Flood Control District of Maricopa County
Contract FCD 89-79

WICKENBURG AREA DRAINAGE MASTER STUDY

TECHNICAL DOCUMENTATION REPORT

HYDROLOGIC ANALYSES

FLOODLAIN DELINEATION

Submitted to the
Federal Emergency Management Agency
on Behalf of the
Flood Control District of Maricopa County

BLACK & VEATCH
PROGRESS BY DESIGN
Project No. 17676

May 1994

COE & VAN LOO
PLANNING • ENGINEERING
LANDSCAPE ARCHITECTURE
CVL No. 1197-02

Flood Control District of Maricopa County
Contract FCD 89-79

WICKENBURG AREA DRAINAGE MASTER STUDY

TECHNICAL DOCUMENTATION REPORT

Appendix 4.3: HEC-2 Models & Cross Section Plots for Sols Wash Area Wash
UNNAMED SOLS WASH TRIBUTARY (Wash ah2)

Submitted to the
Federal Emergency Management Agency
on Behalf of the
Flood Control District of Maricopa County

May 1994

FEDERAL EMERGENCY MANAGEMENT AGENCY **HYDROLOGIC ANALYSIS FORM**	O.M.B. Burden No. 3067-0148 Expires July 31, 1994	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 3.67 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden, to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, S.W., Washington, DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

Community Name: UNINCORPORATED MARICOPA COUNTY/TOWN OF WICKENBURG

Flooding Source: WASH AH2: UNNAMED SOLS WASH TRIBUTARY (#2)
(One form for each flooding source)

Project Name /Identifier: WICKENBURG ADMS FCD 89-79

1. HYDROLOGIC ANALYSIS IN FIS

- ☐ Approximate study stream (Zone A)
- ☐ Detailed study stream (briefly explain methodology) NA

2. REASON FOR NEW HYDROLOGIC ANALYSIS

- ☒ No existing analysis
- ☐ Improved data *(see data revision on page 3)*
- ☐ Changed physical conditions of watershed *(explain)*
- ☐ Alternative methodology *(justify why the revised model is better than model used in the effective FIS)*
- ☐ Evaluation of proposed conditions (CLOMRs only) (explain)
- ☒ Other No existing analysis or analysis being updated to reflect existing conditions

If a computer program/model was used in revising the hydrologic analysis, please provide a diskette with the input files for the 10-, 50-, 100 - and 500-year recurrence intervals.

Only the 100-year recurrence interval need be included for SFHAs designated as Zone A.

3. APPROVAL OF ANALYSIS

- ☒ Approval of hydrologic analysis, including the resulting peak discharge value (s) has been provided by the appropriate local, state, or Federal Agency. (i.e., Flood Control District of Maricopa County)
  Attach evidence of approval.
- ☐ Approval of the hydrologic analysis is not required by any local, State, or Federal Agency.

Stream: WASH AH2: UNNAMED SOLS WASH TRIBUTARY (#2)

Comparison of 100-year Discharges

Location:	Drainage area (Sq mi.)	FIS (cfs):	Revised (cfs):
Sols Wash Confluence	10.27	—	6031

Note: When revised discharges are not significantly different than FIS discharges, FEMA may require a confidence limits analysis on attachment D at a later date to complete the review.

As is often the case with revision requests, only a portion of a stream may actually be revised or be affected by a revision. Therefore, transition to the unrevised portion is important to maintain the continuity of the study. NFIP regulations stipulate that such a transition must be assured. What is the transition from the proposed discharges to the effective discharges? Please explain how the transition was made *(attach separate sheet if necessary)*

ATTACH A COMPLETED REVIEW OF RESULTS PAGE FOR EACH FLOODING SOURCE.

Is the new hydrologic analysis being developed solely to revise the flow values presented in the FIS *(i.e. no changed hydraulic conditions)*? ☐ Yes ☒ No

If yes, does the 100-year water surface elevation change by 1.0 foot or more? ☐ Yes ☐ No

FEMA does not normally revise NFIP maps solely due to insignificant flow changes where changes in 100-year water surface elevation are less than 1.0 foot.

5. HISTORICAL FLOODING INFORMATION

Is historical data available for the flooding source? ☐ Yes ☒ No

If yes, provide the following:

Location along flooding source: _____

Maximum peak discharge: _____ cfs

Second highest peak discharge: _____ cfs

Source of information: _____

6. GAGE RECORD INFORMATION

Location of nearest gage to project site *(along flooding source or similar watershed; specify)*

NA

Gaging Station: _____

Drainage area at gage: _____ mi^2

Number of years of data: _____

7. DATA REVISION

Please use the following table to list all the data and/or parameters affected by this request and identify them as new data (*New*) or as revising existing data (*Revised*). *(If necessary, attach a separate sheet.)*

Data Parameter	New	Revised	Data Source
NA	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	

- Data source can be from a Federal, State, or local government agency, or from a private source. Some State and local governments may have less strict data requirements than Federal agencies, in which case the hydrologic data may not be accepted by FEMA unless it is demonstrated that the data give a better estimate of the flood discharge.
- Attach documentation corroborating each data source *(i.e., certified statement, report, bibliographical reference to a published document)*. In the case of a published document or a government report, providing copies of the cover and pertinent pages may be helpful.

