194.33	2194.33	.00	2198.63	4.30	4.92	.63	2184.87
28319.0	9118.1	16941.6	2259.3	934.2	848.4	229.0	274.3	47.2	2184.27
.10	9.76	19.97	9.86	.065	.045	.065	.000	2179.37	9826.02
.011874	350.	420.	430.	5	8	0	.00	231.88	10057.90

*SECNO 36400.000

3301 HV CHANGED MORE THAN HVINS

36400.000	13.47	2202.24	.00	.00	2204.10	1.86	5.23	.24	2194.47
28271.0	157.7	26318.3	1795.0	34.2	2340.8	322.9	300.6	50.3	2195.37
.11	4.61	11.24	5.56	.065	.065	.065	.000	2188.77	9867.62
.009797	510.	480.	490.	2	0	0	.00	321.51	10189.13

*SECNO 36490.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .62

36490.000	12.36	2206.73	2206.60	.00	2210.58	3.85	5.88	.60	2199.47
28271.0	2758.5	23327.3	2185.2	259.5	1409.8	180.4	321.2	52.8	2199.27
.12	10.63	16.55	12.11	.065	.065	.065	.000	2194.37	9916.67
.025137	420.	400.	330.	4	11	0	.00	228.83	10145.50

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

*SECNO 36520.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

36520.000	16.44	2211.41	2211.41	.00	2215.87	4.46	4.89	.18	2201.37
28271.0	3653.9	19214.1	5403.0	295.4	1038.0	402.7	329.5	53.8	2199.87
.12	12.37	18.51	13.42	.065	.065	.065	.000	2194.97	9879.30
.023511	200.	200.	210.	3	11	0	.00	192.27	10071.58

*SECNO 36610.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.78

36610.000	18.60	2219.67	.00	.00	2221.77	2.10	5.66	.24	2204.97
28271.0	4573.3	16560.0	7137.6	502.7	1289.4	717.0	352.0	55.8	2204.87
.13	9.10	12.84	9.96	.065	.065	.065	.000	2201.07	9898.65
.007390	400.	480.	470.	3	0	0	.00	202.47	10101.13

*SECNO 36690.000

3301 HV CHANGED MORE THAN HVINS

36690.000	18.21	2222.58	.00	.00	2225.60	3.02	3.56	.28	2209.77
28271.0	1275.8	19123.4	7871.8	159.5	1238.4	753.5	372.5	57.6	2210.27
.14	8.00	15.44	10.45	.065	.065	.065	.000	2204.37	9932.10
.012044	380.	380.	390.	3	0	0	.00	201.93	10134.02

*SECNO 36780.000

36780.000	18.04	2228.41	.00	.00	2231.12	2.71	5.49	.03	2215.87
28381.0	819.6	23678.6	3882.8	109.9	1709.6	402.2	396.8	59.8	2219.17
.15	7.46	13.85	9.65	.065	.065	.065	.000	2210.37	9958.78
.010715	470.	480.	500.	3	0	0	.00	188.38	10147.15

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

*SECNO 36880.000

3301 HV CHANGED MORE THAN HVINS

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

36880.000	16.64	2238.61	2238.61	.00	2244.26	5.65	8.09	.88	2226.77
28381.0	6525.0	20652.4	1203.6	435.0	1004.6	115.5	420.1	61.8	2226.97

.16	15.00	20.56	10.43	.065	.065	.065	.000	2221.97	9902.11
.022906	550.	530.	560.	20	11	0	.00	141.17	10043.28

*SECNO 36960.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.48

36960.000	20.22	2246.69	.00	.00	2247.83	1.15	3.12	.45	2228.77
28381.0	2951.9	19572.6	5856.5	421.0	2066.2	1016.5	444.1	63.9	2231.17
.17	7.01	9.47	5.76	.065	.065	.065	.000	2226.47	9903.01
.003715	380.	420.	420.	3	0	0	.00	293.88	10196.89

*SECNO 37010.000

37010.000	18.54	2248.01	.00	.00	2249.22	1.22	1.37	.02	2235.97
28381.0	9053.9	17745.8	1581.3	1271.7	1790.4	436.9	468.6	66.5	2241.97
.18	7.12	9.91	3.62	.065	.065	.065	.000	2229.47	9758.24
.005563	320.	300.	300.	3	0	0	.00	459.16	10217.41

*SECNO 37080.000

3301 HV CHANGED MORE THAN HVINS

37080.000	13.86	2250.13	.00	.00	2251.90	1.77	2.51	.17	2240.87
28381.0	917.6	18759.4	8703.9	134.7	1653.7	916.2	494.7	69.7	2239.67
.19	6.81	11.34	9.50	.065	.065	.065	.000	2236.27	9901.20
.008646	400.	370.	320.	2	0	0	.00	300.10	10201.30

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

*SECNO 37120.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .59

37120.000	17.24	2251.41	2251.28	.00	2255.28	3.87	2.75	.63	2247.67
28381.0	29.7	17501.3	10850.1	6.8	1006.2	848.6	505.1	70.9	2247.27
.19	4.34	17.39	12.79	.065	.065	.065	.000	2234.17	9965.34
.025221	210.	210.	180.	4	11	0	.00	230.30	10195.65

*SECNO 37200.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.47

37200.000	15.58	2259.15	.00	.00	2261.44	2.28	6.00	.16	2249.37
28381.0	8989.3	19331.1	60.6	954.4	1463.3	16.0	522.9	72.9	2252.07
.20	9.42	13.21	3.80	.065	.065	.065	.000	2243.57	9831.75
.011726	380.	370.	320.	2	0	0	.00	268.56	10100.31

*SECNO 37270.000

3301 HV CHANGED MORE THAN HVINS

37270.000	15.99	2263.16	.00	.00	2264.54	1.38	3.02	.09	2254.87
28381.0	15242.3	11488.7	1650.0	1708.8	1087.8	363.5	542.6	75.3	2257.07
.21	8.92	10.56	4.54	.065	.065	.065	.000	2247.17	9741.46
.008024	240.	370.	350.	2	0	0	.00	426.15	10167.60

*SECNO 37310.000

3301 HV CHANGED MORE THAN HVINS

37310.000	14.55	2264.62	.00	.00	2266.72	2.10	1.96	.21	2256.57
28381.0	6893.3	19831.1	1656.5	737.0	1562.1	378.6	556.5	77.5	2259.67
.22	9.35	12.70	4.38	.065	.060	.065	.000	2250.07	9786.74
.011350	200.	210.	220.	2	0	0	.00	463.87	10250.61

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

*SECNO 37370.000

3301 HV CHANGED MORE THAN HVINS

37370.000	13.50	2267.67	.00	.00	2268.25	.58	1.38	.15	2261.67
10979.0	50.4	9767.8	1160.7	35.0	1515.1	660.5	574.7	80.7	2261.57
.23	1.44	6.45	1.76	.065	.035	.065	.000	2254.17	9934.04
.001077	320.	320.	340.	2	0	0	.00	387.28	10321.32

*SECNO 37470.000

3301 HV CHANGED MORE THAN HVINS

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

37470.000	10.10	2268.27	2268.27	.00	2270.09	1.81	1.05	.37	2262.77
10979.0	20.1	8796.4	2162.5	9.5	733.3	781.0	596.0	85.6	2266.57
.25	2.11	12.00	2.77	.065	.035	.065	.000	2258.17	9966.34
.005130	480.	530.	450.	20	19	0	.00	518.76	10485.09

*SECNO 37570.000

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

37570.000	11.42	2271.29	2271.29	.00	2273.61	2.33	3.14	.15	2273.17
10979.0	.0	9415.5	1563.5	.0	717.5	414.0	611.7	90.2	2269.67
.26	.00	13.12	3.78	.000	.035	.065	.000	2259.87	9966.73
.007128	520.	530.	490.	2	8	0	.00	288.12	10517.15

*SECNO 37660.000

3265 DIVIDED FLOW

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

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .65

37660.000	6.54	2277.01	2276.96	.00	2278.69	1.68	5.01	.06	2273.27
10979.0	36.6	9318.7	1623.7	9.5	848.6	261.2	624.1	93.9	2277.47
.27	3.87	10.98	6.22	.065	.045	.065	.000	2270.47	9918.34
.016624	500.	480.	490.	6	11	0	.00	375.37	10391.86

*SECNO 37750.000

3265 DIVIDED FLOW

37750.000	7.73	2284.70	.00	.00	2286.17	1.47	7.46	.02	2282.27
10979.0	22.7	9517.1	1439.2	7.5	928.3	274.0	636.8	97.9	2281.37
.28	3.02	10.25	5.25	.065	.045	.065	.000	2276.97	9953.42
.014810	450.	480.	450.	4	0	0	.00	356.29	10348.63

*SECNO 37800.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

37800.000	5.24	2288.41	2288.41	.00	2290.38	1.97	3.22	.15	2285.97
10979.0	226.1	10750.2	2.7	85.0	945.6	2.5	643.6	99.9	2287.77
.29	2.66	11.37	1.09	.065	.035	.065	.000	2283.17	9847.44
.010374	280.	260.	280.	3	14	0	.00	299.02	10146.46

*SECNO 37930.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

37930.000	13.12	2297.29	2297.29	.00	2300.87	3.58	6.11	.48	2290.67
27603.0	4122.8	22481.9	998.3	717.4	1354.5	170.2	669.4	104.8	2289.47
.30	5.75	16.60	5.87	.065	.040	.065	.000	2284.17	9768.73
.008366	670.	690.	730.	2	20	0	.00	325.16	10093.89

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

*SECNO 38030.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

38030.000	11.88	2305.15	2305.15	.00	2308.51	3.36	4.45	.02	2298.27

27603.0	605.1	24353.3	2644.7	115.7	1565.7	538.4	696.4	109.1	2298.77
.31	5.23	15.55	4.91	.065	.040	.065	.000	2293.27	9918.25
.008483	520.	530.	520.	20	11	0	.00	393.10	10311.35

*SECNO 38140.000

3301 HV CHANGED MORE THAN HVINS

38140.000	16.78	2311.75	.00	.00	2313.18	1.42	4.47	.19	2302.07
27603.0	7807.7	12491.0	7304.3	963.9	1050.1	1244.9	732.5	114.8	2302.27
.33	8.10	11.90	5.87	.065	.060	.065	.000	2294.97	9839.02
.007086	590.	580.	560.	3	0	0	.00	483.46	10322.48

*SECNO 38250.000

3301 HV CHANGED MORE THAN HVINS

38250.000	10.91	2315.28	.00	.00	2317.81	2.53	4.30	.33	2304.37
27603.0	486.5	22390.7	4725.8	80.7	1612.0	830.9	765.2	119.7	2309.47
.34	6.03	13.89	5.69	.065	.045	.065	.000	2304.37	9915.12
.009685	470.	580.	390.	2	0	0	.00	448.75	10363.87

*SECNO 38320.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

38320.000	12.55	2319.12	2319.12	.00	2322.25	3.13	3.84	.18	2316.27
27603.0	10048.3	16486.5	1068.2	1250.4	959.8	160.4	786.2	123.2	2313.77
.35	8.04	17.18	6.66	.065	.040	.065	.000	2306.57	9738.87
.011071	360.	370.	400.	2	8	0	.00	362.69	10101.56

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

*SECNO 38430.000

3301 HV CHANGED MORE THAN HVINS

38430.000	11.03	2325.80	.00	.00	2326.96	1.17	4.51	.20	2320.87
27603.0	17577.2	9972.7	53.1	2763.2	854.2	17.8	821.6	128.7	2321.07
.37	6.36	11.67	2.98	.065	.040	.065	.000	2314.77	9469.33
.006744	480.	580.	590.	2	0	0	.00	588.31	10057.64

*SECNO 38500.000

3301 HV CHANGED MORE THAN HVINS

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

38500.000	15.48	2330.85	2330.85	.00	2333.81	2.96	2.76	.54	2323.37
27603.0	11927.0	14993.6	682.4	1738.2	849.0	110.5	848.4	133.1	2318.27
.38	6.86	17.66	6.17	.065	.040	.065	.000	2315.37	9606.31
.008280	370.	370.	360.	20	11	0	.00	430.66	10036.98

*SECNO 38610.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .65

38610.000	13.02	2337.19	.00	.00	2340.67	3.48	6.71	.16	2328.07
27603.0	13723.0	12856.6	1023.4	1177.7	708.6	108.1	877.7	137.4	2324.47
.39	11.65	18.14	9.47	.065	.060	.065	.000	2324.17	9804.69
.019584	520.	580.	570.	4	0	0	.00	268.29	10072.99

*SECNO 38710.000

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

38710.000	17.05	2343.82	.00	.00	2347.17	3.34	6.48	.01	2332.37
27603.0	387.9	17991.4	9223.7	70.2	1033.9	1274.7	903.3	140.6	2335.07
.40	5.52	17.40	7.24	.065	.045	.065	.000	2326.77	9958.94
.008654	530.	530.	470.	2	0	0	.00	294.15	10253.09

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

*SECNO 38790.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

38790.000	11.40	2349.47	2349.47	.00	2353.01	3.54	3.58	.06	2342.17
27603.0	1048.8	23730.5	2823.7	186.1	1471.3	513.2	924.7	143.5	2341.87
.41	5.64	16.13	5.50	.065	.040	.065	.000	2338.07	9901.90
.008612	430.	422.	390.	20	14	0	.00	326.03	10227.92

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T1 FLOOD CONTROL DISTRICT OF MARICOPA CO. - LA027815.H2
T2 100-YEAR FLOOD FREQUENCY MODEL (ENCROACHMENT CONDITIONS)
T3 CAVE CREEK (CC.MCE)
added 0.47 feet to starting water surface elevation

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
		3							2149.34	

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	15		-1							

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

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 *PROF 2
0

 CHV=     .100 CEHV=     .300
 *SECNO 35490.000
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=     9768.2   10089.6  TYPE=      1  TARGET=      321.439
          ***** STREAM REACH DISTANCES REVISED 9-18-90
          THIS FLOODWAY MODEL IS BASED ON A PREVIOUS MODEL OF NATURAL CONDITIONS
          REFER TO FILE CC.OUT (CH2M HILL, 1990)

  35490.000     11.68   2149.95   2149.95   2149.53   2153.21      3.26       .00       .00   2143.57
     28338.0    8423.2   19914.8        .0     932.0    1225.1         .0        .0        .0 100000.00
         .00      9.04     16.26       .00       .055      .045      .000      .000   2138.27   9768.16
    .012881      370.      370.      350.         0         7         0       .00    321.44  10089.60


 *SECNO 35590.000

 3301 HV CHANGED MORE THAN HVINS


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.53


 3470 ENCROACHMENT STATIONS=     9596.8   10031.4  TYPE=      1  TARGET=      434.601
  35590.000     16.28   2155.85       .00   2154.83   2157.61      1.77      4.25       .15   2146.87
     28338.0   11304.4   17033.6        .0    1910.2    1322.3         .0      32.5       4.5 100000.00
         .01      5.92     12.88       .00       .060      .045      .000      .000   2139.57   9596.80
    .005528      520.      530.      550.         2         0         0       .00    434.60  10031.40


 *SECNO 35690.000

 3265 DIVIDED FLOW

 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=     9755.3   10208.3  TYPE=      1  TARGET=      452.970
  35690.000     12.57   2158.74       .00   2158.54   2161.27      2.52      3.43       .23   2159.77
     28338.0    499.9   17976.4    9861.7     129.8    1222.3    1161.3      65.0       8.9   2149.27
         .03      3.85     14.71      8.49       .060      .045      .060      .000   2146.17   9755.33
    .008530      460.      530.      470.         2         0         0       .00    361.79  10208.30


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


 *SECNO 35770.000

 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=     9805.6   10190.8  TYPE=      1  TARGET=      385.229
  35770.000     10.38   2163.65   2163.65   2163.31   2166.75      3.10      4.64       .17   2161.67
     28319.0    1784.5   21791.8    4742.7     351.6    1397.0     589.5      90.0      12.8   2157.17
         .03      5.08     15.60      8.05       .065      .045      .065      .000   2153.27   9805.57
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   .012700      450.      450.      450.         4        15         0       .00    385.23  10190.80


 SECNO 35870.000

 3470 ENCROACHMENT STATIONS=     9928.6   10219.8  TYPE=      1  TARGET=     291.240
  35870.000     12.09   2169.66       .00   2168.96   2172.31      2.66      5.52       .04   2164.77
    28319.0    1026.9   22025.3    5266.7     180.8    1539.4     697.0     118.8      16.9   2162.87
        .05      5.68     14.31      7.56      .065      .045      .065      .000   2157.57   9928.56
   .008758      520.      530.      520.         2         0         0       .00    291.24  10219.80


 *SECNO 35960.000

 3301 HV CHANGED MORE THAN HVINS

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

 3470 ENCROACHMENT STATIONS=     9729.7   10054.2  TYPE=      1  TARGET=     324.480
  35960.000     14.64   2174.41   2174.41   2174.46   2178.23      3.82      3.51       .35   2167.27
    28319.0    3610.4   24708.6        .0     791.0    1478.9        .0     144.0      20.1 100000.00
        .06      4.56     16.71       .00      .065      .035      .000      .000   2159.77   9729.72
   .006330      450.      480.      450.        20        11         0       .00    324.48  10054.20


 *SECNO 36060.000

 3301 HV CHANGED MORE THAN HVINS

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   27SEP96      14:51:29                                                                                PAGE   22


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


 3470 ENCROACHMENT STATIONS=     9672.9   10048.3  TYPE=      1  TARGET=     375.439
  36060.000     17.93   2178.80       .00   2177.80   2180.96      2.16      2.57       .17   2167.67
    28319.0    9022.5   19296.5        .0    1905.8    1385.3        .0     180.4      24.7 100000.00
        .07      4.73     13.93       .00      .065      .035      .000      .000   2160.87   9672.86
   .003308      560.      580.      560.         3         0         0       .00    375.44  10048.30


 *SECNO 36180.000

 3301 HV CHANGED MORE THAN HVINS

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

 3470 ENCROACHMENT STATIONS=     9957.1   10144.0  TYPE=      1  TARGET=     186.900
  36180.000     12.57   2182.54   2182.54   2182.58   2187.08      4.54      4.59       .71   2174.27
    28319.0        .0   28319.0        .0        .0    1656.9        .0     215.1      28.6 100000.00
        .08       .00     17.09       .00      .000      .060      .000      .000   2169.97   9957.10
   .028777      580.      630.      630.        20        19         0       .00    186.90  10144.00


 *SECNO 36230.000

 3301 HV CHANGED MORE THAN HVINS


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.57
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 3470 ENCROACHMENT STATIONS=     9969.0   10226.9  TYPE=      1  TARGET=      257.900
  36230.000     14.64   2189.51       .00   2188.72   2191.82      2.31      4.52       .22   2182.37
    28319.0        .0   23311.9    5007.1        .0    1806.0     611.8     227.2       29.9   2179.77
        .09       .00     12.91      8.18       .000      .060      .065      .000   2174.87   9969.00
     .011701      240.      260.      250.         2         0         0       .00    257.90  10226.90


 *SECNO 36310.000

 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
1
    27SEP96      14:51:29                                                                                PAGE   23


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


 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=     9868.3   10042.3  TYPE=      1  TARGET=      174.020
  36310.000     15.08   2194.45   2194.45   2194.33   2199.53      5.08      5.09       .83   2184.87
    28319.0    8913.5   18124.7    1280.8     824.7     855.9     147.2     247.1       31.9   2184.27
        .09     10.81     21.18      8.70       .065      .045      .065      .000   2179.37   9868.28
     .013200      350.      420.      430.         5         8         0       .00    174.02  10042.30


 *SECNO 36400.000

 3301 HV CHANGED MORE THAN HVINS

 470 ENCROACHMENT STATIONS=     9876.4   10100.2  TYPE=      1  TARGET=      223.800
  36400.000     14.42   2203.19       .00   2202.24   2205.00      1.81      5.14       .33   2194.47
    28271.0        .0   27603.8     667.2        .0    2537.1     107.3     272.0       34.2   2195.37
        .10       .00     10.88      6.22       .000      .065      .065      .000   2188.77   9876.40
     .008696      510.      480.      490.         3         0         0       .00    223.80  10100.20


 *SECNO 36490.000

 3301 HV CHANGED MORE THAN HVINS


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .57


 3470 ENCROACHMENT STATIONS=     9945.2   10128.0  TYPE=      1  TARGET=      182.760
  36490.000     12.62   2206.99   2206.79   2206.73   2211.44      4.45      5.65       .79   2199.47
    28271.0    1848.4   25286.6    1136.0     158.4    1447.1     104.4     291.9       36.0   2199.27
        .11     11.67     17.47     10.89       .065      .065      .065      .000   2194.37   9945.24
     .027075      420.      400.      330.         4        15         0       .00    182.76  10128.00


 *SECNO 36520.000

 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=     9900.0   10046.9  TYPE=      1  TARGET=      146.881
  36520.000     16.79   2211.76       .00   2211.41   2216.78      5.02      5.17       .17   2201.37
    28271.0    2956.7   20533.4    4780.9     227.3    1067.1     324.0     299.6       36.8   2199.87
        .11     13.01     19.24     14.75       .065      .065      .065      .000   2194.97   9900.02
     .024488      200.      200.      210.         3         0         0       .00    146.88  10046.90
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 36610.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.89

3470 ENCROACHMENT STATIONS= 9923.3 10085.9 TYPE= 1 TARGET= 162.641

36610.000	19.37	2220.44	.00	2219.67	2222.57	2.13	5.50	.29	2204.97
28271.0	4111.1	17201.2	6958.7	418.5	1348.2	703.5	321.4	38.4	2204.87
.13	9.82	12.76	9.89	.065	.065	.065	.000	2201.07	9923.26
.006873	400.	480.	470.	3	0	0	.00	162.64	10085.90

*SECNO 36690.000

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 9954.0 10107.0 TYPE= 1 TARGET= 153.000

36690.000	18.61	2222.98	.00	2222.58	2226.47	3.48	3.49	.41	2209.77
28271.0	176.3	20511.6	7583.1	37.3	1271.4	660.4	340.9	39.8	2210.27
.13	4.72	16.13	11.48	.065	.065	.065	.000	2204.37	9954.00
.012694	380.	380.	390.	3	0	0	.00	153.00	10107.00

SECNO 36780.000

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 9976.0 10125.3 TYPE= 1 TARGET= 149.280

36780.000	18.79	2229.16	.00	2228.41	2232.00	2.84	5.47	.06	2215.87
28381.0	3.6	25030.1	3347.3	3.7	1797.1	336.1	363.8	41.5	2219.17
.14	.97	13.93	9.96	.065	.065	.065	.000	2210.37	9976.02
.010137	470.	480.	500.	2	0	0	.00	149.28	10125.30

*SECNO 36880.000

3301 HV CHANGED MORE THAN HVINS

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

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

3470 ENCROACHMENT STATIONS= 9917.1 10026.0 TYPE= 1 TARGET= 108.940

36880.000	16.70	2238.67	2238.67	2238.61	2245.16	6.49	8.09	1.09	2226.77
28381.0	6338.6	21732.9	309.5	383.4	1008.8	29.3	385.6	43.1	2226.97

```
      .15     16.53     21.54     10.56      .065      .065      .065      .000   2221.97   9917.06
   .025009      550.      530.      560.        20        11         0       .00    108.94  10026.00


*SECNO 36960.000

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.69


3470 ENCROACHMENT STATIONS=     9922.7   10149.7  TYPE=      1  TARGET=      227.010
 36960.000     21.06   2247.53       .00   2246.69   2248.73      1.20      3.04       .53   2228.77
   28381.0    2644.8   20415.6    5320.6     327.1    2164.0     857.0     408.3      44.7   2231.17
      .16       8.09      9.43      6.21      .065      .065      .065      .000   2226.47   9922.69
   .003464      380.      420.      420.         3         0         0       .00    227.01  10149.70


*SECNO 37010.000

3470 ENCROACHMENT STATIONS=     9830.0   10069.7  TYPE=      1  TARGET=      239.750
 37010.000     19.22   2248.69       .00   2248.01   2250.13      1.44      1.33       .07   2235.97
   28381.0    8742.8   19415.2     222.9    1100.3    1877.0      53.8     430.6      46.3   2241.97
      .17       7.95     10.34      4.14      .065      .065      .065      .000   2229.47   9829.95
   .005689      320.      300.      300.         3         0         0       .00    239.75  10069.70


*SECNO 37080.000

3470 ENCROACHMENT STATIONS=     9947.8   10151.2  TYPE=      1  TARGET=      203.400
 37080.000     14.63   2250.90       .00   2250.13   2252.81      1.91      2.54       .14   2240.87
   28381.0        .0   19704.3    8676.7        .0    1757.2     804.1     454.2      48.2   2239.67
      .18       .00     11.21     10.79      .000      .065      .065      .000   2236.27   9947.80
   .008577      400.      370.      320.         2         0         0       .00    203.40  10151.20


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


*SECNO 37120.000

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .59


3470 ENCROACHMENT STATIONS=     9969.0   10163.9  TYPE=      1  TARGET=      194.900
 37120.000     17.98   2252.15       .00   2251.41   2256.17      4.02      2.73       .63   2247.67
   28381.0        .0   18832.3    9548.7        .0    1074.4     745.7     464.3      49.1   2247.27
      .18       .00     17.53     12.80      .000      .065      .065      .000   2234.17   9969.00
   .024940      210.      210.      180.         2         0         0       .00    194.90  10163.90


*SECNO 37200.000

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.47
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3470 ENCROACHMENT STATIONS=     9898.7   10095.8  TYPE=      1  TARGET=      197.069
 37200.000     16.31   2259.88       .00   2259.15   2262.27      2.39      5.93       .16   2249.37
   28381.0   8181.8   20199.2        .0     767.1    1549.3        .0     481.5       50.7 100000.00
       .19     10.67     13.04       .00      .065      .065      .000      .000   2243.57   9898.73
   .011521      380.      370.      320.         3         0         0       .00    197.07  10095.80


*SECNO 37270.000

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     9766.3   10031.7  TYPE=      1  TARGET=      265.351
 37270.000     16.65   2263.82       .00   2263.16   2265.40      1.58      3.05       .08   2254.87
   28381.0  15551.4   12729.0      100.6    1687.4    1147.6      26.1      499.8      52.3   2257.07
       .20      9.22     11.09      3.85      .065      .065      .065      .000   2247.17   9766.35
   .008242      240.      370.      350.         2         0         0       .00    265.35  10031.70


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   27SEP96      14:51:29                                                                                PAGE   27

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


*SECNO 37310.000

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     9807.0   10044.4  TYPE=      1  TARGET=      237.360
 37310.000     15.18   2265.25       .00   2264.62   2267.60      2.35      1.97       .23   2256.57
   28381.0   6338.1   21652.6      390.3     668.8    1654.1      66.5      512.2      53.5   2259.67
       .21      9.48     13.09      5.87      .065      .060      .065      .000   2250.07   9807.04
   .011182      200.      210.      220.         2         0         0       .00    237.36  10044.40


*SECNO 37370.000

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     9945.7   10106.0  TYPE=      1  TARGET=      160.300
 37370.000     14.30   2268.47       .00   2267.67   2269.14       .68      1.37       .17   2261.67
   10979.0        .0   10845.8      133.2        .0    1635.2      68.9      527.3      54.9   2261.57
       .22       .00      6.63      1.93      .000      .035      .065      .000   2254.17   9945.70
   .001092      320.      320.      340.         2         0         0       .00    160.30  10106.00


*SECNO 37470.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     9969.8   10292.5  TYPE=      1  TARGET=      322.700
 37470.000     10.51   2268.68   2268.68   2268.27   2270.98      2.31      1.12       .49   2262.77
   10979.0        .0    9877.9    1101.1        .0     770.7     418.4     544.4      57.7   2266.57
       .23       .00     12.82      2.63      .000      .035      .065      .000   2258.17   9969.80
   .005945      480.      530.      450.         5        19         0       .00    322.70  10292.50


*SECNO 37570.000

3301 HV CHANGED MORE THAN HVINS
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 9968.0 10111.0 TYPE= 1 TARGET= 143.000

37570.000	11.88	2271.75	.00	2271.29	2274.60	2.85	3.46	.16	100000.00
10979.0	.0	10530.9	448.1	.0	762.4	123.3	556.8	60.4	2269.67
.24	.00	13.81	3.64	.000	.035	.065	.000	2259.87	9968.00
.007262	520.	530.	490.	2	0	0	.00	143.00	10111.00

*SECNO 37660.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .69

3470 ENCROACHMENT STATIONS= 9923.4 10128.4 TYPE= 1 TARGET= 205.000

37660.000	7.13	2277.60	2277.33	2277.01	2279.59	1.98	4.90	.09	2273.27
10979.0	.0	10979.0	.0	.0	971.1	.0	567.0	62.3	100000.00
.26	.00	11.31	.00	.000	.045	.000	.000	2270.47	9923.40
.015376	500.	480.	490.	8	11	0	.00	205.00	10128.40

*SECNO 37750.000

3470 ENCROACHMENT STATIONS= 9959.6 10186.4 TYPE= 1 TARGET= 226.801

37750.000	8.13	2285.10	.00	2284.70	2286.90	1.80	7.29	.02	2282.27
10979.0	.0	10979.0	.0	.0	1018.8	.0	578.0	64.7	100000.00
.27	.00	10.78	.00	.000	.045	.000	.000	2276.97	9959.60
.015010	450.	480.	450.	4	0	0	.00	226.80	10186.40

*SECNO 37800.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 9917.1 10138.7 TYPE= 1 TARGET= 221.601

37800.000	5.19	2288.36	2288.36	2288.41	2290.50	2.14	3.40	.10	2285.97
10979.0	.0	10979.0	.0	.0	934.2	.0	583.8	66.0	100000.00
.27	.00	11.75	.00	.000	.035	.000	.000	2283.17	9917.10
.011469	280.	260.	280.	3	14	0	.00	221.60	10138.70

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

*SECNO 37930.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

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3470 ENCROACHMENT STATIONS=     9828.1   10053.2  TYPE=      1  TARGET=      225.090
 37930.000      13.32    2297.49    2297.49    2297.29    2301.77       4.28       7.11        .64    2290.67
   27603.0     3392.9    24210.1         .0      509.2     1379.8         .0      606.1       69.5  100000.00
       .29       6.66      17.55        .00        .065       .040       .000       .000    2284.17    9828.11
   .009907       670.       690.       730.          2         20          0        .00     225.09   10053.20


*SECNO 38030.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     9954.5   10162.7  TYPE=      1  TARGET=      208.200
 38030.000      11.60    2304.87    2304.87    2305.15    2309.21       4.34       5.59        .02    2298.27
   27603.0         .0    26040.0     1563.0         .0     1519.5      233.6      628.1       72.1    2298.77
       .29        .00      17.14       6.69        .000       .040       .065       .000    2293.27    9954.50
   .011304       520.       530.       520.          3         15          0        .00     208.20   10162.70


*SECNO 38140.000

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     9858.1   10185.6  TYPE=      1  TARGET=      327.529
 38140.000      17.75    2312.72        .00    2311.75    2314.08       1.36       4.58        .30    2302.07
   27603.0     7608.3    12660.8    7333.9      955.2     1121.3     1117.9      660.9       75.7    2302.27
       .31       7.96      11.29       6.56        .065       .060       .065       .000    2294.97    9858.07
   .005850       590.       580.       560.          2          0          0        .00     327.53   10185.60


*SECNO 38250.000

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     9929.9   10180.1  TYPE=      1  TARGET=      250.199

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


 38250.000      11.31    2315.68        .00    2315.28    2318.71       3.03       4.12        .50    2304.37
   27603.0         .0    24550.8    3052.2         .0     1684.1      406.9      691.5       78.9    2309.47
       .32        .00      14.58       7.50        .000       .045       .065       .000    2304.37    9929.90
   .010903       470.       580.       390.          3          0          0        .00     250.20   10180.10


*SECNO 38320.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     9769.4   10064.8  TYPE=      1  TARGET=      295.399
 38320.000      13.02    2319.59    2319.59    2319.12    2323.15       3.56       4.22        .16    2316.27
   27603.0     9712.5    17890.5         .0     1156.1     1007.3         .0      709.6       81.2  100000.00
       .33       8.40      17.76        .00        .065       .040       .000       .000    2306.57    9769.40
   .011932       360.       370.       400.          3         11          0        .00     295.40   10064.80


*SECNO 38430.000

3301 HV CHANGED MORE THAN HVINS
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3470 ENCROACHMENT STATIONS=     9523.1   10050.1  TYPE=      1  TARGET=      526.979
 38430.000     11.88   2326.65       .00   2325.80   2327.86      1.21      4.48       .24   2320.87
   27603.0   16485.5   11117.5        .0    2664.2     951.4        .0     743.7      86.0 100000.00
       .35      6.19     11.69       .00      .065      .040      .000      .000   2314.77   9523.12
   .006237      480.      580.      590.         2         0         0       .00    526.98  10050.10


*SECNO 38500.000

3301 HV CHANGED MORE THAN HVINS

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

3470 ENCROACHMENT STATIONS=     9651.4   10019.4  TYPE=      1  TARGET=      368.011
 38500.000     16.21   2331.58   2331.58   2330.85   2334.71      3.13      2.83       .58   2323.37
   27603.0   11706.0   15897.0        .0    1629.4     900.3        .0     769.8      89.8 100000.00
       .36      7.18     17.66       .00      .065      .040      .000      .000   2315.37   9651.39
   .009621      370.      370.      360.        20        11         0       .00    368.01  10019.40


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   27SEP96      14:51:29                                                                    PAGE   31

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


*SECNO 38610.000

3470 ENCROACHMENT STATIONS=     9830.4   10058.7  TYPE=      1  TARGET=      228.340
 38610.000     14.01   2338.18       .00   2337.19   2341.38      3.20      6.65       .02   2328.07
   27603.0   14359.9   13073.9      169.2    1254.2     767.0      34.3     798.3      93.4   2324.47
       .37     11.45     17.05       4.93      .065      .060      .065      .000   2324.17   9830.36
   .015559      520.      580.      570.         3         0         0       .00    228.34  10058.70


*SECNO 38710.000

3470 ENCROACHMENT STATIONS=     9971.2   10198.7  TYPE=      1  TARGET=      227.500
 38710.000     17.60   2344.37       .00   2343.82   2348.06      3.69      6.53       .15   2332.37
   27603.0        .0   19046.7    8556.3        .0    1075.0    1040.4     823.0      96.1   2335.07
       .38       .00     17.72      8.22       .000      .045      .065      .000   2326.77   9971.20
   .010340      530.      530.      470.         2         0         0       .00    227.50  10198.70


*SECNO 38790.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     9948.1   10152.3  TYPE=      1  TARGET=      204.180
 38790.000     11.38   2349.45   2349.45   2349.47   2353.92      4.46      4.26       .23   2342.17
   27603.0       3.2   25670.3    1929.4       2.8    1468.2     287.6     841.2      98.1   2341.87
       .38      1.17     17.48      6.71       .065      .040      .065      .000   2338.07   9948.12
   .010149      430.      422.      390.         4        14         0       .00    204.18  10152.30


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   27SEP96      14:51:29                                                                    PAGE   32
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HEC-2 WATER SURFACE PROFILES

Version 4.6.2; May 1991
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

CAVE CREEK

SUMMARY PRINTOUT

	SECNO	Q	VCH	DEPTH	ELMIN	XLCH	CWSEL	.01K	TOPWID	SSTA	STCHL	STCHR	ENDST
*	35490.000	28338.00	15.56	11.26	2138.27	.00	2149.53	2640.98	429.38	9675.76	9962.80	10089.60	10105.15
*	35490.000	28338.00	16.26	11.68	2138.27	.00	2149.95	2496.91	321.44	9768.16	9962.80	10089.60	10089.60
	35590.000	28338.00	14.25	15.26	2139.57	530.00	2154.83	3441.40	659.13	9380.71	9932.10	10031.40	10039.84
*	35590.000	28338.00	12.88	16.28	2139.57	530.00	2155.85	3811.48	434.60	9596.80	9932.10	10031.40	10031.40
	35690.000	28338.00	13.40	12.37	2146.17	530.00	2158.54	3332.46	527.91	9590.59	9937.00	10050.00	10233.15
	35690.000	28338.00	14.71	12.57	2146.17	530.00	2158.74	3068.25	361.79	9755.33	9937.00	10050.00	10208.30
*	35770.000	28319.00	14.62	10.04	2153.27	450.00	2163.31	2612.28	544.43	9670.05	9931.10	10092.10	10214.49
*	35770.000	28319.00	15.60	10.38	2153.27	450.00	2163.65	2512.89	385.23	9805.57	9931.10	10092.10	10190.80
	35870.000	28319.00	14.22	11.39	2157.57	530.00	2168.96	2905.30	561.81	9702.06	9968.00	10120.80	10263.87
	35870.000	28319.00	14.31	12.09	2157.57	530.00	2169.66	3025.99	291.24	9928.56	9968.00	10120.80	10219.80
*	35960.000	28319.00	15.67	14.69	2159.77	480.00	2174.46	3969.33	492.18	9574.99	9929.70	10054.20	10067.17
*	35960.000	28319.00	16.71	14.64	2159.77	480.00	2174.41	3559.45	324.48	9729.72	9929.70	10054.20	10054.20
	36060.000	28319.00	14.74	16.93	2160.87	580.00	2177.80	4724.08	550.93	9502.11	9957.60	10048.30	10053.04
	36060.000	28319.00	13.93	17.93	2160.87	580.00	2178.80	4923.76	375.44	9672.86	9957.60	10048.30	10048.30
*	36180.000	28319.00	16.17	12.61	2169.97	630.00	2182.58	1840.65	246.88	9903.66	9957.10	10144.00	10150.55
*	36180.000	28319.00	17.09	12.57	2169.97	630.00	2182.54	1669.37	186.90	9957.10	9957.10	10144.00	10144.00
	36230.000	28319.00	12.90	13.85	2174.87	260.00	2188.72	2567.74	329.74	9949.40	9969.00	10130.40	10279.15
*	36230.000	28319.00	12.91	14.64	2174.87	260.00	2189.51	2617.99	257.90	9969.00	9969.00	10130.40	10226.90
*	36310.000	28319.00	19.97	14.96	2179.37	420.00	2194.33	2598.79	231.88	9826.02	9965.00	10027.10	10057.90
*	36310.000	28319.00	21.18	15.08	2179.37	420.00	2194.45	2464.85	174.02	9868.28	9965.00	10027.10	10042.30
	36400.000	28271.00	11.24	13.47	2188.77	480.00	2202.24	2856.27	321.51	9867.62	9876.40	10085.30	10189.13
	36400.000	28271.00	10.88	14.42	2188.77	480.00	2203.19	3031.69	223.80	9876.40	9876.40	10085.30	10100.20

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	SECNO	Q	VCH	DEPTH	ELMIN	XLCH	CWSEL	.01K	TOPWID	SSTA	STCHL	STCHR	ENDST
*	36490.000	28271.00	16.55	12.36	2194.37	400.00	2206.73	1783.12	228.83	9916.67	9971.60	10114.10	10145.50
*	36490.000	28271.00	17.47	12.62	2194.37	400.00	2206.99	1718.12	182.76	9945.24	9971.60	10114.10	10128.00
*	36520.000	28271.00	18.51	16.44	2194.97	200.00	2211.41	1843.77	192.27	9879.30	9928.00	10011.70	10071.58
	36520.000	28271.00	19.24	16.79	2194.97	200.00	2211.76	1806.61	146.88	9900.02	9928.00	10011.70	10046.90
*	36610.000	28271.00	12.84	18.60	2201.07	480.00	2219.67	3288.64	202.47	9898.65	9955.20	10031.10	10101.13
*	36610.000	28271.00	12.76	19.37	2201.07	480.00	2220.44	3410.01	162.64	9923.26	9955.20	10031.10	10085.90
	36690.000	28271.00	15.44	18.21	2204.37	380.00	2222.58	2576.10	201.93	9932.10	9957.00	10037.30	10134.02
	36690.000	28271.00	16.13	18.61	2204.37	380.00	2222.98	2509.27	153.00	9954.00	9957.00	10037.30	10107.00
	36780.000	28381.00	13.85	18.04	2210.37	480.00	2228.41	2741.82	188.38	9958.78	9976.30	10093.20	10147.15

	36780.000	28381.00	13.93	18.79	2210.37	480.00	2229.16	2818.80	149.28	9976.02	9976.30	10093.20	10125.30
*	36880.000	28381.00	20.56	16.64	2221.97	530.00	2238.61	1875.20	141.17	9902.11	9954.80	10023.30	10043.28
*	36880.000	28381.00	21.54	16.70	2221.97	530.00	2238.67	1794.65	108.94	9917.06	9954.80	10023.30	10026.00
*	36960.000	28381.00	9.47	20.22	2226.47	420.00	2246.69	4656.22	293.88	9903.01	9943.80	10059.80	10196.89
*	36960.000	28381.00	9.43	21.06	2226.47	420.00	2247.53	4821.84	227.01	9922.69	9943.80	10059.80	10149.70
	37010.000	28381.00	9.91	18.54	2229.47	300.00	2248.01	3805.25	459.16	9758.24	9935.40	10061.10	10217.41
	37010.000	28381.00	10.34	19.22	2229.47	300.00	2248.69	3762.93	239.75	9829.95	9935.40	10061.10	10069.70
	37080.000	28381.00	11.34	13.86	2236.27	370.00	2250.13	3052.27	300.10	9901.20	9947.80	10081.60	10201.30
	37080.000	28381.00	11.21	14.63	2236.27	370.00	2250.90	3064.46	203.40	9947.80	9947.80	10081.60	10151.20
*	37120.000	28381.00	17.39	17.24	2234.17	210.00	2251.41	1787.08	230.30	9965.34	9969.00	10060.60	10195.65
*	37120.000	28381.00	17.53	17.98	2234.17	210.00	2252.15	1797.13	194.90	9969.00	9969.00	10060.60	10163.90
*	37200.000	28381.00	13.21	15.58	2243.57	370.00	2259.15	2620.92	268.56	9831.75	9978.70	10095.80	10100.31
*	37200.000	28381.00	13.04	16.31	2243.57	370.00	2259.88	2644.07	197.07	9898.73	9978.70	10095.80	10095.80
	37270.000	28381.00	10.56	15.99	2247.17	370.00	2263.16	3168.26	426.15	9741.46	9937.00	10027.70	10167.60
	37270.000	28381.00	11.09	16.65	2247.17	370.00	2263.82	3126.08	265.35	9766.35	9937.00	10027.70	10031.70
	37310.000	28381.00	12.70	14.55	2250.07	210.00	2264.62	2664.03	463.87	9786.74	9885.70	10031.90	10250.61
	37310.000	28381.00	13.09	15.18	2250.07	210.00	2265.25	2683.96	237.36	9807.04	9885.70	10031.90	10044.40
	37370.000	10979.00	6.45	13.50	2254.17	320.00	2267.67	3345.09	387.28	9934.04	9945.70	10095.80	10321.32
	37370.000	10979.00	6.63	14.30	2254.17	320.00	2268.47	3323.08	160.30	9945.70	9945.70	10095.80	10106.00
*	37470.000	10979.00	12.00	10.10	2258.17	530.00	2268.27	1532.85	518.76	9966.34	9969.80	10062.00	10485.09
*	37470.000	10979.00	12.82	10.51	2258.17	530.00	2268.68	1423.95	322.70	9969.80	9969.80	10062.00	10292.50
*	37570.000	10979.00	13.12	11.42	2259.87	530.00	2271.29	1300.39	288.12	9966.73	9963.90	10065.50	10517.15
	37570.000	10979.00	13.81	11.88	2259.87	530.00	2271.75	1288.32	143.00	9968.00	9963.90	10065.50	10111.00
*	37660.000	10979.00	10.98	6.54	2270.47	480.00	2277.01	851.53	375.37	9918.34	9923.40	10128.40	10391.86
*	37660.000	10979.00	11.31	7.13	2270.47	480.00	2277.60	885.40	205.00	9923.40	9923.40	10128.40	10128.40

	SECNO	Q	VCH	DEPTH	ELMIN	XLCH	CWSEL	.01K	TOPWID	SSTA	STCHL	STCHR	ENDST
	37750.000	10979.00	10.25	7.73	2276.97	480.00	2284.70	902.15	356.29	9953.42	9959.60	10186.40	10348.63
	37750.000	10979.00	10.78	8.13	2276.97	480.00	2285.10	896.12	226.80	9959.60	9959.60	10186.40	10186.40
*	37800.000	10979.00	11.37	5.24	2283.17	260.00	2288.41	1077.95	299.02	9847.44	9917.10	10138.70	10146.46
*	37800.000	10979.00	11.75	5.19	2283.17	260.00	2288.36	1025.17	221.60	9917.10	9917.10	10138.70	10138.70
*	37930.000	27603.00	16.60	13.12	2284.17	690.00	2297.29	3017.93	325.16	9768.73	9928.90	10053.20	10093.89
*	37930.000	27603.00	17.55	13.32	2284.17	690.00	2297.49	2773.17	225.09	9828.11	9928.90	10053.20	10053.20
*	38030.000	27603.00	15.55	11.88	2293.27	530.00	2305.15	2996.94	393.10	9918.25	9954.50	10115.40	10311.35
*	38030.000	27603.00	17.14	11.60	2293.27	530.00	2304.87	2596.26	208.20	9954.50	9954.50	10115.40	10162.70
	38140.000	27603.00	11.90	16.78	2294.97	580.00	2311.75	3279.19	483.46	9839.02	9953.80	10027.70	10322.48
	38140.000	27603.00	11.29	17.75	2294.97	580.00	2312.72	3608.90	327.53	9858.07	9953.80	10027.70	10185.60
	38250.000	27603.00	13.89	10.91	2304.37	580.00	2315.28	2804.88	448.75	9915.12	9929.90	10111.70	10363.87
	38250.000	27603.00	14.58	11.31	2304.37	580.00	2315.68	2643.55	250.20	9929.90	9929.90	10111.70	10180.10
*	38320.000	27603.00	17.18	12.55	2306.57	370.00	2319.12	2623.38	362.69	9738.87	9963.20	10064.80	10101.56
*	38320.000	27603.00	17.76	13.02	2306.57	370.00	2319.59	2527.00	295.40	9769.40	9963.20	10064.80	10064.80
	38430.000	27603.00	11.67	11.03	2314.77	580.00	2325.80	3361.21	588.31	9469.33	9936.80	10050.10	10057.64
	38430.000	27603.00	11.69	11.88	2314.77	580.00	2326.65	3495.08	526.98	9523.12	9936.80	10050.10	10050.10
*	38500.000	27603.00	17.66	15.48	2315.37	370.00	2330.85	3033.52	430.66	9606.31	9949.50	10019.40	10036.98
*	38500.000	27603.00	17.66	16.21	2315.37	370.00	2331.58	2814.19	368.01	9651.39	9949.50	10019.40	10019.40

*	38610.000	27603.00	18.14	13.02	2324.17	580.00	2337.19	1972.46	268.29	9804.69	9997.10	10056.00	10072.99
	38610.000	27603.00	17.05	14.01	2324.17	580.00	2338.18	2212.91	228.34	9830.36	9997.10	10056.00	10058.70
*	38710.000	27603.00	17.40	17.05	2326.77	530.00	2343.82	2967.23	294.15	9958.94	9971.20	10046.30	10253.09
	38710.000	27603.00	17.72	17.60	2326.77	530.00	2344.37	2714.50	227.50	9971.20	9971.20	10046.30	10198.70
*	38790.000	27603.00	16.13	11.40	2338.07	422.00	2349.47	2974.38	326.03	9901.90	9948.50	10093.40	10227.92
*	38790.000	27603.00	17.48	11.38	2338.07	422.00	2349.45	2739.92	204.18	9948.12	9948.50	10093.40	10152.30

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CAVE CREEK

SUMMARY PRINTOUT

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	STENCL	STCHL	STCHR	STENCR	10*KS	EG	DIFEG
*	35490.000	28338.00	2149.53	.00	.00	.00	9962.80	10089.60	.00	115.14	2152.31	.00
*	35490.000	28338.00	2149.95	.42	.00	9768.16	9962.80	10089.60	10089.60	128.81	2153.21	.91
	35590.000	28338.00	2154.83	.00	5.30	.00	9932.10	10031.40	.00	67.81	2156.94	.00
*	35590.000	28338.00	2155.85	1.01	5.89	9596.80	9932.10	10031.40	10031.40	55.28	2157.61	.67
	35690.000	28338.00	2158.54	.00	3.70	.00	9937.00	10050.00	.00	72.31	2160.48	.00
	35690.000	28338.00	2158.74	.21	2.90	9755.33	9937.00	10050.00	10208.30	85.30	2161.27	.79
*	35770.000	28319.00	2163.31	.00	4.77	.00	9931.10	10092.10	.00	117.52	2165.85	.00
*	35770.000	28319.00	2163.65	.34	4.90	9805.57	9931.10	10092.10	10190.80	127.00	2166.75	.90
	35870.000	28319.00	2168.96	.00	5.65	.00	9968.00	10120.80	.00	95.01	2171.41	.00
	35870.000	28319.00	2169.66	.69	6.01	9928.56	9968.00	10120.80	10219.80	87.58	2172.31	.90
*	35960.000	28319.00	2174.46	.00	5.50	.00	9929.70	10054.20	.00	50.90	2177.64	.00
	35960.000	28319.00	2174.41	-.05	4.75	9729.72	9929.70	10054.20	10054.20	63.30	2178.23	.59
	36060.000	28319.00	2177.80	.00	3.34	.00	9957.60	10048.30	.00	35.94	2180.16	.00
	36060.000	28319.00	2178.80	1.00	4.39	9672.86	9957.60	10048.30	10048.30	33.08	2180.96	.80
*	36180.000	28319.00	2182.58	.00	4.78	.00	9957.10	10144.00	.00	236.71	2186.48	.00
*	36180.000	28319.00	2182.54	-.04	3.74	9957.10	9957.10	10144.00	10144.00	287.77	2187.08	.59
	36230.000	28319.00	2188.72	.00	6.15	.00	9969.00	10130.40	.00	121.63	2190.92	.00
*	36230.000	28319.00	2189.51	.79	6.97	9969.00	9969.00	10130.40	10226.90	117.01	2191.82	.90
*	36310.000	28319.00	2194.33	.00	5.61	.00	9965.00	10027.10	.00	118.74	2198.63	.00
*	36310.000	28319.00	2194.45	.12	4.94	9868.28	9965.00	10027.10	10042.30	132.00	2199.53	.90
	36400.000	28271.00	2202.24	.00	7.91	.00	9876.40	10085.30	.00	97.97	2204.10	.00
	36400.000	28271.00	2203.19	.95	8.74	9876.40	9876.40	10085.30	10100.20	86.96	2205.00	.90
*	36490.000	28271.00	2206.73	.00	4.49	.00	9971.60	10114.10	.00	251.37	2210.58	.00
*	36490.000	28271.00	2206.99	.26	3.80	9945.24	9971.60	10114.10	10128.00	270.75	2211.44	.86
*	36520.000	28271.00	2211.41	.00	4.68	.00	9928.00	10011.70	.00	235.11	2215.87	.00
	36520.000	28271.00	2211.76	.35	4.77	9900.02	9928.00	10011.70	10046.90	244.88	2216.78	.91
*	36610.000	28271.00	2219.67	.00	8.25	.00	9955.20	10031.10	.00	73.90	2221.77	.00
*	36610.000	28271.00	2220.44	.77	8.68	9923.26	9955.20	10031.10	10085.90	68.73	2222.57	.81
	36690.000	28271.00	2222.58	.00	2.91	.00	9957.00	10037.30	.00	120.44	2225.60	.00
	36690.000	28271.00	2222.98	.41	2.54	9954.00	9957.00	10037.30	10107.00	126.94	2226.47	.87
	36780.000	28381.00	2228.41	.00	5.83	.00	9976.30	10093.20	.00	107.15	2231.12	.00
	36780.000	28381.00	2229.16	.75	6.18	9976.02	9976.30	10093.20	10125.30	101.37	2232.00	.88

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	SECNO	Q	CWSEL	DIFWSP	DIFWSX	STENCL	STCHL	STCHR	STENCR	10*KS	EG	DIFEG
*	36880.000	28381.00	2238.61	.00	10.20	.00	9954.80	10023.30	.00	229.06	2244.26	.00
*	36880.000	28381.00	2238.67	.06	9.51	9917.06	9954.80	10023.30	10026.00	250.09	2245.16	.90
*	36960.000	28381.00	2246.69	.00	8.08	.00	9943.80	10059.80	.00	37.15	2247.83	.00
*	36960.000	28381.00	2247.53	.84	8.86	9922.69	9943.80	10059.80	10149.70	34.64	2248.73	.90
	37010.000	28381.00	2248.01	.00	1.32	.00	9935.40	10061.10	.00	55.63	2249.22	.00
	37010.000	28381.00	2248.69	.68	1.16	9829.95	9935.40	10061.10	10069.70	56.89	2250.13	.91
	37080.000	28381.00	2250.13	.00	2.12	.00	9947.80	10081.60	.00	86.46	2251.90	.00
	37080.000	28381.00	2250.90	.77	2.21	9947.80	9947.80	10081.60	10151.20	85.77	2252.81	.91
*	37120.000	28381.00	2251.41	.00	1.28	.00	9969.00	10060.60	.00	252.21	2255.28	.00
*	37120.000	28381.00	2252.15	.74	1.25	9969.00	9969.00	10060.60	10163.90	249.40	2256.17	.90
*	37200.000	28381.00	2259.15	.00	7.75	.00	9978.70	10095.80	.00	117.26	2261.44	.00
*	37200.000	28381.00	2259.88	.73	7.73	9898.73	9978.70	10095.80	10095.80	115.21	2262.27	.83
	37270.000	28381.00	2263.16	.00	4.01	.00	9937.00	10027.70	.00	80.24	2264.54	.00
	37270.000	28381.00	2263.82	.66	3.94	9766.35	9937.00	10027.70	10031.70	82.42	2265.40	.86
	37310.000	28381.00	2264.62	.00	1.46	.00	9885.70	10031.90	.00	113.50	2266.72	.00
	37310.000	28381.00	2265.25	.63	1.43	9807.04	9885.70	10031.90	10044.40	111.82	2267.60	.89
	37370.000	10979.00	2267.67	.00	3.05	.00	9945.70	10095.80	.00	10.77	2268.25	.00
	37370.000	10979.00	2268.47	.80	3.22	9945.70	9945.70	10095.80	10106.00	10.92	2269.14	.90
*	37470.000	10979.00	2268.27	.00	.60	.00	9969.80	10062.00	.00	51.30	2270.09	.00
*	37470.000	10979.00	2268.68	.41	.21	9969.80	9969.80	10062.00	10292.50	59.45	2270.98	.90
*	37570.000	10979.00	2271.29	.00	3.01	.00	9963.90	10065.50	.00	71.28	2273.61	.00
	37570.000	10979.00	2271.75	.47	3.07	9968.00	9963.90	10065.50	10111.00	72.62	2274.60	.99
*	37660.000	10979.00	2277.01	.00	5.72	.00	9923.40	10128.40	.00	166.24	2278.69	.00
*	37660.000	10979.00	2277.60	.59	5.85	9923.40	9923.40	10128.40	10128.40	153.76	2279.59	.90
	37750.000	10979.00	2284.70	.00	7.69	.00	9959.60	10186.40	.00	148.10	2286.17	.00
	37750.000	10979.00	2285.10	.40	7.49	9959.60	9959.60	10186.40	10186.40	150.10	2286.90	.73
*	37800.000	10979.00	2288.41	.00	3.71	.00	9917.10	10138.70	.00	103.74	2290.38	.00
*	37800.000	10979.00	2288.36	-.05	3.26	9917.10	9917.10	10138.70	10138.70	114.69	2290.50	.13
*	37930.000	27603.00	2297.29	.00	8.87	.00	9928.90	10053.20	.00	83.66	2300.87	.00
*	37930.000	27603.00	2297.49	.20	9.13	9828.11	9928.90	10053.20	10053.20	99.07	2301.77	.90
*	38030.000	27603.00	2305.15	.00	7.87	.00	9954.50	10115.40	.00	84.83	2308.51	.00
*	38030.000	27603.00	2304.87	-.29	7.38	9954.50	9954.50	10115.40	10162.70	113.04	2309.21	.69
	38140.000	27603.00	2311.75	.00	6.60	.00	9953.80	10027.70	.00	70.86	2313.18	.00
	38140.000	27603.00	2312.72	.97	7.86	9858.07	9953.80	10027.70	10185.60	58.50	2314.08	.90

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	SECNO	Q	CWSEL	DIFWSP	DIFWSX	STENCL	STCHL	STCHR	STENCR	10*KS	EG	DIFEG
	38250.000	27603.00	2315.28	.00	3.53	.00	9929.90	10111.70	.00	96.85	2317.81	.00
	38250.000	27603.00	2315.68	.40	2.95	9929.90	9929.90	10111.70	10180.10	109.03	2318.71	.90
*	38320.000	27603.00	2319.12	.00	3.84	.00	9963.20	10064.80	.00	110.71	2322.25	.00
*	38320.000	27603.00	2319.59	.47	3.91	9769.40	9963.20	10064.80	10064.80	119.32	2323.15	.90
	38430.000	27603.00	2325.80	.00	6.67	.00	9936.80	10050.10	.00	67.44	2326.96	.00
	38430.000	27603.00	2326.65	.86	7.06	9523.12	9936.80	10050.10	10050.10	62.37	2327.86	.90

*	38500.000	27603.00	2330.85	.00	5.05	.00	9949.50	10019.40	.00	82.80	2333.81	.00
*	38500.000	27603.00	2331.58	.73	4.93	9651.39	9949.50	10019.40	10019.40	96.21	2334.71	.90
	38610.000	27603.00	2337.19	.00	6.35	.00	9997.10	10056.00	.00	195.84	2340.67	.00
	38610.000	27603.00	2338.18	.99	6.60	9830.36	9997.10	10056.00	10058.70	155.59	2341.38	.71
*	38710.000	27603.00	2343.82	.00	6.63	.00	9971.20	10046.30	.00	86.54	2347.17	.00
	38710.000	27603.00	2344.37	.55	6.19	9971.20	9971.20	10046.30	10198.70	103.40	2348.06	.90
*	38790.000	27603.00	2349.47	.00	5.65	.00	9948.50	10093.40	.00	86.12	2353.01	.00
*	38790.000	27603.00	2349.45	-.02	5.08	9948.12	9948.50	10093.40	10152.30	101.49	2353.92	.90

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SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 35490.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 35490.000 PROFILE= 2 CRITICAL DEPTH ASSUMED

WARNING SECNO= 35590.000 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 35770.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 35770.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 35770.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 35770.000 PROFILE= 2 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 35960.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 35960.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 35960.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 35960.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 35960.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 35960.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 36180.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 36180.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 36180.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 36180.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 36180.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 36180.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO= 36230.000 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 36310.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 36310.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 36310.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 36310.000 PROFILE= 2 MINIMUM SPECIFIC ENERGY

WARNING SECNO= 36490.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 36490.000 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 36520.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 36520.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY

WARNING SECNO= 36610.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 36610.000 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 36880.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 36880.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 36880.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 36880.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 36880.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 36880.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO= 36960.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

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 WARNING SECNO=  36960.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=  37120.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

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 WARNING SECNO=  37120.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=  37200.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  37200.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 CAUTION SECNO=  37470.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  37470.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=  37470.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
 CAUTION SECNO=  37470.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  37470.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 CAUTION SECNO=  37570.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  37570.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

 WARNING SECNO=  37660.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=  37660.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 CAUTION SECNO=  37800.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  37800.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=  37800.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  37800.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 CAUTION SECNO=  37930.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  37930.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=  37930.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  37930.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 CAUTION SECNO=  38030.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  38030.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=  38030.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
 CAUTION SECNO=  38030.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  38030.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 CAUTION SECNO=  38320.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  38320.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=  38320.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  38320.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 CAUTION SECNO=  38500.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  38500.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=  38500.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
 CAUTION SECNO=  38500.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  38500.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=  38500.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

 WARNING SECNO=  38610.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=  38710.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 CAUTION SECNO=  38790.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  38790.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=  38790.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
 CAUTION SECNO=  38790.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  38790.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY
1
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   27SEP96      14:51:29                                                                PAGE   41
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FLOODWAY DATA, CAVE CREEK
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
35490.000	321.	2157.	13.1	2149.9	2149.5	.4
35590.000	435.	3233.	8.8	2155.8	2154.8	1.0
35690.000	453.	2513.	11.3	2158.7	2158.5	.2
35770.000	385.	2338.	12.1	2163.6	2163.3	.3
35870.000	291.	2417.	11.7	2169.7	2169.0	.7
35960.000	324.	2270.	12.5	2174.4	2174.5	-.1
36060.000	375.	3291.	8.6	2178.8	2177.8	1.0
36180.000	187.	1657.	17.1	2182.6	2182.6	.0
36230.000	258.	2418.	11.7	2189.5	2188.7	.8
36310.000	174.	1828.	15.5	2194.4	2194.3	.1
36400.000	224.	2644.	10.7	2203.1	2202.2	.9
36490.000	183.	1710.	16.5	2207.0	2206.7	.3
36520.000	147.	1618.	17.5	2211.7	2211.4	.3
36610.000	163.	2470.	11.4	2220.5	2219.7	.8
36690.000	153.	1969.	14.4	2223.0	2222.6	.4
36780.000	149.	2137.	13.3	2229.2	2228.4	.8
36880.000	109.	1422.	20.0	2238.7	2238.6	.1
36960.000	227.	3348.	8.5	2247.5	2246.7	.8
37010.000	240.	3031.	9.4	2248.7	2248.0	.7
37080.000	203.	2561.	11.1	2250.9	2250.1	.8
37120.000	195.	1820.	15.6	2252.1	2251.4	.7
37200.000	197.	2316.	12.3	2259.9	2259.2	.7
37270.000	265.	2861.	9.9	2263.9	2263.2	.7
37310.000	237.	2389.	11.9	2265.2	2264.6	.6
37370.000	160.	1704.	6.4	2268.5	2267.7	.8
37470.000	323.	1189.	9.2	2268.7	2268.3	.4
37570.000	143.	886.	12.4	2271.8	2271.3	.5
37660.000	205.	971.	11.3	2277.6	2277.0	.6
37750.000	227.	1019.	10.8	2285.1	2284.7	.4
37800.000	222.	934.	11.8	2288.3	2288.4	-.1
37930.000	225.	1889.	14.6	2297.5	2297.3	.2
38030.000	208.	1753.	15.7	2304.9	2305.2	-.3
38140.000	328.	3194.	8.6	2312.8	2311.8	1.0
38250.000	250.	2091.	13.2	2315.7	2315.3	.4
38320.000	295.	2163.	12.8	2319.6	2319.1	.5
38430.000	527.	3616.	7.6	2326.7	2325.8	.9
38500.000	368.	2530.	10.9	2331.5	2330.8	.7
38610.000	228.	2055.	13.4	2338.2	2337.2	1.0
38710.000	227.	2115.	13.0	2344.3	2343.8	.5
38790.000	204.	1759.	15.7	2349.5	2349.5	.0

Tie-In to Existing
Floodplain Delineation Study
North of Morning Star Road

FLOODPLAINS ARE
COINCIDENT

"Map from
CH2M-HILL STUDY"

ZONE X

Labels EB, EC & ED are not current, per FIRM Panel 805

EB

ED

EC

CAVE CREEK

35.87

2169.0
FP ~~2168.6~~
FW 2169.7 / 7

2169.0
2169.7

TIE-IN POINT

577

3
FP ~~2162.8~~
FW 2163.2 / 6

2163.3
2163.6

CORRECTED EFFECTIVE VALUES CCMCEREV.IH2

5
FW 2158.1 / 7

35.69

2158.7
2158.9

GVS CE/MKE REVISED VALUES CAVEFW1.IH2

N

1"=200'

ZONE AE

BB

35.59

8
FP 2154.1 / 8
FW 2155.1 / 8

2154.7
2155.3

ZONE X

MORNING STAR F

CC171
FP=2151.3
FW=2152.3
Q= 23,200

35.54

35.55

35.47
FP= 2145.7
FW= 2146.3
Q= 23,200

"MAP from GVS/MKE Study" sheet 7 of 7

35.37
FP= 2142.8
FW= 2142.9
Q= 23,200

OLD STAGE RD

35.20
FP= 2138.4
FW= 2138.7
Q= 23,200

ZONE AE

CAVE CREEK WASH

2274.6

2134.7

Hydraulic Analysis
Supplemental HEC-2 Output File
CCNOBERM.OH2

Berm surrounding private pond near River Mile 31.85 removed.

```
1*****************************************
 *  HEC-2 WATER SURFACE PROFILES          *
 *                                        *
 *  Version   4.6.2;  May 1991            *
 *                                        *
 *  RUN DATE    11FEB97    TIME   11:02:13 *
 *****************************************
```

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

```
X     X  XXXXXXX   XXXXX            XXXXX
X     X  X       X     X          X     X
X     X  X       X                      X
XXXXXXX  XXXX    X         XXXXX    XXXXX
X     X  X       X                  X
X     X  X       X     X            X
X     X  XXXXXXX   XXXXX            XXXXXXX
```


THIS RUN EXECUTED 11FEB97   11:02:13

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

 Version   4.6.2;  May 1991
************************************
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T1   *  Cave Creek Floodplain Delineation Study          File:CCNOBERM.IH2
T2   *  FCD CONTRACT NUMBER 95-28                     Modeled: 9-09-96
T3   *  Cave Creek 100Yr Ex Cond Floodplain           Revised: 2-11-97
T4   *
T5   *  For:    Flood Control District of Maricopa County
T6   *  By:     McLaughlin Kmetty Engineers, Ltd.  FB & CLJ
T7   *  via:    George V. Sabol Consulting Engineers, Inc.
T8   *  GR data taken from stereo model
T9   *  GR data received from Aerial Mapping Company (AMC)    on 6-30-96
T9   *                              GR data from AMC revised 8-21-96
T9   *  200 scale 2 ft CI mapping photogrammetry flight (AMC) on 1-12-96
T9   *  Survey control by Alcocer Land Surveyors (ALS)
T9   *  All check section GR data by ALS
T9   *  Supplemental survey data by ALS as noted.
T9   *
T9   *  Source of 100-Yr flowrate from HEC-1 Analysis by GVSCE.
T9   *
T9   *  Subcritical analysis.
T9   *
T9   *  Flowrates revised upstream of RM 35.54 to use CH2MHILL values
T9   *  Privately owned pond berm along Cave Creek Wash removed from GR records
T9   *          in this HEC-2 analysis. Berm located at 31.82 and 31.86.
T9   *
```

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	2	0	0	0	0	0	0	1865.68	0
J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	1	0	-1	0	0	0	-1	0	0	0

1
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J3 VARIABLE CODES FOR SUMMARY PRINTOUT

150

NC	0.055	0.055	0.050	0.1	0.3					
QT	1	33800								
X1	30.20	67	9927.7	10093.2	535	545	537			
GR	1898.0	8838.6	1897.7	8918.9	1897.8	8955.2	1882.4	8990.0	1882.3	9006.7
GR	1880.4	9026.6	1881.9	9036.8	1882.0	9055.2	1883.7	9073.3	1885.0	9087.5
GR	1885.1	9107.0	1884.1	9146.3	1884.8	9156.0	1884.6	9163.5	1881.8	9170.8
GR	1881.9	9184.0	1883.3	9194.2	1882.7	9204.0	1882.0	9235.3	1882.4	9246.9
GR	1882.3	9262.4	1883.5	9272.2	1884.4	9292.3	1883.6	9312.7	1884.0	9324.9
GR	1881.6	9337.9	1881.1	9347.9	1882.5	9366.0	1882.6	9381.9	1886.1	9390.1
GR	1885.7	9418.6	1885.3	9444.1	1884.4	9457.3	1883.0	9490.0	1883.8	9504.1
GR	1883.3	9523.8	1882.6	9544.2	1883.4	9564.4	1882.0	9590.9	1883.3	9616.7
GR	1883.5	9641.3	1879.3	9663.9	1879.5	9669.6	1882.3	9684.6	1882.8	9695.5
GR	1881.9	9707.0	1879.8	9714.1	1879.9	9731.2	1882.8	9741.7	1883.0	9753.1
GR	1883.3	9796.0	1884.1	9822.3	1883.7	9859.0	1882.9	9887.8	1882.8	9900.1
GR	1876.5	9927.7	1875.8	9939.7	1877.0	9976.9	1876.1	10000.0	1876.4	10000.6
GR	1877.9	10021.2	1878.8	10045.5	1878.2	10069.8	1876.0	10086.0	1875.2	10093.2
GR	1897.9	10132.3	1899.9	10165.4	0.0	0.0	0.0	0.0	0.0	0.0
X1	30.28	64	9908.6	10014.5	550	430	421			
GR	1903.3	8939.5	1902.9	9041.8	1902.9	9088.5	1902.4	9120.6	1901.6	9132.4
GR	1889.1	9162.5	1887.8	9171.2	1889.5	9181.6	1888.4	9200.7	1889.3	9222.8
GR	1889.4	9250.8	1888.4	9258.1	1890.0	9264.4	1889.7	9292.2	1885.8	9302.2
GR	1890.1	9316.4	1889.7	9337.0	1890.2	9351.6	1889.3	9372.3	1888.4	9388.9
GR	1887.0	9396.9	1886.6	9406.9	1888.0	9427.9	1888.6	9442.8	1887.8	9470.0
GR	1886.1	9480.9	1889.3	9491.8	1889.4	9507.6	1889.8	9529.7	1890.2	9550.4
GR	1889.5	9595.4	1889.6	9616.6	1887.7	9631.3	1887.0	9649.0	1889.5	9679.4
GR	1888.6	9694.4	1886.6	9704.9	1889.5	9717.5	1890.4	9732.1	1890.0	9751.7
GR	1888.7	9775.3	1888.0	9814.0	1885.9	9833.6	1885.2	9864.5	1885.2	9881.7
GR	1884.3	9895.3	1881.8	9908.6	1880.9	9934.5	1879.7	9947.3	1878.3	9978.3
GR	1877.8	9989.9	1877.8	10000.0	1877.1	10008.3	1877.5	10014.5	1894.3	10033.5
GR	1894.2	10052.0	1893.4	10082.3	1893.3	10109.9	1894.4	10160.5	1895.5	10190.2
GR	1896.8	10226.7	1898.6	10240.5	1898.8	10255.3	1900.6	10274.9	0.0	0.0
X1	30.42	51	9970.3	10052.9	500	650	713			
GR	1907.9	9331.9	1907.4	9422.1	1907.0	9476.5	1906.6	9501.6	1893.1	9533.0
GR	1893.6	9568.7	1892.9	9613.1	1891.9	9621.6	1892.9	9631.9	1892.9	9666.7
GR	1894.3	9714.6	1894.8	9733.5	1894.8	9755.5	1894.6	9800.7	1895.2	9854.8
GR	1892.9	9868.0	1893.9	9893.2	1893.6	9900.4	1890.9	9907.3	1890.6	9918.4
GR	1895.4	9931.2	1895.6	9957.5	1890.3	9970.3	1887.8	9999.9	1888.1	10000.0
GR	1889.6	10037.1	1890.3	10052.9	1892.7	10080.7	1892.4	10102.6	1891.7	10123.6
GR	1891.1	10145.5	1885.8	10159.9	1889.0	10186.9	1889.8	10200.7	1892.1	10211.4
GR	1890.7	10239.2	1888.3	10258.2	1893.0	10277.2	1892.4	10320.1	1889.9	10362.3
GR	1889.7	10390.2	1891.4	10402.9	1890.9	10438.8	1890.9	10443.0	1893.1	10455.4

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GR    1900.1    10487.8    1901.5    10552.6    1902.3    10607.2    1903.6    10632.8    1907.6    10663.6
GR    1910.8    10683.8       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
)

X1      30.52         65    9983.4    10061.8       600       500       560
GR    1912.5    9225.3    1911.6    9249.4    1909.9    9265.3    1904.7    9283.8    1900.8    9298.0
GR    1900.0    9312.1    1900.7    9317.2    1900.5    9342.0    1900.8    9401.2    1900.4    9431.3
GR    1900.9    9463.0    1900.8    9498.9    1900.4    9566.3    1899.9    9630.3    1898.8    9637.4
GR    1900.0    9649.8    1900.1    9696.8    1899.9    9721.3    1899.1    9744.6    1897.8    9748.0
GR    1899.3    9757.6    1899.2    9771.0    1899.6    9785.1    1898.4    9791.1    1900.4    9811.3
GR    1900.9    9826.1    1900.0    9851.7    1898.1    9872.3    1894.7    9876.3    1894.9    9887.7
GR    1895.0    9902.1    1897.4    9914.0    1898.2    9933.1    1896.5    9965.0    1893.6    9983.4
GR    1893.8   10000.0    1894.3   10021.0    1893.5   10049.4    1894.0   10061.8    1894.9   10068.7
GR    1898.8   10095.2    1898.9   10107.9    1898.9   10132.4    1898.1   10161.8    1899.0   10213.6
GR    1899.0   10221.1    1898.8   10242.8    1897.4   10260.3    1896.9   10275.9    1893.8   10291.0
GR    1894.4   10300.9    1900.1   10323.3    1899.8   10340.6    1898.7   10361.4    1896.7   10366.8
GR    1899.3   10383.8    1903.8   10401.4    1904.8   10420.5    1905.3   10440.2    1906.2   10499.1
GR    1907.2   10532.2    1908.4   10552.2    1909.5   10577.7    1912.5   10598.8    1914.5   10618.9

                GR records deleted from
                  Sta 10070.7 to 10304.3
                  to restrict flow to effective area without X3 records.
                  This restriction needed since 100yr floodplain does not enter
                  right side channel that begins between RM 30.85 and 30.96
X1      30.65         50    9943.8    10019.6       700       650       696
GR    1918.4    9139.6    1918.4    9166.4    1917.6    9181.6    1916.6    9190.0    1913.0    9206.9
GR    1910.7    9224.3    1909.7    9241.6    1909.3    9273.0    1908.9    9297.7    1908.0    9329.1
GR    1907.8    9365.0    1907.1    9386.1    1907.6    9395.1    1907.6    9414.4    1907.9    9430.3
GR    1908.6    9448.3    1908.9    9465.2    1908.4    9483.0    1908.7    9506.0    1908.0    9526.3
GR    1906.7    9548.0    1906.8    9563.6    1906.3    9601.3    1905.9    9627.1    1905.5    9654.8
GR    1905.5    9691.5    1905.8    9715.1    1906.1    9732.3    1906.2    9743.9    1900.0    9760.0
GR    1901.9    9771.6    1902.1    9779.1    1900.6    9791.3    1901.6    9799.1    1903.2    9813.0
GR    1904.1    9833.8    1903.0    9871.0    1904.2    9891.8    1904.4    9909.4    1902.4    9919.7
GR    1901.8    9933.9    1898.6    9943.8    1899.0    9971.6    1898.3    9988.4    1897.2    9995.5
GR    1897.3   10000.0    1898.2   10019.6    1910.2   10027.8    1911.2   10041.2    1911.2   10070.7
)

                GR records deleted from
                  Sta 10241.8 to 10436.9
                  to restrict flow to effective area without X3 records.
                  This restriction needed since 100yr floodplain does not enter
                  right side channel that begins between RM 30.85 and 30.96
X1      30.75         35    9963.4    10050.3       475       450       486
GR    1925.5    9200.2    1925.3    9236.3    1924.6    9280.6    1918.1    9299.3    1915.8    9316.1
GR    1915.2    9339.6    1914.8    9376.8    1914.4    9417.3    1914.4    9491.0    1913.7    9531.6
GR    1909.8    9560.3    1909.6    9621.7    1908.9    9660.3    1909.4    9712.4    1909.2    9755.1
GR    1909.1    9793.8    1909.1    9820.7    1908.7    9847.5    1909.7    9857.1    1909.4    9869.1
GR    1906.2    9885.3    1907.2    9912.3    1906.7    9935.0    1904.1    9963.4    1902.6    9982.7
GR    1902.5    9993.3    1902.4   10000.0    1903.8   10050.3    1903.0   10096.8    1901.0   10116.3
GR    1903.4   10126.1    1903.2   10142.7    1902.8   10165.8    1915.5   10184.4    1916.9   10241.8

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   11FEB97      11:02:13                                                                    PAGE    4


X1      30.85         58    9912.4    10018.4       525       570       569
GR    1931.6    9373.0    1931.8    9383.2    1931.4    9398.3    1930.2    9424.0    1928.4    9445.6
GR    1926.5    9464.0    1924.1    9481.2    1921.3    9495.7    1919.3    9525.8    1919.8    9554.5
GR    1919.4    9596.5    1918.6    9645.1    1917.4    9696.1    1916.6    9729.2    1916.0    9804.9
GR    1915.8    9834.0    1915.8    9835.9    1915.6    9863.9    1915.0    9889.7    1912.1    9901.4
GR    1908.2    9912.4    1909.4    9928.9    1908.5    9950.5    1909.1    9972.9    1907.5   10000.0
GR    1907.9   10018.4    1914.3   10051.3    1914.5   10090.2    1915.2   10129.5    1915.3   10148.9
GR    1915.5   10185.9    1914.7   10222.7    1910.5   10246.4    1913.3   10276.3    1913.9   10294.3
GR    1914.1   10316.8    1911.5   10327.0    1910.9   10361.0    1909.4   10370.8    1908.6   10385.6
GR    1910.2   10407.2    1907.9   10436.5    1905.6   10442.7    1906.5   10463.4    1905.3   10474.8
GR    1907.4   10484.7    1921.7   10503.4    1921.2   10526.5    1918.8   10568.1    1918.0   10585.7
GR    1918.5   10613.5    1919.5   10626.5    1920.7   10650.1    1923.9   10681.7    1925.4   10702.1
)
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GR	1926.7	10743.6	1927.9	10752.7	1929.3	10770.8	0.0	0.0	0.0	0.0

QT	1	31400

Q100 from HEC-1 Operation C400R

X1	30.96	61	9973.8	10048.6	550	570	541			
GR	1925.2	9751.6	1925.7	9775.5	1925.6	9808.0	1926.0	9841.1	1918.3	9870.0
GR	1918.3	9883.8	1919.6	9901.3	1918.1	9925.5	1914.4	9943.8	1913.9	9973.8
GR	1913.0	9986.9	1912.3	10000.0	1912.5	10026.1	1914.1	10032.0	1913.5	10040.4
GR	1913.3	10048.6	1917.1	10068.0	1917.3	10108.6	1918.4	10126.3	1919.6	10145.6
GR	1919.1	10178.2	1918.0	10215.0	1917.6	10251.6	1914.8	10288.4	1916.8	10300.7
GR	1917.5	10314.7	1917.7	10337.5	1915.9	10354.8	1913.7	10368.2	1915.1	10381.0
GR	1917.8	10408.4	1917.0	10420.6	1919.4	10463.2	1920.1	10491.4	1919.9	10495.0
GR	1920.5	10517.7	1920.3	10535.8	1919.1	10566.8	1919.3	10590.8	1917.5	10602.1
GR	1916.8	10612.3	1916.6	10626.6	1912.0	10646.3	1912.4	10653.8	1915.2	10665.1
GR	1916.8	10676.9	1917.3	10689.9	1916.6	10727.0	1916.5	10740.6	1914.6	10749.9
GR	1914.1	10758.8	1915.9	10771.1	1924.1	10798.3	1924.4	10824.3	1925.6	10858.1
GR	1926.6	10892.7	1928.3	10930.4	1929.3	10957.5	1930.0	10973.4	1932.5	10996.2
GR	1934.8	11014.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

X1	31.05	62	9934.2	10000	470	460	494			
GR	1935.3	9739.6	1935.0	9752.0	1936.0	9786.0	1937.6	9827.6	1938.0	9860.3
GR	1932.0	9874.9	1918.8	9891.8	1918.9	9913.5	1920.4	9925.9	1918.3	9934.2
GR	1917.1	9959.6	1917.8	9981.5	1917.8	10000.0	1917.8	10000.0	1918.1	10017.7
GR	1919.2	10031.9	1920.9	10043.6	1920.4	10072.9	1921.7	10087.3	1922.6	10103.6
GR	1923.0	10109.5	1922.9	10135.9	1921.9	10144.8	1922.2	10184.5	1921.3	10203.3
GR	1923.4	10234.0	1923.4	10256.6	1922.9	10289.0	1923.9	10317.1	1923.8	10318.2
GR	1923.8	10318.2	1923.3	10374.4	1922.2	10391.5	1923.4	10406.0	1921.5	10427.9
GR	1921.6	10450.6	1924.3	10476.8	1924.3	10506.7	1922.6	10573.2	1921.7	10624.0
GR	1921.8	10643.0	1920.7	10662.9	1919.2	10673.1	1920.8	10689.1	1920.3	10706.9
GR	1917.2	10715.0	1916.9	10722.6	1921.9	10745.0	1921.7	10764.6	1921.3	10790.9
GR	1919.0	10806.3	1920.1	10836.8	1920.0	10849.3	1918.0	10866.4	1917.4	10887.8
GR	1928.6	10913.9	1930.4	10928.2	1931.4	10944.0	1934.4	10972.9	1934.2	10993.6
GR	1934.3	10997.0	1934.4	10998.8	0.0	0.0	0.0	0.0	0.0	0.0

X1	31.14	60	9965.8	10026.5	500	350	467			
GR	1946.4	9402.7	1945.9	9434.0	1943.4	9488.8	1940.4	9535.4	1937.7	9567.5
GR	1936.6	9585.1	1932.6	9604.8	1929.8	9617.8	1927.3	9630.5	1928.0	9636.3
GR	1927.7	9669.3	1927.8	9692.5	1927.9	9713.0	1927.5	9756.8	1926.6	9801.2
GR	1926.6	9847.0	1927.5	9879.8	1928.2	9908.3	1928.7	9926.4	1922.6	9939.6
GR	1921.1	9947.4	1920.2	9965.8	1919.0	9973.5	1919.2	9983.1	1917.8	10000.0
GR	1918.4	10010.3	1920.5	10026.5	1924.5	10045.6	1925.6	10071.7	1926.9	10108.7
GR	1928.3	10146.3	1928.3	10165.5	1928.0	10175.7	1926.5	10200.1	1925.2	10211.8
GR	1923.6	10216.9	1923.6	10228.2	1922.4	10244.9	1927.1	10260.3	1928.0	10283.8
GR	1927.9	10333.2	1926.4	10349.7	1927.2	10374.0	1926.2	10391.8	1925.9	10409.7
GR	1924.3	10420.3	1923.7	10437.0	1926.1	10478.4	1925.7	10521.1	1925.7	10538.5
GR	1926.0	10563.6	1926.4	10576.4	1922.6	10583.9	1924.5	10593.2	1924.1	10604.4
GR	1924.0	10631.6	1925.6	10648.6	1931.2	10664.9	1939.2	10690.6	1942.8	10736.3

Cross Section 31.17 located just south of New River Rd.

X1	31.17	52	9965.1	10054.8	130	130	162			
GR	1946.7	9276.7	1947.1	9297.9	1946.2	9332.3	1945.1	9364.7	1943.9	9393.8
GR	1941.9	9423.7	1940.2	9454.5	1938.9	9466.6	1938.0	9479.1	1936.3	9491.6
GR	1932.0	9506.0	1929.3	9521.4	1928.2	9545.1	1926.9	9557.8	1928.0	9562.9
GR	1928.1	9579.7	1929.3	9634.1	1929.5	9653.3	1928.9	9726.8	1929.0	9786.7
GR	1929.9	9825.3	1931.1	9852.5	1922.6	9871.9	1922.6	9888.2	1920.8	9897.9
GR	1921.3	9911.0	1924.7	9918.2	1924.7	9936.1	1923.2	9965.1	1921.7	10000.0
GR	1921.7	10001.5	1923.1	10054.8	1923.8	10062.1	1926.2	10080.5	1926.9	10099.2
GR	1927.8	10124.8	1926.8	10152.6	1928.2	10182.8	1930.9	10210.3	1928.3	10228.1
GR	1926.1	10247.7	1924.7	10279.7	1928.2	10302.1	1928.8	10328.3	1928.5	10367.3
GR	1928.0	10402.1	1926.3	10441.8	1924.6	10469.9	1925.2	10497.0	1935.7	10536.2
GR	1941.3	10560.4	1945.5	10589.2	0.0	0.0	0.0	0.0	0.0	0.0

Cross Section 31.25 located just north of New River Rd.

X1	31.25	71	9881.1	10031.4	400	400	432			
GR	1951.6	9148.7	1950.7	9191.9	1949.2	9235.1	1948.1	9259.5	1946.6	9266.4
GR	1948.3	9276.1	1945.8	9290.3	1944.3	9314.9	1941.9	9336.4	1940.1	9352.0
GR	1938.6	9373.1	1936.9	9395.2	1936.4	9406.7	1935.0	9423.4	1935.0	9428.0
GR	1935.2	9443.4	1933.5	9455.8	1932.7	9478.0	1932.3	9501.1	1931.6	9505.3
GR	1932.3	9509.8	1932.8	9528.7	1932.9	9546.8	1932.5	9565.0	1931.7	9570.8
GR	1932.8	9591.6	1933.2	9610.1	1934.5	9655.8	1934.5	9676.8	1934.9	9701.0
GR	1934.9	9746.6	1934.1	9783.9	1926.0	9798.6	1925.5	9809.0	1925.4	9818.8
GR	1928.3	9828.6	1929.5	9837.7	1930.7	9857.7	1931.0	9867.3	1931.1	9881.1
GR	1928.7	9937.9	1927.2	9978.9	1926.0	9992.1	1926.0	9998.1	1926.1	10000.0
GR	1925.9	10008.2	1927.4	10019.5	1931.4	10031.4	1932.1	10041.9	1932.0	10070.2
GR	1931.1	10095.4	1931.0	10102.0	1930.7	10114.0	1928.7	10132.1	1930.9	10149.7
GR	1929.9	10161.2	1931.8	10181.8	1931.8	10190.3	1932.1	10215.9	1932.1	10261.6
GR	1931.9	10286.1	1931.3	10318.8	1932.6	10340.5	1932.7	10366.6	1931.9	10388.8
GR	1931.8	10413.5	1931.3	10430.7	1929.0	10443.2	1928.6	10452.1	1929.3	10466.0
GR	1959.0	10515.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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NC 0.055 0.050 0.055

End of Reach 50
Start of Reach 51
Cross Section 31.34 is Check Section Number 2
Cross Section 31.34 GR data by ALS

X1	31.34	51	9949.9	10027.2	450	450	474			
GR	1943.7	9664.3	1943.4	9718.8	1939.1	9793.0	1937.3	9862.7	1937.1	9930.2
GR	1935.5	9935.3	1933.3	9949.9	1931.5	10000.0	1933.2	10027.2	1934.1	10104.9
GR	1933.1	10113.8	1932.9	10116.6	1935.4	10126.5	1936.5	10137.5	1935.1	10146.5
GR	1934.7	10157.0	1932.9	10166.0	1932.1	10178.0	1932.9	10184.4	1936.1	10196.8
GR	1936.6	10210.6	1936.5	10248.8	1936.0	10254.7	1935.9	10322.1	1935.1	10332.9
GR	1935.1	10365.4	1932.4	10379.2	1932.8	10391.1	1931.5	10394.9	1931.9	10412.7
GR	1934.9	10417.0	1935.8	10429.2	1935.2	10471.2	1935.9	10485.5	1935.8	10497.1
GR	1934.5	10509.7	1933.7	10532.2	1933.8	10540.5	1934.1	10545.2	1955.4	10573.6
GR	1959.4	10590.5	1968.5	10613.5	1972.9	10631.3	1972.3	10638.7	1973.8	10644.8
GR	1976.6	10668.5	1980.9	10691.3	1986.1	10738.1	1989.5	10779.5	1989.3	10790.8
GR	1991.9	10807.6								

X1	31.45	61	9927.1	10009.4	590	620	592			
GR	1951.3	9593.4	1951.1	9608.3	1950.8	9633.0	1951.2	9686.7	1951.8	9717.0
GR	1952.3	9752.2	1951.3	9794.4	1947.8	9819.3	1948.9	9827.8	1946.7	9836.9
GR	1944.6	9850.0	1933.4	9861.9	1933.1	9869.7	1933.7	9885.4	1937.6	9905.9
GR	1938.3	9927.1	1936.2	9964.4	1935.2	9983.8	1933.6	9993.3	1933.3	10000.0
GR	1933.3	10008.5	1933.8	10009.4	1941.1	10031.0	1941.0	10073.8	1941.0	10110.3
GR	1940.3	10145.4	1939.8	10163.5	1939.1	10168.6	1941.7	10186.5	1941.5	10204.8
GR	1939.5	10230.5	1939.5	10250.8	1938.2	10270.7	1937.5	10293.2	1938.3	10327.6
GR	1938.7	10334.1	1942.7	10346.9	1942.5	10385.9	1941.7	10399.4	1937.4	10439.0
GR	1939.3	10462.8	1941.9	10480.5	1941.8	10521.6	1940.8	10537.7	1942.0	10548.4
GR	1942.0	10567.9	1942.1	10608.9	1942.4	10642.0	1945.4	10694.7	1945.2	10736.6
GR	1944.2	10772.4	1944.1	10791.9	1943.2	10798.3	1943.9	10804.4	1944.0	10813.1
GR	1944.0	10840.1	1944.1	10862.6	1944.8	10879.9	1949.7	10899.7	1955.6	10911.8
GR	1957.2	10914.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

X1	31.54	65	9928.9	10073.6	475	475	484			
GR	1961.2	9679.3	1960.4	9720.5	1959.1	9734.8	1955.3	9767.8	1952.7	9792.3
GR	1950.7	9815.2	1951.0	9827.0	1948.5	9840.9	1952.2	9866.8	1953.3	9887.5
GR	1953.1	9903.1	1940.2	9928.9	1940.1	9945.4	1940.2	9977.3	1940.3	10000.0
GR	1941.1	10041.5	1940.6	10050.6	1940.7	10073.6	1942.0	10094.0	1941.9	10112.1
GR	1942.1	10138.9	1942.2	10155.4	1944.3	10165.5	1946.3	10182.8	1945.8	10201.5
GR	1946.2	10229.8	1946.9	10266.6	1946.7	10296.7	1944.2	10320.8	1945.0	10335.4
GR	1944.8	10361.1	1943.4	10368.2	1941.6	10400.0	1940.6	10407.2	1940.7	10429.9
GR	1941.7	10439.0	1941.5	10456.4	1945.0	10470.0	1946.2	10481.4	1946.0	10490.5

GR	1943.2	10514.6	1945.2	10525.0	1941.4	10538.9	1948.0	10556.0	1948.9	10565.9
GR	1948.3	10611.6	1947.9	10647.0	1947.6	10681.6	1947.4	10740.1	1948.0	10772.5
GR	1946.8	10778.0	1947.9	10783.6	1948.4	10820.0	1948.4	10875.2	1951.6	10907.6
GR	1952.0	10932.1	1951.9	10948.1	1948.8	10970.9	1948.8	11007.0	1949.4	11074.0
GR	1950.2	11152.0	1950.6	11179.0	1951.9	11191.0	1954.5	11214.6	1961.8	11237.4

X1	31.63	64	9972.7	10037	450	430	453			
GR	1965.9	9486.0	1963.3	9514.4	1961.5	9537.0	1960.4	9573.0	1958.6	9621.6
GR	1958.7	9678.4	1959.6	9697.0	1959.6	9730.5	1958.1	9746.7	1949.7	9772.3
GR	1946.2	9784.7	1946.2	9790.7	1949.0	9798.9	1948.9	9843.2	1948.3	9868.4
GR	1944.8	9876.6	1947.5	9884.3	1947.6	9917.9	1946.4	9928.5	1947.3	9961.1
GR	1942.5	9972.7	1940.5	9988.2	1940.6	10000.0	1940.7	10001.6	1940.7	10023.2
GR	1941.7	10037.0	1944.7	10056.6	1945.2	10070.9	1945.1	10102.8	1944.7	10113.1
GR	1946.9	10125.9	1948.2	10153.9	1948.6	10190.6	1947.5	10229.8	1947.3	10260.8
GR	1947.0	10312.4	1946.3	10336.4	1947.6	10337.3	1947.7	10346.0	1950.5	10361.7
GR	1949.2	10392.2	1948.8	10414.1	1946.3	10424.8	1948.2	10444.7	1951.7	10460.1
GR	1952.9	10492.2	1952.8	10511.8	1952.1	10540.0	1952.4	10555.0	1952.2	10593.1
GR	1952.4	10675.7	1956.7	10701.9	1956.6	10708.4	1955.2	10719.5	1953.6	10734.4
GR	1953.2	10796.3	1953.9	10875.6	1954.5	10943.5	1955.5	10978.6	1956.7	11012.1
GR	1956.7	11068.9	1960.1	11116.6	1964.7	11132.0	1966.8	11135.4	0.0	0.0

X1	31.75	45	9936	10016	680	650	647			
GR	1973.9	9357.2	1972.1	9401.0	1972.2	9427.0	1971.5	9465.7	1970.7	9482.8
GR	1970.5	9497.3	1969.6	9517.5	1968.6	9535.0	1958.0	9569.1	1956.1	9580.0
GR	1955.6	9600.1	1955.1	9620.2	1955.2	9640.7	1955.2	9671.0	1955.2	9699.4
GR	1954.0	9797.4	1951.0	9807.2	1951.4	9817.0	1947.9	9830.1	1947.8	9838.9
GR	1947.7	9849.4	1951.2	9874.7	1951.4	9893.5	1950.8	9936.0	1948.0	9965.9
GR	1946.5	9988.6	1946.9	9994.7	1947.2	10000.0	1951.4	10016.0	1953.0	10027.6
GR	1953.5	10055.5	1954.0	10095.7	1957.1	10148.4	1957.3	10176.9	1957.5	10201.8
GR	1957.4	10202.3	1957.5	10265.2	1957.8	10341.9	1958.4	10415.1	1959.7	10486.4
GR	1960.5	10533.3	1961.2	10567.4	1964.1	10582.5	1976.2	10604.2	1976.4	10610.4

For this floodplain analysis, the existing berm for
the private pond is assumed to be structurally unsound.
Cross section 31.82 GR records for stations 9828.3
and 9839.4 have been deleted to remove the berm
from the cross section data.

X1	31.82	36	9861.7	10000	360	370	361			
GR	1977.9	9334.0	1977.5	9338.7	1975.9	9412.3	1975.8	9429.6	1975.1	9440.8
GR	1971.0	9549.4	1969.3	9622.9	1968.8	9640.8	1955.8	9667.9	1954.9	9681.8
GR	1956.6	9690.9	1957.2	9720.3	1957.2	9781.8	1957.1	9801.0	1956.7	9810.2
GR	1953.4	9861.7	1953.4	9901.8	1953.2	9938.9	1952.7	10000.0	1956.1	10017.6
GR	1957.0	10035.0	1959.4	10046.1	1959.0	10068.7	1961.5	10077.7	1960.7	10084.5
GR	1961.3	10108.5	1961.4	10154.5	1961.1	10172.2	1961.9	10255.5	1962.5	10327.1
GR	1963.5	10369.1	1964.2	10384.7	1965.9	10402.0	1967.0	10410.2	1976.2	10436.1
GR	1992.9	10481.0								

For this floodplain analysis, the existing berm for
the private pond is assumed to be structurally unsound.
Cross section 31.86 GR records for stations 9829.2, 9837,
and 9848.6 have been deleted to remove the berm

from the cross section data.