8. METHODOLOGY FOR NEW ANALYSIS

☐ Statistical Analysis of Gage Records (*use Attachment A*)

☐ Regional Regression Equations *(use Attachment B)*

☒ Precipitation/Runoff Model *(use Attachment C)*

☐ Other *(specify; attach backup computations and supporting data)* _____

ATTACHMENT A: STATISTICAL ANALYSIS OF GAGE RECORDS

Gaging Station: NA

Gage Location (latitude and longitude): _____

	FIS:	Revised:
1. Number of years of data		
Systematic		
Historical		
2. Homogeneous data	☐ Yes ☐ No	☐ Yes ☐ No
3. Data adjustments	☐ Yes ☐ No	☐ Yes ☐ No
4. Number of high outliers		
Low outliers		
Zero events		
5. Generalized skew		
6. Station skew		
7. Adopted skew		
8. Probability distribution used (justify if log-Pearson III was not used)		
9. Transfer equations to ungaged sites		☐ Yes ☐ No

If yes, specify method

_____

_____

_____

10. Expected probability*	☐ Yes ☐ No
11. Comparison of results with other analyses	☐ Yes ☐ No

If yes, describe comparison

_____

_____

_____

*FEMA does not accept expected probability analyses for the purpose of reflecting flood hazard information in a FIS.

If any data is not available, indicate by N/A.

Attach analysis including plot of flood frequency curve.

1. Bibliographical Reference:

NA

(Attach a copy of title page, table of contents, and pertinent pages including equations.)

2. Gaged or ungaged stream: _____

3. Hydrologic region(s): _____
Attach backup map.

4. Provide parameters, values, and source of data used to define parameters.

	FIS:		Revised:	
5. Urbanized conditions calculations	☐ Yes	☐ No	☐ Yes	☐ No
6 Percent of watershed urbanization	_____		_____	
7. Is the watershed controlled?	☐ Yes	☐ No	☐ Yes	☐ No
8. Comparison with other analyses	☐ Yes	☐ No	☐ Yes	☐ No

If the answer to 5, 7, or 8 is yes, explain methodology in Comments.

If data is not available, indicate by N/A.

Comments

Attach computation and supporting maps, delineating the watershed boundary and drainage area divides.

		FIS:	Revised
1.	Method or model used:		HEC-1
	Version:		VER 3.0
	Date:		02 AUG 88
2.	Source of rainfall depth:		NOAA ATLAS 2
3.	Source of rainfall distribution:		SCS TYPE II
4.	Rainfall duration:		24 HOURS
5.	Areal adjustment to precipitation (%):		NWS HYDRO-40
6.	Hydrograph development method:		S-GRAPH
7.	Loss rate method:		GREEN-AMPT
	Source of soils information:		SCS
	Source of land use information		Town of Wickenburg
8.	Channel routing method:		NORMAL DEPTH
9.	Reservoir routing:	☐ Yes ☐ No	☐ Yes ☐ No
10.	Baseflow considerations:	☐ Yes ☐ No	☐ Yes ☒ No

If yes, explain how baseflow was determined:

11.	Snowmelt considerations:	☐ Yes ☐ No	☐ Yes ☒ No
12.	Model calibration:	☐ Yes ☐ No	☒ Yes ☐ No

If yes, explain how calibration was performed Computed discharges were compared with DISCHARGE VS DRAINAGE AREA curves and envelopes prepared by the Flood Control District of Maricopa County

13. Future land use condition: ☐ Yes ☒ No

If yes, explain why

NOTE: FEMA policy is to base flooding on existing conditions.
If data is not available, indicate by N/A.

Attach precipitation/runoff model, hydrologic model schematic, curve number calculations, time of concentration calculations, and supporting maps, delineating the watershed boundary and drainage area divides.

Stream: NA – NO FLOW RECORDS

Select one location for Confidence Limits Evaluation (*describe location*): _____

_____

Discharges for selected location:

Exceedance Probability		FIS	Revised
10%	(10-year)	_____ cfs	_____ cfs
2%	(50-year)	_____ cfs	_____ cfs
1%	(100-year)	_____ cfs	_____ cfs
0.2%	(500-year)	_____ cfs	_____ cfs

1% (100-year) Flood Confidence Intervals

90% Confidence Interval: 5% limit _____ cfs

95% limit _____ cfs

50% Confidence Interval: 25% limit _____ cfs

75% limit _____ cfs

If the value of the 100-year frequency flood in the FIS is beyond the 50% confidence interval but within the 90% confidence interval, does the 100-year water surface elevation change by 1.0 foot or more? ☐ Yes ☐ No

An example of confidence limits analysis can be found in Appendix 9 of Bulletin 17B.

Attach Confidence Limits Analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY RIVERINE HYDRAULIC ANALYSIS FORM	O.M.B. Burden No 3067-0148 Expires July 31, 1994	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

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Community Name: Unincorporated Maricopa County / Town of Wickenburg

Flooding Source: WASH AH2: UNNAMED SOLS WASH TRIBUTARY
(One form for each flooding source)

Project Name/Identifier: Wickenburg ADMS FCD 89-79

1. REACH TO BE REVISED

Downstream limit: Station 0.000 (Sols Wash Confluence)

Upstream limit: Station 1.816

2. EFFECTIVE FIS

☒ Not studied

☐ Studied by approximate methods

Downstream limit of study _____

Upstream limit of study _____

☐ Studied by detailed methods

Downstream limit of study _____

Upstream limit of study _____

☐ Floodway delineated

Downstream limit of Floodway _____

Upstream limit of Floodway _____

3. HYDRAULIC ANALYSIS

Why is the hydraulic analysis different from that used to develop the FIRM. *(Check all that apply)*