X1	31.87	36	9938.9	10007.4	220	260	243			
GR	1976.1	9365.3	1976.2	9365.3	1975.0	9391.1	1974.0	9432.4	1974.0	9454.8
GR	1973.5	9480.3	1972.6	9485.6	1972.8	9496	1972.5	9547.7	1972.4	9603.5
GR	1971.1	9613.1	1971.3	9626.3	1969.2	9643	1966.3	9648.1	1961.2	9655.8
GR	1960.6	9670.8	1960.1	9690.2	1959.1	9693.1	1958.9	9818.6	1957.6	9864.1
GR	1955.4	9879.3	1955.5	9900.2	1953.7	9938.9	1953.6	9982.7	1953.8	10000

```
GR   1953.9   10007.4   1959.6   10017.7   1961.5   10059.8   1962.7   10114.9   1963.6   10134.9
GR   1965.1   10168.9   1966.1     10197   1967.7   10206.3   1973.5   10227.4   1975.0   10252.8
GR   1979.0   10265.7

NC    0.070     0.070     0.045

                End of Reach    51
                Start of Reach  52
X1    31.91        45      9968   10025.9       240       210       208
GR   1976.6    9345.6    1976.6    9358.7    1974.8    9374.7    1972.1    9435.3    1971.2      9476
GR   1969.6    9500.1    1971.2    9562.8    1970.8    9622.1    1972.0    9636.6    1971.0    9656.6
GR   1963.7    9686.4    1959.7    9704.8    1960.1    9716.5    1958.7    9720.7    1961.5    9730.6
GR   1960.3    9740.5    1959.1    9793.6    1957.7    9812.1    1956.0    9816.1    1956.0      9828
GR   1959.3    9842.6    1961.4    9856.4    1958.9    9879.9    1959.2    9894.2    1959.2    9914.2
GR   1959.7      9933    1959.0      9940    1956.0    9949.2    1954.5      9968    1954.0    9982.5
GR   1953.3     10000    1953.4   10025.9    1953.5   10025.9    1961.3   10050.7    1962.7   10078.7
GR   1962.6   10084.7    1963.8     10106    1964.8     10139    1966.0   10170.4    1967.8   10188.1
GR   1968.7   10199.5    1970.1   10207.3    1973.4   10222.6    1976.9   10230.9    1977.3     10243

QT        1     31300

                Q100 interpolated between HEC-1 operations C390 and C400R
X1    31.98        39    9958.4   10013.9       400       380       380
GR   1977.4    9386.7    1978.4    9455.2    1978.2    9508.8    1978.6    9544.1    1978.2    9607.2
GR   1977.0    9639.5    1974.6    9645.9    1973.0    9680.2    1971.6    9687.2    1958.7    9706.4
GR   1959.7    9733.7    1960.5    9741.7    1962.8    9753.9    1963.8    9765.7    1962.6    9785.6
GR   1964.6    9826.4    1966.1    9898.8    1965.0    9937.7    1958.8    9948.6    1956.5    9958.4
GR   1956.5    9979.9    1956.5   10000.0    1957.7   10013.9    1959.4   10034.1    1958.7   10052.6
GR   1961.0   10066.3    1963.0   10078.2    1966.1   10091.7    1968.2   10114.2    1968.1   10120.0
GR   1967.9   10133.8    1969.0   10142.5    1971.1   10166.5    1975.5   10181.8    1975.3   10198.7
GR   1976.2   10211.4    1975.8   10220.6    1977.0   10236.3    1980.3   10244.4       0.0       0.0

X1    32.07        35    9968.3   10028.3       535       495       496
GR   1981.2    9489.5    1981.9    9506.5    1982.9    9529.9    1983.3    9563.1    1981.4    9596.1
GR   1977.8    9609.2    1967.5    9627.7    1966.3    9636.6    1967.3    9666.9    1969.3    9716.2
GR   1970.4    9734.9    1968.9    9755.7    1970.1    9795.3    1970.7    9850.0    1968.5    9861.2
GR   1966.7    9872.8    1962.8    9879.9    1970.4    9893.6    1968.3    9899.6    1968.0    9916.1
GR   1966.6    9939.1    1965.3    9948.6    1962.3    9968.3    1959.8    9982.7    1960.1   10000.0
GR   1960.3   10008.1    1961.0   10028.3    1963.7   10047.5    1965.6   10058.8    1968.3   10069.0
GR   1971.5   10088.2    1972.7   10103.7    1973.5   10153.2    1978.8   10183.1    1984.1   10204.0

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X1    32.15        38    9967.5   10009.8       440       420       415
GR   1989.9    9350.6    1986.9    9398.7    1984.2    9415.9    1968.8    9457.2    1972.1    9470.8
GR   1969.9    9492.2    1972.8    9500.2    1974.4    9545.5    1973.2    9581.7    1972.5    9588.3
GR   1973.8    9639.9    1971.5    9680.1    1972.5    9697.2    1972.0    9704.7    1972.8    9712.8
GR   1972.7    9752.4    1973.3    9759.9    1974.0    9818.6    1973.2    9825.4    1974.2    9838.7
GR   1973.3    9874.7    1968.7    9887.0    1963.7    9967.5    1963.7   10000.0    1965.8   10009.8
GR   1968.6   10012.5    1974.1   10043.3    1975.1   10060.1    1974.4   10075.3    1973.6   10081.5
GR   1973.9   10085.5    1975.0   10090.9    1976.1   10133.2    1976.5   10152.0    1978.0   10184.5
GR   1980.7   10196.0    1980.7   10214.2    1988.7   10261.3       0.0       0.0       0.0       0.0

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

*PROF 1

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS
0

CCHV= .100 CEHV= .300
*SECNO 30.200

3265 DIVIDED FLOW

3720 CRITICAL DEPTH ASSUMED

30.200	10.31	1885.51	1885.51	1865.68	1887.26	1.74	.00	.00	1876.50
33800.0	14788.4	18290.6	721.0	2376.3	1388.5	91.6	.0	.0	1875.20
.00	6.22	13.17	7.87	.055	.050	.055	.000	1875.20	8982.96
.011560	535.	537.	545.	0	23	0	.00	1086.25	10110.96

*SECNO 30.280
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

30.280	14.47	1891.57	1891.57	.00	1893.68	2.11	4.70	.11	1881.80
33800.0	13983.9	18970.5	845.6	2343.3	1300.0	111.9	43.8	11.9	1877.50
.01	5.97	14.59	7.56	.055	.050	.055	.000	1877.10	9156.56
.008529	550.	421.	430.	0	11	0	.00	873.85	10030.41

*SECNO 30.420

3301 HV CHANGED MORE THAN HVINS

30.420	11.58	1897.38	1895.86	.00	1898.21	.83	4.41	.13	1890.30
33800.0	7992.2	6353.8	19454.0	1588.7	681.8	2657.1	103.2	23.6	1890.30
.04	5.03	9.32	7.32	.055	.050	.055	.000	1885.80	9523.03
.005928	500.	713.	650.	2	18	0	.00	952.20	10475.24

*SECNO 30.520

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

30.520	8.73	1902.23	1902.23	.00	1903.75	1.52	4.63	.21	1893.60
33800.0	12908.0	9217.5	11674.5	1836.9	655.1	1379.5	158.6	36.8	1894.00
.05	7.03	14.07	8.46	.055	.050	.055	.000	1893.50	9292.79
.013224	600.	560.	500.	0	14	0	.00	1102.46	10395.26

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

*SECNO 30.650
GR records deleted from
Sta 10070.7 to 10304.3
to restrict flow to effective area without X3 records.
This restriction needed since 100yr floodplain does not enter
right side channel that begins between RM 30.85 and 30.96

30.650	12.58	1909.78	1909.54	.00	1911.73	1.95	7.86	.13	1898.60
33800.0	20443.4	13085.1	271.5	2592.6	870.1	45.8	217.0	51.8	1898.20
.07	7.89	15.04	5.92	.055	.050	.055	.000	1897.20	9240.16
.009909	700.	696.	650.	3	14	0	.00	787.36	10027.51

*SECNO 30.750

3301 HV CHANGED MORE THAN HVINS

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

GR records deleted from
Sta 10241.8 to 10436.9
to restrict flow to effective area without X3 records.
This restriction needed since 100yr floodplain does not enter
right side channel that begins between RM 30.85 and 30.96

30.750	12.90	1913.90	1911.67	.00	1914.95	1.05	3.13	.09	1904.10
33800.0	12394.6	9431.0	11974.4	2181.2	943.9	1353.1	260.4	59.7	1903.80
.09	5.68	9.99	8.85	.055	.050	.055	.000	1901.00	9519.95
.004703	475.	486.	450.	3	9	0	.00	662.11	10182.06

*SECNO 30.850

30.850	11.85	1917.16	1916.16	.00	1918.65	1.50	3.57	.14	1908.20
33800.0	1552.4	10951.9	21295.7	319.1	916.7	2410.1	312.2	68.9	1907.90
.10	4.87	11.95	8.84	.055	.050	.055	.000	1905.30	9706.02
.009115	525.	569.	570.	2	15	0	.00	791.44	10497.46

*SECNO 30.960

3301 HV CHANGED MORE THAN HVINS

Q100 from HEC-1 Operation C400R

30.960	10.04	1922.04	1920.62	.00	1922.84	.81	4.12	.07	1913.90
31400.0	3588.4	6761.5	21050.1	551.5	678.6	3400.3	365.6	80.0	1913.30
.13	6.51	9.96	6.19	.055	.050	.055	.000	1912.00	9855.97
.005970	550.	541.	570.	2	14	0	.00	935.49	10791.46

1
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 31.050

31.050	8.48	1925.38	1924.72	.00	1926.40	1.02	3.49	.06	1918.30
31400.0	2476.1	5789.4	23134.5	290.5	508.9	3315.5	412.4	90.4	1917.80
.14	8.52	11.38	6.98	.055	.050	.055	.000	1916.90	9883.38
.009584	470.	494.	460.	2	14	0	.00	1023.02	10906.40

*SECNO 31.140

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

31.140	11.68	1929.48	1929.48	.00	1931.03	1.56	4.04	.16	1920.20
31400.0	5733.3	9482.0	16184.8	883.6	640.7	2257.2	447.7	99.6	1920.50
.15	6.49	14.80	7.17	.055	.050	.055	.000	1917.80	9619.45
.010779	500.	467.	350.	0	11	0	.00	1040.43	10659.88

*SECNO 31.170

3301 HV CHANGED MORE THAN HVINS

	Cross Section	31.17	located just south of New River Rd.						
31.170	10.53	1931.33	1930.49	.00	1932.30	.96	1.21	.06	1923.20
31400.0	10788.0	8633.9	11978.1	1622.3	800.8	1916.3	460.3	102.7	1923.10
.16	6.65	10.78	6.25	.055	.050	.055	.000	1920.80	9509.79
.007112	130.	162.	130.	3	10	0	.00	1010.11	10519.90

*SECNO 31.250

	Cross Section	31.25	located just north of New River Rd.						
31.250	9.51	1934.91	1934.62	.00	1936.31	1.40	3.88	.13	1931.10
31400.0	8362.5	11664.6	11373.0	1017.3	981.9	1540.3	497.1	112.2	1931.40
.17	8.22	11.88	7.38	.055	.050	.055	.000	1925.40	9445.52
.013186	400.	432.	400.	2	12	0	.00	1029.82	10475.33

*SECNO 31.340

End of Reach	50	
Start of Reach	51	
Cross Section	31.34	is Check Section Number 2
Cross Section	31.34	GR data by ALS

1

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
31.340	8.50	1940.00	1938.82	.00	1941.15	1.15	4.81	.03	1933.30
31400.0	2174.3	5718.2	23507.5	422.9	589.2	2748.4	535.3	121.5	1933.20
.19	5.14	9.71	8.55	.055	.055	.050	.000	1931.50	9777.39
.008613	450.	474.	450.	2	19	0	.00	775.68	10553.07

*SECNO 31.450

3265 DIVIDED FLOW

31.450	11.67	1944.77	1943.37	.00	1945.72	.95	4.55	.02	1938.30
31400.0	6247.0	6931.2	18221.8	668.5	738.2	2812.0	591.3	133.8	1933.80
.21	9.35	9.39	6.48	.055	.055	.050	.000	1933.10	9848.96
.006517	590.	592.	620.	3	11	0	.00	961.63	10879.09

*SECNO 31.540

3265 DIVIDED FLOW

31.540	8.22	1948.32	1947.58	.00	1949.72	1.40	3.87	.13	1940.20
31400.0	428.0	12385.1	18586.9	66.0	1139.5	2184.1	632.9	143.7	1940.70
.22	6.49	10.87	8.51	.055	.055	.050	.000	1940.10	9912.66
.010329	475.	484.	475.	2	14	0	.00	851.28	10814.32

*SECNO 31.630

3265 DIVIDED FLOW

31.630	11.83	1952.33	1951.25	.00	1953.54	1.21	3.80	.02	1942.50
31400.0	6329.2	8519.0	16551.8	960.7	730.2	2121.4	669.2	152.0	1941.70
.24	6.59	11.67	7.80	.055	.055	.050	.000	1940.50	9764.29
.007328	450.	453.	430.	2	11	0	.00	810.53	10646.02

*SECNO 31.750

3301 HV CHANGED MORE THAN HVINS

31.750	11.54	1958.04	1957.72	.00	1959.81	1.78	6.10	.17	1950.80
31400.0	16664.9	10271.0	4464.1	1739.5	770.4	615.4	721.8	164.2	1951.40
.25	9.58	13.33	7.25	.055	.055	.050	.000	1946.50	9568.97
.012028	680.	647.	650.	1	11	0	.00	802.06	10371.03

1

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

*SECNO 31.820

For this floodplain analysis, the existing berm for
the private pond is assumed to be structurally unsound.
Cross section 31.82 GR records for stations 9828.3
and 9839.4 have been deleted to remove the berm
from the cross section data.

31.820	9.54	1962.24	1961.63	.00	1964.15	1.91	4.30	.04	1953.40
31400.0	11270.6	15974.9	4154.5	1182.7	1254.2	533.8	747.2	170.3	1952.70
.26	9.53	12.74	7.78	.055	.055	.050	.000	1952.70	9654.47
.011751	360.	361.	370.	2	15	0	.00	641.94	10296.41

*SECNO 31.870

For this floodplain analysis, the existing berm for
the private pond is assumed to be structurally unsound.
Cross section 31.86 GR records for stations 9829.2, 9837,
and 9848.6 have been deleted to remove the berm
from the cross section data.

31.870	11.28	1964.88	1963.63	.00	1966.56	1.68	2.38	.02	1953.70
31400.0	18357.6	9788.0	3254.4	1935.1	766.9	472.4	763.7	173.4	1953.90
.27	9.49	12.76	6.89	.055	.055	.050	.000	1953.60	9650.24
.008908	220.	243.	260.	2	8	0	.00	513.67	10163.92

*SECNO 31.910

3301 HV CHANGED MORE THAN HVINS

End of Reach 51
Start of Reach 52

31.910	13.18	1966.48	1965.64	.00	1968.69	2.21	1.97	.16	1954.50
31400.0	15760.6	12386.1	3253.3	2091.5	741.9	550.4	780.9	176.1	1953.50
.27	7.54	16.69	5.91	.070	.045	.070	.000	1953.30	9675.05
.008547	240.	208.	210.	3	8	0	.00	500.07	10175.12

*SECNO 31.980

Q100 interpolated between HEC-1 operations C390 and C400R

31.980	13.24	1969.74	1968.85	.00	1972.06	2.32	3.34	.03	1956.50
31300.0	12107.0	12392.9	6800.0	1696.4	726.6	827.7	810.7	180.4	1957.70
.28	7.14	17.06	8.22	.070	.045	.070	.000	1956.50	9689.96
.008654	400.	380.	380.	2	11	0	.00	461.02	10150.99

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

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

*SECNO 32.070

32.070	14.23	1974.03	1973.63	.00	1976.50	2.48	4.39	.05	1962.30
31300.0	13010.2	14043.9	4245.9	2000.0	812.7	558.3	850.0	186.4	1961.00
.30	6.51	17.28	7.61	.070	.045	.070	.000	1959.80	9615.97
.008524	535.	496.	495.	2	8	0	.00	540.21	10156.18

*SECNO 32.150

3301 HV CHANGED MORE THAN HVINS

32.150	14.57	1978.27	1977.09	.00	1979.56	1.29	2.94	.12	1963.70
31300.0	19879.3	8818.5	2602.2	3380.4	605.9	608.1	889.6	192.8	1965.80
.31	5.88	14.56	4.28	.070	.045	.070	.000	1963.70	9431.81
.005623	440.	415.	420.	3	10	0	.00	753.82	10185.63

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THIS RUN EXECUTED 11FEB97 11:02:16

****
HEC-2 WATER SURFACE PROFILES

Version 4.6.2; May 1991
****

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

Cave Creek 100Yr Ex Cond

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	30.200	.00	.00	.00	1875.20	33800.00	1885.51	1885.51	1887.26	115.60	13.17	3856.44	3143.72
*	30.280	421.00	.00	.00	1877.10	33800.00	1891.57	1891.57	1893.68	85.29	14.59	3755.19	3659.99
	30.420	713.00	.00	.00	1885.80	33800.00	1897.38	1895.86	1898.21	59.28	9.32	4927.71	4390.11
*	30.520	560.00	.00	.00	1893.50	33800.00	1902.23	1902.23	1903.75	132.24	14.07	3871.52	2939.21
	30.650	696.00	.00	.00	1897.20	33800.00	1909.78	1909.54	1911.73	99.09	15.04	3508.48	3395.40
*	30.750	486.00	.00	.00	1901.00	33800.00	1913.90	1911.67	1914.95	47.03	9.99	4478.18	4928.88
	30.850	569.00	.00	.00	1905.30	33800.00	1917.16	1916.16	1918.65	91.15	11.95	3645.92	3540.27
	30.960	541.00	.00	.00	1912.00	31400.00	1922.04	1920.62	1922.84	59.70	9.96	4630.45	4064.00
	31.050	494.00	.00	.00	1916.90	31400.00	1925.38	1924.72	1926.40	95.84	11.38	4114.94	3207.46
*	31.140	467.00	.00	.00	1917.80	31400.00	1929.48	1929.48	1931.03	107.79	14.80	3781.54	3024.44
	31.170	162.00	.00	.00	1920.80	31400.00	1931.33	1930.49	1932.30	71.12	10.78	4339.39	3723.44
	31.250	432.00	.00	.00	1925.40	31400.00	1934.91	1934.62	1936.31	131.86	11.88	3539.46	2734.51
	31.340	474.00	.00	.00	1931.50	31400.00	1940.00	1938.82	1941.15	86.13	9.71	3760.44	3383.32

31.450	592.00	.00	.00	1933.10	31400.00	1944.77	1943.37	1945.72	65.17	9.39	4218.65	3889.65
31.540	484.00	.00	.00	1940.10	31400.00	1948.32	1947.58	1949.72	103.29	10.87	3389.63	3089.59
31.630	453.00	.00	.00	1940.50	31400.00	1952.33	1951.25	1953.54	73.28	11.67	3812.36	3668.12
31.750	647.00	.00	.00	1946.50	31400.00	1958.04	1957.72	1959.81	120.28	13.33	3125.25	2863.02

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SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
31.820	361.00	.00	.00	1952.70	31400.00	1962.24	1961.63	1964.15	117.51	12.74	2970.69	2896.57
31.870	243.00	.00	.00	1953.60	31400.00	1964.88	1963.63	1966.56	89.08	12.76	3174.39	3326.91
31.910	208.00	.00	.00	1953.30	31400.00	1966.48	1965.64	1968.69	85.47	16.69	3383.82	3396.51
31.980	380.00	.00	.00	1956.50	31300.00	1969.74	1968.85	1972.06	86.54	17.06	3250.78	3364.68
32.070	496.00	.00	.00	1959.80	31300.00	1974.03	1973.63	1976.50	85.24	17.28	3370.92	3390.13
32.150	415.00	.00	.00	1963.70	31300.00	1978.27	1977.09	1979.56	56.23	14.56	4594.37	4173.93

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Cave Creek 100Yr Ex Cond

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	30.200	33800.00	1885.51	.00	.00	19.83	1086.25	.00
*	30.280	33800.00	1891.57	.00	6.05	.00	873.85	421.00
	30.420	33800.00	1897.38	.00	5.82	.00	952.20	713.00
*	30.520	33800.00	1902.23	.00	4.85	.00	1102.46	560.00
	30.650	33800.00	1909.78	.00	7.55	.00	787.36	696.00
*	30.750	33800.00	1913.90	.00	4.12	.00	662.11	486.00
	30.850	33800.00	1917.16	.00	3.25	.00	791.44	569.00
	30.960	31400.00	1922.04	.00	4.88	.00	935.49	541.00
	31.050	31400.00	1925.38	.00	3.34	.00	1023.02	494.00
*	31.140	31400.00	1929.48	.00	4.10	.00	1040.43	467.00
	31.170	31400.00	1931.33	.00	1.86	.00	1010.11	162.00
	31.250	31400.00	1934.91	.00	3.57	.00	1029.82	432.00
	31.340	31400.00	1940.00	.00	5.09	.00	775.68	474.00
	31.450	31400.00	1944.77	.00	4.77	.00	961.63	592.00
	31.540	31400.00	1948.32	.00	3.55	.00	851.28	484.00
	31.630	31400.00	1952.33	.00	4.01	.00	810.53	453.00

31.750	31400.00	1958.04	.00	5.71	.00	802.06	647.00
31.820	31400.00	1962.24	.00	4.21	.00	641.94	361.00
31.870	31400.00	1964.88	.00	2.64	.00	513.67	243.00
31.910	31400.00	1966.48	.00	1.60	.00	500.07	208.00
31.980	31300.00	1969.74	.00	3.26	.00	461.02	380.00
32.070	31300.00	1974.03	.00	4.29	.00	540.21	496.00
32.150	31300.00	1978.27	.00	4.24	.00	753.82	415.00

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SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 30.200 PROFILE= 1 CRITICAL DEPTH ASSUMED

CAUTION SECNO= 30.280 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 30.280 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 30.520 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 30.520 PROFILE= 1 MINIMUM SPECIFIC ENERGY

WARNING SECNO= 30.750 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 31.140 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 31.140 PROFILE= 1 MINIMUM SPECIFIC ENERGY

Hydraulic Analysis
Final HEC-2 Output File
CAVEFW1.OH2

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1*****************************************
*  HEC-2 WATER SURFACE PROFILES           *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE    01APR97    TIME   10:06:20  *
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*************************************
*  U.S. ARMY CORPS OF ENGINEERS     *
*  HYDROLOGIC ENGINEERING CENTER    *
*  609 SECOND STREET, SUITE D       *
*  DAVIS, CALIFORNIA 95616-4687     *
*         (916) 756-1104            *
*************************************
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X     X  XXXXXXX   XXXXX            XXXXX
X     X  X        X     X         X     X
X     X  X        X                     X
XXXXXXX  XXXX     X         XXXXX   XXXXX
X     X  X        X                 X
X     X  X        X     X           X
X     X  XXXXXXX   XXXXX            XXXXXXX
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THIS RUN EXECUTED 01APR97 10:06:20

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

 Version   4.6.2;  May 1991
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T1   *  Cave Creek Floodplain Delineation Study            File: CAVEFW1.IH2
T2   *  FCD CONTRACT NUMBER 95-28                       Modeled: 9-09-96
T3   *  Cave Creek 100Yr Ex Cond Floodplain             Revised:04-01-97
T4   *
T5   *  For:    Flood Control District of Maricopa County
T6   *  By:     McLaughlin Kmetty Engineers, Ltd.  FB & CLJ
T7   *  via:    George V. Sabol Consulting Engineers, Inc.
T8   *  GR data taken from stereo model
1
   01APR97      10:06:20                                                    PAGE    2


T9   *  GR data received from Aerial Mapping Company (AMC)    on 6-30-96
T9   *                                GR data from AMC revised 8-21-96
T9   *  200 scale 2 ft CI mapping photogrammetry flight (AMC) on 1-12-96
T9   *  Survey control by Alcocer Land Surveyors (ALS)
T9   *  All check section GR data by ALS
T9   *  Supplemental survey data by ALS as noted.
T9   *  Starting WSEL came from Technical Data Notebook by Willdan Associates,
T9   *
T9   *
T9   *  Source of 100-Yr flowrate from HEC-1 Analysis by GVSCE.
T9   *  Flowrates upstream of RM 35.54 use CH2MHILL values.
T9   *  Subcritical analysis.

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0        2         0         0         0         0         0         0   1885.68

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

       1        0        -1         0         0         0        -1         0         0         0

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

     150       115       200

NC    0.055     0.055     0.050       0.1         0.3

QT        2     33800     33800

ET                            9.1                                                                 9405.25   10111.27

                  Cross section river mile stationing based upon FEMA cross
                  section DA being river mile 30.10.  See FEMA FIS Maricopa
                  County, Arizona and Incorporated Areas Vol. 4 of 9,
                  Dec. 3, 1993 Flood Profile 68P Cave Creek Wash.
                  Also See Flood Insurance Rate Map Panel 815 of 4350, dated
                  September 29, 1989.                              River Mile
                  information obtained from previous study by Harris-Toups
                  Associates.

                  Start of Reach  50
                  Q100 from HEC-1 Operation C410
X1    30.20         67     9927.7    10093.2       535       545       537
GR  1898.0    8838.6    1897.7    8918.9    1897.8    8955.2    1882.4    8990.0    1882.3    9006.7
GR  1880.4    9026.6    1881.9    9036.8    1882.0    9055.2    1883.7    9073.3    1885.0    9087.5
GR  1885.1    9107.0    1884.1    9146.3    1884.8    9156.0    1884.6    9163.5    1881.8    9170.8
GR  1881.9    9184.0    1883.3    9194.2    1882.7    9204.0    1882.0    9235.3    1882.4    9246.9
GR  1882.3    9262.4    1883.5    9272.2    1884.4    9292.3    1883.6    9312.7    1884.0    9324.9
GR  1881.6    9337.9    1881.1    9347.9    1882.5    9366.0    1882.6    9381.9    1886.1    9390.1
GR  1885.7    9418.6    1885.3    9444.1    1884.4    9457.3    1883.0    9490.0    1883.8    9504.1
GR  1883.3    9523.8    1882.6    9544.2    1883.4    9564.4    1882.0    9590.9    1883.3    9616.7
GR  1883.5    9641.3    1879.3    9663.9    1879.5    9669.6    1882.3    9684.6    1882.8    9695.5
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GR	1881.9	9707.0	1879.8	9714.1	1879.9	9731.2	1882.8	9741.7	1883.0	9753.1
GR	1883.3	9796.0	1884.1	9822.3	1883.7	9859.0	1882.9	9887.8	1882.8	9900.1
GR	1876.5	9927.7	1875.8	9939.7	1877.0	9976.9	1876.1	10000.0	1876.4	10000.6
GR	1877.9	10021.2	1878.8	10045.5	1878.2	10069.8	1876.0	10086.0	1875.2	10093.2
GR	1897.9	10132.3	1899.9	10165.4	0.0	0.0	0.0	0.0	0.0	0.0
ET			9.1						9454.46	10030.37
X1	30.28	64	9908.6	10014.5	550	430	421			
GR	1903.3	8939.5	1902.9	9041.8	1902.9	9088.5	1902.4	9120.6	1901.6	9132.4
GR	1889.1	9162.5	1887.8	9171.2	1889.5	9181.6	1888.4	9200.7	1889.3	9222.8
GR	1889.4	9250.8	1888.4	9258.1	1890.0	9264.4	1889.7	9292.2	1885.8	9302.2
GR	1890.1	9316.4	1889.7	9337.0	1890.2	9351.6	1889.3	9372.3	1888.4	9388.9
GR	1887.0	9396.9	1886.6	9406.9	1888.0	9427.9	1888.6	9442.8	1887.8	9470.0
GR	1886.1	9480.9	1889.3	9491.8	1889.4	9507.6	1889.8	9529.7	1890.2	9550.4
GR	1889.5	9595.4	1889.6	9616.6	1887.7	9631.3	1887.0	9649.0	1889.5	9679.4
GR	1888.6	9694.4	1886.6	9704.9	1889.5	9717.5	1890.4	9732.1	1890.0	9751.7
GR	1888.7	9775.3	1888.0	9814.0	1885.9	9833.6	1885.2	9864.5	1885.2	9881.7
GR	1884.3	9895.3	1881.8	9908.6	1880.9	9934.5	1879.7	9947.3	1878.3	9978.3
GR	1877.8	9989.9	1877.8	10000.0	1877.1	10008.3	1877.5	10014.5	1894.3	10033.5
GR	1894.2	10052.0	1893.4	10082.3	1893.3	10109.9	1894.4	10160.5	1895.5	10190.2
GR	1896.8	10226.7	1898.6	10240.5	1898.8	10255.3	1900.6	10274.9	0.0	0.0
ET			9.1						9835.0	10401.71
X1	30.42	51	9970.3	10052.9	500	650	713			
GR	1907.9	9331.9	1907.4	9422.1	1907.0	9476.5	1906.6	9501.6	1893.1	9533.0
GR	1893.6	9568.7	1892.9	9613.1	1891.9	9621.6	1892.9	9631.9	1892.9	9666.7
GR	1894.3	9714.6	1894.8	9733.5	1894.8	9755.5	1894.6	9800.7	1895.2	9854.8
GR	1892.9	9868.0	1893.9	9893.2	1893.6	9900.4	1890.9	9907.3	1890.6	9918.4
GR	1895.4	9931.2	1895.6	9957.5	1890.3	9970.3	1887.8	9999.9	1888.1	10000.0
GR	1889.6	10037.1	1890.3	10052.9	1892.7	10080.7	1892.4	10102.6	1891.7	10123.6
GR	1891.1	10145.5	1885.8	10159.9	1889.0	10186.9	1889.8	10200.7	1892.1	10211.4
GR	1890.7	10239.2	1888.3	10258.2	1893.0	10277.2	1892.4	10320.1	1889.9	10362.3
GR	1889.7	10390.2	1891.4	10402.9	1890.9	10438.8	1890.9	10443.0	1893.1	10455.4
GR	1900.1	10487.8	1901.5	10552.6	1902.3	10607.2	1903.6	10632.8	1907.6	10663.6
GR	1910.8	10683.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ET			9.1						9725.0	10300.97
X1	30.52	65	9983.4	10061.8	600	500	560			
GR	1912.5	9225.3	1911.6	9249.4	1909.9	9265.3	1904.7	9283.8	1900.8	9298.0
GR	1900.0	9312.1	1900.7	9317.2	1900.5	9342.0	1900.8	9401.2	1900.4	9431.3
GR	1900.9	9463.0	1900.8	9498.9	1900.4	9566.3	1899.9	9630.3	1898.8	9637.4
GR	1900.0	9649.8	1900.1	9696.8	1899.9	9721.3	1899.1	9744.6	1897.8	9748.0
GR	1899.3	9757.6	1899.2	9771.0	1899.6	9785.1	1898.4	9791.1	1900.4	9811.3
GR	1900.9	9826.1	1900.0	9851.7	1898.1	9872.3	1894.7	9876.3	1894.9	9887.7
GR	1895.0	9902.1	1897.4	9914.0	1898.2	9933.1	1896.5	9965.0	1893.6	9983.4
GR	1893.8	10000.0	1894.3	10021.0	1893.5	10049.4	1894.0	10061.8	1894.9	10068.7
GR	1898.8	10095.2	1898.9	10107.9	1898.9	10132.4	1898.1	10161.8	1899.0	10213.6
GR	1899.0	10221.1	1898.8	10242.8	1897.4	10260.3	1896.9	10275.9	1893.8	10291.0

GR	1894.4	10300.9	1900.1	10323.3	1899.8	10340.6	1898.7	10361.4	1896.7	10366.8
GR	1899.3	10383.8	1903.8	10401.4	1904.8	10420.5	1905.3	10440.2	1906.2	10499.1
GR	1907.2	10532.2	1908.4	10552.2	1909.5	10577.7	1912.5	10598.8	1914.5	10618.9
ET			9.1						9600.0	10027.52

GR records deleted from

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                Sta 10070.7 to 10304.3
                to restrict flow to effective area without X3 records.
                This restriction needed since 100yr floodplain does not enter
                right side channel that begins between RM 30.85 and 30.96
X1    30.65       50    9943.8   10019.6      700       650       696
GR    1918.4   9139.6   1918.4    9166.4   1917.6    9181.6    1916.6    9190.0    1913.0    9206.9
GR    1910.7   9224.3   1909.7    9241.6   1909.3    9273.0    1908.9    9297.7    1908.0    9329.1
GR    1907.8   9365.0   1907.1    9386.1   1907.6    9395.1    1907.6    9414.4    1907.9    9430.3
GR    1908.6   9448.3   1908.9    9465.2   1908.4    9483.0    1908.7    9506.0    1908.0    9526.3
GR    1906.7   9548.0   1906.8    9563.6   1906.3    9601.3    1905.9    9627.1    1905.5    9654.8
GR    1905.5   9691.5   1905.8    9715.1   1906.1    9732.3    1906.2    9743.9    1900.0    9760.0
GR    1901.9   9771.6   1902.1    9779.1   1900.6    9791.3    1901.6    9799.1    1903.2    9813.0
GR    1904.1   9833.8   1903.0    9871.0   1904.2    9891.8    1904.4    9909.4    1902.4    9919.7
GR    1901.8   9933.9   1898.6    9943.8   1899.0    9971.6    1898.3    9988.4    1897.2    9995.5
GR    1897.3  10000.0   1898.2   10019.6   1910.2   10027.8    1911.2   10041.2    1911.2   10070.7

ET                        9.1                                                      9705.0   10162.09

                GR records deleted from
                  Sta 10241.8 to 10436.9
                to restrict flow to effective area without X3 records.
                This restriction needed since 100yr floodplain does not enter
                right side channel that begins between RM 30.85 and 30.96
X1    30.75       35    9963.4   10050.3      475       450       486
GR    1925.5   9200.2   1925.3    9236.3   1924.6    9280.6    1918.1    9299.3    1915.8    9316.1
GR    1915.2   9339.6   1914.8    9376.8   1914.4    9417.3    1914.4    9491.0    1913.7    9531.6
GR    1909.8   9560.3   1909.6    9621.7   1908.9    9660.3    1909.4    9712.4    1909.2    9755.1
GR    1909.1   9793.8   1909.1    9820.7   1908.7    9847.5    1909.7    9857.1    1909.4    9869.1
GR    1906.2   9885.3   1907.2    9912.3   1906.7    9935.0    1904.1    9963.4    1902.6    9982.7
GR    1902.5   9993.3   1902.4   10000.0   1903.8   10050.3    1903.0   10096.8    1901.0   10116.3
GR    1903.4  10126.1   1903.2   10142.7   1902.8   10165.8    1915.5   10184.4    1916.9   10241.8

ET                        9.1                                                      9912.4   10461.24

X1    30.85       58    9912.4   10018.4      525       570       569
GR    1931.6   9373.0   1931.8    9383.2   1931.4    9398.3    1930.2    9424.0    1928.4    9445.6
GR    1926.5   9464.0   1924.1    9481.2   1921.3    9495.7    1919.3    9525.8    1919.8    9554.5
GR    1919.4   9596.5   1918.6    9645.1   1917.4    9696.1    1916.6    9729.2    1916.0    9804.9
GR    1915.8   9834.0   1915.8    9835.9   1915.6    9863.9    1915.0    9889.7    1912.1    9901.4
GR    1908.2   9912.4   1909.4    9928.9   1908.5    9950.5    1909.1    9972.9    1907.5   10000.0
GR    1907.9  10018.4   1914.3   10051.3   1914.5   10090.2    1915.2   10129.5    1915.3   10148.9
GR    1915.5  10185.9   1914.7   10222.7   1910.5   10246.4    1913.3   10276.3    1913.9   10294.3
GR    1914.1  10316.8   1911.5   10327.0   1910.9   10361.0    1909.4   10370.8    1908.6   10385.6
GR    1910.2  10407.2   1907.9   10436.5   1905.6   10442.7    1906.5   10463.4    1905.3   10474.8
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GR    1907.4  10484.7   1921.7   10503.4   1921.2   10526.5    1918.8   10568.1    1918.0   10585.7
GR    1918.5  10613.5   1919.5   10626.5   1920.7   10650.1    1923.9   10681.7    1925.4   10702.1
GR    1926.7  10743.6   1927.9   10752.7   1929.3   10770.8      0.0        0.0      0.0      0.0

QT        2     31400     31400

ET                        9.1                                                      9963.15  10706.14

                Q100 from HEC-1 Operation C400R
X1    30.96       61    9973.8   10048.6      550       570       541
GR    1925.2   9751.6   1925.7    9775.5   1925.6    9808.0    1926.0    9841.1    1918.3    9870.0
GR    1918.3   9883.8   1919.6    9901.3   1918.1    9925.5    1914.4    9943.8    1913.9    9973.8
GR    1913.0   9986.9   1912.3   10000.0   1912.5   10026.1    1914.1   10032.0    1913.5   10040.4
GR    1913.3  10048.6   1917.1   10068.0   1917.3   10108.6    1918.4   10126.3    1919.6   10145.6
GR    1919.1  10178.2   1918.0   10215.0   1917.6   10251.6    1914.8   10288.4    1916.8   10300.7
GR    1917.5  10314.7   1917.7   10337.5   1915.9   10354.8    1913.7   10368.2    1915.1   10381.0
GR    1917.8  10408.4   1917.0   10420.6   1919.4   10463.2    1920.1   10491.4    1919.9   10495.0
GR    1920.5  10517.7   1920.3   10535.8   1919.1   10566.8    1919.3   10590.8    1917.5   10602.1
GR    1916.8  10612.3   1916.6   10626.6   1912.0   10646.3    1912.4   10653.8    1915.2   10665.1
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GR	1916.8	10676.9	1917.3	10689.9	1916.6	10727.0	1916.5	10740.6	1914.6	10749.9
GR	1914.1	10758.8	1915.9	10771.1	1924.1	10798.3	1924.4	10824.3	1925.6	10858.1
GR	1926.6	10892.7	1928.3	10930.4	1929.3	10957.5	1930.0	10973.4	1932.5	10996.2
GR	1934.8	11014.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ET			9.1						9934.2	10807.35
X1	31.05	62	9934.2	10000	470	460	494			
GR	1935.3	9739.6	1935.0	9752.0	1936.0	9786.0	1937.6	9827.6	1938.0	9860.3
GR	1932.0	9874.9	1918.8	9891.8	1918.9	9913.5	1920.4	9925.9	1918.3	9934.2
GR	1917.1	9959.6	1917.8	9981.5	1917.8	10000.0	1917.8	10000.0	1918.1	10017.7
GR	1919.2	10031.9	1920.9	10043.6	1920.4	10072.9	1921.7	10087.3	1922.6	10103.6
GR	1923.0	10109.5	1922.9	10135.9	1921.9	10144.8	1922.2	10184.5	1921.3	10203.3
GR	1923.4	10234.0	1923.4	10256.6	1922.9	10289.0	1923.9	10317.1	1923.8	10318.2
GR	1923.8	10318.2	1923.3	10374.4	1922.2	10391.5	1923.4	10406.0	1921.5	10427.9
GR	1921.6	10450.6	1924.3	10476.8	1924.3	10506.7	1922.6	10573.2	1921.7	10624.0
GR	1921.8	10643.0	1920.7	10662.9	1919.2	10673.1	1920.8	10689.1	1920.3	10706.9
GR	1917.2	10715.0	1916.9	10722.6	1921.9	10745.0	1921.7	10764.6	1921.3	10790.9
GR	1919.0	10806.3	1920.1	10836.8	1920.0	10849.3	1918.0	10866.4	1917.4	10887.8
GR	1928.6	10913.9	1930.4	10928.2	1931.4	10944.0	1934.4	10972.9	1934.2	10993.6
GR	1934.3	10997.0	1934.4	10998.8	0.0	0.0	0.0	0.0	0.0	0.0
ET			9.1						9850.0	10606.14
X1	31.14	60	9965.8	10026.5	500	350	467			
GR	1946.4	9402.7	1945.9	9434.0	1943.4	9488.8	1940.4	9535.4	1937.7	9567.5
GR	1936.6	9585.1	1932.6	9604.8	1929.8	9617.8	1927.3	9630.5	1928.0	9636.3
GR	1927.7	9669.3	1927.8	9692.5	1927.9	9713.0	1927.5	9756.8	1926.6	9801.2
GR	1926.6	9847.0	1927.5	9879.8	1928.2	9908.3	1928.7	9926.4	1922.6	9939.6
GR	1921.1	9947.4	1920.2	9965.8	1919.0	9973.5	1919.2	9983.1	1917.8	10000.0
GR	1918.4	10010.3	1920.5	10026.5	1924.5	10045.6	1925.6	10071.7	1926.9	10108.7
GR	1928.3	10146.3	1928.3	10165.5	1928.0	10175.7	1926.5	10200.1	1925.2	10211.8

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GR	1923.6	10216.9	1923.6	10228.2	1922.4	10244.9	1927.1	10260.3	1928.0	10283.8
GR	1927.9	10333.2	1926.4	10349.7	1927.2	10374.0	1926.2	10391.8	1925.9	10409.7
GR	1924.3	10420.3	1923.7	10437.0	1926.1	10478.4	1925.7	10521.1	1925.7	10538.5
GR	1926.0	10563.6	1926.4	10576.4	1922.6	10583.9	1924.5	10593.2	1924.1	10604.4
GR	1924.0	10631.6	1925.6	10648.6	1931.2	10664.9	1939.2	10690.6	1942.8	10736.3
ET			9.1						9780.0	10462.51

Cross Section 31.17 located just south of New River Rd.

X1	31.17	52	9965.1	10054.8	130	130	162			
GR	1946.7	9276.7	1947.1	9297.9	1946.2	9332.3	1945.1	9364.7	1943.9	9393.8
GR	1941.9	9423.7	1940.2	9454.5	1938.9	9466.6	1938.0	9479.1	1936.3	9491.6
GR	1932.0	9506.0	1929.3	9521.4	1928.2	9545.1	1926.9	9557.8	1928.0	9562.9
GR	1928.1	9579.7	1929.3	9634.1	1929.5	9653.3	1928.9	9726.8	1929.0	9786.7
GR	1929.9	9825.3	1931.1	9852.5	1922.6	9871.9	1922.6	9888.2	1920.8	9897.9
GR	1921.3	9911.0	1924.7	9918.2	1924.7	9936.1	1923.2	9965.1	1921.7	10000.0
GR	1921.7	10001.5	1923.1	10054.8	1923.8	10062.1	1926.2	10080.5	1926.9	10099.2
GR	1927.8	10124.8	1926.8	10152.6	1928.2	10182.8	1930.9	10210.3	1928.3	10228.1
GR	1926.1	10247.7	1924.7	10279.7	1928.2	10302.1	1928.8	10328.3	1928.5	10367.3
GR	1928.0	10402.1	1926.3	10441.8	1924.6	10469.9	1925.2	10497.0	1935.7	10536.2
GR	1941.3	10560.4	1945.5	10589.2	0.0	0.0	0.0	0.0	0.0	0.0
ET			9.1						9790.47	10387.38

Cross Section 31.25 located just north of New River Rd.

X1	31.25	71	9881.1	10031.4	400	400	432			
GR	1951.6	9148.7	1950.7	9191.9	1949.2	9235.1	1948.1	9259.5	1946.6	9266.4
GR	1948.3	9276.1	1945.8	9290.3	1944.3	9314.9	1941.9	9336.4	1940.1	9352.0
GR	1938.6	9373.1	1936.9	9395.2	1936.4	9406.7	1935.0	9423.4	1935.0	9428.0
GR	1935.2	9443.4	1933.5	9455.8	1932.7	9478.0	1932.3	9501.1	1931.6	9505.3

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GR   1932.3     9509.8    1932.8     9528.7    1932.9     9546.8    1932.5     9565.0    1931.7     9570.8
GR   1932.8     9591.6    1933.2     9610.1    1934.5     9655.8    1934.5     9676.8    1934.9     9701.0
GR   1934.9     9746.6    1934.1     9783.9    1926.0     9798.6    1925.5     9809.0    1925.4     9818.8
GR   1928.3     9828.6    1929.5     9837.7    1930.7     9857.7    1931.0     9867.3    1931.1     9881.1
GR   1928.7     9937.9    1927.2     9978.9    1926.0     9992.1    1926.0     9998.1    1926.1     10000.0
GR   1925.9     10008.2   1927.4     10019.5   1931.4     10031.4   1932.1     10041.9   1932.0     10070.2
GR   1931.1     10095.4   1931.0     10102.0   1930.7     10114.0   1928.7     10132.1   1930.9     10149.7
GR   1929.9     10161.2   1931.8     10181.8   1931.8     10190.3   1932.1     10215.9   1932.1     10261.6
GR   1931.9     10286.1   1931.3     10318.8   1932.6     10340.5   1932.7     10366.6   1931.9     10388.8
GR   1931.8     10413.5   1931.3     10430.7   1929.0     10443.2   1928.6     10452.1   1929.3     10466.0
GR   1959.0     10515.4   0.0        0.0       0.0        0.0       0.0        0.0       0.0        0.0

NC   0.055      0.050     0.055

ET                        9.1                                                            9949.9     10498.12

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                End of Reach    50
                Start of Reach  51
                Cross Section   31.34    is Check Section Number   2
                Cross Section   31.34    GR data by ALS
X1   31.34         51        9949.9     10027.2       450        450        474
GR   1943.7     9664.3    1943.4     9718.8    1939.1     9793.0    1937.3     9862.7    1937.1     9930.2
GR   1935.5     9935.3    1933.3     9949.9    1931.5     10000.0   1933.2     10027.2   1934.1     10104.9
GR   1933.1     10113.8   1932.9     10116.6   1935.4     10126.5   1936.5     10137.5   1935.1     10146.5
GR   1934.7     10157.0   1932.9     10166.0   1932.1     10178.0   1932.9     10184.4   1936.1     10196.8
GR   1936.6     10210.6   1936.5     10248.8   1936.0     10254.7   1935.9     10322.1   1935.1     10332.9
GR   1935.1     10365.4   1932.4     10379.2   1932.8     10391.1   1931.5     10394.9   1931.9     10412.7
GR   1934.9     10417.0   1935.8     10429.2   1935.2     10471.2   1935.9     10485.5   1935.8     10497.1
GR   1934.5     10509.7   1933.7     10532.2   1933.8     10540.5   1934.1     10545.2   1955.4     10573.6
GR   1959.4     10590.5   1968.5     10613.5   1972.9     10631.3   1972.3     10638.7   1973.8     10644.8
GR   1976.6     10668.5   1980.9     10691.3   1986.1     10738.1   1989.5     10779.5   1989.3     10790.8
GR   1991.9     10807.6

ET                        9.1                                                            9881.84    10425.0

X1   31.45         61        9927.1     10009.4       590        620        592
GR   1951.3     9593.4    1951.1     9608.3    1950.8     9633.0    1951.2     9686.7    1951.8     9717.0
GR   1952.3     9752.2    1951.3     9794.4    1947.8     9819.3    1948.9     9827.8    1946.7     9836.9
GR   1944.6     9850.0    1933.4     9861.9    1933.1     9869.7    1933.7     9885.4    1937.6     9905.9
GR   1938.3     9927.1    1936.2     9964.4    1935.2     9983.8    1933.6     9993.3    1933.3     10000.0
GR   1933.3     10008.5   1933.8     10009.4   1941.1     10031.0   1941.0     10073.8   1941.0     10110.3
GR   1940.3     10145.4   1939.8     10163.5   1939.1     10168.6   1941.7     10186.5   1941.5     10204.8
GR   1939.5     10230.5   1939.5     10250.8   1938.2     10270.7   1937.5     10293.2   1938.3     10327.6
GR   1938.7     10334.1   1942.7     10346.9   1942.5     10385.9   1941.7     10399.4   1937.4     10439.0
GR   1939.3     10462.8   1941.9     10480.5   1941.8     10521.6   1940.8     10537.7   1942.0     10548.4
GR   1942.0     10567.9   1942.1     10608.9   1942.4     10642.0   1945.4     10694.7   1945.2     10736.6
GR   1944.2     10772.4   1944.1     10791.9   1943.2     10798.3   1943.9     10804.4   1944.0     10813.1
GR   1944.0     10840.1   1944.1     10862.6   1944.8     10879.9   1949.7     10899.7   1955.6     10911.8
GR   1957.2     10914.5   0.0        0.0       0.0        0.0       0.0        0.0       0.0        0.0

ET                        9.1                                                            9928.90    10490.0

X1   31.54         65        9928.9     10073.6       475        475        484
GR   1961.2     9679.3    1960.4     9720.5    1959.1     9734.8    1955.3     9767.8    1952.7     9792.3
GR   1950.7     9815.2    1951.0     9827.0    1948.5     9840.9    1952.2     9866.8    1953.3     9887.5
GR   1953.1     9903.1    1940.2     9928.9    1940.1     9945.4    1940.2     9977.3    1940.3     10000.0
GR   1941.1     10041.5   1940.6     10050.6   1940.7     10073.6   1942.0     10094.0   1941.9     10112.1
GR   1942.1     10138.9   1942.2     10155.4   1944.3     10165.5   1946.3     10182.8   1945.8     10201.5
GR   1946.2     10229.8   1946.9     10266.6   1946.7     10296.7   1944.2     10320.8   1945.0     10335.4
GR   1944.8     10361.1   1943.4     10368.2   1941.6     10400.0   1940.6     10407.2   1940.7     10429.9
GR   1941.7     10439.0   1941.5     10456.4   1945.0     10470.0   1946.2     10481.4   1946.0     10490.5
GR   1943.2     10514.6   1945.2     10525.0   1941.4     10538.9   1948.0     10556.0   1948.9     10565.9
GR   1948.3     10611.6   1947.9     10647.0   1947.6     10681.6   1947.4     10740.1   1948.0     10772.5
```

GR	1946.8	10778.0	1947.9	10783.6	1948.4	10820.0	1948.4	10875.2	1951.6	10907.6
GR	1952.0	10932.1	1951.9	10948.1	1948.8	10970.9	1948.8	11007.0	1949.4	11074.0
GR	1950.2	11152.0	1950.6	11179.0	1951.9	11191.0	1954.5	11214.6	1961.8	11237.4

ET			9.1						9807.0	10385.0
X1	31.63	64	9972.7	10037	450	430	453			
GR	1965.9	9486.0	1963.3	9514.4	1961.5	9537.0	1960.4	9573.0	1958.6	9621.6
GR	1958.7	9678.4	1959.6	9697.0	1959.6	9730.5	1958.1	9746.7	1949.7	9772.3
GR	1946.2	9784.7	1946.2	9790.7	1949.0	9798.9	1948.9	9843.2	1948.3	9868.4
GR	1944.8	9876.6	1947.5	9884.3	1947.6	9917.9	1946.4	9928.5	1947.3	9961.1
GR	1942.5	9972.7	1940.5	9988.2	1940.6	10000.0	1940.7	10001.6	1940.7	10023.2
GR	1941.7	10037.0	1944.7	10056.6	1945.2	10070.9	1945.1	10102.8	1944.7	10113.1
GR	1946.9	10125.9	1948.2	10153.9	1948.6	10190.6	1947.5	10229.8	1947.3	10260.8
GR	1947.0	10312.4	1946.3	10336.4	1947.6	10337.3	1947.7	10346.0	1950.5	10361.7
GR	1949.2	10392.2	1948.8	10414.1	1946.3	10424.8	1948.2	10444.7	1951.7	10460.1
GR	1952.9	10492.2	1952.8	10511.8	1952.1	10540.0	1952.4	10555.0	1952.2	10593.1
GR	1952.4	10675.7	1956.7	10701.9	1956.6	10708.4	1955.2	10719.5	1953.6	10734.4
GR	1953.2	10796.3	1953.9	10875.6	1954.5	10943.5	1955.5	10978.6	1956.7	11012.1
GR	1956.7	11068.9	1960.1	11116.6	1964.7	11132.0	1966.8	11135.4	0.0	0.0

ET			9.1						9721.77	10070.68
X1	31.75	45	9936	10016	680	650	647			
GR	1973.9	9357.2	1972.1	9401.0	1972.2	9427.0	1971.5	9465.7	1970.7	9482.8
GR	1970.5	9497.3	1969.6	9517.5	1968.6	9535.0	1958.0	9569.1	1956.1	9580.0
GR	1955.6	9600.1	1955.1	9620.2	1955.2	9640.7	1955.2	9671.0	1955.2	9699.4
GR	1954.0	9797.4	1951.0	9807.2	1951.4	9817.0	1947.9	9830.1	1947.8	9838.9
GR	1947.7	9849.4	1951.2	9874.7	1951.4	9893.5	1950.8	9936.0	1948.0	9965.9
GR	1946.5	9988.6	1946.9	9994.7	1947.2	10000.0	1951.4	10016.0	1953.0	10027.6
GR	1953.5	10055.5	1954.0	10095.7	1957.1	10148.4	1957.3	10176.9	1957.5	10201.8
GR	1957.4	10202.3	1957.5	10265.2	1957.8	10341.9	1958.4	10415.1	1959.7	10486.4
GR	1960.5	10533.3	1961.2	10567.4	1964.1	10582.5	1976.2	10604.2	1976.4	10610.4

ET			9.1						9697.75	10037.60

For this floodplain analysis, the existing berm for
the private pond is assumed to be in-place.
The berm is modeled, but is ignored when plotting floodplain.
It is assumed that the berm will be removed by the 100-yr flood
between RM 31.87 & RM 31.91, but leave part of the berm at
cross sections 31.82 and 31.87. Therefore, the divided flow
message in the output is acceptable.

X1	31.82	38	9861.7	10000	360	370	361			
GR	1977.9	9334.0	1977.5	9338.7	1975.9	9412.3	1975.8	9429.6	1975.1	9440.8
GR	1971.0	9549.4	1969.3	9622.9	1968.8	9640.8	1955.8	9667.9	1954.9	9681.8
GR	1956.6	9690.9	1957.2	9720.3	1957.2	9781.8	1957.1	9801.0	1956.7	9810.2
GR	1963.5	9828.3	1963.3	9839.4	1953.4	9861.7	1953.4	9901.8	1953.2	9938.9
GR	1952.7	10000.0	1956.1	10017.6	1957.0	10035.0	1959.4	10046.1	1959.0	10068.7
GR	1961.5	10077.7	1960.7	10084.5	1961.3	10108.5	1961.4	10154.5	1961.1	10172.2
GR	1961.9	10255.5	1962.5	10327.1	1963.5	10369.1	1964.2	10384.7	1965.9	10402.0
GR	1967.0	10410.2	1976.2	10436.1	1992.9	10481.0	0.0	0.0	0.0	0.0

1

ET			9.1						9701.03	10053.91

For this floodplain analysis, the existing berm for
the private pond is assumed to be in-place.
The berm is modeled, but is ignored when plotting floodplain.

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                It is assumed that the berm will be removed by the 100-yr flood
                between RM 31.87 & RM 31.91, but leave part of the berm at
                cross sections 31.82 and 31.87.  Therefore, the divided flow
                message in the output is acceptable.
X1    31.87       39      9938.9   10007.4      220       260       243
GR    1976.1    9365.3    1976.2    9365.3    1975.0    9391.1    1974.0    9432.4    1974.0    9454.8
GR    1973.5    9480.3    1972.6    9485.6    1972.8      9496    1972.5    9547.7    1972.4    9603.5
GR    1971.1    9613.1    1971.3    9626.3    1969.2      9643    1966.3    9648.1    1961.2    9655.8
GR    1960.6    9670.8    1960.1    9690.2    1959.1    9693.1    1958.9    9818.6    1966.8    9829.2
GR    1967.4      9837    1966.2    9848.6    1957.6    9864.1    1955.4    9879.3    1955.5    9900.2
GR    1953.7    9938.9    1953.6    9982.7    1953.8     10000    1953.9   10007.4    1959.6   10017.7
GR    1961.5   10059.8    1962.7   10114.9    1963.6   10134.9    1965.1   10168.9    1966.1     10197
GR    1967.7   10206.3    1973.5   10227.4    1975.0   10252.8    1979.0   10265.7

NC    0.070     0.070     0.045

ET                        9.1                                                        9728.84   10052.71

                End of Reach   51
                Start of Reach 52
X1    31.91       45        9968    10025.9      240       210       208
GR    1976.6    9345.6    1976.6    9358.7    1974.8    9374.7    1972.1    9435.3    1971.2      9476
GR    1969.6    9500.1    1971.2    9562.8    1970.8    9622.1    1972.0    9636.6    1971.0    9656.6
GR    1963.7    9686.4    1959.7    9704.8    1960.1    9716.5    1958.7    9720.7    1961.5    9730.6
GR    1960.3    9740.5    1959.1    9793.6    1957.7    9812.1    1956.0    9816.1    1956.0      9828
GR    1959.3    9842.6    1961.4    9856.4    1958.9    9879.9    1959.2    9894.2    1959.2    9914.2
GR    1959.7      9933    1959.0      9940    1956.0    9949.2    1954.5      9968    1954.0    9982.5
GR    1953.3     10000    1953.4   10025.9    1953.5   10025.9    1961.3   10050.7    1962.7   10078.7
GR    1962.6   10084.7    1963.8     10106    1964.8     10139    1966.0   10170.4    1967.8   10188.1
GR    1968.7   10199.5    1970.1   10207.3    1973.4   10222.6    1976.9   10230.9    1977.3     10243

QT        2     31300     31300

ET                        9.1                                                        9714.66   10067.69

                Q100 interpolated between HEC-1 operations C390 and C400R
X1    31.98       39      9958.4   10013.9      400       380       380
GR    1977.4    9386.7    1978.4    9455.2    1978.2    9508.8    1978.6    9544.1    1978.2    9607.2
GR    1977.0    9639.5    1974.6    9645.9    1973.0    9680.2    1971.6    9687.2    1958.7    9706.4
GR    1959.7    9733.7    1960.5    9741.7    1962.8    9753.9    1963.8    9765.7    1962.6    9785.6
GR    1964.6    9826.4    1966.1    9898.8    1965.0    9937.7    1958.8    9948.6    1956.5    9958.4
GR    1956.5    9979.9    1956.5   10000.0    1957.7   10013.9    1959.4   10034.1    1958.7   10052.6
GR    1961.0   10066.3    1963.0   10078.2    1966.1   10091.7    1968.2   10114.2    1968.1   10120.0
GR    1967.9   10133.8    1969.0   10142.5    1971.1   10166.5    1975.5   10181.8    1975.3   10198.7
GR    1976.2   10211.4    1975.8   10220.6    1977.0   10236.3    1980.3   10244.4       0.0       0.0

1
   01APR97      10:06:20                                                                                  PAGE   10


ET                        9.1                                                        9660.0   10052.73

X1    32.07       35      9968.3   10028.3      535       495       496
GR    1981.2    9489.5    1981.9    9506.5    1982.9    9529.9    1983.3    9563.1    1981.4    9596.1
GR    1977.8    9609.2    1967.5    9627.7    1966.3    9636.6    1967.3    9666.9    1969.3    9716.2
GR    1970.4    9734.9    1968.9    9755.7    1970.1    9795.3    1970.7    9850.0    1968.5    9861.2
GR    1966.7    9872.8    1962.8    9879.9    1970.4    9893.6    1968.3    9899.6    1968.0    9916.1
GR    1966.6    9939.1    1965.3    9948.6    1962.3    9968.3    1959.8    9982.7    1960.1   10000.0
GR    1960.3   10008.1    1961.0   10028.3    1963.7   10047.5    1965.6   10058.8    1968.3   10069.0
GR    1971.5   10088.2    1972.7   10103.7    1973.5   10153.2    1978.8   10183.1    1984.1   10204.0

ET                        9.1                                                        9490.0   10026.79

X1    32.15       38      9967.5   10009.8      440       420       415
GR    1989.9    9350.6    1986.9    9398.7    1984.2    9415.9    1968.8    9457.2    1972.1    9470.8
GR    1969.9    9492.2    1972.8    9500.2    1974.4    9545.5    1973.2    9581.7    1972.5    9588.3
```

GR	1973.8	9639.9	1971.5	9680.1	1972.5	9697.2	1972.0	9704.7	1972.8	9712.8
GR	1972.7	9752.4	1973.3	9759.9	1974.0	9818.6	1973.2	9825.4	1974.2	9838.7
GR	1973.3	9874.7	1968.7	9887.0	1963.7	9967.5	1963.7	10000.0	1965.8	10009.8
GR	1968.6	10012.5	1974.1	10043.3	1975.1	10060.1	1974.4	10075.3	1973.6	10081.5
GR	1973.9	10085.5	1975.0	10090.9	1976.1	10133.2	1976.5	10152.0	1978.0	10184.5
GR	1980.7	10196.0	1980.7	10214.2	1988.7	10261.3	0.0	0.0	0.0	0.0

ET 9.1 9655.0 10025.71

The ditch next to the existing dirt road
near Sta. 10132 is not part of the 100 year floodplain,
but the flow here is small in comparison to Q100,
thus no X3-type of restriction is needed here.

X1	32.24	40	9962.1	10025.7	460	470	470			
GR	1990.0	9478.7	1988.1	9498.6	1989.7	9517.0	1987.0	9542.7	1974.1	9593.8
GR	1976.8	9603.9	1975.2	9622.0	1976.6	9627.6	1977.1	9662.3	1975.8	9674.0
GR	1976.5	9681.2	1976.3	9707.0	1976.9	9729.0	1977.1	9753.8	1977.5	9806.7
GR	1976.9	9813.1	1977.3	9822.2	1977.3	9838.4	1976.3	9847.3	1977.7	9859.2
GR	1976.5	9895.5	1970.1	9918.5	1970.3	9939.0	1969.5	9962.1	1969.5	9998.7
GR	1969.1	10000.0	1968.5	10014.1	1968.4	10025.7	1978.4	10050.4	1978.4	10067.7
GR	1981.7	10100.5	1982.7	10131.9	1981.2	10137.3	1981.1	10141.9	1982.0	10146.5
GR	1983.4	10188.7	1982.8	10199.0	1985.7	10284.8	1989.2	10314.4	1999.2	10346.2

ET 9.1 9762.30 10133.79

Cross Section 32.33 is Check Section Number 3
Cross Section 32.33 GR data by ALS

X1	32.33	62	9947.9	10055.1	470	480	471			
GR	1993.3	9642.9	1992.5	9658.4	1987.8	9679.3	1984.4	9698.3	1983.5	9711.3
GR	1979.9	9724.8	1979.9	9740.2	1979.8	9750.1	1977.8	9757.4	1977.9	9760.3
GR	1979.5	9767.1	1979.0	9777.5	1980.1	9805.0	1980.5	9833.0	1981.1	9840.5
GR	1980.9	9853.4	1981.3	9870.4	1981.0	9884.8	1979.9	9893.5	1981.1	9900.3
GR	1980.8	9907.7	1981.2	9927.6	1980.8	9938.4	1977.8	9940.6	1974.8	9947.9
GR	1973.4	9957.0	1973.5	9963.9	1973.2	9970.4	1973.0	9982.4	1972.7	9990.6

GR	1972.5	10000.0	1972.6	10011.8	1973.4	10025.5	1973.0	10046.9	1974.1	10055.1
GR	1974.4	10072.0	1980.2	10088.3	1978.8	10097.8	1979.4	10117.7	1977.4	10126.2
GR	1978.1	10132.6	1976.6	10144.8	1985.4	10184.5	1984.4	10189.4	1985.9	10225.7
GR	1986.4	10276.7	1988.5	10348.4	1989.1	10395.5	1989.5	10409.1	1989.1	10419.2
GR	1991.0	10447.1	1991.9	10453.2	1993.7	10460.9	1995.2	10467.4	1998.2	10473.7
GR	2001.9	10484.8	2004.6	10488.3	2006.6	10499.3	2010.9	10517.0	2013.2	10523.7
GR	2016.3	10532.2	2016.1	10532.8	0.0	0.0	0.0	0.0	0.0	0.0

ET 9.1 9702.48 10201.41

X1	32.44	42	9973.7	10018.9	580	570	576			
GR	2009.2	9354.4	2008.1	9404.1	2007.4	9418.3	2007.2	9441.6	2004.7	9486.0
GR	2004.2	9521.6	2004.7	9526.3	2003.6	9572.6	2000.2	9608.1	1983.5	9652.6
GR	1985.3	9727.9	1985.9	9770.9	1984.5	9791.9	1985.2	9800.2	1985.5	9824.5
GR	1985.1	9828.9	1985.2	9836.1	1985.8	9883.4	1986.5	9935.3	1983.6	9939.1
GR	1982.3	9958.0	1977.5	9973.7	1977.5	10000.0	1978.2	10018.9	1980.6	10039.1
GR	1978.6	10056.8	1979.3	10088.2	1981.6	10095.6	1981.3	10106.4	1983.2	10125.2
GR	1983.7	10151.8	1985.2	10162.5	1983.7	10170.8	1984.9	10234.9	1984.0	10239.7
GR	1983.7	10246.9	1991.2	10289.2	1991.8	10312.0	1998.1	10384.5	1999.3	10420.6
GR	2003.2	10448.6	2003.1	10464.8	0.0	0.0	0.0	0.0	0.0	0.0

ET 9.1 9685.98 10177.58

Structure in floodplain modeled as divided flow.
See TDN for details.
X4 records added for structure.
Cross section realigned, Go John Canyon ineffective flow area.
Revised GR records to right of Sta. 10253.9

```
                taken from digital map.
X1   32.49      37    9929.9   10012.2      250       220       247
X4       3  1987.7      9735    1997.7    9735.3    1997.7    9808.0
R  2001.5  9513.3    2002.0    9545.3    1999.7    9589.5    1988.0    9622.5    1987.9    9676.9
R  1987.7  9728.4    1987.6    9808.3    1987.8    9823.1    1986.4    9832.2    1986.7    9846.9
GR 1988.0  9862.1    1988.6    9916.5    1980.9    9929.9    1981.6    9941.4    1980.9    9946.7
GR 1980.5 10000.0    1980.8   10012.2    1982.5   10034.3    1981.1   10044.4    1981.9   10071.9
GR 1983.0 10083.5    1985.3   10092.2    1985.0   10106.8    1988.1   10118.9    1985.9   10135.5
GR 1987.6 10145.4    1986.9   10156.0    1988.6   10200.4    1986.2   10205.0    1987.3   10211.3
GR 1986.2 10215.9    1990.3   10232.2    1989.6   10253.9    1990.0   10259.5    1992.0   10283.3
GR 1994.0 10292.8    1996.0   10338.5

QT       2    31200     31200

ET                      9.1                                                    9667.33   10227.32

                Q100 from HEC-1 Operation C390
X1   32.52      29    9917.6   10045.1      190       170       187
GR 2001.1  9557.4    2000.6    9562.4    1992.9    9591.3    1991.4    9647.8    1990.7    9698.9
GR 1990.4  9777.5    1989.5    9848.0    1990.6    9858.6    1990.0    9874.9    1985.7    9888.6
GR 1984.3  9909.1    1982.4    9917.6    1982.8    9956.9    1982.7   10000.0    1982.6   10001.3
GR 1982.1 10003.3    1982.7   10031.8    1983.7   10045.1    1988.0   10054.8    1987.1   10063.3
GR 1989.9 10078.0    1990.2   10108.7    1989.0   10115.5    1989.4   10136.8    1988.5   10145.0
1
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GR 1987.9 10191.9    1989.6   10206.6    1988.9   10231.2    1998.7   10286.5

ET                      9.1                                                    9780.39   10078.75

X1   32.62      28    9956.3   10058.4      500       550       516
GR 2009.0  9417.3    2008.2    9452.7    2005.1    9496.5    2004.3    9565.9    2000.8    9601.5
GR 1995.1  9626.0    1994.5    9689.1    1993.9    9797.5    1993.4    9806.3    1994.5    9816.6
GR 1994.2  9863.4    1991.8    9895.5    1990.0    9918.1    1986.8    9956.3    1985.5    9959.6
R  1985.6 10000.0    1986.7   10058.4    1991.1   10075.4    1992.3   10090.3    1988.8   10116.2
GR 1997.0 10147.6    2000.1   10197.5    2000.4   10215.7    2003.4   10261.0    2006.0   10286.0
GR 2005.5 10325.1    2005.1   10394.0    2010.2   10425.3

ET                      9.1                                                    9713.90   10015.97

                GR records deleted from
                  Sta 9277.2 to 9592.8
                  to restrict flow to effective area without X3 records.
                  Restriction added at Sta.  9592.8 since
                  100 year floodplain does not enter this area
                  upstream of this cross section.
X1   32.70      16    9933.5    10000      450       430       435
GR 2005.1  9592.8    1999.4    9614.9    1998.7    9695.4    1998.8    9760.2    2000.9    9770.5
GR 1999.2  9778.7    1999.7    9800.0    1996.6    9814.4    1996.0    9836.2    1995.3    9897.9
GR 1987.8  9933.5    1986.7    9997.5    1986.5   10000.0    1992.4   10013.8    1995.8   10034.0
GR 2009.7 10066.4

NC   0.070     0.070     0.055

ET                      9.1                                                    9808.83   10118.98

                End of Reach    52
                Start of Reach  53
X1   32.80      35    9951    10021.8      540       540       539
GR 2020.1  9371.0    2014.7    9396.6    2014.3    9433.4    2015.5    9448.5    2014.3    9486.9
GR 2012.3  9511.1    2011.0    9520.8    2012.3    9533.3    2011.4    9565.0    2010.7    9571.1
GR 2010.1  9624.0    2011.0    9644.1    2010.5    9653.4    2007.3    9689.0    2004.8    9753.1
GR 2004.3  9789.8    2003.3    9793.7    2003.9    9800.4    2004.1    9820.7    2002.6    9843.2
GR 2001.7  9899.7    1998.3    9913.6    2001.6    9923.4    2000.9    9940.1    1994.5    9951.0
GR 1992.2 10000.0    1992.3   10021.8    1996.2   10042.7    1996.5   10083.6    1993.8   10098.9
```

GR	1993.3	10114.5	2018.0	10164.5	2019.1	10202.7	2017.0	10220.3	2017.2	10237.5
)T	2	30900	30900							
ET			9.1						9730.75	10044.51

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Cross Section 32.90 had error in original stationing from AMC.
80.8' added to original stationing to properly locate
cross section points with respect to the thalweg.
Q100 from HEC-1 Operation C310

X1	32.90	27	9972.7	10044.5	580	520	523			
GR	2016.1	9672.1	2014.8	9684.9	2006.4	9709.1	2001.0	9717.1	2000.7	9753.9
GR	2003.7	9763.4	2003.7	9771.4	2005.5	9782.4	2004.3	9802.1	2002.3	9813.5
GR	2004.9	9835.5	2005.7	9904.9	2004.6	9939.9	2003.3	9972.7	1995.3	10000.0
GR	1995.3	10012.5	2006.1	10044.5	2007.8	10068.3	2008.0	10080.8	2008.9	10092.3
GR	2008.8	10092.6	2021.6	10153.7	2021.1	10177.1	2022.4	10191.3	2023.0	10200.6
GR	2028.4	10223.3	2028.7	10232.7						
ET			9.1						9795.91	10179.91
X1	32.99	34	9937.1	10041.7	400	480	460			
GR	2039.4	9655.0	2036.6	9684.9	2006.9	9767.9	2009.5	9779.0	2008.5	9801.0
GR	2010.2	9809.6	2009.3	9828.6	2006.3	9840.8	2006.4	9850.3	2009.7	9863.7
GR	2011.1	9915.3	2009.3	9929.0	2006.5	9937.1	2005.8	10000.0	2005.6	10000.5
GR	2006.9	10041.7	2006.8	10082.2	2008.5	10086.7	2007.3	10096.8	2008.9	10104.6
GR	2009.4	10115.4	2008.4	10123.7	2008.5	10138.3	2006.8	10154.9	2005.5	10164.9
GR	2006.2	10179.1	2007.3	10198.8	2017.1	10234.1	2017.2	10253.8	2018.9	10276.6
GR	2026.9	10293.5	2028.1	10336.8	2031.1	10385.1	2036.2	10410.4	0.0	0.0
ET			9.1						9748.86	10110.26

Cross Section 33.08 located at golf cart bridge.
Bridge is only about 1 foot above the channel bottom;
thus a bridge routine is not meritted. GR records
are based upon the top deck of the bridge.

X1	33.08	26	9939.8	10071.1	480	450	472			
GR	2049.4	9365.6	2045.7	9428.2	2045.0	9445.3	2047.4	9459.2	2046.5	9476.9
GR	2041.8	9508.0	2040.7	9526.0	2041.7	9551.5	2035.1	9609.3	2019.4	9663.6
GR	2016.8	9687.9	2014.7	9732.0	2015.1	9772.1	2014.2	9804.1	2013.2	9823.3
GR	2014.1	9858.3	2012.8	9908.2	2011.9	9939.8	2012.2	10000.0	2012.1	10071.1
GR	2012.8	10127.2	2017.6	10154.4	2022.8	10157.7	2034.0	10209.1	2034.3	10235.2
GR	2047.3	10263.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ET			9.1						9801.23	10110.11
X1	33.17	23	9983.4	10038.7	490	475	475			
GR	2040.4	9705.0	2038.1	9716.1	2018.4	9760.0	2018.3	9772.3	2019.0	9778.9
GR	2023.8	9817.6	2025.0	9838.2	2023.9	9865.9	2017.3	9916.1	2019.7	9930.5
GR	2015.2	9942.0	2013.9	9966.8	2011.5	9983.4	2011.4	10000.0	2011.3	10038.7
GR	2013.9	10059.2	2013.9	10070.4	2012.6	10078.5	2012.4	10097.7	2015.7	10110.5
GR	2015.9	10123.1	2024.9	10136.1	2039.0	10179.9	0.0	0.0	0.0	0.0

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ET			9.1						9865.75	10162.31
X1	33.26	21	9988	10044.9	480	500	481			
GR	2045.4	9758.2	2042.3	9827.6	2036.1	9858.9	2024.3	9872.0	2024.6	9888.1
GR	2026.4	9901.2	2026.2	9920.2	2023.4	9937.6	2020.4	9946.4	2021.9	9953.3

```
GR   2018.2    9988.0    2017.7   10000.0    2018.5   10024.6    2019.3   10044.9    2017.9   10116.6
GR   2019.1   10130.2    2019.8   10154.7    2022.8   10179.5    2029.5   10187.9    2046.5   10231.4
GR   2046.6   10233.1       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0

QT        2      24700     24700

ET                         9.1                                                      9929.39   10204.17

                 Q100 from HEC-1 Operation C260
                 Cross Section    33.36   located just south of Ocotillo Rd.
X1   33.36         24    9946.7   10021.8       550       550       550
GR   2076.4    9854.0    2076.3    9873.3    2055.0    9875.7    2055.3    9880.3    2050.3    9907.3
GR   2022.7    9946.7    2021.0    9962.7    2021.0    9991.3    2021.0    9994.1    2020.6   10000.0
GR   2020.5   10014.8    2022.4   10021.8    2024.8   10041.7    2024.2   10056.2    2021.2   10066.7
GR   2021.3   10075.2    2028.6   10097.8    2028.6   10146.8    2027.3   10178.3    2025.7   10202.2
GR   2039.1   10234.1    2047.3   10306.4    2052.4   10336.3    2052.5   10336.3       0.0       0.0

ET                         9.1                                                      9892.51   10173.02

                 Cross Section    33.46   located just north of Ocotillo Rd.
X1   33.46         25    9948.9   10033.9       500       500       503
GR   2057.9    9672.0    2055.4    9680.3    2038.3    9736.0    2037.1    9834.1    2036.0    9904.1
GR   2031.3    9920.6    2030.1    9936.2    2027.4    9948.9    2024.1    9982.3    2024.9   10000.0
GR   2024.9   10015.9    2027.0   10033.9    2027.5   10053.2    2028.8   10070.0    2032.7   10084.3
GR   2035.1   10106.3    2034.3   10142.4    2032.6   10160.2    2033.8   10175.9    2032.8   10182.3
GR   2033.5   10199.9    2046.7   10270.2    2052.3   10320.4    2052.4   10336.9    2056.0   10349.5

QT        2      24400     24400

ET                         9.1                                                      9961.19   10148.89

                 Q100 interpolated between HEC-1 operations C250 and C260
X1   33.56         26    9962.7   10013.1       520       510       510
GR   2072.3    9700.4    2050.8    9801.7    2049.4    9929.6    2027.5    9962.7    2026.9    9977.2
GR   2024.9    9991.4    2025.0   10000.0    2025.6   10013.1    2031.4   10027.1    2032.2   10066.7
GR   2037.9   10086.2    2039.5   10111.5    2038.4   10148.1    2036.3   10163.2    2036.7   10173.3
GR   2043.9   10188.0    2042.8   10197.6    2044.6   10219.9    2053.9   10266.6    2055.9   10282.5
GR   2056.4   10314.2    2058.7   10366.0    2059.9   10384.6    2061.3   10423.7    2067.3   10496.6
GR   2067.3   10522.5       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0

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QT        2      24000     24000

ET                         9.1                                                      9974.09   10087.27

                 Q100 from HEC-1 Operation C250
                 Cross Section    33.67   located just north of Desert Hills Dr.
X1   33.67         14    9976.8   10058.6       600       580       585
GR   2068.3    9824.0    2062.4    9876.9    2055.7    9938.9    2038.1    9976.8    2038.1    9987.0
GR   2035.7   10000.0    2035.7   10005.4    2036.1   10046.4    2037.6   10058.6    2042.7   10078.2
GR   2041.1   10087.3    2047.4   10102.2    2068.0   10180.3    2068.3   10181.9       0.0       0.0

ET                         9.1                                                      9849.50   10049.61

X1   33.77         18    9974.8   10042.4       530       550       552
GR   2069.9    9681.4    2067.0    9725.8    2066.3    9766.3    2045.1    9879.3    2041.2    9890.5
GR   2041.1    9900.0    2042.6    9904.2    2041.7    9911.9    2044.0    9919.0    2043.4    9974.8
GR   2040.9   10000.0    2040.9   10007.5    2039.3   10011.5    2040.0   10021.4    2043.3   10042.4
GR   2065.6   10076.3    2067.7   10089.4    2067.7   10091.4       0.0       0.0       0.0       0.0

QT        2      23400     23400
```

```
ET                          9.1                                                 9902.01   10140.46

                  Q100 from HEC-1 Operation C240
X1    33.89         15     9912.5     10015       620       580       606
GR    2070.2     9784.3    2067.7    9806.6    2064.5    9869.8    2049.0    9912.5    2049.5    9973.6
GR    2048.3    10000.0    2048.4   10006.0    2047.5   10015.0    2054.0   10036.9    2053.6   10081.4
GR    2052.8    10092.3    2049.1   10108.2    2054.0   10117.5    2057.1   10157.2    2087.5   10209.0

ET                          9.1                                                 9965.57   10422.98

X1    33.98         43     9975.9    10073.1       490       430       494
GR    2082.1     9836.9    2089.4    9842.0    2089.4    9867.5    2078.7    9868.3    2078.3    9886.3
GR    2075.1     9913.1    2074.0    9923.6    2069.0    9936.6    2053.6    9956.3    2053.3    9965.2
GR    2054.0     9975.9    2052.5    9984.5    2050.9    9992.5    2051.5    9999.9    2051.1   10000.0
GR    2051.7    10013.5    2055.0   10025.4    2052.4   10054.5    2052.9   10073.1    2055.7   10082.4
GR    2055.4    10092.5    2059.8   10101.3    2063.0   10125.9    2063.0   10137.9    2063.8   10171.8
GR    2064.9    10198.7    2064.3   10212.3    2063.6   10228.3    2060.4   10238.8    2057.8   10254.9
GR    2058.1    10268.1    2059.6   10289.6    2060.6   10320.0    2062.0   10335.4    2061.7   10335.4
GR    2060.8    10358.8    2059.1   10378.3    2055.4   10407.5    2056.4   10418.6    2058.8   10442.3
GR    2059.5    10461.8    2077.9   10496.0    2094.5   10533.3       0.0       0.0       0.0       0.0

ET                          9.1                                                 9961.59   10324.41

X1    34.08         34     9963.2    10043.9       540       540       544
GR    2089.7     9781.3    2081.7    9810.0    2072.4    9837.0    2070.4    9857.8    2069.2    9881.0
GR    2067.9     9918.2    2067.0    9932.7    2064.4    9946.4    2061.3    9952.3    2061.4    9956.8
GR    2060.6     9961.1    2058.3    9963.2    2058.0    9984.2    2058.5   10000.0    2058.5   10007.5
GR    2058.2    10007.5    2058.9   10043.9    2060.0   10049.7    2061.0   10061.7    2062.9   10069.6
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GR    2061.8    10080.6    2066.4   10099.3    2067.7   10151.0    2063.7   10177.8    2064.9   10196.8
GR    2062.7    10204.5    2063.2   10228.1    2066.4   10249.9    2064.0   10295.3    2064.9   10306.2
GR    2063.7    10316.6    2064.4   10335.8    2062.1   10351.0    2092.3   10416.0       0.0       0.0

NC    0.065     0.075      0.055        0.1        0.3

ET                          9.1                                                 9968.92   10298.18

                  End of Reach    53
                  Start of Reach  54

                  Cross Section   34.19    is Check Section Number   5
                  Cross Section   34.19    GR data by ALS
X1    34.19         88        9976   10015.9       570       570       572
GR    2119.4     9415.5    2119.2    9481.4    2118.6    9550.4    2118.4    9581.4    2117.0    9619.0
GR    2113.4     9660.1    2109.3    9686.7    2106.0    9705.8    2105.1    9713.3    2097.4    9753.8
GR    2095.2     9761.8    2091.9    9780.5    2090.4    9788.9    2087.6    9803.1    2084.5    9812.7
GR    2082.6     9821.9    2081.6    9826.5    2080.2    9839.9    2078.9    9848.7    2078.4    9872.4
GR    2078.2     9881.8    2078.5    9897.1    2077.7    9932.1    2076.9    9936.8    2076.5    9941.7
GR    2065.1     9961.2    2065.2    9967.0    2063.9    9976.0    2060.1    9980.1    2060.2    9986.0
GR    2059.9     9989.6    2058.7    9994.3    2057.6    9997.1    2056.5   10000.0    2057.8   10003.2
GR    2058.6    10005.5    2060.4   10009.4    2060.7   10012.3    2063.8   10015.9    2064.2   10027.8
GR    2066.5    10044.6    2067.1   10050.2    2067.0   10065.0    2066.6   10070.2    2067.2   10078.2
GR    2067.2    10092.1    2069.8   10101.3    2070.0   10112.1    2069.7   10117.2    2069.9   10123.1
GR    2070.6    10129.2    2070.1   10138.1    2070.3   10142.9    2070.4   10147.1    2071.0   10152.5
GR    2070.3    10156.6    2070.1   10159.8    2071.0   10170.5    2070.8   10177.4    2070.3   10179.0
GR    2070.3    10180.9    2070.3   10185.8    2071.3   10190.9    2071.2   10196.1    2070.2   10200.8
GR    2071.0    10202.1    2071.4   10209.4    2071.2   10220.1    2070.2   10227.2    2070.5   10230.1
GR    2071.1    10238.0    2068.4   10254.2    2068.5   10260.4    2069.5   10269.8    2070.4   10274.4
GR    2070.4    10282.0    2070.8   10288.3    2071.0   10293.5    2070.5   10298.9    2070.6   10306.8
GR    2071.1    10313.1    2069.6   10320.4    2069.7   10329.6    2071.4   10342.1    2070.3   10348.7
GR    2072.8    10358.4    2100.7   10358.9    2169.5   10474.7       0.0       0.0       0.0       0.0
```

NC				0.3	0.5					
ET			9.1						9904.20	10062.8
		Straight line transition. Contraction/Expansion coefficients per Table IV-4-1 of Hydraulic Engineering Circular No. 14.								
X1	34.27	16	9904.2	9949.7	410	430	415			
GR	2090.2	9718.4	2087.8	9735.9	2087.1	9751.9	2088.4	9816.9	2089.1	9820.3
GR	2088.5	9864.4	2076.9	9904.2	2065.9	9929.6	2069.8	9949.7	2070.2	9982.4
GR	2069.4	10000.0	2069.4	10045.4	2072.8	10061.9	2076.2	10104.5	2077.3	10145.3
GR	2090.7	10198.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NC				0.1	0.3					
ET			9.1						9588.67	10029.56

		Contraction and Expansion Coefficients revised to normal values.								
X1	34.36	27	9949.2	10016.7	490	460	484			
GR	2111.4	9496.9	2083.9	9560.7	2079.1	9565.3	2076.8	9579.4	2079.4	9625.2
GR	2078.6	9650.5	2081.4	9677.3	2082.4	9717.4	2081.2	9733.6	2081.0	9772.2
GR	2080.4	9784.3	2080.8	9793.0	2079.5	9804.6	2080.8	9822.3	2079.6	9831.0
GR	2081.9	9862.4	2077.2	9885.3	2079.7	9892.2	2078.9	9911.5	2080.4	9917.0
GR	2078.4	9949.2	2069.7	10000.0	2070.0	10002.8	2072.6	10016.7	2076.7	10026.4
GR	2080.7	10064.7	2096.4	10112.8	0.0	0.0	0.0	0.0	0.0	0.0
NC	0.075	0.060	0.070							
ET			9.1						9720.63	10139.88
		End of Reach 54								
		Start of Reach 55								
1	34.45	30	10000	10026.4	440	460	461			
GR	2126.6	9563.5	2125.0	9593.0	2090.8	9650.0	2084.6	9658.5	2085.1	9688.1
GR	2084.4	9706.5	2083.7	9775.1	2081.6	9789.6	2083.8	9801.1	2081.2	9820.8
GR	2086.6	9868.8	2089.3	9968.4	2082.9	10000.0	2082.3	10002.6	2080.7	10010.8
GR	2080.9	10018.2	2082.9	10026.4	2082.3	10055.8	2080.4	10082.5	2080.9	10089.1
GR	2082.3	10092.2	2083.6	10105.4	2085.1	10110.5	2080.2	10130.8	2081.0	10141.6
GR	2088.2	10182.6	2106.9	10236.6	2107.8	10250.9	2108.5	10257.0	2108.6	10261.7
ET			9.1						9758.69	10201.86
X1	34.54	25	10000	10032.2	520	480	494			
GR	2136.0	9634.7	2133.5	9644.2	2129.9	9675.0	2105.6	9717.2	2084.2	9741.8
GR	2087.4	9758.5	2086.2	9769.9	2087.6	9779.8	2088.7	9786.8	2089.7	9832.3
GR	2090.8	9848.4	2091.9	9923.7	2092.5	9961.0	2084.1	10000.0	2084.5	10009.8
GR	2086.9	10016.3	2088.1	10032.2	2090.1	10051.4	2089.4	10086.3	2091.7	10100.4
GR	2089.9	10162.2	2086.5	10188.3	2087.2	10218.6	2098.1	10231.8	2104.5	10245.6
ET			9.1						9775.85	10116.79
X1	34.63	25	9977.7	10017.2	480	480	483			
GR	2134.2	9659.0	2104.8	9715.5	2091.1	9763.9	2092.9	9786.7	2091.0	9827.0
GR	2093.0	9868.7	2094.6	9878.1	2095.4	9927.5	2091.3	9939.3	2093.7	9949.2
GR	2093.8	9977.7	2089.3	10000.0	2092.3	10017.2	2094.0	10085.8	2092.6	10107.7
GR	2092.5	10117.4	2094.3	10125.6	2093.2	10141.1	2108.2	10163.4	2111.7	10185.0
GR	2111.8	10204.5	2113.0	10209.2	2115.4	10296.2	2120.5	10310.6	2127.6	10348.9
NC	0.065	0.065	0.060							
ET			9.1						9777.03	10047.61

End of Reach 55
Start of Reach 56
Cross Section 34.73 located at Rockaway Hills Dr.

X1	34.73	20	9952.8	10047.6	520	480	510			
GR	2128.2	9536.8	2122.7	9573.3	2108.9	9611.9	2103.1	9690.0	2099.9	9773.6
GR	2101.0	9780.3	2101.8	9827.3	2102.7	9841.0	2102.2	9852.9	2102.0	9922.3
GR	2097.5	9952.8	2096.4	9977.3	2095.3	9987.6	2095.3	10000.0	2095.5	10012.6
GR	2096.7	10020.1	2096.9	10047.6	2117.1	10082.3	2117.7	10111.7	2119.3	10138.9
ET			9.1						9679.25	10078.21
X1	34.83	37	9959	10028.2	510	510	509			
GR	2120.5	9574.5	2120.4	9581.3	2132.9	9582.6	2133.6	9590.5	2120.2	9600.1
GR	2120.0	9631.8	2118.8	9638.0	2108.8	9654.5	2104.7	9665.0	2104.7	9673.4
GR	2105.8	9711.7	2106.8	9731.6	2106.8	9772.2	2106.5	9783.9	2108.6	9795.6
GR	2107.6	9807.0	2108.1	9832.2	2107.5	9867.5	2107.0	9892.0	2107.3	9928.7
GR	2106.0	9944.5	2102.8	9959.0	2100.6	9969.3	2100.2	9982.0	2100.2	10000.0
GR	2100.4	10001.1	2101.1	10028.2	2106.7	10041.9	2107.4	10050.2	2105.1	10053.9
GR	2105.0	10070.0	2103.9	10089.3	2109.9	10098.5	2110.5	10110.2	2111.2	10137.5
GR	2117.5	10155.8	2120.2	10162.0	0.0	0.0	0.0	0.0	0.0	0.0
ET			9.1						9780.45	10081.7
X1	34.88	41	9968.4	10046.3	250	270	262			
GR	2150.8	9522.0	2135.4	9588.2	2130.7	9601.1	2130.3	9616.8	2125.2	9645.0
GR	2123.3	9645.0	2122.1	9659.5	2121.6	9667.5	2121.5	9682.5	2110.1	9709.5
GR	2110.7	9729.7	2111.7	9749.8	2111.7	9760.6	2110.3	9773.7	2109.2	9792.2
GR	2108.9	9794.8	2108.3	9818.1	2108.0	9828.9	2110.4	9846.8	2110.8	9855.9
GR	2111.0	9883.9	2122.0	9885.1	2122.1	9916.5	2111.0	9918.9	2110.5	9943.6
GR	2108.2	9950.3	2107.2	9958.6	2105.4	9968.4	2102.8	9980.3	2103.3	9989.4
GR	2103.5	10000.0	2103.5	10011.2	2103.6	10012.5	2103.7	10028.6	2105.8	10046.3
GR	2108.2	10084.2	2106.8	10097.9	2112.5	10112.8	2116.2	10140.0	2145.4	10218.8
GR	2147.1	10238.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ET			9.1						9717.21	10069.59
X1	34.92	34	9921.9	10056.2	200	200	207			
GR	2148.1	9561.4	2145.4	9570.9	2145.2	9589.1	2130.4	9644.8	2112.6	9670.6
GR	2112.0	9688.7	2111.9	9751.8	2111.7	9754.3	2112.1	9769.2	2113.3	9784.5
GR	2112.9	9791.7	2112.7	9833.2	2112.2	9859.1	2112.7	9905.0	2109.4	9921.9
GR	2107.9	10000.0	2107.9	10018.6	2108.6	10041.2	2109.0	10056.2	2111.2	10063.7
GR	2108.2	10077.8	2112.1	10090.4	2114.5	10103.4	2116.5	10114.1	2116.9	10132.3
GR	2118.7	10151.2	2120.1	10161.9	2120.1	10170.3	2120.9	10170.3	2124.7	10180.8
GR	2129.3	10195.9	2142.9	10228.2	2147.7	10243.4	2151.4	10252.7	0.0	0.0

QT 2 23200 23200

ET 9.1 9731.2 10098.31

Q100 from HEC-1 Operation C230

X1	35.01	23	9972	10098.3	480	480	481			
GR	2165.4	9513.4	2163.6	9525.4	2119.4	9601.4	2116.9	9646.9	2118.6	9654.3
GR	2118.5	9665.6	2119.7	9675.5	2119.2	9689.6	2115.6	9704.0	2115.2	9733.1
GR	2118.7	9758.0	2118.1	9789.4	2117.5	9877.6	2117.9	9911.4	2118.4	9972.0
GR	2109.9	9999.2	2109.9	10000.0	2112.0	10065.8	2115.8	10098.3	2120.7	10118.1
GR	2122.7	10192.0	2125.5	10253.4	2150.3	10347.8	0.0	0.0	0.0	0.0

ET			9.1						9765.51	10124.8
X1	35.09	52	9884.3	10013.2	470	470	467			
GR	2169.9	9468.4	2166.9	9491.6	2164.4	9509.9	2162.6	9518.0	2158.4	9528.2
GR	2147.3	9537.3	2146.9	9543.0	2146.6	9548.0	2144.1	9553.3	2132.5	9571.3
GR	2128.7	9581.1	2127.2	9590.2	2125.8	9616.0	2125.1	9626.8	2125.5	9641.8
GR	2125.0	9673.1	2125.1	9683.5	2125.4	9699.6	2125.5	9710.4	2123.6	9717.1
GR	2121.2	9726.3	2120.8	9734.7	2121.6	9754.7	2122.5	9760.7	2123.1	9776.8
GR	2122.9	9804.8	2123.8	9815.0	2122.7	9825.7	2122.1	9834.2	2123.1	9838.5
GR	2123.3	9846.6	2122.4	9855.1	2118.1	9873.3	2115.0	9884.3	2115.7	9890.6
GR	2118.8	9907.7	2119.2	9914.8	2119.0	9930.5	2117.6	9939.6	2115.8	9947.7
GR	2115.3	9966.5	2114.5	9979.5	2114.4	10000.0	2114.5	10013.2	2123.7	10027.1
GR	2123.5	10116.7	2123.0	10152.6	2120.7	10172.0	2126.2	10236.4	2126.6	10256.0
GR	2130.9	10303.9	2168.8	10407.1	0.0	0.0	0.0	0.0	0.0	0.0
ET			9.1						9831.63	10242.72

Structure in floodplain modeled as divided flow.
See TDN for details.

X1	35.15	37	9908.7	10009.1	280	260	281			
GR	2157.4	9591.5	2153.2	9619.4	2145.9	9634.4	2147.7	9642.8	2145.4	9656.8
GR	2145.0	9659.5	2149.1	9670.9	2145.8	9681.8	2137.6	9692.9	2137.6	9705.7
GR	2128.8	9708.0	2126.7	9714.3	2137.7	9717.1	2137.4	9727.8	2126.3	9731.9
GR	2127.3	9760.6	2124.7	9847.7	2121.9	9856.0	2122.4	9879.8	2122.3	9908.7
GR	2119.7	9921.4	2119.3	9944.0	2121.4	9964.2	2117.3	9991.6	2117.5	10000.0
GR	2118.3	10009.1	2127.5	10038.9	2126.7	10079.4	2138.2	10081.1	2140.0	10156.9
GR	2124.9	10159.5	2126.2	10249.0	2123.9	10265.5	2127.2	10300.1	2127.9	10326.6
GR	2129.9	10336.9	2156.8	10417.8	0.0	0.0	0.0	0.0	0.0	0.0
ET			9.1						9832.09	10325.31

Cross Section 35.18 located just south of Cahava Ranch Rd.

X1	35.18	31	9883.6	10011.7	190	190	189			
GR	2153.7	9725.8	2153.0	9756.9	2128.4	9798.7	2125.0	9833.4	2124.4	9874.8
GR	2122.4	9883.6	2122.2	9892.5	2123.6	9907.3	2121.5	9958.3	2119.9	9997.7
GR	2119.6	10000.0	2120.0	10011.7	2129.8	10025.4	2126.4	10103.0	2126.3	10145.5
GR	2129.7	10166.6	2129.9	10177.0	2129.1	10181.6	2129.1	10191.4	2132.4	10212.3
GR	2133.0	10247.2	2131.6	10276.0	2127.5	10360.5	2128.4	10371.6	2129.5	10385.9

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GR	2129.6	10403.9	2140.7	10406.3	2140.1	10444.3	2133.9	10447.8	2140.7	10452.9
GR	2159.7	10501.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ET			9.1						9901.67	10494.38

Cross Section 35.24 located just north of Cahava Ranch Rd.

Structure in floodplain modeled as divided flow.
See TDN for details.

X1	35.24	34	9911.5	10017.5	310	330	311			
GR	2170.0	9743.0	2162.8	9806.3	2153.1	9886.8	2125.1	9911.5	2126.2	9951.6
GR	2123.4	9981.1	2123.5	10000.0	2125.2	10005.3	2123.5	10017.5	2130.6	10048.8
GR	2132.7	10064.2	2131.3	10072.7	2135.4	10079.7	2133.8	10108.9	2136.0	10171.6
GR	2135.7	10249.4	2135.9	10293.9	2135.5	10301.3	2136.7	10318.8	2136.1	10379.5
GR	2143.0	10381.6	2143.4	10395.8	2135.5	10396.7	2133.5	10461.2	2133.1	10500.5
GR	2134.4	10540.2	2136.2	10568.9	2137.0	10591.9	2154.7	10592.4	2153.3	10630.0
GR	2144.4	10641.0	2145.5	10669.0	2148.3	10690.9	2158.3	10720.6	0.0	0.0
ET			9.1						9919.28	10535.77
X1	35.28	25	9930.4	10014.3	180	180	181			
GR	2169.6	9858.9	2163.6	9895.6	2126.6	9930.4	2125.6	9971.2	2124.1	9982.6
GR	2123.7	10000.0	2124.0	10000.2	2124.3	10014.3	2126.9	10020.7	2133.5	10054.5
GR	2134.5	10091.1	2134.2	10101.2	2135.6	10111.3	2137.9	10206.0	2138.3	10257.4

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GR   2138.4    10339.8    2137.3    10424.6    2137.0    10471.3    2135.1    10489.9    2135.4    10529.7
GR   2137.2    10563.9    2137.5    10588.3    2136.1    10626.5    2138.4    10669.9    2159.0    10739.9

ET                         9.1                                                            9971.76   10413.88

X1    35.37       47     9984.4    10095.1       485        480        485
GR   2180.3     9898.9    2165.5     9954.5    2126.2     9984.4    2126.2    10000.0    2126.2    10000.0
GR   2127.5    10011.3    2127.5    10011.3    2129.4    10016.4    2129.4    10016.4    2131.6    10036.8
GR   2131.6    10036.8    2129.5    10049.8    2129.5    10049.8    2130.8    10095.1    2130.8    10095.1
GR   2134.7    10108.5    2134.7    10108.5    2136.1    10146.9    2136.1    10146.9    2137.8    10161.0
GR   2137.8    10161.0    2137.3    10214.6    2137.3    10214.6    2136.4    10256.6    2136.4    10256.6
GR   2136.8    10285.6    2136.8    10285.6    2135.4    10294.0    2135.4    10294.0    2137.6    10308.0
GR   2137.6    10308.0    2135.6    10315.3    2135.6    10315.3    2138.3    10326.8    2138.3    10326.8
GR   2138.8    10358.3    2138.8    10358.3    2139.9    10372.3    2139.0    10424.8    2138.9    10525.7
GR   2143.2    10540.7    2143.9    10589.6    2142.8    10600.9    2142.5    10625.8    2146.4    10682.9
GR   2153.4    10713.9    2182.5    10763.1       0.0        0.0        0.0        0.0        0.0        0.0

ET                         9.1                                                            9744.43   10148.84

                Cross Section    35.47   located at Morningstar Rd.
X1    35.47       31     9961.2    10042.6       500        500        540
GR   2178.8     9617.7    2176.0     9624.4    2174.1     9637.3    2166.0     9645.2    2166.7     9663.2
GR   2143.1     9703.2    2138.4     9725.1    2141.8     9736.9    2141.4     9750.5    2143.7     9763.8
GR   2144.1     9831.2    2142.8     9833.4    2142.7     9850.6    2142.6     9867.2    2143.1     9923.8
GR   2138.1     9961.2    2135.9     9969.3    2135.5    10000.0    2135.7    10020.8    2137.6    10037.9
GR   2137.4    10042.6    2142.5    10097.9    2142.5    10114.5    2142.2    10168.8    2142.0    10185.9
1
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GR   2142.9    10205.4    2144.5    10234.9    2160.3    10267.4    2163.2    10290.3    2160.8    10297.1
GR   2176.6    10336.1       0.0        0.0        0.0        0.0        0.0        0.0        0.0        0.0

ET                         9.1                                                            9655.44   10015.71

                Cross Section    35.54   is Check Section Number   6
                Cross Section    35.54   approx. equal to FEMA Cross Section EA
                Cross Section    35.54   located north of Morningstar Rd.
                Cross Section    35.54   GR data by ALS
                Cross Section    35.54   GR data removed
                                         from     9168.5   to     9389.8
                                         and
                                         from    10264.0   to    10464.5
                                         because the number of original GR data
                                         points exceeded HEC-2 limits.

X1    35.54       83     9966.5    10015.7       400        400        388
GR   2192.1     9398.1    2188.6     9408.5    2183.5     9417.3    2178.6     9426.1    2174.6     9433.1
GR   2158.9     9439.5    2155.3     9452.0    2154.1     9455.7    2151.9     9479.1    2151.4     9495.8
GR   2151.8     9502.2    2151.6     9512.9    2151.5     9538.1    2150.4     9564.4    2150.2     9571.3
GR   2149.1     9580.5    2148.5     9584.1    2148.1     9587.8    2147.3     9601.6    2146.4     9606.1
GR   2146.1     9606.5    2146.8     9635.4    2146.4     9655.1    2147.3     9693.5    2147.8     9696.8
GR   2147.9     9705.6    2147.3     9714.2    2147.4     9751.3    2147.9     9763.0    2147.7     9776.1
GR   2147.8     9795.6    2147.8     9804.6    2147.7     9818.9    2146.8     9830.5    2143.4     9851.9
GR   2143.1     9856.1    2142.8     9862.2    2146.3     9883.3    2146.4     9886.0    2146.3     9898.8
GR   2146.7     9901.9    2146.2     9905.9    2145.7     9911.9    2145.9     9916.7    2146.0     9923.7
GR   2144.6     9932.1    2142.0     9941.6    2139.7     9946.8    2140.4     9948.9    2140.3     9955.4
GR   2139.6     9966.5    2138.7     9972.9    2138.2     9981.5    2138.6     9989.4    2138.1    10000.0
GR   2138.7    10005.4    2138.5    10008.2    2139.5    10015.7    2140.2    10017.2    2140.6    10019.7
GR   2143.2    10022.3    2149.6    10023.8    2151.3    10025.0    2152.4    10026.8    2153.4    10029.4
GR   2154.4    10031.2    2155.0    10032.5    2156.1    10033.4    2156.5    10034.0    2158.7    10036.6
GR   2160.0    10038.8    2161.0    10040.9    2161.6    10043.0    2165.0    10048.2    2165.7    10049.8
GR   2167.1    10052.0    2170.1    10058.5    2171.1    10060.7    2173.0    10080.8    2174.1    10095.4
GR   2176.6    10123.0    2177.9    10138.3    2192.5    10207.1

QT        2      28338      28338
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NC      .06       .06       .045       0.1        0.3

T                           9.1                                                  9596.8    10031.41

                  End of Reach 56  and
                  Start of CH2MHILL n values from previous FIS

                  The final portion of this HEC-2 analysis was obtained
                  from a previous study performed by CH2M Hill for the
                  FCDMC in 1990.  This portion is included to help
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                  delineate the floodplain at the junction of the
                  studies.  The pertinent data is exactly as presented
                  in the previous study (n-values and cross section data).
                     Previously determined 100 year storm
                  frequency Q values are used.  Any other modifications
                  necessary to incorporate this data into this HEC-2 model
                  are noted in comment records.

                  River Mile stationing between this study and the CH2MHILL
                  study are approximately the same.  There is a minor difference
                  in thalweg location, which is accounted for.

                  Cross section numbers have not been changed from previous
                  study.  Previous study cross section numbers are based on
                  previously calculated river miles but do not use decimals.

                  Previous study Q values used:

                          Previous Q100 =  28,338 cfs

                  Cross Section 35590 X1 record has been changed.
                  Thalweg, left bank, and right bank distances have
                  been altered to reflect approximate distances to new
                  study cross section 35.54.

                          All elevations have been adjusted
                  by + 0.47 feet to raise CH2M HILL GR records to current datum.
                  This difference in datum is documented in the
                  survey notes prepared by Alcocer Land Surveyors, Level Book
                  page 6, which is at RM 127 (appearing on FIRM panel 815)
                          as follows:

                  Elevation 1924.07 reported by ALS = Elevation 1923.60 reported
                  on FIRM Panel 815.  The difference is 0.47 feet, thus by adding
                  + 0.47 feet to CH2M HILL values, you will obtain current
                  elevation values.

                  Floodway stations taken from CH2MHILL study, from HEC-2
                  input file named "CC.MCE" dated 9-18-90, obtained from FCDMC
                  This new Floodplain Delineation Study ties into the previous
                  study at Cross section 35770  same as River Mile  35.770
                  Cross sections upstream of this point are for comparison.
X1    35590         23      9932.1    10031.4       430        440        460                  0.47
GR    2175.5     9355.2     2152.3     9383.2     2153.1     9422.1     2153.6     9489.0     2150.8     9565.5
GR    2149.6     9596.8     2147.3     9612.8     2149.5     9644.1     2151.6     9674.1     2151.1     9698.4
GR    2148.5     9739.3     2150.0     9801.8     2151.0     9856.1     2150.1     9901.6     2146.7     9916.0
GR    2146.4     9932.1     2142.8     9941.3     2142.3     9974.3     2139.9    10000.0     2139.1    10013.4
GR    2147.2    10031.4     2178.6    10068.4     2182.6    10076.3
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ET                          9.1                                                  9755.33   10208.3
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X1   35690      21      9937.0     10050.0      460.0      470.0      530.0                  0.47
GR   2178.4     9549.8  2159.7     9571.8     2156.8     9605.2     2154.8     9639.6     2155.3     9703.8
GR   2156.3     9734.9  2154.4     9768.1     2157.9     9804.5     2159.0     9931.6     2159.3     9937.0
GR   2147.7     9952.2  2145.8     9971.8     2145.7    10000.0     2146.9    10031.8     2148.8    10050.0
GR   2152.8    10140.7  2151.4    10171.5     2149.4    10203.6     2150.5    10228.2     2169.6    10240.7
GR   2180.5    10260.7

QT      2      28319    28319

NC    .065       .065     .045

ET                        9.1                                                  9805.57    10190.8

X1   35770      21      9931.1     10092.1      450.0      450.0      450.0                  0.47
GR   2181.6     9633.5  2165.3     9659.3     2160.2     9681.6     2159.6     9716.2     2161.3     9752.1
GR   2161.3     9772.7  2159.2     9793.5     2160.3     9861.7     2161.2     9922.8     2161.2     9931.1
GR   2153.2     9949.6  2153.7     9984.7     2153.4    10000.0     2152.8    10023.9     2154.4    10042.7
GR   2156.7    10092.1  2158.4    10124.4     2156.8    10167.8     2154.2    10204.0     2164.5    10216.5
GR   2184.2    10245.1

ET                        9.1                                                  9928.56    10219.8

X1   35870      19      9968.0     10120.8      520.0      520.0      530.0                  0.47
GR   2200.8     9639.0  2170.9     9681.8     2170.9     9697.1     2166.2     9706.8     2165.9     9757.3
GR   2168.4     9814.7  2167.8     9863.8     2164.8     9934.0     2164.3     9968.0     2157.1     9983.3
GR   2157.4    10000.0  2158.3    10054.9     2160.0    10085.0     2162.4    10120.8     2162.5    10132.7
GR   2161.8    10199.7  2162.2    10227.1     2167.2    10260.7     2181.3    10295.1

NC    .065       .065     .035

ET                        9.1                                                  9729.72    10054.2

X1   35960      21      9929.7     10054.2      450.0      450.0      480.0                  0.47
GR   2194.0     9536.6  2178.8     9560.9     2171.7     9581.7     2170.1     9601.2     2171.2     9637.4
GR   2171.1     9730.1  2169.8     9778.9     2168.9     9827.3     2170.5     9891.1     2170.4     9910.4
GR   2172.0     9925.5  2166.8     9929.7     2164.1     9956.0     2160.0     9971.3     2161.9     9983.2
GR   2159.3    10000.0  2161.0    10038.0     2165.7    10054.2     2174.2    10067.5     2192.8    10093.2
GR   2193.6    10098.6

ET                        9.1                                                  9672.86    10048.3

X1   36060      22      9957.6     10048.3      560.0      560.0      580.0                  0.47

GR   2191.0     9405.7  2179.3     9435.6     2177.4     9501.1     2173.6     9552.2     2173.3     9585.6
GR   2173.0     9718.0  2171.5     9786.7     2171.0     9836.8     2171.3     9851.7     2174.5     9866.0
GR   2172.5     9876.3  2172.4     9886.6     2170.5     9914.1     2167.2     9957.6     2161.8     9970.2
GR   2160.5     9997.2  2160.4    10000.0     2163.4    10027.2     2169.5    10048.3     2193.6    10062.9
1
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GR   2198.7    10081.5  2200.8    10091.8

NC    .065       .065     .06

ET                        9.1                                                  9957.10    10144.0

X1   36180      22      9957.1     10144.0      580.0      630.0      630.0                  0.47
GR   2201.5     9846.0  2200.1     9863.1     2198.7     9875.8     2180.0     9907.2     2179.6     9934.3
GR   2179.0     9944.4  2173.8     9957.1     2172.5     9973.8     2171.3    10000.0     2171.4    10011.3
GR   2174.2    10020.8  2174.1    10037.5     2175.8    10051.4     2175.5    10080.7     2170.7    10106.6
GR   2169.5    10127.2  2178.7    10144.0     2194.1    10173.6     2203.9    10198.7     2211.5    10228.7
GR   2222.2    10257.0  2228.1    10276.0
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ET                          9.1                                                 9969.00    10226.9

X1   36230        20      9969.0    10130.4      240.0      250.0      260.0                  0.47
GR    2197.7     9917.0    2196.2     9927.9     2185.0     9958.2     2181.9     9969.0     2177.6     9979.9
GR    2174.5     9994.9    2174.4    10000.0     2176.6    10005.7     2176.1    10027.6     2180.1    10054.6
GR    2180.8    10062.6    2178.9    10082.7     2176.6    10098.2     2179.3    10130.4     2183.8    10158.1
GR    2183.5    10180.4    2181.8    10249.0     2185.3    10273.2     2192.1    10286.9     2227.3    10335.2

NC     .065       .065       .045

ET                          9.1                                                 9868.28    10042.3

X1   36310        16      9965.0    10027.1      350.0      430.0      420.0                  0.47
GR    2205.2     9792.2    2193.7     9826.5     2191.6     9844.9     2190.7     9857.1     2183.9     9871.1
GR    2183.3     9882.2    2185.6     9908.1     2187.2     9940.9     2186.6     9953.0     2184.4     9965.0
GR    2178.9     9970.2    2178.9    10000.0     2183.8    10027.1     2185.0    10045.5     2226.8    10104.0
GR    2227.5    10113.1

QT         2      28271      28271

NC     .065       .065       .065

ET                          9.1                                                 9876.40    10100.2

X1   36400        13      9876.4    10085.3      510.0      490.0      480.0                  0.47
GR    2228.2     9837.8    2194.0     9876.4     2189.8     9900.8     2192.3     9928.8     2193.1     9963.1
GR    2189.0    10000.0    2188.4    10047.9     2188.3    10073.8     2194.9    10085.3     2198.1    10123.6
GR    2202.5    10201.9    2204.1    10223.1     2215.1    10266.5
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

*PROF 1

 CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS
0

 CCHV=     .100 CEHV=     .300
*SECNO 30.200

 3265 DIVIDED FLOW

                Cross section river mile stationing based upon FEMA cross
                section DA being river mile 30.10.  See FEMA FIS Maricopa
                County, Arizona and Incorporated Areas Vol. 4 of 9,
                Dec. 3, 1993 Flood Profile 68P Cave Creek Wash.
                Also See Flood Insurance Rate Map Panel 815 of 4350, dated
                September 29, 1989.                              River Mile
                information obtained from previous study by Harris-Toups
                Associates.

                Start of Reach  50
                Q100 from HEC-1 Operation C410
   30.200     10.48   1885.68   1885.48   1885.68   1887.25      1.57       .00       .00   1876.50
  33800.0   15251.3   17838.4     710.3    2527.5    1416.0      94.6        .0        .0   1875.20
      .00      6.03     12.60      7.51      .055      .050      .055      .000   1875.20   8982.59
 .010298      535.      537.      545.         0         4         0       .00   1097.91  10111.25
```

*SECNO 30.280

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

30.280	14.44	1891.54	1891.54	.00	1893.68	2.14	4.50	.17	1881.80
33800.0	13901.4	19050.7	847.8	2320.1	1296.8	111.4	44.7	12.0	1877.50
.01	5.99	14.69	7.61	.055	.050	.055	.000	1877.10	9156.63
.008673	550.	421.	430.	0	11	0	.00	873.75	10030.38

*SECNO 30.420

3301 HV CHANGED MORE THAN HVINS

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
30.420	11.60	1897.40	1895.86	.00	1898.22	.82	4.41	.13	1890.30
33800.0	8017.6	6342.6	19439.7	1597.9	683.5	2665.8	104.1	23.7	1890.30
.04	5.02	9.28	7.29	.055	.050	.055	.000	1885.80	9522.98
.005858	500.	713.	650.	2	18	0	.00	952.35	10475.33

*SECNO 30.520

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
7720 CRITICAL DEPTH ASSUMED

30.520	8.73	1902.23	1902.23	.00	1903.74	1.52	4.61	.21	1893.60
33800.0	12900.8	9224.4	11674.8	1834.1	654.8	1378.1	159.6	36.9	1894.00
.05	7.03	14.09	8.47	.055	.050	.055	.000	1893.50	9292.81
.013266	600.	560.	500.	0	14	0	.00	1102.43	10395.24

*SECNO 30.650

GR records deleted from
Sta 10070.7 to 10304.3
to restrict flow to effective area without X3 records.
This restriction needed since 100yr floodplain does not enter
right side channel that begins between RM 30.85 and 30.96

30.650	12.59	1909.79	1909.54	.00	1911.73	1.94	7.86	.13	1898.60
33800.0	20449.8	13078.8	271.5	2595.3	870.4	45.9	218.0	51.9	1898.20
.07	7.88	15.03	5.92	.055	.050	.055	.000	1897.20	9240.09
.009889	700.	696.	650.	3	14	0	.00	787.43	10027.52

*SECNO 30.750

3301 HV CHANGED MORE THAN HVINS

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

GR records deleted from
Sta 10241.8 to 10436.9
to restrict flow to effective area without X3 records.
This restriction needed since 100yr floodplain does not enter
right side channel that begins between RM 30.85 and 30.96

30.750	12.90	1913.90	1911.67	.00	1914.95	1.05	3.13	.09	1904.10

33800.0	12392.0	9432.2	11975.8	2180.3	943.8	1352.8	261.4	59.8	1903.80
.09	5.68	9.99	8.85	.055	.050	.055	.000	1901.00	9520.07
.004707	475.	486.	450.	3	9	0	.00	661.99	10182.06

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

*SECNO 30.850

30.850	11.86	1917.16	1916.16	.00	1918.65	1.50	3.57	.14	1908.20
33800.0	1552.5	10951.7	21295.7	319.1	916.8	2410.2	313.2	68.9	1907.90
.10	4.86	11.95	8.84	.055	.050	.055	.000	1905.30	9706.01
.009114	525.	569.	570.	2	15	0	.00	791.45	10497.46

*SECNO 30.960

3301 HV CHANGED MORE THAN HVINS

Q100 from HEC-1 Operation C400R

30.960	10.04	1922.04	1920.62	.00	1922.84	.81	4.12	.07	1913.90
31400.0	3588.4	6761.6	21050.0	551.5	678.6	3400.2	366.6	80.1	1913.30
.13	6.51	9.96	6.19	.055	.050	.055	.000	1912.00	9855.97
.005970	550.	541.	570.	2	14	0	.00	935.49	10791.46

*SECNO 31.050

31.050	8.48	1925.38	1924.72	.00	1926.40	1.02	3.49	.06	1918.30
31400.0	2476.1	5789.4	23134.6	290.5	509.0	3315.6	413.4	90.5	1917.80
.14	8.52	11.38	6.98	.055	.050	.055	.000	1916.90	9883.38
.009583	470.	494.	460.	2	14	0	.00	1023.02	10906.40

*SECNO 31.140

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

31.140	11.68	1929.48	1929.48	.00	1931.03	1.56	4.04	.16	1920.20
31400.0	5733.2	9482.2	16184.6	883.6	640.7	2257.1	448.7	99.7	1920.50
.15	6.49	14.80	7.17	.055	.050	.055	.000	1917.80	9619.45
.010780	500.	467.	350.	0	11	0	.00	1040.43	10659.88

*SECNO 31.170

3301 HV CHANGED MORE THAN HVINS

Cross Section 31.17 located just south of New River Rd.

31.170	10.53	1931.33	1930.49	.00	1932.30	.96	1.21	.06	1923.20
31400.0	10788.0	8633.9	11978.1	1622.3	800.8	1916.3	461.3	102.8	1923.10
.16	6.65	10.78	6.25	.055	.050	.055	.000	1920.80	9509.79
.007112	130.	162.	130.	3	10	0	.00	1010.11	10519.90

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA

```
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

*SECNO 31.250
                Cross Section    31.25    located just north of New River Rd.
   31.250        9.51    1934.91    1934.62        .00    1936.31       1.40       3.88        .13    1931.10
 31400.0      8362.5    11664.6    11373.0      1017.3      981.9     1540.3      498.1      112.2    1931.40
     .17        8.22      11.88       7.38        .055       .050       .055       .000    1925.40    9445.52
 .013186         400.       432.       400.          2         12          0        .00    1029.82   10475.33


*SECNO 31.340
                End of Reach     50
                Start of Reach   51
                Cross Section    31.34    is Check Section Number   2
                Cross Section    31.34    GR data by ALS
   31.340        8.50    1940.00    1938.82        .00    1941.15       1.15       4.81        .03    1933.30
 31400.0      2174.3     5718.2    23507.5      422.9      589.2     2748.4      536.3      121.6    1933.20
     .19        5.14       9.71       8.55        .055       .055       .050       .000    1931.50    9777.39
 .008613         450.       474.       450.          2         19          0        .00     775.68   10553.07


*SECNO 31.450

3265 DIVIDED FLOW

   31.450       11.67    1944.77    1943.37        .00    1945.72        .95       4.55        .02    1938.30
 31400.0      6247.0     6931.2    18221.8      668.5      738.2     2812.0      592.2      133.8    1933.80
     .21        9.35       9.39       6.48        .055       .055       .050       .000    1933.10    9848.96
 .006517         590.       592.       620.          3         11          0        .00     961.63   10879.09


*SECNO 31.540

3265 DIVIDED FLOW

   31.540        8.22    1948.32    1947.58        .00    1949.72       1.40       3.87        .13    1940.20
 31400.0       428.0    12385.1    18586.9       66.0     1139.5     2184.1      633.9      143.8    1940.70
     .22        6.49      10.87       8.51        .055       .055       .050       .000    1940.10    9912.66
 .010329         475.       484.       475.          2         14          0        .00     851.28   10814.32


*SECNO 31.630

3265 DIVIDED FLOW

1
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST


   31.630       11.83    1952.33    1951.25        .00    1953.54       1.21       3.80        .02    1942.50
 31400.0      6329.2     8519.0    16551.8      960.7      730.2     2121.4      670.2      152.1    1941.70
     .24        6.59      11.67       7.80        .055       .055       .050       .000    1940.50    9764.29
 .007328         450.       453.       430.          2         11          0        .00     810.53   10646.02


*SECNO 31.750

3301 HV CHANGED MORE THAN HVINS

   31.750       11.54    1958.04    1957.72        .00    1959.81       1.78       6.10        .17    1950.80
 31400.0     16664.9    10271.0     4464.1     1739.5      770.4      615.4      722.8      164.3    1951.40
     .25        9.58      13.33       7.25        .055       .055       .050       .000    1946.50    9568.97
 .012028         680.       647.       650.          1         11          0        .00     802.06   10371.03
```

*SECNO 31.820

3265 DIVIDED FLOW

For this floodplain analysis, the existing berm for
the private pond is assumed to be in-place.
The berm is modeled, but is ignored when plotting floodplain.
It is assumed that the berm will be removed by the 100-yr flood
between RM 31.87 & RM 31.91, but leave part of the berm at
cross sections 31.82 and 31.87. Therefore, the divided flow
message in the output is acceptable.

31.820	9.66	1962.36	1962.24	.00	1964.59	2.24	4.64	.14	1953.40
31400.0	9063.3	17600.8	4735.9	961.7	1269.0	566.2	747.5	170.3	1952.70
.26	9.42	13.87	8.36	.055	.055	.050	.000	1952.70	9654.25
.013718	360.	361.	370.	1	15	0	.00	638.63	10309.18

*SECNO 31.870

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

For this floodplain analysis, the existing berm for
the private pond is assumed to be in-place.
The berm is modeled, but is ignored when plotting floodplain.

1
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It is assumed that the berm will be removed by the 100-yr flood
between RM 31.87 & RM 31.91, but leave part of the berm at
cross sections 31.82 and 31.87. Therefore, the divided flow
message in the output is acceptable.

31.870	11.86	1965.46	1964.00	.00	1967.08	1.63	2.43	.06	1953.70
31400.0	17346.1	10110.3	3943.6	1858.8	806.5	567.1	763.8	173.5	1953.90
.27	9.33	12.54	6.95	.055	.055	.050	.000	1953.60	9649.37
.008035	220.	243.	260.	0	8	0	.00	507.07	10178.97

*SECNO 31.910

End of Reach 51
Start of Reach 52

31.910	13.67	1966.97	1965.61	.00	1968.86	1.89	1.70	.08	1954.50
31400.0	15930.3	12000.7	3469.0	2234.3	770.1	624.1	781.7	176.1	1953.50
.27	7.13	15.58	5.56	.070	.045	.070	.000	1953.30	9673.07
.007087	240.	208.	210.	3	8	0	.00	506.83	10179.90

*SECNO 31.980

Q100 interpolated between HEC-1 operations C390 and C400R

31.980	13.21	1969.71	1968.86	.00	1972.05	2.35	3.06	.14	1956.50
31300.0	12085.2	12418.7	6796.1	1687.3	724.7	823.0	812.5	180.5	1957.70
.28	7.16	17.14	8.26	.070	.045	.070	.000	1956.50	9690.02
.008766	400.	380.	380.	2	15	0	.00	460.58	10150.60

*SECNO 32.070

32.070	14.24	1974.04	1973.63	.00	1976.50	2.47	4.41	.04	1962.30
31300.0	13019.3	14033.5	4247.3	2003.3	813.3	559.5	851.8	186.4	1961.00
.30	6.50	17.26	7.59	.070	.045	.070	.000	1959.80	9615.96
.008492	535.	496.	495.	2	8	0	.00	540.28	10156.23

*SECNO 32.150

3301 HV CHANGED MORE THAN HVINS

32.150	14.56	1978.26	1977.09	.00	1979.56	1.29	2.94	.12	1963.70
31300.0	19876.9	8823.4	2599.7	3377.4	605.6	607.1	891.3	192.9	1965.80
.31	5.89	14.57	4.28	.070	.045	.070	.000	1963.70	9431.83
.005637	440.	415.	420.	3	10	0	.00	753.78	10185.61

*SECNO 32.240

3265 DIVIDED FLOW

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

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
The ditch next to the existing dirt road
near Sta. 10132 is not part of the 100 year floodplain,
but the flow here is small in comparison to Q100,
thus no X3-type of restriction is needed here.

32.240	12.74	1981.14	1981.14	.00	1983.96	2.82	3.60	.46	1969.50
31300.0	15364.1	14018.0	1917.9	2068.1	762.5	275.8	932.2	199.7	1968.40
.32	7.43	18.38	6.95	.070	.045	.070	.000	1968.40	9565.92
.011309	460.	470.	470.	0	15	0	.00	530.98	10142.10

*SECNO 32.330

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.41

Cross Section 32.33 is Check Section Number 3
Cross Section 32.33 GR data by ALS

32.330	13.34	1985.84	1984.37	.00	1987.73	1.89	3.69	.09	1974.80
31300.0	6870.8	18502.7	5926.5	1359.1	1362.2	971.2	969.1	205.5	1974.10
.33	5.06	13.58	6.10	.070	.045	.070	.000	1972.50	9690.21
.005721	470.	471.	480.	2	11	0	.00	534.23	10224.44

*SECNO 32.440

32.440	12.54	1990.04	1988.89	.00	1991.45	1.41	3.67	.05	1977.50
31300.0	9407.4	8379.3	13513.3	1718.1	560.5	1893.9	1021.0	213.3	1978.20
.35	5.48	14.95	7.14	.070	.045	.070	.000	1977.50	9635.16
.007144	580.	576.	570.	2	10	0	.00	647.53	10282.69

*SECNO 32.490

3265 DIVIDED FLOW

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

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
Structure in floodplain modeled as divided flow.
See TDN for details.
X4 records added for structure.
Cross section realigned, Go John Canyon ineffective flow area.
Revised GR records to right of Sta. 10253.9
taken from digital map.

32.490	10.91	1991.41	1991.41	.00	1994.03	2.62	2.12	.36	1980.90
31300.0	4929.1	14945.0	11426.0	901.4	872.9	1402.1	1040.9	216.7	1980.80
.36	5.47	17.12	8.15	.070	.045	.070	.000	1980.50	9612.88
.011547	250.	247.	220.	0	15	0	.00	590.34	10276.29

*SECNO 32.520
Q100 from HEC-1 Operation C390

32.520	11.36	1993.46	1993.31	.00	1995.86	2.40	1.81	.02	1982.40
31200.0	5655.6	20469.7	5074.7	1096.9	1376.0	933.2	1054.7	219.3	1983.70
.36	5.16	14.88	5.44	.070	.045	.070	.000	1982.10	9589.21
.008518	190.	187.	170.	2	8	0	.00	667.71	10256.92

*SECNO 32.620

32.620	12.24	1997.74	1997.35	.00	2000.23	2.49	4.34	.03	1986.80
31200.0	8478.5	18780.0	3941.5	1480.6	1207.3	582.6	1094.3	226.5	1986.70
.37	5.73	15.56	6.77	.070	.045	.070	.000	1985.50	9614.66
.008263	500.	516.	550.	2	8	0	.00	544.81	10159.47

*SECNO 32.700

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
GR records deleted from
Sta 9277.2 to 9592.8
to restrict flow to effective area without X3 records.
Restriction added at Sta. 9592.8 since
100 year floodplain does not enter this area

upstream of this cross section.

32.700	15.72	2002.22	2002.22	.00	2005.53	3.32	3.63	.25	1987.80
31200.0	9791.8	18195.3	3212.9	1568.0	996.8	388.0	1125.9	231.5	1986.50
.38	6.24	18.25	8.28	.070	.045	.070	.000	1986.50	9603.99
.008269	450.	435.	430.	0	8	0	.00	444.97	10048.95

*SECNO 32.800

3301 HV CHANGED MORE THAN HVINS

End of Reach 52
Start of Reach 53

32.800	15.72	2007.92	2005.07	.00	2009.48	1.56	3.77	.18	1994.50
31200.0	6081.0	13346.6	11772.4	1209.9	1055.5	1394.7	1166.9	237.1	1992.30
.40	5.03	12.65	8.44	.070	.055	.070	.000	1992.20	9682.11
.005975	540.	539.	540.	3	15	0	.00	461.98	10144.09

*SECNO 32.900
Cross Section 32.90 had error in original stationing from AMC.
80.8' added to original stationing to properly locate
cross section points with respect to the thalweg.

Q100 from HEC-1 Operation C310

32.900	16.49	2011.79	2010.33	.00	2013.61	1.82	4.06	.08	2003.30
30900.0	17170.9	12558.4	1170.7	2094.9	901.5	224.0	1210.3	242.7	2006.10
.41	8.20	13.93	5.23	.070	.055	.070	.000	1995.30	9693.59
.009605	580.	523.	520.	1	10	0	.00	413.25	10106.84

*SECNO 32.990

3301 HV CHANGED MORE THAN HVINS

32.990	10.69	2016.19	2013.49	.00	2017.31	1.12	3.63	.07	2006.50
30900.0	8393.4	11121.1	11385.5	1300.6	1045.8	1529.4	1245.8	247.2	2006.90
.43	6.45	10.63	7.44	.070	.055	.070	.000	2005.50	9741.95
.007197	400.	460.	480.	2	11	0	.00	488.85	10230.80

*SECNO 33.080

Cross Section 33.08 located at golf cart bridge.
Bridge is only about 1 foot above the channel bottom;
thus a bridge routine is not meritted. GR records
are based upon the top deck of the bridge.

33.080	8.34	2020.24	2018.88	.00	2021.85	1.60	4.39	.14	2011.90
30900.0	12672.5	13159.1	5068.3	1590.0	1068.9	576.7	1284.1	252.5	2012.10
.44	7.97	12.31	8.79	.070	.055	.070	.000	2011.90	9660.68
.012676	480.	472.	450.	2	14	0	.00	495.40	10156.08

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

*SECNO 33.170

33.170	13.79	2025.09	2022.93	.00	2027.12	2.04	5.14	.13	2011.50
30900.0	9194.0	11233.8	10472.2	1224.5	758.0	1038.1	1318.7	257.5	2011.30
.45	7.51	14.82	10.09	.070	.055	.070	.000	2011.30	9745.10
.009171	490.	475.	475.	2	11	0	.00	391.58	10136.68

*SECNO 33.260

33.260	12.23	2029.93	2027.61	.00	2031.87	1.94	4.74	.01	2018.20
30900.0	6427.7	9235.0	15237.3	796.3	658.7	1470.7	1352.0	261.5	2019.30
.47	8.07	14.02	10.36	.070	.055	.070	.000	2017.70	9865.75
.010288	480.	481.	500.	2	19	0	.00	323.25	10189.00

*SECNO 33.360

Q100 from HEC-1 Operation C260
Cross Section 33.36 located just south of Ocotillo Rd.

33.360	14.33	2034.83	2031.81	.00	2036.35	1.53	4.44	.04	2022.70
24700.0	509.7	12479.6	11710.8	105.0	1029.5	1658.9	1388.1	265.4	2022.40
.48	4.86	12.12	7.06	.070	.055	.070	.000	2020.50	9929.39
.006174	550.	550.	550.	2	11	0	.00	294.54	10223.93

*SECNO 33.460

3301 HV CHANGED MORE THAN HVINS

Cross Section 33.46 located just north of Ocotillo Rd.

33.460	14.02	2038.12	2036.87	.00	2040.15	2.03	3.65	.15	2027.40
24700.0	2647.1	14885.0	7167.9	463.3	1084.5	1036.8	1419.1	269.8	2027.00
.49	5.71	13.73	6.91	.070	.055	.070	.000	2024.10	9749.75
.008696	500.	503.	500.	2	11	0	.00	474.82	10224.57

*SECNO 33.560

301 HV CHANGED MORE THAN HVINS

Q100 interpolated between HEC-1 operations C250 and C260

33.560	17.23	2042.13	2041.18	.00	2045.22	3.10	4.75	.32	2027.50
24400.0	1144.1	14030.6	9225.3	161.7	815.0	1099.7	1446.4	274.0	2025.60
.51	7.08	17.22	8.39	.070	.055	.070	.000	2024.90	9940.59
.009970	520.	510.	510.	2	8	0	.00	243.79	10184.38

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

*SECNO 33.670

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

Q100 from HEC-1 Operation C250
Cross Section 33.67 located just north of Desert Hills Dr.

33.670	13.34	2049.04	2049.04	.00	2053.98	4.94	7.51	.55	2038.10
24000.0	1045.2	19702.1	3252.7	128.8	1028.8	315.6	1470.2	276.7	2037.60
.51	8.11	19.15	10.31	.070	.055	.070	.000	2035.70	9953.24
.017261	600.	585.	580.	0	15	0	.00	155.17	10108.41

*SECNO 33.770

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.08

33.770	17.81	2057.11	2051.37	.00	2058.33	1.22	3.98	.37	2043.40
24000.0	12033.6	11340.4	626.0	1721.3	1064.2	145.0	1497.6	279.2	2043.30
.53	6.99	10.66	4.32	.070	.055	.070	.000	2039.30	9815.28
.003998	530.	552.	550.	3	11	0	.00	248.11	10063.39

*SECNO 33.890

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .63

Q100 from HEC-1 Operation C240

33.890	12.60	2060.10	2058.36	.00	2062.13	2.03	3.55	.24	2049.00
23400.0	1060.1	14972.7	7367.2	169.7	1138.3	973.5	1533.9	282.9	2047.50
.55	6.25	13.15	7.57	.070	.055	.070	.000	2047.50	9881.92
.009572	620.	606.	580.	3	14	0	.00	280.39	10162.31

*SECNO 33.980

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

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

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

33.980	13.65	2064.55	2062.28	.00	2065.76	1.20	3.55	.08	2054.00
23400.0	2097.7	12439.1	8863.3	292.2	1148.3	1680.4	1562.5	287.0	2052.90
.56	7.18	10.83	5.27	.070	.055	.070	.000	2050.90	9942.29
.006072	490.	494.	430.	3	15	0	.00	512.59	10471.19

*SECNO 34.080

3301 HV CHANGED MORE THAN HVINS

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

34.080	10.62	2068.62	2068.55	.00	2070.97	2.35	4.87	.34	2058.30
23400.0	1327.9	12690.0	9382.0	183.2	826.2	1313.4	1596.4	293.0	2058.90
.58	7.25	15.36	7.14	.070	.055	.070	.000	2058.00	9897.58
.014612	540.	544.	540.	2	19	0	.00	467.45	10365.03

CCHV= .100 CEHV= .300
*SECNO 34.190

3301 HV CHANGED MORE THAN HVINS

End of Reach 53
Start of Reach 54

Cross Section 34.19 is Check Section Number 5
Cross Section 34.19 GR data by ALS

34.190	18.94	2075.44	2074.12	.00	2076.99	1.56	5.94	.08	2063.90
23400.0	2033.5	8852.7	12513.8	249.0	629.1	2062.1	1630.8	298.8	2063.80
.59	8.17	14.07	6.07	.065	.055	.075	.000	2056.50	9943.52
.007795	570.	572.	570.	2	15	0	.00	414.92	10358.45

CCHV= .300 CEHV= .500
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 34.270

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .66

Straight line transition. Contraction/Expansion coefficients
per Table IV-4-1 of Hydraulic Engineering Circular No. 14.

34.270	13.86	2079.76	2078.65	.00	2082.29	2.54	4.81	.49	2076.90
23400.0	53.0	7283.7	16063.3	14.0	451.6	1465.7	1654.6	302.1	2069.80
.60	3.79	16.13	10.96	.065	.055	.075	.000	2065.90	9894.40
.018021	410.	415.	430.	2	19	0	.00	260.56	10154.96

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CCHV=     .100 CEHV=     .300
*SECNO 34.360

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.84

              Contraction and Expansion Coefficients revised to normal values.
   34.360     16.08   2085.78   2083.82       .00   2086.71       .94      4.26       .16   2078.40
  23400.0   12284.1    8836.9    2279.0    2247.3     841.6     418.5    1684.5     306.4   2072.60
      .62      5.47     10.50      5.45      .065      .055      .075      .000   2069.70   9556.35
  .005327      490.      484.      460.         2         5         0       .00    523.91  10080.25


*SECNO 34.450

3265 DIVIDED FLOW


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .58

              End of Reach    54
              Start of Reach  55
   34.450      9.10   2089.30   2088.29       .00   2090.72      1.42      3.86       .14   2082.90
  23400.0    9900.3    2131.6   11368.1    1391.5     204.9    1022.6    1716.0     311.9   2082.90
      .63      7.11     10.40     11.12      .075      .070      .060      .000   2080.20   9652.06
  .015983      440.      461.      460.         3         8         0       .00    533.69  10185.77


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

*SECNO 34.540

3301 HV CHANGED MORE THAN HVINS

   34.540     11.66   2095.76   2093.49       .00   2096.65       .89      5.88       .05   2084.10
  23400.0   10554.8    2790.4   10054.8    1628.9     309.0    1229.0    1749.3     317.8   2088.10
      .65      6.48      9.03      8.18      .075      .070      .060      .000   2084.10   9728.51
  .009051      520.      494.      480.         3         8         0       .00    500.45  10228.96


*SECNO 34.630
   34.630     10.93   2100.23   2097.75       .00   2101.25      1.02      4.56       .04   2093.80
  23400.0   12122.9    3227.4    8049.7    1673.4     355.8     905.4    1783.0     322.9   2092.30
      .67      7.24      9.07      8.89      .075      .070      .060      .000   2089.30   9731.64
  .009971      480.      483.      480.         3        19         0       .00    419.92  10151.55


*SECNO 34.730

3301 HV CHANGED MORE THAN HVINS

              End of Reach    55
              Start of Reach  56
              Cross Section    34.73   located at Rockaway Hills Dr.
   34.730     10.58   2105.88   2105.73       .00   2108.20      2.32      6.56       .39   2097.50
  23400.0    9578.7   13308.4     512.9    1202.8     907.7      69.1    1812.9     327.8   2096.90
      .68      7.96     14.66      7.42      .065      .060      .065      .000   2095.30   9652.67
  .017279      520.      510.      480.         1        11         0       .00    410.35  10063.01


                                        100-Year HEC-2

File = CAVEFW1.OH2                Cave Creek Above Carefree Highway FDS                Page 30
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*SECNO 34.830

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.59

34.830	12.34	2112.54	2110.59	.00	2113.56	1.03	5.23	.13	2102.80
23400.0	10880.0	8687.9	3832.1	1773.3	820.2	590.8	1844.3	333.1	2101.10
.70	6.14	10.59	6.49	.065	.060	.065	.000	2100.20	9648.35
.006802	510.	509.	510.	1	5	0	.00	493.02	10141.36

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

*SECNO 34.880

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .69

34.880	11.47	2114.27	2113.77	.00	2116.36	2.08	2.47	.32	2105.40
23400.0	7604.0	11512.5	4283.5	1000.8	812.9	449.2	1860.4	335.7	2105.80
.71	7.60	14.16	9.54	.065	.060	.065	.000	2102.80	9699.61
.014441	250.	262.	270.	3	15	0	.00	392.32	10125.86

*SECNO 34.920

3301 HV CHANGED MORE THAN HVINS

34.920	9.66	2117.56	2115.82	.00	2118.70	1.14	2.25	.09	2109.40
23400.0	8676.3	12214.4	2509.3	1345.6	1216.8	355.2	1872.4	337.7	2109.00
.71	6.45	10.04	7.07	.065	.060	.065	.000	2107.90	9663.42
.008698	200.	207.	200.	3	19	0	.00	475.77	10139.19

*SECNO 35.010

Q100 from HEC-1 Operation C230

35.010	12.03	2121.93	2120.98	.00	2123.28	1.36	4.52	.07	2118.40
23200.0	9305.8	13454.8	439.5	1534.7	1204.3	100.6	1904.2	343.4	2115.80
.73	6.06	11.17	4.37	.065	.060	.065	.000	2109.90	9597.06
.010229	480.	481.	480.	3	11	0	.00	566.37	10163.42

*SECNO 35.090

35.090	12.04	2126.44	2125.44	.00	2127.76	1.32	4.47	.00	2115.00
23200.0	5139.2	14290.9	3769.8	889.3	1306.8	754.0	1935.3	350.0	2114.50
.74	5.78	10.94	5.00	.065	.060	.065	.000	2114.40	9604.21
.008945	470.	467.	470.	2	11	0	.00	643.93	10248.14

*SECNO 35.150

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

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

3265 DIVIDED FLOW

Structure in floodplain modeled as divided flow.
See TDN for details.

35.150	11.84	2129.14	2128.80	.00	2130.81	1.67	2.95	.11	2122.30
23200.0	5665.5	12281.6	5252.9	763.2	968.2	830.3	1952.7	353.6	2118.30
.75	7.42	12.68	6.33	.065	.060	.065	.000	2117.30	9707.91
.012900	280.	281.	260.	2	10	0	.00	530.15	10333.00

*SECNO 35.180

3265 DIVIDED FLOW

Cross Section 35.18 located just south of Cahava Ranch Rd.

35.180	11.93	2131.53	2130.42	.00	2132.94	1.41	2.09	.03	2122.40
23200.0	4013.9	14010.6	5175.5	530.9	1259.8	1003.8	1964.4	356.0	2120.00
.76	7.56	11.12	5.16	.065	.060	.065	.000	2119.60	9793.37
.009585	190.	189.	190.	2	15	0	.00	540.49	10404.32

*SECNO 35.240

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

Cross Section 35.24 located just north of Cahava Ranch Rd.

Structure in floodplain modeled as divided flow.
See TDN for details.

35.240	12.84	2136.24	2136.24	.00	2138.59	2.34	3.41	.28	2125.10
23200.0	331.2	16840.2	6028.6	54.8	1212.5	961.4	1982.7	360.2	2123.50
.76	6.05	13.89	6.27	.065	.060	.065	.000	2123.40	9901.67
.012283	310.	311.	330.	0	8	0	.00	598.76	10570.19

*SECNO 35.280
7185 MINIMUM SPECIFIC ENERGY

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

3720 CRITICAL DEPTH ASSUMED

35.280	14.73	2138.43	2138.43	.00	2140.62	2.20	2.01	.01	2126.60
23200.0	384.9	15559.6	7255.5	65.8	1114.8	1273.4	1992.4	363.0	2124.30
.77	5.85	13.96	5.70	.065	.060	.065	.000	2123.70	9919.28
.010134	180.	181.	180.	0	8	0	.00	750.72	10670.00

*SECNO 35.370

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.63

35.370	16.62	2142.82	2140.19	.00	2143.59	.78	2.83	.14	2126.20
23200.0	434.7	12928.4	9836.8	105.0	1497.2	2253.8	2027.4	370.4	2130.80
.79	4.14	8.64	4.36	.065	.060	.065	.000	2126.20	9971.76
.003804	485.	485.	480.	2	12	0	.00	597.25	10630.41

*SECNO 35.470

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
Cross Section 35.47 located at Morningstar Rd.

35.470	10.19	2145.69	2145.69	.00	2147.75	2.06	3.67	.39	2138.10
23200.0	6078.7	11389.5	5731.8	855.9	780.3	737.2	2064.2	377.0	2137.40
.80	7.10	14.60	7.78	.065	.060	.065	.000	2135.50	9698.80
.017166	500.	540.	500.	0	14	0	.00	538.55	10237.36

*SECNO 35.540

3301 HV CHANGED MORE THAN HVINS

Cross Section 35.54 is Check Section Number 6
Cross Section 35.54 approx. equal to FEMA Cross Section EA
Cross Section 35.54 located north of Morningstar Rd.

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Cross Section 35.54 GR data by ALS
Cross Section 35.54 GR data removed
from 9168.5 to 9389.8
and
from 10264.0 to 10464.5
because the number of original GR data
points exceeded HEC-2 limits.

35.540	13.22	2151.32	2150.25	.00	2152.80	1.49	4.99	.06	2139.60
23200.0	14222.7	8279.9	697.4	2006.4	625.2	77.3	2087.3	381.7	2139.50
.81	7.09	13.24	9.02	.065	.060	.065	.000	2138.10	9542.73
.009693	400.	388.	400.	2	11	0	.00	482.28	10025.01

CCHV= .100 CEHV= .300
*SECNO 35590.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
End of Reach 56 and
Start of CH2MHILL n values from previous FIS

The final portion of this HEC-2 analysis was obtained
from a previous study performed by CH2M Hill for the
FCDMC in 1990. This portion is included to help
delineate the floodplain at the junction of the
studies. The pertinent data is exactly as presented
in the previous study (n-values and cross section data).
Previously determined 100 year storm
frequency Q values are used. Any other modifications
necessary to incorporate this data into this HEC-2 model
are noted in comment records.

River Mile stationing between this study and the CH2MHILL
study are approximately the same. There is a minor difference
in thalweg location, which is accounted for.

Cross section numbers have not been changed from previous
study. Previous study cross section numbers are based on
previously calculated river miles but do not use decimals.

Previous study Q values used:

Previous Q100 = 28,338 cfs

Cross Section 35590 X1 record has been changed.
Thalweg, left bank, and right bank distances have

been altered to reflect approximate distances to new
study cross section 35.54.

All elevations have been adjusted
by + 0.47 feet to raise CH2M HILL GR records to current datum.
This difference in datum is documented in the
survey notes prepared by Alcocer Land Surveyors, Level Book
page 6, which is at RM 127 (appearing on FIRM panel 815)
as follows:

Elevation 1924.07 reported by ALS = Elevation 1923.60 reported
on FIRM Panel 815. The difference is 0.47 feet, thus by adding
+ 0.47 feet to CH2M HILL values, you will obtain current
elevation values.

Floodway stations taken from CH2MHILL study, from HEC-2
input file named "CC.MCE" dated 9-18-90, obtained from FCDMC
This new Floodplain Delineation Study ties into the previous
study at Cross section 35770 same as River Mile 35.770
Cross sections upstream of this point are for comparison.

35590.000	15.09	2154.66	2154.66	.00	2156.94	2.27	3.69	.24	2146.87
28338.0	10513.1	17707.2	117.7	1908.0	1204.8	28.8	2116.8	387.4	2147.67
.82	5.51	14.70	4.08	.060	.045	.060	.000	2139.57	9380.91
.007349	430.	460.	440.	0	8	0	.00	658.73	10039.64

*SECNO 35690.000

3265 DIVIDED FLOW

35690.000	12.52	2158.69	2157.61	.00	2160.53	1.84	3.55	.04	2159.77
28338.0	2146.7	15910.0	10281.3	551.7	1217.4	1336.5	2151.9	394.0	2149.27
.84	3.89	13.07	7.69	.060	.045	.060	.000	2146.17	9588.78
.006765	460.	530.	470.	2	15	0	.00	548.23	10233.26

*SECNO 35770.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

35770.000	10.04	2163.31	2163.31	.00	2165.85	2.54	3.94	.21	2161.67
28319.0	2970.8	19628.7	5719.5	640.4	1342.7	709.3	2181.9	399.6	2157.17
.85	4.64	14.62	8.06	.065	.045	.065	.000	2153.27	9670.06
.011758	450.	450.	450.	0	15	0	.00	544.43	10214.49

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

*SECNO 35870.000

35870.000	11.39	2168.96	2168.75	.00	2171.41	2.45	5.55	.01	2164.77
28319.0	2075.7	20389.4	5853.9	514.8	1434.5	805.1	2214.7	406.2	2162.87
.86	4.03	14.21	7.27	.065	.045	.065	.000	2157.57	9702.05
.009496	520.	530.	520.	2	8	0	.00	561.81	10263.87

*SECNO 35960.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

35960.000	14.69	2174.46	2174.46	.00	2177.64	3.18	3.21	.22	2167.27
28319.0	4828.7	23288.5	201.8	1251.8	1485.3	53.7	2244.3	411.8	2166.17
.87	3.86	15.68	3.76	.065	.035	.065	.000	2159.77	9575.00
.005095	450.	480.	450.	0	14	0	.00	492.17	10067.17

*SECNO 36060.000

3301 HV CHANGED MORE THAN HVINS

36060.000	16.93	2177.80	2177.07	.00	2180.16	2.36	2.44	.08	2167.67
28319.0	9195.3	19083.0	40.7	2204.5	1294.8	18.6	2285.5	418.5	2169.97
.88	4.17	14.74	2.19	.065	.035	.065	.000	2160.87	9502.08
.003591	560.	580.	560.	3	8	0	.00	550.96	10053.04

*SECNO 36180.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

36180.000	12.61	2182.58	2182.58	.00	2186.48	3.91	4.62	.46	2174.27
28319.0	1367.8	26899.5	51.7	167.1	1663.9	11.2	2322.9	424.0	2179.17
.89	8.18	16.17	4.63	.065	.060	.065	.000	2169.97	9903.66
.023655	580.	630.	630.	0	19	0	.00	246.89	10150.55

*SECNO 36230.000

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

3301 HV CHANGED MORE THAN HVINS

36230.000	13.85	2188.72	2187.42	.00	2190.92	2.20	4.26	.17	2182.37
28319.0	410.2	21662.4	6246.4	66.1	1679.1	794.9	2335.9	425.7	2179.77
.90	6.20	12.90	7.86	.065	.060	.065	.000	2174.87	9949.41
.012168	240.	260.	250.	2	5	0	.00	329.74	10279.14

*SECNO 36310.000

3301 HV CHANGED MORE THAN HVINS

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 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
  36310.000     14.96   2194.33   2194.33       .00   2198.63      4.30      4.92       .63   2184.87
    28319.0    9118.1   16941.6    2259.3     934.2     848.4     229.0    2357.1     428.3   2184.27
        .91      9.76     19.97      9.86      .065      .045      .065      .000   2179.37   9826.02
    .011874      350.      420.      430.         0         8         0       .00    231.88  10057.90


 *SECNO 36400.000

 3301 HV CHANGED MORE THAN HVINS

  36400.000     13.47   2202.24   2199.47       .00   2204.10      1.86      5.23       .24   2194.47
    28271.0     157.7   26318.3    1795.0      34.2    2340.8     322.9    2383.5     431.4   2195.37
        .92      4.61     11.24      5.56      .065      .065      .065      .000   2188.77   9867.62
    .009797      510.      480.      490.         2        19         0       .00    321.51  10189.13


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 T1   *  Cave Creek Floodplain Delineation Study
 T2   *  FCD CONTRACT NUMBER 95-28
 T3   *  Floodway Method 1 - Cave Creek 100 Year Existing Conditions
 T4   *
 T5   *  For:    Flood Control District of Maricopa County
 T6   *  By:     McLaughlin Kmetty Engineers, Ltd.
 T7   *  via:    George V. Sabol Consulting Engineers, Inc.
 T8   *  GR data taken from stereo model
 T9   *  GR data received from Aerial Mapping Company (AMC)    on 6-30-96
 T9   *                                GR data from AMC revised 8-21-96
 T9   *  200 scale 2 ft CI mapping photogrammetry flight (AMC) on 1-12-96
 T9   *  Survey control by Alcocer Land Surveyors (ALS)
 T9   *  All check section GR data by ALS
 T9   *  Supplemental survey data by ALS as noted.
 T9   *  Starting WSEL came from Technical Data Notebook by Willdan Associates,
 T9   *
 T9   *
 T9   *  Source of 100-Yr flowrate from HEC-1 Analysis by GVSCE.
 T9   *  Flowrates upstream of RM 35.54 use CH2MHILL values.
 T9   *
 T9   *  Subcritical analysis.
 T9   *  Floodway Method 1

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0        3         0         0         0         0         0         0    1886.18         0

 J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

       2        0        -1         0         0         0        -1         0         0         0


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


 *PROF 2

 CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS
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```
 CCHV=     .100 CEHV=     .300
 *SECNO 30.200

 3470 ENCROACHMENT STATIONS=     9405.3   10111.3  TYPE=      1  TARGET=      706.020
                Cross section river mile stationing based upon FEMA cross
                section DA being river mile 30.10.  See FEMA FIS Maricopa
                County, Arizona and Incorporated Areas Vol. 4 of 9,
                Dec. 3, 1993 Flood Profile 68P Cave Creek Wash.
                Also See Flood Insurance Rate Map Panel 815 of 4350, dated
                September 29, 1989.                              River Mile
                information obtained from previous study by Harris-Toups
                Associates.

                Start of Reach  50
                Q100 from HEC-1 Operation C410
    30.200     10.98   1886.18   1886.04   1885.68   1888.31      2.13       .00       .00   1876.50
   33800.0   12194.3   20744.9     860.7    1720.7    1498.8     103.6        .0        .0   1875.20
       .00      7.09     13.84      8.31      .055      .050      .055      .000   1875.20   9405.25
   .011526     535.      537.      545.         0         4         0       .00    706.02  10111.27


 *SECNO 30.280

 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=     9454.5   10030.4  TYPE=      1  TARGET=      575.910
    30.280     14.79   1891.89   1891.89   1891.54   1894.57      2.67      4.89       .16   1881.80
   33800.0   11886.3   20958.7     955.0    1688.1    1334.5     117.1      36.3       7.6   1877.50
       .01      7.04     15.71      8.16      .055      .050      .055      .000   1877.10   9454.46
   .009540     550.      421.      430.         0        11         0       .00    575.91  10030.37


 *SECNO 30.420
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST


 3301 HV CHANGED MORE THAN HVINS

 3470 ENCROACHMENT STATIONS=     9835.0   10401.7  TYPE=      1  TARGET=      566.710
    30.420     12.65   1898.45   1896.23   1897.40   1899.60      1.15      4.88       .15   1890.30
   33800.0    3830.7    7944.9   22024.4     631.5     769.6    2660.4      87.6      15.3   1890.30
       .03      6.07     10.32      8.28      .055      .050      .055      .000   1885.80   9835.00
   .006189     500.      713.      650.         2        16         0       .00    566.71  10401.71


 *SECNO 30.520

 3301 HV CHANGED MORE THAN HVINS


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


 3470 ENCROACHMENT STATIONS=     9725.0   10301.0  TYPE=      1  TARGET=      575.970
    30.520      9.17   1902.67   1902.48   1902.23   1904.92      2.26      4.99       .33   1893.60
   33800.0   11465.1   10802.2   11532.7    1163.6     689.3    1158.4     131.2      22.4   1894.00
```

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      .04      9.85     15.67      9.96      .055      .050      .055      .000   1893.50   9725.00
   .015326      600.      560.      500.         2        19         0       .00    575.97  10300.97


*SECNO 30.650

3470 ENCROACHMENT STATIONS=     9600.0   10027.5  TYPE=      1  TARGET=      427.520
                GR records deleted from
                  Sta 10070.7 to 10304.3
                  to restrict flow to effective area without X3 records.
                  This restriction needed since 100yr floodplain does not enter
                  right side channel that begins between RM 30.85 and 30.96
   30.650     13.37   1910.57   1909.46   1909.79   1912.61      2.04      7.67       .02   1898.60
  33800.0   20017.1   13484.2     298.7    2242.7     929.9      52.1     180.5      30.3   1898.20
      .06      8.93     14.50      5.74      .055      .050      .055      .000   1897.20   9600.00
   .008432      700.      696.      650.         3        11         0       .00    427.52  10027.52


*SECNO 30.750
1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     9705.0   10162.1  TYPE=      1  TARGET=      457.090
                GR records deleted from
                  Sta 10241.8 to 10436.9
                  to restrict flow to effective area without X3 records.
                  This restriction needed since 100yr floodplain does not enter
                  right side channel that begins between RM 30.85 and 30.96
   30.750     13.47   1914.47   1911.81   1913.90   1915.78      1.31      3.09       .07   1904.10
  33800.0   10857.5   10794.4   12148.0    1613.8     993.4    1285.3     219.2      35.1   1903.80
      .08      6.73     10.87      9.45      .055      .050      .055      .000   1901.00   9705.00
   .005197      475.      486.      450.         3        15         0       .00    457.09  10162.09


*SECNO 30.850

3470 ENCROACHMENT STATIONS=     9912.4   10461.2  TYPE=      1  TARGET=      548.840
   30.850     12.78   1918.08   1916.75   1917.16   1919.62      1.55      3.77       .07   1908.20
  33800.0        .0   12121.7   21678.3        .0    1013.8    2494.8     266.8      41.6   1907.90
      .09       .00     11.96      8.69      .000      .050      .055      .000   1905.30   9912.40
   .008990      525.      569.      570.         2        12         0       .00    548.84  10461.24


*SECNO 30.960

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     9963.2   10706.1  TYPE=      1  TARGET=      742.989
                Q100 from HEC-1 Operation C400R
   30.960     10.84   1922.84   1921.27   1922.04   1923.79       .94      4.10       .06   1913.90
  31400.0     564.6    7792.4   23042.9      94.3     738.6    3465.8     317.3      50.0   1913.30
      .11      5.99     10.55      6.65      .055      .050      .055      .000   1912.00   9963.15
   .005979      550.      541.      570.         2        14         0       .00    742.99  10706.14


*SECNO 31.050

3470 ENCROACHMENT STATIONS=     9934.2   10807.3  TYPE=      1  TARGET=      873.149
```

31.050	9.33	1926.23	1925.45	1925.38	1927.29	1.06	3.47	.04	1918.30
31400.0	.0	6351.8	25048.2	.0	565.1	3419.3	361.5	58.6	1917.80
.13	.00	11.24	7.33	.000	.050	.055	.000	1916.90	9934.20
.009471	470.	494.	460.	2	14	0	.00	873.15	10807.35

1

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

*SECNO 31.140

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 9850.0 10606.1 TYPE= 1 TARGET= 756.140

31.140	11.98	1929.78	1929.78	1929.48	1931.74	1.96	4.14	.27	1920.20
31400.0	4027.7	10445.8	16926.5	443.2	659.0	2192.4	393.2	65.5	1920.50
.14	9.09	15.85	7.72	.055	.050	.055	.000	1917.80	9850.00
.011909	500.	467.	350.	0	11	0	.00	756.14	10606.14

*SECNO 31.170

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 9780.0 10462.5 TYPE= 1 TARGET= 682.510
Cross Section 31.17 located just south of New River Rd.

31.170	11.04	1931.84	1930.74	1931.33	1933.13	1.29	1.33	.07	1923.20
31400.0	9353.2	9835.9	12210.8	1055.5	846.2	1830.3	404.2	67.7	1923.10
.14	8.86	11.62	6.67	.055	.050	.055	.000	1920.80	9780.00
.007678	130.	162.	130.	3	12	0	.00	682.51	10462.51

*SECNO 31.250

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 9790.5 10387.4 TYPE= 1 TARGET= 596.910
Cross Section 31.25 located just north of New River Rd.

31.250	10.12	1935.52	1935.00	1934.91	1937.34	1.82	4.05	.16	1931.10
31400.0	6992.8	13480.6	10926.5	619.9	1074.0	1398.0	436.2	73.6	1931.40
.15	11.28	12.55	7.82	.055	.050	.055	.000	1925.40	9790.47
.013059	400.	432.	400.	2	15	0	.00	596.91	10387.38

*SECNO 31.340

1

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

3301 HV CHANGED MORE THAN HVINS

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3470 ENCROACHMENT STATIONS=     9949.9   10498.1  TYPE=      1  TARGET=      548.220
                End of Reach    50
                Start of Reach  51
                Cross Section   31.34    is Check Section Number   2
                Cross Section   31.34    GR data by ALS
   31.340      9.26   1940.76   1939.10   1940.00   1942.04      1.28      4.64       .05   1933.30
  31400.0        .0    6108.4   25291.6        .0     647.4    2809.8     470.5       79.6   1933.20
      .17       .00       9.44      9.00      .000      .055      .050      .000    1931.50   9949.90
  .008117      450.      474.      450.         2        19         0       .00     548.22  10498.12


*SECNO 31.450

3470 ENCROACHMENT STATIONS=     9881.8   10425.0  TYPE=      1  TARGET=      543.160
   31.450      12.49   1945.59   1944.02   1944.77   1946.93      1.34      4.87       .02   1938.30
  31400.0     3927.2    8795.6   18677.2     408.5     806.3    2245.3     519.2       87.3   1933.80
      .19       9.61      10.91      8.32      .055      .055      .050      .000    1933.10   9881.84
  .007820      590.      592.      620.         3        11         0       .00     543.16  10425.00


*SECNO 31.540

3470 ENCROACHMENT STATIONS=     9928.9   10490.0  TYPE=      1  TARGET=      561.100
   31.540       9.25   1949.35   1947.72   1948.32   1950.60      1.25      3.66       .01   1940.20
  31400.0        .0   12417.2   18982.8        .0    1287.7    2231.7     557.4       93.4   1940.70
      .20       .00       9.64      8.51      .000      .055      .050      .000    1940.10   9928.90
  .007495      475.      484.      475.         2        11         0       .00     561.10  10490.00


*SECNO 31.630

3470 ENCROACHMENT STATIONS=     9807.0   10385.0  TYPE=      1  TARGET=      578.000
   31.630      12.09   1952.59   1951.36   1952.33   1954.00      1.41      3.36       .05   1942.50
  31400.0     5913.1    9116.5   16370.3     837.1     747.2    1917.8     592.8       99.1   1941.70
      .21       7.06      12.20      8.54      .055      .055      .050      .000    1940.50   9807.00
  .007772      450.      453.      430.         2        11         0       .00     578.00  10385.00


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


*SECNO 31.750

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     9721.8   10070.7  TYPE=      1  TARGET=      348.910
   31.750      11.96   1958.46   1957.64   1958.04   1960.97      2.51      6.64       .33   1950.80
  31400.0    16746.4   11689.3    2964.3    1427.5     803.8     291.6     638.5      106.1   1951.40
      .23       11.73      14.54      10.17      .055      .055      .050      .000    1946.50   9721.77
  .013527      680.      647.      650.         2        15         0       .00     348.91  10070.68


*SECNO 31.820

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=     9697.8   10037.6  TYPE=      1  TARGET=      339.850
                For this floodplain analysis, the existing berm for
                the private pond is assumed to be in-place.
                The berm is modeled, but is ignored when plotting floodplain.
                It is assumed that the berm will be removed by the 100-yr flood
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                between RM 31.87 & RM 31.91, but leave part of the berm at
                cross sections 31.82 and 31.87.  Therefore, the divided flow
                message in the output is acceptable.
   31.820     10.46   1963.16   1962.30   1962.36   1965.81      2.65      4.80       .04   1953.40
  31400.0    7984.7   19765.5    3649.8     842.0    1381.1     284.5     659.4     108.9   1952.70
      .24       9.48     14.31     12.83      .055      .055      .050      .000   1952.70   9697.75
  .013045     360.      361.      370.         2        15         0       .00    327.53  10037.60

*SECNO 31.870

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     9701.0   10053.9  TYPE=       1  TARGET=      352.880
                For this floodplain analysis, the existing berm for
                the private pond is assumed to be in-place.
                The berm is modeled, but is ignored when plotting floodplain.
1
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                It is assumed that the berm will be removed by the 100-yr flood
                between RM 31.87 & RM 31.91, but leave part of the berm at
                cross sections 31.82 and 31.87.  Therefore, the divided flow
                message in the output is acceptable.
   31.870     12.76   1966.36   1964.04   1965.46   1968.18      1.81      2.28       .08   1953.70
  31400.0   17658.1   11029.4    2712.5    1805.9     868.4     314.2     674.1     110.7   1953.90
      .24       9.78     12.70      8.63      .055      .055      .050      .000   1953.60   9701.03
  .007476     220.      243.      260.         0         5         0       .00    334.45  10053.91

*SECNO 31.910

3470 ENCROACHMENT STATIONS=     9728.8   10052.7  TYPE=       1  TARGET=      323.870
                End of Reach    51
                Start of Reach  52
   31.910     14.43   1967.73   1965.80   1966.97   1969.91      2.18      1.62       .11   1954.50
  31400.0   16261.7   13026.6    2111.7    2126.9     814.5     269.1     690.4     112.4   1953.50
      .25       7.65     15.99      7.85      .070      .045      .070      .000   1953.30   9728.84
  .006926     240.      208.      210.         2         8         0       .00    323.87  10052.71

*SECNO 31.980

3470 ENCROACHMENT STATIONS=     9714.7   10067.7  TYPE=       1  TARGET=      353.030
                Q100 interpolated between HEC-1 operations C390 and C400R
   31.980     13.90   1970.40   1969.31   1969.71   1973.04      2.64      2.99       .14   1956.50
  31300.0   11969.1   13411.8    5919.0    1676.4     763.2     606.9     718.5     115.5   1957.70
      .26       7.14     17.57      9.75      .070      .045      .070      .000   1956.50   9714.66
  .008604     400.      380.      380.         2        15         0       .00    353.03  10067.69

*SECNO 32.070

3470 ENCROACHMENT STATIONS=     9660.0   10052.7  TYPE=       1  TARGET=      392.730
   32.070     14.85   1974.65   1974.16   1974.04   1977.57      2.92      4.45       .09   1962.30
  31300.0   13189.7   15366.4    2743.9    1918.7     850.1     291.2     754.9     120.0   1961.00
      .27       6.87     18.08      9.42      .070      .045      .070      .000   1959.80   9660.00
  .008783     535.      496.      495.         2         8         0       .00    392.73  10052.73

*SECNO 32.150

3301 HV CHANGED MORE THAN HVINS
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3470 ENCROACHMENT STATIONS=     9490.0   10026.8  TYPE=      1  TARGET=      536.790
    32.150     15.48   1979.18   1977.45   1978.26   1980.57      1.39      2.85       .15   1963.70
  31300.0   21036.0    9396.7     867.3    3453.5     644.6     165.3     791.4     124.6   1965.80
     .28      6.09     14.58      5.25      .070      .045      .070      .000   1963.70   9490.00
  .005194     440.      415.      420.         3        10         0       .00    536.79  10026.79


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

*SECNO 32.240

3301 HV CHANGED MORE THAN HVINS

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .60

3470 ENCROACHMENT STATIONS=     9655.0   10025.7  TYPE=      1  TARGET=      370.710
                The ditch next to the existing dirt road
                  near Sta. 10132 is not part of the 100 year floodplain,
                  but the flow here is small in comparison to Q100,
                  thus no X3-type of restriction is needed here.
    32.240     13.24   1981.64   1981.61   1981.14   1984.87      3.24      3.75       .55   1969.50
  31300.0   16457.1   14842.9        .0    1824.6     794.3        .0     827.9     129.4   1968.40
     .29      9.02     18.69       .00      .070      .045      .000      .000   1968.40   9655.00
  .014236     460.      470.      470.         3        15         0       .00    370.70  10025.70

*SECNO 32.330

3301 HV CHANGED MORE THAN HVINS

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.64

3470 ENCROACHMENT STATIONS=     9762.3   10133.8  TYPE=      1  TARGET=      371.490
                Cross Section   32.33    is Check Section Number   3
                Cross Section   32.33    GR data by ALS
    32.330     14.28   1986.78   1984.76   1985.84   1988.83      2.05      3.84       .12   1974.80
  31300.0    6372.5   19982.2    4945.4    1204.4    1462.0     727.6     860.4     133.5   1974.10
     .30      5.29     13.67      6.80      .070      .045      .070      .000   1972.50   9762.30
  .005271     470.      471.      480.         2        11         0       .00    371.49  10133.79

*SECNO 32.440

3470 ENCROACHMENT STATIONS=     9702.5   10201.4  TYPE=      1  TARGET=      498.930
    32.440     13.23   1990.73   1989.19   1990.04   1992.39      1.66      3.52       .04   1977.50
  31300.0    9040.7    9182.9   13076.4    1549.9     591.4    1650.9     907.9     139.2   1978.20
     .32      5.83     15.53      7.92      .070      .045      .070      .000   1977.50   9702.48
  .007173     580.      576.      570.         3        15         0       .00    498.93  10201.41


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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST
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*SECNO 32.490

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 9686.0 10177.6 TYPE= 1 TARGET= 491.600
Structure in floodplain modeled as divided flow.
See TDN for details.
X4 records added for structure.
Cross section realigned, Go John Canyon ineffective flow area.
Revised GR records to right of Sta. 10253.9
taken from digital map.

32.490	11.49	1991.99	1991.55	1991.41	1994.79	2.79	2.06	.34	1980.90
31300.0	4431.5	15750.5	11118.0	764.5	921.0	1251.2	926.2	141.7	1980.80
.33	5.80	17.10	8.89	.070	.045	.070	.000	1980.50	9685.98
.010726	250.	247.	220.	2	15	0	.00	418.56	10177.58

*SECNO 32.520

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 9667.3 10227.3 TYPE= 1 TARGET= 559.990
Q100 from HEC-1 Operation C390

32.520	12.39	1994.49	1993.32	1993.46	1996.29	1.80	1.41	.10	1982.40
31200.0	6206.8	19622.1	5371.1	1238.4	1507.8	1045.5	940.2	143.8	1983.70
.33	5.01	13.01	5.14	.070	.045	.070	.000	1982.10	9667.33
.005770	190.	187.	170.	4	8	0	.00	559.99	10227.32

*SECNO 32.620

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 9780.4 10078.8 TYPE= 1 TARGET= 298.360

32.620	12.28	1997.78	1997.78	1997.74	2001.78	4.00	4.08	.66	1986.80
31200.0	7446.3	22230.2	1523.5	968.4	1211.2	172.8	976.7	148.9	1986.70
.34	7.69	18.35	8.82	.070	.045	.070	.000	1985.50	9780.39
.011453	500.	516.	550.	0	5	0	.00	298.36	10078.75

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

*SECNO 32.700
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 9713.9 10016.0 TYPE= 1 TARGET= 302.069
GR records deleted from
Sta 9277.2 to 9592.8
to restrict flow to effective area without X3 records.
Restriction added at Sta. 9592.8 since
100 year floodplain does not enter this area
upstream of this cross section.

32.700	15.90	2002.40	2002.40	2002.22	2006.57	4.17	4.55	.05	1987.80
31200.0	9374.8	19838.4	1986.8	1274.0	1009.2	200.0	1001.2	151.9	1986.50
.35	7.36	19.66	9.93	.070	.045	.070	.000	1986.50	9713.90
.009432	450.	435.	430.	0	11	0	.00	302.07	10015.97

*SECNO 32.800

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 9808.8 10119.0 TYPE= 1 TARGET= 310.150
End of Reach 52
Start of Reach 53

32.800	16.76	2008.96	2005.04	2007.92	2010.51	1.55	3.68	.26	1994.50
31200.0	5911.1	13895.3	11393.6	1034.1	1129.3	1340.3	1038.3	155.7	1992.30
.36	5.72	12.30	8.50	.070	.055	.070	.000	1992.20	9808.83
.005169	540.	539.	540.	2	15	0	.00	310.15	10118.98

*SECNO 32.900

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .70

3470 ENCROACHMENT STATIONS= 9730.8 10044.5 TYPE= 1 TARGET= 313.760
Cross Section 32.90 had error in original stationing from AMC.
80.8' added to original stationing to properly locate
cross section points with respect to the thalweg.
Q100 from HEC-1 Operation C310

32.900	17.19	2012.49	2010.82	2011.79	2014.51	2.03	3.86	.14	2003.30
30900.0	17351.4	13548.6	.0	2011.2	952.1	.0	1079.1	159.7	2006.10
.38	8.63	14.23	.00	.070	.055	.000	.000	1995.30	9730.75
.010395	580.	523.	520.	2	10	0	.00	313.75	10044.50

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

*SECNO 32.990

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 9795.9 10179.9 TYPE= 1 TARGET= 384.000

32.990	11.52	2017.02	2013.97	2016.19	2018.35	1.33	3.76	.07	2006.50
30900.0	7533.1	12672.1	10694.8	1088.5	1132.1	1323.5	1111.6	163.2	2006.90
.39	6.92	11.19	8.08	.070	.055	.070	.000	2005.50	9795.91
.007174	400.	460.	480.	2	8	0	.00	384.00	10179.91

*SECNO 33.080

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 9748.9 10110.3 TYPE= 1 TARGET= 361.399
Cross Section 33.08 located at golf cart bridge.
Bridge is only about 1 foot above the channel bottom;
thus a bridge routine is not meritted. GR records
are based upon the top deck of the bridge.

33.080	9.09	2020.99	2019.34	2020.24	2022.96	1.97	4.42	.19	2011.90
30900.0	12503.5	15373.3	3023.2	1388.9	1166.9	338.6	1146.3	167.2	2012.10

```
      .40      9.00     13.17      8.93      .070      .055      .070      .000   2011.90   9748.86
   .012914      480.      472.      450.         2        14         0       .00    361.40  10110.26


*SECNO 33.170

3470 ENCROACHMENT STATIONS=     9801.2   10110.1  TYPE=       1  TARGET=     308.880
    33.170     14.63   2025.93   2023.20   2025.09   2028.21      2.29      5.15       .09   2011.50
   30900.0    8962.4   12329.7    9608.0    1097.1     804.3     916.3    1177.8     170.9   2011.30
      .41      8.17     15.33     10.49      .070      .055      .070      .000   2011.30   9801.23
   .009064      490.      475.      475.         2        11         0       .00    308.88  10110.11


*SECNO 33.260

3470 ENCROACHMENT STATIONS=     9865.8   10162.3  TYPE=       1  TARGET=     296.560
    33.260     13.07   2030.77   2027.83   2029.93   2032.62      1.85      4.36       .04   2018.20
   30900.0    7137.7    9593.3   14169.0     898.4     706.3    1396.4    1210.5     174.3   2019.30
      .43      7.94     13.58     10.15      .070      .055      .070      .000   2017.70   9865.75
   .008800      480.      481.      500.         2        19         0       .00    296.56  10162.31


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


*SECNO 33.360

3470 ENCROACHMENT STATIONS=     9929.4   10204.2  TYPE=       1  TARGET=     274.780
               Q100 from HEC-1 Operation C260
               Cross Section    33.36   located just south of Ocotillo Rd.
    33.360     14.63   2035.13   2031.82   2034.83   2036.63      1.50      3.98       .03   2022.70
   24700.0     531.5   12560.7   11607.7     110.2    1052.3    1632.5    1247.0     177.9   2022.40
      .44      4.82     11.94      7.11      .070      .055      .070      .000   2020.50   9929.39
   .005813      550.      550.      550.         2        15         0       .00    274.78  10204.17


*SECNO 33.460

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     9892.5   10173.0  TYPE=       1  TARGET=     280.510
               Cross Section    33.46   located just north of Ocotillo Rd.
    33.460     14.10   2038.20   2036.74   2038.12   2040.56      2.36      3.67       .26   2027.40
   24700.0    2505.6   15667.1    6527.3     336.6    1090.4     857.9    1276.3     181.1   2027.00
      .45      7.44     14.37      7.61      .070      .055      .070      .000   2024.10   9892.51
   .009460      500.      503.      500.         2        15         0       .00    280.51  10173.02


*SECNO 33.560

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     9961.2   10148.9  TYPE=       1  TARGET=     187.699
               Q100 interpolated between HEC-1 operations C250 and C260
    33.560     17.53   2042.43   2041.54   2042.13   2046.14      3.71      5.18       .41   2027.50
   24400.0      60.0   15127.8    9212.3      21.8     830.2     984.5    1300.4     183.8   2025.60
      .46      2.75     18.22      9.36      .070      .055      .070      .000   2024.90   9961.19
   .010900      520.      510.      510.         2         8         0       .00    187.70  10148.89


*SECNO 33.670
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3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

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

3470 ENCROACHMENT STATIONS= 9974.1 10087.3 TYPE= 1 TARGET= 113.180
Q100 from HEC-1 Operation C250
Cross Section 33.67 located just north of Desert Hills Dr.

33.670	13.47	2049.17	2049.17	2049.04	2055.07	5.89	8.27	.66	2038.10
24000.0	141.4	21175.3	2683.3	28.3	1039.9	242.8	1321.5	185.8	2037.60
.47	5.00	20.36	11.05	.070	.055	.070	.000	2035.70	9974.09
.019238	600.	585.	580.	0	15	0	.00	113.18	10087.27

*SECNO 33.770

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.38

3470 ENCROACHMENT STATIONS= 9849.5 10049.6 TYPE= 1 TARGET= 200.110

33.770	18.76	2058.06	2051.33	2057.11	2059.23	1.17	3.69	.47	2043.40
24000.0	12151.5	11534.2	314.2	1730.1	1128.2	89.3	1348.0	187.8	2043.30
.49	7.02	10.22	3.52	.070	.055	.070	.000	2039.30	9849.50
.003404	530.	552.	550.	3	15	0	.00	200.11	10049.61

*SECNO 33.890

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .61

3470 ENCROACHMENT STATIONS= 9902.0 10140.5 TYPE= 1 TARGET= 238.450
Q100 from HEC-1 Operation C240

33.890	13.08	2060.58	2058.37	2060.10	2062.59	2.02	3.11	.25	2049.00
23400.0	618.0	15375.3	7406.7	101.5	1187.2	964.5	1384.2	190.8	2047.50
.51	6.09	12.95	7.68	.070	.055	.070	.000	2047.50	9902.01
.008774	620.	606.	580.	3	11	0	.00	238.45	10140.46

*SECNO 33.980
1

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

3265 DIVIDED FLOW

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3470 ENCROACHMENT STATIONS=     9965.6   10423.0  TYPE=      1  TARGET=      457.410
    33.980     13.94   2064.84   2062.89   2064.55   2066.37      1.53      3.73       .05   2054.00
  23400.0     628.6   14047.4    8724.0     115.4    1175.9    1517.7    1411.1     194.4   2052.90
      .52      5.45     11.95      5.75      .070      .055      .070      .000   2050.90   9965.57
  .007156      490.      494.      430.         3        11         0       .00    454.45  10422.98


*SECNO 34.080

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     9961.6   10324.4  TYPE=      1  TARGET=      362.820
    34.080     11.35   2069.35   2068.98   2068.62   2071.79      2.45      5.15       .27   2058.30
  23400.0      50.0   13520.4    9829.6      16.4     884.9    1339.6    1442.5     199.5   2058.90
      .53      3.06     15.28      7.34      .070      .055      .070      .000   2058.00   9961.59
  .013195      540.      544.      540.         2        15         0       .00    362.82  10324.41


CCHV=     .100 CEHV=     .300
*SECNO 34.190

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     9968.9   10298.2  TYPE=      1  TARGET=      329.260
               End of Reach   53
               Start of Reach 54

               Cross Section  34.19    is Check Section Number   5
               Cross Section  34.19    GR data by ALS
    34.190     19.45   2075.95   2074.46   2075.44   2077.85      1.90      6.00       .05   2063.90
  23400.0     471.2    9801.6   13127.2      81.7     650.0    1919.1    1474.5     204.0   2063.80
      .55      5.76     15.08      6.84      .065      .055      .075      .000   2056.50   9968.92
  .008572      570.      572.      570.         2        14         0       .00    329.26  10298.18


CHV=     .300 CEHV=     .500
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

*SECNO 34.270

3301 HV CHANGED MORE THAN HVINS


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


3470 ENCROACHMENT STATIONS=     9904.2   10062.8  TYPE=      1  TARGET=      158.600
               Straight line transition.  Contraction/Expansion coefficients
                 per Table IV-4-1 of Hydraulic Engineering Circular No. 14.
    34.270     14.59   2080.49   2078.82   2079.76   2083.60      3.12      5.14       .61   2076.90
  23400.0        .0    7919.3   15480.7        .0     485.1    1196.9    1495.7     206.4   2069.80
      .56       .00     16.32     12.93      .000      .055      .075      .000   2065.90   9904.20
  .018465      410.      415.      430.         1        14         0       .00    158.60  10062.80


CCHV=     .100 CEHV=     .300
*SECNO 34.360

3301 HV CHANGED MORE THAN HVINS
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 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.00


 3470 ENCROACHMENT STATIONS=     9588.7   10029.6  TYPE=      1  TARGET=      440.890
                Contraction and Expansion Coefficients revised to normal values.
    34.360     17.11   2086.81   2084.23   2085.78   2087.75       .95      3.93       .22   2078.40
   23400.0   13118.1    9409.2     872.7    2403.3     911.0     149.3    1524.1     209.7   2072.60
       .57      5.46     10.33      5.84      .065      .055      .075      .000   2069.70   9588.67
   .004637      490.      484.      460.         2         5         0       .00    440.89  10029.56


*SECNO 34.450

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .51


3470 ENCROACHMENT STATIONS=     9720.6   10139.9  TYPE=      1  TARGET=      419.250
1
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                End of Reach    54
                Start of Reach  55
    34.450      9.69   2089.89   2088.97   2089.30   2091.65      1.75      3.65       .24   2082.90
   23400.0    9924.1    2535.1   10940.8    1257.3     220.7     881.4    1554.0     214.1   2082.90
       .59      7.89     11.49     12.41      .075      .070      .060      .000   2080.20   9720.63
   .017667      440.      461.      460.         3         8         0       .00    419.25  10139.88


*SECNO 34.540

3301 HV CHANGED MORE THAN HVINS


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


3470 ENCROACHMENT STATIONS=     9758.7   10201.9  TYPE=      1  TARGET=      443.170
    34.540     12.62   2096.72   2094.09   2095.76   2097.62       .90      5.89       .08   2084.10
   23400.0   10457.5    3158.0    9784.5    1615.5     339.9    1200.8    1585.8     219.1   2088.10
       .60      6.47      9.29      8.15      .075      .070      .060      .000   2084.10   9758.69
   .008440      520.      494.      480.         3         8         0       .00    443.17  10201.86


*SECNO 34.630

3470 ENCROACHMENT STATIONS=     9775.8   10116.8  TYPE=      1  TARGET=      340.940
    34.630     11.68   2100.98   2098.23   2100.23   2102.15      1.17      4.44       .08   2093.80
   23400.0   12238.7    3724.9    7436.5    1573.4     385.3     781.8    1618.3     223.4   2092.30
       .62      7.78      9.67      9.51      .075      .070      .060      .000   2089.30   9775.85
   .010185      480.      483.      480.         3        19         0       .00    340.94  10116.79


*SECNO 34.730

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     9777.0   10047.6  TYPE=      1  TARGET=      270.580
                End of Reach    55
                Start of Reach  56
                Cross Section    34.73   located at Rockaway Hills Dr.
    34.730     11.23   2106.53   2106.37   2105.88   2109.53      3.00      6.83       .55   2097.50
   23400.0    8041.6   15358.4        .0     881.3     969.9        .1    1645.2     227.0   2096.90
       .63      9.12     15.83       .03      .065      .060      .065      .000   2095.30   9777.03
   .018448      520.      510.      480.         2        11         0       .00    270.58  10047.61


                                        100-Year HEC-2

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*SECNO 34.830

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

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.79

3470 ENCROACHMENT STATIONS= 9679.3 10078.2 TYPE= 1 TARGET= 398.960

34.830	13.35	2113.55	2110.98	2112.54	2114.56	1.01	4.84	.20	2102.80
23400.0	11422.6	9187.8	2789.6	1876.6	891.1	422.3	1674.7	231.0	2101.10
.65	6.09	10.31	6.61	.065	.060	.065	.000	2100.20	9679.25
.005771	510.	509.	510.	2	11	0	.00	398.96	10078.21

*SECNO 34.880

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .59

3470 ENCROACHMENT STATIONS= 9780.5 10081.7 TYPE= 1 TARGET= 301.250

34.880	11.90	2114.70	2114.19	2114.27	2117.45	2.75	2.36	.52	2105.40
23400.0	7313.4	13238.8	2847.8	807.8	846.6	275.7	1689.8	232.9	2105.80
.65	9.05	15.64	10.33	.065	.060	.065	.000	2102.80	9780.45
.016677	250.	262.	270.	3	15	0	.00	267.46	10081.70

*SECNO 34.920

3301 HV CHANGED MORE THAN HVINS

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

3470 ENCROACHMENT STATIONS= 9717.2 10069.6 TYPE= 1 TARGET= 352.380

34.920	10.69	2118.59	2116.33	2117.56	2119.86	1.27	2.26	.15	2109.40
23400.0	8727.9	13939.0	733.1	1285.9	1356.1	110.9	1700.7	234.3	2109.00
.66	6.79	10.28	6.61	.065	.060	.065	.000	2107.90	9717.21
.007894	200.	207.	200.	3	19	0	.00	352.38	10069.59

1

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

*SECNO 35.010

```
3470 ENCROACHMENT STATIONS=     9731.2   10098.3  TYPE=      1  TARGET=      367.109
                Q100 from HEC-1 Operation C230
    35.010     12.83   2122.73   2121.50   2121.93   2124.36      1.63      4.39       .11   2118.40
  23200.0    7972.4   15227.6        .0    1177.0    1306.0        .0    1729.6     238.3   2115.80
      .67      6.77     11.66       .00       .065      .060      .000      .000   2109.90   9731.20
   .010729      480.      481.      480.         3         8         0       .00    367.10  10098.30


*SECNO 35.090

3470 ENCROACHMENT STATIONS=     9765.5   10124.8  TYPE=      1  TARGET=      359.290
    35.090     12.89   2127.29   2125.64   2126.44   2128.90      1.61      4.54       .00   2115.00
  23200.0    4316.0   16193.3    2690.7     631.1    1415.4     474.7    1756.5     242.2   2114.50
      .69      6.84     11.44      5.67       .065      .060      .065      .000   2114.40   9765.51
   .008802      470.      467.      470.         2        15         0       .00    359.29  10124.80


*SECNO 35.150

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=     9831.6   10242.7  TYPE=      1  TARGET=      411.090
                Structure in floodplain modeled as divided flow.
                  See TDN for details.
    35.150     12.61   2129.91   2128.77   2129.14   2131.84      1.93      2.84       .10   2122.30
  23200.0    4885.8   13483.0    4831.2     537.6    1044.9     691.7    1771.6     244.4   2118.30
      .69      9.09     12.90      6.98       .065      .060      .065      .000   2117.30   9831.63
   .012060      280.      281.      260.         2        15         0       .00    332.33  10242.72


*SECNO 35.180

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=     9832.1   10325.3  TYPE=      1  TARGET=      493.220
                Cross Section    35.18   located just south of Cahava Ranch Rd.
1
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

    35.180     12.77   2132.37   2130.53   2131.53   2133.72      1.35      1.83       .06   2122.40
  23200.0    3217.6   14585.9    5396.5     406.5    1367.7     993.2    1782.6     246.1   2120.00
      .70      7.91     10.66      5.43       .065      .060      .065      .000   2119.60   9832.09
   .007899      190.      189.      190.         2        15         0       .00    445.43  10325.31


*SECNO 35.240

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     9901.7   10494.4  TYPE=      1  TARGET=      592.710
                Cross Section    35.24   located just north of Cahava Ranch Rd.
```

Structure in floodplain modeled as divided flow.
See TDN for details.

35.240	12.81	2136.21	2136.21	2136.24	2138.79	2.58	3.17	.37	2125.10
23200.0	340.7	17373.3	5485.9	54.5	1209.0	802.9	1800.3	249.7	2123.50
.71	6.26	14.37	6.83	.065	.060	.065	.000	2123.40	9901.70
.013198	310.	311.	330.	0	5	0	.00	519.12	10494.38

*SECNO 35.280

3470 ENCROACHMENT STATIONS= 9919.3 10535.8 TYPE= 1 TARGET= 616.489

35.280	15.03	2138.73	2138.29	2138.43	2140.84	2.10	1.99	.05	2126.60
23200.0	397.3	15529.7	7273.0	69.2	1140.4	1237.4	1809.6	252.0	2124.30
.71	5.74	13.62	5.88	.065	.060	.065	.000	2123.70	9919.28
.009360	180.	181.	180.	2	8	0	.00	616.49	10535.77

*SECNO 35.370

3301 HV CHANGED MORE THAN HVINS

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

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

3470 ENCROACHMENT STATIONS= 9971.8 10413.9 TYPE= 1 TARGET= 442.120

35.370	16.74	2142.94	2139.94	2142.82	2143.86	.91	2.90	.12	2126.20
23200.0	465.4	13761.6	8973.0	106.6	1511.4	1832.5	1842.3	257.9	2130.80
.73	4.36	9.11	4.90	.065	.060	.065	.000	2126.20	9971.76
.004177	485.	485.	480.	3	15	0	.00	442.12	10413.88

*SECNO 35.470

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 9744.4 10148.8 TYPE= 1 TARGET= 404.410
Cross Section 35.47 located at Morningstar Rd.

35.470	10.77	2146.27	2146.27	2145.69	2148.71	2.45	3.93	.46	2138.10
23200.0	5605.1	12632.2	4962.8	770.3	827.1	544.6	1875.4	262.8	2137.40
.74	7.28	15.27	9.11	.065	.060	.065	.000	2135.50	9744.43
.017391	500.	540.	500.	0	14	0	.00	404.41	10148.84

*SECNO 35.540

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 9655.4 10015.7 TYPE= 1 TARGET= 360.270
Cross Section 35.54 is Check Section Number 6
Cross Section 35.54 approx. equal to FEMA Cross Section EA
Cross Section 35.54 located north of Morningstar Rd.
Cross Section 35.54 GR data by ALS
Cross Section 35.54 GR data removed
from 9168.5 to 9389.8
and

from 10264.0 to 10464.5
because the number of original GR data
points exceeded HEC-2 limits.

35.540	14.24	2152.34	2150.44	2151.32	2153.67	1.33	4.85	.11	2139.60
23200.0	15359.2	7840.8	.0	1967.1	675.8	.0	1897.2	266.3	2139.50
.75	7.81	11.60	.00	.065	.060	.000	.000	2138.10	9655.44
.009128	400.	388.	400.	2	11	0	.00	360.26	10015.70

1

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

CCHV= .100 CEHV= .300
*SECNO 35590.000

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 9596.8 10031.4 TYPE= 1 TARGET= 434.610
End of Reach 56 and
Start of CH2MHILL n values from previous FIS

The final portion of this HEC-2 analysis was obtained
from a previous study performed by CH2M Hill for the
FCDMC in 1990. This portion is included to help
delineate the floodplain at the junction of the
studies. The pertinent data is exactly as presented
in the previous study (n-values and cross section data).
Previously determined 100 year storm
frequency Q values are used. Any other modifications
necessary to incorporate this data into this HEC-2 model
are noted in comment records.

River Mile stationing between this study and the CH2MHILL
study are approximately the same. There is a minor difference
in thalweg location, which is accounted for.

Cross section numbers have not been changed from previous
study. Previous study cross section numbers are based on
previously calculated river miles but do not use decimals.

Previous study Q values used:

Previous Q100 = 28,338 cfs

Cross Section 35590 X1 record has been changed.
Thalweg, left bank, and right bank distances have
been altered to reflect approximate distances to new
study cross section 35.54.

All elevations have been adjusted
by + 0.47 feet to raise CH2M HILL GR records to current datum.
This difference in datum is documented in the
survey notes prepared by Alcocer Land Surveyors, Level Book
page 6, which is at RM 127 (appearing on FIRM panel 815)

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as follows:

Elevation 1924.07 reported by ALS = Elevation 1923.60 reported

on FIRM Panel 815. The difference is 0.47 feet, thus by adding
+ 0.47 feet to CH2M HILL values, you will obtain current
elevation values.

Floodway stations taken from CH2MHILL study, from HEC-2
input file named "CC.MCE" dated 9-18-90, obtained from FCDMC
This new Floodplain Delineation Study ties into the previous
study at Cross section 35770 same as River Mile 35.770
Cross sections upstream of this point are for comparison.

35590.000	15.68	2155.25	2154.42	2154.66	2157.39	2.15	3.48	.24	2146.87
28338.0	10587.9	17750.1	.0	1708.6	1262.6	.0	1925.6	270.3	2147.67
.76	6.20	14.06	.00	.060	.045	.000	.000	2139.57	9596.80
.006951	430.	460.	440.	3	8	0	.00	434.60	10031.40

*SECNO 35690.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9755.3 10208.3 TYPE= 1 TARGET= 452.970

35690.000	12.68	2158.85	2157.65	2158.69	2161.30	2.45	3.81	.09	2159.77
28338.0	529.7	17900.8	9907.4	140.3	1234.3	1178.3	1956.9	274.7	2149.27
.78	3.77	14.50	8.41	.060	.045	.060	.000	2146.17	9755.33
.008204	460.	530.	470.	2	15	0	.00	374.38	10208.30

*SECNO 35770.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 9805.6 10190.8 TYPE= 1 TARGET= 385.229

35770.000	10.38	2163.65	2163.65	2163.31	2166.75	3.10	4.54	.20	2161.67
28319.0	1783.7	21792.8	4742.5	351.4	1396.8	589.3	1982.1	278.7	2157.17
.78	5.08	15.60	8.05	.065	.045	.065	.000	2153.27	9805.57
.012707	450.	450.	450.	0	15	0	.00	385.23	10190.80

*SECNO 35870.000

3470 ENCROACHMENT STATIONS= 9928.6 10219.8 TYPE= 1 TARGET= 291.240

35870.000	12.09	2169.66	2168.52	2168.96	2172.31	2.65	5.52	.04	2164.77
28319.0	1027.1	22024.8	5267.0	180.9	1539.6	697.1	2010.9	282.7	2162.87
.80	5.68	14.31	7.56	.065	.045	.065	.000	2157.57	9928.56
.008754	520.	530.	520.	2	8	0	.00	291.24	10219.80

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

*SECNO 35960.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 9729.7 10054.2 TYPE= 1 TARGET= 324.480

35960.000	14.64	2174.41	2174.41	2174.46	2178.23	3.82	3.51	.35	2167.27
28319.0	3610.4	24708.6	.0	791.0	1478.9	.0	2036.1	286.0	100000.00

```
      .80      4.56     16.71       .00      .065      .035      .000      .000   2159.77   9729.72
   .006330      450.      480.      450.         0        11         0       .00    324.48  10054.20


 *SECNO 36060.000

 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=     9672.9   10048.3  TYPE=       1  TARGET=      375.439
  36060.000     17.93   2178.80   2177.05   2177.80   2180.96      2.16      2.57       .17   2167.67
    28319.0    9022.5   19296.5        .0    1905.8    1385.3        .0    2072.5     290.6 100000.00
       .82      4.73     13.93       .00      .065      .035      .000      .000   2160.87   9672.86
   .003308      560.      580.      560.         3         8         0       .00    375.44  10048.30


 *SECNO 36180.000

 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=     9957.1   10144.0  TYPE=       1  TARGET=      186.900
  36180.000     12.57   2182.54   2182.54   2182.58   2187.08      4.54      4.59       .71   2174.27
    28319.0        .0   28319.0        .0        .0    1656.9        .0    2107.2     294.5 100000.00
       .83       .00     17.09       .00      .000      .060      .000      .000   2169.97   9957.10
   .028777      580.      630.      630.         0        19         0       .00    186.90  10144.00


 *SECNO 36230.000
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     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


 3301 HV CHANGED MORE THAN HVINS


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


 3470 ENCROACHMENT STATIONS=     9969.0   10226.9  TYPE=       1  TARGET=      257.900
  36230.000     14.64   2189.51   2187.67   2188.72   2191.82      2.31      4.52       .22   2182.37
    28319.0        .0   23311.9    5007.1        .0    1806.0     611.8    2119.3     295.8   2179.77
       .84       .00     12.91      8.18      .000      .060      .065      .000   2174.87   9969.00
   .011701      240.      260.      250.         2         5         0       .00    257.90  10226.90


 *SECNO 36310.000

 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=     9868.3   10042.3  TYPE=       1  TARGET=      174.020
  36310.000     15.08   2194.45   2194.45   2194.33   2199.53      5.08      5.09       .83   2184.87
    28319.0    8913.5   18124.7    1280.8     824.7     855.9     147.2    2139.2     297.8   2184.27
       .84     10.81     21.18      8.70      .065      .045      .065      .000   2179.37   9868.28
   .013200      350.      420.      430.         0         8         0       .00    174.02  10042.30


 *SECNO 36400.000
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3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 9876.4 10100.2 TYPE= 1 TARGET= 223.800

36400.000	14.42	2203.19	2199.28	2202.24	2205.00	1.81	5.14	.33	2194.47
28271.0	.0	27603.8	667.2	.0	2537.1	107.3	2164.1	300.0	2195.37
.85	.00	10.88	6.22	.000	.065	.065	.000	2188.77	9876.40
.008696	510.	480.	490.	3	19	0	.00	223.80	10100.20

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THIS RUN EXECUTED 01APR97 10:06:29

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HEC-2 WATER SURFACE PROFILES