☐ Not studied in FIS

☒ Improved hydrologic data/analysis. Explain: Hydrologic Analysis procedures standardized by the Flood Control District of Maricopa County

☐ Improved hydraulic analysis. Explain: _____

☐ Flood control structure. Explain: _____

☐ Other. Explain: _____

Full input and output listings along with files on diskette *(if available)* for each of the models listed below and summary of the source of input parameters used in the models must be provided. The summary must include a complete description of any changes made from model to model *(e.g. duplicate effective model to corrected effective model)*. Only the Duplicate Effective and the Revised or Post-Project Conditions models must be submitted. See instructions for directions on when other models may be required. Only the 100-year flood profile is required for SFHAs with a Zone A designation. For areas which do not have detailed flooding, a hydraulic model is not required; however BFE's may not be added to the revised FIRM.

☐ Duplicate Effective Model — Natural ☐ Floodway ☐

Copies of the hydraulic analysis used in the effective FIS, referred to as the effective models *(10-, 50-, 100-, and 500-year multi-profile runs and the floodway run)* must be obtained and then reproduced on the requestor's equipment to produce the duplicate effective model. This is required to assure that the effective model input data has been transferred correctly to the requestor's equipment and to assure that the revised data will be integrated into the effective data to provide a continuous FIS model upstream and downstream of the revised reach.

☐ Corrected Effective Model — Natural ☐ Floodway ☐

The corrected effective model is the model that corrects any errors that occur in the duplicate effective model, adds any additional cross sections to the duplicate effective model, or incorporates more detailed topographic information than that used in the currently effective model. The corrected effective model must not reflect any man-made physical changes since the date of the effective model. An error could be a technical error in the modeling procedures, or any construction in the floodplain that occurred prior to the date of the effective model but was not incorporated into the effective model.

☐ Existing or Pre-Project Conditions Model — Natural ☐ Floodway ☐

The duplicate effective or corrected model is modified to produce the existing or pre-project conditions model to reflect any modifications that have occurred within the floodplain since the date of the effective model but prior to the construction of the project for which the revision is being requested. If no modification has occurred since the date of the effective model, then this model would be identical to the corrected effective or duplicate effective model.

☐ Revised or Post-Project Conditions Model — Natural ☐ Floodway ☐

The existing or pre-project conditions model *(or duplicate effective or corrected effective model, as appropriate)* is revised to reflect revised or post-project conditions. This model must incorporate any physical changes to the floodplain since the effective model was produced as well as the effects of the project. When the request is for proposed project this model should reflect proposed conditions.

☒ Other: Please attach a sheet describing all other models or calculations submitted. — Natural ☒ Floodway ☒

New Model
(Proposed Effective Model)

4. MODEL PARAMETERS *(from model used to revise 100-year water surface elevation)*

Discharges:	Upstream Limit	Downstream Limit
10-year		
50-year		
100-year	6031	6031
500-year		

Attach diagram showing changes in 100-year discharge

2. Explain how the starting water surface elevations were determined Starting water surface elevation determined by the Slope-Area Method

3. Give range of friction loss coefficients (*Manning's "N"*) Channel 0.030

Overbanks 0.050

If friction loss coefficients are different anywhere along the revised reach from those used to develop the FIRM, give location, value used in the effective FIS, and revised values and an explanation as to how the revised values were determined.

Location	FIS	Revised
NA		

Explain:

4. Describe how the cross section geometry data were determined (*e.g., field survey, topographic map, taken from previous study*) and list cross sections that were added.

Data points for cross sections are based on the photogrammetric models for the topographic maps

5. Explain how reach lengths for channel and overbanks were determined:

All reach lengths were measured from floodplain work maps.

5. RESULTS (from model used to revise 100-year water surface elevations)

1. Do the results indicate:

a. Water surface elevations higher than end points of cross sections? ..... ☐ Yes ☒ No

b. Supercritical depth? ..... ☐ Yes ☒ No

c. Critical depth? ..... ☐ Yes ☐ No

d. Other unique situations ..... ☐ Yes ☐ No

(If yes, Special Problem Report attached)

If yes to any of the above, attach an explanation that discusses the situation and how it is presented on the profiles, tables, and maps.

2. What is the maximum change in energy gradient between cross-sections? 5.23

Specify location 1.390

3. What is the distance between the cross-sections in 2 above? ..... 890 ft

Specify location 1.390

4. What is the maximum distance between cross-sections? 890

Specify location 1.390

5. Floodway determination

a. What is the maximum surcharge allowed by the community or State? ..... 1 foot

b. What is the maximum surcharge for the revised conditions? ..... 0 foot

Specify location ..... FP=FW

c. What is the maximum velocity? ..... 6.2 fps

Specify location 1.390

Explain:

d. Are there any negeative surcharge values at any cross-section ☐ Yes ☐ No

If yes, the floodway may need to widen. If it is not widened, please explain and indicate the maximum negative surcharge

6. Is the discharge value used to determine the floodway anywhere different from that used to determine the natural 100-year flood elevations? ..... ☐ Yes ☒ No

If Yes, explain:

7. Do 100-year water surface elevations increase at any location? ..... ☐ Yes ☒ No

If yes, please attach a list of the locations where the increases occur, state whether or not the increases are located on the requestor's property, and provide an explanation of the reason for the increases.