Version 4.6.2; May 1991
****

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

Cave Creek 100Yr Ex Cond

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	30.200	.00	.00	.00	1875.20	33800.00	1885.68	1885.48	1887.25	102.98	12.60	4038.15	3330.66
	30.200	.00	.00	.00	1875.20	33800.00	1886.18	1886.04	1888.31	115.26	13.84	3323.09	3148.35
	30.280	421.00	.00	.00	1877.10	33800.00	1891.54	1891.54	1893.68	86.73	14.69	3728.31	3629.37
*	30.280	421.00	.00	.00	1877.10	33800.00	1891.89	1891.89	1894.57	95.40	15.71	3139.63	3460.52
	30.420	713.00	.00	.00	1885.80	33800.00	1897.40	1895.86	1898.22	58.58	9.28	4947.24	4416.07
	30.420	713.00	.00	.00	1885.80	33800.00	1898.45	1896.23	1899.60	61.89	10.32	4061.52	4296.47
*	30.520	560.00	.00	.00	1893.50	33800.00	1902.23	1902.23	1903.74	132.66	14.09	3866.95	2934.58
*	30.520	560.00	.00	.00	1893.50	33800.00	1902.67	1902.48	1904.92	153.26	15.67	3011.26	2730.25
	30.650	696.00	.00	.00	1897.20	33800.00	1909.79	1909.54	1911.73	98.89	15.03	3511.56	3398.97
	30.650	696.00	.00	.00	1897.20	33800.00	1910.57	1909.46	1912.61	84.32	14.50	3224.60	3680.88
*	30.750	486.00	.00	.00	1901.00	33800.00	1913.90	1911.67	1914.95	47.07	9.99	4476.81	4926.71
	30.750	486.00	.00	.00	1901.00	33800.00	1914.47	1911.81	1915.78	51.97	10.87	3892.51	4688.63
	30.850	569.00	.00	.00	1905.30	33800.00	1917.16	1916.16	1918.65	91.14	11.95	3646.11	3540.50
	30.850	569.00	.00	.00	1905.30	33800.00	1918.08	1916.75	1919.62	89.90	11.96	3508.56	3564.87
	30.960	541.00	.00	.00	1912.00	31400.00	1922.04	1920.62	1922.84	59.70	9.96	4630.34	4063.85
	30.960	541.00	.00	.00	1912.00	31400.00	1922.84	1921.27	1923.79	59.79	10.55	4298.65	4060.99
	31.050	494.00	.00	.00	1916.90	31400.00	1925.38	1924.72	1926.40	95.83	11.38	4115.06	3207.60
	31.050	494.00	.00	.00	1916.90	31400.00	1926.23	1925.45	1927.29	94.71	11.24	3984.41	3226.54
*	31.140	467.00	.00	.00	1917.80	31400.00	1929.48	1929.48	1931.03	107.80	14.80	3781.42	3024.31
*	31.140	467.00	.00	.00	1917.80	31400.00	1929.78	1929.78	1931.74	119.09	15.85	3294.67	2877.34
	31.170	162.00	.00	.00	1920.80	31400.00	1931.33	1930.49	1932.30	71.12	10.78	4339.39	3723.44
	31.170	162.00	.00	.00	1920.80	31400.00	1931.84	1930.74	1933.13	76.78	11.62	3731.97	3583.57

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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	31.250	432.00	.00	.00	1925.40	31400.00	1934.91	1934.62	1936.31	131.86	11.88	3539.46	2734.51
	31.250	432.00	.00	.00	1925.40	31400.00	1935.52	1935.00	1937.34	130.59	12.55	3091.96	2747.74
	31.340	474.00	.00	.00	1931.50	31400.00	1940.00	1938.82	1941.15	86.13	9.71	3760.44	3383.32
	31.340	474.00	.00	.00	1931.50	31400.00	1940.76	1939.10	1942.04	81.17	9.44	3457.19	3485.32
	31.450	592.00	.00	.00	1933.10	31400.00	1944.77	1943.37	1945.72	65.17	9.39	4218.65	3889.65
	31.450	592.00	.00	.00	1933.10	31400.00	1945.59	1944.02	1946.93	78.20	10.91	3460.16	3550.79
	31.540	484.00	.00	.00	1940.10	31400.00	1948.32	1947.58	1949.72	103.29	10.87	3389.63	3089.59
	31.540	484.00	.00	.00	1940.10	31400.00	1949.35	1947.72	1950.60	74.95	9.64	3519.37	3626.86
	31.630	453.00	.00	.00	1940.50	31400.00	1952.33	1951.25	1953.54	73.28	11.67	3812.36	3668.12
	31.630	453.00	.00	.00	1940.50	31400.00	1952.59	1951.36	1954.00	77.72	12.20	3502.18	3561.79
	31.750	647.00	.00	.00	1946.50	31400.00	1958.04	1957.72	1959.81	120.28	13.33	3125.25	2863.02
	31.750	647.00	.00	.00	1946.50	31400.00	1958.46	1957.64	1960.97	135.27	14.54	2522.94	2699.81
	31.820	361.00	.00	.00	1952.70	31400.00	1962.36	1962.24	1964.59	137.18	13.87	2796.86	2680.92
	31.820	361.00	.00	.00	1952.70	31400.00	1963.16	1962.30	1965.81	130.45	14.31	2507.63	2749.16
	31.870	243.00	.00	.00	1953.60	31400.00	1965.46	1964.00	1967.08	80.35	12.54	3232.40	3502.92
	31.870	243.00	.00	.00	1953.60	31400.00	1966.36	1964.04	1968.18	74.76	12.70	2988.44	3631.59
	31.910	208.00	.00	.00	1953.30	31400.00	1966.97	1965.61	1968.86	70.87	15.58	3628.48	3729.97
	31.910	208.00	.00	.00	1953.30	31400.00	1967.73	1965.80	1969.91	69.26	15.99	3210.50	3773.15
	31.980	380.00	.00	.00	1956.50	31300.00	1969.71	1968.86	1972.05	87.66	17.14	3235.03	3343.10
	31.980	380.00	.00	.00	1956.50	31300.00	1970.40	1969.31	1973.04	86.04	17.57	3046.54	3374.36
	32.070	496.00	.00	.00	1959.80	31300.00	1974.04	1973.63	1976.50	84.92	17.26	3376.06	3396.63
	32.070	496.00	.00	.00	1959.80	31300.00	1974.65	1974.16	1977.57	87.83	18.08	3060.03	3339.82
	32.150	415.00	.00	.00	1963.70	31300.00	1978.26	1977.09	1979.56	56.37	14.57	4590.14	4168.87
	32.150	415.00	.00	.00	1963.70	31300.00	1979.18	1977.45	1980.57	51.94	14.58	4263.40	4342.98
*	32.240	470.00	.00	.00	1968.40	31300.00	1981.14	1981.14	1983.96	113.09	18.38	3106.46	2943.25
*	32.240	470.00	.00	.00	1968.40	31300.00	1981.64	1981.61	1984.87	142.36	18.69	2618.96	2623.35
*	32.330	471.00	.00	.00	1972.50	31300.00	1985.84	1984.37	1987.73	57.21	13.58	3692.52	4138.24
*	32.330	471.00	.00	.00	1972.50	31300.00	1986.78	1984.76	1988.83	52.71	13.67	3394.08	4311.24
	32.440	576.00	.00	.00	1977.50	31300.00	1990.04	1988.89	1991.45	71.44	14.95	4172.48	3703.23
	32.440	576.00	.00	.00	1977.50	31300.00	1990.73	1989.19	1992.39	71.73	15.53	3792.17	3695.68
*	32.490	247.00	.00	.00	1980.50	31300.00	1991.41	1991.41	1994.03	115.47	17.12	3176.42	2912.75
	32.490	247.00	.00	.00	1980.50	31300.00	1991.99	1991.55	1994.79	107.26	17.10	2936.78	3022.21
	32.520	187.00	.00	.00	1982.10	31200.00	1993.46	1993.31	1995.86	85.18	14.88	3406.03	3380.47
	32.520	187.00	.00	.00	1982.10	31200.00	1994.49	1993.32	1996.29	57.70	13.01	3791.81	4107.47

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	32.620	516.00	.00	.00	1985.50	31200.00	1997.74	1997.35	2000.23	82.63	15.56	3270.49	3432.36
*	32.620	516.00	.00	.00	1985.50	31200.00	1997.78	1997.78	2001.78	114.53	18.35	2352.42	2915.34
*	32.700	435.00	.00	.00	1986.50	31200.00	2002.22	2002.22	2005.53	82.69	18.25	2952.83	3431.14
*	32.700	435.00	.00	.00	1986.50	31200.00	2002.40	2002.40	2006.57	94.32	19.66	2483.27	3212.55
	32.800	539.00	.00	.00	1992.20	31200.00	2007.92	2005.07	2009.48	59.75	12.65	3660.05	4036.29
	32.800	539.00	.00	.00	1992.20	31200.00	2008.96	2005.04	2010.51	51.69	12.30	3503.69	4339.54
	32.900	523.00	.00	.00	1995.30	30900.00	2011.79	2010.33	2013.61	96.05	13.93	3220.50	3152.89
*	32.900	523.00	.00	.00	1995.30	30900.00	2012.49	2010.82	2014.51	103.95	14.23	2963.30	3030.68

32.990	460.00	.00	.00	2005.50	30900.00	2016.19	2013.49	2017.31	71.97	10.63	3875.77	3642.24
32.990	460.00	.00	.00	2005.50	30900.00	2017.02	2013.97	2018.35	71.74	11.19	3544.07	3648.22
33.080	472.00	.00	.00	2011.90	30900.00	2020.24	2018.88	2021.85	126.76	12.31	3235.65	2744.51
33.080	472.00	.00	.00	2011.90	30900.00	2020.99	2019.34	2022.96	129.14	13.17	2894.44	2719.17
33.170	475.00	.00	.00	2011.30	30900.00	2025.09	2022.93	2027.12	91.71	14.82	3020.63	3226.65
33.170	475.00	.00	.00	2011.30	30900.00	2025.93	2023.20	2028.21	90.64	15.33	2817.69	3245.58
33.260	481.00	.00	.00	2017.70	30900.00	2029.93	2027.61	2031.87	102.88	14.02	2925.73	3046.46
33.260	481.00	.00	.00	2017.70	30900.00	2030.77	2027.83	2032.62	88.00	13.58	3001.10	3293.95
33.360	550.00	.00	.00	2020.50	24700.00	2034.83	2031.81	2036.35	61.74	12.12	2793.37	3143.45
33.360	550.00	.00	.00	2020.50	24700.00	2035.13	2031.82	2036.63	58.13	11.94	2795.13	3239.74
33.460	503.00	.00	.00	2024.10	24700.00	2038.12	2036.87	2040.15	86.96	13.73	2584.54	2648.78
33.460	503.00	.00	.00	2024.10	24700.00	2038.20	2036.74	2040.56	94.60	14.37	2284.93	2539.47
33.560	510.00	.00	.00	2024.90	24400.00	2042.13	2041.18	2045.22	99.70	17.22	2076.40	2443.62
33.560	510.00	.00	.00	2024.90	24400.00	2042.43	2041.54	2046.14	109.00	18.22	1836.49	2337.12
* 33.670	585.00	.00	.00	2035.70	24000.00	2049.04	2049.04	2053.98	172.61	19.15	1473.28	1826.72
* 33.670	585.00	.00	.00	2035.70	24000.00	2049.17	2049.17	2055.07	192.38	20.36	1311.05	1730.32
* 33.770	552.00	.00	.00	2039.30	24000.00	2057.11	2051.37	2058.33	39.98	10.66	2930.48	3795.75
* 33.770	552.00	.00	.00	2039.30	24000.00	2058.06	2051.33	2059.23	34.04	10.22	2947.54	4113.41
* 33.890	606.00	.00	.00	2047.50	23400.00	2060.10	2058.36	2062.13	95.72	13.15	2281.49	2391.69
* 33.890	606.00	.00	.00	2047.50	23400.00	2060.58	2058.37	2062.59	87.74	12.95	2253.15	2498.10
33.980	494.00	.00	.00	2050.90	23400.00	2064.55	2062.28	2065.76	60.72	10.83	3120.96	3002.90
33.980	494.00	.00	.00	2050.90	23400.00	2064.84	2062.89	2066.37	71.56	11.95	2808.98	2766.26
* 34.080	544.00	.00	.00	2058.00	23400.00	2068.62	2068.55	2070.97	146.12	15.36	2322.81	1935.82
34.080	544.00	.00	.00	2058.00	23400.00	2069.35	2068.98	2071.79	131.95	15.28	2240.86	2037.12
34.190	572.00	.00	.00	2056.50	23400.00	2075.44	2074.12	2076.99	77.95	14.07	2940.15	2650.43
34.190	572.00	.00	.00	2056.50	23400.00	2075.95	2074.46	2077.85	85.72	15.08	2650.78	2527.45

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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	34.270	415.00	.00	.00	2065.90	23400.00	2079.76	2078.65	2082.29	180.21	16.13	1931.23	1743.10
*	34.270	415.00	.00	.00	2065.90	23400.00	2080.49	2078.82	2083.60	184.65	16.32	1682.01	1722.01
*	34.360	484.00	.00	.00	2069.70	23400.00	2085.78	2083.82	2086.71	53.27	10.50	3507.31	3205.98
*	34.360	484.00	.00	.00	2069.70	23400.00	2086.81	2084.23	2087.75	46.37	10.33	3463.63	3436.41
*	34.450	461.00	.00	.00	2080.20	23400.00	2089.30	2088.29	2090.72	159.83	10.40	2619.06	1850.90
*	34.450	461.00	.00	.00	2080.20	23400.00	2089.89	2088.97	2091.65	176.67	11.49	2359.31	1760.47
	34.540	494.00	.00	.00	2084.10	23400.00	2095.76	2093.49	2096.65	90.51	9.03	3166.84	2459.60
*	34.540	494.00	.00	.00	2084.10	23400.00	2096.72	2094.09	2097.62	84.40	9.29	3156.17	2547.07
	34.630	483.00	.00	.00	2089.30	23400.00	2100.23	2097.75	2101.25	99.71	9.07	2934.65	2343.43
	34.630	483.00	.00	.00	2089.30	23400.00	2100.98	2098.23	2102.15	101.85	9.67	2740.52	2318.66
	34.730	510.00	.00	.00	2095.30	23400.00	2105.88	2105.73	2108.20	172.79	14.66	2179.58	1780.13
	34.730	510.00	.00	.00	2095.30	23400.00	2106.53	2106.37	2109.53	184.48	15.83	1851.33	1722.81
*	34.830	509.00	.00	.00	2100.20	23400.00	2112.54	2110.59	2113.56	68.02	10.59	3184.25	2837.22
*	34.830	509.00	.00	.00	2100.20	23400.00	2113.55	2110.98	2114.56	57.71	10.31	3190.04	3080.33
*	34.880	262.00	.00	.00	2102.80	23400.00	2114.27	2113.77	2116.36	144.41	14.16	2262.88	1947.22
*	34.880	262.00	.00	.00	2102.80	23400.00	2114.70	2114.19	2117.45	166.77	15.64	1930.09	1811.98

	34.920	207.00	.00	.00	2107.90	23400.00	2117.56	2115.82	2118.70	86.98	10.04	2917.62	2508.98
*	34.920	207.00	.00	.00	2107.90	23400.00	2118.59	2116.33	2119.86	78.94	10.28	2752.88	2633.71
	35.010	481.00	.00	.00	2109.90	23200.00	2121.93	2120.98	2123.28	102.29	11.17	2839.56	2293.90
	35.010	481.00	.00	.00	2109.90	23200.00	2122.73	2121.50	2124.36	107.29	11.66	2482.92	2239.81
	35.090	467.00	.00	.00	2114.40	23200.00	2126.44	2125.44	2127.76	89.45	10.94	2950.11	2452.99
	35.090	467.00	.00	.00	2114.40	23200.00	2127.29	2125.64	2128.90	88.02	11.44	2521.25	2472.80
	35.150	281.00	.00	.00	2117.30	23200.00	2129.14	2128.80	2130.81	129.00	12.68	2561.72	2042.64
	35.150	281.00	.00	.00	2117.30	23200.00	2129.91	2128.77	2131.84	120.60	12.90	2274.18	2112.63
	35.180	189.00	.00	.00	2119.60	23200.00	2131.53	2130.42	2132.94	95.85	11.12	2794.48	2369.66
	35.180	189.00	.00	.00	2119.60	23200.00	2132.37	2130.53	2133.72	78.99	10.66	2767.47	2610.40
*	35.240	311.00	.00	.00	2123.40	23200.00	2136.24	2136.24	2138.59	122.83	13.89	2228.67	2093.34
*	35.240	311.00	.00	.00	2123.40	23200.00	2136.21	2136.21	2138.79	131.98	14.37	2066.38	2019.44
*	35.280	181.00	.00	.00	2123.70	23200.00	2138.43	2138.43	2140.62	101.34	13.96	2454.03	2304.63
	35.280	181.00	.00	.00	2123.70	23200.00	2138.73	2138.29	2140.84	93.60	13.62	2446.96	2398.07
*	35.370	485.00	.00	.00	2126.20	23200.00	2142.82	2140.19	2143.59	38.04	8.64	3856.06	3761.31
*	35.370	485.00	.00	.00	2126.20	23200.00	2142.94	2139.94	2143.86	41.77	9.11	3450.58	3589.57
*	35.470	540.00	.00	.00	2135.50	23200.00	2145.69	2145.69	2147.75	171.66	14.60	2373.37	1770.71
*	35.470	540.00	.00	.00	2135.50	23200.00	2146.27	2146.27	2148.71	173.91	15.27	2142.05	1759.22

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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	35.540	388.00	.00	.00	2138.10	23200.00	2151.32	2150.25	2152.80	96.93	13.24	2708.92	2356.42
	35.540	388.00	.00	.00	2138.10	23200.00	2152.34	2150.44	2153.67	91.28	11.60	2642.83	2428.31
*	35590.000	460.00	.00	.00	2139.57	28338.00	2154.66	2154.66	2156.94	73.49	14.70	3141.65	3305.71
	35590.000	460.00	.00	.00	2139.57	28338.00	2155.25	2154.42	2157.39	69.51	14.06	2971.21	3398.92
	35690.000	530.00	.00	.00	2146.17	28338.00	2158.69	2157.61	2160.53	67.65	13.07	3105.60	3445.28
	35690.000	530.00	.00	.00	2146.17	28338.00	2158.85	2157.65	2161.30	82.04	14.50	2552.93	3128.70
*	35770.000	450.00	.00	.00	2153.27	28319.00	2163.31	2163.31	2165.85	117.58	14.62	2692.44	2611.61
*	35770.000	450.00	.00	.00	2153.27	28319.00	2163.65	2163.65	2166.75	127.07	15.60	2337.54	2512.19
	35870.000	530.00	.00	.00	2157.57	28319.00	2168.96	2168.75	2171.41	94.96	14.21	2754.48	2906.14
	35870.000	530.00	.00	.00	2157.57	28319.00	2169.66	2168.52	2172.31	87.54	14.31	2417.57	3026.67
*	35960.000	480.00	.00	.00	2159.77	28319.00	2174.46	2174.46	2177.64	50.95	15.68	2790.89	3967.44
*	35960.000	480.00	.00	.00	2159.77	28319.00	2174.41	2174.41	2178.23	63.30	16.71	2269.96	3559.45
	36060.000	580.00	.00	.00	2160.87	28319.00	2177.80	2177.07	2180.16	35.91	14.74	3517.81	4725.97
	36060.000	580.00	.00	.00	2160.87	28319.00	2178.80	2177.05	2180.96	33.08	13.93	3291.15	4923.76
*	36180.000	630.00	.00	.00	2169.97	28319.00	2182.58	2182.58	2186.48	236.55	16.17	1842.19	1841.28
*	36180.000	630.00	.00	.00	2169.97	28319.00	2182.54	2182.54	2187.08	287.77	17.09	1656.90	1669.37
	36230.000	260.00	.00	.00	2174.87	28319.00	2188.72	2187.42	2190.92	121.68	12.90	2540.20	2567.25
*	36230.000	260.00	.00	.00	2174.87	28319.00	2189.51	2187.67	2191.82	117.01	12.91	2417.77	2617.99
*	36310.000	420.00	.00	.00	2179.37	28319.00	2194.33	2194.33	2198.63	118.74	19.97	2011.66	2598.79
*	36310.000	420.00	.00	.00	2179.37	28319.00	2194.45	2194.45	2199.53	132.00	21.18	1827.80	2464.85
	36400.000	480.00	.00	.00	2188.77	28271.00	2202.24	2199.47	2204.10	97.97	11.24	2697.91	2856.27
	36400.000	480.00	.00	.00	2188.77	28271.00	2203.19	2199.28	2205.00	86.96	10.88	2644.41	3031.69

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Cave Creek 100Yr Ex Cond

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	30.200	33800.00	1885.68	.00	.00	.00	1097.91	.00
	30.200	33800.00	1886.18	.50	.00	.50	706.02	.00
*	30.280	33800.00	1891.54	.00	5.86	.00	873.75	421.00
*	30.280	33800.00	1891.89	.36	5.71	.36	575.91	421.00
	30.420	33800.00	1897.40	.00	5.87	.00	952.35	713.00
	30.420	33800.00	1898.45	1.05	6.56	1.05	566.71	713.00
*	30.520	33800.00	1902.23	.00	4.82	.00	1102.43	560.00
*	30.520	33800.00	1902.67	.44	4.22	.44	575.97	560.00
	30.650	33800.00	1909.79	.00	7.56	.00	787.43	696.00
	30.650	33800.00	1910.57	.79	7.91	.79	427.52	696.00
*	30.750	33800.00	1913.90	.00	4.11	.00	661.99	486.00
	30.750	33800.00	1914.47	.57	3.90	.57	457.09	486.00
	30.850	33800.00	1917.16	.00	3.26	.00	791.45	569.00
	30.850	33800.00	1918.08	.92	3.61	.92	548.84	569.00
	30.960	31400.00	1922.04	.00	4.88	.00	935.49	541.00
	30.960	31400.00	1922.84	.80	4.77	.80	742.99	541.00
	31.050	31400.00	1925.38	.00	3.34	.00	1023.02	494.00
	31.050	31400.00	1926.23	.85	3.39	.85	873.15	494.00
*	31.140	31400.00	1929.48	.00	4.10	.00	1040.43	467.00
*	31.140	31400.00	1929.78	.30	3.54	.30	756.14	467.00
	31.170	31400.00	1931.33	.00	1.86	.00	1010.11	162.00
	31.170	31400.00	1931.84	.51	2.07	.51	682.51	162.00
	31.250	31400.00	1934.91	.00	3.57	.00	1029.82	432.00
	31.250	31400.00	1935.52	.61	3.68	.61	596.91	432.00
	31.340	31400.00	1940.00	.00	5.09	.00	775.68	474.00
	31.340	31400.00	1940.76	.76	5.24	.76	548.22	474.00
	31.450	31400.00	1944.77	.00	4.77	.00	961.63	592.00
	31.450	31400.00	1945.59	.82	4.83	.82	543.16	592.00
	31.540	31400.00	1948.32	.00	3.55	.00	851.28	484.00
	31.540	31400.00	1949.35	1.02	3.75	1.02	561.10	484.00
	31.630	31400.00	1952.33	.00	4.01	.00	810.53	453.00
	31.630	31400.00	1952.59	.26	3.25	.26	578.00	453.00

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	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	31.750	31400.00	1958.04	.00	5.71	.00	802.06	647.00
	31.750	31400.00	1958.46	.42	5.86	.42	348.91	647.00
	31.820	31400.00	1962.36	.00	4.32	.00	638.63	361.00
	31.820	31400.00	1963.16	.80	4.70	.80	327.53	361.00
	31.870	31400.00	1965.46	.00	3.10	.00	507.07	243.00
	31.870	31400.00	1966.36	.90	3.20	.90	334.45	243.00

	31.910	31400.00	1966.97	.00	1.51	.00	506.83	208.00
	31.910	31400.00	1967.73	.76	1.36	.76	323.87	208.00
	31.980	31300.00	1969.71	.00	2.74	.00	460.58	380.00
	31.980	31300.00	1970.40	.69	2.68	.69	353.03	380.00
	32.070	31300.00	1974.04	.00	4.33	.00	540.28	496.00
	32.070	31300.00	1974.65	.61	4.25	.61	392.73	496.00
	32.150	31300.00	1978.26	.00	4.23	.00	753.78	415.00
	32.150	31300.00	1979.18	.92	4.53	.92	536.79	415.00
*	32.240	31300.00	1981.14	.00	2.88	.00	530.98	470.00
*	32.240	31300.00	1981.64	.50	2.45	.50	370.70	470.00
*	32.330	31300.00	1985.84	.00	4.71	.00	534.23	471.00
*	32.330	31300.00	1986.78	.93	5.14	.93	371.49	471.00
	32.440	31300.00	1990.04	.00	4.19	.00	647.53	576.00
	32.440	31300.00	1990.73	.69	3.95	.69	498.93	576.00
*	32.490	31300.00	1991.41	.00	1.37	.00	590.34	247.00
	32.490	31300.00	1991.99	.58	1.26	.58	418.56	247.00
	32.520	31200.00	1993.46	.00	2.05	.00	667.71	187.00
	32.520	31200.00	1994.49	1.03	2.50	1.03	559.99	187.00
	32.620	31200.00	1997.74	.00	4.28	.00	544.81	516.00
*	32.620	31200.00	1997.78	.04	3.28	.04	298.36	516.00
*	32.700	31200.00	2002.22	.00	4.48	.00	444.97	435.00
*	32.700	31200.00	2002.40	.19	4.63	.19	302.07	435.00
	32.800	31200.00	2007.92	.00	5.70	.00	461.98	539.00
	32.800	31200.00	2008.96	1.04	6.56	1.04	310.15	539.00
	32.900	30900.00	2011.79	.00	3.87	.00	413.25	523.00
*	32.900	30900.00	2012.49	.70	3.53	.70	313.75	523.00
	32.990	30900.00	2016.19	.00	4.40	.00	488.85	460.00
	32.990	30900.00	2017.02	.83	4.53	.83	384.00	460.00

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SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
33.080	30900.00	2020.24	.00	4.06	.00	495.40	472.00
33.080	30900.00	2020.99	.75	3.98	.75	361.40	472.00
33.170	30900.00	2025.09	.00	4.84	.00	391.58	475.00
33.170	30900.00	2025.93	.84	4.93	.84	308.88	475.00
33.260	30900.00	2029.93	.00	4.84	.00	323.25	481.00
33.260	30900.00	2030.77	.84	4.84	.84	296.56	481.00
33.360	24700.00	2034.83	.00	4.90	.00	294.54	550.00
33.360	24700.00	2035.13	.30	4.36	.30	274.78	550.00
33.460	24700.00	2038.12	.00	3.30	.00	474.82	503.00
33.460	24700.00	2038.20	.08	3.07	.08	280.51	503.00
33.560	24400.00	2042.13	.00	4.00	.00	243.79	510.00
33.560	24400.00	2042.43	.30	4.23	.30	187.70	510.00
* 33.670	24000.00	2049.04	.00	6.91	.00	155.17	585.00
* 33.670	24000.00	2049.17	.14	6.75	.14	113.18	585.00
* 33.770	24000.00	2057.11	.00	8.07	.00	248.11	552.00

*	33.770	24000.00	2058.06	.95	8.88	.95	200.11	552.00
*	33.890	23400.00	2060.10	.00	2.99	.00	280.39	606.00
	33.890	23400.00	2060.58	.48	2.52	.48	238.45	606.00
	33.980	23400.00	2064.55	.00	4.45	.00	512.59	494.00
	33.980	23400.00	2064.84	.28	4.26	.28	454.45	494.00
*	34.080	23400.00	2068.62	.00	4.07	.00	467.45	544.00
	34.080	23400.00	2069.35	.73	4.51	.73	362.82	544.00
	34.190	23400.00	2075.44	.00	6.82	.00	414.92	572.00
	34.190	23400.00	2075.95	.52	6.61	.52	329.26	572.00
*	34.270	23400.00	2079.76	.00	4.32	.00	260.56	415.00
*	34.270	23400.00	2080.49	.73	4.53	.73	158.60	415.00
*	34.360	23400.00	2085.78	.00	6.02	.00	523.91	484.00
*	34.360	23400.00	2086.81	1.03	6.32	1.03	440.89	484.00
*	34.450	23400.00	2089.30	.00	3.52	.00	533.69	461.00
*	34.450	23400.00	2089.89	.59	3.09	.59	419.25	461.00
	34.540	23400.00	2095.76	.00	6.46	.00	500.45	494.00
*	34.540	23400.00	2096.72	.96	6.82	.96	443.17	494.00
	34.630	23400.00	2100.23	.00	4.47	.00	419.92	483.00
	34.630	23400.00	2100.98	.75	4.26	.75	340.94	483.00

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SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
34.730	23400.00	2105.88	.00	5.65	.00	410.35	510.00
34.730	23400.00	2106.53	.65	5.55	.65	270.58	510.00
* 34.830	23400.00	2112.54	.00	6.66	.00	493.02	509.00
* 34.830	23400.00	2113.55	1.02	7.03	1.02	398.96	509.00
* 34.880	23400.00	2114.27	.00	1.74	.00	392.32	262.00
* 34.880	23400.00	2114.70	.43	1.15	.43	267.46	262.00
34.920	23400.00	2117.56	.00	3.28	.00	475.77	207.00
* 34.920	23400.00	2118.59	1.04	3.89	1.04	352.38	207.00
35.010	23200.00	2121.93	.00	4.37	.00	566.37	481.00
35.010	23200.00	2122.73	.81	4.14	.81	367.10	481.00
35.090	23200.00	2126.44	.00	4.51	.00	643.93	467.00
35.090	23200.00	2127.29	.85	4.56	.85	359.29	467.00
35.150	23200.00	2129.14	.00	2.70	.00	530.15	281.00
35.150	23200.00	2129.91	.76	2.62	.76	332.33	281.00
35.180	23200.00	2131.53	.00	2.39	.00	540.49	189.00
35.180	23200.00	2132.37	.84	2.46	.84	445.43	189.00
* 35.240	23200.00	2136.24	.00	4.71	.00	598.76	311.00
* 35.240	23200.00	2136.21	-.03	3.84	-.03	519.12	311.00
* 35.280	23200.00	2138.43	.00	2.18	.00	750.72	181.00
35.280	23200.00	2138.73	.30	2.52	.30	616.49	181.00
* 35.370	23200.00	2142.82	.00	4.39	.00	597.25	485.00
* 35.370	23200.00	2142.94	.13	4.21	.13	442.12	485.00
* 35.470	23200.00	2145.69	.00	2.88	.00	538.55	540.00
* 35.470	23200.00	2146.27	.57	3.33	.57	404.41	540.00

	35.540	23200.00	2151.32	.00	5.62	.00	482.28	388.00
	35.540	23200.00	2152.34	1.02	6.07	1.02	360.26	388.00
*	35590.000	28338.00	2154.66	.00	3.35	.00	658.73	460.00
	35590.000	28338.00	2155.25	.58	2.91	.58	434.60	460.00
	35690.000	28338.00	2158.69	.00	4.02	.00	548.23	530.00
	35690.000	28338.00	2158.85	.16	3.60	.16	374.38	530.00
*	35770.000	28319.00	2163.31	.00	4.62	.00	544.43	450.00
*	35770.000	28319.00	2163.65	.34	4.80	.34	385.23	450.00
	35870.000	28319.00	2168.96	.00	5.65	.00	561.81	530.00
	35870.000	28319.00	2169.66	.69	6.01	.69	291.24	530.00

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	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	35960.000	28319.00	2174.46	.00	5.49	.00	492.17	480.00
*	35960.000	28319.00	2174.41	-.05	4.75	-.05	324.48	480.00
	36060.000	28319.00	2177.80	.00	3.34	.00	550.96	580.00
	36060.000	28319.00	2178.80	1.00	4.39	1.00	375.44	580.00
*	36180.000	28319.00	2182.58	.00	4.78	.00	246.89	630.00
*	36180.000	28319.00	2182.54	-.04	3.74	-.04	186.90	630.00
	36230.000	28319.00	2188.72	.00	6.14	.00	329.74	260.00
*	36230.000	28319.00	2189.51	.79	6.97	.79	257.90	260.00
*	36310.000	28319.00	2194.33	.00	5.61	.00	231.88	420.00
*	36310.000	28319.00	2194.45	.12	4.94	.12	174.02	420.00
	36400.000	28271.00	2202.24	.00	7.91	.00	321.51	480.00
	36400.000	28271.00	2203.19	.95	8.74	.95	223.80	480.00

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SUMMARY OF ERRORS AND SPECIAL NOTES

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CAUTION SECNO=     30.280  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     30.280  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=     30.280  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     30.280  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=     30.520  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     30.520  PROFILE=  1  MINIMUM SPECIFIC ENERGY
WARNING SECNO=     30.520  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     30.750  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=     31.140  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     31.140  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=     31.140  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     31.140  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=     32.240  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     32.240  PROFILE=  1  MINIMUM SPECIFIC ENERGY
WARNING SECNO=     32.240  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     32.330  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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 WARNING SECNO=     32.330  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 CAUTION SECNO=     32.490  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     32.490  PROFILE=  1  MINIMUM SPECIFIC ENERGY

 CAUTION SECNO=     32.620  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     32.620  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 CAUTION SECNO=     32.700  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     32.700  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     32.700  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     32.700  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 WARNING SECNO=     32.900  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 CAUTION SECNO=     33.670  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     33.670  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     33.670  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     33.670  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 WARNING SECNO=     33.770  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     33.770  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=     33.890  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     33.890  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=     34.080  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=     34.270  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     34.270  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
1
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 WARNING SECNO=     34.360  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     34.360  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=     34.450  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     34.450  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=     34.540  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=     34.830  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     34.830  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=     34.880  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     34.880  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 WARNING SECNO=     34.920  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 CAUTION SECNO=     35.240  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     35.240  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     35.240  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     35.240  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 CAUTION SECNO=     35.280  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     35.280  PROFILE=  1  MINIMUM SPECIFIC ENERGY

 WARNING SECNO=     35.370  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
 WARNING SECNO=     35.370  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 CAUTION SECNO=     35.470  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     35.470  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=     35.470  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=     35.470  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 CAUTION SECNO=  35590.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  35590.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
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 CAUTION SECNO=  35770.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  35770.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=  35770.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  35770.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 CAUTION SECNO=  35960.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  35960.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=  35960.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  35960.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 CAUTION SECNO=  36180.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  36180.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=  36180.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  36180.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

 WARNING SECNO=  36230.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

 CAUTION SECNO=  36310.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
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 CAUTION SECNO=  36310.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=  36310.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  36310.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

1
   01APR97      10:06:20                                                    PAGE   84
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Floodway width summary: Cave Creek 100Yr Ex Cond
Profile No. 2

Section Number	Elevation Increase	Top Width	Left Encroach Station	Left Sta Distance From Center	Center Station	Right Sta Distance From Center	Right Encroach Station
30.200	.50	706.02	9405.25	605.20	10010.45	100.82	10111.27
30.280	.36	575.91	9454.46	507.09	9961.55	68.82	10030.37
30.420	1.05	566.71	9835.00	176.60	10011.60	390.11	10401.71
30.520	.44	575.97	9725.00	297.60	10022.60	278.37	10300.97
30.650	.79	427.52	9600.00	381.70	9981.70	45.82	10027.52
30.750	.57	457.09	9705.00	301.85	10006.85	155.24	10162.09
30.850	.92	548.84	9912.40	53.00	9965.40	495.84	10461.24
30.960	.80	742.99	9963.15	48.05	10011.20	694.94	10706.14
31.050	.85	873.15	9934.20	32.90	9967.10	840.25	10807.35
31.140	.30	756.14	9850.00	146.15	9996.15	609.99	10606.14
31.170	.51	682.51	9780.00	229.95	10009.95	452.56	10462.51
31.250	.61	596.91	9790.47	165.78	9956.25	431.13	10387.38
31.340	.76	548.22	9949.90	38.65	9988.55	509.57	10498.12
31.450	.82	543.16	9881.84	86.41	9968.25	456.75	10425.00
31.540	1.02	561.10	9928.90	72.35	10001.25	488.75	10490.00
31.630	.26	578.00	9807.00	197.85	10004.85	380.15	10385.00
31.750	.42	348.91	9721.77	254.23	9976.00	94.68	10070.68
31.820	.80	339.85	9697.75	233.10	9930.85	106.75	10037.60
31.870	.90	352.88	9701.03	272.12	9973.15	80.76	10053.91
31.910	.76	323.87	9728.84	268.11	9996.95	55.76	10052.71
31.980	.69	353.03	9714.66	271.49	9986.15	81.54	10067.69
32.070	.61	392.73	9660.00	338.30	9998.30	54.43	10052.73
32.150	.92	536.79	9490.00	498.65	9988.65	38.14	10026.79
32.240	.50	370.71	9655.00	338.90	9993.90	31.81	10025.71
32.330	.93	371.49	9762.30	239.20	10001.50	132.29	10133.79
32.440	.69	498.93	9702.48	293.82	9996.30	205.11	10201.41
32.490	.58	491.60	9685.98	285.07	9971.05	206.53	10177.58
32.520	1.03	559.99	9667.33	314.02	9981.35	245.97	10227.32
32.620	.04	298.36	9780.39	226.96	10007.35	71.40	10078.75
32.700	.19	302.07	9713.90	252.85	9966.75	49.22	10015.97
32.800	1.04	310.15	9808.83	177.57	9986.40	132.58	10118.98
32.900	.70	313.76	9730.75	277.85	10008.60	35.91	10044.51

32.990	.83	384.00	9795.91	193.49	9989.40	190.51	10179.91
33.080	.75	361.40	9748.86	256.59	10005.45	104.81	10110.26
33.170	.84	308.88	9801.23	209.82	10011.05	99.06	10110.11
33.260	.84	296.56	9865.75	150.70	10016.45	145.86	10162.31
33.360	.30	274.78	9929.39	54.86	9984.25	219.92	10204.17
33.460	.08	280.51	9892.51	98.89	9991.40	181.62	10173.02
33.560	.30	187.70	9961.19	26.71	9987.90	160.99	10148.89
33.670	.14	113.18	9974.09	43.61	10017.70	69.57	10087.27
33.770	.95	200.11	9849.50	159.10	10008.60	41.01	10049.61
33.890	.48	238.45	9902.01	61.74	9963.75	176.71	10140.46
33.980	.28	457.41	9965.57	58.93	10024.50	398.48	10422.98
34.080	.73	362.82	9961.59	41.96	10003.55	320.86	10324.41
34.190	.52	329.26	9968.92	27.03	9995.95	302.23	10298.18
34.270	.73	158.60	9904.20	22.75	9926.95	135.85	10062.80
34.360	1.03	440.89	9588.67	394.28	9982.95	46.61	10029.56

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34.450	.59	419.25	9720.63	292.57	10013.20	126.68	10139.88
34.540	.96	443.17	9758.69	257.41	10016.10	185.76	10201.86
34.630	.75	340.94	9775.85	221.60	9997.45	119.34	10116.79
34.730	.65	270.58	9777.03	223.17	10000.20	47.41	10047.61
34.830	1.02	398.96	9679.25	314.35	9993.60	84.61	10078.21
34.880	.43	301.25	9780.45	226.90	10007.35	74.35	10081.70
34.920	1.04	352.38	9717.21	271.84	9989.05	80.54	10069.59
35.010	.81	367.11	9731.20	303.95	10035.15	63.16	10098.31
35.090	.85	359.29	9765.51	183.24	9948.75	176.05	10124.80
35.150	.76	411.09	9831.63	127.27	9958.90	283.82	10242.72
35.180	.84	493.22	9832.09	115.56	9947.65	377.66	10325.31
35.240	-.03	592.71	9901.67	62.83	9964.50	529.88	10494.38
35.280	.30	616.49	9919.28	53.07	9972.35	563.42	10535.77
35.370	.13	442.12	9971.76	67.99	10039.75	374.13	10413.88
35.470	.57	404.41	9744.43	257.47	10001.90	146.94	10148.84
35.540	1.02	360.27	9655.44	335.66	9991.10	24.61	10015.71
35590.000	.58	434.61	9596.80	384.95	9981.75	49.66	10031.41
35690.000	.16	452.97	9755.33	238.17	9993.50	214.80	10208.30
35770.000	.34	385.23	9805.57	206.03	10011.60	179.20	10190.80
35870.000	.69	291.24	9928.56	115.84	10044.40	175.40	10219.80
35960.000	-.05	324.48	9729.72	262.23	9991.95	62.25	10054.20
36060.000	1.00	375.44	9672.86	330.09	10002.95	45.35	10048.30
36180.000	-.04	186.90	9957.10	93.45	10050.55	93.45	10144.00
36230.000	.79	257.90	9969.00	80.70	10049.70	177.20	10226.90
36310.000	.12	174.02	9868.28	127.77	9996.05	46.25	10042.30
36400.000	.95	223.80	9876.40	104.45	9980.85	119.35	10100.20

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FLOODWAY DATA, Cave Creek 100Yr Ex Cond
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
30.200	706.	3323.	10.2	1886.2	1885.7	.5
30.280	576.	3140.	10.8	1891.9	1891.5	.4
30.420	567.	4062.	8.3	1898.4	1897.4	1.0
30.520	576.	3011.	11.2	1902.6	1902.2	.4
30.650	428.	3225.	10.5	1910.6	1909.8	.8
30.750	457.	3893.	8.7	1914.5	1913.9	.6
30.850	549.	3509.	9.6	1918.1	1917.2	.9
30.960	743.	4299.	7.3	1922.8	1922.0	.8
31.050	873.	3984.	7.9	1926.3	1925.4	.9
31.140	756.	3295.	9.5	1929.8	1929.5	.3
31.170	683.	3732.	8.4	1931.8	1931.3	.5

31.250	597.	3092.	10.2	1935.5	1934.9	.6
31.340	548.	3457.	9.1	1940.8	1940.0	.8
31.450	543.	3460.	9.1	1945.6	1944.8	.8
31.540	561.	3519.	8.9	1949.3	1948.3	1.0
31.630	578.	3502.	9.0	1952.6	1952.3	.3
31.750	349.	2523.	12.4	1958.4	1958.0	.4
31.820	340.	2508.	12.5	1963.2	1962.4	.8
31.870	353.	2988.	10.5	1966.4	1965.5	.9
31.910	324.	3210.	9.8	1967.8	1967.0	.8
31.980	353.	3047.	10.3	1970.4	1969.7	.7
32.070	393.	3060.	10.2	1974.6	1974.0	.6
32.150	537.	4263.	7.3	1979.2	1978.3	.9
32.240	371.	2619.	12.0	1981.6	1981.1	.5
32.330	371.	3394.	9.2	1986.7	1985.8	.9
32.440	499.	3792.	8.3	1990.7	1990.0	.7
32.490	492.	2937.	10.7	1992.0	1991.4	.6
32.520	560.	3792.	8.2	1994.5	1993.5	1.0
32.620	298.	2352.	13.3	1997.7	1997.7	.0
32.700	302.	2483.	12.6	2002.4	2002.2	.2
32.800	310.	3504.	8.9	2008.9	2007.9	1.0
32.900	314.	2963.	10.4	2012.5	2011.8	.7
32.990	384.	3544.	8.7	2017.0	2016.2	.8
33.080	361.	2894.	10.7	2020.9	2020.2	.7
33.170	309.	2818.	11.0	2025.9	2025.1	.8
33.260	297.	3001.	10.3	2030.7	2029.9	.8
33.360	275.	2795.	8.8	2035.1	2034.8	.3
33.460	281.	2285.	10.8	2038.2	2038.1	.1
33.560	188.	1836.	13.3	2042.4	2042.1	.3
33.670	113.	1311.	18.3	2049.1	2049.0	.1
33.770	200.	2948.	8.1	2058.0	2057.1	.9
33.890	238.	2253.	10.4	2060.6	2060.1	.5

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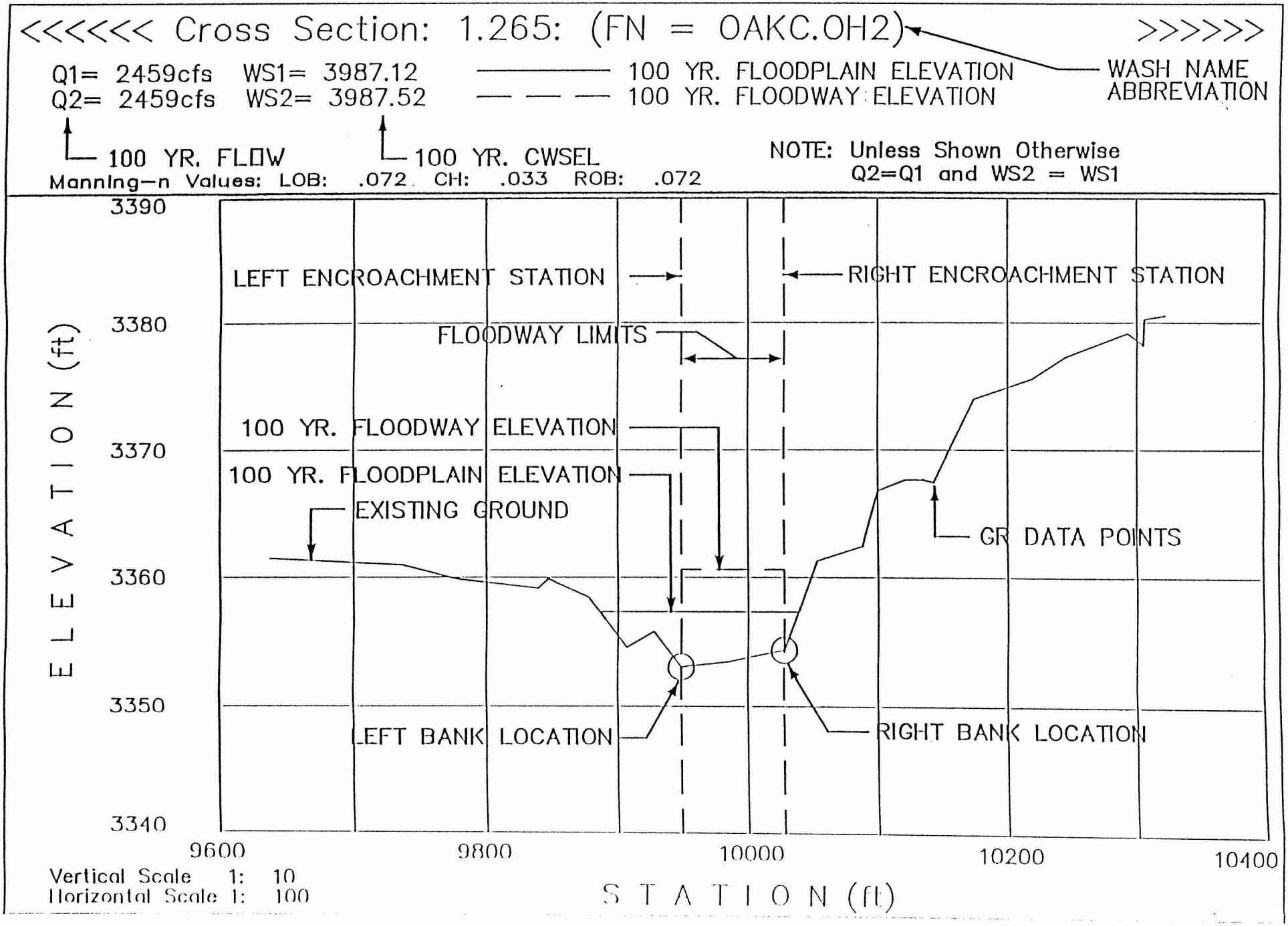
LOODWAY DATA, Cave Creek 100Yr Ex Cond
PROFILE NO. 2

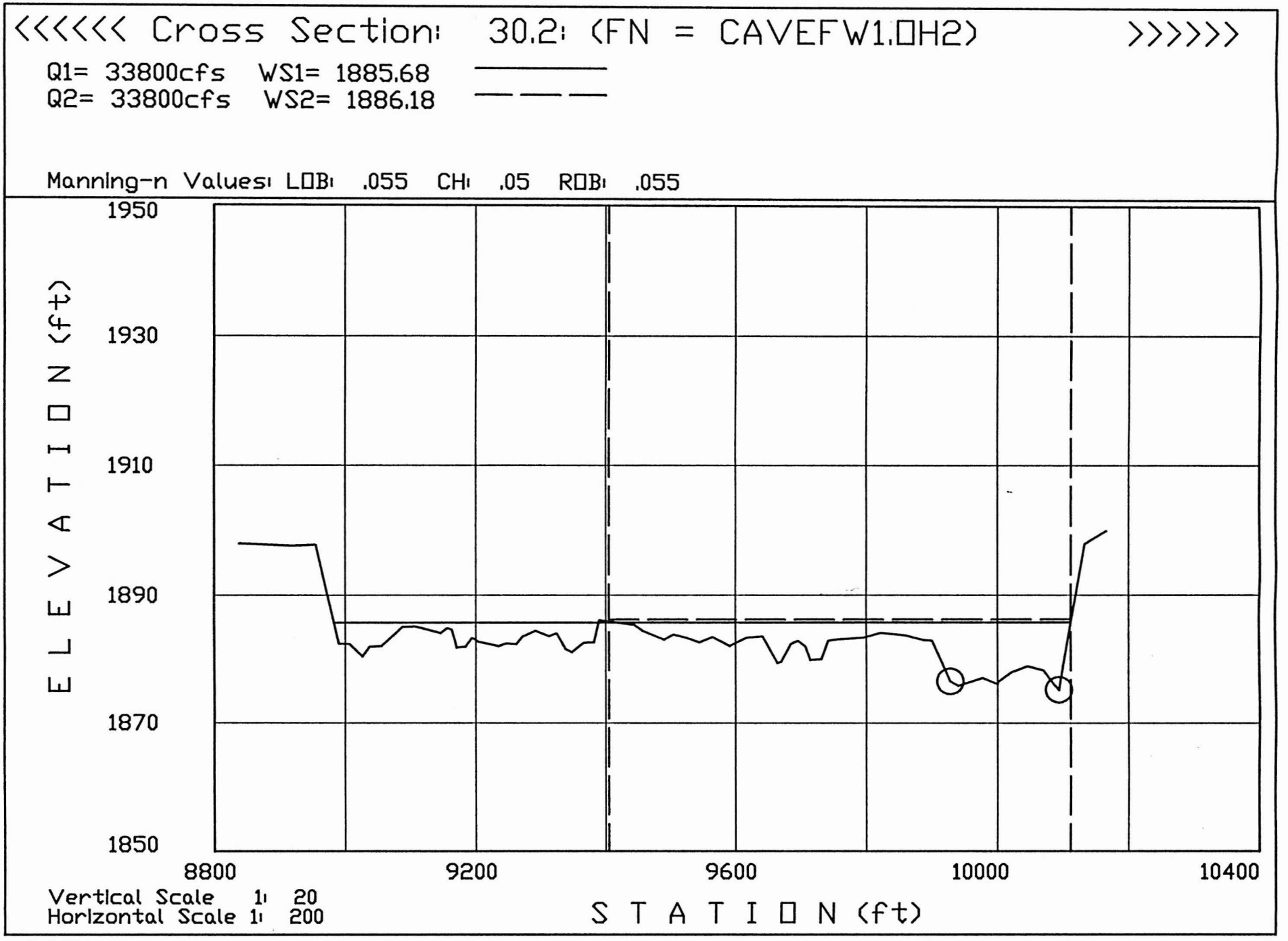
STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
33.980	457.	2809.	8.3	2064.9	2064.6	.3
34.080	363.	2241.	10.4	2069.3	2068.6	.7
34.190	329.	2651.	8.8	2075.9	2075.4	.5
34.270	159.	1682.	13.9	2080.5	2079.8	.7
34.360	441.	3464.	6.8	2086.8	2085.8	1.0
34.450	419.	2359.	9.9	2089.9	2089.3	.6
34.540	443.	3156.	7.4	2096.8	2095.8	1.0
34.630	341.	2741.	8.5	2100.9	2100.2	.7
34.730	271.	1851.	12.6	2106.5	2105.9	.6
34.830	399.	3190.	7.3	2113.5	2112.5	1.0
34.880	301.	1930.	12.1	2114.7	2114.3	.4
34.920	352.	2753.	8.5	2118.6	2117.6	1.0
35.010	367.	2483.	9.3	2122.7	2121.9	.8
35.090	359.	2521.	9.2	2127.2	2126.4	.8
35.150	411.	2274.	10.2	2129.9	2129.1	.8
35.180	493.	2767.	8.4	2132.3	2131.5	.8
35.240	593.	2066.	11.2	2136.2	2136.2	.0
35.280	616.	2447.	9.5	2138.7	2138.4	.3
35.370	442.	3451.	6.7	2142.9	2142.8	.1
35.470	404.	2142.	10.8	2146.3	2145.7	.6
35.540	360.	2643.	8.8	2152.3	2151.3	1.0
35590.000	435.	2971.	9.5	2155.3	2154.7	.6
35690.000	453.	2553.	11.1	2158.9	2158.7	.2
35770.000	385.	2338.	12.1	2163.6	2163.3	.3
35870.000	291.	2418.	11.7	2169.7	2169.0	.7

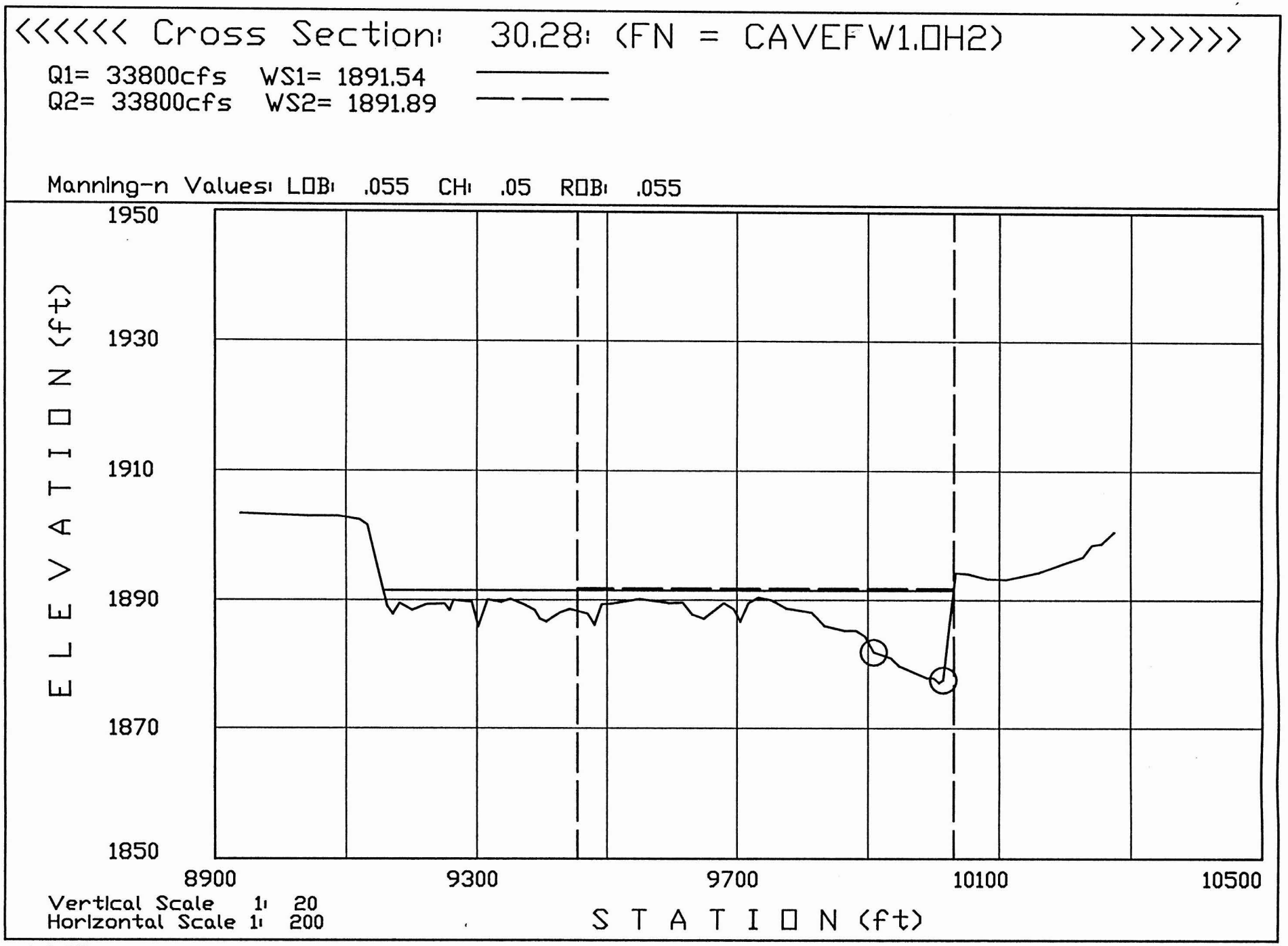
35960.000	324.	2270.	12.5	2174.4	2174.5	-.1
36060.000	375.	3291.	8.6	2178.8	2177.8	1.0
36180.000	187.	1657.	17.1	2182.6	2182.6	.0
36230.000	258.	2418.	11.7	2189.5	2188.7	.8
36310.000	174.	1828.	15.5	2194.4	2194.3	.1
36400.000	224.	2644.	10.7	2203.1	2202.2	.9

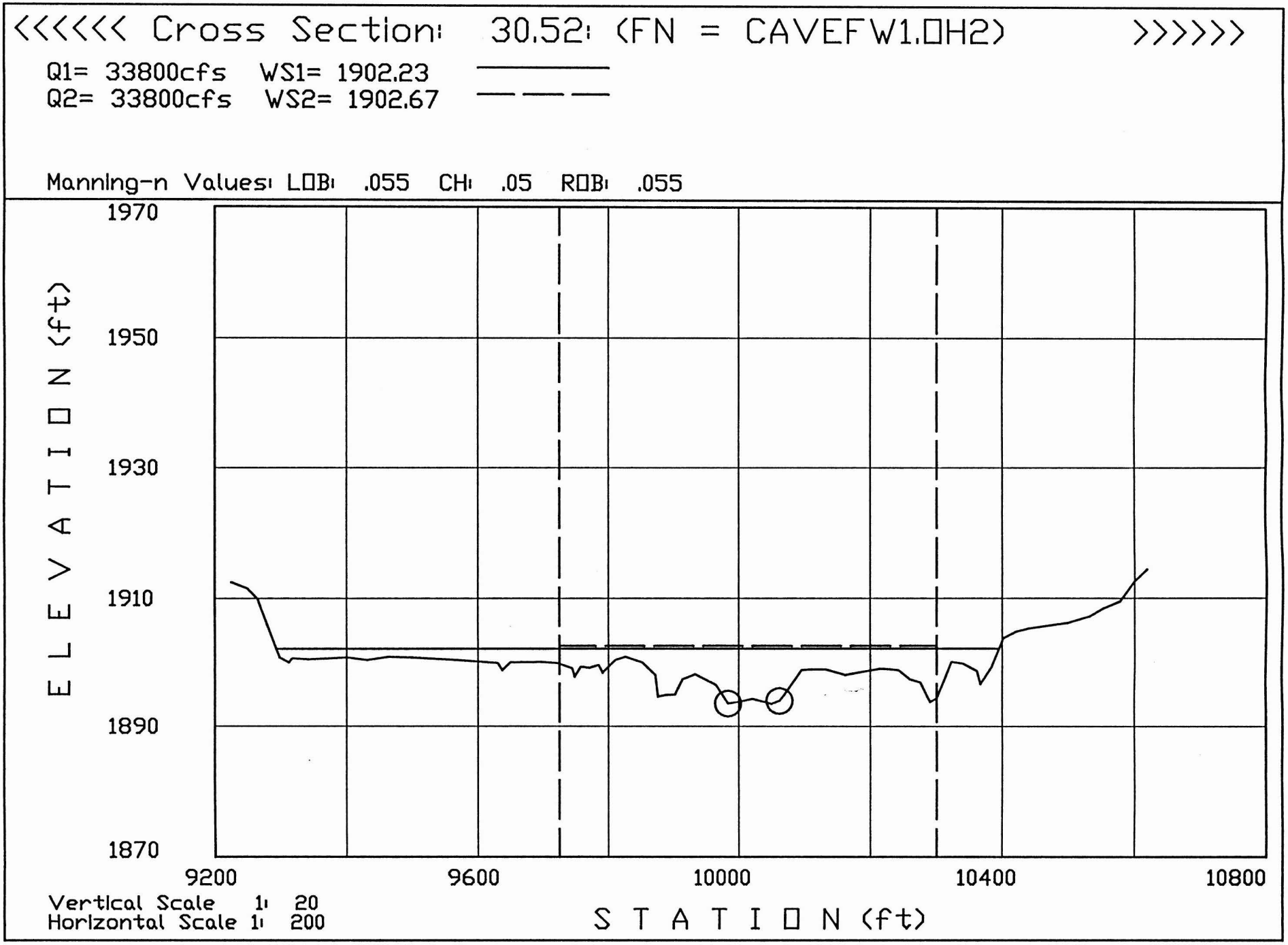
Hydraulic Analysis
HEC-2 Cross Sections
CAVEFW1.OH2

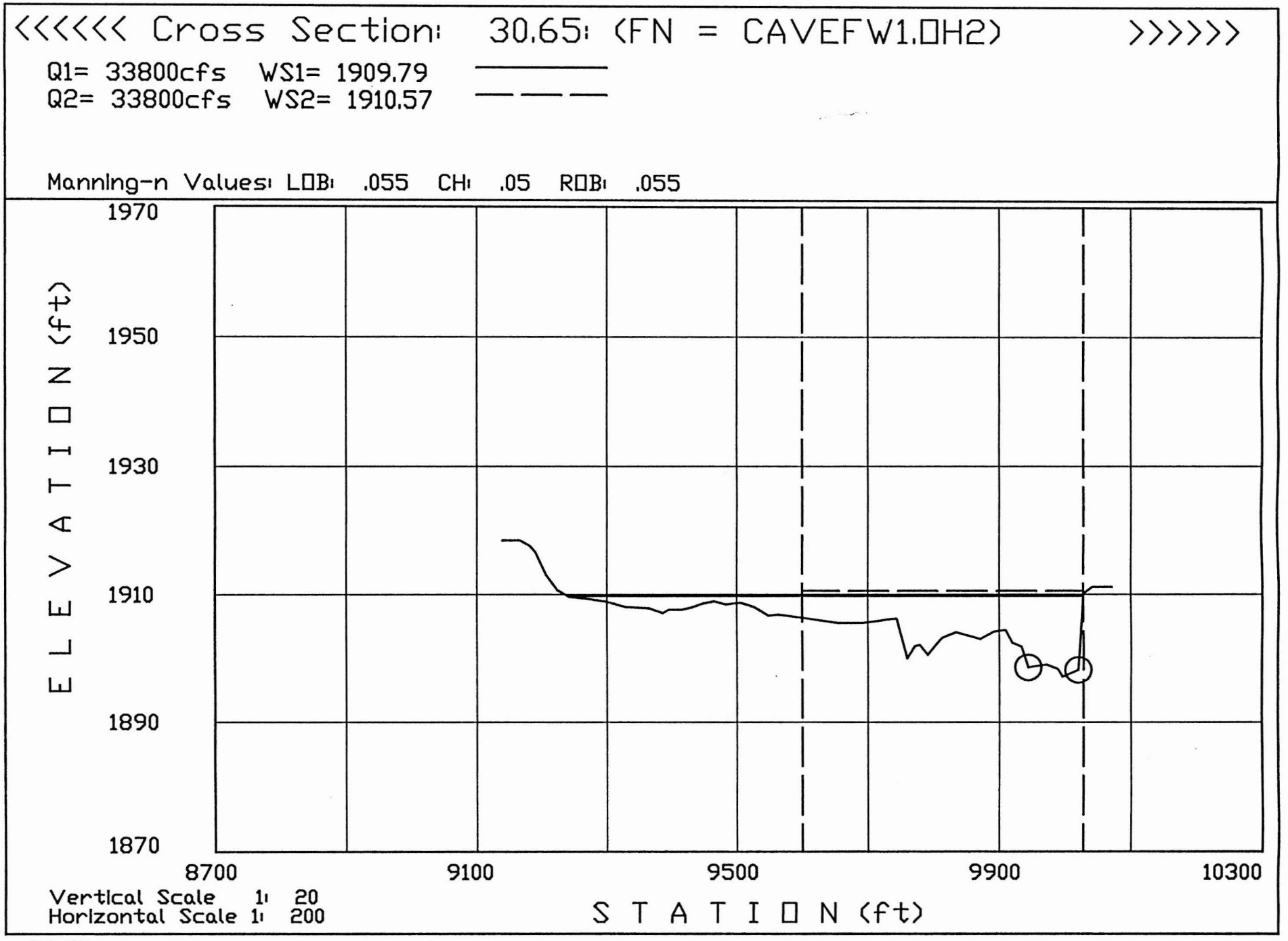
CROSS SECTION LEGEND

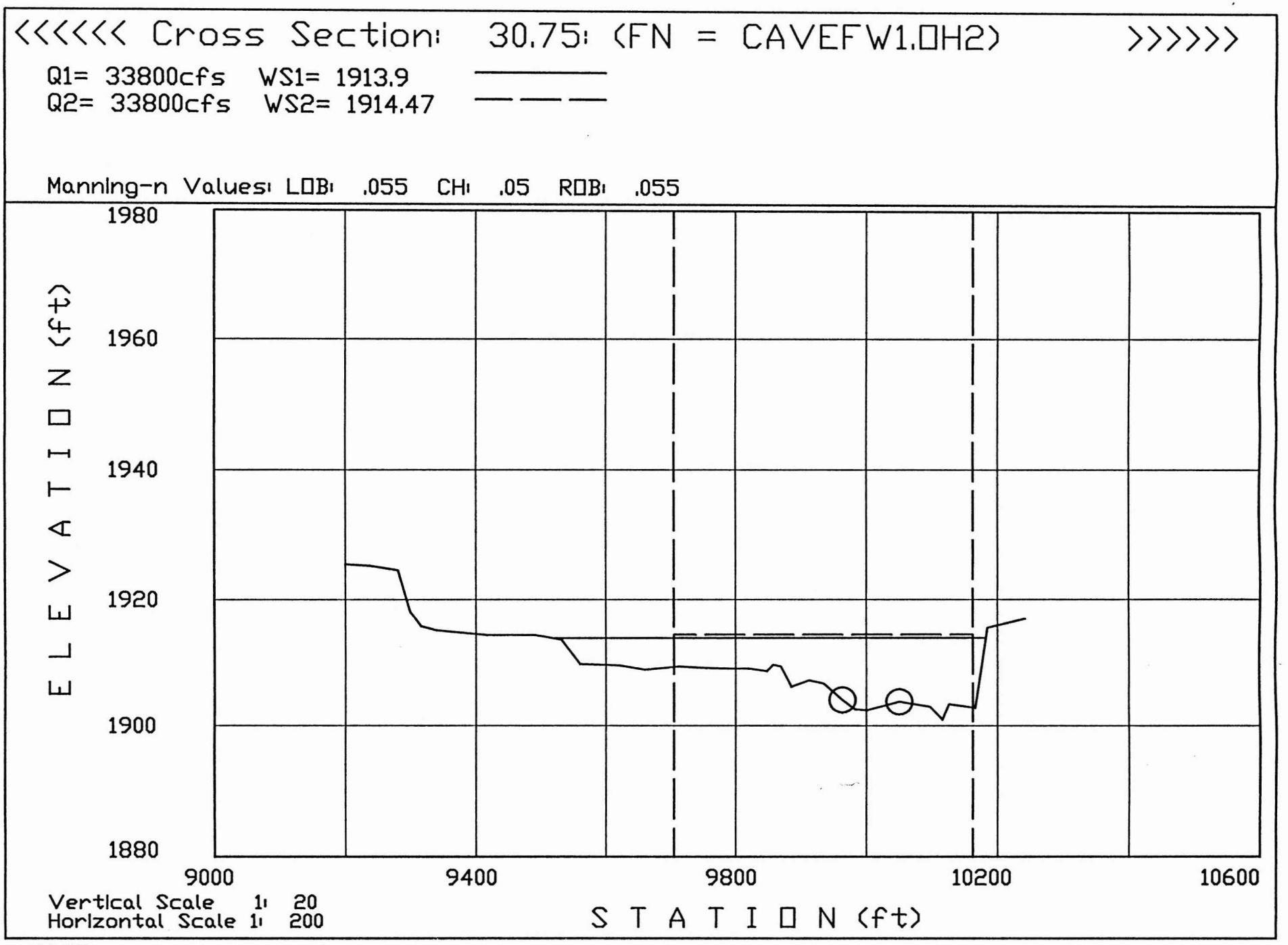



<<<<<< Cross Section: 30.2: (FN = CAVEFW1.0H2) >>>>>>
Q1= 33800cfs WS1= 1885.68
Q2= 33800cfs WS2= 1886.18
Manning-n Values: LOB: .055 CH: .05 ROB: .055
ELEVATION (ft)
1950
1930
1910
1890
1870
1850
8800
9200
9600
10000
10400
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
04-01-1997

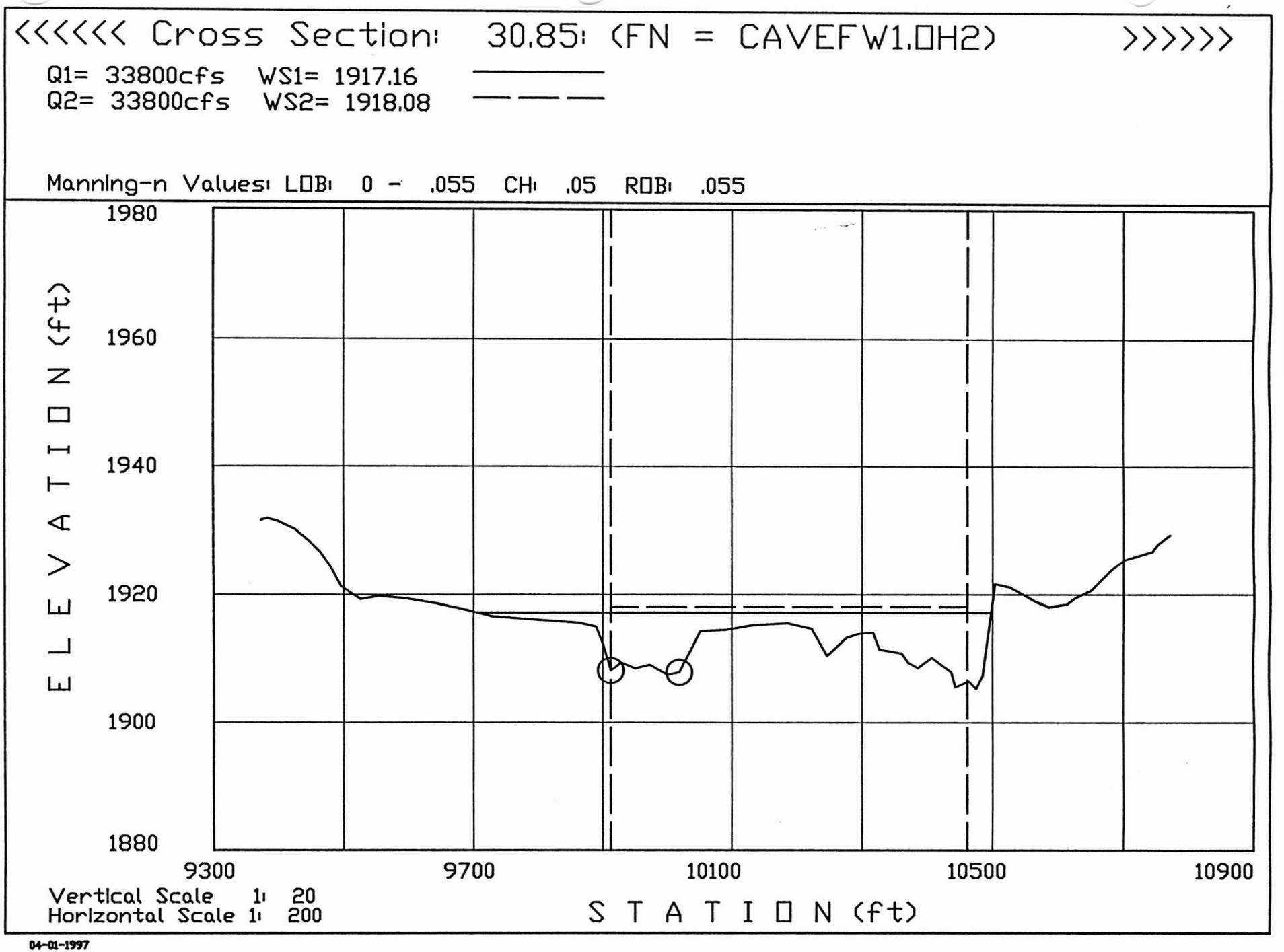

<<<<<< Cross Section: 30.28: (FN = CAVEFW1.DH2) >>>>>>
Q1= 33800cfs WS1= 1891.54
Q2= 33800cfs WS2= 1891.89
Manning-n Values: LOB: .055 CH: .05 ROB: .055
1950
1930
1910
1890
1870
1850
ELEVATION (ft)
8900
9300
9700
10100
10500
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
04-01-1997

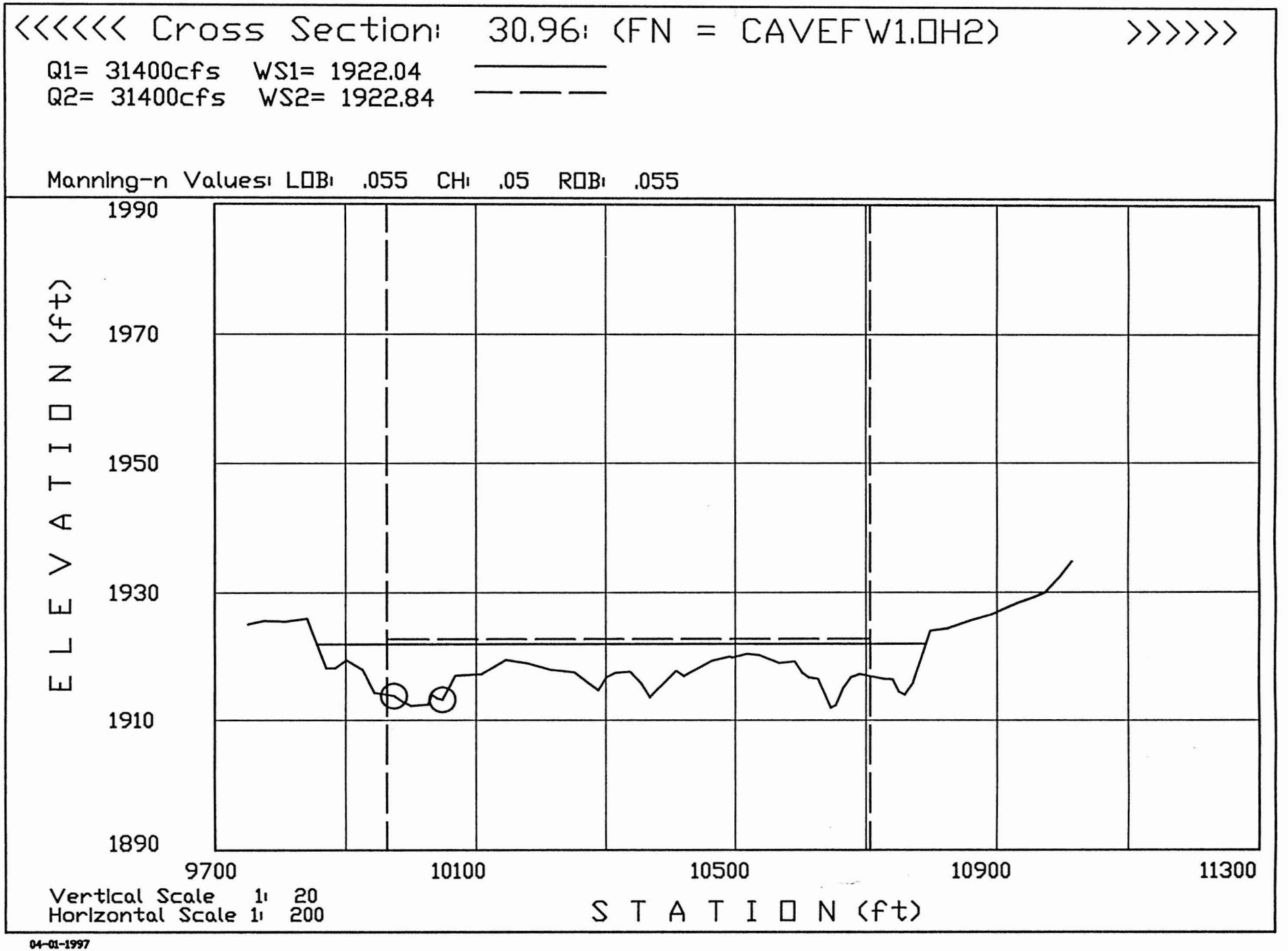

<<<<<< Cross Section: 30.52: (FN = CAVEFW1.0H2) >>>>>>
Q1= 33800cfs WS1= 1902.23
Q2= 33800cfs WS2= 1902.67
Manning-n Values: LOB: .055 CH: .05 ROB: .055
ELEVATION (ft)
1970
1950
1930
1910
1890
1870
9200
9600
10000
10400
10800
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
04-01-1997


<<<<<< Cross Section: 30.65: (FN = CAVEFW1.0H2) >>>>>>
Q1= 33800cfs WS1= 1909.79
Q2= 33800cfs WS2= 1910.57
Manning-n Values: LOB: .055 CH: .05 ROB: .055
1970
1950
1930
1910
1890
1870
ELEVATION (ft)
8700
9100
9500
9900
10300
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
04-01-1997

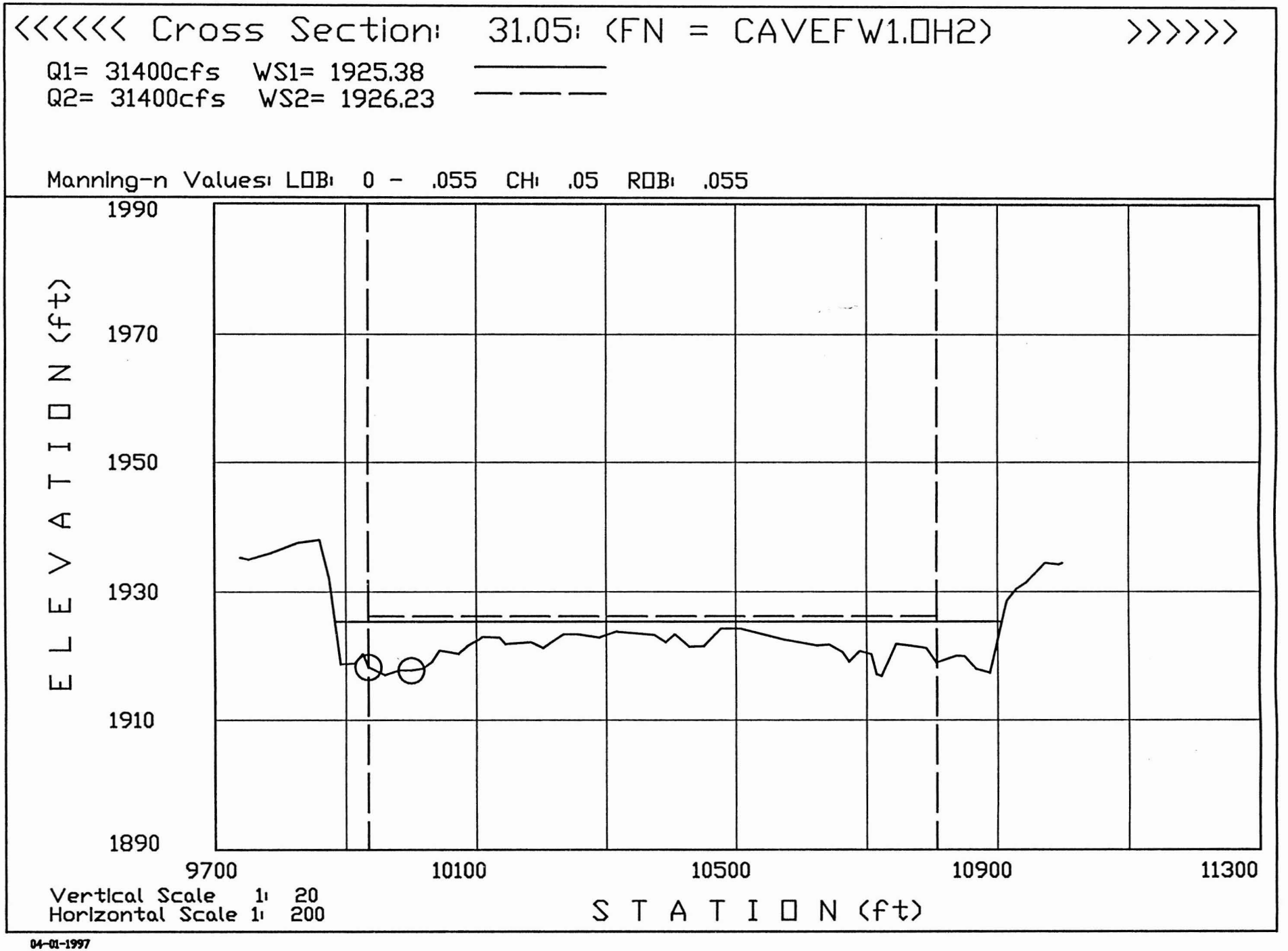

<<<<<< Cross Section: 30.75: (FN = CAVEFW1.0H2) >>>>>>
Q1= 33800cfs WS1= 1913.9
Q2= 33800cfs WS2= 1914.47
Manning-n Values: LOB: .055 CH: .05 ROB: .055
ELEVATION (ft)
1980
1960
1940
1920
1900
1880
9000
9400
9800
10200
10600
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200

04-01-1997

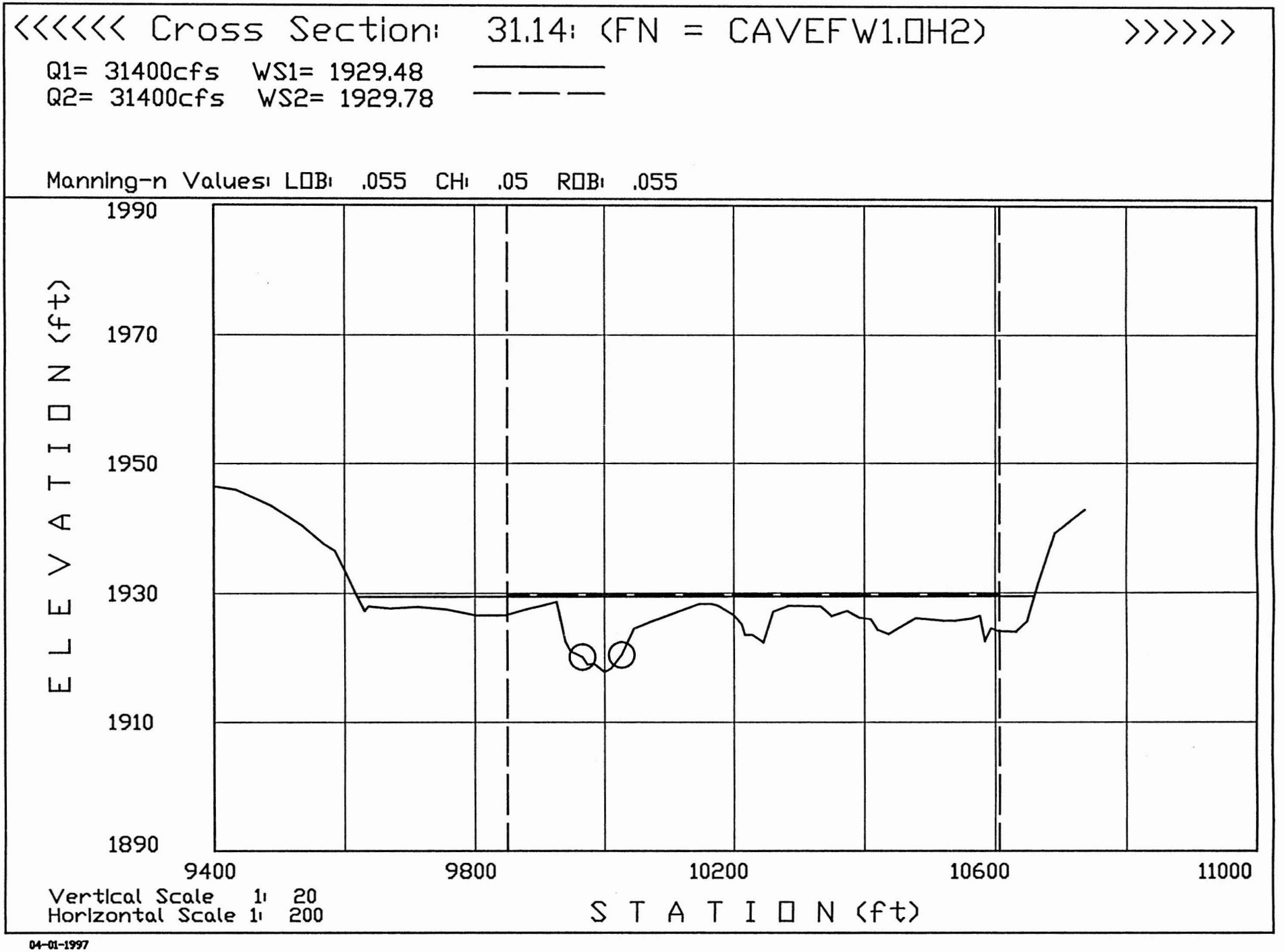

<<<<<< Cross Section: 30.85: (FN = CAVEFW1.0H2) >>>>>>
Q1= 33800cfs WS1= 1917.16
Q2= 33800cfs WS2= 1918.08
Manning-n Values: LOB: 0 - .055 CH: .05 ROB: .055
1980
1960
1940
1920
1900
1880
ELEVATION (ft)
9300
9700
10100
10500
10900
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
04-01-1997


<<<<<< Cross Section: 30.96: (FN = CAVEFW1.0H2) >>>>>>
Q1= 31400cfs WS1= 1922.04
Q2= 31400cfs WS2= 1922.84
Manning-n Values: LOB: .055 CH: .05 ROB: .055
1990
1970
1950
1930
1910
1890
ELEVATION (ft)
9700
10100
10500
10900
11300
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200

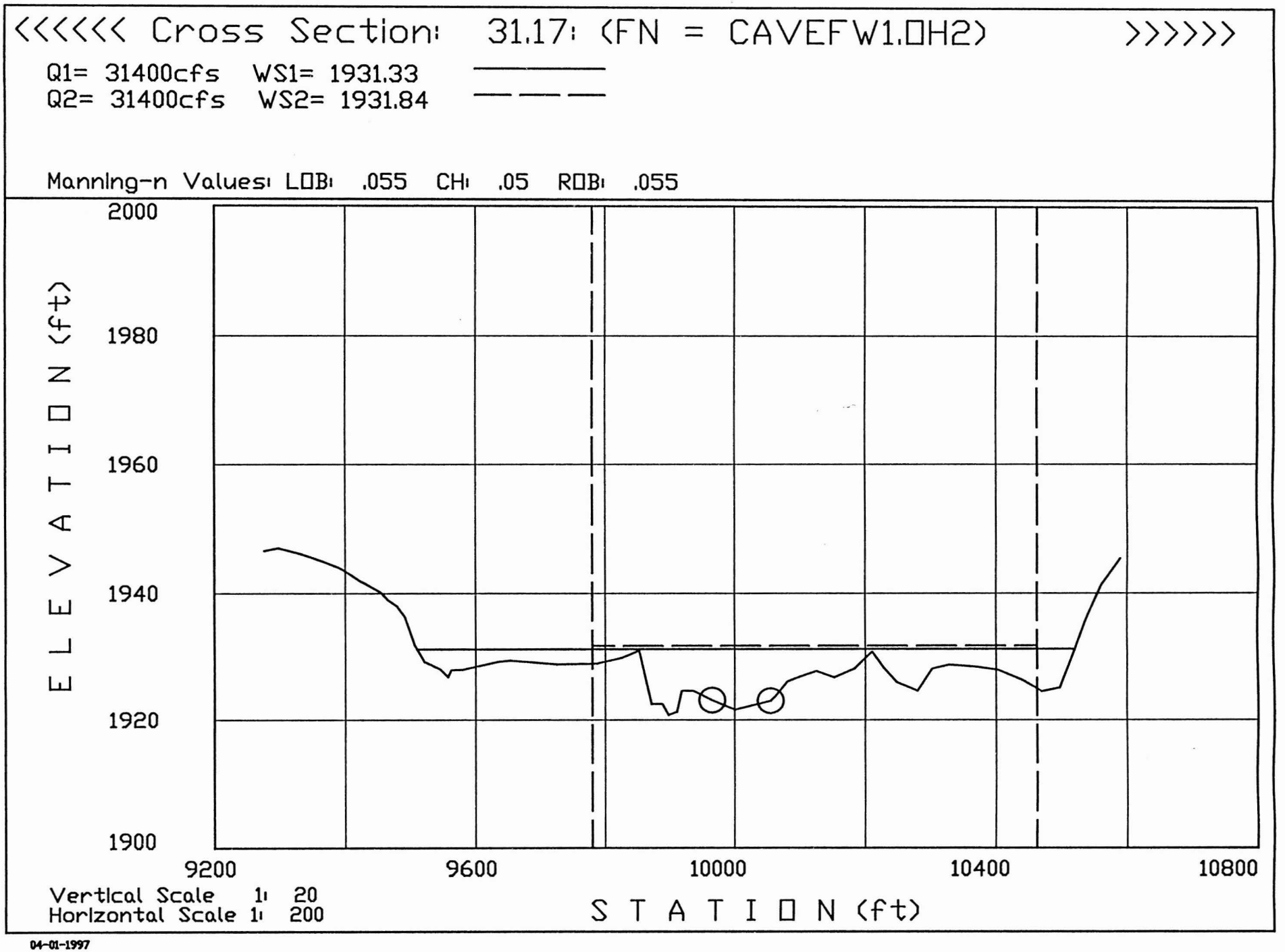
04-01-1997


<<<<<< Cross Section: 31.05: (FN = CAVEFW1.0H2) >>>>>>
Q1= 31400cfs WS1= 1925.38
Q2= 31400cfs WS2= 1926.23
Manning-n Values: LOB: 0 - .055 CH: .05 ROB: .055
1990
1970
1950
1930
1910
1890
ELEVATION (ft)
9700
10100
10500
10900
11300
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200

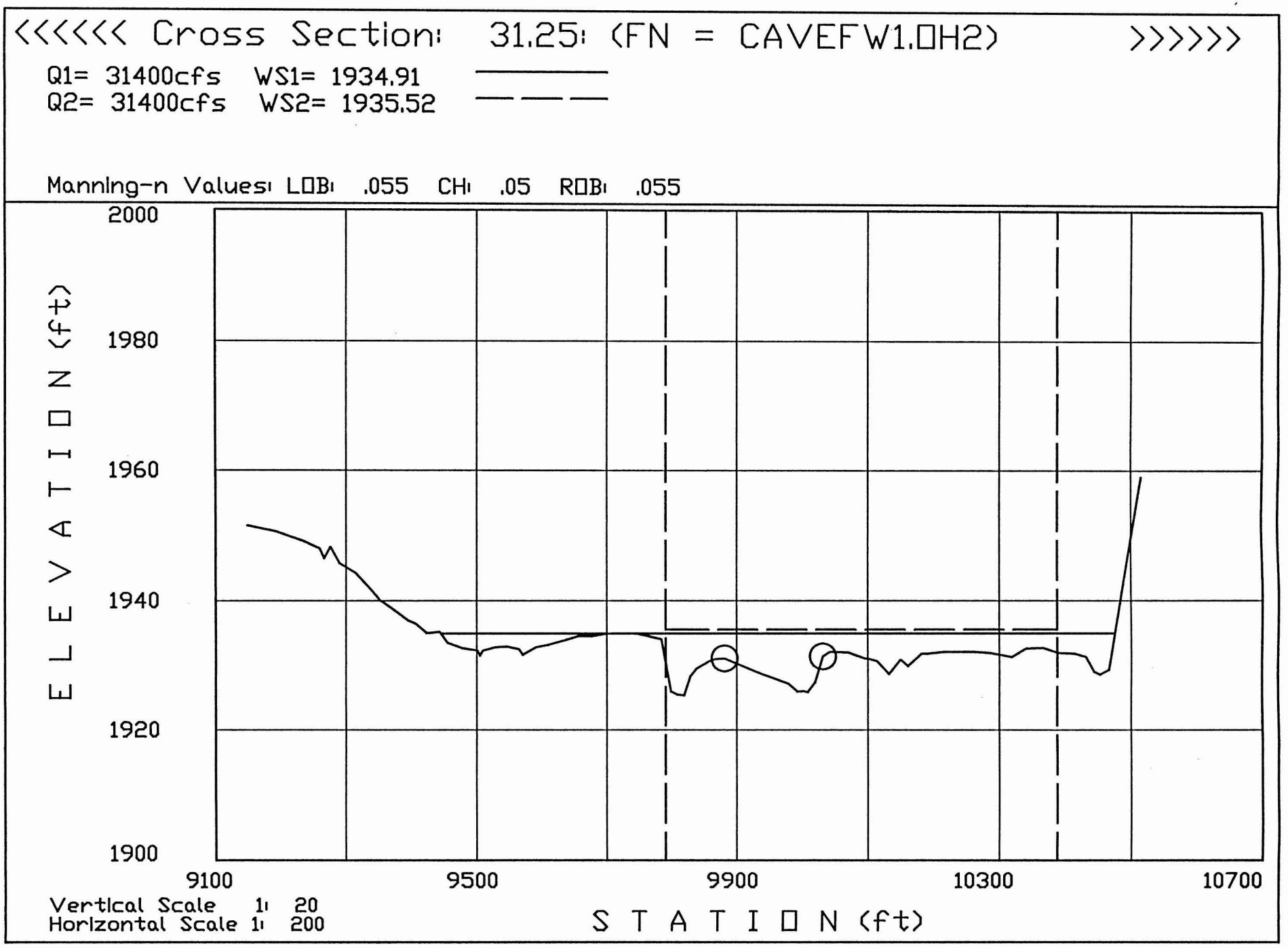
04-01-1997


<<<<<< Cross Section: 31.14: (FN = CAVEFW1.DH2) >>>>>>
Q1= 31400cfs WS1= 1929.48
Q2= 31400cfs WS2= 1929.78
Manning-n Values: LOB: .055 CH: .05 ROB: .055
ELEVATION (ft)
1990
1970
1950
1930
1910
1890
9400
9800
10200
10600
11000
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200