NA- New Model

Please attach a completed comparison table entitled: Water Surface Elevation Check (See page 6)

6. REVISED FIRM/FBFM AND FLOOD PROFILES

A. The revised water surface elevations tie into those computed by the effective FIS Model *(10-, 50-, 100-, and 500-year)*, downstream of the project at cross-section NA within _____ feet and upstream of the project at cross section _____ within _____ feet.

B. The revised floodway elevations tie into those computed by the effective FIS model, dowstream of the project at cross section NA within _____ feet and upstream of the project at cross section _____ within NA feet.

C. Attach profiles, at the same vertical and horizontal scale as the profiles in the effective FIS report, showing stream bed and profiles of all floods studied (without encroachment). Also, label all cross sections, road crossings (including low chord and top-of-road data), culverts, tributaries, corporate limits, and study limits. If channel distance has changed, the stationing should be revised for all profile sheets.

D. Attach a Floodway Data Table showing data for each cross section listed in the published Floodway Data Table in the FIS report.

Proceed to Riverine /Coastal Mapping Form

FEDERAL EMERGENCY MANAGMENT AGENCY

WATER SURFACE ELEVATION CHECK

COMMUNITY NAME: Unincorporated Maricopa County/ Town of Wickenburg

FLOODIND SOURCE: WASH AH2: UNNAMED SOLS WASH TRIB.

PROJECT NAME /IDENTIFIER: Wickenburg ADMS F-0089-79

	Proposed EFFECTIVE			DUPLICATE EFFECTIVE			CORRECTED EFFECTIVE			EXISTING/PRE-PROJECT			REVISED/PROJECT		
SECNO	NCWSEL[1]	FCWSEL[2]	SURC.[3]	NCWSEL[1]	FCWSEL[2]	SURC.[3]	NCWSEL[1]	FCWSEL[2]	SURC.[3]	NCWSEL[1]	FCWSEL[2]	SURC.[3]	NCWSEL[1]	FCWSEL[2]	SURC.[3]

COMMENTS: New Model - See following Floodway Data Table

1-100-year (natural) Water Surface Elevation

2-Encroachment (floodway) Water Surface Elevation

3-Surcharge Value

Include all cross sections in the models between tie-in points. Any interpolated values should be indicated in parentheses.

Sheet 1 of 1

FLOODWAY DATA, WASH AH2: SOLS WASH TIRB
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.038	578.	1211.	5.0	2378.8	2378.8	.0
.153	764.	1281.	4.7	2382.1	2382.1	.0
.278	451.	1276.	4.7	2384.2	2384.2	.0
.373	495.	1004.	6.0	2387.0	2387.0	.0
.468	455.	1223.	4.9	2390.4	2390.4	.0
.563	416.	1128.	5.3	2392.7	2392.7	.0
.634	500.	1515.	4.0	2394.5	2394.5	.0
.721	402.	1057.	5.7	2396.4	2396.4	.0
.763	447.	1125.	5.4	2398.5	2398.5	.0
.858	547.	1323.	4.6	2401.7	2401.7	.0
.934	627.	1339.	4.5	2403.8	2403.8	.0
1.034	617.	1445.	4.2	2406.2	2406.2	.0
1.100	602.	1461.	4.1	2407.7	2407.7	.0
1.222	702.	1361.	4.4	2410.6	2410.6	.0
1.390	282.	972.	6.2	2415.5	2415.5	.0
1.508	407.	1171.	5.1	2418.8	2418.8	.0
1.602	555.	1512.	4.0	2421.0	2421.0	.0
1.714	408.	1082.	5.6	2422.9	2422.9	.0
1.816	573.	1340.	4.5	2426.1	2426.1	.0

FEDERAL EMERGENCY MANAGEMENT AGENCY **RIVERINE/COASTAL MAPPING FORM**	O.M.B. Burden No. 3067-0148 Expires July 31, 1994	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

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Community Name: Unincorporated Maricopa County/Town of Wickenburg

Flooding Source: WASH AH2: UNNAMED SOLS WASH TRIBUTARY (#2)

Project Name/Identifier: Wickenburg ADMS FCD 89-79

1. MAPPING CHANGES

1. A topographic work map of suitable scale, contour interval, and planimetric definition must be submitted showing *(indicate N/A when not applicable)*:

		Included		
A.	Revised approximate 100-year floodplain boundaries (Zone A)	☐ Yes	☒ No	☐ N/A
B.	Revised detailed 100- and 500-year floodplain boundaries	☒ Yes	☐ No	☐ N/A
C.	Revised 100-year floodway boundaries	☒ Yes	☐ No	☐ N/A
D.	Location and alignment of all cross sections used in the revised hydraulic model with stationing control indicated	☒ Yes	☐ No	☐ N/A
E.	Stream alignments, road and dam alignments	☒ Yes	☐ No	☐ N/A
F.	Current community boundaries	☒ Yes	☐ No	☐ N/A
G.	Effective 100- and 500-year floodplain and 100-year floodway boundaries from the FIRM/FBFM reduced or enlarged to the scale of the topographic work map	☐ Yes	☐ No	☒ N/A
H.	Tie-ins between the effective and revised 100- and 500-year floodplains and 100-year floodway boundaries	☐ Yes	☐ No	☒ N/A
I.	The requestor's property boundaries and community easements	☐ Yes	☐ No	☒ N/A
J.	The signed certification of a registered professional engineer	☒ Yes	☐ No	☐ N/A
K.	Location and description of reference marks	☒ Yes	☐ No	☐ N/A
L.	Vertical datum (example: NGVD, NAVD etc.)	☒ Yes	☐ No	☐ N/A
M.	Coastal zone designations tie into adjacent areas not being revised	☐ Yes	☐ No	☒ N/A
N.	Location and alignment of all coastal transects used to revise the coastal analyses	☐ Yes	☐ No	☒ N/A

If any of the items above are marked no or N/A, please explain: No Zone A, 500-year, or coastal zones revised or delineated. Revised 100-year floodplains tie into effective Hassayampa River floodplain.