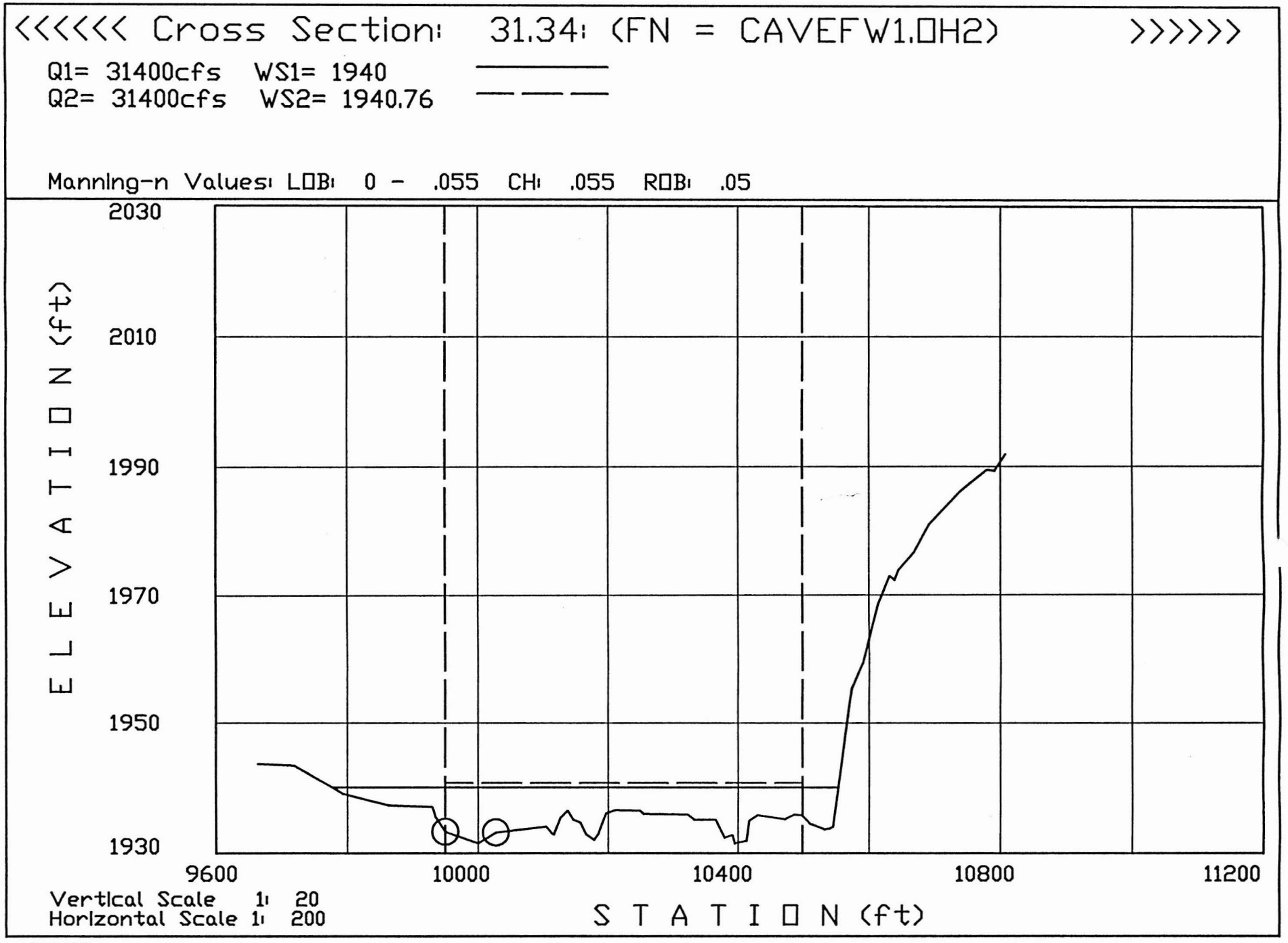
04-01-1997

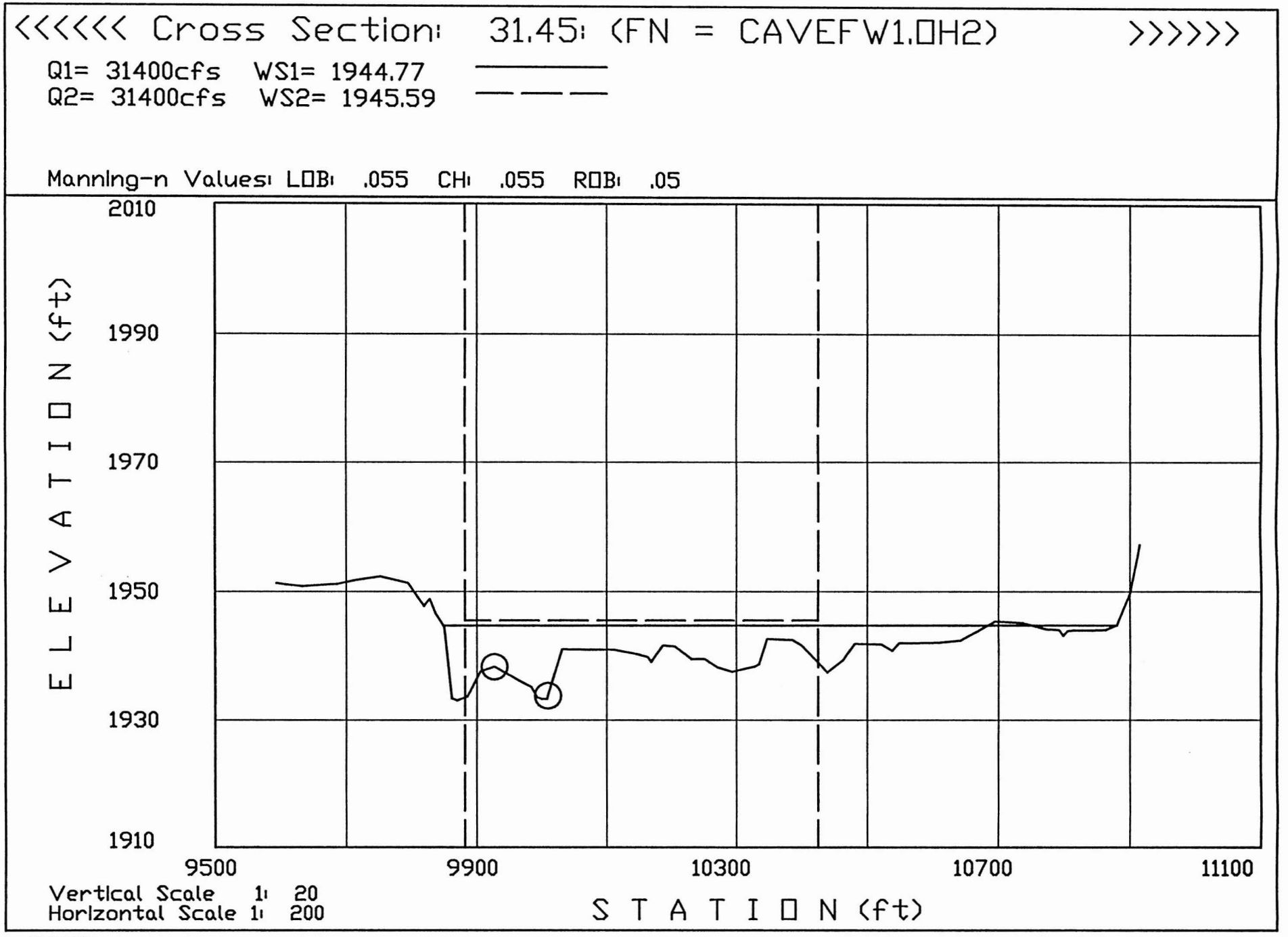

<<<<<< Cross Section: 31.17: (FN = CAVEFW1.0H2) >>>>>>
Q1= 31400cfs WS1= 1931.33
Q2= 31400cfs WS2= 1931.84
Manning-n Values: LOB: .055 CH: .05 ROB: .055
2000
1980
1960
1940
1920
1900
ELEVATION (ft)
9200
9600
10000
10400
10800
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200

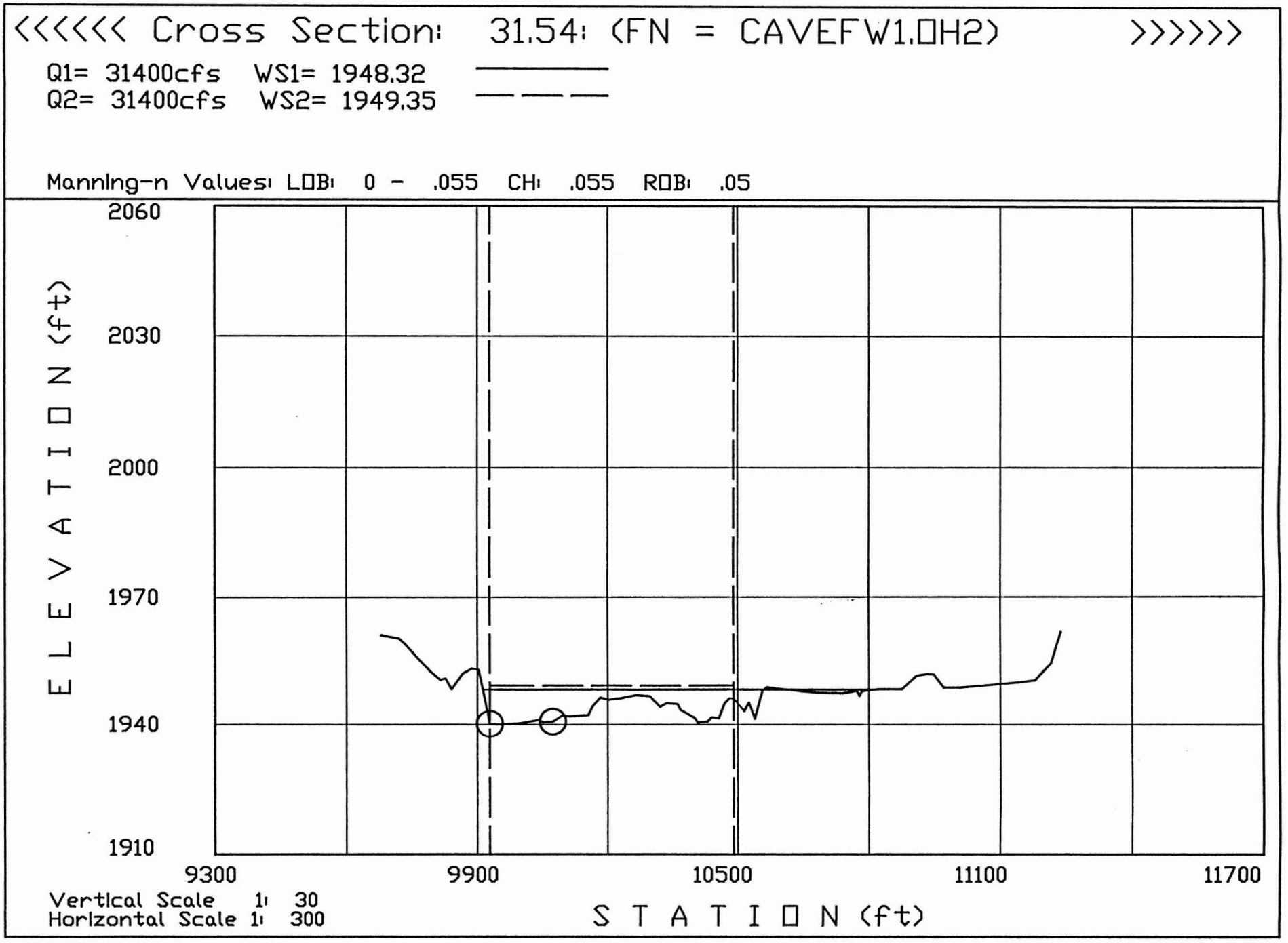
04-01-1997

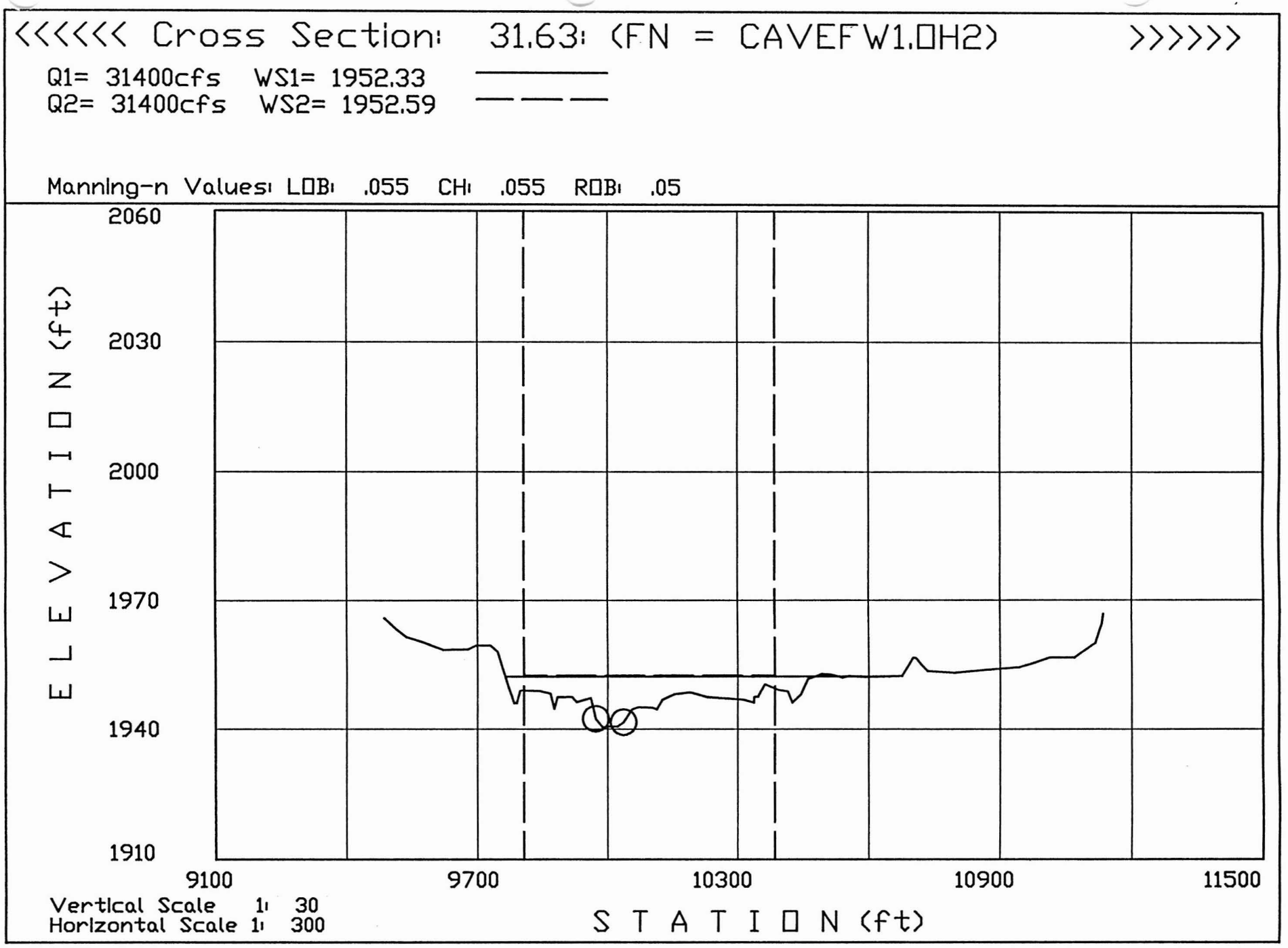

<<<<<< Cross Section: 31.25: (FN = CAVEFW1.0H2) >>>>>>
Q1= 31400cfs WS1= 1934.91
Q2= 31400cfs WS2= 1935.52
Manning-n Values: LOB: .055 CH: .05 ROB: .055
2000
1980
1960
1940
1920
1900
ELEVATION (ft)
9100
9500
9900
10300
10700
Vertical Scale 1: 20
Horizontal Scale 1: 200
STATION (ft)

04-01-1997

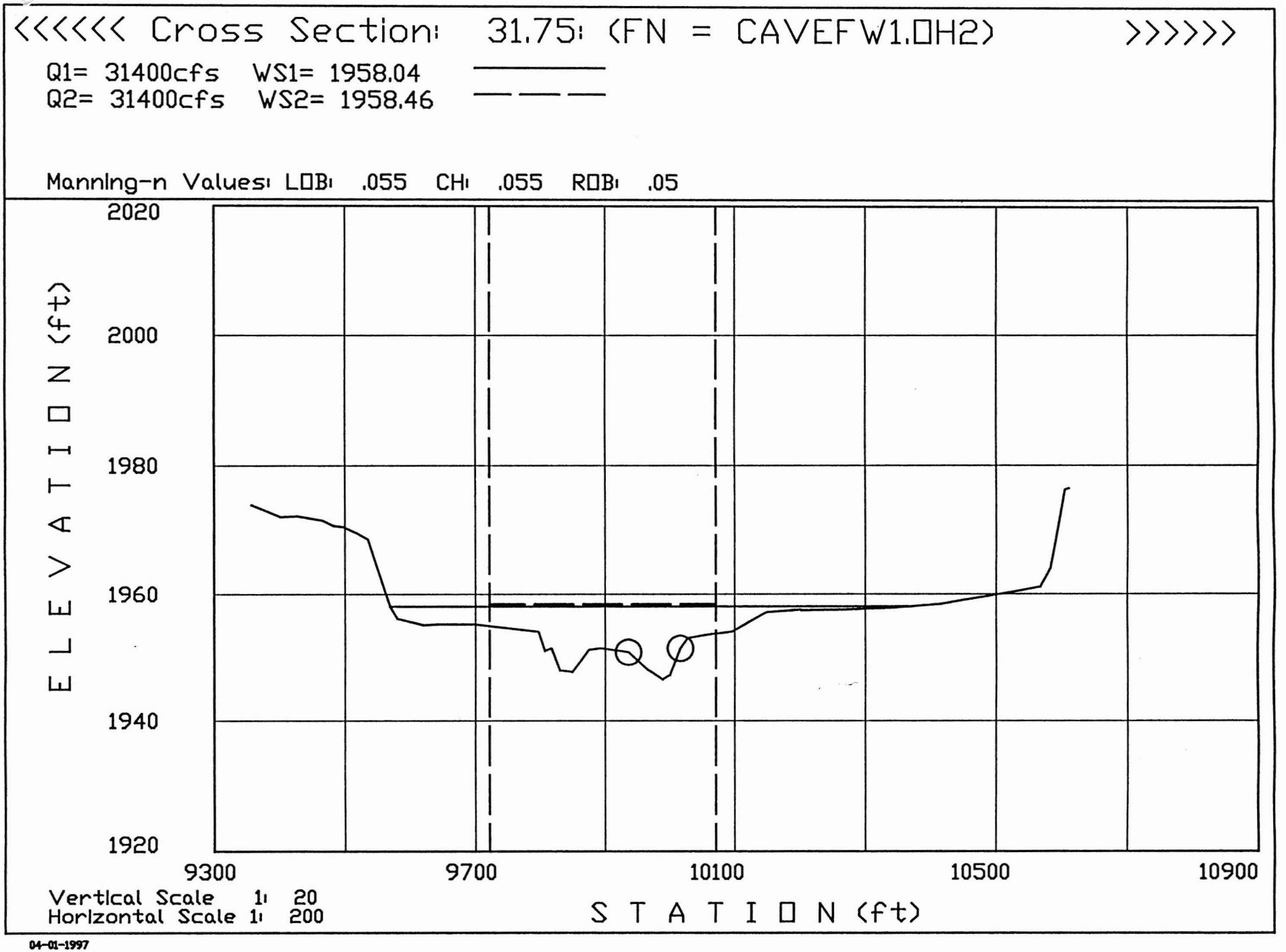

<<<<<< Cross Section: 31.34: (FN = CAVEFW1.0H2) >>>>>>
Q1= 31400cfs WS1= 1940
Q2= 31400cfs WS2= 1940.76
Manning-n Values: LOB: 0 - .055 CH: .055 ROB: .05
2030
2010
1990
1970
1950
1930
ELEVATION (ft)
9600
10000
10400
10800
11200
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
04-01-1997

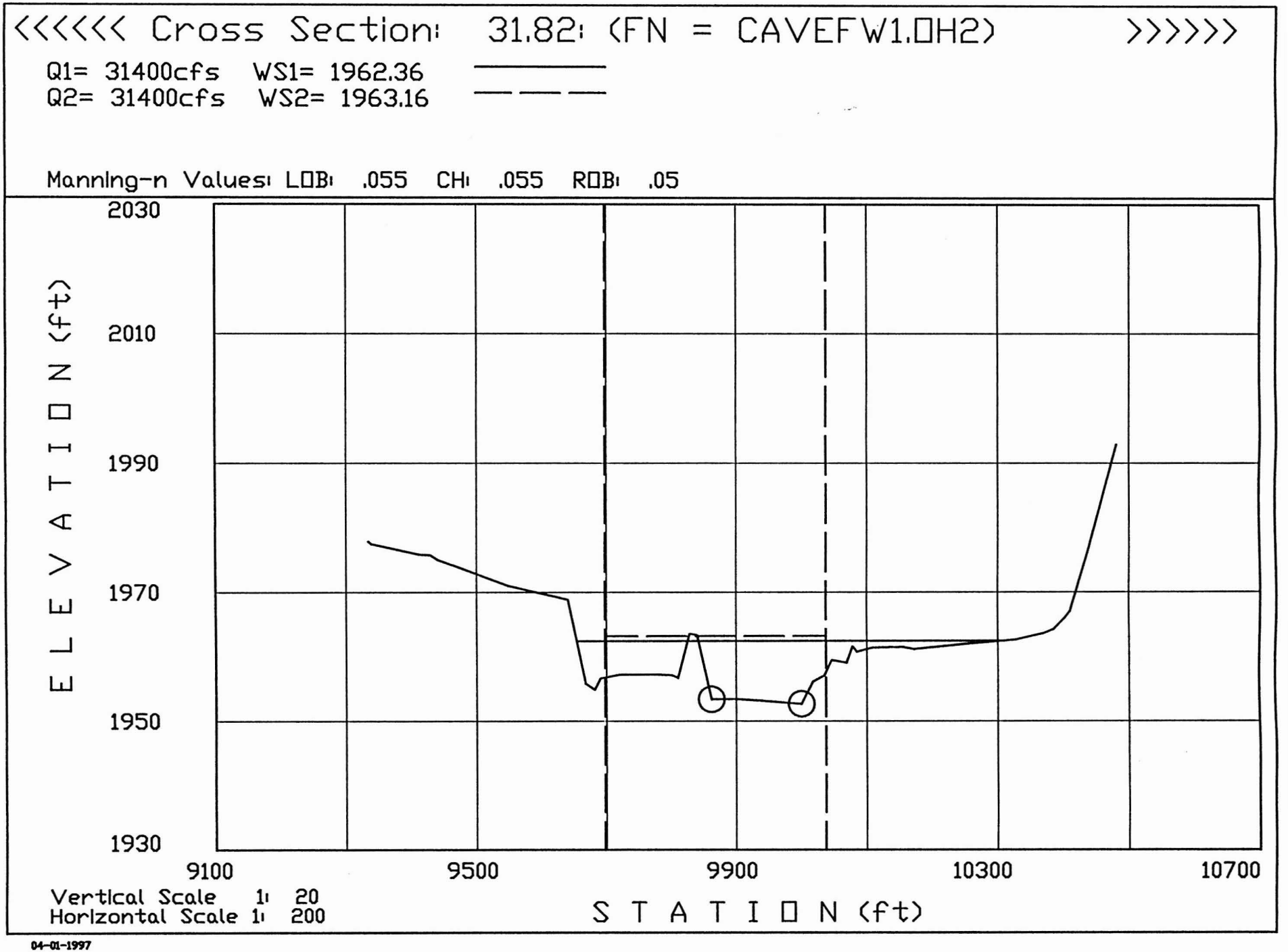

<<<<<< Cross Section: 31.45: (FN = CAVEFW1.0H2) >>>>>>
Q1= 31400cfs WS1= 1944.77
Q2= 31400cfs WS2= 1945.59
Manning-n Values: LOB: .055 CH: .055 ROB: .05
2010
1990
1970
1950
1930
1910
ELEVATION (ft)
9500
9900
10300
10700
11100
Vertical Scale 1: 20
Horizontal Scale 1: 200
STATION (ft)
04-01-1997


<<<<<< Cross Section: 31.54: (FN = CAVEFW1.0H2) >>>>>>
Q1= 31400cfs WS1= 1948.32
Q2= 31400cfs WS2= 1949.35
Manning-n Values: LOB: 0 - .055 CH: .055 ROB: .05
2060
2030
2000
1970
1940
1910
ELEVATION (ft)
9300
9900
10500
11100
11700
STATION (ft)
Vertical Scale 1: 30
Horizontal Scale 1: 300
04-01-1997

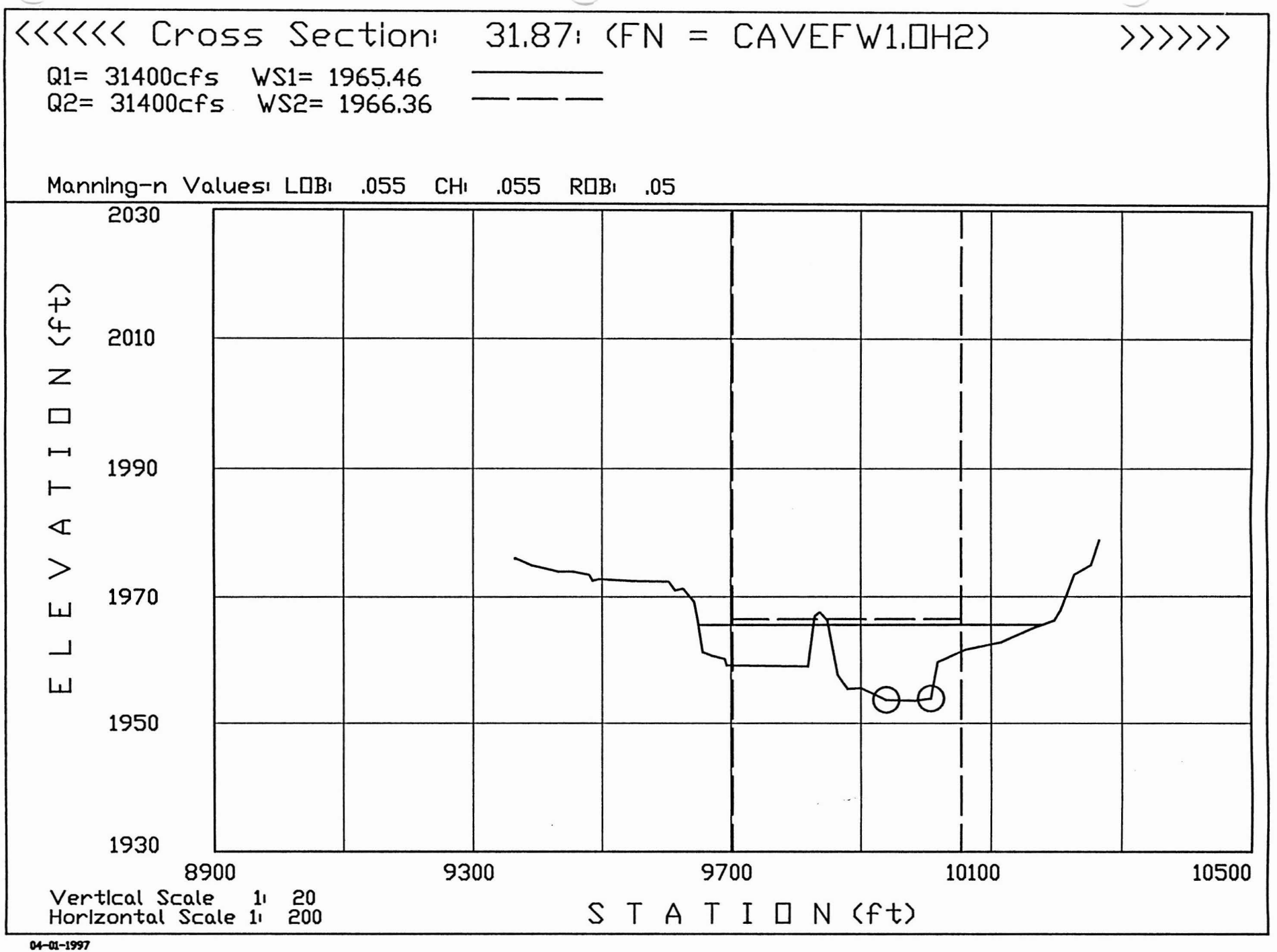

<<<<<< Cross Section: 31.63: (FN = CAVEFW1.0H2) >>>>>>
Q1= 31400cfs WS1= 1952.33
Q2= 31400cfs WS2= 1952.59
Manning-n Values: LOB: .055 CH: .055 ROB: .05
2060
2030
2000
1970
1940
1910
ELEVATION (ft)
9100
9700
10300
10900
11500
Vertical Scale 1: 30
Horizontal Scale 1: 300
STATION (ft)

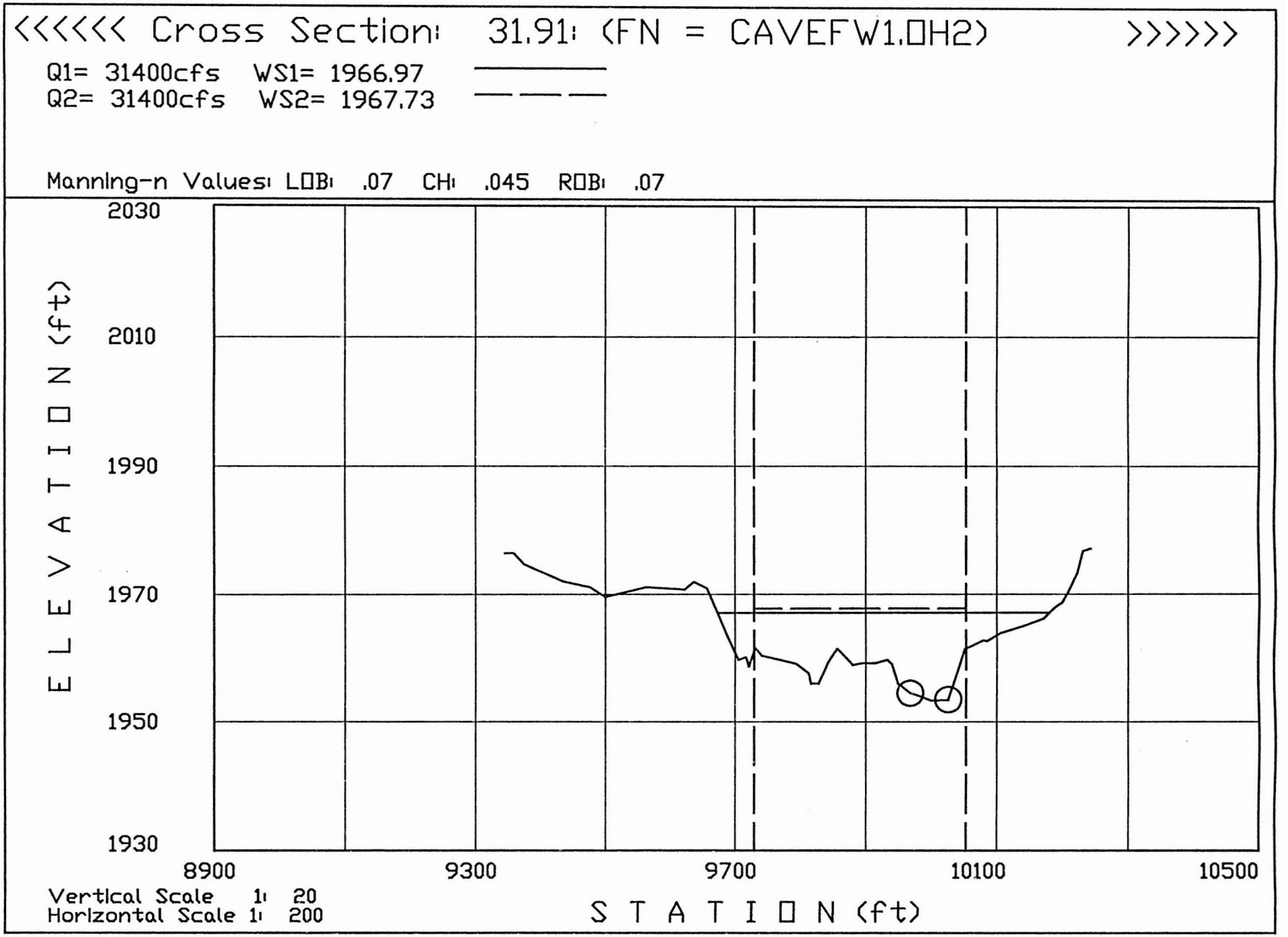
04-01-1997


<<<<<< Cross Section: 31.75: (FN = CAVEFW1.0H2) >>>>>>
Q1= 31400cfs WS1= 1958.04
Q2= 31400cfs WS2= 1958.46
Manning-n Values: LOB: .055 CH: .055 ROB: .05
2020
2000
1980
1960
1940
1920
ELEVATION (ft)
9300
9700
10100
10500
10900
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
04-01-1997

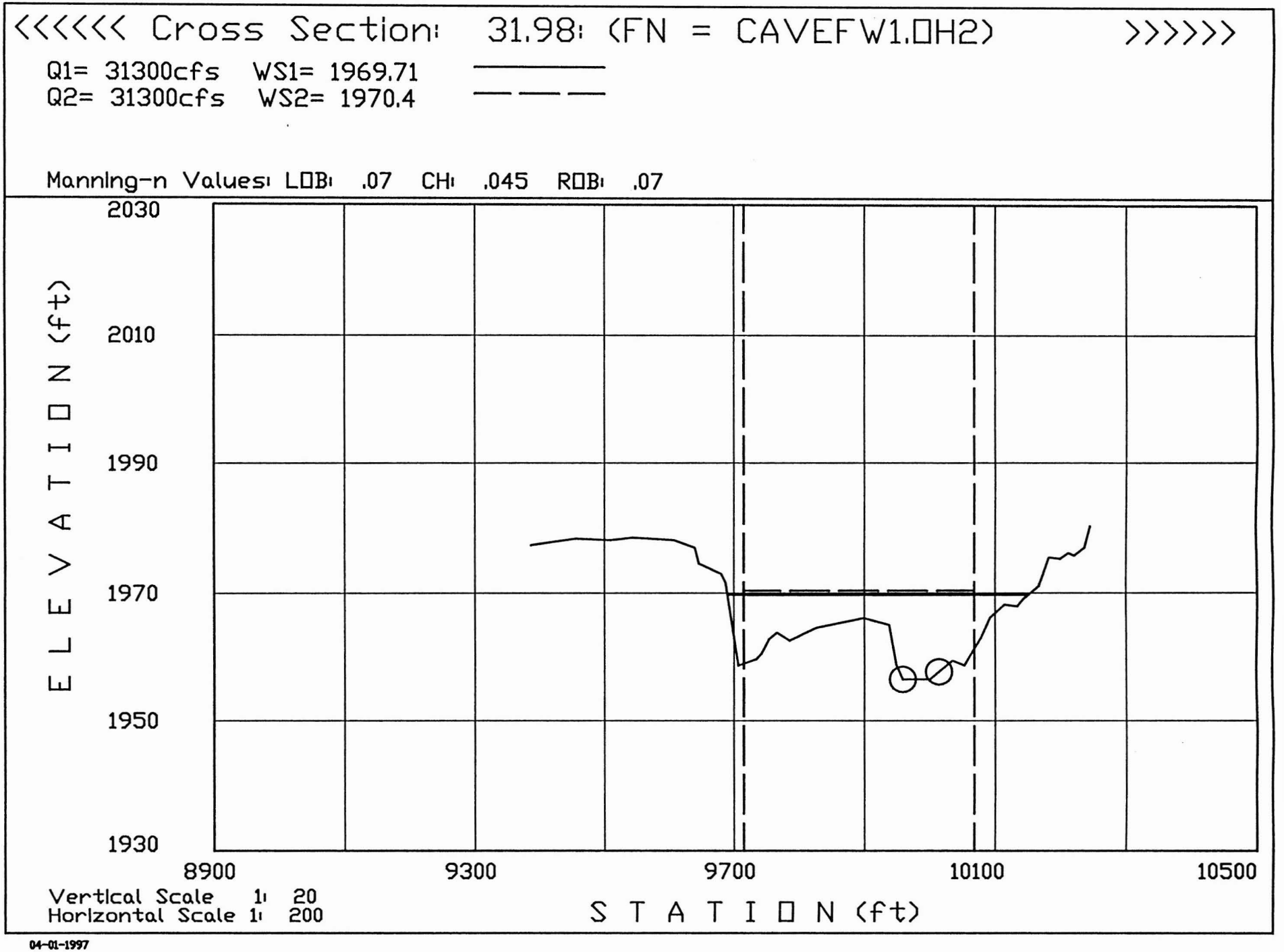

<<<<<< Cross Section: 31.82: (FN = CAVEFW1.0H2) >>>>>>
Q1= 31400cfs WS1= 1962.36
Q2= 31400cfs WS2= 1963.16
Manning-n Values: LOB: .055 CH: .055 ROB: .05
2030
2010
1990
1970
1950
1930
ELEVATION (ft)
9100
9500
9900
10300
10700
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200

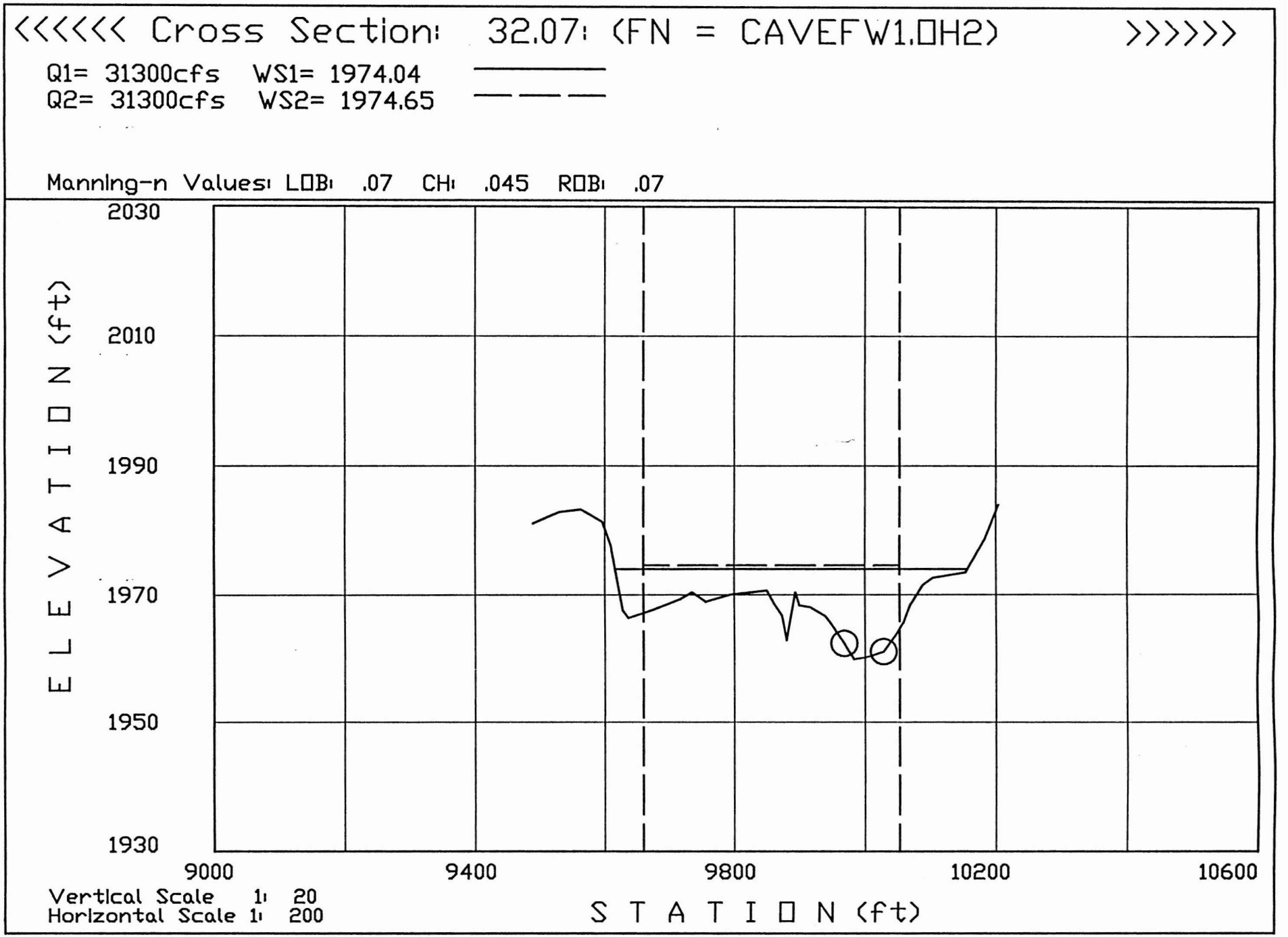
04-01-1997

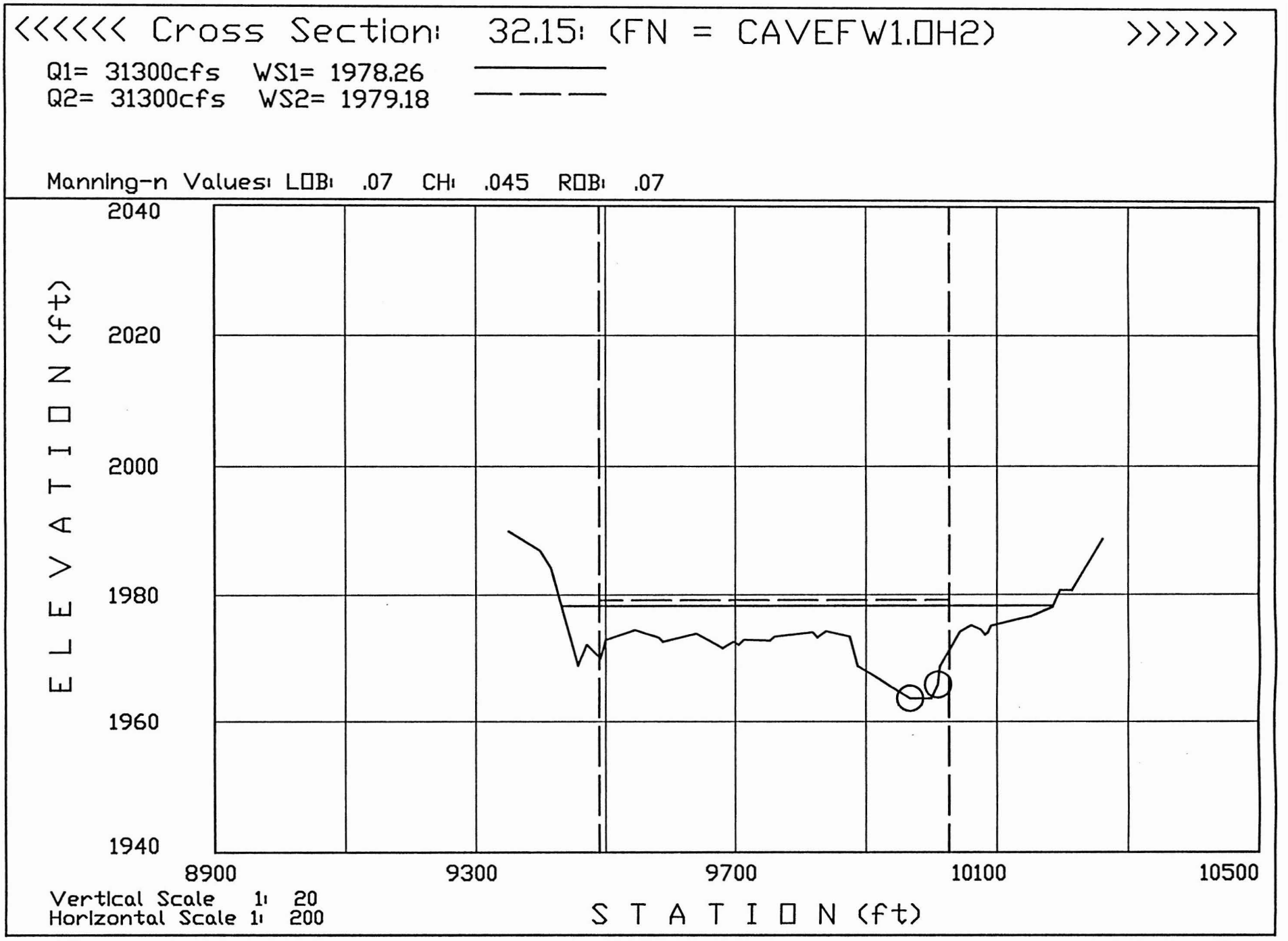

<<<<<< Cross Section: 31.87: (FN = CAVEFW1.DH2) >>>>>>
Q1= 31400cfs WS1= 1965.46
Q2= 31400cfs WS2= 1966.36
Manning-n Values: LOB: .055 CH: .055 ROB: .05
2030
2010
1990
1970
1950
1930
ELEVATION (ft)
8900
9300
9700
10100
10500
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
04-01-1997


<<<<<< Cross Section: 31.91: (FN = CAVEFW1.0H2) >>>>>>
Q1= 31400cfs WS1= 1966.97
Q2= 31400cfs WS2= 1967.73
Manning-n Values: LOB: .07 CH: .045 ROB: .07
2030
2010
1990
1970
1950
1930
ELEVATION (ft)
8900
9300
9700
10100
10500
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200

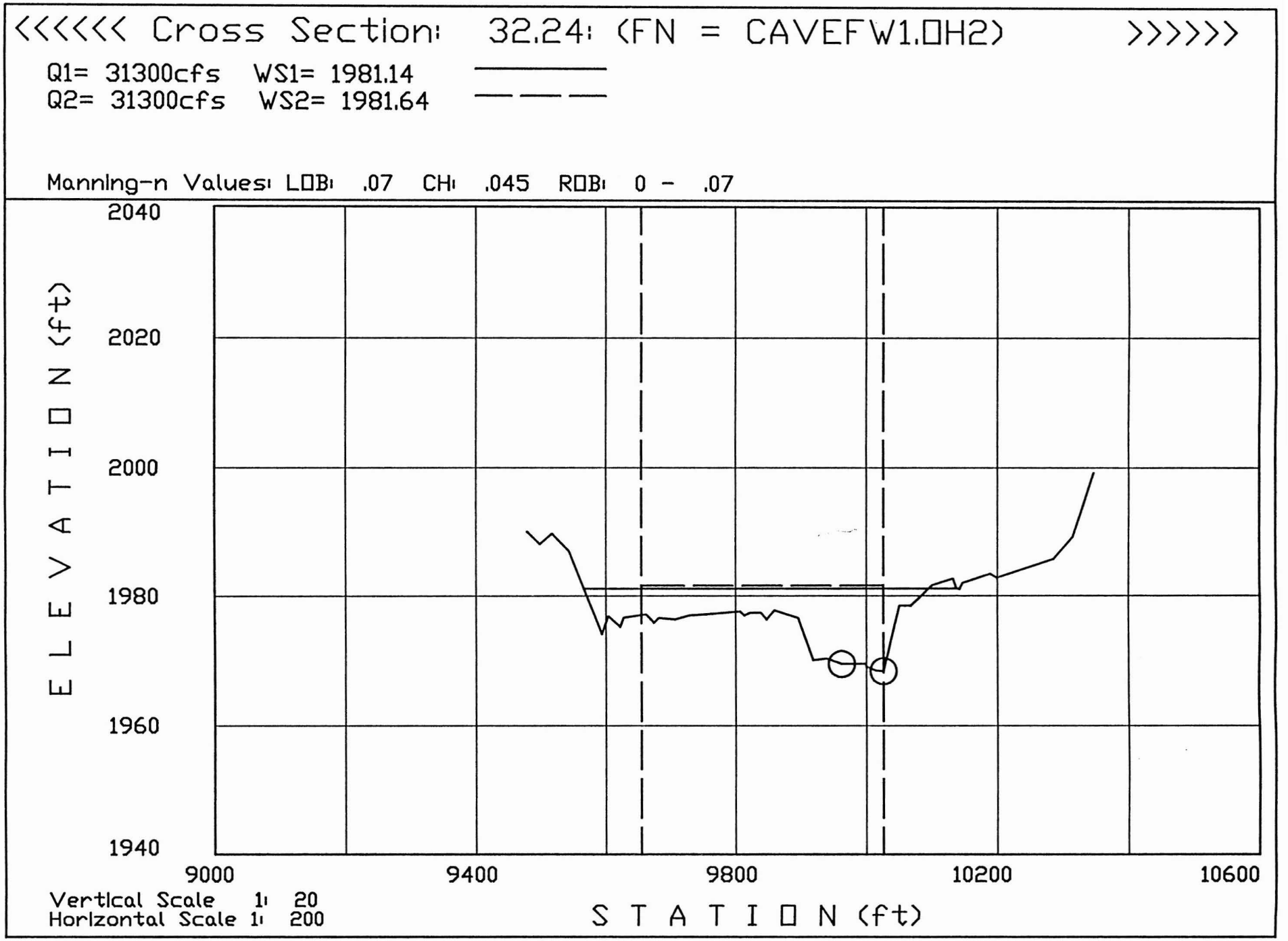
04-01-1997

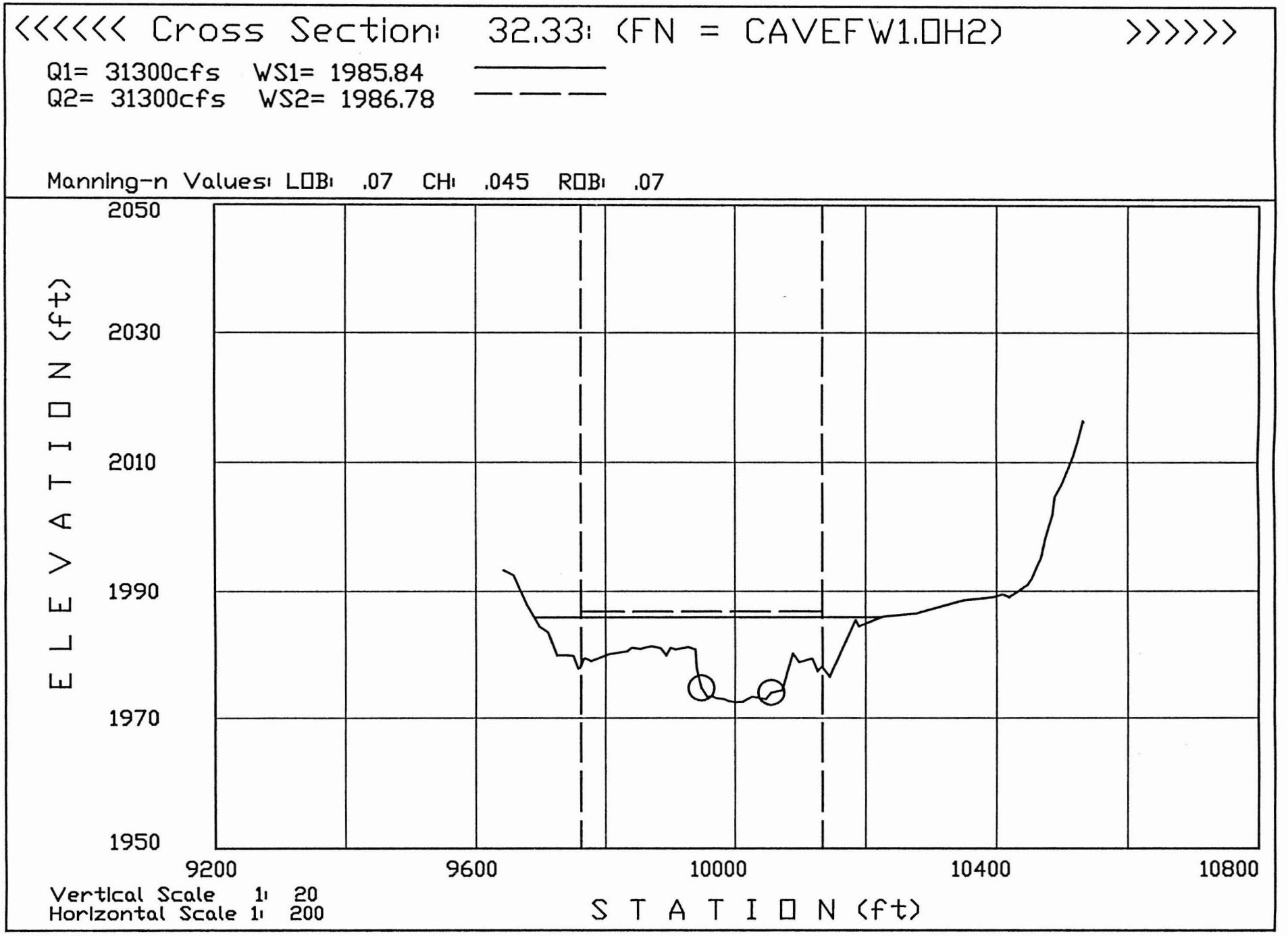

<<<<<< Cross Section: 31.98: (FN = CAVEFW1.0H2) >>>>>>
Q1= 31300cfs WS1= 1969.71
Q2= 31300cfs WS2= 1970.4
Manning-n Values: LOB: .07 CH: .045 ROB: .07
2030
2010
1990
1970
1950
1930
ELEVATION (ft)
8900
9300
9700
10100
10500
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
04-01-1997


<<<<<< Cross Section: 32.07: (FN = CAVEFW1.0H2) >>>>>>
Q1= 31300cfs WS1= 1974.04
Q2= 31300cfs WS2= 1974.65
Manning-n Values: LOB: .07 CH: .045 ROB: .07
ELEVATION (ft)
2030
2010
1990
1970
1950
1930
9000
9400
9800
10200
10600
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
04-01-1997

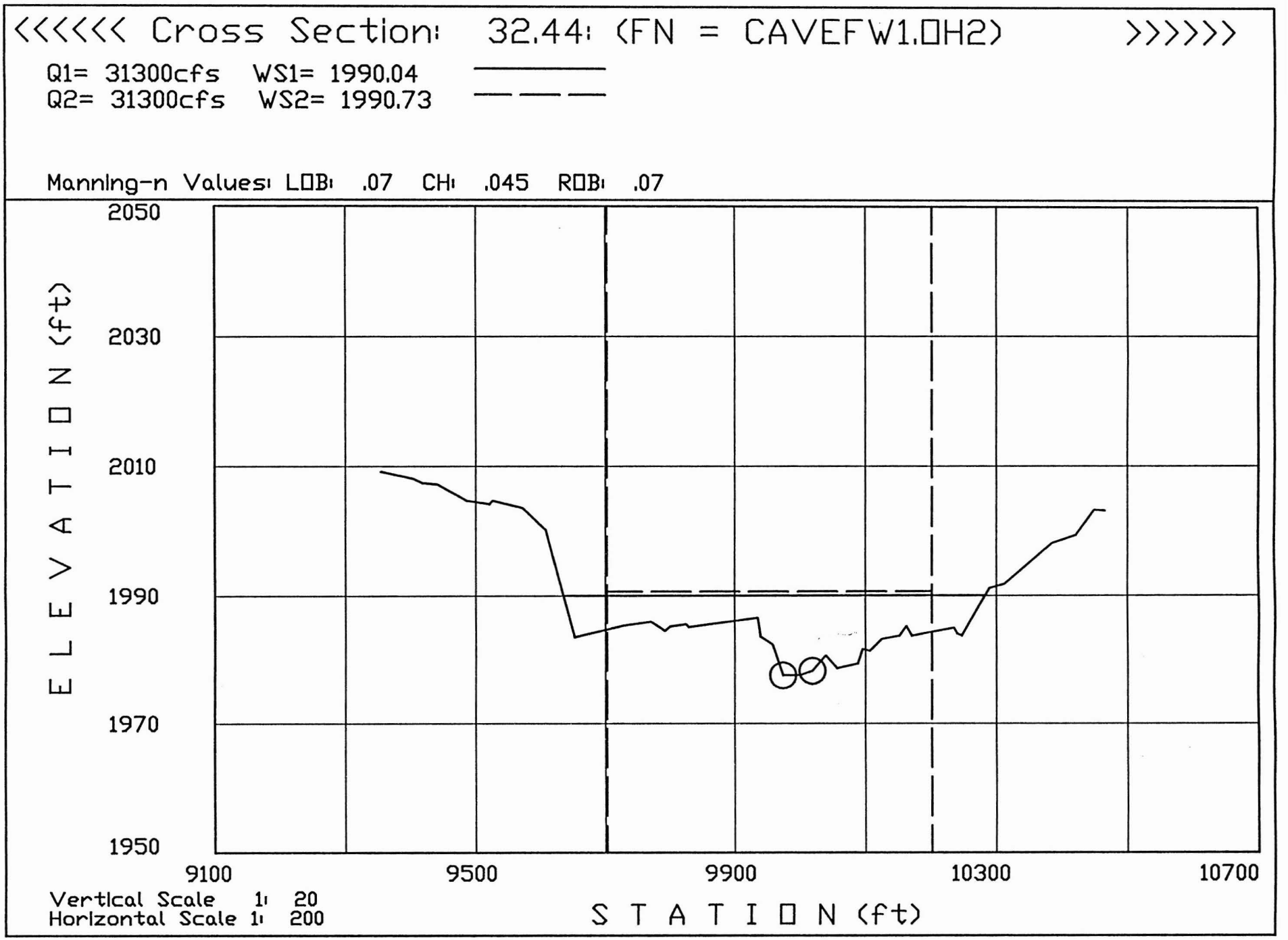

<<<<<< Cross Section: 32.15: (FN = CAVEFW1.0H2) >>>>>>
Q1= 31300cfs WS1= 1978.26
Q2= 31300cfs WS2= 1979.18
Manning-n Values: LOB: .07 CH: .045 ROB: .07
2040
2020
2000
1980
1960
1940
ELEVATION (ft)
8900
9300
9700
10100
10500
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200

04-01-1997

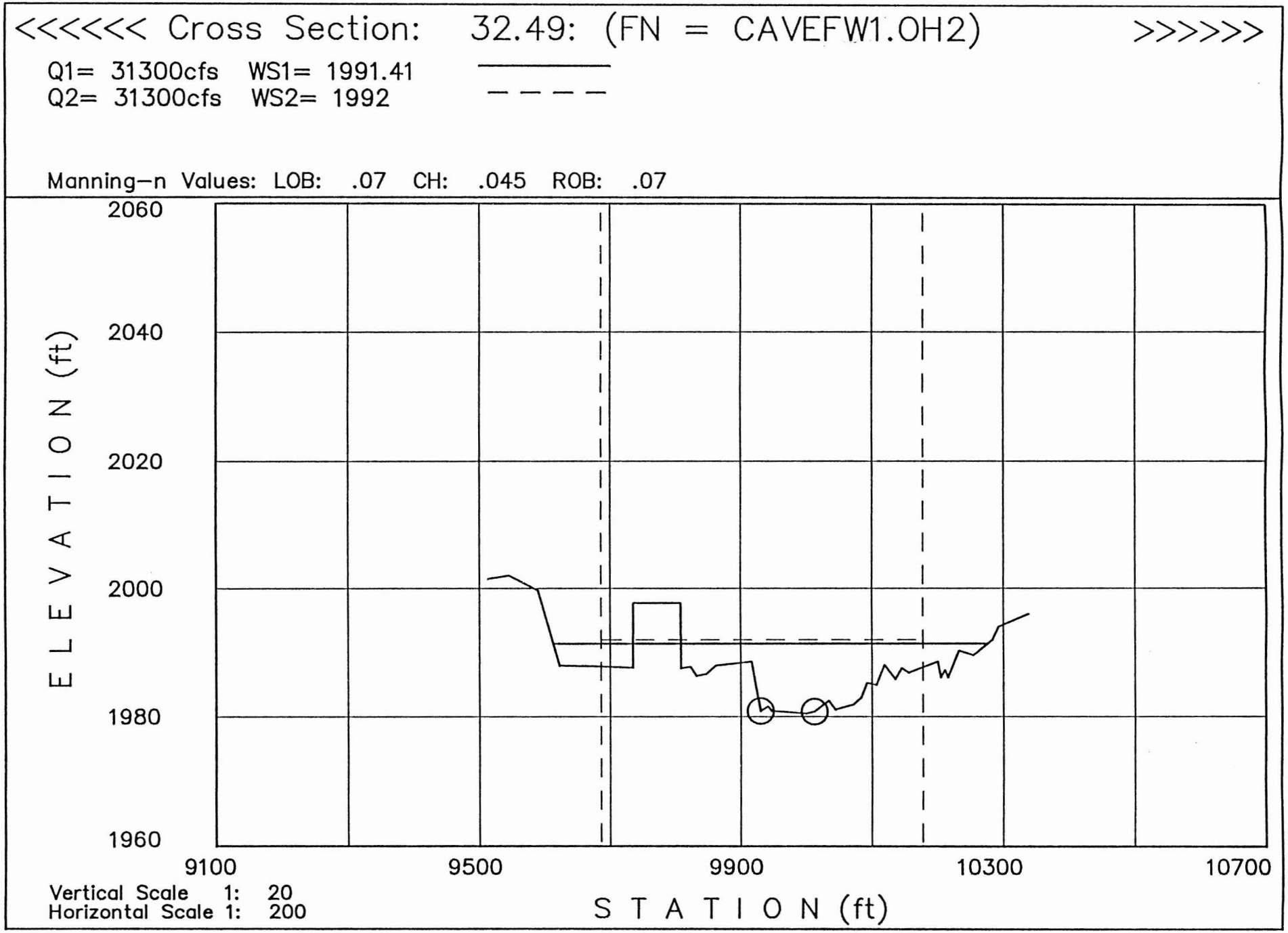

<<<<<< Cross Section: 32.24: (FN = CAVEFW1.0H2) >>>>>>
Q1= 31300cfs WS1= 1981.14
Q2= 31300cfs WS2= 1981.64
Manning-n Values: LOB: .07 CH: .045 ROB: 0 - .07
2040
2020
2000
1980
1960
1940
ELEVATION (ft)
9000
9400
9800
10200
10600
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
04-01-1997

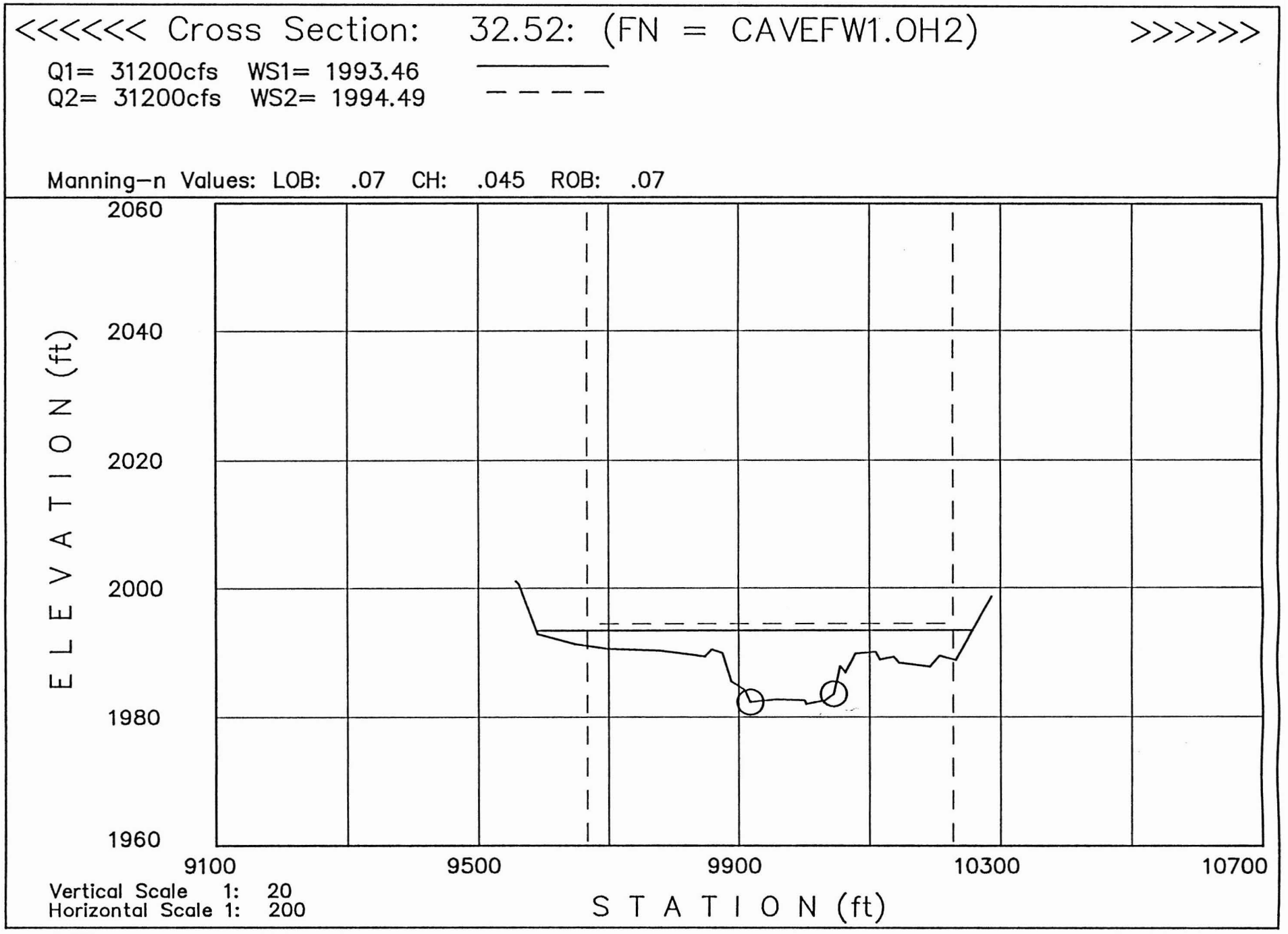

<<<<<< Cross Section: 32.33: (FN = CAVEFW1.0H2) >>>>>>
Q1= 31300cfs WS1= 1985.84
Q2= 31300cfs WS2= 1986.78
Manning-n Values: LOB: .07 CH: .045 ROB: .07
2050
2030
2010
1990
1970
1950
ELEVATION (ft)
9200
9600
10000
10400
10800
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200

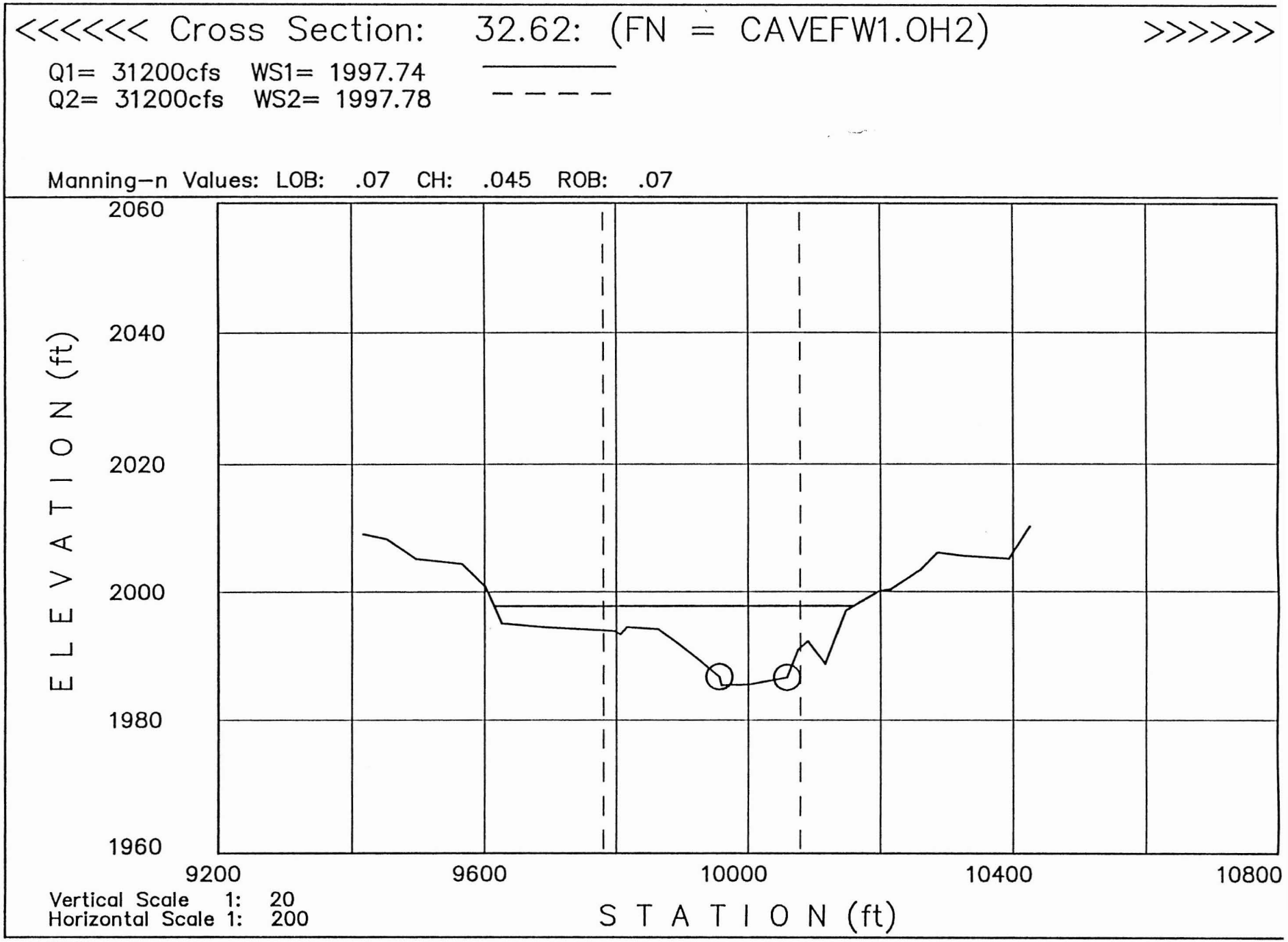
04-01-1997

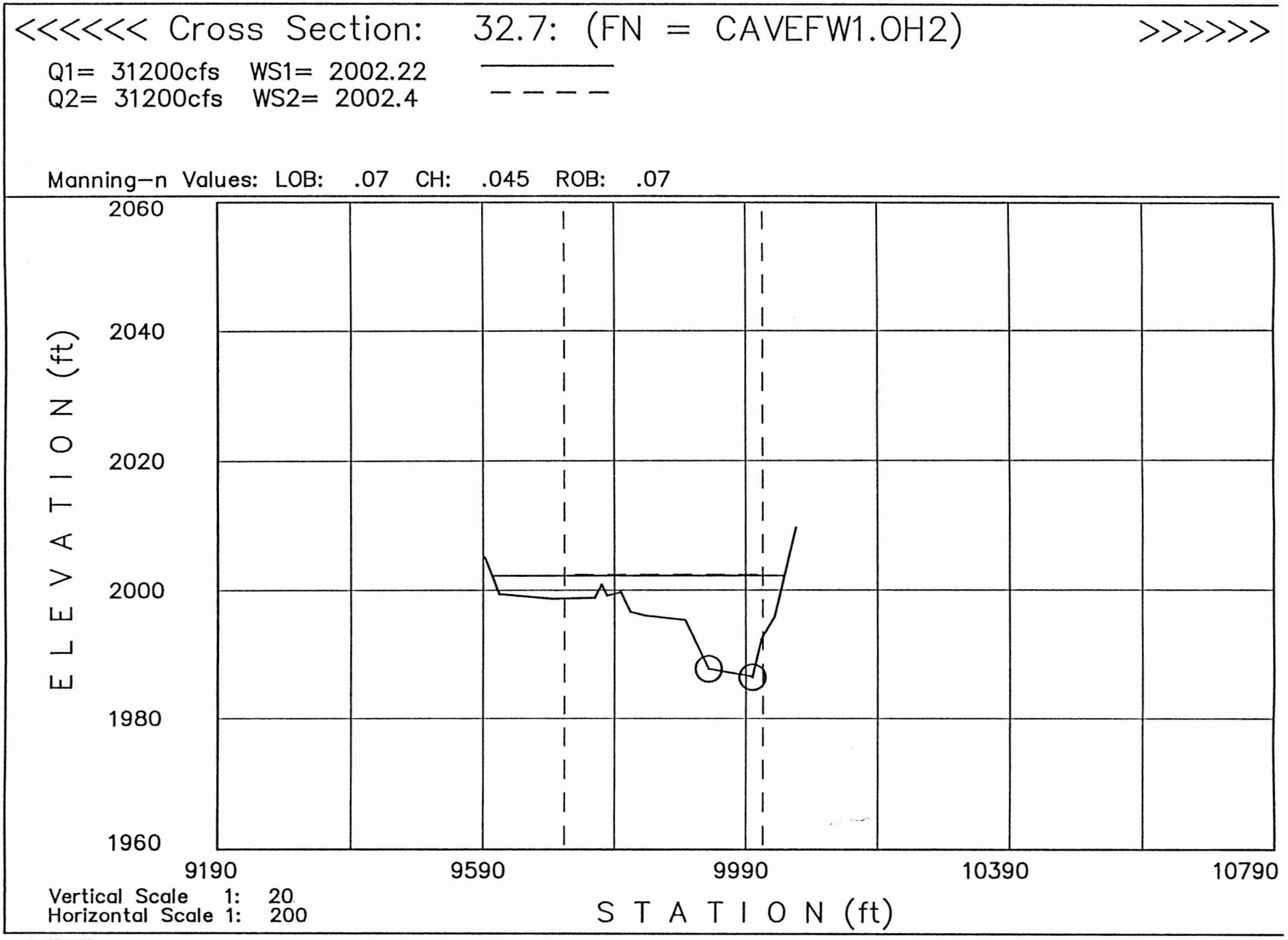

<<<<<< Cross Section: 32.44: (FN = CAVEFW1.DH2) >>>>>>
Q1= 31300cfs WS1= 1990.04
Q2= 31300cfs WS2= 1990.73
Manning-n Values: LOB: .07 CH: .045 ROB: .07
ELEVATION (ft)
2050
2030
2010
1990
1970
1950
9100
9500
9900
10300
10700
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200

04-01-1997


<<<<<< Cross Section: 32.49: (FN = CAVEFW1.OH2) >>>>>>
Q1= 31300cfs WS1= 1991.41
Q2= 31300cfs WS2= 1992
Manning-n Values: LOB: .07 CH: .045 ROB: .07
2060
2040
2020
2000
1980
1960
ELEVATION (ft)
9100
9500
9900
10300
10700
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996


<<<<<< Cross Section: 32.52: (FN = CAVEFW1.OH2) >>>>>>
Q1= 31200cfs WS1= 1993.46
Q2= 31200cfs WS2= 1994.49
Manning-n Values: LOB: .07 CH: .045 ROB: .07
2060
2040
2020
2000
1980
1960
ELEVATION (ft)
9100
9500
9900
10300
10700
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996

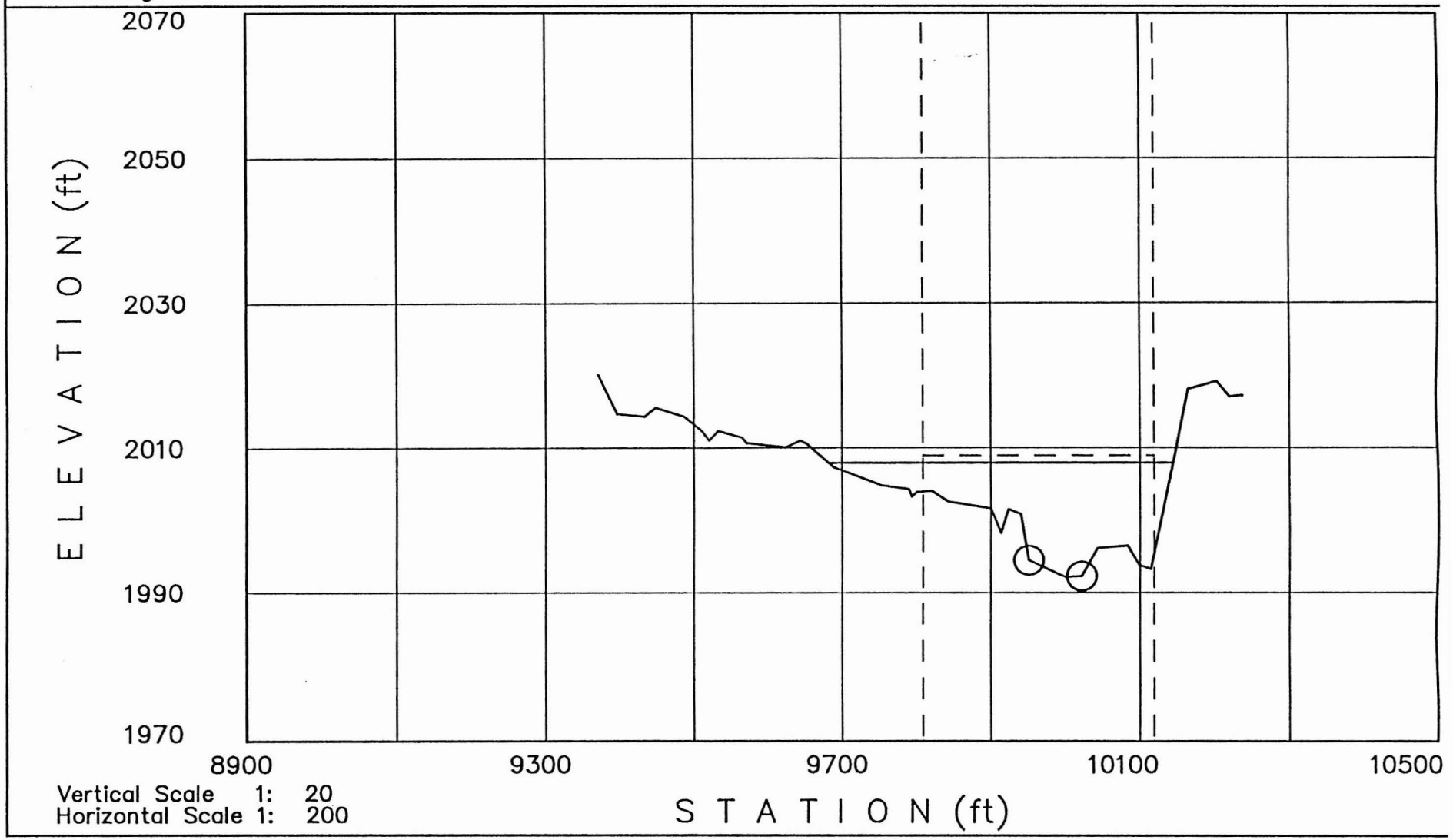

<<<<<< Cross Section: 32.62: (FN = CAVEFW1.OH2) >>>>>>
Q1= 31200cfs WS1= 1997.74
Q2= 31200cfs WS2= 1997.78
Manning-n Values: LOB: .07 CH: .045 ROB: .07
2060
2040
2020
2000
1980
1960
ELEVATION (ft)
9200
9600
10000
10400
10800
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996


<<<<<< Cross Section: 32.7: (FN = CAVEFW1.0H2) >>>>>>
Q1= 31200cfs WS1= 2002.22
Q2= 31200cfs WS2= 2002.4
Manning-n Values: LOB: .07 CH: .045 ROB: .07
2060
2040
2020
2000
1980
1960
ELEVATION (ft)
9190
9590
9990
10390
10790
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996

<<<<<< Cross Section: 32.8: (FN = CAVEFW1.0H2) >>>>>>

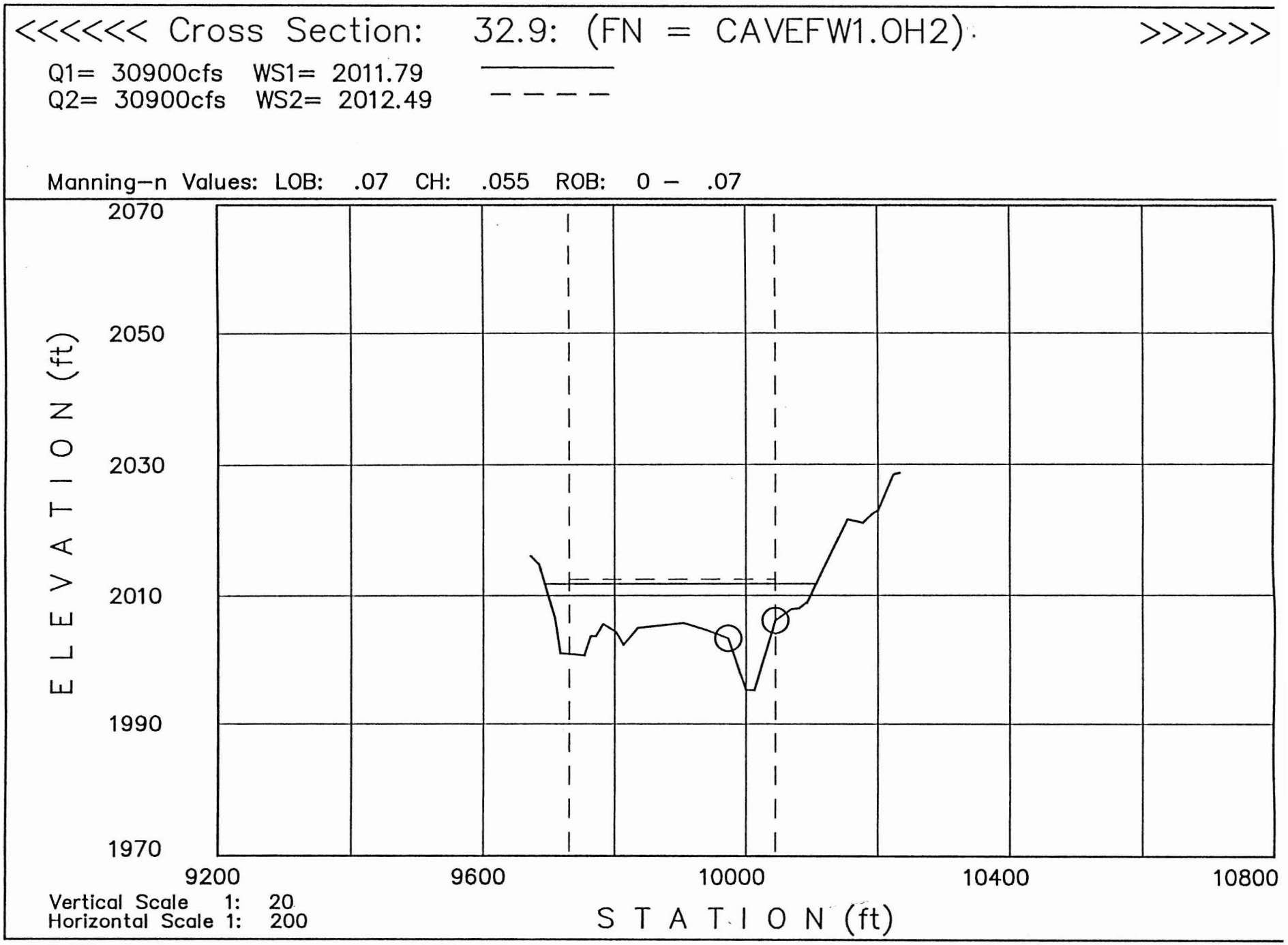
Q1= 31200cfs WS1= 2007.92
Q2= 31200cfs WS2= 2008.96

Manning-n Values: LOB: .07 CH: .055 ROB: .07



Vertical Scale 1: 20
Horizontal Scale 1: 200

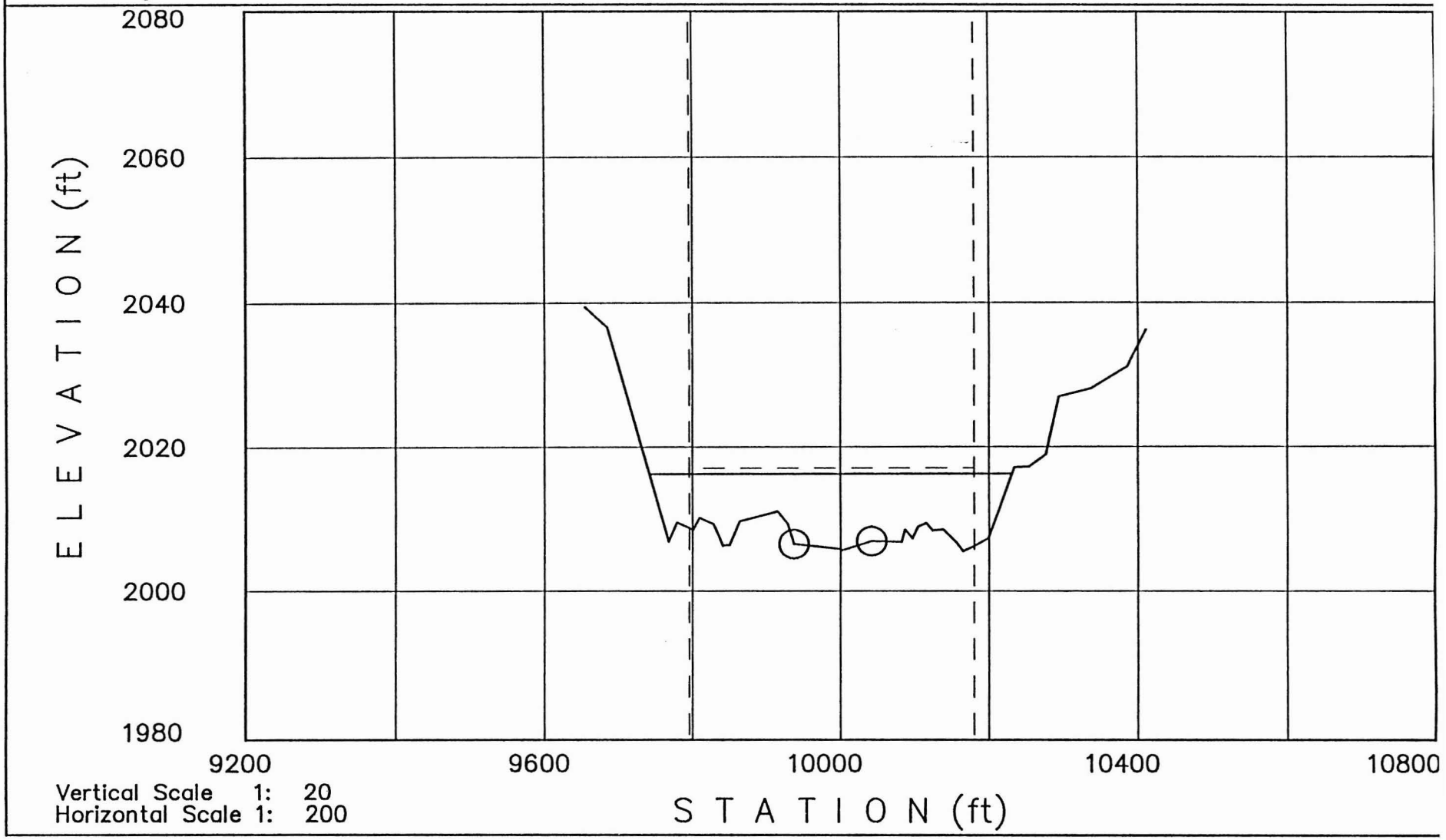
11-07-1996


<<<<<< Cross Section: 32.9: (FN = CAVEFW1.0H2) >>>>>>
Q1= 30900cfs WS1= 2011.79
Q2= 30900cfs WS2= 2012.49
Manning-n Values: LOB: .07 CH: .055 ROB: 0 - .07
2070
2050
2030
2010
1990
1970
ELEVATION (ft)
9200
9600
10000
10400
10800
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996

<<<<<< Cross Section: 32.99: (FN = CAVEFW1.OH2) >>>>>>

Q1= 30900cfs WS1= 2016.19
Q2= 30900cfs WS2= 2017.02

Manning–n Values: LOB: .07 CH: .055 ROB: .07



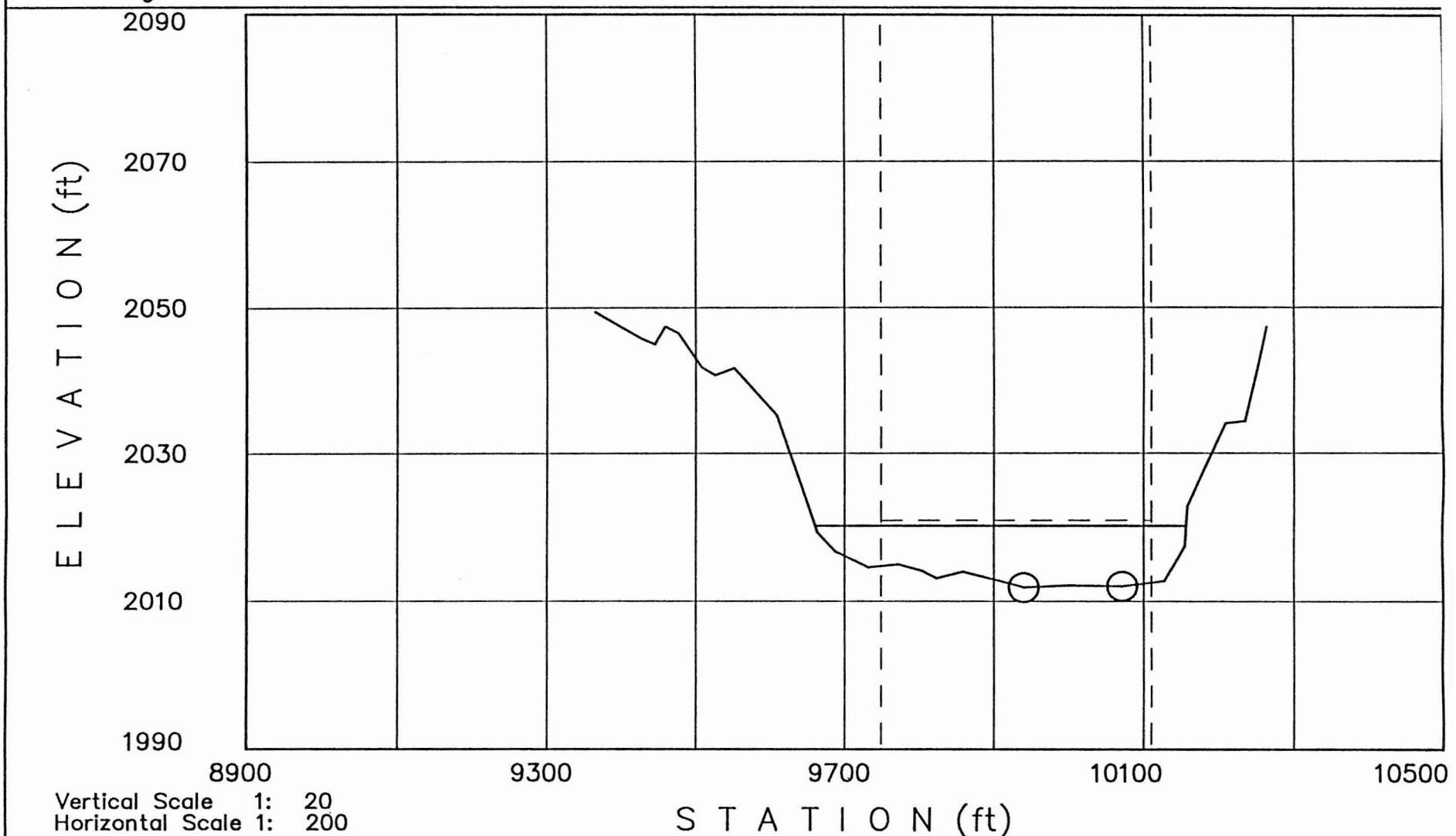
Vertical Scale 1: 20
Horizontal Scale 1: 200

11–07–1996

<<<<<< Cross Section: 33.08: (FN = CAVEFW1.0H2) >>>>>>

Q1= 30900cfs WS1= 2020.24
Q2= 30900cfs WS2= 2020.99

Manning-n Values: LOB: .07 CH: .055 ROB: .07



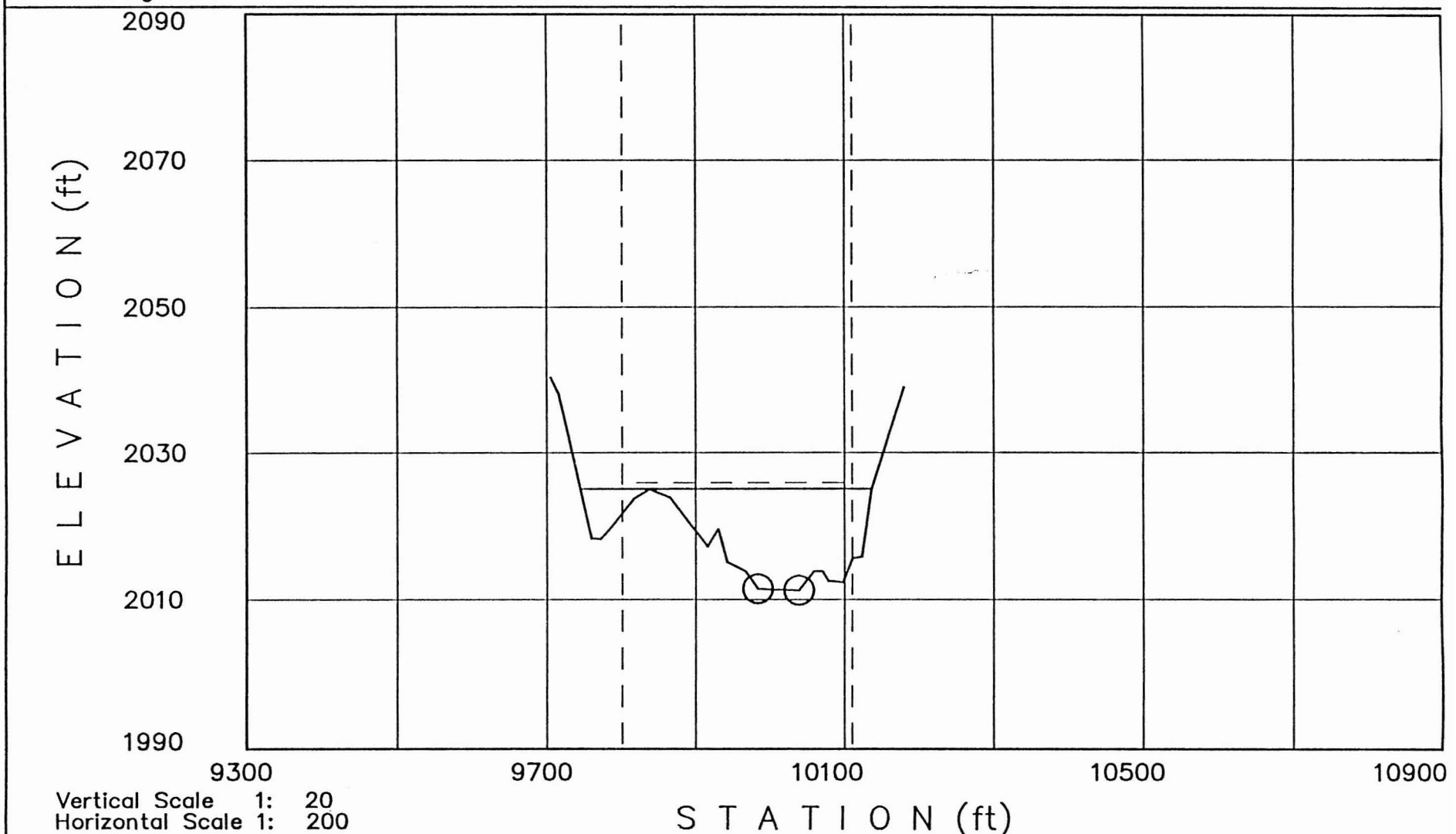
Vertical Scale 1: 20
Horizontal Scale 1: 200

11-07-1996

<<<<<< Cross Section: 33.17: (FN = CAVEFW1.0H2) >>>>>>

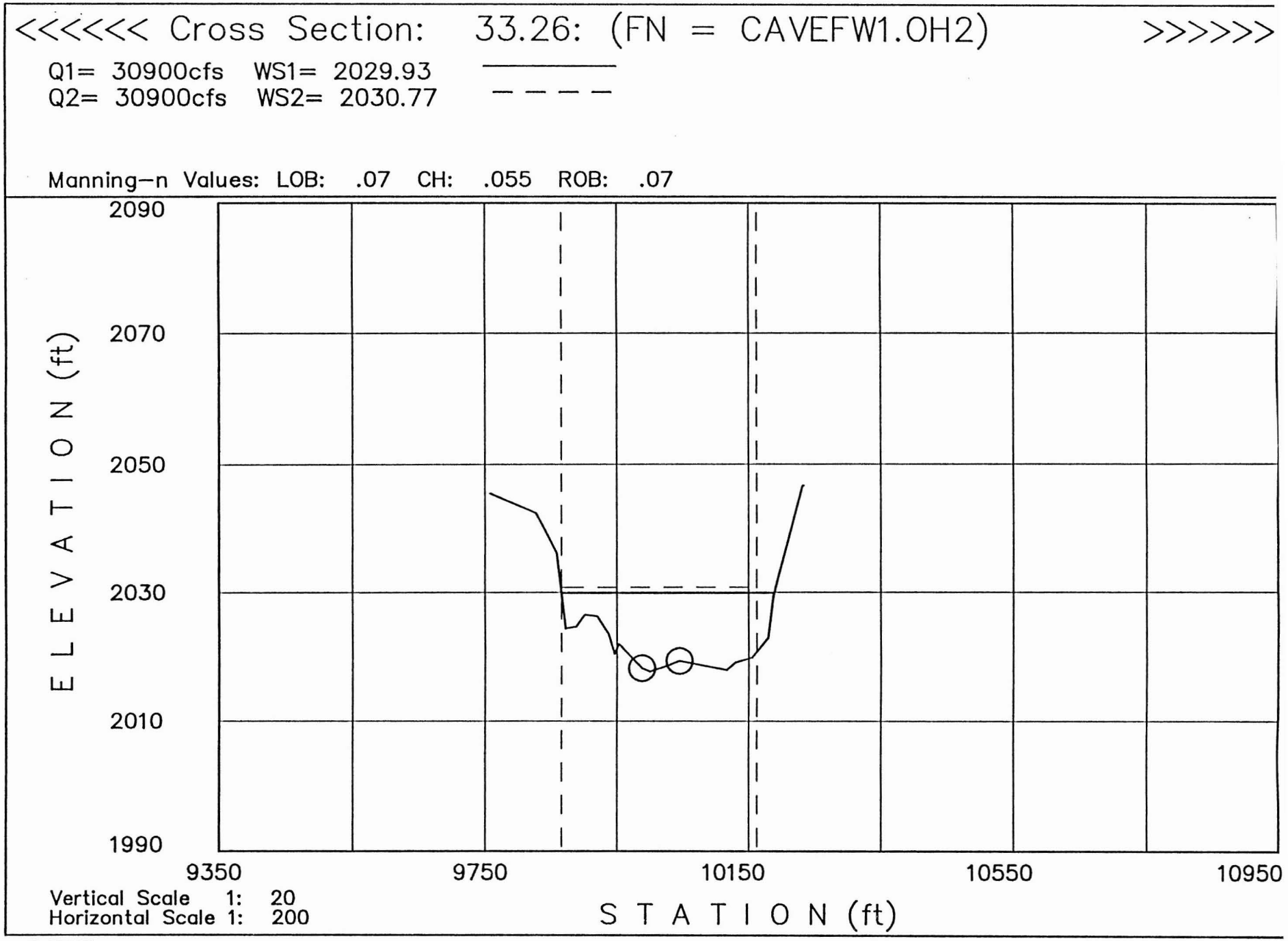
Q1= 30900cfs WS1= 2025.09
Q2= 30900cfs WS2= 2025.93

Manning-n Values: LOB: .07 CH: .055 ROB: .07



Vertical Scale 1: 20
Horizontal Scale 1: 200

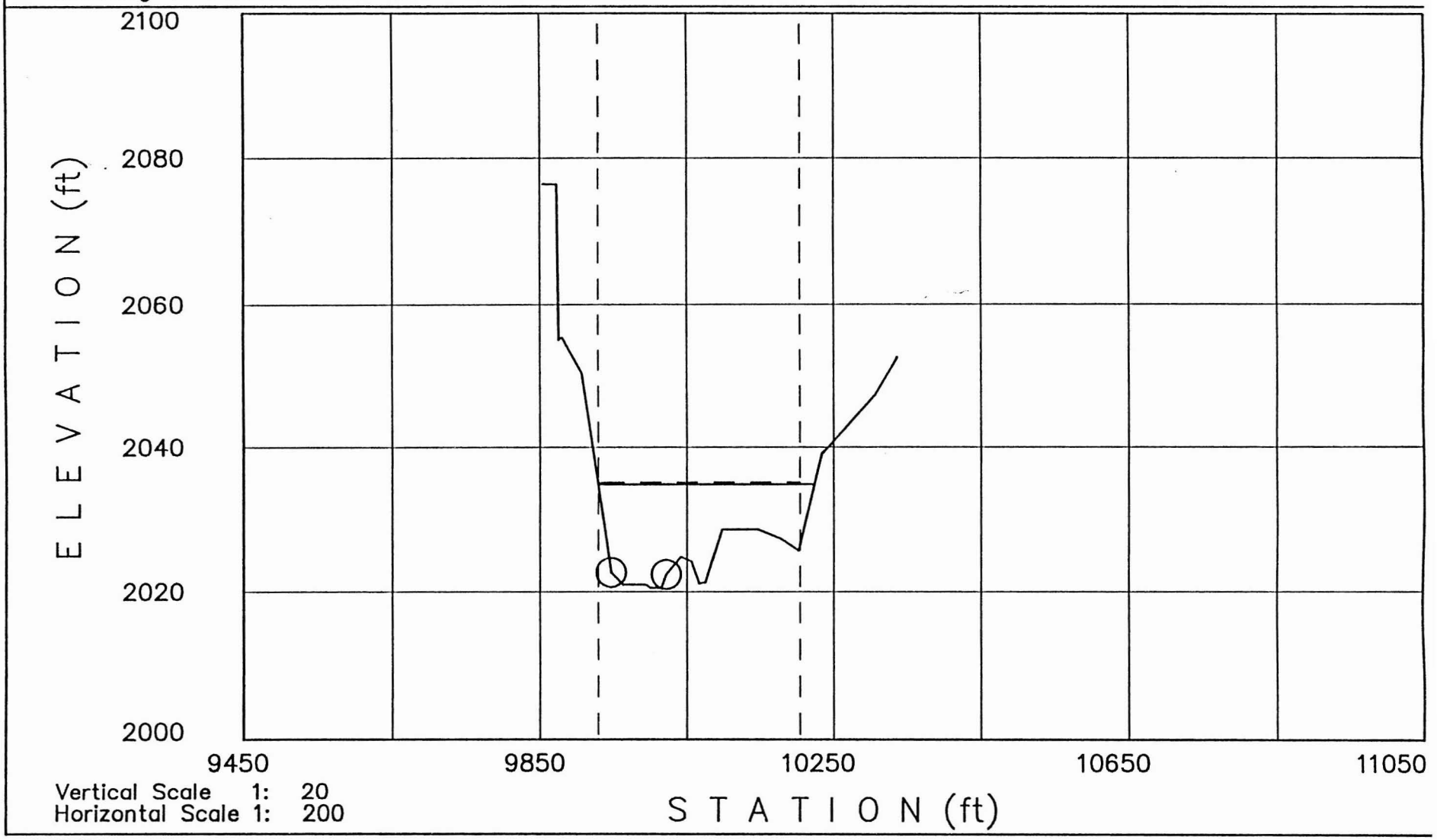
11-07-1996


<<<<<< Cross Section: 33.26: (FN = CAVEFW1.OH2) >>>>>>
Q1= 30900cfs WS1= 2029.93
Q2= 30900cfs WS2= 2030.77
Manning-n Values: LOB: .07 CH: .055 ROB: .07
2090
2070
2050
2030
2010
1990
ELEVATION (ft)
9350
9750
10150
10550
10950
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996

<<<<<< Cross Section: 33.36: (FN = CAVEFW1.OH2) >>>>>>

Q1= 24700cfs WS1= 2034.83
Q2= 24700cfs WS2= 2035.13

Manning-n Values: LOB: .07 CH: .055 ROB: .07



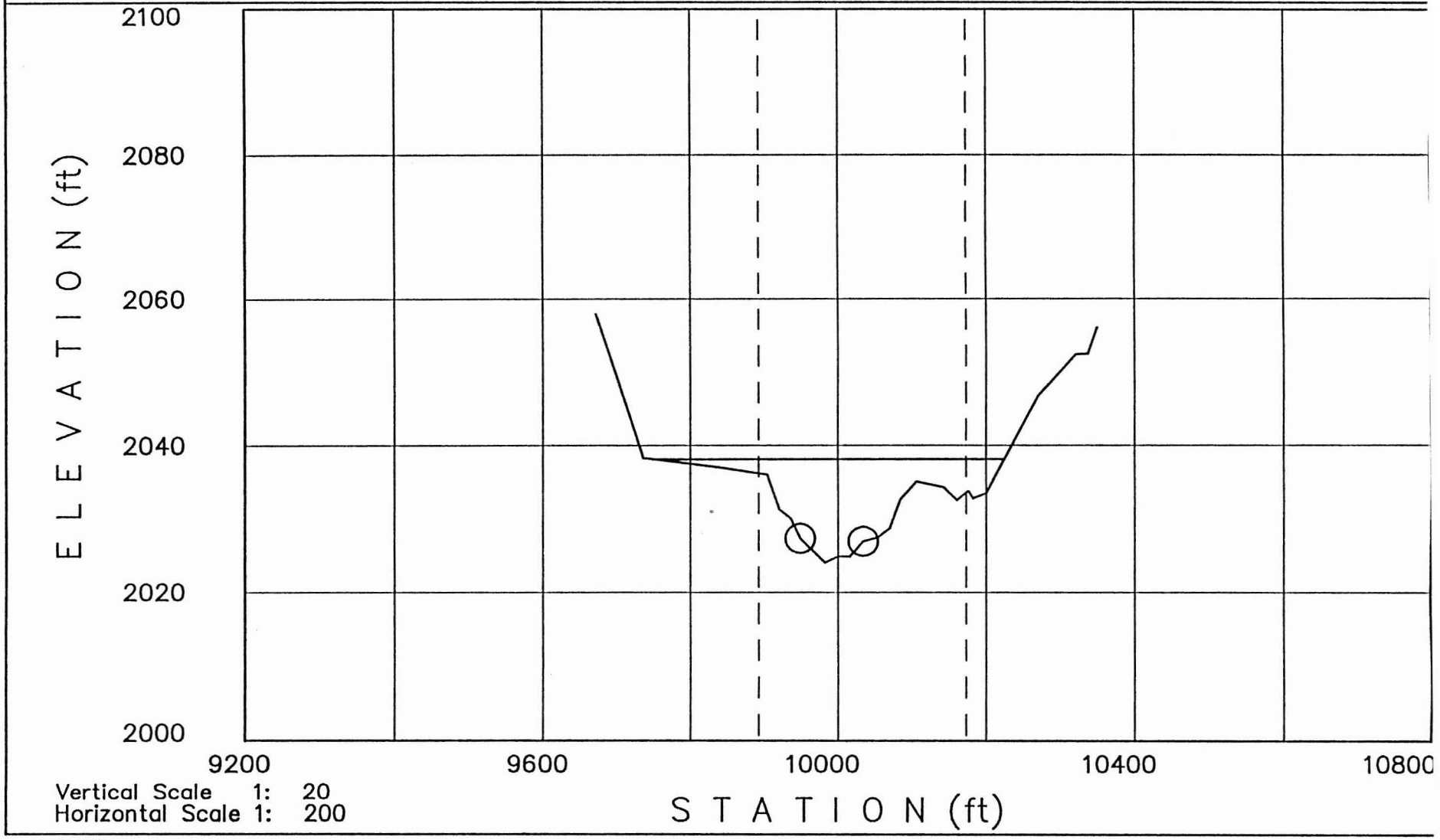
Vertical Scale 1: 20
Horizontal Scale 1: 200

11-07-1996

<<<<<< Cross Section: 33.46: (FN = CAVEFW1.OH2) >>>>>>

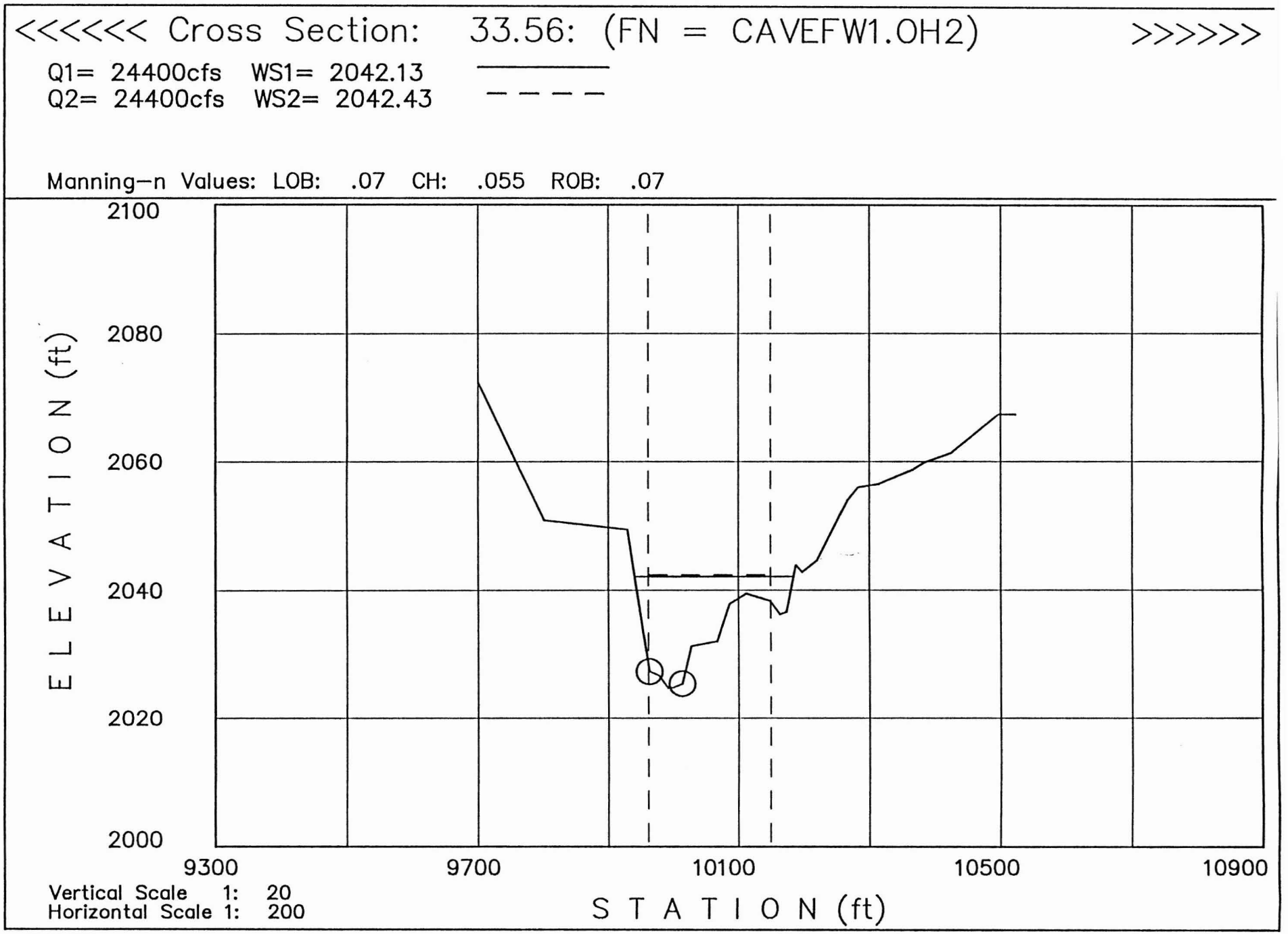
Q1= 24700cfs WS1= 2038.12
Q2= 24700cfs WS2= 2038.2

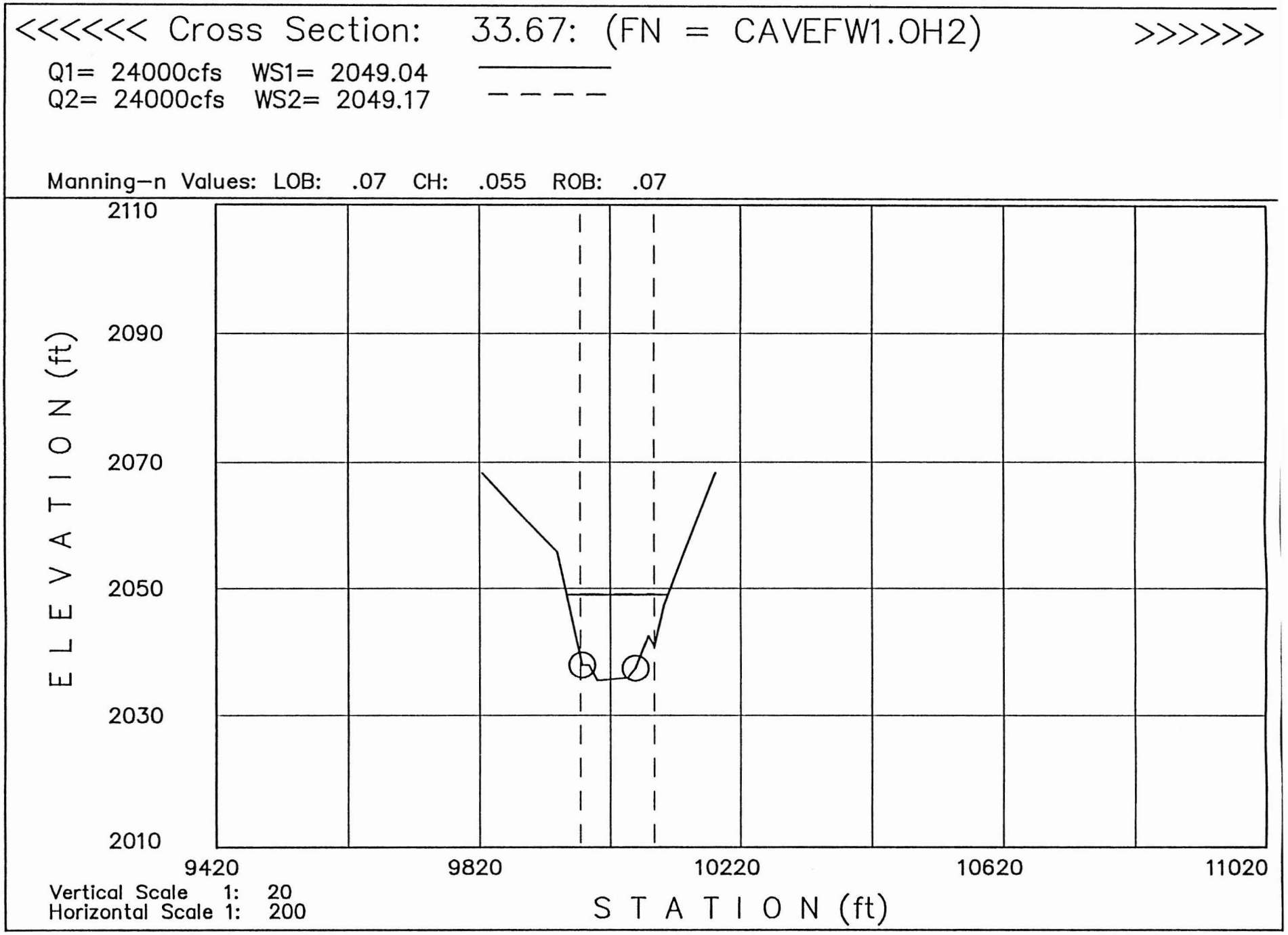
Manning-n Values: LOB: .07 CH: .055 ROB: .07



Vertical Scale 1: 20
Horizontal Scale 1: 200

11-07-1998


<<<<<< Cross Section: 33.56: (FN = CAVEFW1.0H2) >>>>>>
Q1= 24400cfs WS1= 2042.13
Q2= 24400cfs WS2= 2042.43
Manning-n Values: LOB: .07 CH: .055 ROB: .07
2100
2080
2060
2040
2020
2000
ELEVATION (ft)
9300
9700
10100
10500
10900
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996

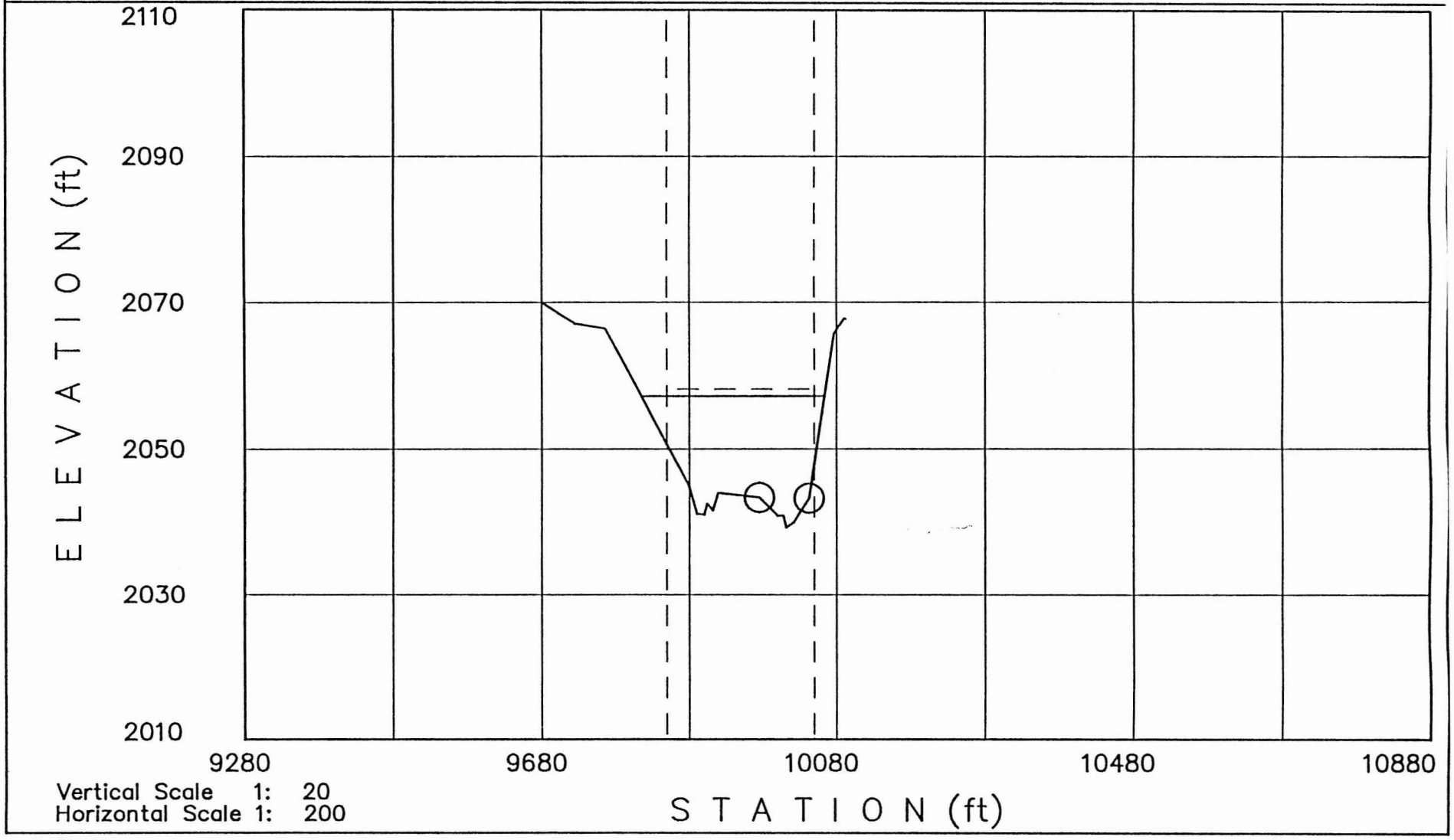

<<<<<< Cross Section: 33.67: (FN = CAVEFW1.OH2) >>>>>>
Q1= 24000cfs WS1= 2049.04
Q2= 24000cfs WS2= 2049.17
Manning-n Values: LOB: .07 CH: .055 ROB: .07
2110
2090
2070
2050
2030
2010
ELEVATION (ft)
9420
9820
10220
10620
11020
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996

<<<<<< Cross Section: 33.77: (FN = CAVEFW1.0H2) >>>>>>

Q1= 24000cfs WS1= 2057.11 ———

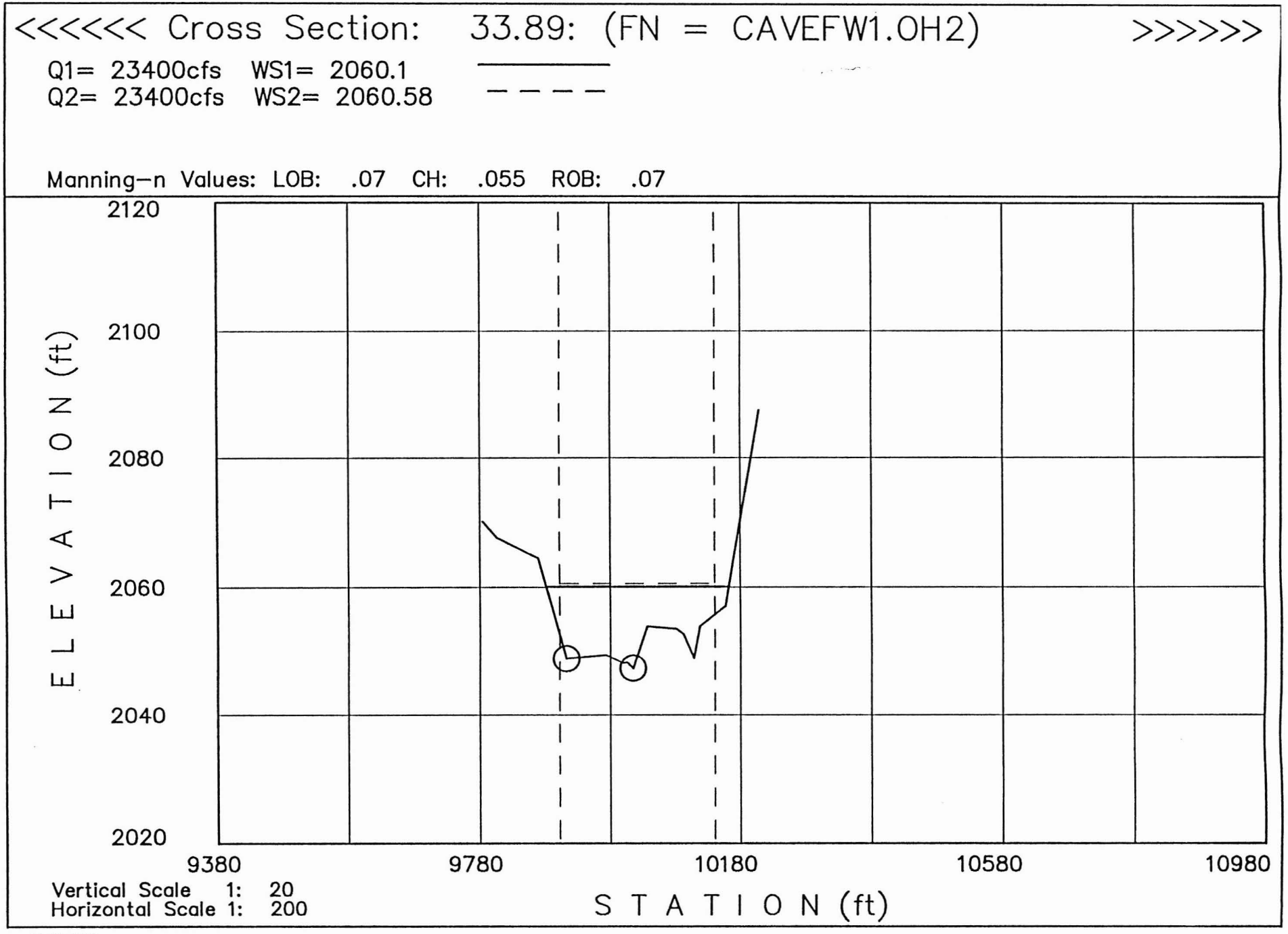
Q2= 24000cfs WS2= 2058.06 – – – –

Manning–n Values: LOB: .07 CH: .055 ROB: .07



Vertical Scale 1: 20
Horizontal Scale 1: 200

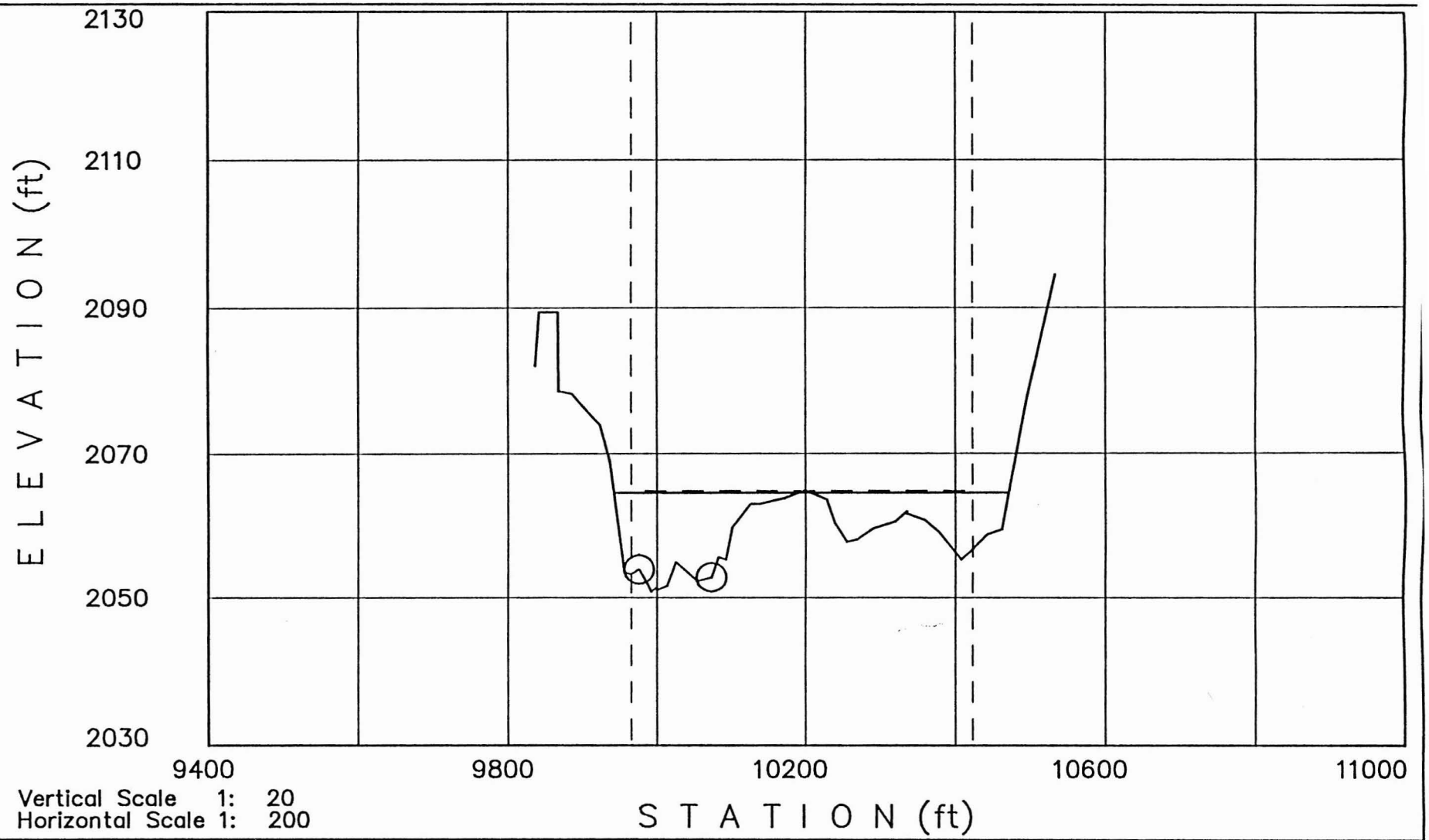
11–07–1996


<<<<<< Cross Section: 33.89: (FN = CAVEFW1.OH2) >>>>>>
Q1= 23400cfs WS1= 2060.1
Q2= 23400cfs WS2= 2060.58
Manning-n Values: LOB: .07 CH: .055 ROB: .07
2120
2100
2080
2060
2040
2020
ELEVATION (ft)
9380
9780
10180
10580
10980
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996

<<<<<< Cross Section: 33.98: (FN = CAVEFW1.OH2) >>>>>>

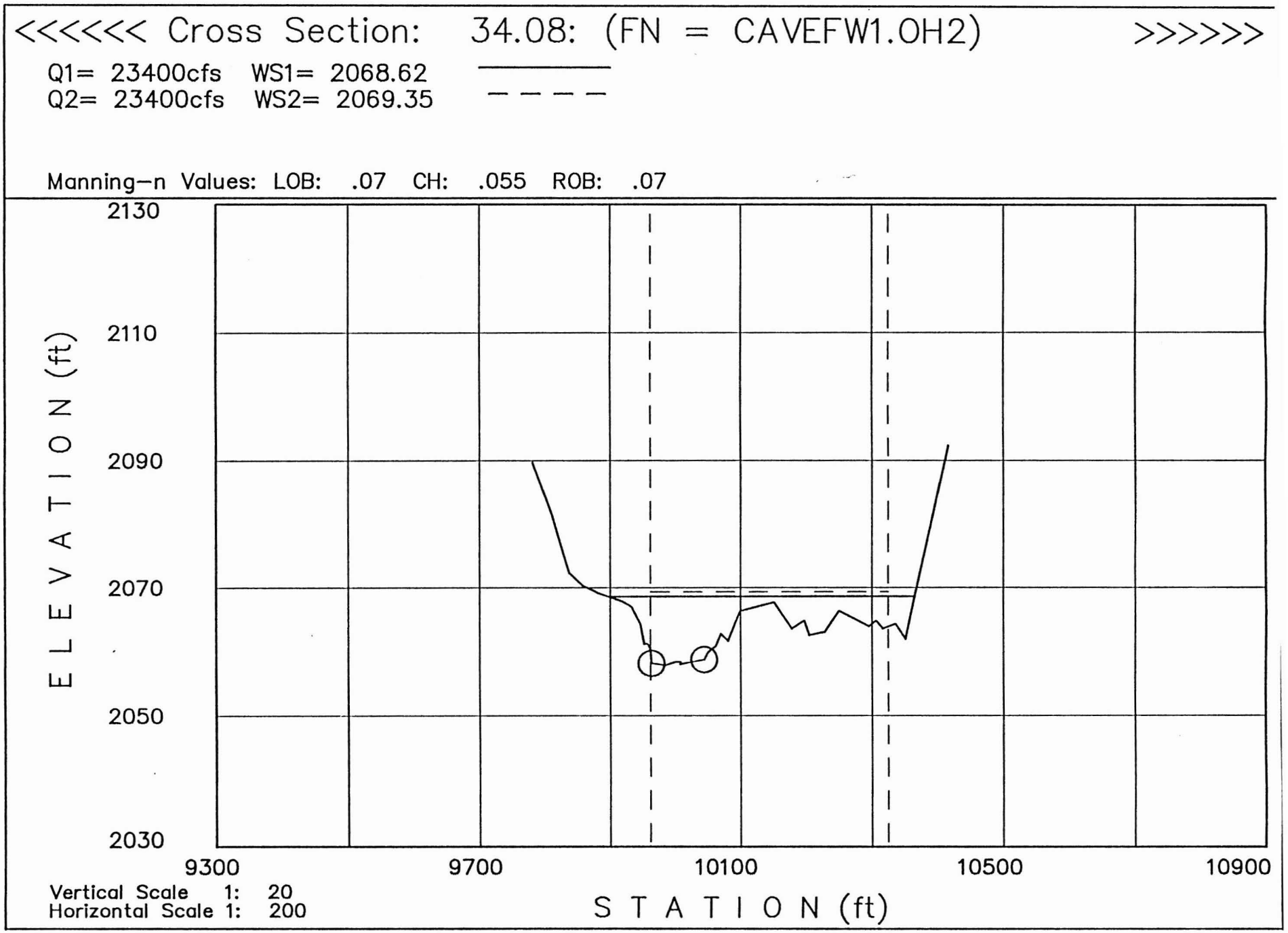
Q1= 23400cfs WS1= 2064.55
Q2= 23400cfs WS2= 2064.84

Manning-n Values: LOB: .07 CH: .055 ROB: .07



Vertical Scale 1: 20
Horizontal Scale 1: 200

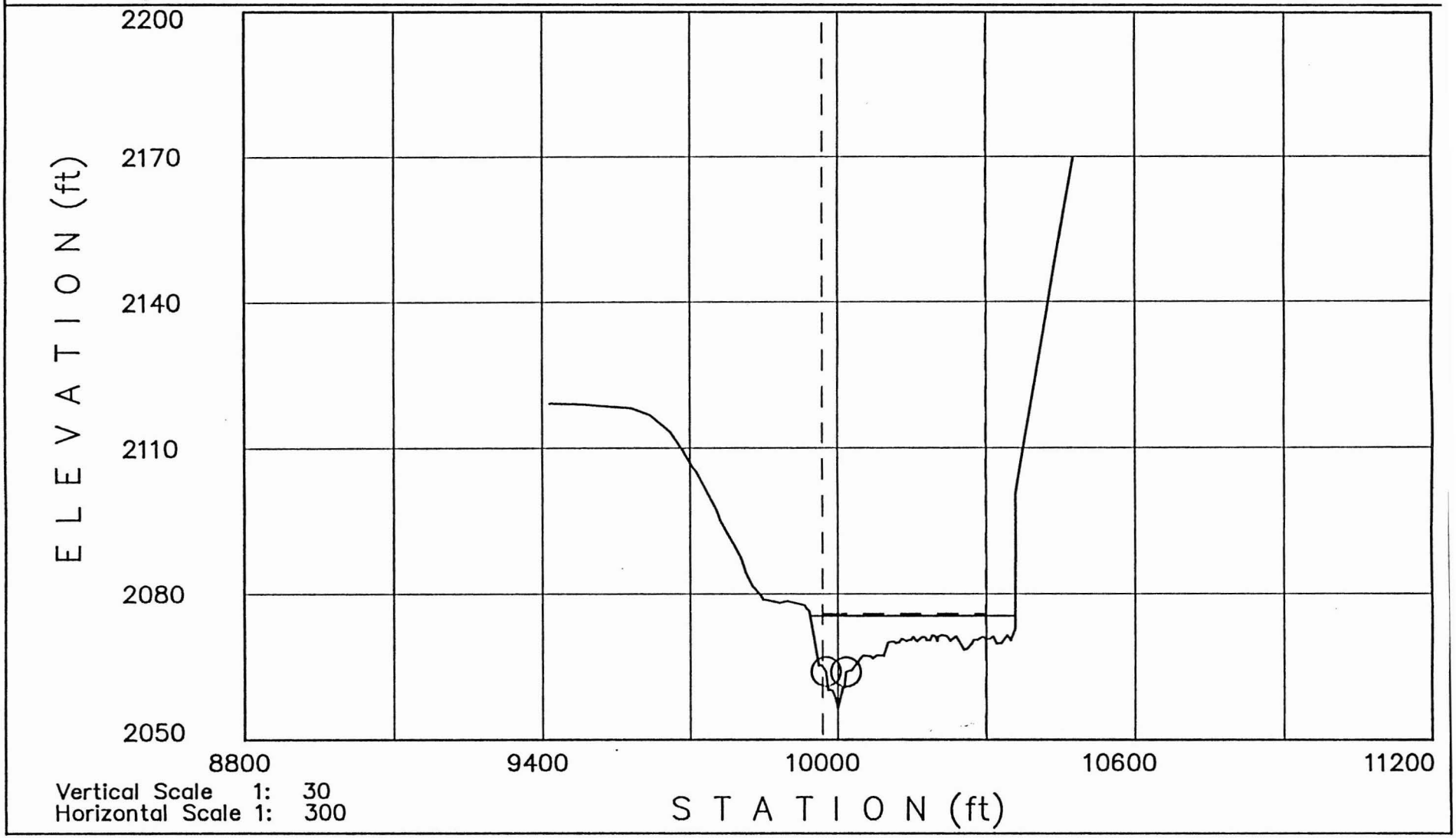
11-07-1998


<<<<<< Cross Section: 34.08: (FN = CAVEFW1.0H2) >>>>>>
Q1= 23400cfs WS1= 2068.62
Q2= 23400cfs WS2= 2069.35
Manning-n Values: LOB: .07 CH: .055 ROB: .07
2130
2110
2090
2070
2050
2030
ELEVATION (ft)
9300
9700
10100
10500
10900
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1998

<<<<<< Cross Section: 34.19: (FN = CAVEFW1.OH2) >>>>>>

Q1= 23400cfs WS1= 2075.44
Q2= 23400cfs WS2= 2075.95

Manning-n Values: LOB: .065 CH: .055 ROB: .075



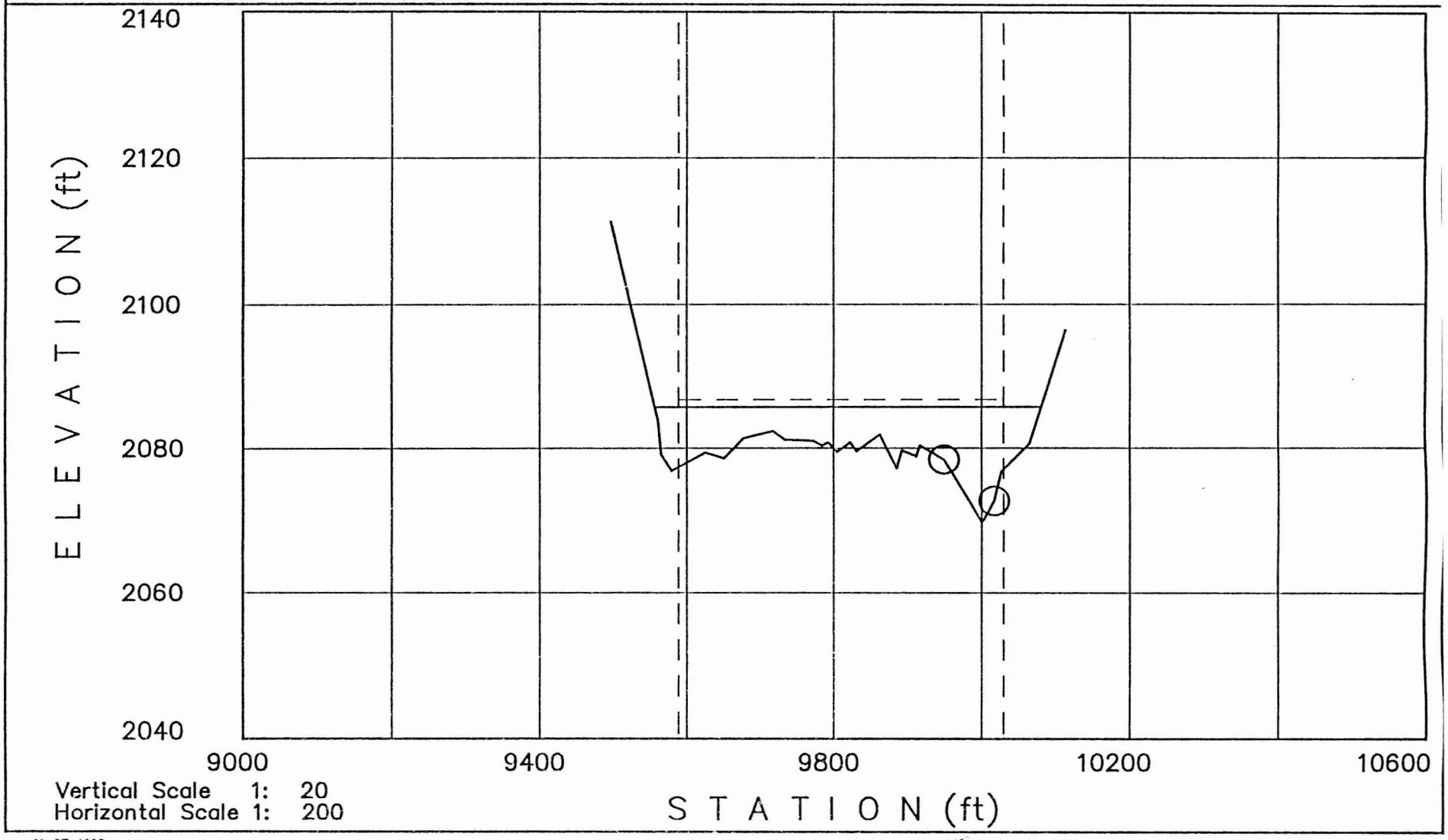
Vertical Scale 1: 30
Horizontal Scale 1: 300

11-07-1996

<<<<<< Cross Section: 34.36: (FN = CAVEFW1.OH2) >>>>>>

Q1= 23400cfs WS1= 2085.78
Q2= 23400cfs WS2= 2086.81

Manning-n Values: LOB: .065 CH: .055 ROB: .075



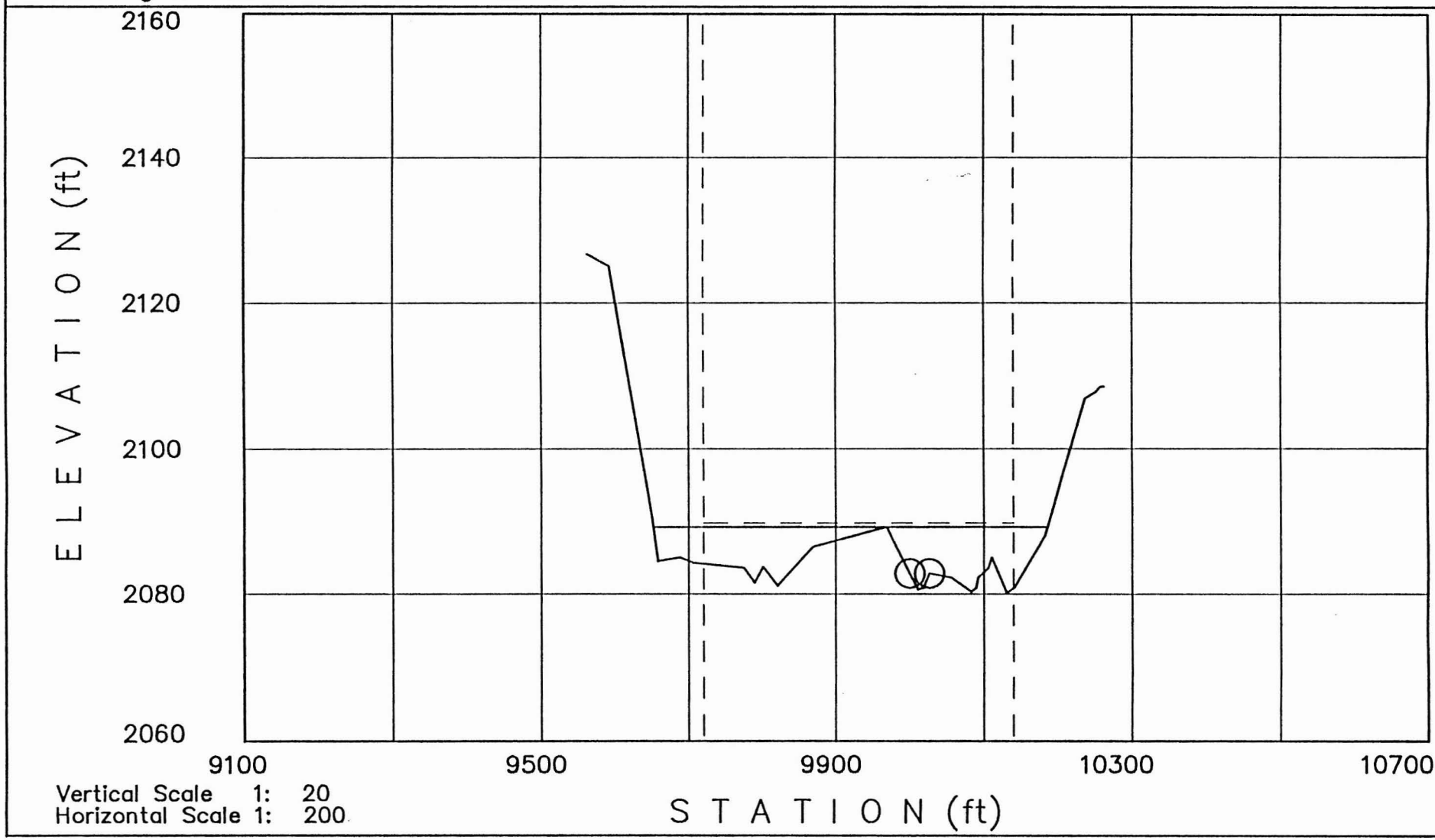
Vertical Scale 1: 20
Horizontal Scale 1: 200

11-07-1996

<<<<<< Cross Section: 34.45: (FN = CAVEFW1.OH2) >>>>>>

Q1= 23400cfs WS1= 2089.3
Q2= 23400cfs WS2= 2089.89

Manning-n Values: LOB: .075 CH: .07 ROB: .06



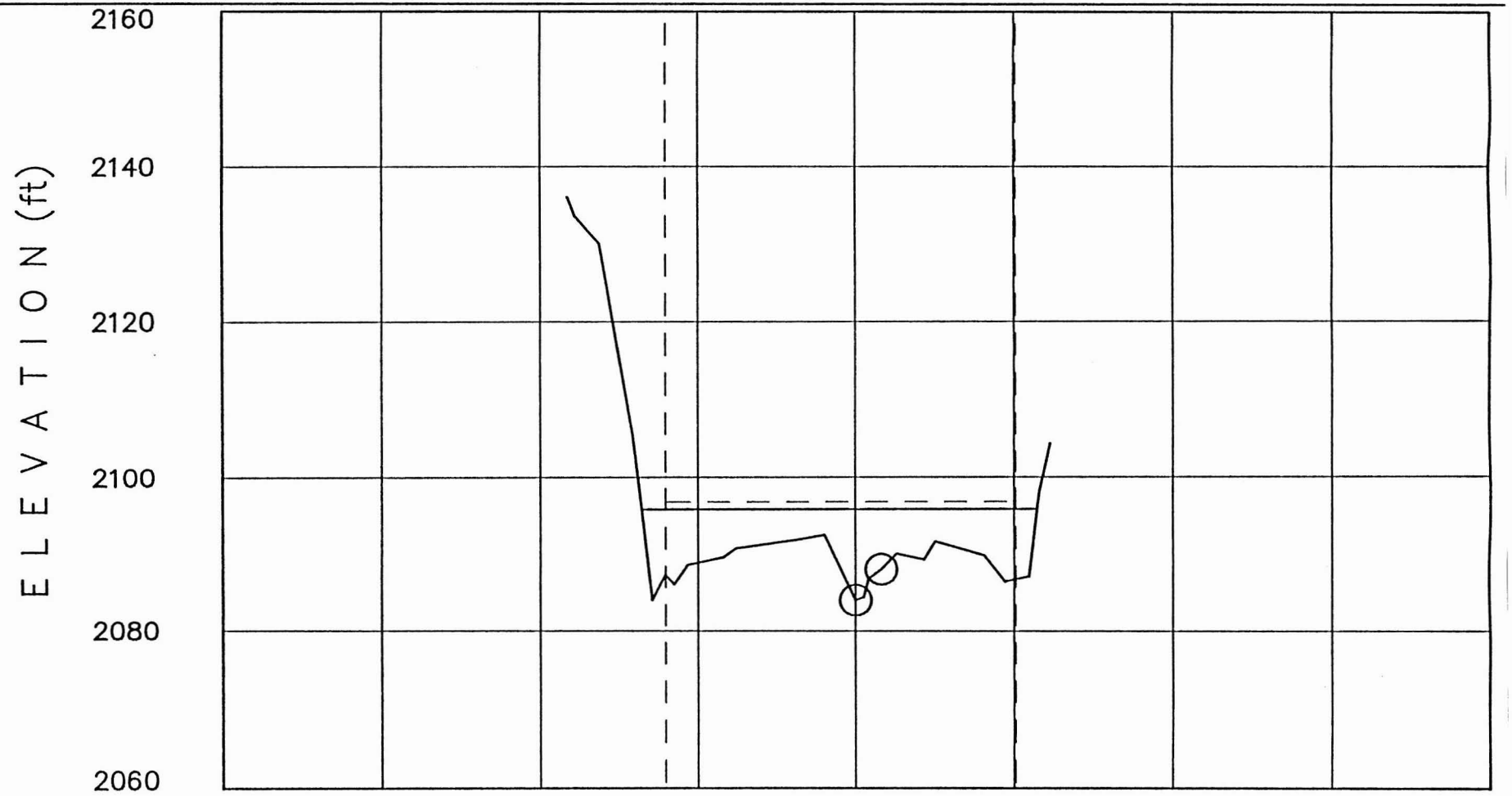
Vertical Scale 1: 20
Horizontal Scale 1: 200

11-07-1996

<<<<<< Cross Section: 34.54: (FN = CAVEFW1.0H2) >>>>>>

Q1= 23400cfs WS1= 2095.76
Q2= 23400cfs WS2= 2096.72

Manning–n Values: LOB: .075 CH: .07 ROB: .06



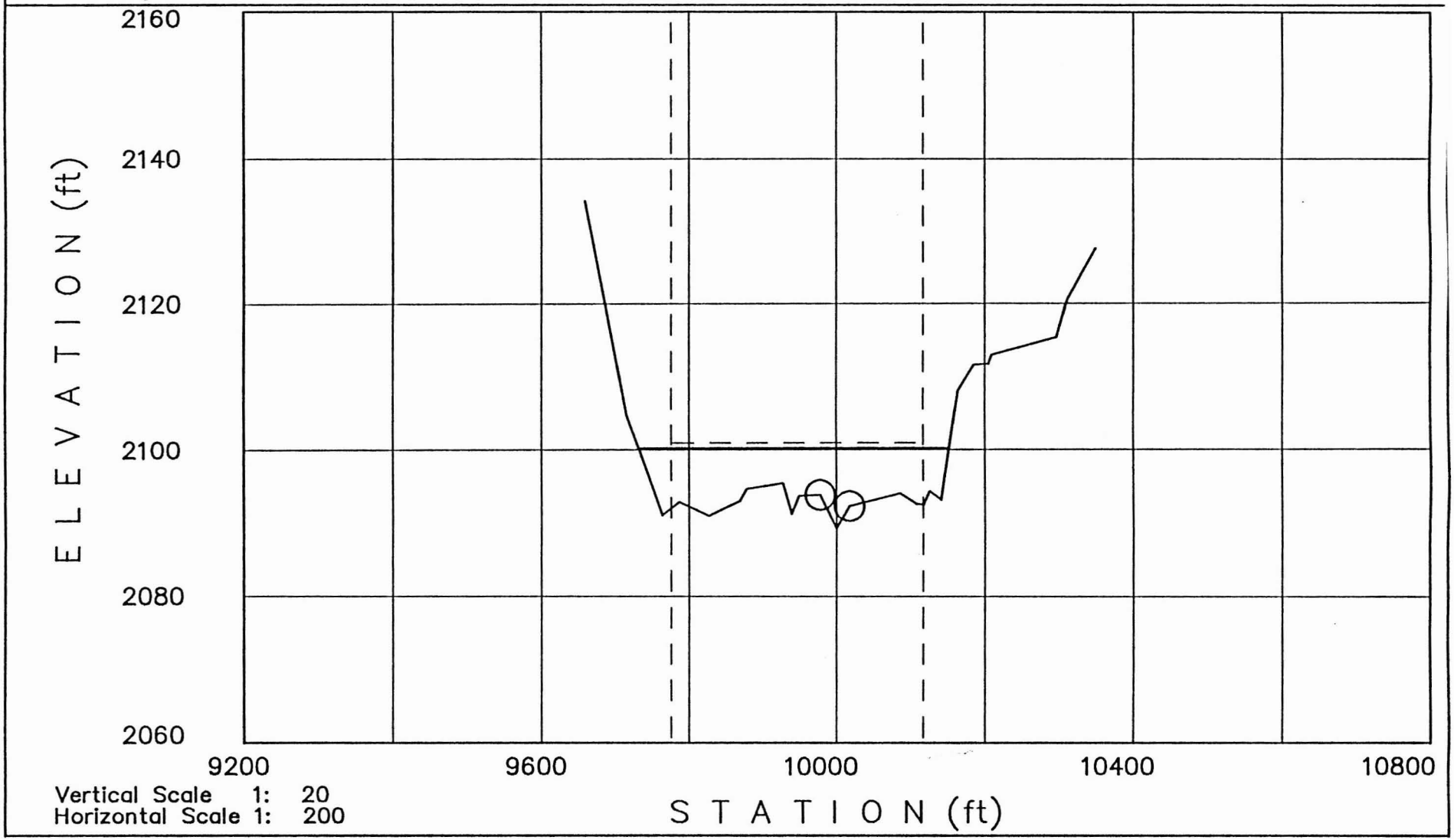
Vertical Scale 1: 20
Horizontal Scale 1: 200

11-07-1996

<<<<<< Cross Section: 34.63: (FN = CAVEFW1.0H2) >>>>>>

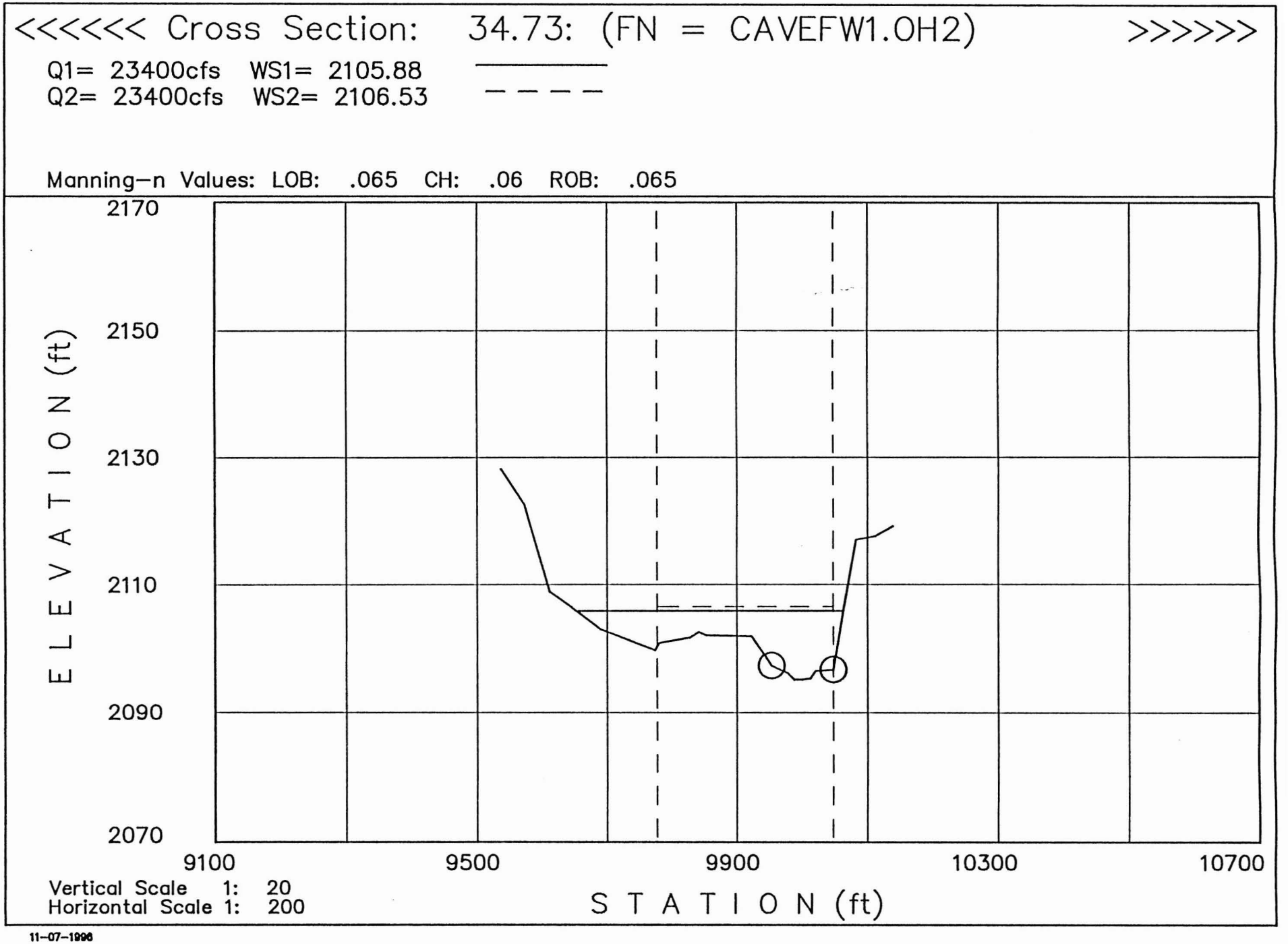
Q1= 23400cfs WS1= 2100.23
Q2= 23400cfs WS2= 2100.98

Manning–n Values: LOB: .075 CH: .07 ROB: .06

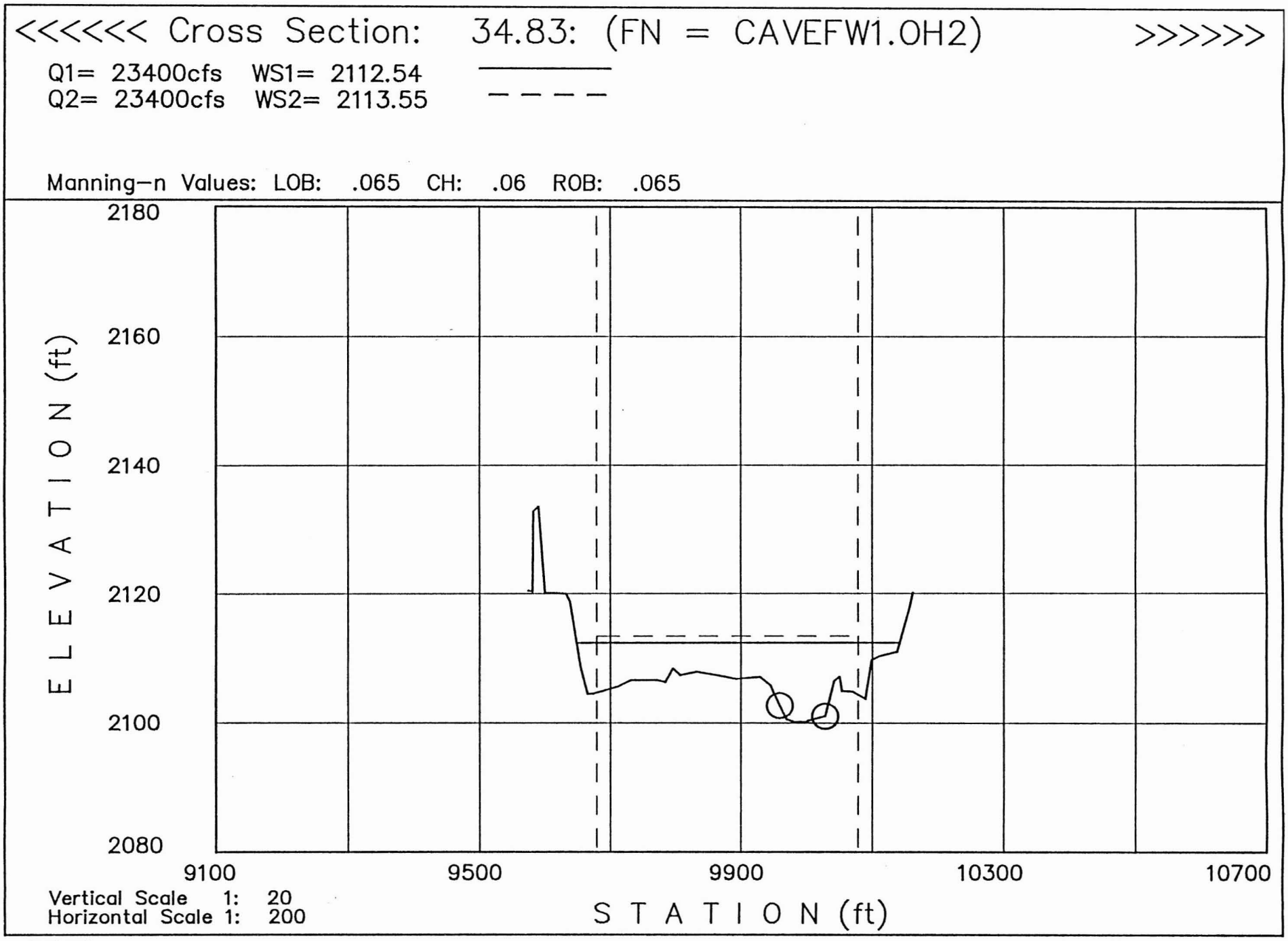


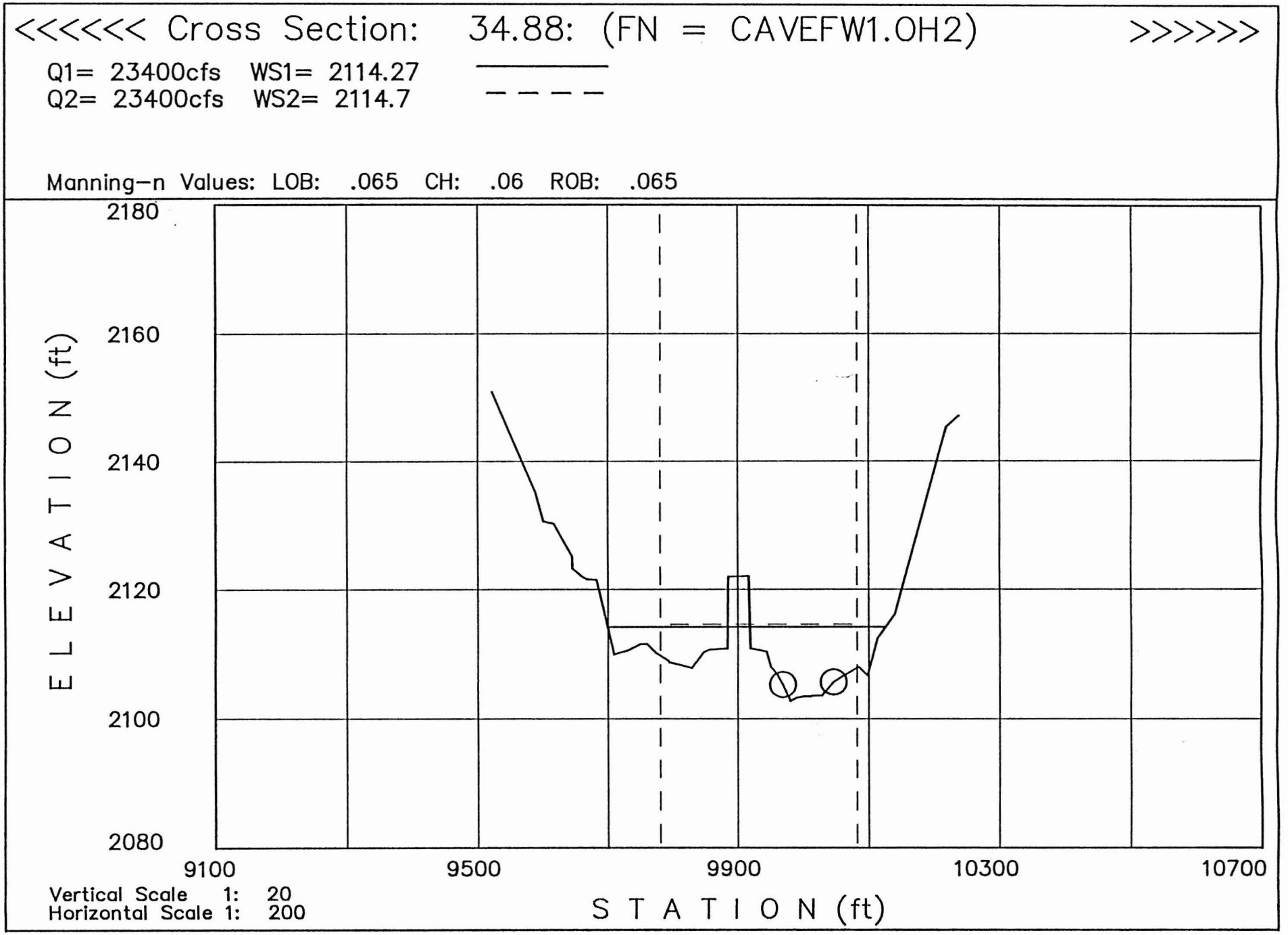
Vertical Scale 1: 20
Horizontal Scale 1: 200

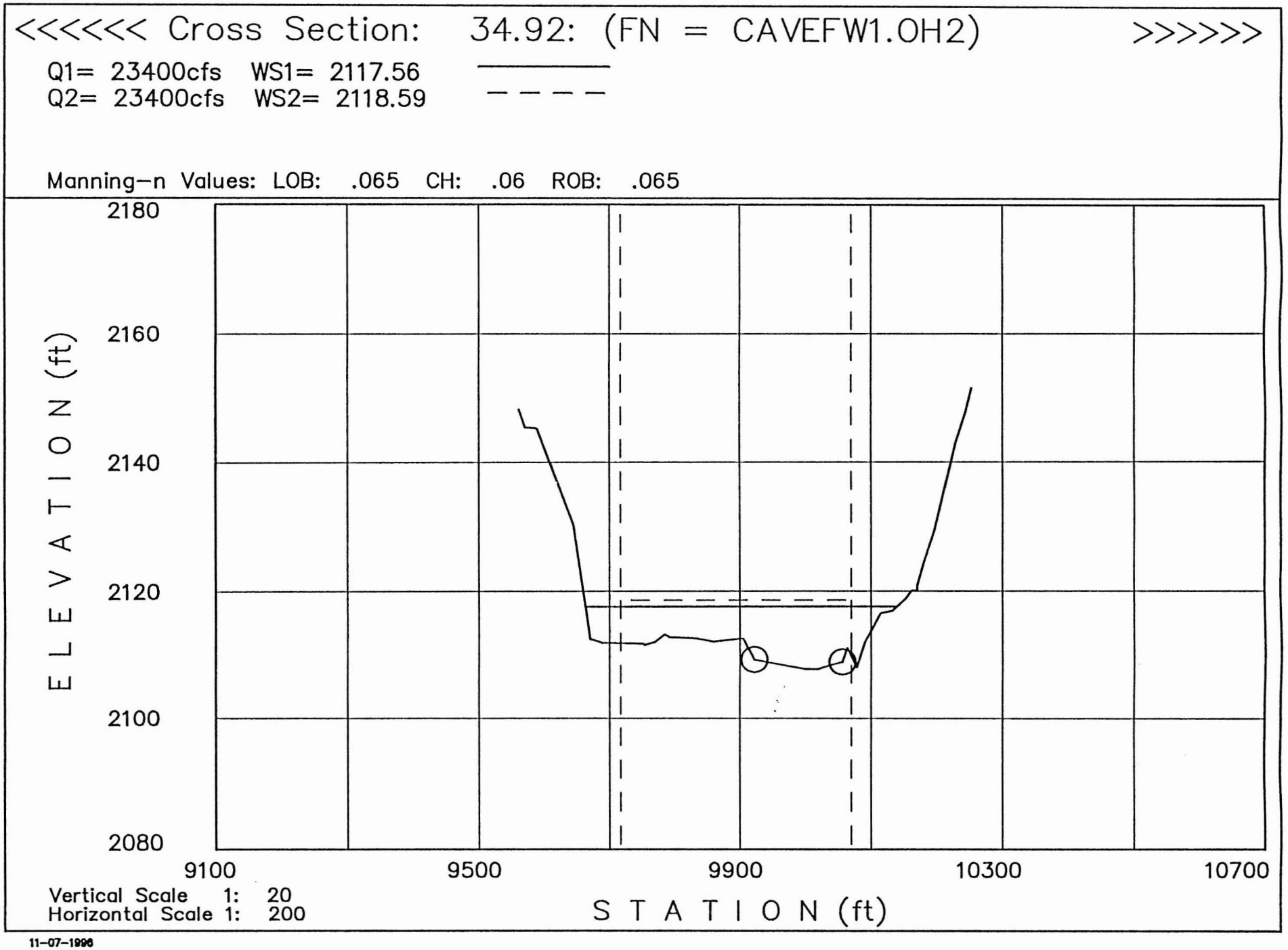
11–07–1996

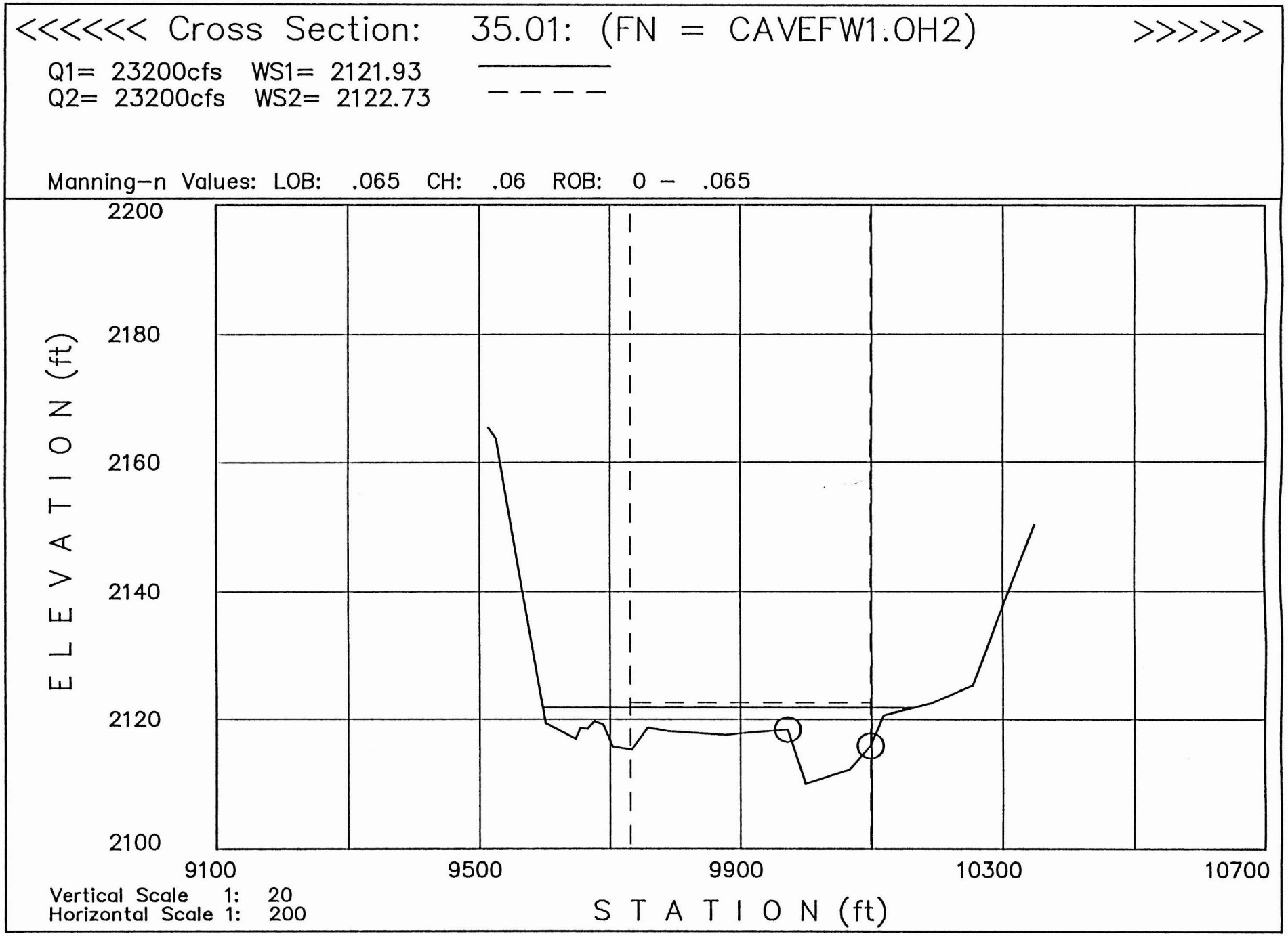

<<<<<< Cross Section: 34.73: (FN = CAVEFW1.0H2) >>>>>>
Q1= 23400cfs WS1= 2105.88
Q2= 23400cfs WS2= 2106.53
Manning-n Values: LOB: .065 CH: .06 ROB: .065
2170
2150
2130
2110
2090
2070
ELEVATION (ft)
9100
9500
9900
10300
10700
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200

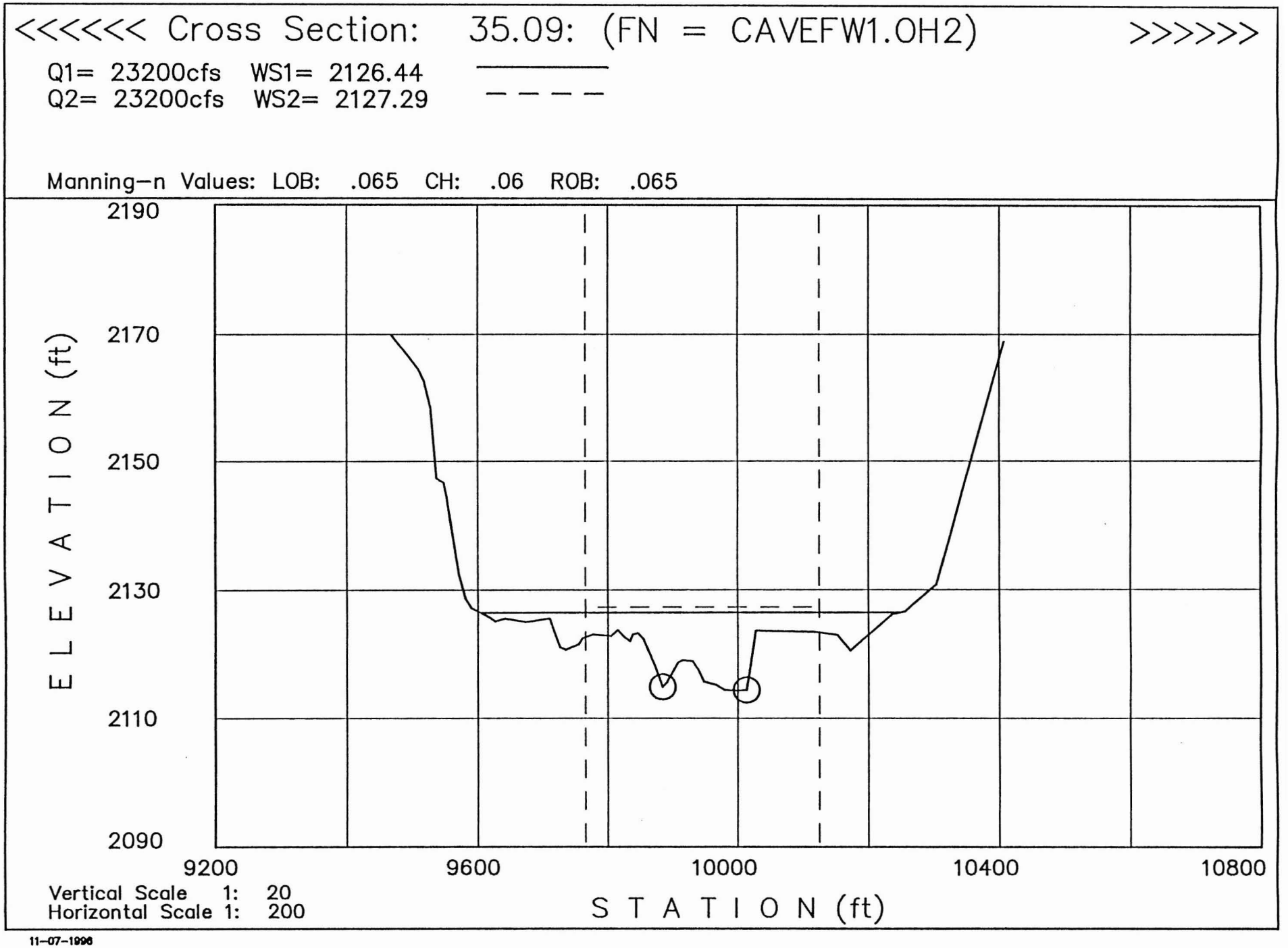
11-07-1998

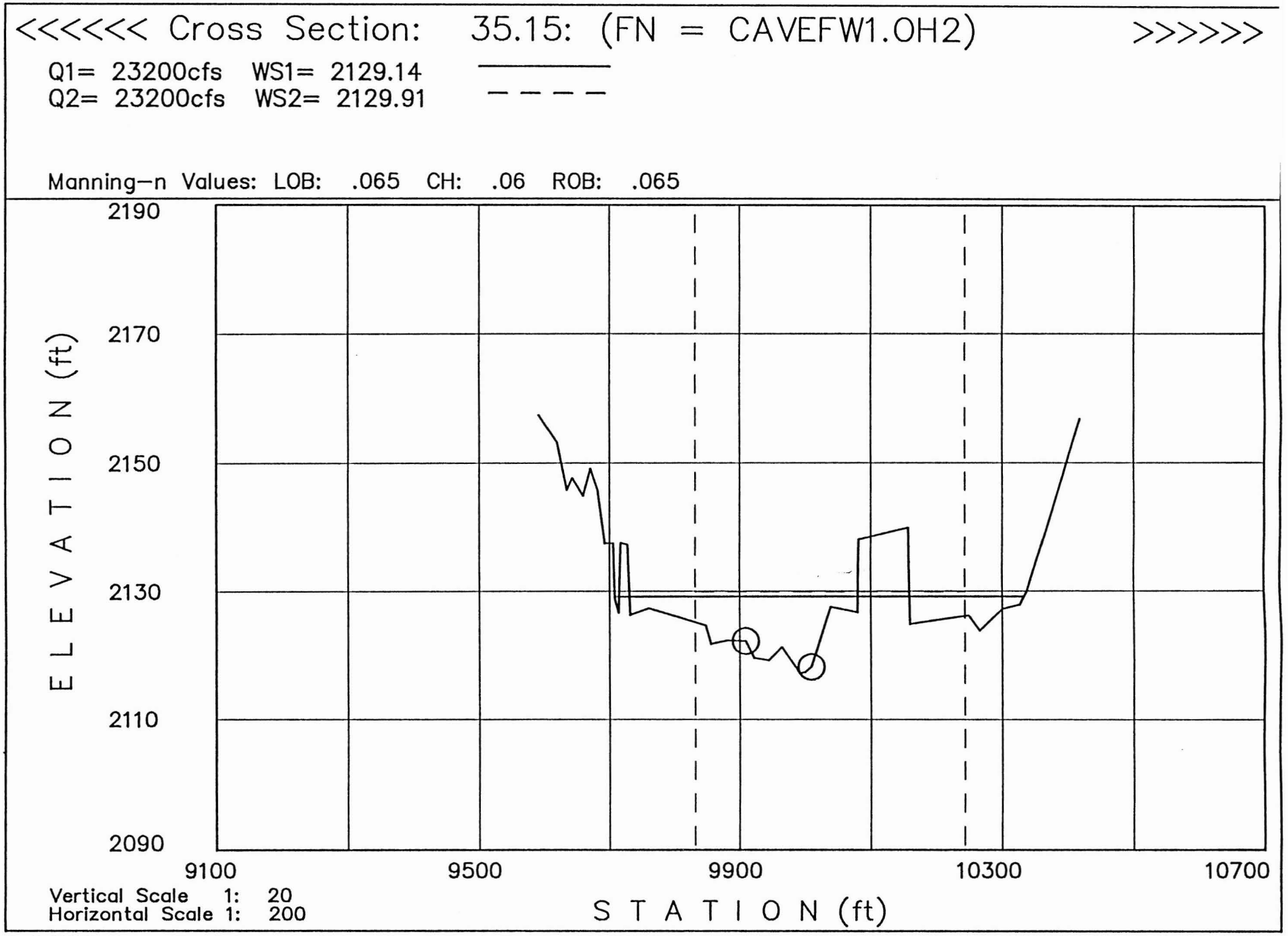

<<<<<< Cross Section: 34.83: (FN = CAVEFW1.OH2) >>>>>>
Q1= 23400cfs WS1= 2112.54
Q2= 23400cfs WS2= 2113.55
Manning-n Values: LOB: .065 CH: .06 ROB: .065
2180
2160
2140
2120
2100
2080
ELEVATION (ft)
9100
9500
9900
10300
10700
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996

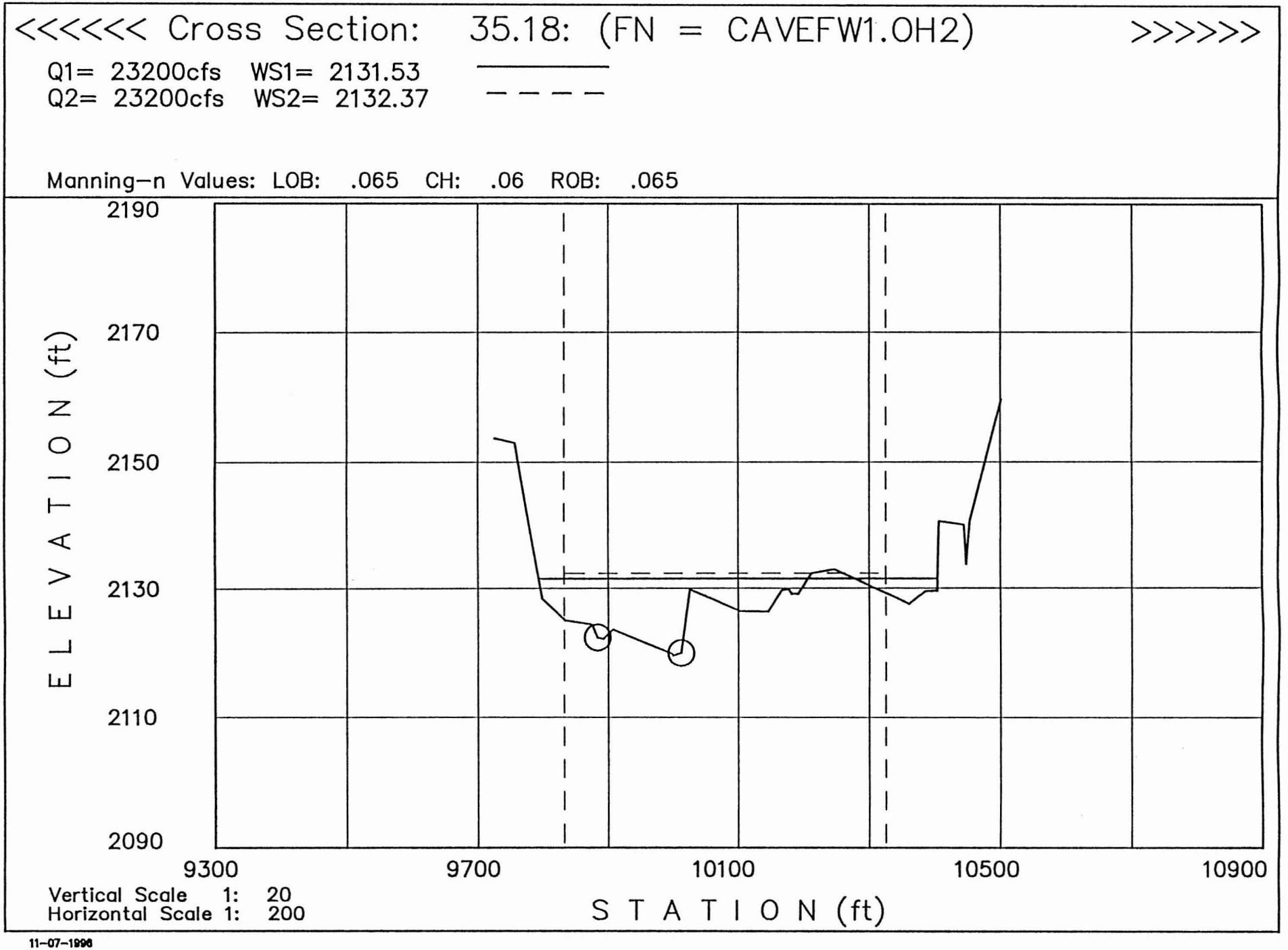

<<<<<< Cross Section: 34.88: (FN = CAVEFW1.OH2) >>>>>>
Q1= 23400cfs WS1= 2114.27
Q2= 23400cfs WS2= 2114.7
Manning-n Values: LOB: .065 CH: .06 ROB: .065
2180
2160
2140
2120
2100
2080
ELEVATION (ft)
9100
9500
9900
10300
10700
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1998

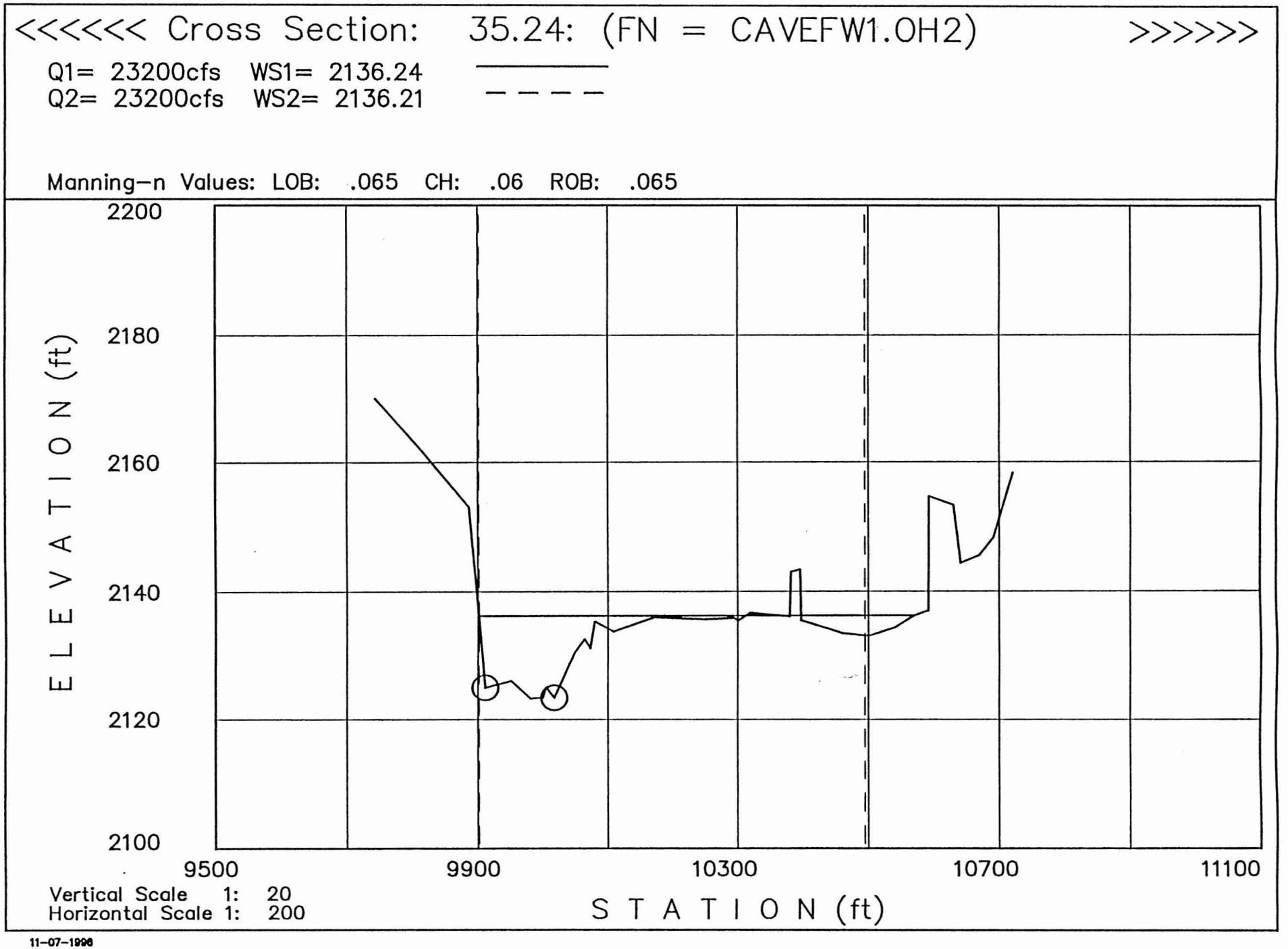

<<<<<< Cross Section: 34.92: (FN = CAVEFW1.OH2) >>>>>>
Q1= 23400cfs WS1= 2117.56
Q2= 23400cfs WS2= 2118.59
Manning-n Values: LOB: .065 CH: .06 ROB: .065
2180
2160
2140
2120
2100
2080
ELEVATION (ft)
9100
9500
9900
10300
10700
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996

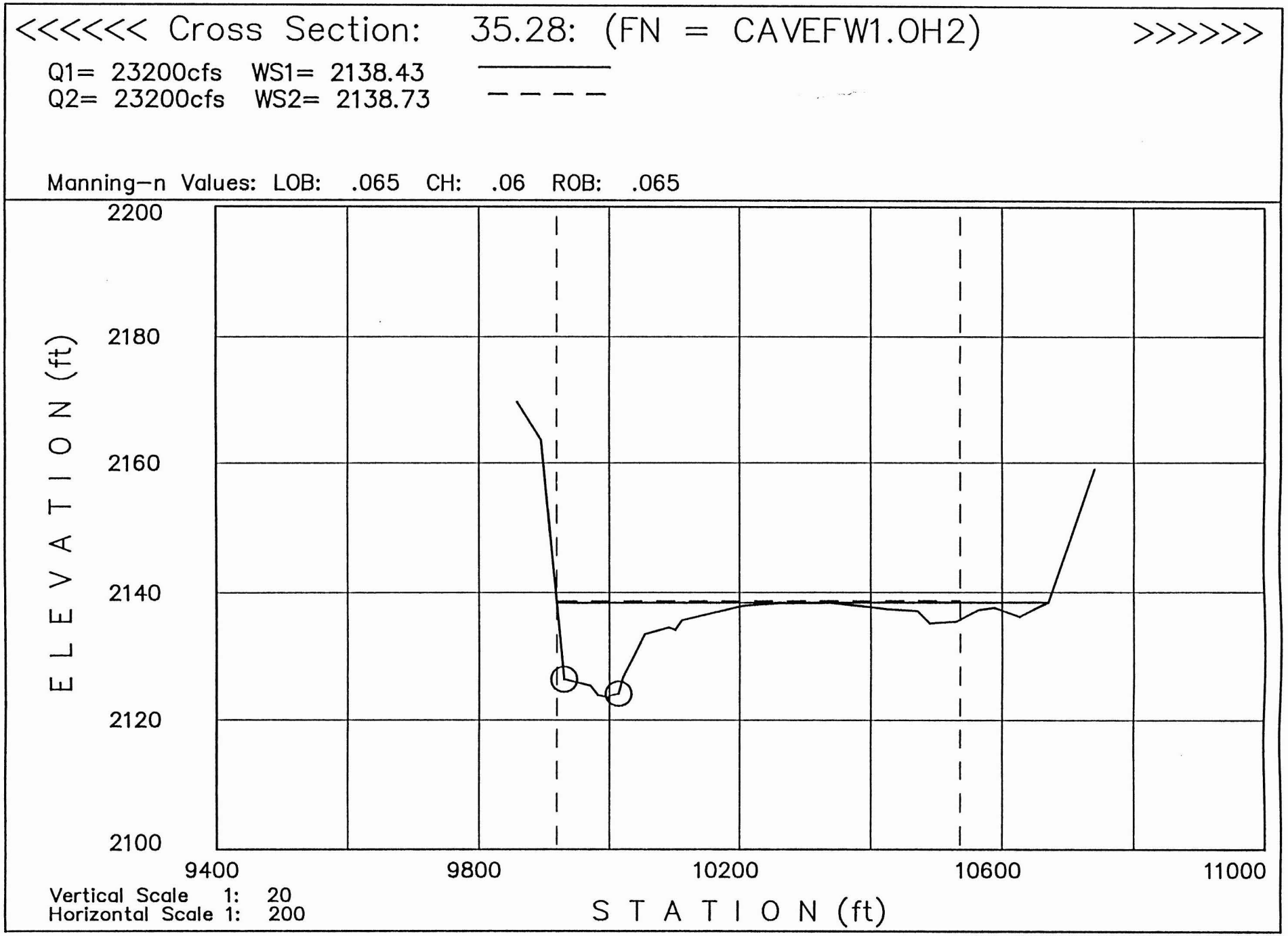

<<<<<< Cross Section: 35.01: (FN = CAVEFW1.OH2) >>>>>>
Q1= 23200cfs WS1= 2121.93
Q2= 23200cfs WS2= 2122.73
Manning-n Values: LOB: .065 CH: .06 ROB: 0 - .065
2200
2180
2160
2140
2120
2100
ELEVATION (ft)
9100
9500
9900
10300
10700
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996


<<<<<< Cross Section: 35.09: (FN = CAVEFW1.OH2) >>>>>>
Q1= 23200cfs WS1= 2126.44
Q2= 23200cfs WS2= 2127.29
Manning-n Values: LOB: .065 CH: .06 ROB: .065
2190
2170
2150
2130
2110
2090
ELEVATION (ft)
9200
9600
10000
10400
10800
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996


<<<<<< Cross Section: 35.15: (FN = CAVEFW1.OH2) >>>>>>
Q1= 23200cfs WS1= 2129.14
Q2= 23200cfs WS2= 2129.91
Manning-n Values: LOB: .065 CH: .06 ROB: .065
2190
2170
2150
2130
2110
2090
ELEVATION (ft)
9100
9500
9900
10300
10700
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996


<<<<<< Cross Section: 35.18: (FN = CAVEFW1.0H2) >>>>>>
Q1= 23200cfs WS1= 2131.53
Q2= 23200cfs WS2= 2132.37
Manning-n Values: LOB: .065 CH: .06 ROB: .065
2190
2170
2150
2130
2110
2090
ELEVATION (ft)
9300
9700
10100
10500
10900
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996