2. What is the source and date of the updated topographic information *(example: orthophoto maps, July 1985; field survey, May 1979, beach profiles, June 1987, etc.)*? Photo: Jan. 1991 (E), Oct 1990 (W); Maps 1992

3. What is the scale and contour interval of the following work maps?
   a. Effective FIS unknown scale unknown Contour interval
   b. Revision Request 1" = 200' scale 4 FT Contour interval

NOTE: Revised topographic information must be of equal or greater detail.

4. Attach an annotated FIRM and FBFM at the scale of the effective FIRM and FBFM showing the revised 100-year and 500-year floodplains and the 100-year floodway boundaries and how they tie into those shown on the effective FIRM and FBFM downstream and upstream of the revision or adjacent to the area of revision for coastal studies.

Attach additional pages if needed.

5. Flood Boundaries and 100-year water surface elevations:

Has the 100-year floodplain been shifted or increased or the 100-year water surface elevation increased at any location on property other than the requestor's or community's? ☐ Yes ☒ No

If yes, please give the location of shift or increase and an explanation for the increase.

~~Revised~~ NEW detailed 100-year floodplain; ~~replaces~~ proposed effective zone AE floodplain.

a. Have the affected property owners been notified of this shift or increase and the effect it will have on their property? ..... ☐ Yes ☒ No

If yes, please attach letters from these property owners stating they have no objections to the revised flood boundaries if a LOMR is being requested.

b. What is the number of insurable structures that will be impacted by this shift or increase? _____

6. Have the floodway boundaries shifted or increased at any location compared to those shown on the effective FBFM or FIRM? ..... ☐ Yes ☒ No

If yes, explain:

7. If a V-zone has been designated, has it been delineated to extend landward to the heel of the primary frontal dune? ☐ Yes ☒ No

If no, explain:

NA

8. Manual or digital map submission:

☒ Manual

☐ Digital

Digital map submissions may be used to update digital FIRMs (DFIRMs). For updating DFIRMs, these submissions must be coordinated with FEMA Headquarters as far in advance of submission as possible.

2. EARTH FILL PLACEMENT

1. The fill is: ☐ Existing ☐ Proposed ☒ N/A

2. Has fill been/will be placed in the regulatory floodway? ..... ☐ Yes ☒ No
   If yes, please attach completed Riverine Hydraulic Analysis Form.

3. Has fill been/will be placed in floodway fringe *(area between the floodway and 100-year floodplain boundaries)*? ..... ☐ Yes ☒ No

   If yes, then complete A, B, C, and D below.

   A. Are fill slopes for granular materials steeper than one vertical on one-and-one-half horizontal? ..... ☐ Yes ☐ No

   If yes, justify steeper slopes _____

   B. Is adequate erosion protection provided for fill slopes exposed to moving flood waters? *(Slopes exposed to flows with velocities of up to 5 feet per second (fps) during the 100-year flood must, at a minimum, be protected by a cover of grass, vines, weeds, or similar vegetation; slopes exposed to flows with velocities greater than 5 fps during the 100-year flood must, at a minimum, be protected by stone or rock riprap.)* ..... ☐ Yes ☐ No

   If no, describe erosion protection provided _____

   C. Has all fill placed in revised 100-year floodplain been compacted to 95 percent of the maximum density obtainable with the Standard Proctor Test Method or acceptable equivalent method? ☐ Yes ☐ No

   D. Can structures conceivably be constructed on the fill at any time in the future? ☐ Yes ☐ No

   If yes, provide certification of fill compaction (item C. above) by the community's NFIP permit official, a registered professional engineer, or an accredited soils engineer.

4. Has fill been/will be placed in a V-zone? ☐ Yes ☒ No

   If yes, is the fill protected from erosion by a flood control structure such as a revetment or seawall? ☐ Yes ☐ No

   If yes, attach the coastal structures form.

```
*******************************************
*  HEC-2 WATER SURFACE PROFILES           *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE    14DEC93    TIME   07:40:50 *
*******************************************
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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 14DEC93 07:40:51

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

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


T1      WICKENBURG ADMS -  CONTRAC FCD 89-79
T2      BLACK & VEATCH PN 17676  COE & VAN LOO JN 1197-02
T3      WASH AH2: SOLS WASH TIRBUTARY      (FILE AH2.DAT)

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

                2                                                                  2378.77

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     1                  -1                                      -1                            15


J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    150        200

NC     .050      0.050     0.030       0.1       0.3
QT       2       6031      6031
ET                          9.1                                                                672.02    1250.22
            CONFLUENCE OF WASH AH2: SOLS WASH TRIBUTARY
            AND SOLS WASH BETWEEN CROSS-SECTIONS
                CQ (SOLS WASH RIVER MILE 8.67)
                CR (SOLS WASH RIVER MILE 8.76)
            CROSS-SECTION DESIGNATION FROM
                SOLS WASH FLOODPLAIN DLINEATION
                HASSAYAMPA RIVER TO MARICOPA COUNTY LINE
                CELLA BARR ASSOCIATES

            SWSE DETERMINED BY SLOPE AREA METHOD

X1    0.038        62       990      1009         0         0         0
GR   2381.0     470.0    2380.8     486.3    2380.5     502.5    2380.3     518.8    2380.0     535.0
GR   2379.8     549.8    2379.6     564.6    2379.4     579.4    2379.2     594.2    2379.0     609.0
GR   2379.0     624.3    2379.0     639.7    2379.0     655.0    2378.8     669.8    2378.6     684.6
GR   2378.4     699.4    2378.2     714.2    2378.0     729.0    2378.0     742.7    2378.0     756.3
GR   2378.0     770.0    2377.7     786.7    2377.3     803.3    2377.0     820.0    2377.0     835.0
GR   2377.0     850.0    2377.0     871.0    2376.5     887.5    2376.0     904.0    2377.0     925.0
GR   2376.5     937.5    2376.0     950.0    2374.0     973.0    2372.0     990.0    2371.0    1000.0
GR   2372.0    1009.0    2376.0    1020.0    2376.5    1032.5    2377.0    1045.0    2377.0    1062.0
GR   2377.0    1079.0    2376.0    1097.0    2375.0    1115.0    2375.5    1130.0    2376.0    1145.0
GR   2376.5    1160.0    2377.0    1175.0    2377.4    1192.0    2377.8    1209.0    2378.2    1226.0
GR   2378.6    1243.0    2379.0    1260.0    2379.3    1276.3    2379.7    1292.7    2380.0    1309.0
GR   2381.3    1324.3    2382.7    1339.7    2384.0    1355.0    2385.3    1370.0    2386.7    1385.0
GR   2388.0    1400.0    2389.0    1415.0
```

ET			9.1						470.30	1234.10
X1	0.153	96	995	1005.5	590	610	610			
GR	2384.0	270.0	2383.5	281.0	2383.0	292.0	2383.3	303.7	2383.7	315.3
GR	2384.0	327.0	2383.7	341.3	2383.3	355.7	2383.0	370.0	2383.0	422.0
GR	2382.8	435.3	2382.5	448.5	2382.3	461.8	2382.0	475.0	2382.3	487.5
GR	2382.5	500.0	2382.8	512.5	2383.0	525.0	2382.8	538.8	2382.5	552.5
GR	2382.3	566.3	2382.0	580.0	2382.0	630.0	2381.0	668.0	2380.3	678.5
GR	2380.2	692.4	2380.1	706.2	2380.0	720.0	2379.7	733.3	2379.3	746.7
GR	2379.0	760.0	2379.0	782.0	2379.3	796.3	2379.7	810.7	2380.0	825.0
GR	2380.3	837.5	2380.5	850.0	2380.8	862.5	2381.0	875.0	2381.2	888.0
GR	2381.4	901.0	2381.6	914.0	2381.8	927.0	2382.0	940.0	2381.8	945.3
GR	2381.7	950.7	2381.5	956.0	2381.3	961.3	2381.2	966.7	2381.0	972.0
GR	2380.8	976.5	2380.5	981.0	2380.3	985.5	2380.0	990.0	2375.5	995.0
GR	2375.0	1000.0	2375.5	1005.5	2376.0	1011.0	2376.3	1015.8	2376.5	1020.5
GR	2376.8	1025.3	2377.0	1030.0	2377.1	1035.0	2377.3	1040.0	2377.4	1045.0
GR	2377.5	1050.0	2377.6	1055.0	2377.8	1060.0	2377.9	1065.0	2378.0	1070.0
GR	2378.5	1082.5	2379.0	1095.0	2379.5	1107.5	2380.0	1120.0	2380.3	1133.6
GR	2380.5	1147.3	2380.8	1160.9	2381.0	1174.5	2381.3	1188.1	2381.5	1201.8
GR	2381.8	1215.4	2382.0	1229.0	2382.3	1243.3	2382.6	1257.6	2382.9	1271.9
GR	2383.1	1286.1	2383.4	1300.4	2383.7	1314.7	2384.0	1329.0	2384.4	1343.0
GR	2384.9	1357.0	2385.3	1371.0	2385.8	1385.0	2386.2	1399.0	2387.1	1427.0
GR	2388.0	1455.0								

ET			9.1						903.34	1354.18
X1	0.278	73	990	1010	715	525	660			
[illegible]	[illegible]88.1	526.8	2387.9	540.2	2387.8	553.5	2387.6	566.8	2387.5	580.1
GR	2387.3	593.4	2387.1	606.7	2387.0	620.0	2386.9	632.7	2386.8	645.5
GR	2386.7	658.2	2386.6	670.9	2386.6	683.6	2386.4	696.4	2386.4	709.1
GR	2386.3	721.8	2386.2	734.5	2386.1	747.3	2386.0	760.0	2385.9	772.7
GR	2385.7	785.4	2385.5	798.1	2385.4	810.8	2385.2	823.5	2385.1	836.2
GR	2384.9	848.8	2384.8	861.5	2384.6	874.2	2384.5	886.9	2384.3	899.6
GR	2384.1	912.3	2384.0	925.0	2382.7	939.7	2381.3	954.3	2380.0	969.0
GR	2378.0	979.5	2376.0	990.0	2375.0	1000.0	2376.0	1010.0	2377.0	1021.0
GR	2378.5	1032.5	2380.0	1044.0	2380.3	1056.3	2380.7	1068.7	2381.0	1081.0
GR	2381.1	1094.1	2381.2	1107.2	2381.3	1120.3	2381.4	1133.4	2381.6	1146.6
GR	2381.7	1159.7	2381.8	1172.8	2381.9	1185.9	2382.0	1199.0	2382.2	1212.6
GR	2382.4	1226.1	2382.6	1239.6	2382.7	1253.2	2382.9	1266.7	2383.1	1280.3
GR	2383.3	1293.8	2383.4	1307.4	2383.6	1320.9	2383.8	1334.4	2384.0	1348.0
GR	2384.5	1360.8	2385.0	1373.5	2385.5	1386.3	2386.0	1399.0	2386.5	1411.8
GR	2387.0	1424.5	2387.5	1437.3	2388.0	1450.0				