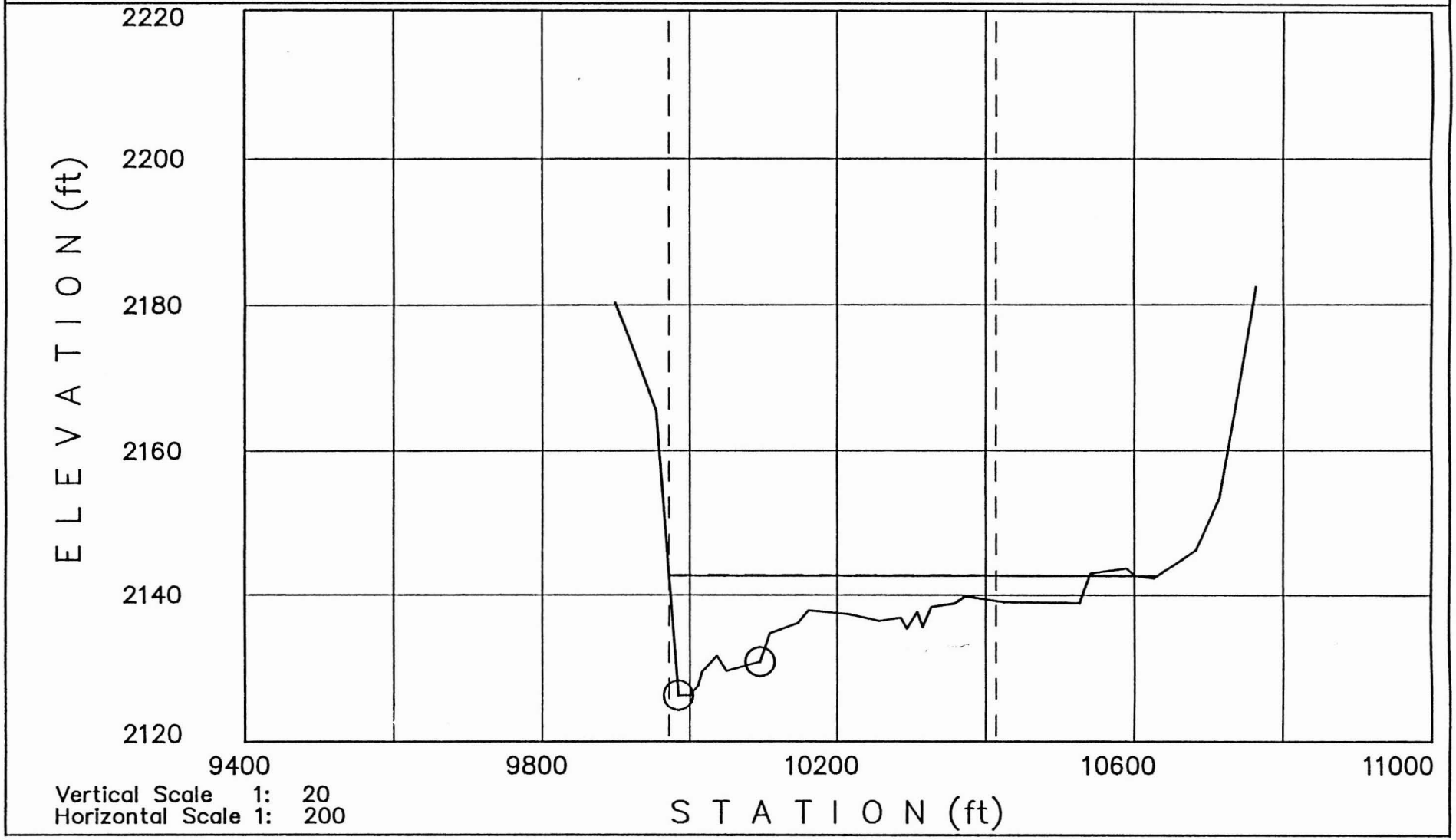

<<<<<< Cross Section: 35.24: (FN = CAVEFW1.0H2) >>>>>>
Q1= 23200cfs WS1= 2136.24
Q2= 23200cfs WS2= 2136.21
Manning-n Values: LOB: .065 CH: .06 ROB: .065
2200
2180
2160
2140
2120
2100
ELEVATION (ft)
9500
9900
10300
10700
11100
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996


<<<<<< Cross Section: 35.28: (FN = CAVEFW1.0H2) >>>>>>
Q1= 23200cfs WS1= 2138.43
Q2= 23200cfs WS2= 2138.73
Manning-n Values: LOB: .065 CH: .06 ROB: .065
2200
2180
2160
2140
2120
2100
ELEVATION (ft)
9400
9800
10200
10600
11000
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996

<<<<<< Cross Section: 35.37: (FN = CAVEFW1.OH2) >>>>>>

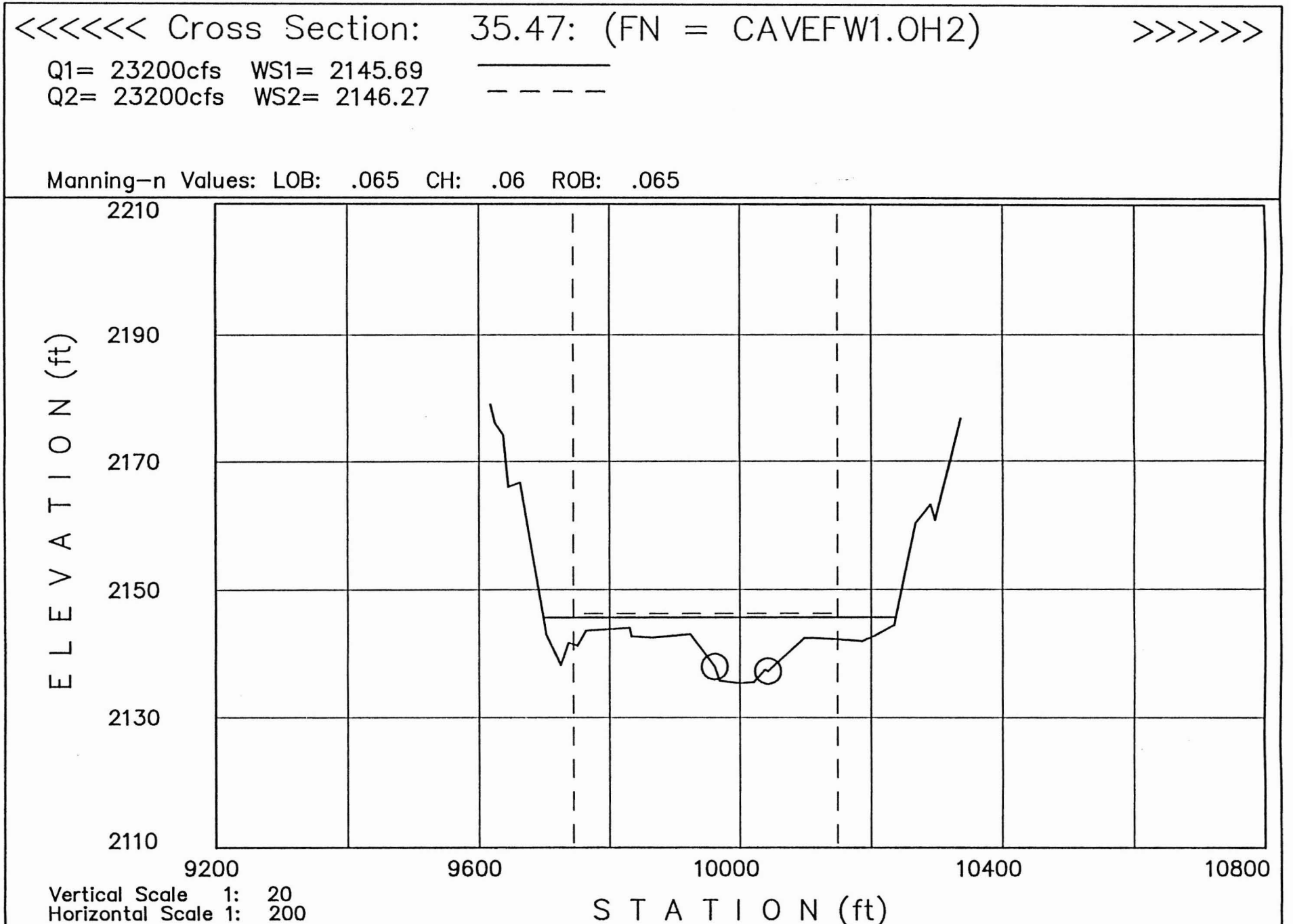
Q1= 23200cfs WS1= 2142.82
Q2= 23200cfs WS2= 2142.94

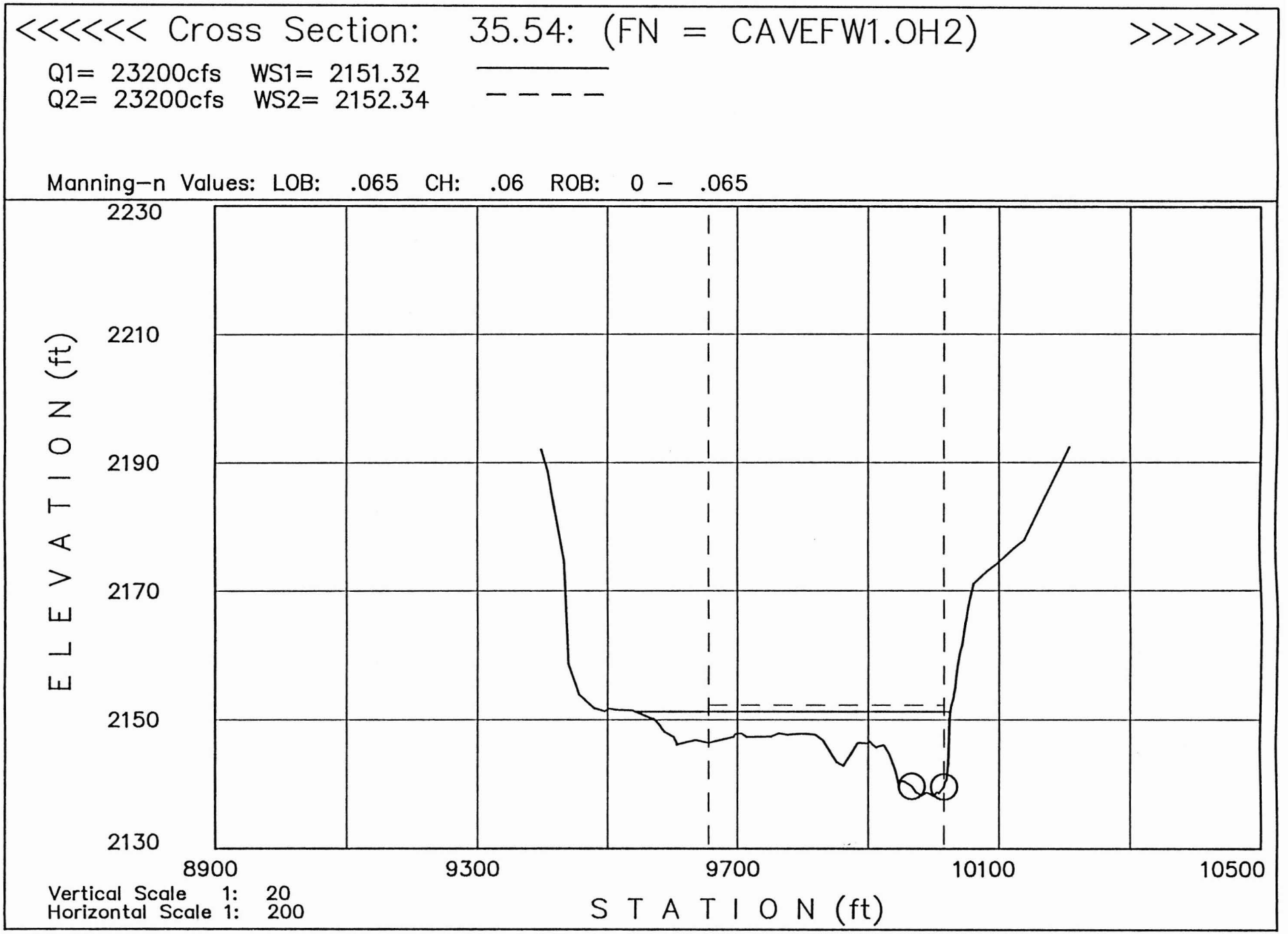
Manning-n Values: LOB: .065 CH: .06 ROB: .065

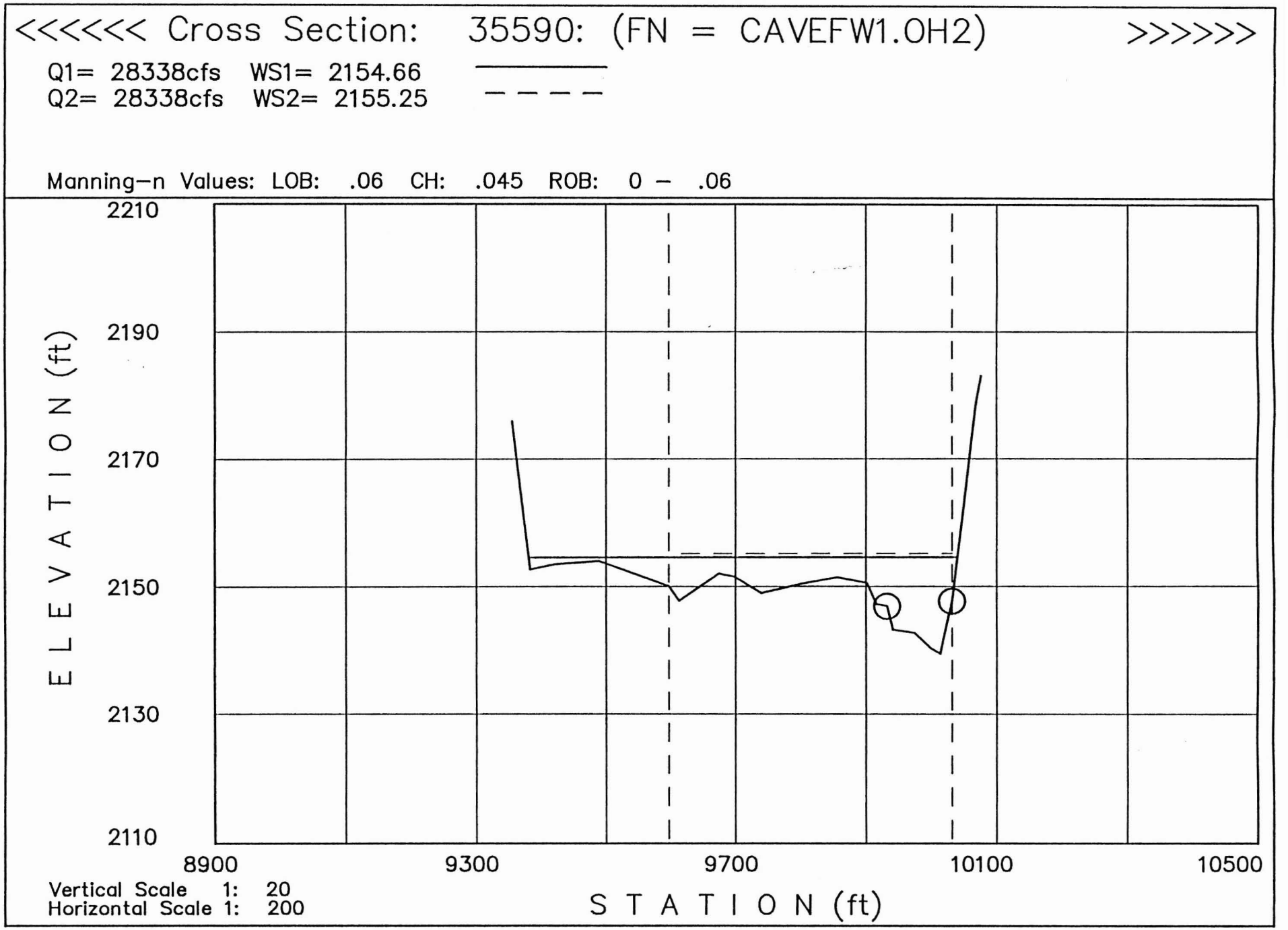


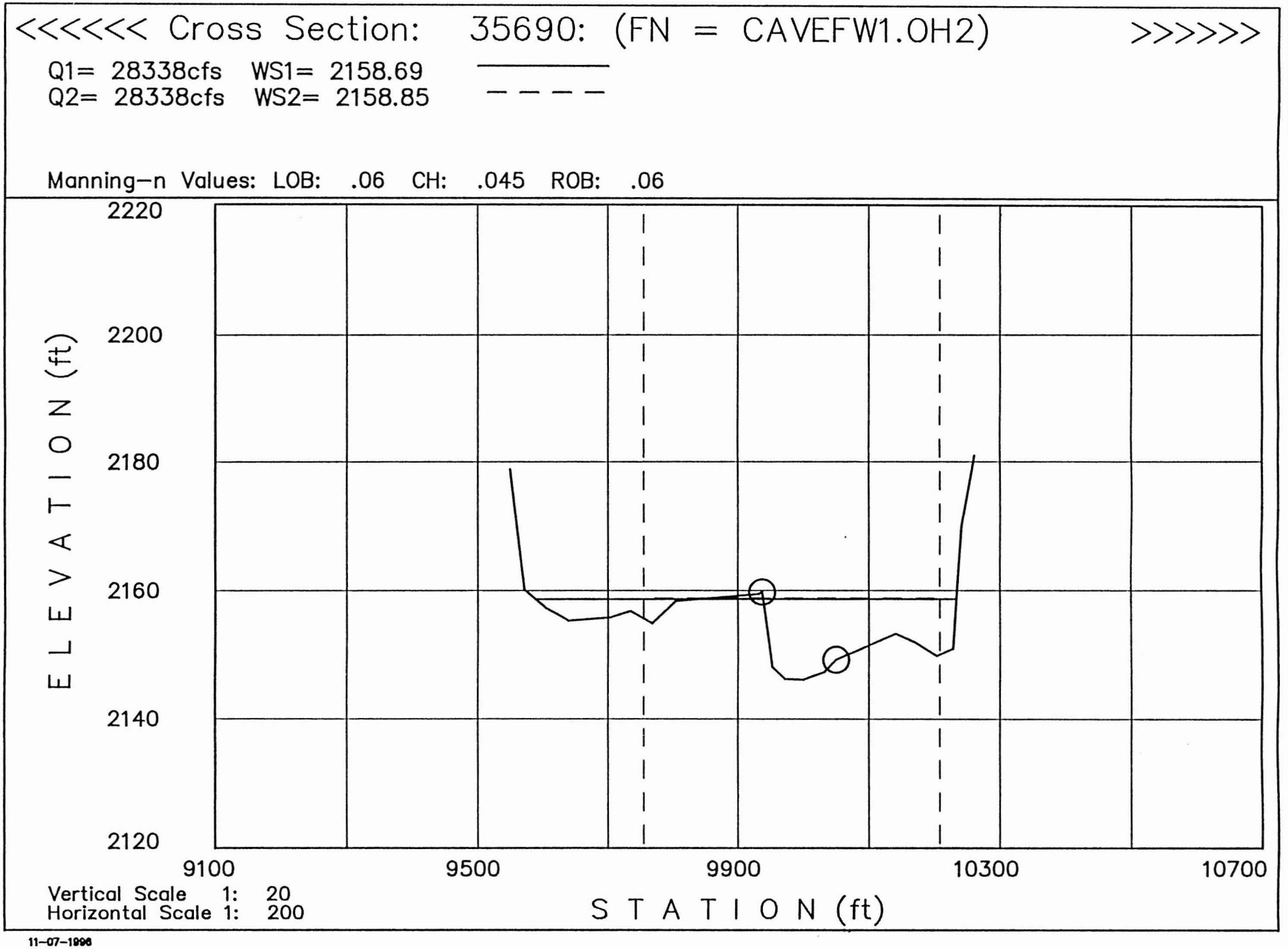
Vertical Scale 1: 20
Horizontal Scale 1: 200

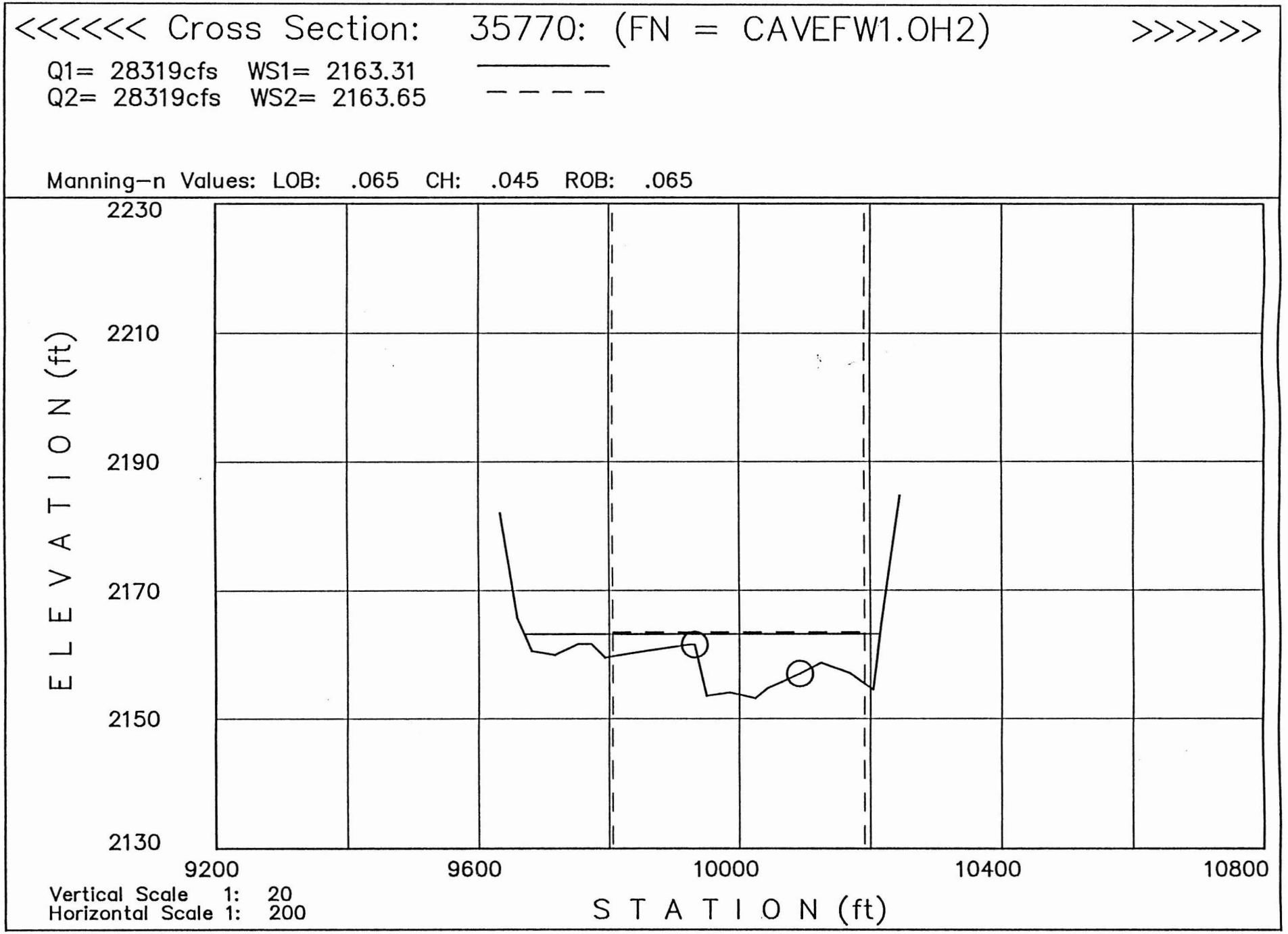
11-07-1996


<<<<<< Cross Section: 35.47: (FN = CAVEFW1.0H2) >>>>>>
Q1= 23200cfs WS1= 2145.69
Q2= 23200cfs WS2= 2146.27
Manning-n Values: LOB: .065 CH: .06 ROB: .065
2210
2190
2170
2150
2130
2110
ELEVATION (ft)
9200
9600
10000
10400
10800
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996


<<<<<< Cross Section: 35.54: (FN = CAVEFW1.OH2) >>>>>>
Q1= 23200cfs WS1= 2151.32
Q2= 23200cfs WS2= 2152.34
Manning-n Values: LOB: .065 CH: .06 ROB: 0 - .065
2230
2210
2190
2170
2150
2130
ELEVATION (ft)
8900
9300
9700
10100
10500
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996


<<<<<< Cross Section: 35590: (FN = CAVEFW1.0H2) >>>>>>
Q1= 28338cfs WS1= 2154.66
Q2= 28338cfs WS2= 2155.25
Manning-n Values: LOB: .06 CH: .045 ROB: 0 - .06
2210
2190
2170
2150
2130
2110
ELEVATION (ft)
8900
9300
9700
10100
10500
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996


<<<<<< Cross Section: 35690: (FN = CAVEFW1.OH2) >>>>>>
Q1= 28338cfs WS1= 2158.69
Q2= 28338cfs WS2= 2158.85
Manning-n Values: LOB: .06 CH: .045 ROB: .06
2220
2200
2180
2160
2140
2120
ELEVATION (ft)
9100
9500
9900
10300
10700
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996

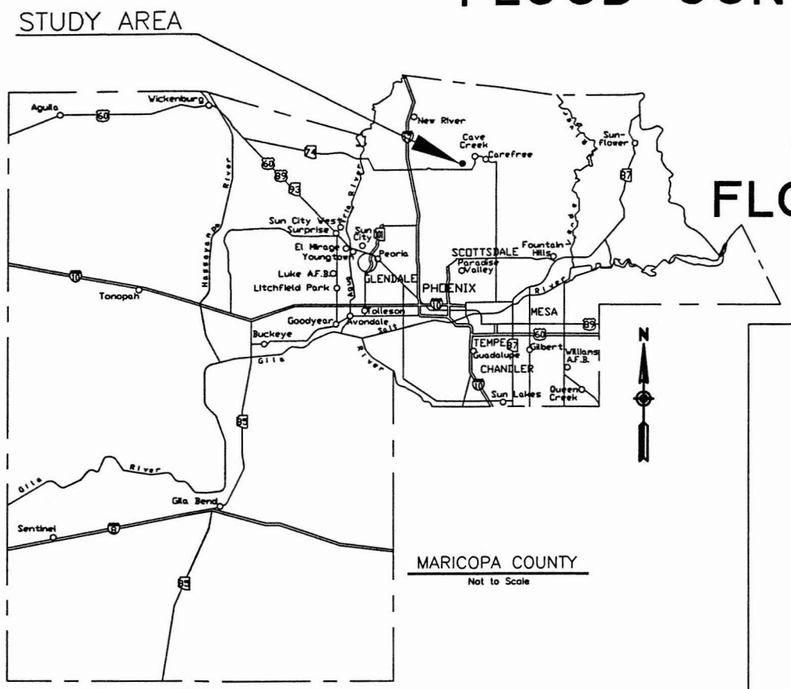

<<<<<< Cross Section: 35770: (FN = CAVEFW1.OH2) >>>>>>
Q1= 28319cfs WS1= 2163.31
Q2= 28319cfs WS2= 2163.65
Manning-n Values: LOB: .065 CH: .045 ROB: .065
2230
2210
2190
2170
2150
2130
ELEVATION (ft)
9200
9600
10000
10400
10800
STATION (ft)
Vertical Scale 1: 20
Horizontal Scale 1: 200
11-07-1996

Appendix E
Floodplain and Floodway Maps
(Reduced Size)

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CAVE CREEK
ABOVE CAREFREE HIGHWAY
FLOODPLAIN DELINEATION STUDY

FCD 95-28



DATUM

HORIZONTAL: North American Datum of 1927
VERTICAL: National Geodetic Vertical Datum of 1929

STATEMENTS BY PROFESSIONAL REGISTRANTS

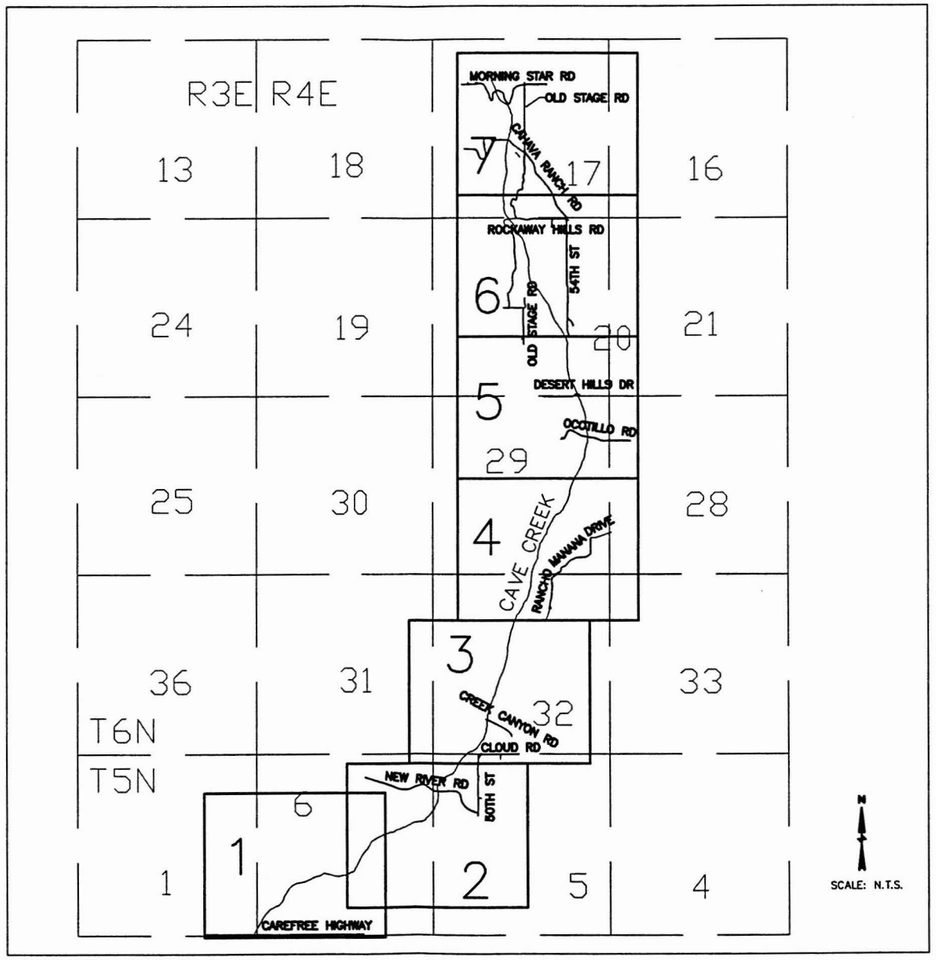
The ground control survey was prepared under my direct supervision:

The following statements apply to the individual seals affixed to each of the maps following this cover sheet.

The photogrammetry and topographic mapping were prepared under my direct supervision:

The hydrologic values used for the floodplain and floodway delineation were prepared under my direct supervision:

The floodplain and floodway delineation were prepared under my direct supervision:



STUDY AREA MAP
AND SHEET INDEX

SHEET INDEX

Sheet 1–7 Floodplain Delineation Study

NOTE

Floodplain Limits in this Study are Plotted at each HEC–2 Cross Section on the Basis of Starting (SSTA) and Ending (ENDST) Stations Unless there is Ineffective Flow Area or a Conflict with Topographic Contours, in which case, the Contours take Precedence.

AERIAL MAPPING

Aerial Mapping Company, Inc.
3141 W. Clarendon Avenue
Phoenix, Arizona 85017 (602) 263–5728
Flight Date: January 12, 1996
Contour Interval: 2 Feet

GROUND CONTROL

Alcocer Land Surveyors
3501 N. 16th Street, Suite C
Phoenix, Arizona 85016 (602) 263–7846

HYDROLOGY

George V. Sabol Consulting Engineers, Inc.
40 SFC Engineering Company
7776 Pointe Parkway West, Suite 290
Phoenix, Arizona 85044 (602) 438–2200

HYDRAULICS

McLaughlin Kmetty Engineers, Ltd.
3501 N. 16th Street
Phoenix, Arizona 85016 (602) 248–7702

LEGEND

Section Label 31
Sheet Limits
Sheet Number 7
Study Wash
Section Line

GEORGE V. SABOL CONSULTING ENGINEERS, INC. in association with McLAUGHLIN KMETTY ENGINEERS, LTD.			
DESIGN	BY FEB	DATE 9/96	FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
DESIGN CHK.	CLJ	9/96	
PLANS	KLH,RGS	3/97	RECOMMENDED BY: DATE
PLANS CHK.	FEB	3/97	APPROVED BY: DATE
SUBMITTED BY: DATE:			CHIEF ENGINEER AND GENERAL MANAGER
			COVER SHEET

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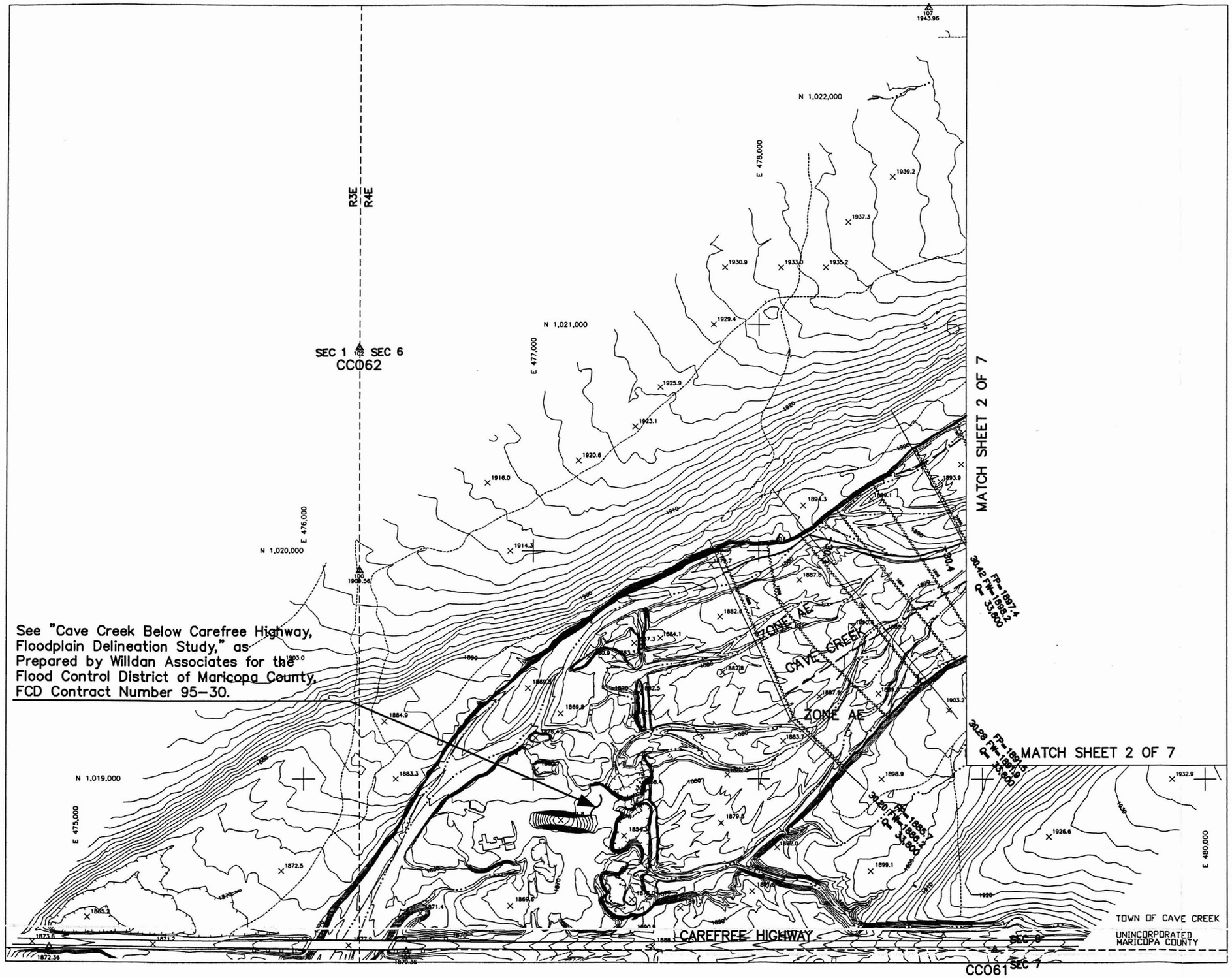
Date: REV. MARCH 31, 1996 2:17pm



See "Cave Creek Below Carefree Highway, Floodplain Delineation Study," as Prepared by Willdan Associates for the Flood Control District of Maricopa County, FCD Contract Number 95-30.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FLOOD DELINEATION STUDY OF CAVE CREEK ABOVE CAREFREE HIGHWAY

F.C.D. CONTRACT NO. 95-28

LEGEND

100-YR FLOODPLAIN BOUNDARY	
FLOODWAY BOUNDARY	
HYDRAULIC BASE LINE & RIVER MILE	2.0
CROSS SECTION	FP=100 Yr WSEL / FW=Floodway WSEL / Q=100 Yr Flow — 5.519
ELEVATION REFERENCE MARK	O OR △ CC061
BASE FLOOD ELEVATIONS	1221
ZONE DESIGNATIONS	ZONE AE
CORPORATE LIMITS	
SECTION LINE	

ELEVATION REFERENCE MARKS

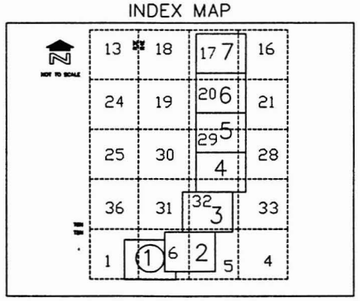
NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUM.	ELEV. (FT)	DESCRIPTION/LOCATION
CC061	1908.08	LOCATED AT TOP OF BRASS CAP IN HANDHOLE AT S 1/4 CORNER SEC 6, T5N, R4E.
CC062	1914.48	LOCATED AT TOP OF BRASS CAP IN HANDHOLE AT W 1/4 CORNER SEC 6, T5N, R4E.

NOTES

1. NGVD 29 TO NAVD 88 ELEVATION CONVERSION: NGVD 1929 + 1.87 FEET (OR + 0.57 METERS) = NAVD 88 THIS CONVERSION WAS DERIVED BY THE NATIONAL GEODETIC SURVEY, RETRIEVAL DATE JULY 21, 1992, AT BELL 2, USING DIFFERENTIAL LEVELING. BELL 2 IS LOCATED ABOUT 0.05 MILES WEST OF INTERSTATE 17 AT THE BELL ROAD INTERCHANGE.
2. ALL SECTION CORNERS ARE APPROXIMATE.
3. ERM LABELS "CC061": WHERE CC MEANS CAVE CREEK, THE NEXT TWO DIGITS REFER TO THE SECTION NUMBER THE ERM IS IN, AND THE LAST DIGIT IS THE ACTUAL ERM NUMBER.

INDEX MAP



200 0' 200 400

SCALE: 1"= 200'

CONTOUR INTERVAL = 2' FEET

GEORGE V. SABOL CONSULTING ENGINEERS, INC.
in association with
McLAUGHLIN KMETTY ENGINEERS, LTD.

	BY	DATE
DESIGN	FEB	9/96
DESIGN CHK.	FCDMC	9/96
PLANS	KLH,RGS	3/97
PLANS CHK.	FEB	3/97

SUBMITTED BY: _____ DATE: _____

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: _____ DATE: _____

APPROVED BY: _____ DATE: _____

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 1 OF 7

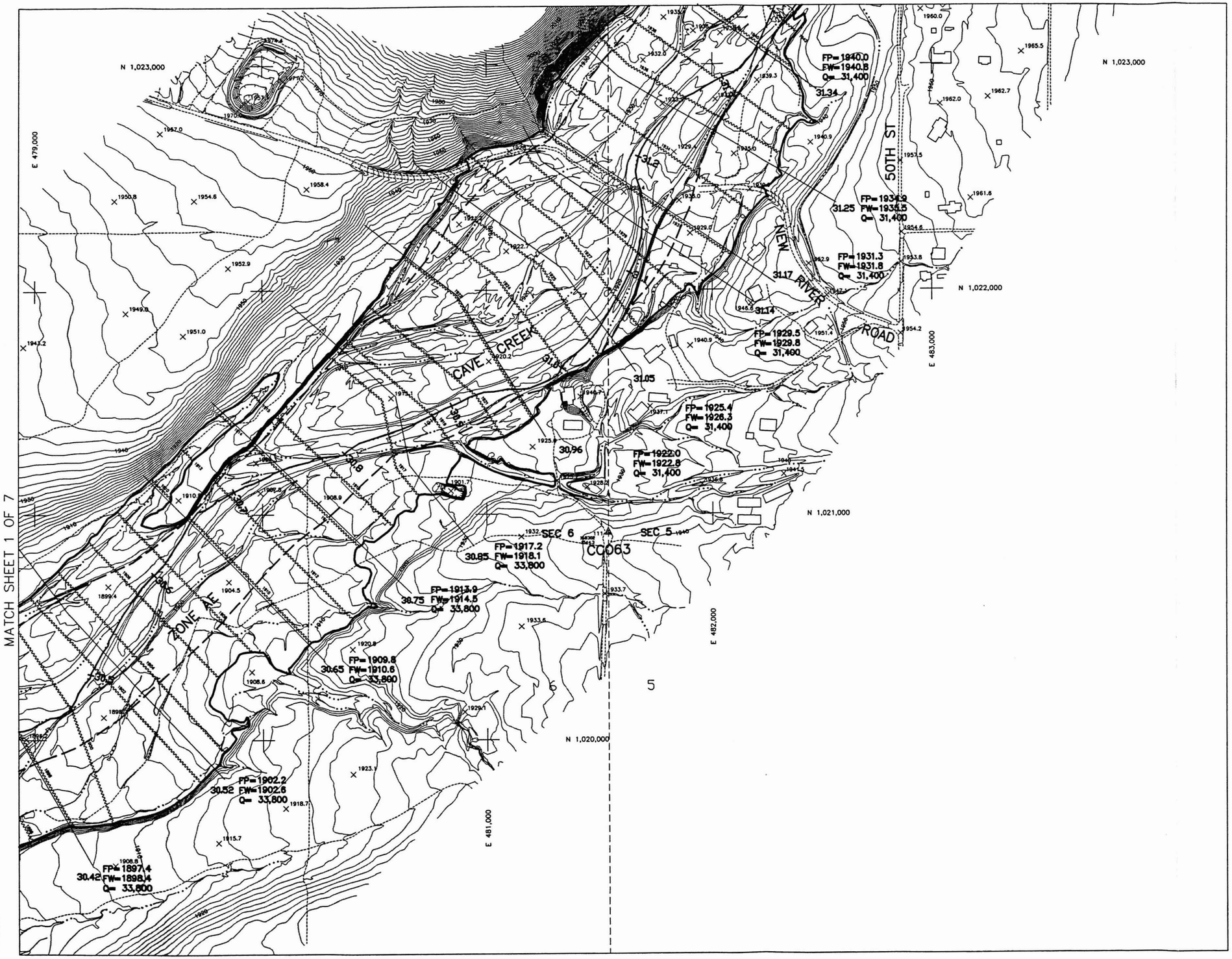
Dwg. Name: \P\92404003\ACAD\CCSHEET1.dwg
Date: REV. MARCH 31, 1997 11:00 am

AERIAL MAPPING COMPANY, INC.
PHOTOGRAMMETRY
FLIGHT DATE: 1-12-96

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS
1"= 200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS AND BASED ON GROUND CONTROL SURVEY
DATA PROVIDED BY ALCOCER LAND SURVEYORS

MATCH SHEET 3 OF 7

MATCH SHEET 1 OF 7



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FLOOD DELINEATION STUDY OF CAVE CREEK ABOVE CAREFREE HIGHWAY

F.C.D. CONTRACT NO. 95-28

LEGEND

- 100-YR FLOODPLAIN BOUNDARY
- FLOODWAY BOUNDARY
- HYDRAULIC BASE LINE & RIVER MILE — 2.0
- CROSS SECTION — FP=100 Yr WSEL / FW=Floodway WSEL / Q=100 Yr Flow — 5.519
- ELEVATION REFERENCE MARK — ○ OR △ CC061
- BASE FLOOD ELEVATIONS — 1221
- ZONE DESIGNATIONS — ZONE AE
- CORPORATE LIMITS
- SECTION LINE

ELEVATION REFERENCE MARKS

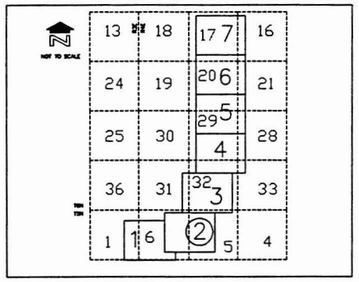
NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

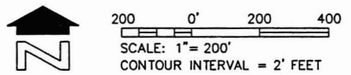
I.D. NUM.	ELEV. (FT)	DESCRIPTION/LOCATION
CC063	1938.37	LOCATED AT TOP OF USGLO BRASS CAP AT EAST 1/4 CORNER SEC 6 T5N R4E

NOTES

1. NGVD 29 TO NAVD 88 ELEVATION CONVERSION: NGVD 1929 + 1.87 FEET (OR + 0.57 METERS) = NAVD 88 THIS CONVERSION WAS DERIVED BY THE NATIONAL GEODETIC SURVEY, RETRIEVAL DATE JULY 21, 1992, AT BELL 2, USING DIFFERENTIAL LEVELING. BELL 2 IS LOCATED ABOUT 0.05 MILES WEST OF INTERSTATE 17 AT THE BELL ROAD INTERCHANGE.
2. ALL SECTION CORNERS ARE APPROXIMATE.
3. ERM LABELS "CC061": WHERE CC MEANS CAVE CREEK, THE NEXT TWO DIGITS REFER TO THE SECTION NUMBER THE ERM IS IN, AND THE LAST DIGIT IS THE ACTUAL ERM NUMBER.

INDEX MAP





GEORGE V. SABOL CONSULTING ENGINEERS, INC.
in association with
McLAUGHLIN KMETTY ENGINEERS, LTD.

	BY	DATE
DESIGN	FEB	9/96
DESIGN CHK.	FCDMC	9/96
PLANS	KLH,RGS	3/97
PLANS CHK.	FEB	3/97

SUBMITTED BY: DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

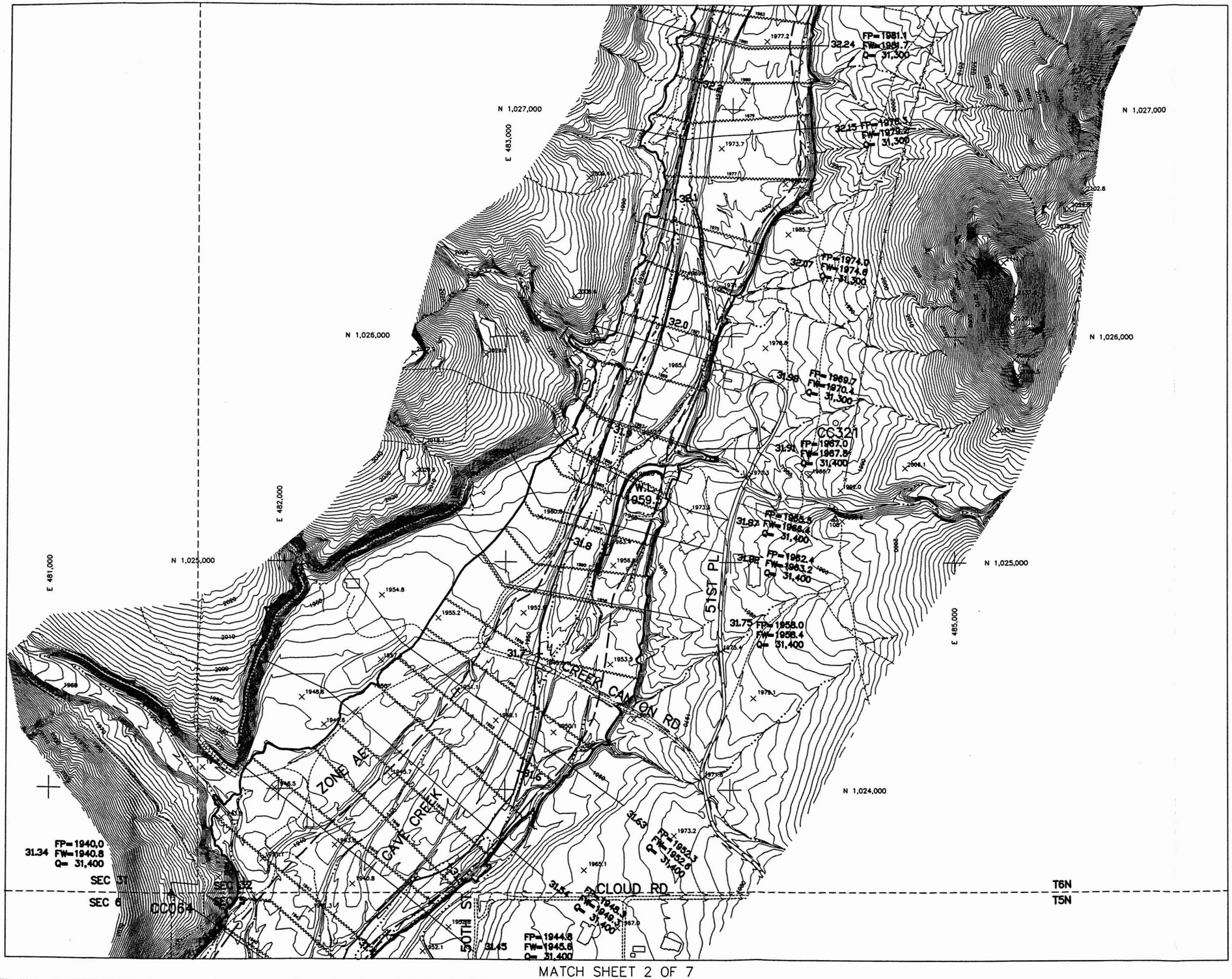
SHEET 2 OF 7

Dwg. Name: \P\9240403\ACAD\CCSHEET2.dwg
Date: REV. MARCH 31, 1997 01:55 pm

AERIAL MAPPING COMPANY, INC.
PHOTOGRAMMETRY
FLIGHT DATE: 1-12-96

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS
1"= 200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS AND BASED ON GROUND CONTROL SURVEY
DATA PROVIDED BY ALCOCER LAND SURVEYORS

MATCH SHEET 4 OF 7



MATCH SHEET 2 OF 7

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS 1"= 200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS AND BASED ON GROUND CONTROL SURVEY DATA PROVIDED BY ALCOCER LAND SURVEYORS

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FLOOD DELINEATION STUDY OF CAVE CREEK ABOVE CAREFREE HIGHWAY

F.C.D. CONTRACT NO. 95-28

LEGEND

100-YR FLOODPLAIN BOUNDARY

FLOODWAY BOUNDARY

HYDRAULIC BASE LINE & RIVER MILE — 2.0

CROSS SECTION — FP=100 Yr WSEL / FW=Floodway WSEL / Q=100 Yr Flow — 5.519

ELEVATION REFERENCE MARK — ○ OR △ CC061

BASE FLOOD ELEVATIONS — 1221

ZONE DESIGNATIONS — ZONE AE

CORPORATE LIMITS

SECTION LINE

ELEVATION REFERENCE MARKS

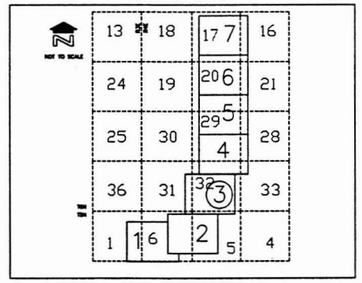
NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUM.	ELEV. (FT)	DESCRIPTION/LOCATION
CC064	1993.22	LOCATED AT TOP OF USGLO BRASS CAP AT NE CORNER SEC 6 T5N R4E
CC321	1985.02	LOCATED AT TOP OF BRASS CAP IN CONCRETE 7' WEST OF POWER LINE AND 7' WEST OF POWER & TELEPHONE POLE # P51007660, BEING IN THE SE 1/4 OF SEC 32, T6N R4E. APPROXIMATE COORDINATES N1025619.4 E484463.9

NOTES

1. NGVD 29 TO NAVD 88 ELEVATION CONVERSION: NGVD 1929 + 1.87 FEET (OR + 0.57 METERS) = NAVD 88 THIS CONVERSION WAS DERIVED BY THE NATIONAL GEODETIC SURVEY, RETRIEVAL DATE JULY 21, 1992, AT BELL 2, USING DIFFERENTIAL LEVELING. BELL 2 IS LOCATED ABOUT 0.05 MILES WEST OF INTERSTATE 17 AT THE BELL ROAD INTERCHANGE.
2. ALL SECTION CORNERS ARE APPROXIMATE.
3. ERM LABELS "CC061": WHERE CC MEANS CAVE CREEK, THE NEXT TWO DIGITS REFER TO THE SECTION NUMBER THE ERM IS IN, AND THE LAST DIGIT IS THE ACTUAL ERM NUMBER.

INDEX MAP



200 0' 200 400

SCALE: 1"= 200'
CONTOUR INTERVAL = 2' FEET

GEORGE V. SABOL CONSULTING ENGINEERS, INC.
in association with
McLAUGHLIN KMETTY ENGINEERS, LTD.

	BY	DATE
DESIGN	FEB	9/96
DESIGN CHK.	FCDMC	9/96
PLANS	KLH,RGS	3/97
PLANS CHK.	FEB	3/97

SUBMITTED BY: DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 3 OF 7

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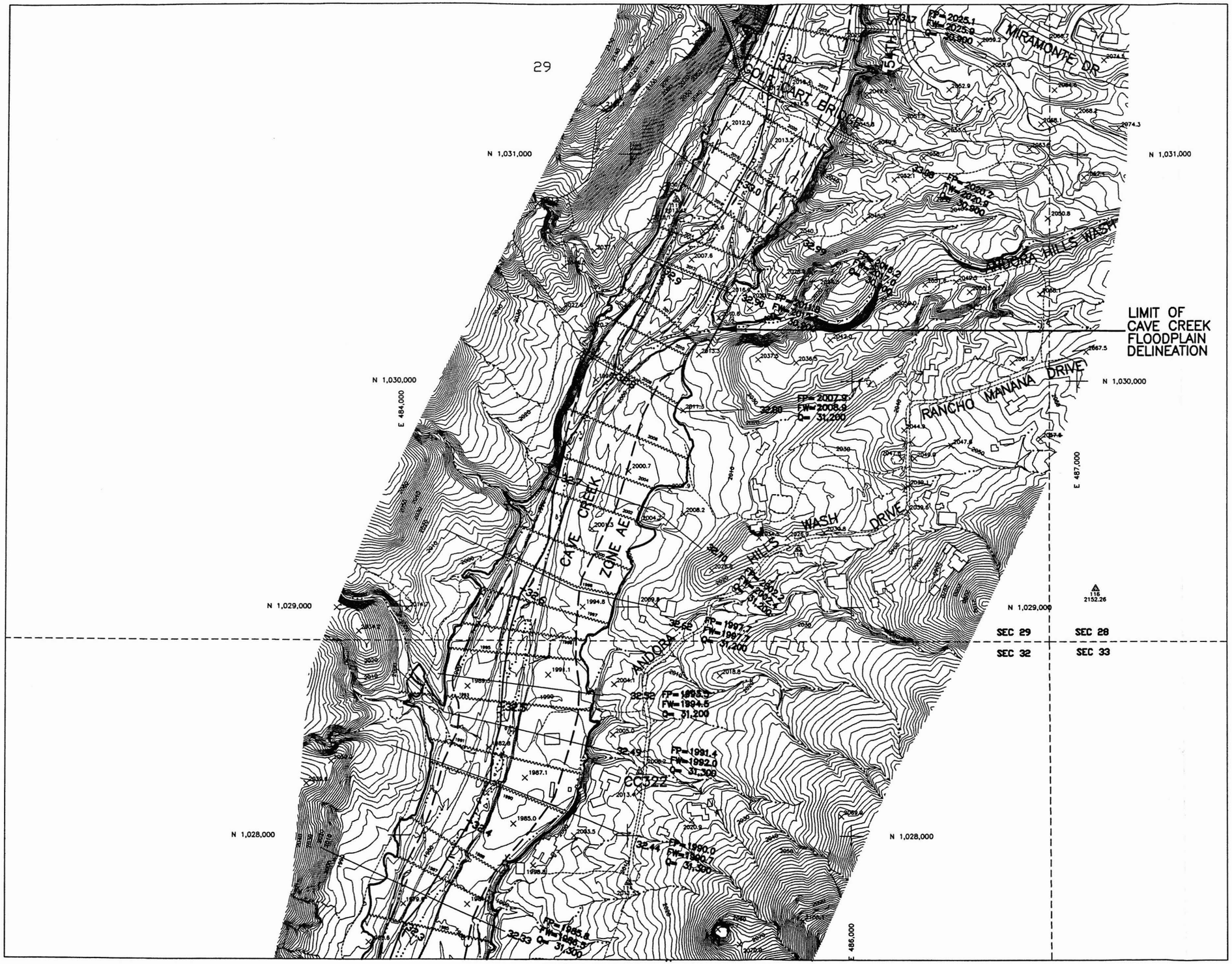
MATCH SHEET 5 OF 7



MATCH SHEET 3 OF 7

AERIAL MAPPING COMPANY, INC.
PHOTOGRAMMETRY
FLIGHT DATE: 1-12-96

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS
1"= 200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS AND BASED ON GROUND CONTROL SURVEY
DATA PROVIDED BY ALCOCER LAND SURVEYORS

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FLOOD DELINEATION STUDY OF CAVE CREEK ABOVE CAREFREE HIGHWAY

F.C.D. CONTRACT NO. 95-28

LEGEND

- 100-YR FLOODPLAIN BOUNDARY
- FLOODWAY BOUNDARY
- HYDRAULIC BASE LINE & RIVER MILE — 20
- CROSS SECTION — FP=100 Yr WSEL / FW=Floodway WSEL / Q=100 Yr Flow — 5.519
- ELEVATION REFERENCE MARK — ○ OR △ CC061
- BASE FLOOD ELEVATIONS — 1221
- ZONE DESIGNATIONS — ZONE AE
- CORPORATE LIMITS
- SECTION LINE

ELEVATION REFERENCE MARKS

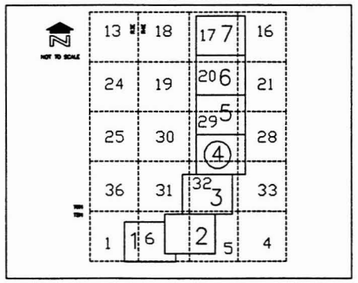
NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUM.	ELEV. (FT)	DESCRIPTION/LOCATION
CC322	2005.81	LOCATED AT TOP OF BRASS CAP IN CONCRETE 10' NORTH & 6' WEST OF ELECTRIC TRANSFORMER # M66450, BEING ON THE WEST SIDE OF ANDORA HILLS WASH DRIVE, BEING IN THE NE 1/4 OF SEC 32 T6N R4E, APPROXIMATE COORDINATES N1028278.3 E485054.4

NOTES

1. NGVD 29 TO NAVD 88 ELEVATION CONVERSION: NGVD 1929 + 1.87 FEET (OR + 0.57 METERS) = NAVD 88 THIS CONVERSION WAS DERIVED BY THE NATIONAL GEODETIC SURVEY, RETRIEVAL DATE JULY 21, 1992, AT BELL 2, USING DIFFERENTIAL LEVELING. BELL 2 IS LOCATED ABOUT 0.05 MILES WEST OF INTERSTATE 17 AT THE BELL ROAD INTERCHANGE.
2. ALL SECTION CORNERS ARE APPROXIMATE.
3. ERM LABELS "CC061": WHERE CC MEANS CAVE CREEK, THE NEXT TWO DIGITS REFER TO THE SECTION NUMBER THE ERM IS IN, AND THE LAST DIGIT IS THE ACTUAL ERM NUMBER.
4. THE GOLF CART BRIDGE AT RM 33.08 IS ABOUT 1.0 FEET ABOVE THE CHANNEL BOTTOM. THE CROSS SECTION IS TAKEN ALONG THE TOP OF DECK AND A BRIDGE ANALYSIS IS NOT NEEDED.

INDEX MAP



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SCALE: 1"= 200'
CONTOUR INTERVAL = 2' FEET

GEORGE V. SABOL CONSULTING ENGINEERS, INC.
in association with
McLAUGHLIN KMETTY ENGINEERS, LTD.

	BY	DATE
DESIGN	FEB	9/96
DESIGN CHK.	FCDMC	9/96
PLANS	KLH,RGS	3/97
PLANS CHK.	FEB	3/97

SUBMITTED BY: DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

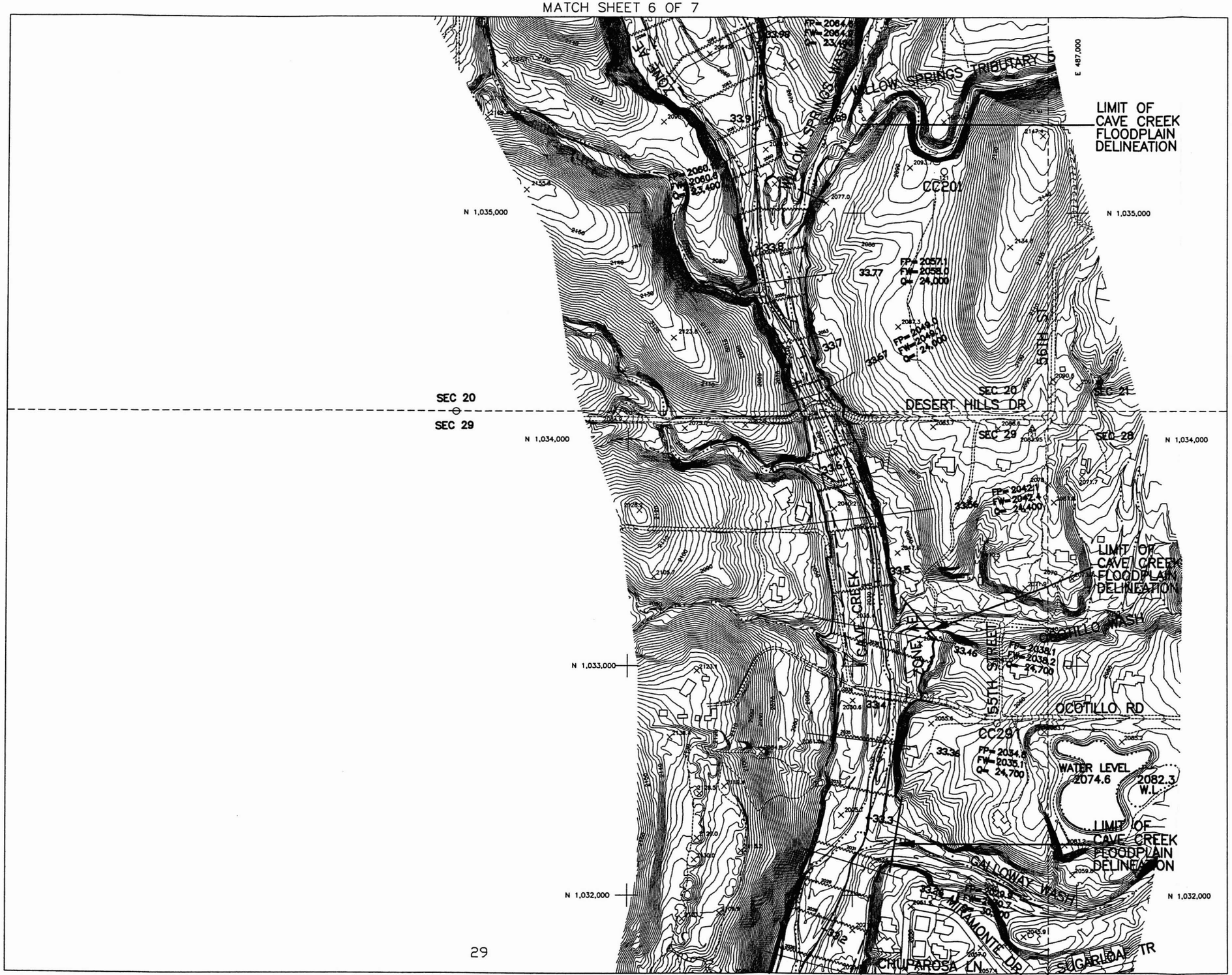
APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 4 OF 7

Dwg. Name: \P\9240403\ACAD\CCSHEET4.dwg
Date: REV. MARCH 31, 1997 03:07 pm

MATCH SHEET 6 OF 7



MATCH SHEET 4 OF 7

29

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FLOOD DELINEATION STUDY OF CAVE CREEK ABOVE CAREFREE HIGHWAY

F.C.D. CONTRACT NO. 95-28

LEGEND

- 100-YR FLOODPLAIN BOUNDARY
- FLOODWAY BOUNDARY
- HYDRAULIC BASE LINE & RIVER MILE — 20
- CROSS SECTION — FP=100 Yr WSEL / FW=Floodway WSEL / Q=100 Yr Flow — 5.519
- ELEVATION REFERENCE MARK — ○ OR △ CC061
- BASE FLOOD ELEVATIONS — 1221
- ZONE DESIGNATIONS — ZONE AE
- CORPORATE LIMITS
- SECTION LINE

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUM.	ELEV. (FT)	DESCRIPTION/LOCATION
CC291	2057.34	LOCATED AT TOP OF BRASS CAP IN CONCRETE 10' SOUTH OF OCOTILLO ROAD & 55TH STREET, BEING IN THE NE 1/4 SEC 29 T6N R4E. APPROXIMATE COORDINATES N1032723.2 E486628.2
CC201	2090.39	LOCATED AT TOP OF BRASS CAP IN CONCRETE BEING IN THE SE 1/4 SEC 20 T6N R4E. COORDINATES N1025191.926820 E484461.678362

NOTES

1. NGVD 29 TO NAVD 88 ELEVATION CONVERSION: NGVD 1929 + 1.87 FEET (OR + 0.57 METERS) = NAVD 88 THIS CONVERSION WAS DERIVED BY THE NATIONAL GEODETIC SURVEY, RETRIEVAL DATE JULY 21, 1992, AT BELL 2, USING DIFFERENTIAL LEVELING. BELL 2 IS LOCATED ABOUT 0.05 MILES WEST OF INTERSTATE 17 AT THE BELL ROAD INTERCHANGE.
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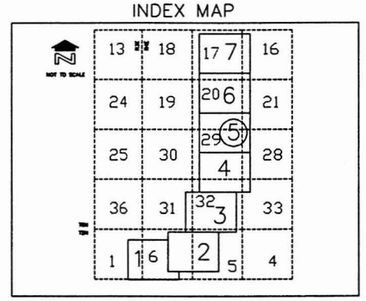
INDEX MAP



200 0' 200 400
SCALE: 1"= 200'
CONTOUR INTERVAL = 2' FEET

GEORGE V. SABOL CONSULTING ENGINEERS, INC.
in association with
McLAUGHLIN KMETTY ENGINEERS, LTD.

	BY	DATE
DESIGN	FEB	9/96
DESIGN CHK.	FCDMC	9/96
PLANS	KLH,RGS	3/97
PLANS CHK.	FEB	3/97

SUBMITTED BY: DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

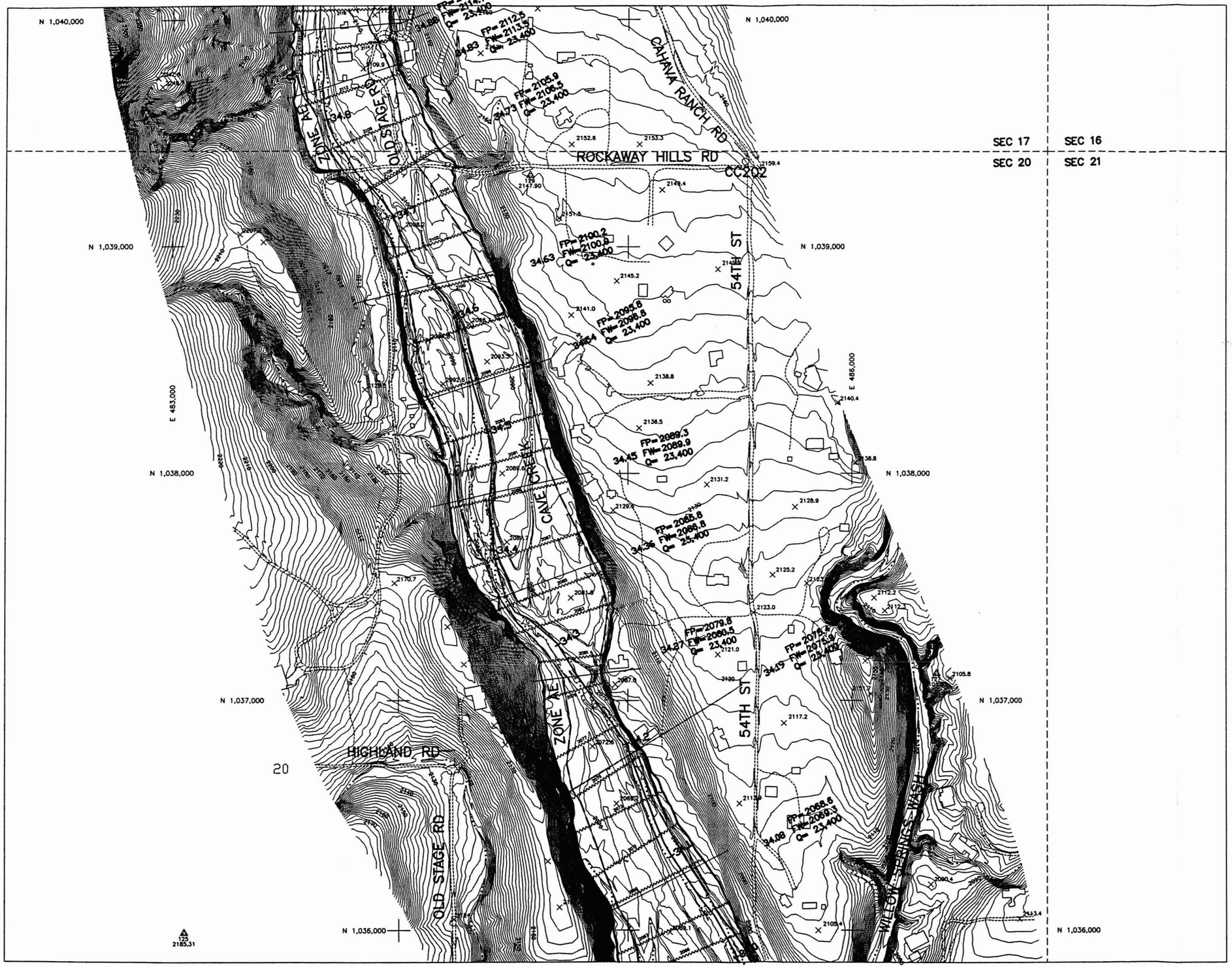
SHEET 5 OF 7

Dwg. Name: V:\92404003\ACAD\CCSHEET5.dwg
Date: REV: March 31, 1997 04:35 pm

AERIAL MAPPING COMPANY, INC.
PHOTOGRAMMETRY
FLIGHT DATE: 1-12-96

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS
1"= 200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS AND BASED ON GROUND CONTROL SURVEY
DATA PROVIDED BY ALCOCER LAND SURVEYORS

MATCH SHEET 7 OF 7



MATCH SHEET 5 OF 7

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FLOOD DELINEATION STUDY OF CAVE CREEK ABOVE CAREFREE HIGHWAY

F.C.D. CONTRACT NO. 95-28

LEGEND

- 100-YR FLOODPLAIN BOUNDARY
- FLOODWAY BOUNDARY
- HYDRAULIC BASE LINE & RIVER MILE (2.0)
- CROSS SECTION (FP=100 Yr WSEL / FW=Floodway WSEL / Q=100 Yr Flow) 5.519
- ELEVATION REFERENCE MARK ○ OR △ CC061
- BASE FLOOD ELEVATIONS 1221
- ZONE DESIGNATIONS ZONE AE
- CORPORATE LIMITS
- SECTION LINE

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUM.	ELEV. (FT)	DESCRIPTION/LOCATION
ERM# CC202	2154.03	LOCATED AT TOP OF BRASS CAP IN CONCRETE IN THE NW CORNER OF CAHAVA RANCH ROAD AND ROCKAWAY HILLS ROAD AND 15' WEST OF POWER POLE # HTP 107.64, BEING IN THE NE 1/4 SEC 20 T6N R4E, APPROXIMATE COORDINATES N1039368.8 E485527.7

NOTES

1. NGVD 29 TO NAVD 88 ELEVATION CONVERSION: NGVD 1929 + 1.87 FEET (OR + 0.57 METERS) = NAVD 88 THIS CONVERSION WAS DERIVED BY THE NATIONAL GEODETIC SURVEY, RETRIEVAL DATE JULY 21, 1992, AT BELL 2, USING DIFFERENTIAL LEVELING. BELL 2 IS LOCATED ABOUT 0.05 MILES WEST OF INTERSTATE 17 AT THE BELL ROAD INTERCHANGE.
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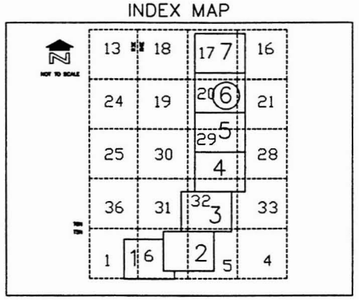
INDEX MAP



200 0' 200 400

SCALE: 1"= 200'

CONTOUR INTERVAL = 2' FEET

GEORGE V. SABOL CONSULTING ENGINEERS, INC.
in association with
McLAUGHLIN KMETTY ENGINEERS, LTD.

	BY	DATE
DESIGN	FEB	9/96
DESIGN CHK.	FCDMC	9/96
PLANS	KLH,RGS	3/97
PLANS CHK.	FEB	3/97

SUBMITTED BY: DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

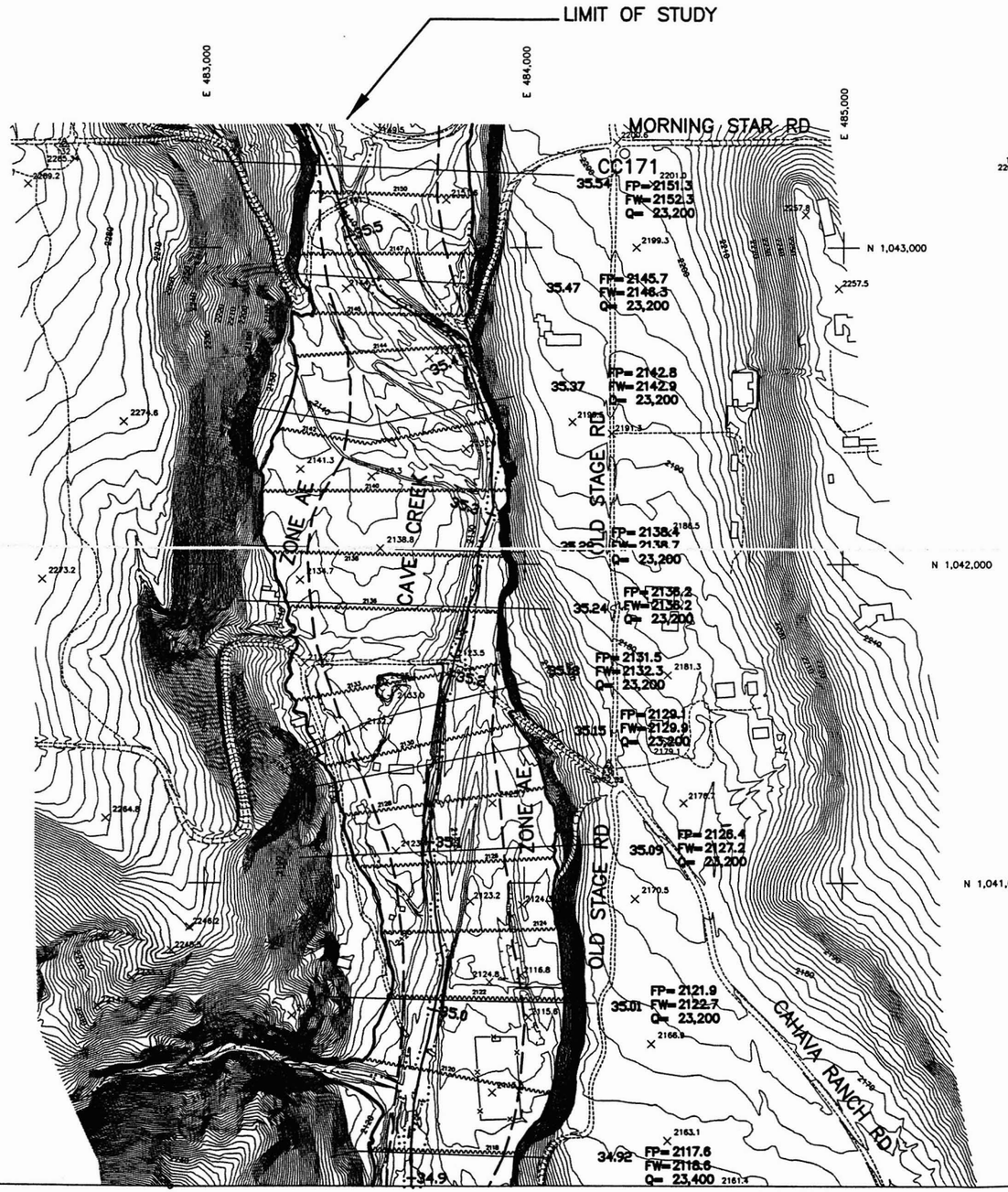
CHIEF ENGINEER AND GENERAL MANAGER

SHEET 6 OF 7

Dwg. Name: \P\92404003\ACAD\CCSHEET6.dwg
Date: REV. March 31, 1997 03:45 pm

AERIAL MAPPING COMPANY, INC.
PHOTOGRAMMETRY
FLIGHT DATE: 1-12-96

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS
1"= 200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS AND BASED ON GROUND CONTROL SURVEY
DATA PROVIDED BY ALCOCER LAND SURVEYORS



UNINCORPORATED MARICOPA COUNTY
TOWN OF CAVE CREEK

MATCH SHEET 6 OF 7

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FLOOD DELINEATION STUDY OF CAVE CREEK ABOVE CAREFREE HIGHWAY

F.C.D. CONTRACT NO. 95-28

LEGEND

- 100-YR FLOODPLAIN BOUNDARY
- FLOODWAY BOUNDARY
- HYDRAULIC BASE LINE & RIVER MILE (2.0)
- CROSS SECTION (FP=100 Yr WSEL / FW=Floodway WSEL / Q=100 Yr Flow) 5.519
- ELEVATION REFERENCE MARK ○ OR △ CC061
- BASE FLOOD ELEVATIONS 1221
- ZONE DESIGNATIONS ZONE AE
- CORPORATE LIMITS
- SECTION LINE

ELEVATION REFERENCE MARKS

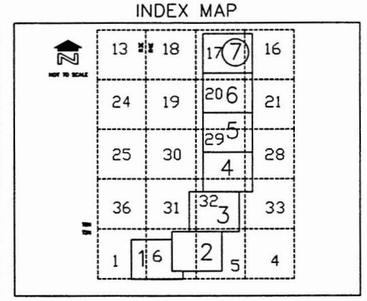
NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUM.	ELEV. (FT)	DESCRIPTION/LOCATION
CC171	2201.93	LOCATED AT TOP OF BRASS CAP IN CONCRETE AT THE SOUTHEAST CORNER OF MORNING STAR ROAD AND OLD STAGE ROAD. ALSO 3' WEST OF POWER AND TELEPHONE POLE, BEING IN THE NE 1/4 SEC 17 T6N R4E. APPROXIMATE COORDINATES N1043306.6 E484315.0

NOTES

1. NGVD 29 TO NAVD 88 ELEVATION CONVERSION: NGVD 1929 + 1.87 FEET (OR + 0.57 METERS) = NAVD 88 THIS CONVERSION WAS DERIVED BY THE NATIONAL GEODETIC SURVEY, RETRIEVAL DATE JULY 21, 1992, AT BELL 2, USING DIFFERENTIAL LEVELING. BELL 2 IS LOCATED ABOUT 0.05 MILES WEST OF INTERSTATE 17 AT THE BELL ROAD INTERCHANGE.
2. ALL SECTION CORNERS ARE APPROXIMATE.
3. ERM LABELS "CC061": WHERE CC MEANS CAVE CREEK, THE NEXT TWO DIGITS REFER TO THE SECTION NUMBER THE ERM IS IN, AND THE LAST DIGIT IS THE ACTUAL ERM NUMBER.

INDEX MAP



200 0' 200 400
SCALE: 1"= 200'
CONTOUR INTERVAL = 2' FEET

GEORGE V. SABOL CONSULTING ENGINEERS, INC.
in association with
McLAUGHLIN KMETTY ENGINEERS, LTD.

	BY	DATE
DESIGN	FEB	9/96
DESIGN CHK.	FCDMC	9/96
PLANS	KLH,RGS	3/97
PLANS CHK.	FEB	3/97
SUBMITTED BY:		DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE
APPROVED BY: DATE
CHIEF ENGINEER AND GENERAL MANAGER

SHEET 7 OF 7

Dwg. Name: \P\92404003\ACAD\CCSHEET7.dwg
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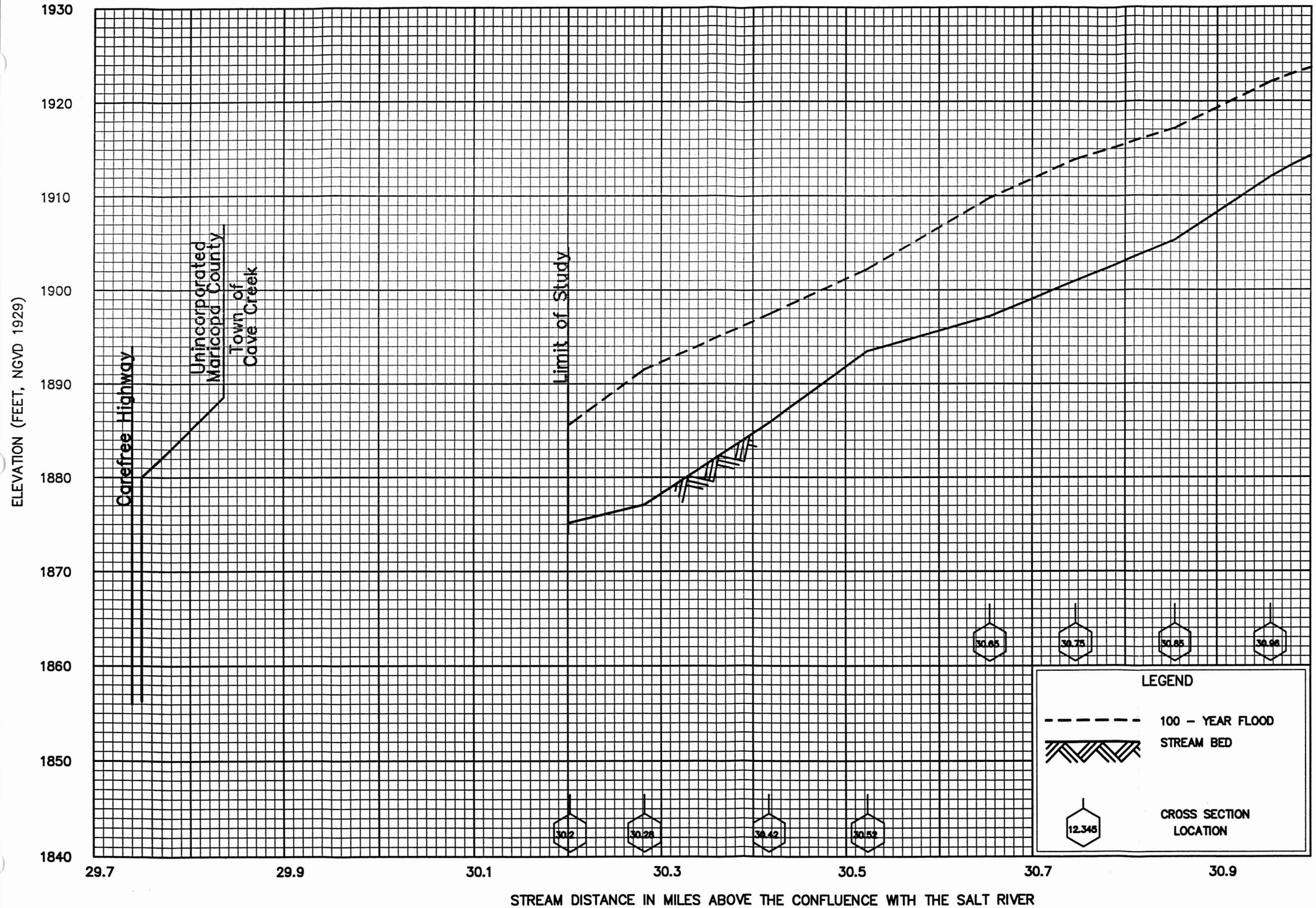
AERIAL MAPPING COMPANY, INC.
PHOTOGRAMMETRY
FLIGHT DATE: 1-12-96

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS 1"= 200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS AND BASED ON GROUND CONTROL SURVEY DATA PROVIDED BY ALCOCER LAND SURVEYORS

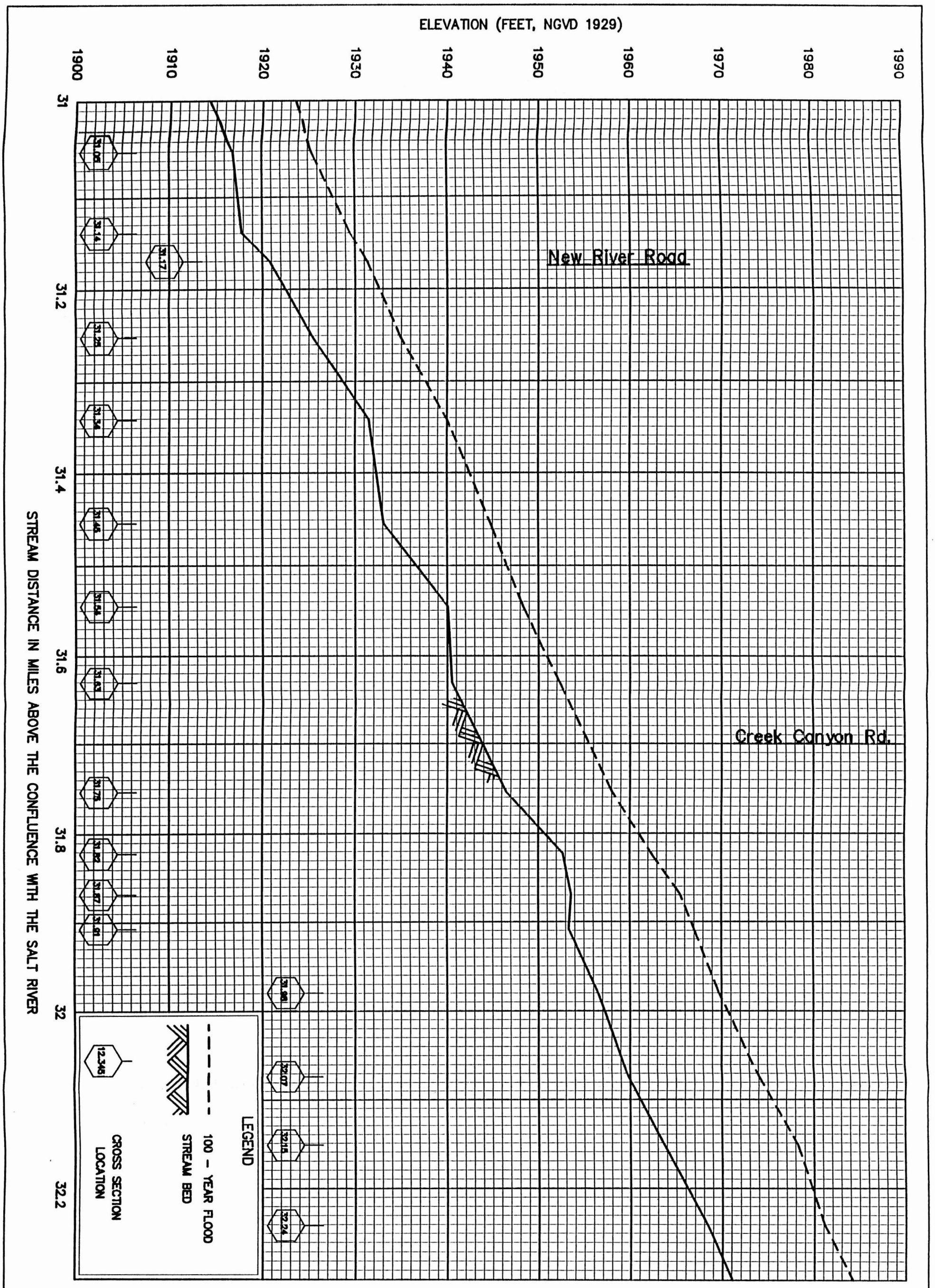
Hydraulic Analysis
HEC-2 Water Surface Profiles
CAVEFW1.OH2

FLOOD PROFILES

CAVE CREEK WASH

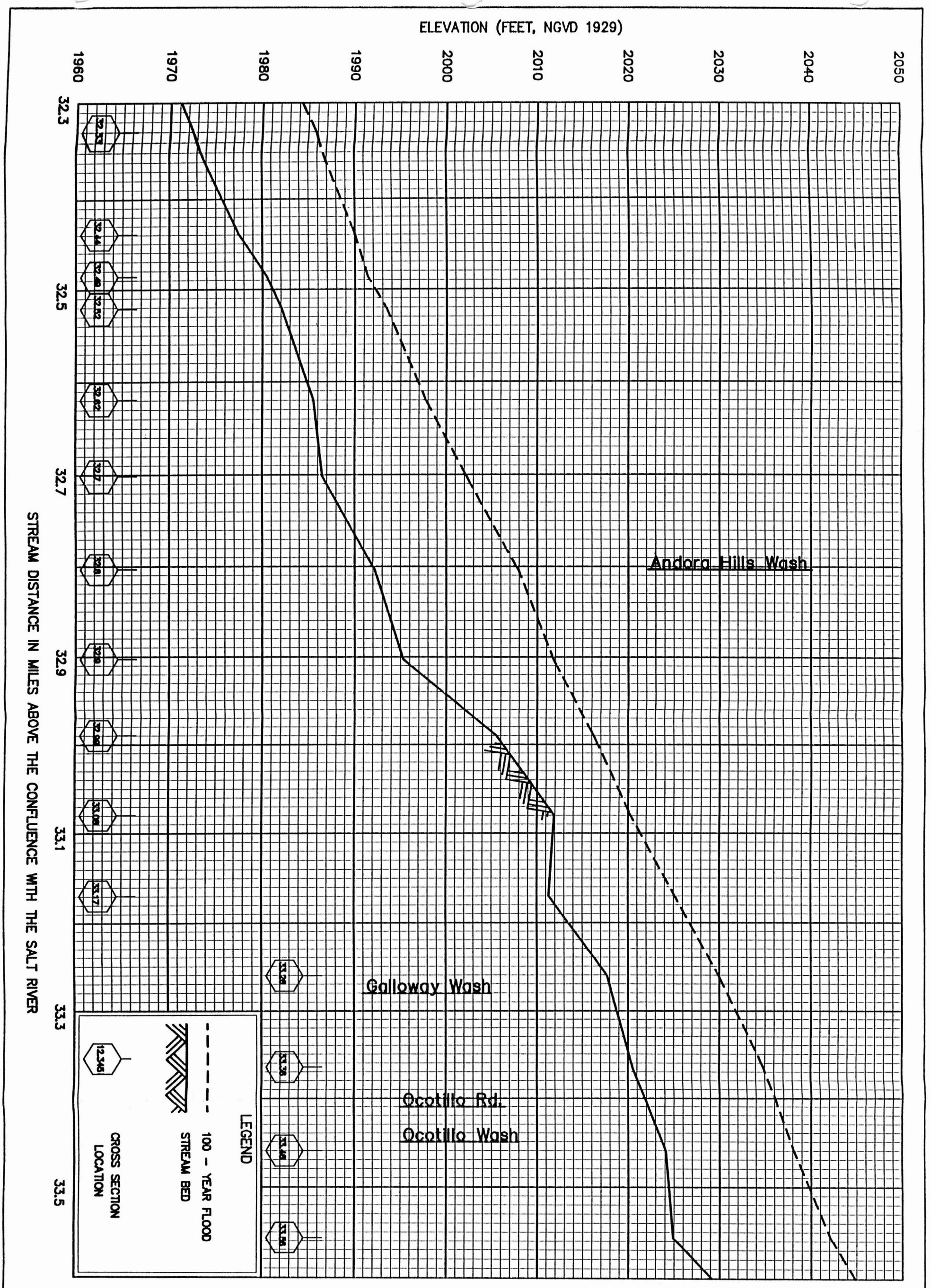


FEDERAL EMERGENCY MANAGEMENT AGENCY
CAVE CREEK WASH
FLOODPLAIN DELINEATION STUDY



	FEDERAL EMERGENCY MANAGEMENT AGENCY CAVE CREEK WASH FLOODPLAIN DELINEATION STUDY	FLOOD PROFILES CAVE CREEK WASH

Dwg. Name: \P\92404003\FEMA\ FEMAPROF.DWG (SHEET 2 OF 6)
Date: REV. 11/07/96



	FEDERAL EMERGENCY MANAGEMENT AGENCY CAVE CREEK WASH FLOODPLAIN DELINEATION STUDY	FLOOD PROFILES CAVE CREEK WASH

Dwg. Name: \P\92404003\FEMA\ FEMAPROF.DWG (SHEET 3 OF 6)
Date: REV. 11/07/96

ELEVATION (FEET, NGVD 1929)

2010 2020 2030 2040 2050 2060 2070 2080 2090 2100

Desert Hills Dr.