ET			9.1						750.34	1245.59
X1	0.373	96	980	1030	420	515	500			
GR	2396.0	340.0	2395.7	350.6	2395.5	361.2	2395.2	371.8	2394.9	382.4
GR	2394.7	393.0	2394.4	403.6	2394.1	414.2	2393.9	424.8	2393.6	435.4
GR	2393.3	446.0	2393.1	456.6	2392.8	467.2	2392.5	477.8	2392.3	488.4
GR	2392.0	499.0	2391.8	509.5	2391.6	520.0	2391.4	530.5	2391.2	541.0
GR	2391.0	551.5	2390.8	562.0	2390.6	572.5	2390.4	583.0	2390.2	593.5
GR	2390.0	604.0	2389.8	614.5	2389.6	625.0	2389.4	635.5	2389.2	646.0
GR	2389.0	656.5	2388.8	667.0	2388.6	677.5	2388.4	688.0	2388.2	698.5
[illegible]	[illegible]88.0	709.0	2387.8	719.1	2387.5	729.3	2387.3	739.4	2387.0	749.5
[illegible]	[illegible]86.8	759.6	2386.5	769.8	2386.3	779.9	2386.0	790.0	2385.9	800.4
GR	2385.9	810.8	2385.8	821.2	2385.7	831.5	2385.6	841.9	2385.5	852.3

	385.5	862.7	2385.4	873.1	2385.3	883.5	2385.2	893.8	2385.1	904.2
	2385.1	914.6	2385.0	925.0	2384.8	934.3	2384.5	943.5	2384.3	952.8
GR	2384.0	962.0	2383.5	971.0	2383.0	980.0	2383.0	990.0	2383.0	1000.0
GR	2383.0	1010.0	2383.0	1030.0	2383.3	1040.0	2383.5	1050.0	2383.8	1060.0
GR	2384.0	1070.0	2384.1	1080.6	2384.3	1091.2	2384.5	1101.8	2384.6	1112.5
GR	2384.8	1123.1	2384.9	1133.7	2385.1	1144.3	2385.2	1154.9	2385.4	1165.5
GR	2385.5	1176.2	2385.7	1186.8	2385.9	1197.4	2386.0	1208.0	2386.3	1219.0
GR	2386.6	1230.0	2386.9	1241.0	2387.1	1252.0	2387.4	1263.0	2387.7	1274.0
GR	2388.0	1285.0	2388.7	1295.0	2389.3	1305.0	2390.0	1315.0	2392.0	1360.0
GR	2396.0	1390.0								
ET			9.1						806.31	1261.13
X1	0.468	62	981	1020	500	430	500			
GR	2397.1	385.6	2397.0	400.0	2396.9	415.0	2396.8	430.0	2396.7	445.0
GR	2396.6	460.0	2396.6	475.0	2396.4	490.0	2396.4	505.0	2396.3	520.0
GR	2396.2	535.0	2396.1	550.0	2396.0	565.0	2395.5	580.0	2395.0	595.0
GR	2394.5	610.0	2394.0	625.0	2393.5	640.0	2393.0	655.0	2392.5	670.0
GR	2392.0	685.0	2391.9	698.6	2391.7	712.1	2391.6	725.7	2391.4	739.3
GR	2391.3	752.9	2391.1	766.4	2391.0	780.0	2390.7	794.4	2390.3	808.9
GR	2390.0	823.3	2389.7	837.8	2389.3	852.2	2389.0	866.7	2388.7	881.1
GR	2388.3	895.6	2388.0	910.0	2387.7	923.3	2387.3	936.7	2387.0	950.0
GR	2386.5	965.5	2386.0	981.0	2386.0	990.0	2386.0	1000.0	2386.0	1010.0
GR	2386.0	1020.0	2387.0	1039.0	2387.0	1129.0	2387.2	1144.5	2387.3	1160.0
GR	2387.5	1175.5	2387.7	1191.0	2387.8	1206.5	2388.0	1222.0	2388.8	1235.2
GR	2389.6	1248.4	2390.4	1261.6	2391.2	1274.8	2392.0	1288.0	2396.0	1305.0
	2397.0	1320.0	2397.0	1396.0						
			9.1						774.05	1190.04
X1	0.563	67	990	1010	490	510	500			
GR	2396.8	550.3	2396.7	560.7	2396.5	571.0	2396.3	581.3	2396.2	591.7
GR	2396.0	602.0	2395.8	612.6	2395.6	623.1	2395.4	633.7	2395.1	644.3
GR	2394.9	654.9	2394.7	665.4	2394.5	676.0	2394.3	686.6	2394.1	697.1
GR	2393.9	707.7	2393.6	718.3	2393.4	728.9	2393.2	739.4	2393.0	750.0
GR	2392.9	760.0	2392.8	770.0	2392.6	780.0	2392.5	790.0	2392.4	800.0
GR	2392.3	810.0	2392.1	820.0	2392.0	830.0	2391.7	840.0	2391.4	850.0
GR	2391.1	860.0	2390.9	870.0	2390.6	880.0	2390.3	890.0	2390.0	900.0
GR	2389.6	910.0	2389.2	920.0	2388.8	930.0	2388.4	940.0	2388.0	950.0
GR	2387.8	960.0	2387.6	970.0	2387.4	980.0	2387.2	990.0	2387.0	1000.0
GR	2387.5	1010.0	2388.0	1020.0	2388.5	1030.0	2389.0	1040.0	2389.1	1051.1
GR	2389.3	1062.3	2389.4	1073.4	2389.6	1084.6	2389.7	1095.7	2389.9	1106.9
GR	2390.0	1118.0	2390.4	1127.9	2390.8	1137.8	2391.1	1147.6	2391.5	1157.5
GR	2391.9	1167.4	2392.3	1177.3	2392.6	1187.1	2393.0	1197.0	2393.0	1200.0
GR	2396.0	1400.0	2400.0	1470.0						
ET			9.1						688.04	1187.97
X1	0.634	70	990	1010	400	365	380			
GR	2400.6	492.0	2399.6	518.4	2398.7	546.3	2397.8	574.2	2396.9	602.1
GR	2396.0	630.0	2395.7	640.6	2395.4	651.3	2395.1	661.9	2394.9	672.6
GR	2394.6	683.2	2394.3	693.9	2394.0	704.5	2393.7	715.1	2393.4	725.8
GR	2393.1	736.4	2392.9	747.1	2392.6	757.7	2392.3	768.4	2392.0	779.0
GR	2391.9	789.1	2391.7	799.3	2391.6	809.4	2391.4	819.6	2391.3	829.7
	2391.1	839.9	2391.0	850.0	2390.9	860.0	2390.8	870.0	2390.7	880.0
	2390.6	890.0	2390.5	900.0	2390.4	910.0	2390.3	920.0	2390.2	930.0
GR	2390.1	940.0	2390.0	950.0	2389.8	960.0	2389.6	970.0	2389.4	980.0