Willow Springs Wash

33.6 33.8 34 34.2 34.4 34.6 34.8

STREAM DISTANCE IN MILES ABOVE THE CONFLUENCE WITH THE SALT RIVER

LEGEND

100 - YEAR FLOOD STREAM BED

CROSS SECTION LOCATION

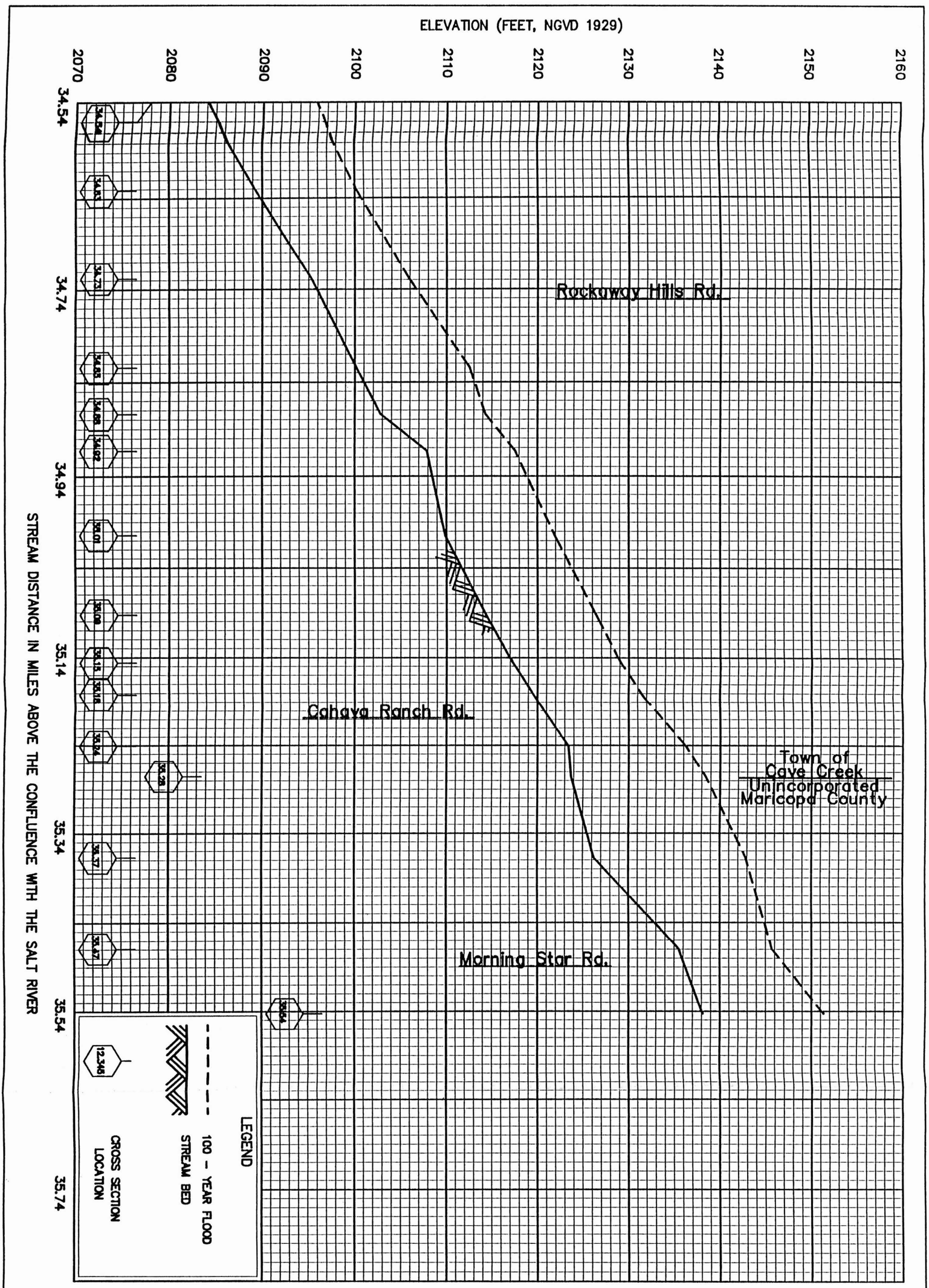
FEDERAL EMERGENCY MANAGEMENT AGENCY

CAVE CREEK WASH
FLOODPLAIN DELINEATION STUDY

FLOOD PROFILES

CAVE CREEK WASH

Dwg. Name: \P\92404003\FEMA\ FEMAPROF.DWG (SHEET 4 OF 6)
Date: REV. 11/07/96



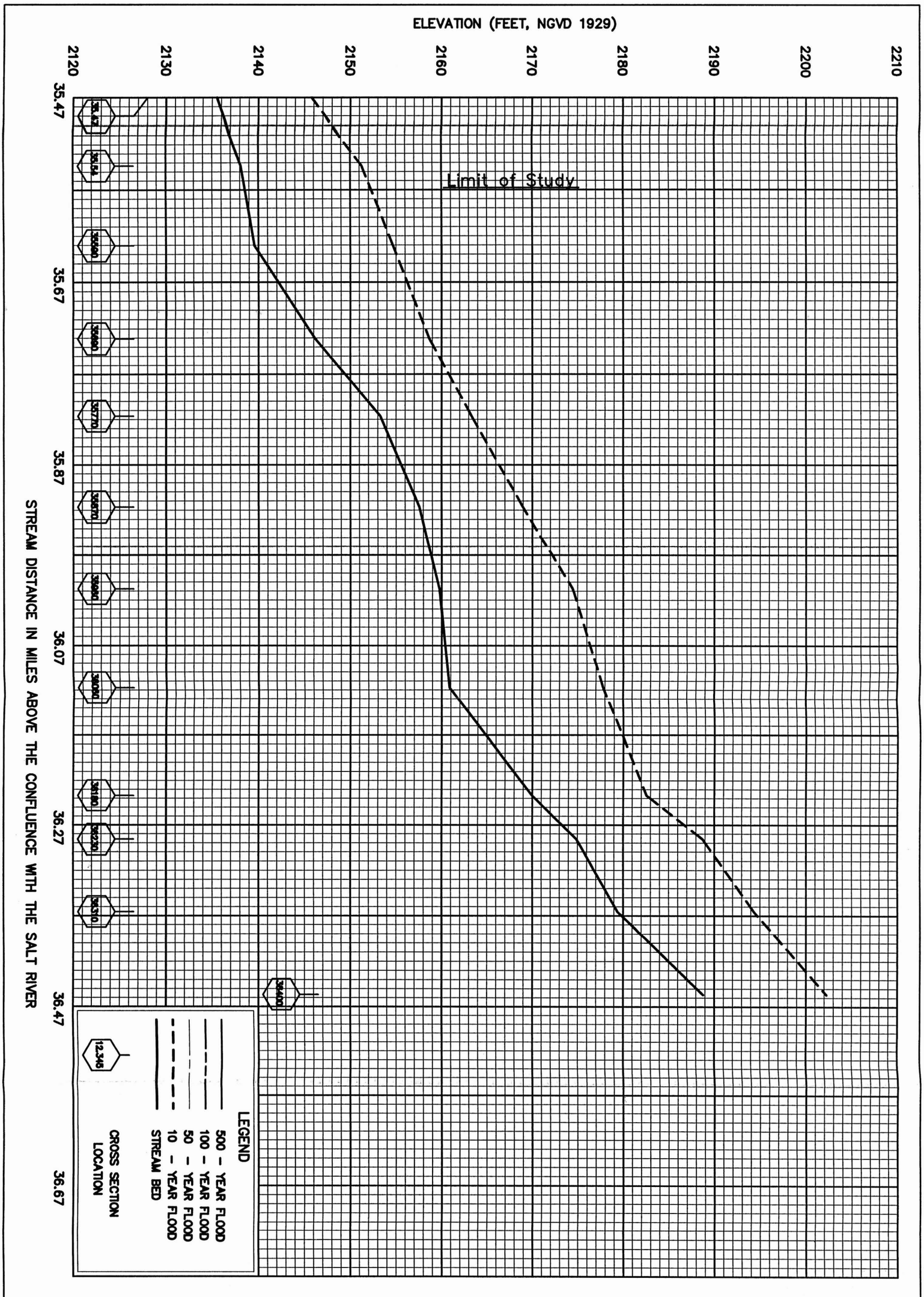
FEDERAL EMERGENCY MANAGEMENT AGENCY

CAVE CREEK WASH
FLOODPLAIN DELINEATION STUDY

FLOOD PROFILES

CAVE CREEK WASH

Dwg. Name: \P\92404003\FEMA\ FEMAPROF.DWG (SHEET 5 OF 6)
Date: REV. 11/07/96



FEDERAL EMERGENCY MANAGEMENT AGENCY

CAVE CREEK WASH
FLOODPLAIN DELINEATION STUDY

FLOOD PROFILES

CAVE CREEK WASH

Appendix F
Draft Flood Insurance Study Report

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DRAFT FLOOD INSURANCE STUDY

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SECTION 1: INTRODUCTION

1.1 Purpose of Study

The purpose of this report is to delineate new 100-year floodplain and floodway limits for approximately 5.3 miles of Cave Creek based upon hydrology developed in this study. The study limits are located both within unincorporated Maricopa County and within the Town of Cave Creek, Arizona. The study extends from near the Carefree Highway (River Mile 30.2) to a point just north of Morning Star Road (River Mile 35.54). Figure 1-1 is a Location Map for the Town of Cave Creek. Figure 1-2 is a Vicinity Map showing the location of Cave Creek.

1.2 Authority for Study

The authority for this study is the Flood Disaster Protection Act of 1973 and the National Flood Insurance Act of 1968, enacted by Title XIII of the Housing and Urban Development Act of 1968 (L. 90-448, 1 August 1968).

This Flood Insurance Study was initiated by the Flood Control District of Maricopa County. The hydrologic and hydraulic analyses were performed by George V. Sabol Consulting Engineers, Inc. and their subconsultants, under Flood Control District Contract No. 95-28. The hydrologic analyses were completed in July 1996 and the hydraulic analyses completed in September 1996. The final report is issued in March 1997.

1.3 Coordination and Acknowledgments

During the contract period, this study was coordinated with the Flood Control District of Maricopa County, the Town of Cave Creek, the Arizona Department of Water Resources, the U.S. Forest Service - Tonto National Forest, and the U.S. Soil Conservation Service (now National Resource Conservation Service).

1.4 Public Notification and Contact

An initial public meeting was held in the Cave Creek community to inform the residents about this study and to solicit public comment. The public meeting addressed both the Cave Creek Above Carefree Highway and the Cave Creek Below Carefree Highway studies. A joint public notice was published in the local newspaper and in one of the main newspapers for the Phoenix metropolitan area. Letters requesting Right-of-Entry for surveying purposes were sent to appropriate individuals and businesses within the study area. A final public meeting held in March 1997 presented the study results prior to FEMA approval.

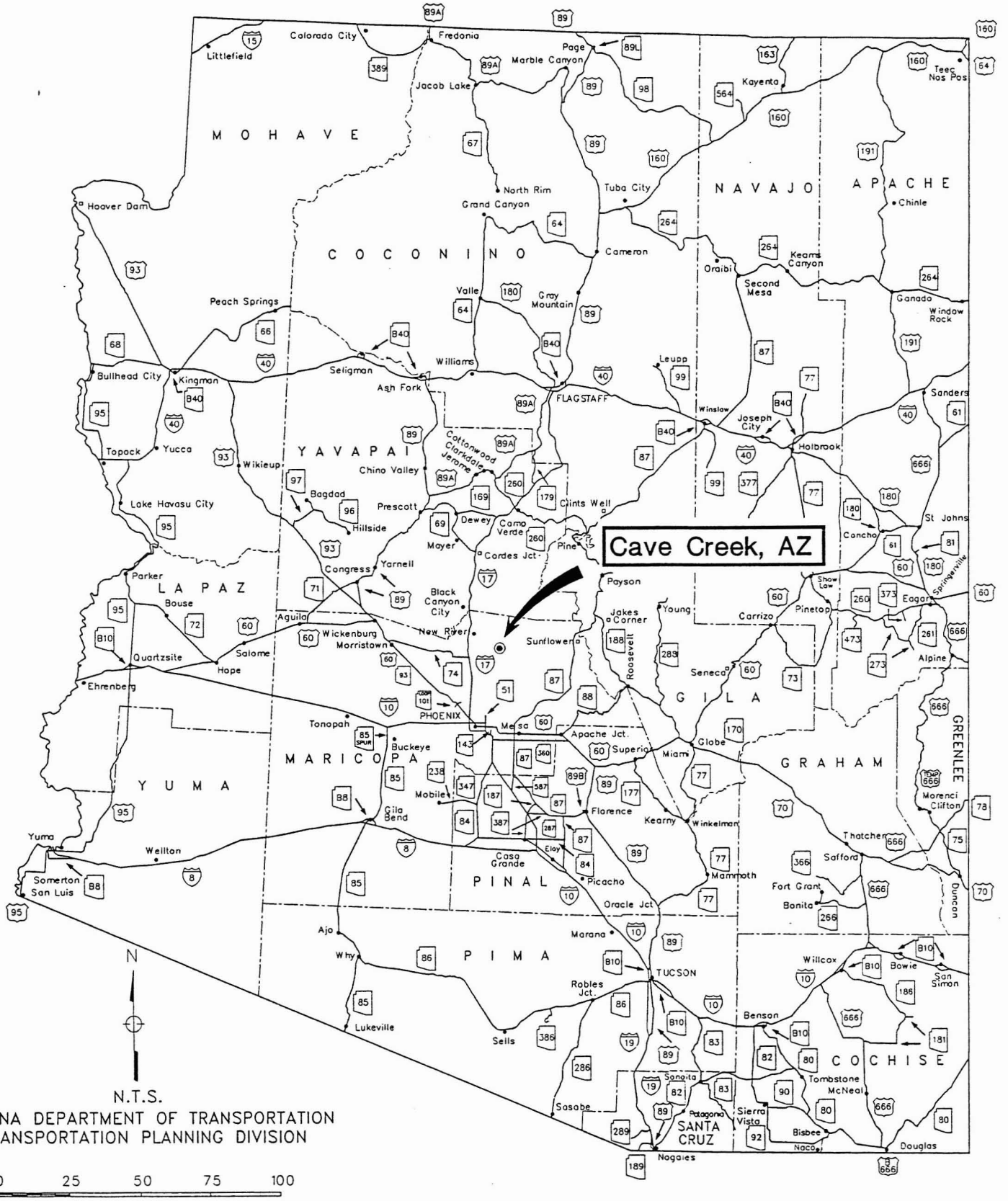

FIGURE 1-1

Location Map

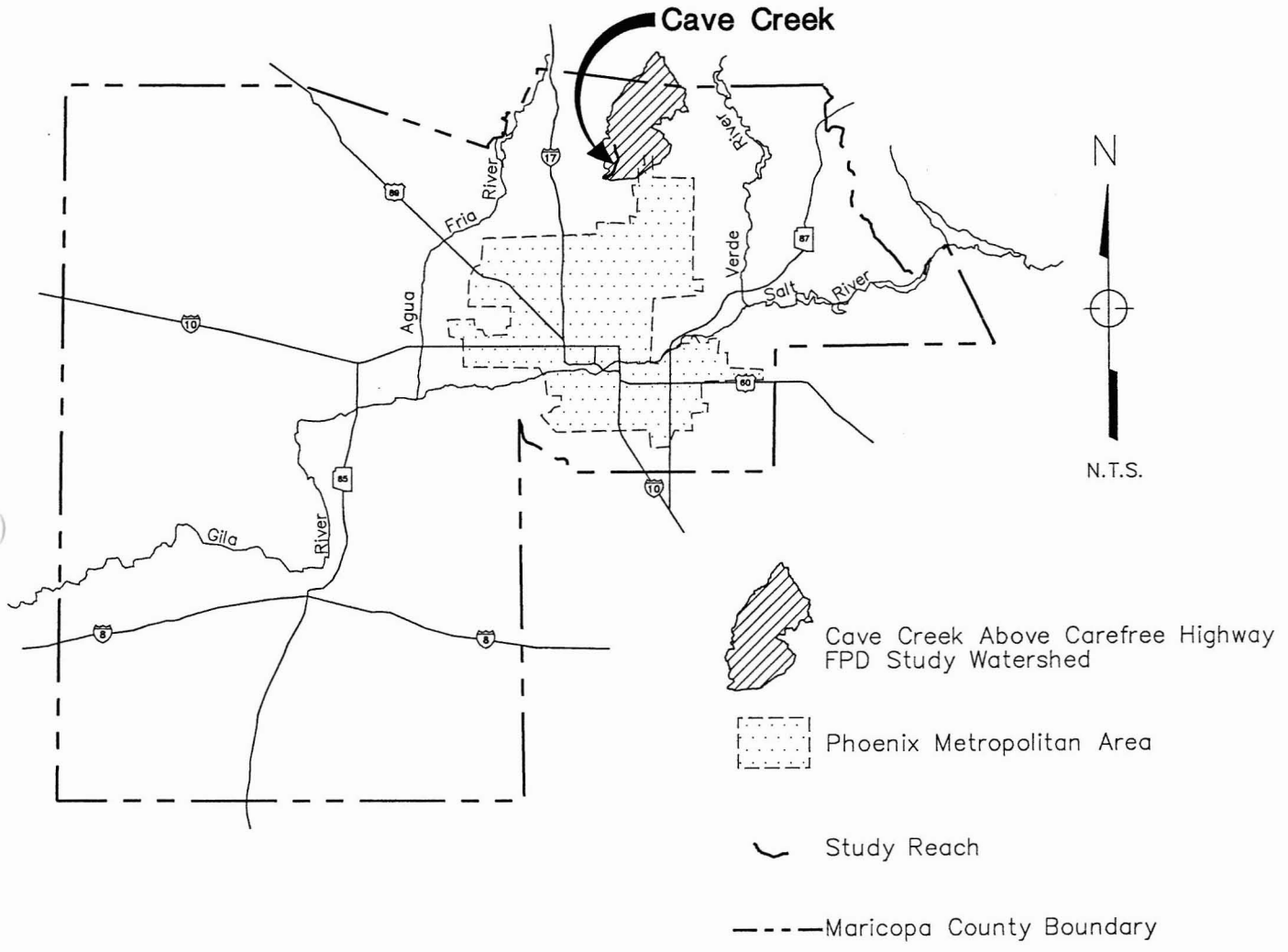

FIGURE 1-2

Vicinity Map

SECTION 2: AREA STUDIED

2.1 Scope of Study

This study delineates new 100-year floodplain and floodway limits for approximately 5.3 miles of Cave Creek based upon hydrology developed in this study. No tributaries of Cave Creek are delineated.

2.2 Community Description

Maricopa County is located in south-central Arizona and contains 9,238 square miles. In 1990, the total County population was 2.1 million. The Town of Cave Creek is an unincorporated community within northern Maricopa County with a population of approximately 2,500 residents. Cave Creek drains primarily southwesterly towards the Salt River confluence. The mild, short winters and the long, hot summers are typical of the Sonoran Desert.

2.3 Principal Flood Problems

Within the study limits, Cave Creek is a relatively wide natural channel with steep embankments. The floodplain is generally contained within the limits of the natural channel embankments. The main flood problems are: the potential for flooding of homes situated near Cave Creek; the encroachment of development into the floodplain fringe; the lack of safe, dry road crossings; and the presence of structures in the floodplain or floodway.

2.4 Flood Protection Measures

There are no flood protection measures that would affect the 100-year floodplain delineation.

SECTION 3: ENGINEERING METHODS

3.1 Hydrologic Analyses

Watershed modeling for this study is performed using the methodology set for in the Drainage Design Manual for Maricopa County, Volume 1, Hydrology, Flood Control District of Maricopa County, herein referred to as the Hydrology Design Manual [FCDMC, 1990]. The U.S. Army Corps of Engineers (U.S.C.O.E.) HEC-1 Computer Program, Version 4.0.1E as implemented by Dodson & Associates, Inc., is used for hydrologic modeling [Dodson & Associates, 1991].

The 100-year, 24-hour storm event for the overall Cave Creek watershed is modeled in order to obtain peak discharges for the hydraulic analysis. Additional 100-year, 24-hour and 6-hour storm duration models are also developed for the Andora Hills Wash watershed to provide peak discharge estimates for future floodplain modeling and delineation. The rainfall depth-duration-frequency statistics are obtained from the NOAA Atlas II, Arizona, and the rainfall distributions used are the SCS Type II for the 24-hour storm and the 6-hour storm patterns suggested in the Hydrology Design Manual. Rainfall losses are estimated by the Green and Ampt infiltration equation with additional consideration for surface retention. The Clark unit hydrograph is used to generate hydrographs for the small, urban watersheds of the Andora Hills Wash watershed. The S-graph method is used for hydrograph generation of all other modeling subbasins. Hydrographs are routed through the watershed using the Modified Puls channel storage routing. Data for two stream gauges are available for the study, however, both gauges have an insignificant period of record for statistical analysis of the 100-year recurrence interval and a storm of near 100-year magnitude has not occurred on the watershed during their period of operation. Therefore data from these gauges are not used.

Table 3-1 contains a summary of the peak discharge rates at all hydrologic concentration points within the study wash. Other discharge rates were determined by the project hydrologist using interpolation. The discharge rates were then input into the hydraulics model. A comprehensive discussion of the hydrologic analyses is contained in a separate report, "Cave Creek Above Carefree Highway Floodplain Delineation Study, Technical Data Notebook, Hydrology" as prepared by George V. Sabol Consulting Engineers, Inc.

TABLE 3-1
SUMMARY OF DISCHARGES

LOCATION	HYDROLOGIC CONCENTRATION POINT	DRAINAGE AREA (S. M.)	100-YEAR (cfs)
At Carefree Highway Bridge	C410	124.4	33,800
South of New River Rd near R.M. 30.95	C400R	118.1	31,400
Located just east of Andora Hills Wash Dr. near R.M. 32.51	C390	115.0	31,200
Confluence with Andora Hills Wash near R.M. 32.90	C310	112.2	30,900
Confluence with Galloway Wash near R.M. 33.36	C260	91.4	24,700
Confluence with Willow Springs Wash near R.M. 33.66	C250	86.0	24,000
North of Willow Springs Wash confluence near R.M. 33.88	C240	80.1	23,400
South of Cahava Ranch Rd. near R.M. 35.00	C230	77.5	23,200

3.2 Hydraulic Analyses

This study involves the floodplain and floodway delineation of approximately 5.3 miles of Cave Creek from just north of the Carefree Highway to a point just north of Morning Star Road. The study wash hydraulics are determined through the use of an enhanced version of the U. S. Army Corps of Engineers HEC-2 Water Surface Profiles Program, Version 4.6.2 [U.S. C.O.E., 1991]. An enhanced version of the program, entitled ProHEC-2 developed by Dodson and Associates, has additional editing and on-screen graphics capabilities [Dodson & Associates, 1991]. The BOSS HEC-2 program was utilized to map the floodplain onto the digital base maps. All such computer-drawn lines were reviewed for accuracy and reasonableness.

The starting water surface elevation for Cave Creek is taken from the report "Cave Creek Wash Below Carefree Highway Floodplain Delineation Study" as prepared by Willdan Associates. The common point between the two studies occurs at Cross Section 30.2, which is a short distance upstream of the Carefree Highway bridge. At this location, the channel roughness coefficient, the floodplain water surface elevation, the floodway water surface elevation and the floodway limits are exactly the same in both studies.

To provide a continuous water surface profile that ties into the effective FIS study upstream of the study limits, three cross sections from the previous upstream study were added to the end of this study's HEC-2 analysis. Due to differences in hydrology between the studies, it was necessary to use the effective FIS flow rates to provide a continuous water surface profile. It was also necessary to adjust the cross section elevations of the previous study by +0.47' to account for differences in mapping data (see Section 2.1 of the Hydraulics Technical Data Notebook).

The floodplains and floodways are prepared using the guidelines in the January 1995 edition of FEMA Document 37, Flood Insurance Study Guidelines and Specification for Study Contractors [FEMA, 1993] and FIA Document 12, Appeals, Revisions, and Amendments to Flood Insurance

Maps [FEMA, 1995]. The study is limited to fixed-bed modeling. Floodways are initially determined using the equal conveyance encroachment method with the final analysis utilizing Encroachment Method 1 (specified encroachment stations). Additional floodway criteria was obtained from Floodway Determination Using Computer Program HEC-2 [U.S.C.O.E., 1988].

Flooding along Cave Creek comprises a flood hazard to the community. The depth and width of the 100-year floodplain is determined by the HEC-2 Water Surface Profile Program [U.S.C.O.E., 1990]. The floodplains are reported on 1 inch = 200 feet, two-foot contour interval maps. Aerial photography was completed in January, 1996. Elevations are on National Geodetic Vertical Datum of 1929 (NGVD 29), and the coordinate system is based upon North American Datum of 1927 (NAD 27). Elevation Reference Marks (ERM's) were set by the Cave Creek Wash Study Contractor, and are shown on the floodplain maps. A listing of the ERM's is contained in Appendix A of the Hydraulics Technical Data Notebook, herein called the Hydraulics TDN.

Cross sections for the HEC-2 model are derived by photogrammetric methods and from field survey. Complete documentation is found in the HEC-2 output. Table 3-2 shows the range of hydraulic roughness coefficient, Manning's n, in the main channel and the overbanks. Photographs of each reach and associated n value calculations are found in Appendix C of the Hydraulics TDN. The floodplain maps depict the cross section location in plan view and the flood profile sheets locate the cross sections in profile view.

TABLE 3-2

RANGE OF HYDRAULIC ROUGHNESS COEFFICIENTS

(Manning's n)

FLOODING SOURCE	CHANNEL (Min - Max)	OVERBANKS (Min - Max)
Cave Creek Wash	0.045 - 0.070	0.055 - 0.075

3.3 Problem Areas

3.3.1 Tie-In to Existing Floodplain Delineation Studies

Appendix D of the Technical Data Notebook, Hydraulics, contains the Corrected Effective HEC-2 output for Cave Creek north of Morning Star Road. The correction was necessary due to the datum difference discussed in Section 2.1 of the Technical Data Notebook, Hydraulics. Appendix D of the Technical Data Notebook, Hydraulics, also contains the final HEC-2 output for the new delineation. By comparing the two HEC-2 models, it is found that the new delineation ties into the previous delineation at River Mile 35.77. This tie-in point is outside the new mapping limits. Appendix D of the Technical Data Notebook, Hydraulics, contains a spliced map detailing the floodway and floodplain tie-in.

3.3.2 Berms Located in Floodplain

Berm at River Mile 31.85

There is an existing berm in the floodway centered approximately on River Mile 31.85. This berm was constructed as part of a private pond adjacent to an existing residential structure. The pond's water level at the time of aerial photography is about 6.0 feet below the 100-year floodplain elevation. No data is available concerning the construction of this berm, and it is assumed that this berm will be removed by the 100-year flood. The berm is assumed to completely wash out where the berm wraps around to tie into the left bank of Cave Creek (between River Mile 31.91 and River Mile 31.87). Once this upper portion is removed, the portion of the berm between River Mile 31.87 and River Mile 31.82 is assumed to remain in place, thus a divided flow message in the HEC-2 output can be found. The berm is modeled in the final HEC-2 model as being in place because it may, in fact, remain during a 100-year flood. However, in order to avoid showing a dry island, the floodplain is mapped as if the berm is removed.

Berm at River Mile 35.02

There is an existing berm located at River Mile 35.02, between Sta. 10,030 and Sta. 9630 (eastern edge of floodplain). As shown on Floodplain Delineation Sheet 7 of 7, the lowest spot elevation next to the berm is 2116.8 and the highest spot elevation on the berm is 2124.8. The 100-year floodplain elevation is about 2122.5. According to an interview of a local resident, this berm has washed out in the past, from relatively shallow overbank flows. The berm was constructed in an effort to limit flooding in the sheds and on the property downstream of this berm. This berm is ignored for floodplain mapping purposes.

3.3.3 Structures Located Within Floodplain or Floodway

There are several structures that are located within the floodplain, and some structures that are located within the floodway. These structures were viewed in the field with a District representative on 18 September 1996. Each structure is briefly described in Table 3-3, which is separated into residential structures and other structures. A structure listed as in the floodplain is located between the floodway and the outside edge of the floodplain. When the floodplain and floodway are coincident, the structure is listed as being in the floodway. References to station and river mile refer to the same convention as discussed in Section 4.3.1 of the Technical Data Notebook. The river mile location is derived from a line that would mimic a HEC-2 cross section line perpendicular to the floodplain.

TABLE 3-3

Residential Structures in the Floodplain or Floodway

Approximate River Mile	Approximate Station	Description
31.88	9650	Edge of residence in the floodplain. Per field visit, flood hazard may be limited to the garage.
35.122	10200	Residence in the floodplain.
35.15	9700	Mobile home in the floodplain.
35.15	10100	Possible residence in the floodway. An adobe manufacturing site, comprised of a group of four attached buildings with separate roof lines. The middle building was under reconstruction at the time of site visit.
35.15	10200	Possible residence in the floodway, located a short distance west of building at Station 10100.
35.18	10400	Residence in the floodplain.
35.20	10850	Edge of mobile home located within the floodplain.

Other structures in the Floodplain or Floodway

Approximate River Mile	Approximate Station	Description
31.110	9800	Building in floodplain constructed after January, 1996.
31.114	9800	Building in floodplain constructed after January, 1996.
31.126	9800	Shed in the floodplain.
31.140	9750	Shed in the floodplain.
31.20	9450	Shed in the floodplain.
32.384	9780	Shed in the floodplain.
32.45	9750 to 9600	Four sheds in the floodway.
32.490	9800	Horse barn in the floodway. The number of open walls was not investigated.
34.813	9850	Shed in the floodway.
34.820	9850	Hay barn comprised of a roof with no walls in the floodway.
34.830	9900	Hay barn comprised of a roof with no walls in the floodway.
34.86	9900	Two large attached shade roofs with no walls in the floodway.
34.880	9800	Shed in the floodway.
34.980	9800	Shade roof in the floodway.
35.062	10100 and 10150	Two small sheds in the floodway and floodplain.
35.20	10850	What appears to be a shed located within the floodplain.
35.24	10800	Two car garage with attached storage shed located within the floodway.

In summary, there are five (5) residential structures, and two (2) additional structures that may be used for residential purposes that are located within the floodplain and/or floodway. There are twenty-three (23) structures (including one possible shed) that are sheds or shade roofs that are located within the floodplain and/or floodway.

SECTION 4: FLOODPLAIN MANAGEMENT APPLICATIONS

The prime purpose of the National Flood Insurance Program is to encourage state and local governments to adopt sound floodplain management programs. This study has been performed to meet the standards of the National Flood Insurance Program as defined by the Flood Insurance Study Guidelines [FEMA 37, 1995]. It includes a flood boundary map designed to assist communities in developing sound floodplain management measures.

4.1 Flood Boundaries

In order to provide a national standard without regional discrimination, the 100-year flood has been adopted by the Federal Emergency Management Agency (FEMA) as the base flood for the purposes of floodplain management measures. The boundary of the 100-year flood has been delineated using the flood elevation determined at each survey cross section. Between survey cross sections, the boundaries are interpolated using contour information from the topographic maps with contour intervals of 2 feet. The boundary of the 100-year flood is shown on the floodplain and floodway maps contained in the Hydraulics TDN.

4.2 Floodways

A floodway is used as a floodplain management tool to show the effect of encroachment within the floodplain, without increasing the flood depth more than 1 foot, and without producing hazardous velocities. The 1 foot, or less, rise in flood depth criteria is the established national and local standard. The floodway must be kept free of encroachment so that the 100-year flood can be safely conveyed.

The floodways shown in the majority of this study are based upon equal-conveyance reduction on each side of the floodplain, so that a particular property on one bank is not favored over a property on the other bank. The exceptions to this are some minor floodway adjustments in the lower study reach that were made in a few locations to more closely conform the revised floodway to the effective floodway. In no case is the surcharge greater than 1.0 feet. These adjustments were made from River Mile 30.3 to 30.75, from 31.1 to 31.25, and from 31.34 to 31.7. In some locations, the floodway is coincident with the floodplain. At such locations, encroachment is not feasible. The standard Floodway Tables are shown at the end of the final HEC-2 analysis.

SECTION 5: INSURANCE APPLICATION AND CRS SUMMARY

For flood insurance rating purposes, flood insurance zone designations are assigned to a community based on the results of the engineering analyses. Those zones are as follows:

Zone A: Zone A is the flood insurance rate zone that corresponds to 100-year floodplains that are determined in the Floodplain Delineation Study by approximate methods. No base flood elevations or depths are shown within this zone.

Zone AE: Zone AE is the flood insurance rate zone that corresponds to 100-year floodplains that are determined in the Floodplain Delineation Study by detailed methods. In most instances, whole-foot base flood elevations derived from detailed hydraulic analyses are shown at selected intervals within this zone.

Zone AH: Zone AH is the flood insurance rate zone that corresponds to the areas of 100-year shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. The base flood elevations derived from the detailed hydraulic analyses are shown within this zone.

Zone AO: Zone AO is the flood insurance rate zone that corresponds to the areas of 100-year shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-foot depths derived from the detailed hydraulic analyses are shown within this zone.

Zone X: Zone X is the flood insurance rate zone that corresponds to areas outside the 100-year floodplain, areas of 100-year sheet flow flooding where average depths are less than 1 foot, areas of 100-year stream flooding where the contributing drainage area is less than 1 square mile, or areas protected from the 100-year flood by levees. No base flood elevations or depths are shown within this zone.

SECTION 6: OTHER STUDIES

Two previous studies established the current FIS floodplain and floodway delineations along the study reach and are summarized as follows:

1. Harris-Toups Associates, September 1978 (HTA,1978). A study of Cave Creek Wash and 6 tributaries: Andora Hills Wash, Grapevine Wash, Ocotillo Wash, Rowe Wash and Willow Springs Wash. The Cave Creek Wash study limits are 0.7 miles downstream of Carefree Highway to 0.14 miles upstream of Morning Star Road. Hydrology was performed using the SCS TR-20 computer program. Water surface profiles were computed using HEC-2 for the 10-, 50-, 100-, and 500-year floods.

2. CH2M-Hill, March 1990, Final Hydrologic and Hydraulic Report for Cave Creek/Carefree Flood Delineation Study, (CH2M-Hill, 1990). A flood delineation study of Cave Creek and 5 tributaries prepared under contract with the FCDMC (FCD 88-53). The Cave Creek Study limits are River Mile 35.49 to the Tonto National Forest boundary (3.3 miles). The 5 tributaries that were studied are Cottonwood Creek, Willow Springs Wash, Ocotillo Wash, Grapevine-Rowe Washes and the North Tributary to Galloway Wash. Hydrology was performed using a modified version of the Cave Creek/Bloody Basin HEC-1 model developed by the FCDMC. Water surface profiles were computed using HEC-2 for the 10-, 50-, 100-, and 500-year floods.

The Cave Creek Below Carefree Highway Floodplain Delineation Study is a concurrent study by Willdan Associates which will delineate the 100-year floodplain and floodway for a portion of Cave Creek below the limits of this study.

Flood Delineation Study

This study is authoritative for the purposes of the National Flood Insurance Program (NFIP), and the data presented herein depict the 100-year floodplains and floodways for Cave Creek Above Carefree Highway.

SECTION 7: LOCATION OF DATA

The majority of data generated by this study is contained in the Technical Data Notebook (TDN), which is a part of this report. Any other survey, hydrologic, hydraulic, and other pertinent data used in this study may be obtained from the Flood Control District of Maricopa County, 2801 West Durango Street, Phoenix, Arizona 85009.

SECTION 8: REFERENCES AND BIBLIOGRAPHY

1. Arizona Department of Water Resources, Engineering Division, Flood Management Section, September 1991. Instructions for Organizing and Submitting Technical Documentation for Flood Studies (SS-1).

2. Arizona Department of Water Resources, Engineering Division, Flood Management Section, September 1992. Requirement For Floodplain Delineation In Riverine Environments.

3. BOSS International, 1993. BOSS HEC-2 for AutoCAD, Enhanced Version 2.0.

4. Chow, V.T., 1959. Open Channel Hydraulics, McGraw-Hill.

5. Dodson & Associates, Inc., 1991. ProHEC2 User's Manual and Program Reference.

6. Federal Emergency Management Agency, December 3, 1993. Maricopa County, Arizona, and Incorporated Areas, Flood Insurance Rate Map, Panel 802 of 4350.

7. Federal Emergency Management Agency, December 3, 1993. Maricopa County, Arizona, and Incorporated Areas, Flood Insurance Rate Map, Panel 805 of 4350.

8. Federal Emergency Management Agency, December 3, 1993. Flood Insurance Study, Maricopa County, Arizona and Incorporated Areas, Volumes 1 through 9.

9. Federal Emergency Management Agency, January, 1995. FEMA 37, Flood Insurance Study Guidelines and Specifications for Study Contractors.

10. Federal Emergency Management Agency, September 29, 1989. Maricopa County, Arizona, and Incorporated Areas, Flood Insurance Rate Map, Panel 815 of 4350.

11. Flood Control District of Maricopa County, September, 1992. Drainage Design Manual for Maricopa County, Volume I, Hydrology.

12. Flood Control District of Maricopa County, September, 1992. Drainage Design Manual for Maricopa County, Volume II, Hydraulics.

13. Flood Insurance Administration, January 1990. Appeals, Revisions and Amendments to Flood Insurance Maps, (FIA Document 12).

SECTION 8: REFERENCES AND BIBLIOGRAPHY (Continued)

14. U.S. Army, Corps of Engineers, September, 1990. HEC-2 Water Surface Profiles User's Manual.

15. U.S. Army, Corps of Engineers, January 1988. Floodway Determination Using Computer Program HEC-2, Training Document No. 5.

16. U.S. Geological Survey, 1991. Manning's Roughness Coefficients for Stream Channels and Floodplains in Maricopa County, Arizona.

17. U.S. Geological Survey, Water Resources Division, April, 1991. Manning's Roughness Coefficients for Stream Channels and Flood Plains in Maricopa County, Arizona.

APPENDIX G

MAP VERIFICATION

McLaughlin Kmetty Engineers, Ltd.

3501 North 16th Street Phoenix, Arizona 85016-6419 (602) 248-7702 Fax (602) 248-7851

July 26, 1996

GEZA E. KMETTY
RONALD C. McLAUGHLIN
LEO M. EISEL

FRANK E. BROWN

ROBERT E. CONSONI
ROBERT J. STAVER

CHARLES L. JOY
RONALD E. HAUGHT

Mr. Scott Ogden, P.E.
George V. Sabol Consulting Engineers, Inc.
7950 East Acoma Drive, Suite 211
Scottsdale, Arizona 85260-6962

Re: Cave Creek Above Carefree Highway FDS
Mapping Verification Package
FCD No. 95-28
MKE Job No. 92-404.003

Dear Scott:

Preparation of floodplain delineation maps for this project includes verification of the accuracy of mapping. Two methods were utilized to determine if the floodplain maps meet FEMA criteria, as set forth in the January 1995 version of FEMA 37.

The first method was a Root Mean Square Error test, RSME, which is defined by FEMA 37 Guidelines on page A4-3 as "the square root of the average of the squared discrepancies between map-derived (from mylar reproducibles) and check-survey coordinates, computed separately for X, Y and Z coordinates." Third order field survey data and photogrammetric measured data were taken at "well defined points" in the mapping limits. "Well defined points" for this project were the panel points and check section end points. Table 1 (enclosed) shows the results of the RSME calculations using the following equation per Section A4-4 of FEMA 37:

$$RSME_i = \sqrt{(D_i^2/n)}$$

Where D_i is the difference in coordinates (X,Y, or Z directions) and n is the number of points. The pass/fail criteria was also taken from Section A4-4 of FEMA 37. The maps produced for this project are at a scale of 1" = 200' with a contour interval of 2 feet.

The second method of verification was to plot cross sections from field survey and photogrammetric readings. Six check cross sections along Cave Creek were used. To ensure proper location for each set of data, the field surveyor obtained the X,Y, and Z data first, and then only X,Y data was supplied to the aerial mapper. With this information, the aerial mapper was then able to photogrammetrically read the corresponding elevation (Z). The results were visually compared on the cross section plots, which are enclosed with this letter.

Both of these mapping verification methods indicate that the mapping meets the Class 1 mapping standards as set forth in the January 1995 FEMA 37 publication for FIRM maps and workmaps. It is our opinion that the mapping be accepted for this project.

Sincerely,

Frank Edward Brown

Frank Edward Brown, P.E.
McLaughlin Kmetty Engineers, Ltd.

cc: Kofi Awumah, FCDMC
Susanna Struble, Willdan & Associates

Enclosures: Table 1
6 Cross Section Plots

G:\P\92404003\WP\SUBMIT.LTR

CAVE CREEK WASH ABOVE CAREFREE HIGHWAY
FCDMC NO. 95-28

RMSE CALCULATIONS FOR PANEL POINTS AND CHECK SECTION END POINTS
TABLE 1

McLaughlin Kmetty Engineers, Ltd.
July 1996

Point ID			AMC			ALS			Difference			(Difference)^2		
AMC	ALS	Name	Northing	Easting	Elevation	Northing	Easting	Elevation	Northing (y)	Easting (x)	Elevation (z)	Northing (y)^2	Easting (x)^2	Elevation (z)^2
100	100		1019911.531200	476241.597900	1909.6440	1019911.281000	476241.743000	1909.560	0.250200	-0.145100	0.084	0.062600	0.021054	0.007056
104	104		1018251.341800	476445.535400	1876.2524	1018251.099780	476445.596394	1876.360	0.242020	-0.060994	-0.108	0.058574	0.003720	0.011578
105	105		1018262.215200	478874.076100	1908.7297	1018262.354220	478874.099316	1908.730	-0.139020	-0.023216	-0.000	0.019327	0.000539	0.000000
106	106		1018266.754900	474885.852600	1872.2735	1018267.004920	474885.737480	1872.360	-0.250020	0.115120	-0.086	0.062510	0.013253	0.007482
107	107		1022391.451600	478757.175400	1943.9778	1022391.394960	478757.158352	1943.960	0.056640	0.017048	0.018	0.003208	0.000291	0.000317
108	108		1025191.945600	484461.736400	1994.6958	1025191.926820	484461.678362	1994.670	0.018780	0.058038	0.026	0.000353	0.003368	0.000666
111	111		1020914.526600	481526.800400	1936.9266	1020914.540120	481526.550135	1936.920	-0.013520	0.250265	0.007	0.000183	0.062633	0.000044
112	112		1023542.183500	481535.748100	1991.8184	1023542.300010	481535.873656	1991.860	-0.116510	-0.125556	-0.042	0.013575	0.015764	0.001731
113	113		1026025.956800	483391.900200	1976.1615	1026026.084190	483391.899034	1976.215	-0.127390	0.001166	-0.053	0.016228	0.000001	0.002862
114	114		1027796.587700	485004.829900	2011.6036	1027796.594600	485005.034911	2011.530	-0.006900	-0.205011	0.074	0.000048	0.042030	0.005417
116	116		1029081.551700	487084.868400	2152.0829	1029081.489050	487084.888705	2152.265	0.062650	-0.020305	-0.182	0.003925	0.000412	0.033160
118	118		1029256.211400	485767.815200	2023.4569	1029256.216260	485767.726712	2023.380	-0.004860	0.088488	0.077	0.000024	0.007830	0.005914
119	119		1030798.423800	485210.896500	2013.4838	1030798.431710	485210.892359	2013.415	-0.007910	0.004141	0.069	0.000063	0.000017	0.004733
121	121		1034048.219500	486801.373400	2083.9821	1034048.043410	486801.361806	2083.950	0.176090	0.011594	0.032	0.031008	0.000134	0.001030
122	122		1034072.822200	484246.729800	2121.3181	1034072.919370	484246.630126	2121.305	-0.097170	0.099674	0.013	0.009442	0.009935	0.000172
125	125		1035987.699500	483049.870600	2185.2680	1035988.001790	483050.235851	2185.310	-0.302290	-0.365251	-0.042	0.091379	0.133408	0.001764
127	127		1037116.947400	486376.765100	2101.6081	1037117.123460	486376.849559	2101.630	-0.176060	-0.084459	-0.022	0.030997	0.007133	0.000480
129	129		1039315.448700	484570.202500	2147.9335	1039315.300860	484570.168704	2147.900	0.147840	0.033796	0.034	0.021857	0.001142	0.001122
131	131		1041368.096400	484266.533000	2172.3684	1041367.963390	484266.638222	2172.330	0.133010	-0.105222	0.038	0.017692	0.011072	0.001475
132	132		1043322.799800	482562.296000	2285.2840	1043322.914110	482562.265620	2285.340	-0.114310	0.030380	-0.056	0.013067	0.000923	0.003136
134	134		1043301.160200	485545.447700	2196.6489	1043301.196100	485545.388140	2196.690	-0.035900	0.059560	-0.041	0.001289	0.003547	0.001689
2W	162	2W	1023543.015000	481536.883000	1992.0330	1023543.014670	481536.916035	1991.860	0.000330	-0.033035	0.173	0.000000	0.001091	0.029929
2E	200	2E	1022888.216000	482474.188000	1943.6960	1022888.241580	482474.176658	1943.650	-0.025580	0.011342	0.046	0.000654	0.000129	0.002116
1W	251	1W	1019915.660000	477239.055000	1907.7620	1019915.332700	477239.255949	1907.675	0.327300	-0.200949	0.087	0.107125	0.040381	0.007569
1M	252	1M	1018935.622000	477789.450000	1880.3810	1018935.331300	477789.257064	1880.165	0.290700	0.192936	0.216	0.084506	0.037224	0.046656
1E	253	1E	1018634.844000	478048.597000	1891.1470	1018635.330570	478049.258259	1891.085	-0.486570	-0.661259	0.062	0.236750	0.437263	0.003844
4E	351	4E	1030970.966000	486188.731000	2046.4280	1030970.976540	486188.732325	2046.420	-0.010540	-0.001325	0.008	0.000111	0.000002	0.000064
4W	353	4W	1031305.945000	485354.344000	2035.9620	1031307.316950	485350.979734	2036.957	-1.371950	3.364266	-0.995	1.882247	11.318286	0.990025
3E	393	3E	1027581.688000	484463.313000	1993.1870	1027581.833700	484463.436600	1993.270	-0.145700	-0.123600	-0.083	0.021228	0.015277	0.006889
3W	395	3W	1027944.188000	483650.813000	2016.0850	1027944.553440	483650.871788	2016.098	-0.365440	-0.058788	-0.013	0.133546	0.003456	0.000169
5E	455	5E	1037067.222000	485510.568000	2119.3820	1037067.226080	485510.565719	2119.400	-0.004080	0.002281	-0.018	0.000017	0.000005	0.000324
6E	542	6E	1043226.796000	484151.774000	2198.3810	1043226.794130	484151.744423	2198.380	0.001870	0.029577	0.001	0.000003	0.000875	0.000001
6W	543	6W	1043273.010000	483016.653000	2227.1820	1043272.925550	483018.653106	2226.795	0.084450	-2.000106	0.387	0.007132	4.000424	0.149769

Sum (D)^2 2.93066675232357 16.1926200489306 1.3291820199999

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RMSEy=	0.298006851269807	2.00	PASS
RMSEx=	0.700489440340253	2.00	PASS
RMSEz=	0.200694402090097	0.33	PASS

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PROJECT: Cave Creek Wash Above Carefree Highway
FILE: Check Section 1
V Scale = 1"=5'
H Scale = 1"=50'

LEGEND
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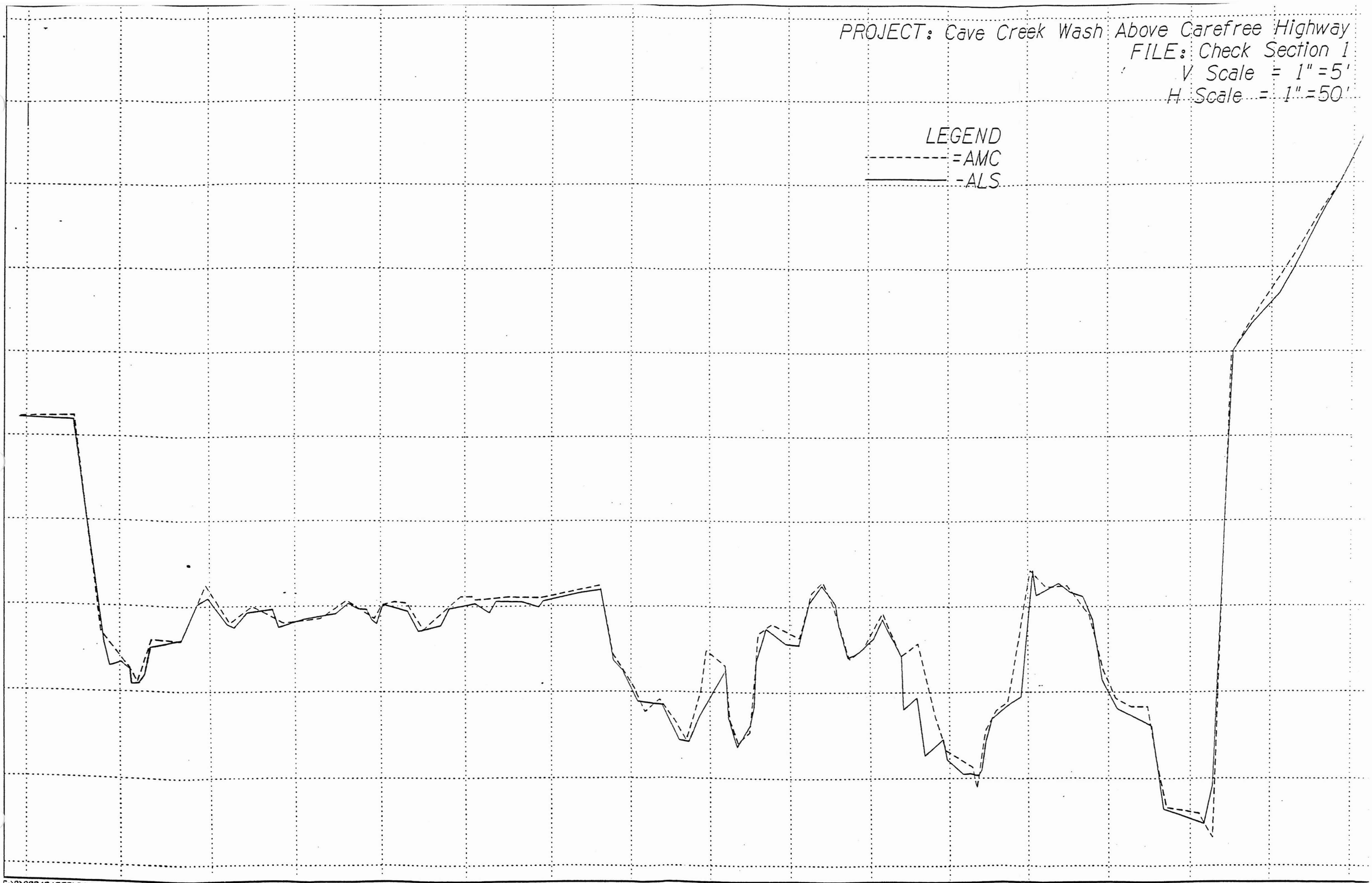
————— -ALS



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FILE: Check Section 2
V Scale = 1" =6'
H Scale = 1" =60'

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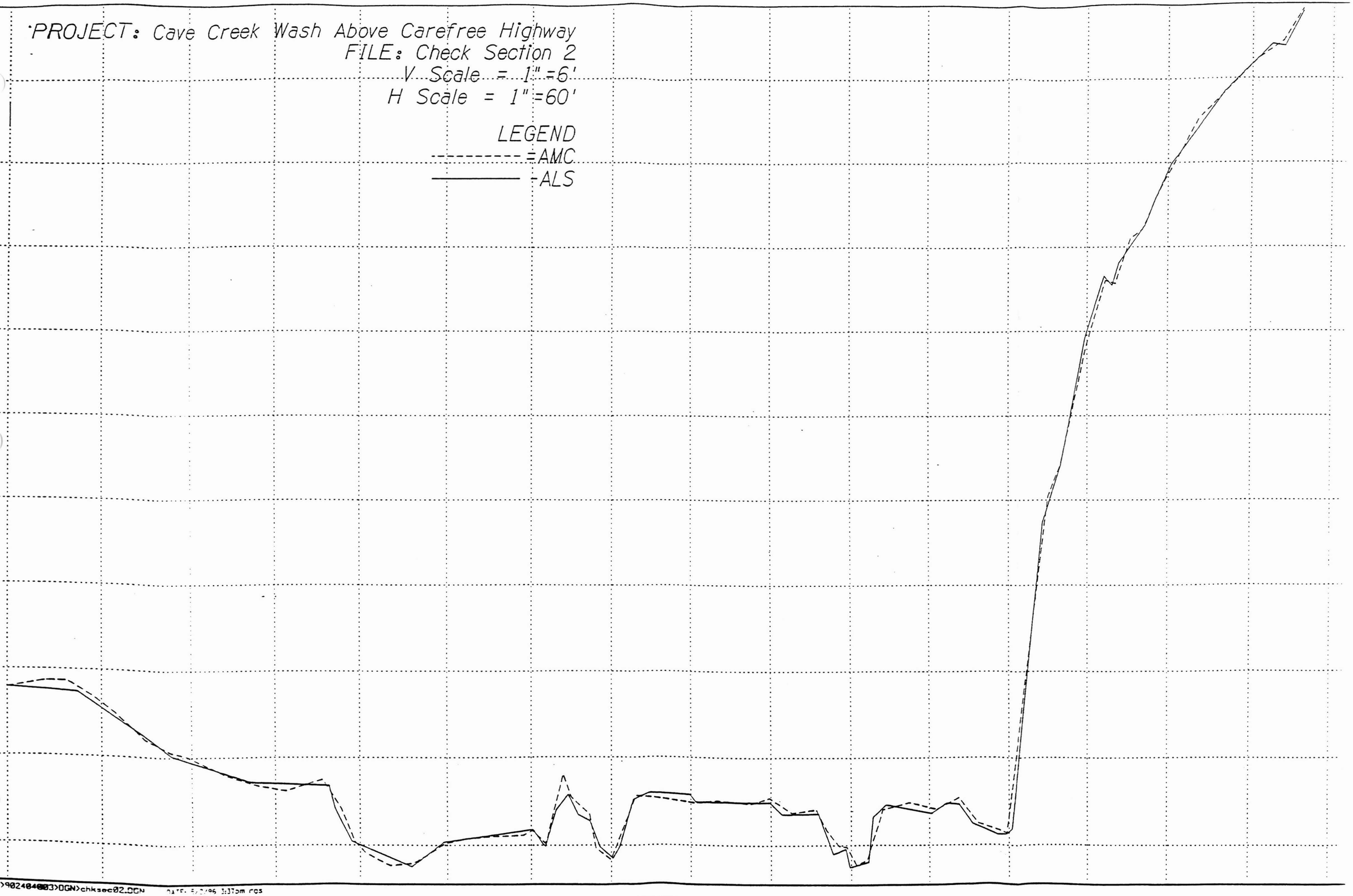
———— -ALS



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FILE: Check Section 3
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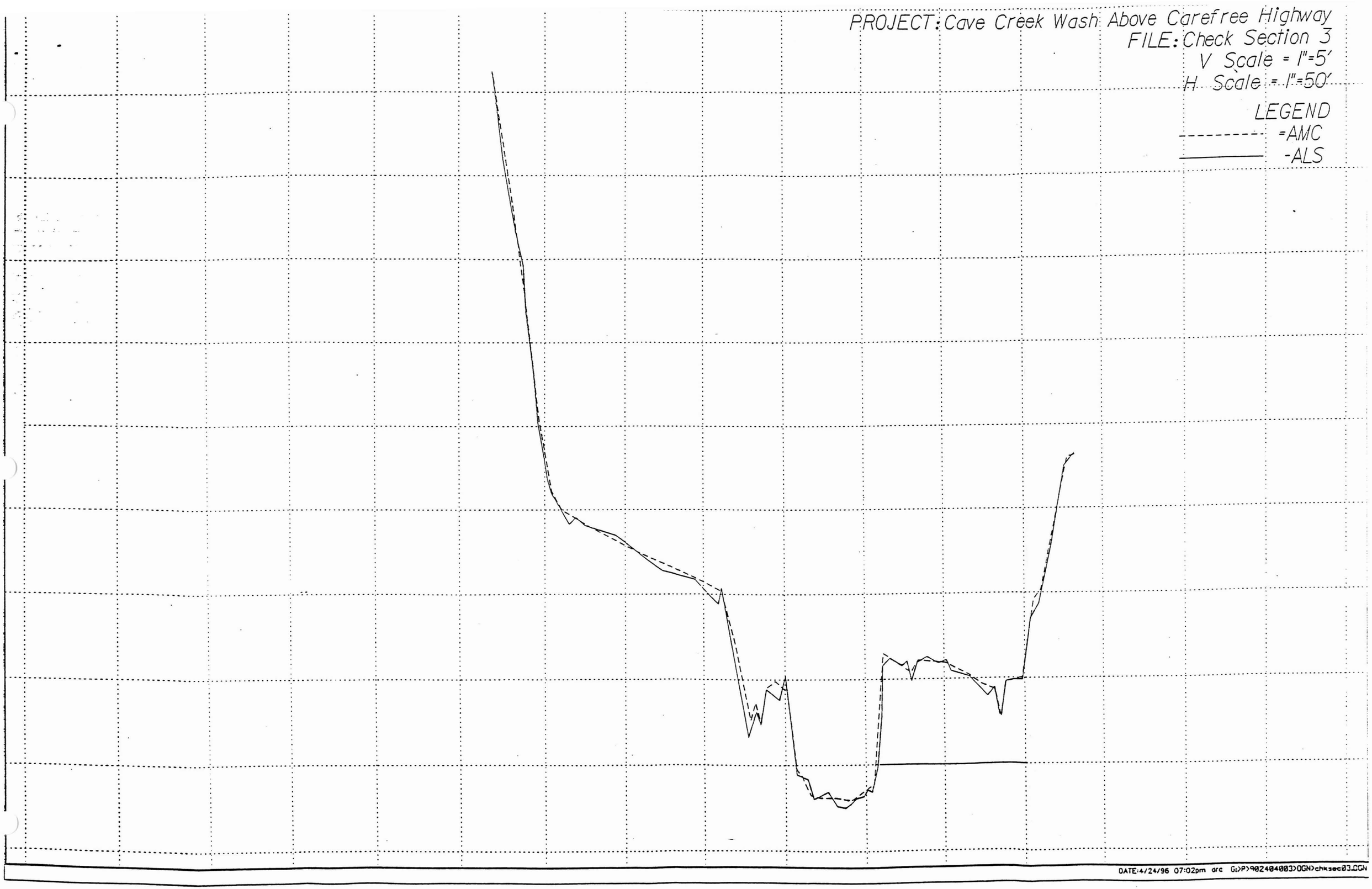

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FILE: Check Section 4
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H Scale = 1"=60'

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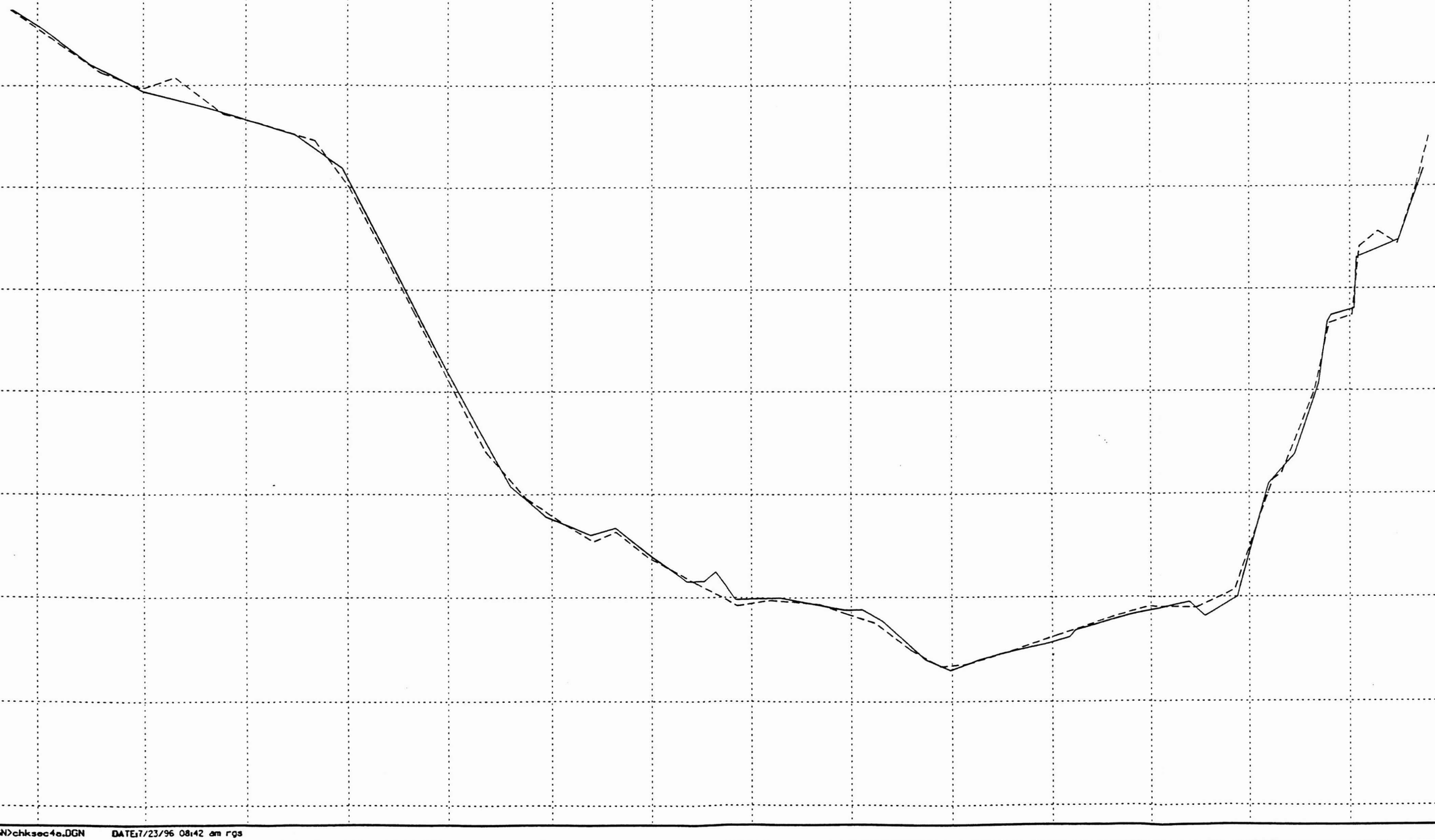
———— -ALS



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FILE: Check Section 5
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H Scale = 1" =120'

LEGEND
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——— -ALS

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PROJECT: Cave Creek Wash Above Carefree Highway
FILE: Check Section 6
V Scale = 1" = 10'
H Scale = 1" = 100'

LEGEND
--------- = AMC
_____ = ALS

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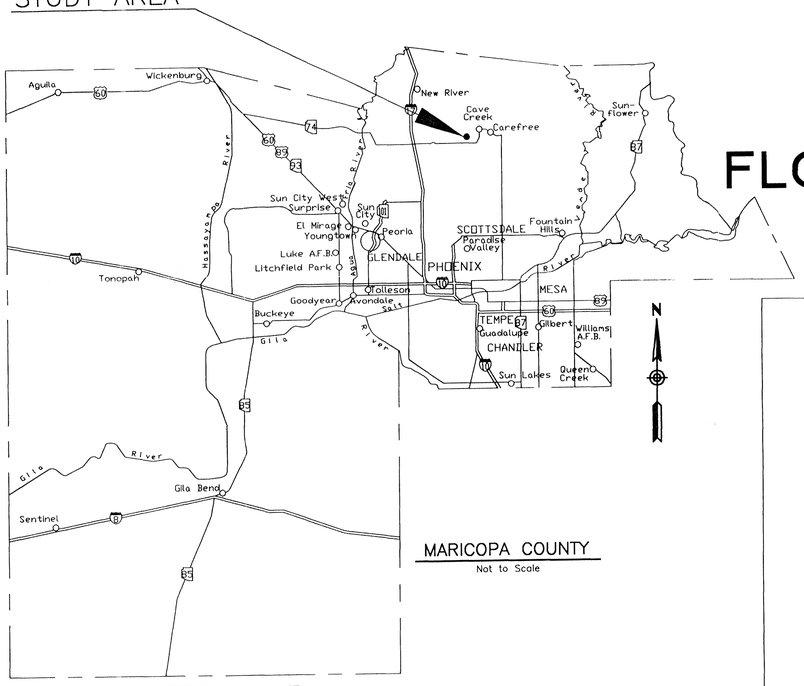
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CAVE CREEK
ABOVE CAREFREE HIGHWAY
FLOODPLAIN DELINEATION STUDY

FCD 95-28

STUDY AREA



LOCATION MAP

DATUM

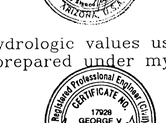
HORIZONTAL: North American Datum of 1927
VERTICAL: National Geodetic Vertical Datum of 1929

STATEMENTS BY PROFESSIONAL REGISTRANTS

The ground control survey was prepared under my direct supervision:

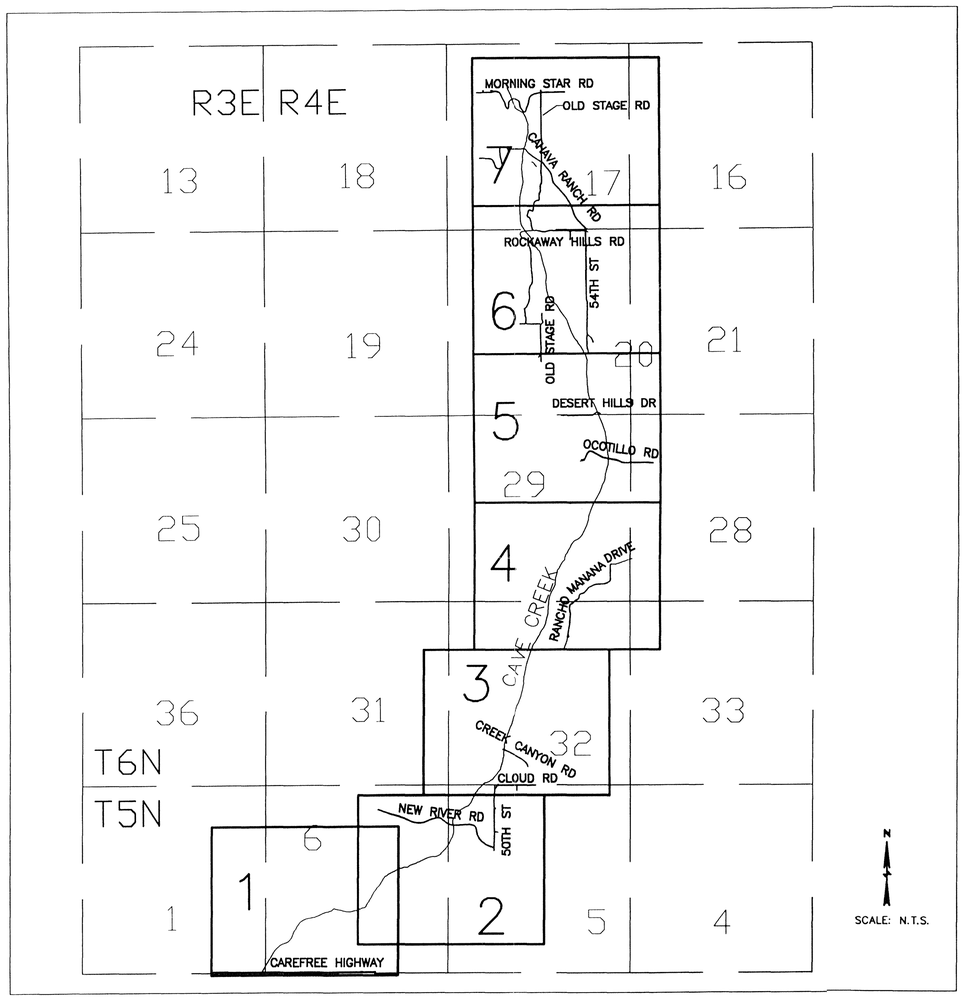
The following statements apply to the individual seals affixed to each of the maps following this cover sheet.

The photogrammetry and topographic mapping were prepared under my direct supervision:



The hydrologic values used for the floodplain and floodway delineation were prepared under my direct supervision:

The floodplain and floodway delineation were prepared under my direct supervision:



STUDY AREA MAP
AND SHEET INDEX

SHEET INDEX

Sheet 1-7 Floodplain Delineation Study

NOTE

Floodplain Limits in this Study are Plotted at each HEC-2 Cross Section on the Basis of Starting (SSTA) and Ending (ENDST) Stations Unless there is Ineffective Flow Area or a Conflict with Topographic Contours, in which case, the Contours take Precedence.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY 1959

AERIAL MAPPING

Aerial Mapping Company, Inc.
3141 W. Clarendon Avenue
Phoenix, Arizona 85017 (602) 263-5728
Flight Date: January 12, 1996
Contour Interval: 2 Feet

GROUND CONTROL

Alcocer Land Surveyors
3501 N. 16th Street, Suite C
Phoenix, Arizona 85016 (602) 263-7846

HYDROLOGY

George V. Sabol Consulting Engineers, Inc.
40 SFC Engineering Company
7776 Pointe Parkway West, Suite 290
Phoenix, Arizona 85044 (602) 438-2200

HYDRAULICS

McLaughlin Kmetty Engineers, Ltd.
3501 N. 16th Street
Phoenix, Arizona 85016 (602) 248-7702

LEGEND

Section Label	31
Sheet Limits	
Sheet Number	7
Study Wash	
Section Line	

GEORGE V. SABOL CONSULTING ENGINEERS, INC.
in association with
McLAUGHLIN KMETTY ENGINEERS, LTD.

	BY	DATE
DESIGN	FEB	9/96
DESIGN CHK.	CLJ	9/96
PLANS	KLH,RGS	3/97
PLANS CHK.	FEB	3/97

SUBMITTED BY: DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

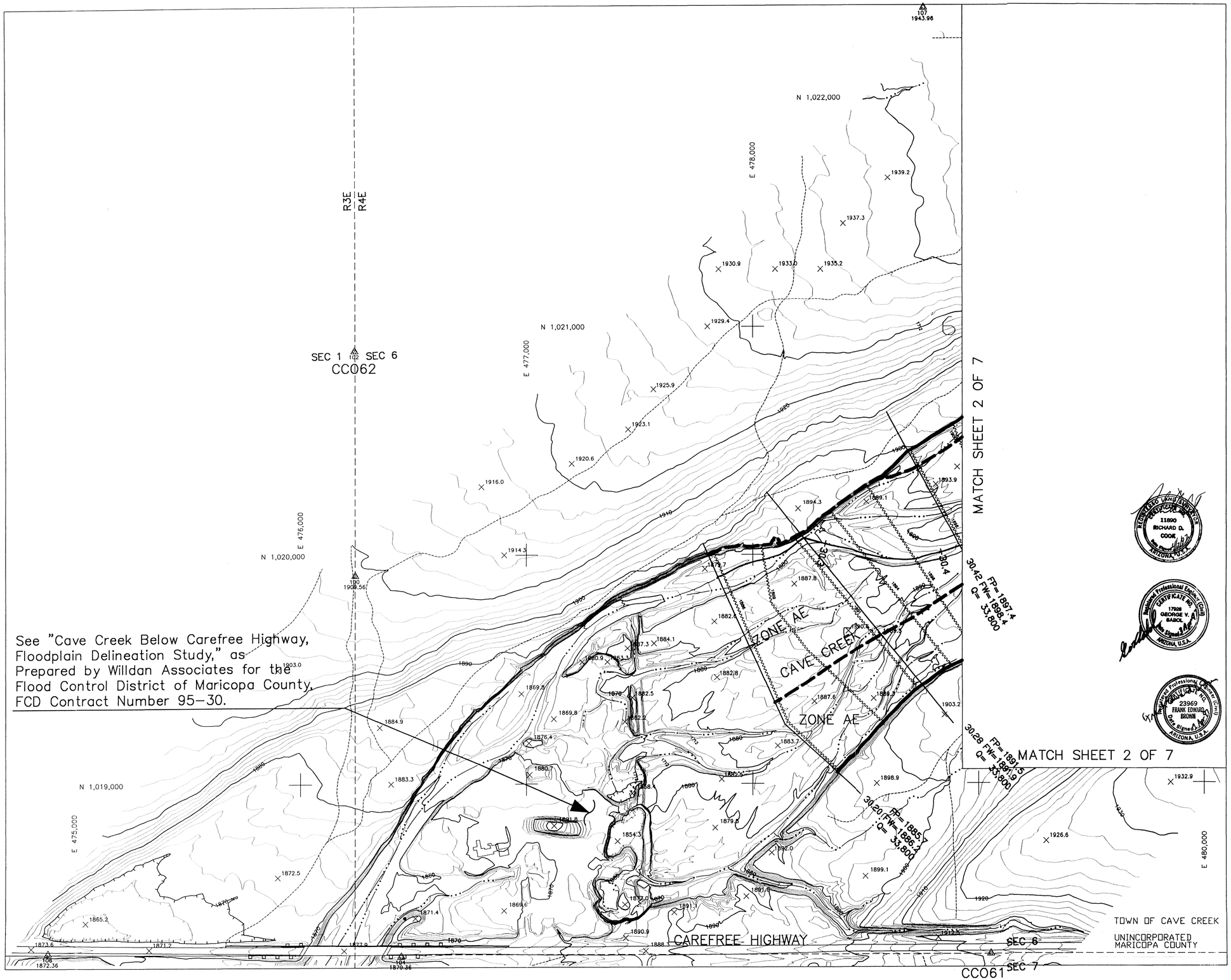
RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

COVER SHEET

Dwg. Name: \P\92404003\ACAD\CCCOVER.dwg
Date: REV. March 31, 1997 2:17pm



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FLOOD DELINEATION STUDY OF

CAVE CREEK
ABOVE CAREFREE HIGHWAY

F.C.D. CONTRACT NO. **95-28**

LEGEND

100-YR FLOODPLAIN BOUNDARY	
FLOODWAY BOUNDARY	
HYDRAULIC BASE LINE & RIVER MILE	2.0
CROSS SECTION	FP=100 Yr WSEL / FW=Floodway WSEL / Q=100 Yr Flow — 5.519
ELEVATION REFERENCE MARK	O OR △ CC061
BASE FLOOD ELEVATIONS	1221
ZONE DESIGNATIONS	ZONE AE
CORPORATE LIMITS	
SECTION LINE	

ELEVATION REFERENCE MARKS

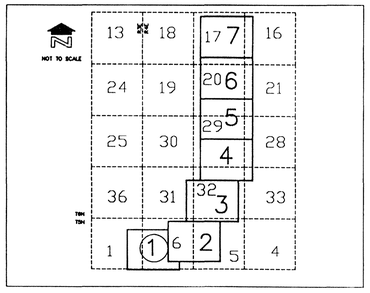
NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUM.	ELEV. (FT)	DESCRIPTION/LOCATION
CC061	1908.08	LOCATED AT TOP OF BRASS CAP IN HANDHOLE AT S 1/4 CORNER SEC 6, T5N, R4E.
CC062	1914.48	LOCATED AT TOP OF BRASS CAP IN HANDHOLE AT W 1/4 CORNER SEC 6, T5N, R4E.

NOTES

1. NGVD 29 TO NAVD 88 ELEVATION CONVERSION: NGVD 1929 + 1.87 FEET (OR + 0.57 METERS) = NAVD 88 THIS CONVERSION WAS DERIVED BY THE NATIONAL GEODETIC SURVEY, RETRIEVAL DATE JULY 21, 1992, AT BELL 2, USING DIFFERENTIAL LEVELING. BELL 2 IS LOCATED ABOUT 0.05 MILES WEST OF INTERSTATE 17 AT THE BELL ROAD INTERCHANGE.
2. ALL SECTION CORNERS ARE APPROXIMATE.
3. ERM LABELS "CC061": WHERE CC MEANS CAVE CREEK, THE NEXT TWO DIGITS REFER TO THE SECTION NUMBER THE ERM IS IN, AND THE LAST DIGIT IS THE ACTUAL ERM NUMBER.

INDEX MAP



200 0' 200 400

SCALE: 1"= 200'

CONTOUR INTERVAL = 2' FEET

GEORGE V. SABOL CONSULTING ENGINEERS, INC.
in association with
McLAUGHLIN KMETTY ENGINEERS, LTD.

	BY	DATE
DESIGN	FEB	9/96
DESIGN CHK.	FCDMC	9/96
PLANS	KLH,RGS	3/97
PLANS CHK.	FEB	3/97
SUBMITTED BY:		DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 1 OF 7

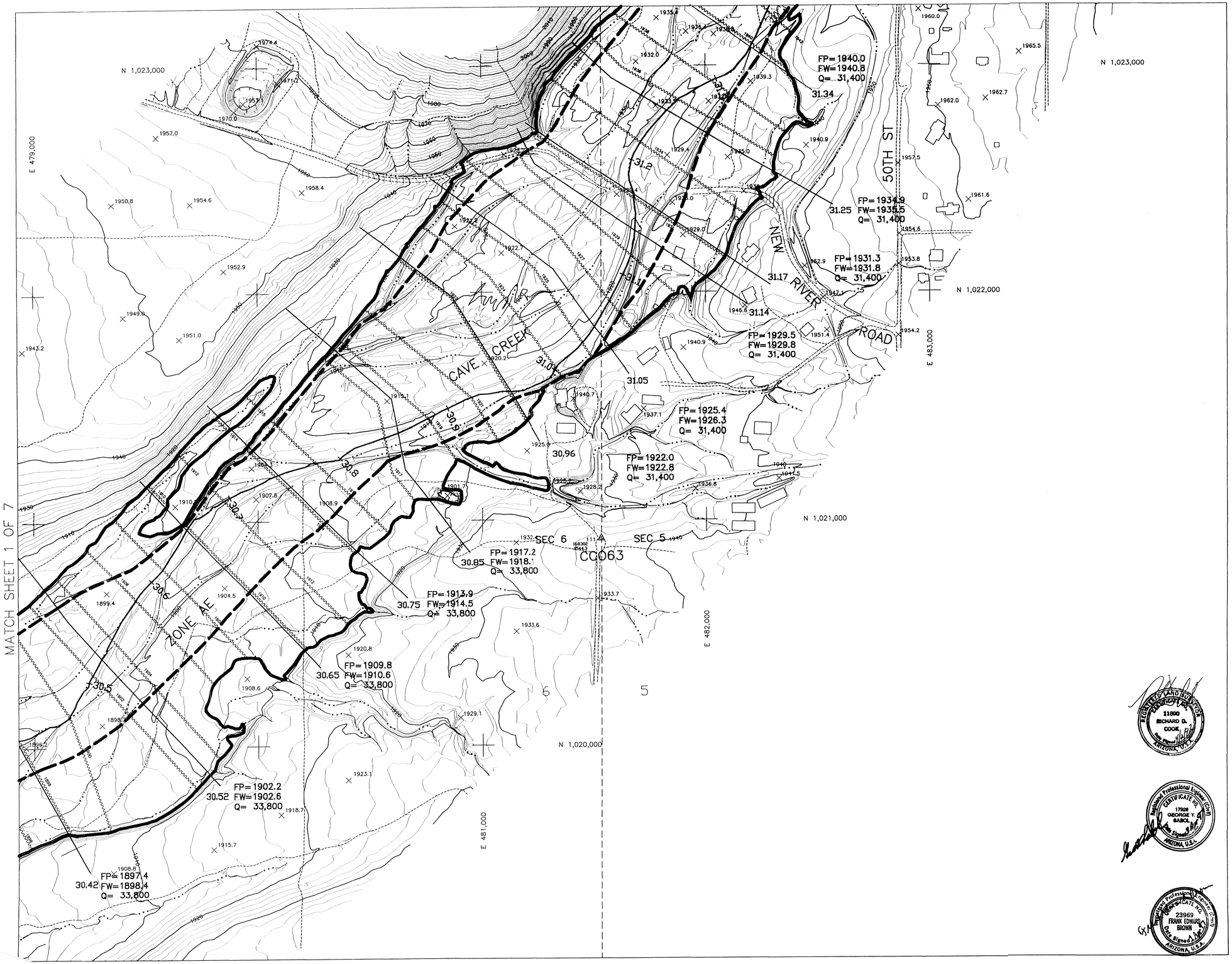
Dwg. Name: \P\92404003\ACAD\CCSHEET1.dwg
Date: REV. MARCH 31, 1997 11:00 am

AERIAL MAPPING COMPANY, INC.
PHOTOGRAMMETRY
FLIGHT DATE: 1-12-96

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS
1"= 200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS AND BASED ON GROUND CONTROL SURVEY
DATA PROVIDED BY ALCOSER LAND SURVEYORS

MATCH SHEET 3 OF 7

MATCH SHEET 1 OF 7



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FLOOD DELINEATION STUDY OF CAVE CREEK ABOVE CAREFREE HIGHWAY

F.C.D. CONTRACT NO. 95-28

LEGEND

- 100-YR FLOODPLAIN BOUNDARY
- FLOODWAY BOUNDARY
- HYDRAULIC BASE LINE & RIVER MILE — 2.0
- CROSS SECTION — FP=100 Yr WSEL / FW=Floodway WSEL / Q=100 Yr Flow — 5.519
- ELEVATION REFERENCE MARK — ○ OR △ CC061
- BASE FLOOD ELEVATIONS — 1221
- ZONE DESIGNATIONS — ZONE AE
- CORPORATE LIMITS
- SECTION LINE

ELEVATION REFERENCE MARKS

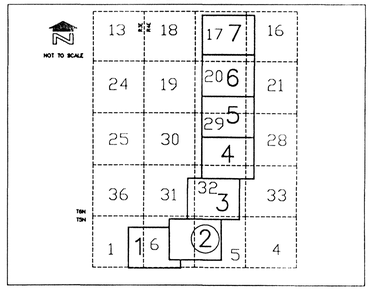
NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUM.	ELEV. (FT)	DESCRIPTION/LOCATION
CC063	1938.37	LOCATED AT TOP OF USGLO BRASS CAP AT EAST 1/4 CORNER SEC 6 T5N R4E

NOTES

1. NGVD 29 TO NAVD 88 ELEVATION CONVERSION: NGVD 1929 + 1.87 FEET (OR + 0.57 METERS) = NAVD 88 THIS CONVERSION WAS DERIVED BY THE NATIONAL GEODETIC SURVEY, RETRIEVAL DATE JULY 21, 1992, AT BELL 2, USING DIFFERENTIAL LEVELING. BELL 2 IS LOCATED ABOUT 0.05 MILES WEST OF INTERSTATE 17 AT THE BELL ROAD INTERCHANGE.
2. ALL SECTION CORNERS ARE APPROXIMATE.
3. ERM LABELS "CC061": WHERE CC MEANS CAVE CREEK, THE NEXT TWO DIGITS REFER TO THE SECTION NUMBER THE ERM IS IN, AND THE LAST DIGIT IS THE ACTUAL ERM NUMBER.

INDEX MAP



200 0' 200 400

SCALE: 1"= 200'

CONTOUR INTERVAL = 2' FEET

REGISTERED LAND SURVEYOR — 11600 RICHARD D. COOK — Not Valid Without Signature — ARIZONA, U.S.A.

Registered Professional Engineer (Civil) — CERTIFICATE NO. 17926 GEORGE V. SABOL — Not Valid Without Signature — ARIZONA, U.S.A.

Registered Professional Engineer (Civil) — CERTIFICATE NO. 23969 FRANK EDWARD BROWN — Not Valid Without Signature — ARIZONA, U.S.A.

GEORGE V. SABOL CONSULTING ENGINEERS, INC.
in association with
McLAUGHLIN KMETTY ENGINEERS, LTD.

	BY	DATE
DESIGN	FEB	9/96
DESIGN CHK.	FCDMC	9/96
PLANS	KLH,RGS	3/97
PLANS CHK.	FEB	3/97
SUBMITTED BY:		DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

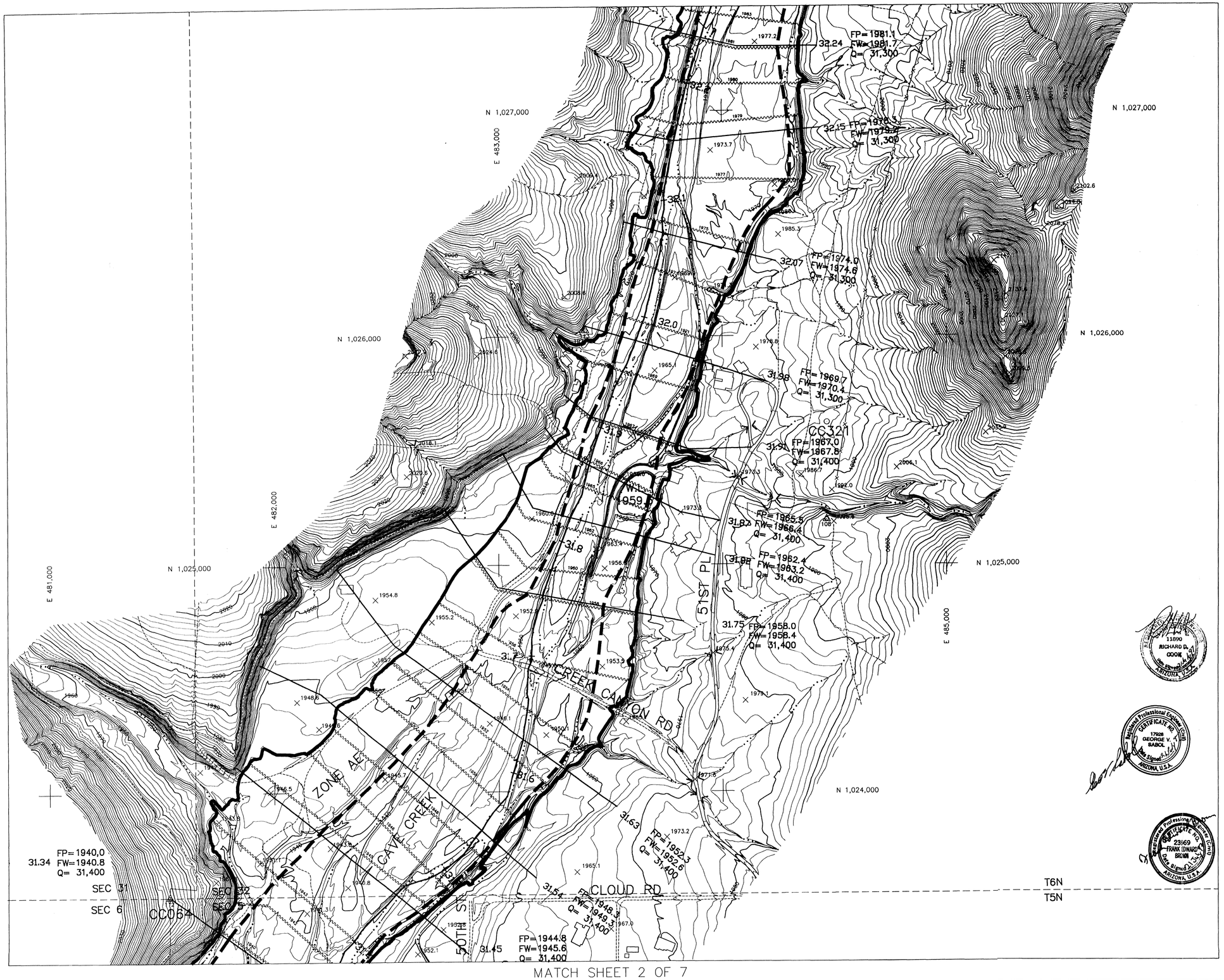
CHIEF ENGINEER AND GENERAL MANAGER

SHEET 2 OF 7

Dwg. Name: \P\9240003\ACAD\CCSHEET2.dwg
Date: REV. MARCH 31, 1997 10:15 cm

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS
1"= 200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS AND BASED ON GROUND CONTROL SURVEY

MATCH SHEET 4 OF 7



MATCH SHEET 2 OF 7

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FLOOD DELINEATION STUDY OF CAVE CREEK ABOVE CAREFREE HIGHWAY

F.C.D. CONTRACT NO. 95-28

LEGEND

- 100-YR FLOODPLAIN BOUNDARY
- FLOODWAY BOUNDARY
- HYDRAULIC BASE LINE & RIVER MILE (2.0)
- CROSS SECTION (FP=100 Yr WSEL / FW=Floodway WSEL / Q=100 Yr Flow) 5.519
- ELEVATION REFERENCE MARK ○ OR △ CC061
- BASE FLOOD ELEVATIONS 1221
- ZONE DESIGNATIONS ZONE AE
- CORPORATE LIMITS
- SECTION LINE

ELEVATION REFERENCE MARKS

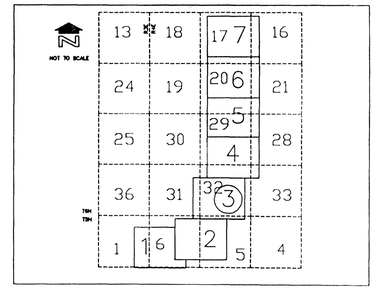
NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

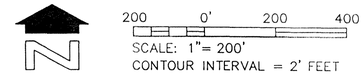
I.D. NUM.	ELEV. (FT)	DESCRIPTION/LOCATION
CC064	1993.22	LOCATED AT TOP OF USGLO BRASS CAP AT NE CORNER SEC 6 T5N R4E
CC321	1985.02	LOCATED AT TOP OF BRASS CAP IN CONCRETE 7' WEST OF POWER LINE AND 7' WEST OF POWER & TELEPHONE POLE # P51007660, BEING IN THE SE 1/4 OF SEC 32, T6N R4E. APPROXIMATE COORDINATES N1025619.4 E484463.9

NOTES

1. NGVD 29 TO NAVD 88 ELEVATION CONVERSION: NGVD 1929 + 1.87 FEET (OR + 0.57 METERS) = NAVD 88 THIS CONVERSION WAS DERIVED BY THE NATIONAL GEODETIC SURVEY, RETRIEVAL DATE JULY 21, 1992, AT BELL 2, USING DIFFERENTIAL LEVELING. BELL 2 IS LOCATED ABOUT 0.05 MILES WEST OF INTERSTATE 17 AT THE BELL ROAD INTERCHANGE.
2. ALL SECTION CORNERS ARE APPROXIMATE.
3. ERM LABELS "CC061": WHERE CC MEANS CAVE CREEK, THE NEXT TWO DIGITS REFER TO THE SECTION NUMBER THE ERM IS IN, AND THE LAST DIGIT IS THE ACTUAL ERM NUMBER.

INDEX MAP





GEORGE V. SABOL CONSULTING ENGINEERS, INC.
in association with
McLAUGHLIN KMETTY ENGINEERS, LTD.

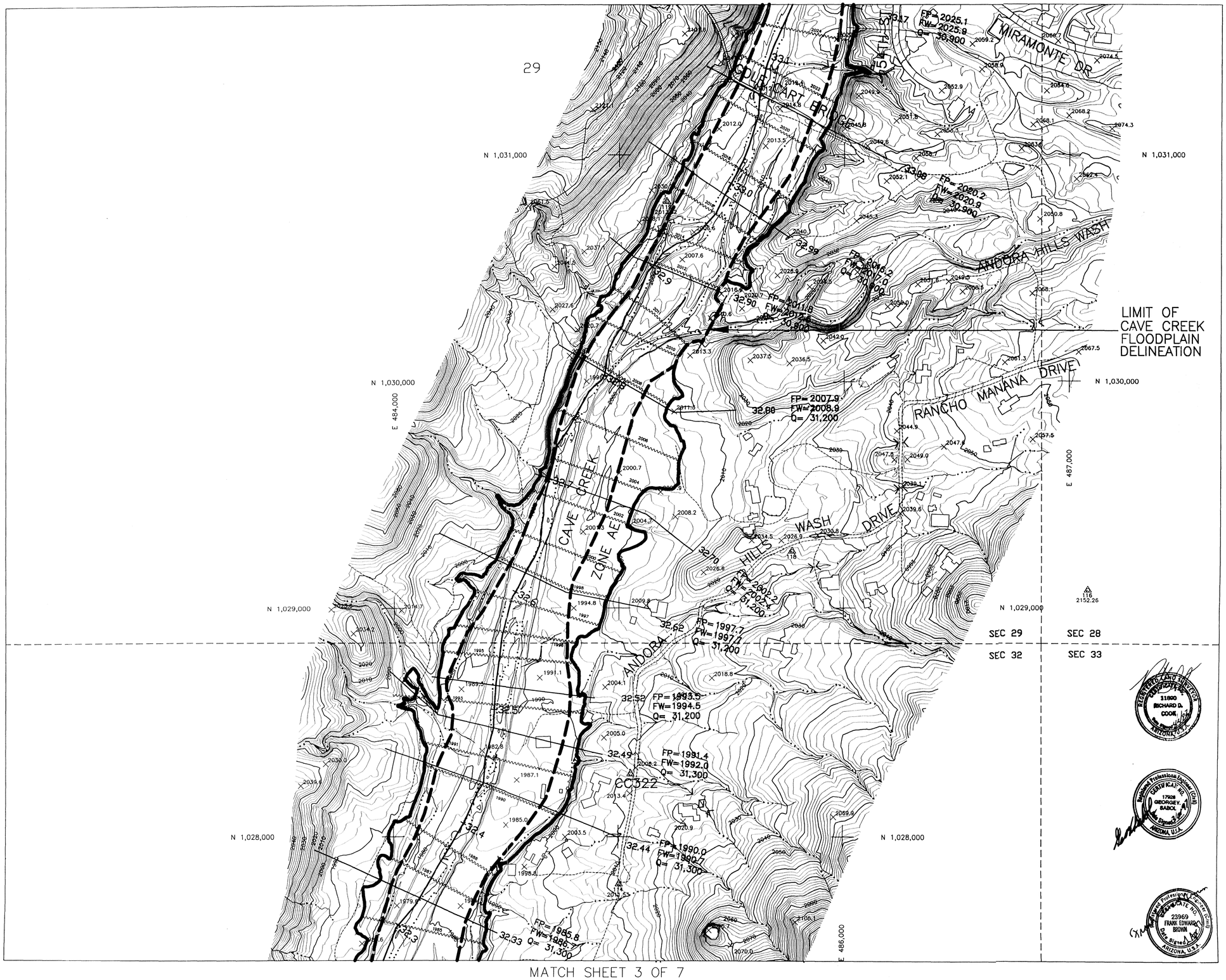
	BY	DATE	
DESIGN	FEB	9/96	FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
DESIGN CHK.	FCDMC	9/96	
PLANS	KLH,RGS	3/97	RECOMMENDED BY: DATE
PLANS CHK.	FEB	3/97	APPROVED BY: DATE
SUBMITTED BY: DATE:			CHIEF ENGINEER AND GENERAL MANAGER
			SHEET 3 OF 7

Dwg. Name: P:\92404003\ACAD\CCSHEET3.dwg
Date: REV. MARCH 31, 1997 01:56Pm

AERIAL MAPPING COMPANY, INC.
PHOTOGRAMMETRY
FLIGHT DATE: 1-12-96

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS
1"= 200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS AND BASED ON GROUND CONTROL SURVEY
DATA PROVIDED BY ALCOCER LAND SURVEYORS

MATCH SHEET 5 OF 7



MATCH SHEET 3 OF 7

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FLOOD DELINEATION STUDY OF CAVE CREEK ABOVE CAREFREE HIGHWAY

F.C.D. CONTRACT NO. 95-28

LEGEND

- 100-YR FLOODPLAIN BOUNDARY
- FLOODWAY BOUNDARY
- HYDRAULIC BASE LINE & RIVER MILE — 2.0
- CROSS SECTION — FP=100 Yr WSEL / FW=Floodway WSEL / Q=100 Yr Flow — 5.519
- ELEVATION REFERENCE MARK — ○ OR △ CC061
- BASE FLOOD ELEVATIONS — 1221
- ZONE DESIGNATIONS — ZONE AE
- CORPORATE LIMITS
- SECTION LINE

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUM.	ELEV. (FT)	DESCRIPTION/LOCATION
CC322	2005.81	LOCATED AT TOP OF BRASS CAP IN CONCRETE 10' NORTH & 6' WEST OF ELECTRIC TRANSFORMER # M66450, BEING ON THE WEST SIDE OF ANDORA HILLS WASH DRIVE, BEING IN THE NE 1/4 OF SEC 32 T6N R4E, APPROXIMATE COORDINATES N1028278.3 E485054.4

NOTES

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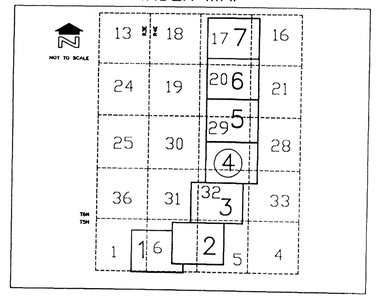
2. ALL SECTION CORNERS ARE APPROXIMATE.
3. ERM LABELS "CC061": WHERE CC MEANS CAVE CREEK, THE NEXT TWO DIGITS REFER TO THE SECTION NUMBER THE ERM IS IN, AND THE LAST DIGIT IS THE ACTUAL ERM NUMBER.
4. THE GOLF CART BRIDGE AT RM 33.08 IS ABOUT 1.0 FEET ABOVE THE CHANNEL BOTTOM. THE CROSS SECTION IS TAKEN ALONG THE TOP OF DECK AND A BRIDGE ANALYSIS IS NOT NEEDED.

INDEX MAP



200 0' 200 400

SCALE: 1"= 200'

CONTOUR INTERVAL = 2' FEET

GEORGE V. SABOL CONSULTING ENGINEERS, INC.
in association with
McLAUGHLIN KMETTY ENGINEERS, LTD.

	BY	DATE
DESIGN	FEB	9/96
DESIGN CHK.	FCDMC	9/96
PLANS	KLH,RGS	3/97
PLANS CHK.	FEB	3/97

SUBMITTED BY: DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 4 OF 7

Dwg. Name: \P\9404003\ACAD\CCSHEET4.dwg
Date: REV. MARCH 31, 1997 03:07 pm

AERIAL MAPPING COMPANY, INC.
PHOTOGRAMMETRY

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS
1"= 200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS AND BASED ON GROUND CONTROL SURVEY
DATA PROVIDED BY ALCOCER LAND SURVEYORS

MATCH SHEET 6 OF 7

MATCH SHEET 4 OF 7

29

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FLOOD DELINEATION STUDY OF CAVE CREEK ABOVE CAREFREE HIGHWAY

F.C.D. CONTRACT NO. 95-28

LEGEND

- 100-YR FLOODPLAIN BOUNDARY
- FLOODWAY BOUNDARY
- HYDRAULIC BASE LINE & RIVER MILE — 2.0
- CROSS SECTION — FP=100 Yr WSEL / FW=Floodway WSEL / Q=100 Yr Flow — 5.519
- ELEVATION REFERENCE MARK — ○ OR △ CC061
- BASE FLOOD ELEVATIONS — 1221
- ZONE DESIGNATIONS — ZONE AE
- CORPORATE LIMITS
- SECTION LINE

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUM.	ELEV. (FT)	DESCRIPTION/LOCATION
CC291	2057.34	LOCATED AT TOP OF BRASS CAP IN CONCRETE 10' SOUTH OF OCOTILLO ROAD & 55TH STREET, BEING IN THE NE 1/4 SEC 29 T6N R4E. APPROXIMATE COORDINATES N1032723.2 E486628.2
CC201	2090.39	LOCATED AT TOP OF BRASS CAP IN CONCRETE BEING IN THE SE 1/4 SEC 20 T6N R4E. COORDINATES N1025191.926820 E484461.678362

NOTES

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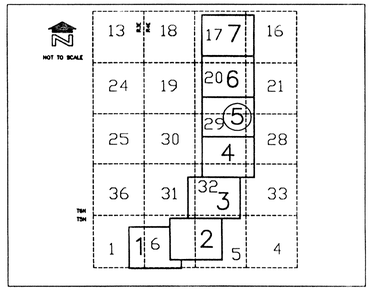

200 0' 200 400

SCALE: 1"= 200'

CONTOUR INTERVAL = 2' FEET

GEORGE V. SABOL CONSULTING ENGINEERS, INC.
in association with
McLAUGHLIN KMETTY ENGINEERS, LTD.

	BY	DATE
DESIGN	FEB	9/96
DESIGN CHK.	FCDMC	9/96
PLANS	KLH,RGS	3/97
PLANS CHK.	FEB	3/97

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SUBMITTED BY: DATE:

SHEET 5 OF 7

Dwg. Name: \P\92404003\ACAD\CCSHEET5.dwg
Date: REV. MARCH 31, 1997 04:35 pm

AERIAL MAPPING COMPANY, INC.
PHOTOGRAMMETRY

THIS MAP WAS PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS
1"= 200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS AND BASED ON GROUND CONTROL SURVEY
DATA PERFORMED BY ALCOED LAND SURVEYORS