[illegible]	389.2	990.0	2389.0	1000.0	2389.2	1010.0	2389.4	1020.0	2389.6	1030.0
[illegible]	2389.8	1040.0	2390.0	1050.0	2390.4	1061.0	2390.8	1072.0	2391.2	1083.0
GR	2391.6	1094.0	2392.0	1105.0	2392.3	1115.1	2392.6	1125.2	2392.9	1135.3
GR	2393.2	1145.4	2393.5	1155.5	2393.8	1165.6	2394.1	1175.7	2394.4	1185.8
GR	2394.7	1195.9	2395.0	1206.0	2395.3	1217.3	2395.7	1228.7	2396.0	1240.0
GR	2396.8	1249.8	2397.6	1259.6	2398.4	1269.4	2399.2	1279.2	2400.0	1289.0
ET			9.1						919.61	1321.32
X1	0.721	11	990	1020	445	495	460			
GR	2403.0	680.	2400.0	760.	2396.0	935.	2392.0	988.	2391.0	990.
GR	2391.0	1000.	2391.0	1020.	2392.0	1040.	2396.0	1320.	2400.0	1335.
GR	2404.0	1348.								
ET		5.1	9.1		755.0	1440.0			907.91	1354.62

ET RECORD: STA 755. ELIMINATE INEFFECTIVE
FLOW AREA IN LEFT OVERBANK

X1	0.763	82	982.5	1003	210	245	220			
GR	2404.0	99.0	2403.6	115.7	2403.1	132.3	2402.7	149.0	2402.2	165.7
GR	2401.8	182.3	2401.3	199.0	2400.9	215.7	2400.4	232.3	2400.0	249.0
GR	2399.5	266.8	2399.0	284.5	2398.5	302.3	2398.0	320.0	2397.5	338.0
GR	2397.0	356.0	2396.5	374.0	2396.0	392.0	2395.5	407.0	2395.0	422.0
GR	2395.5	441.0	2396.0	460.0	2396.5	478.3	2397.0	496.5	2397.5	514.8
GR	2398.0	533.0	2398.4	550.6	2398.8	568.2	2399.2	585.8	2399.6	603.4
GR	2400.0	621.0	2400.7	639.0	2401.3	657.0	2402.0	675.0	2402.2	691.0
[illegible]	2402.4	707.0	2402.6	723.0	2402.8	739.0	2403.0	755.0	2402.8	771.5
[illegible]	2402.5	788.0	2402.3	804.5	2402.0	821.0	2401.3	839.0	2400.7	857.0
[illegible]	2400.0	875.0	2399.3	891.3	2398.5	907.5	2397.8	923.8	2397.0	940.0
GR	2396.5	952.5	2396.0	965.0	2395.0	982.5	2395.0	1000.0	2395.0	1003.0
GR	2395.1	1019.7	2395.1	1036.4	2395.2	1053.1	2395.3	1069.8	2395.3	1086.4
GR	2395.4	1103.1	2395.4	1119.8	2395.5	1136.5	2395.6	1153.2	2395.6	1169.9
GR	2395.7	1186.6	2395.8	1203.3	2395.8	1219.9	2395.9	1236.6	2395.9	1253.3
GR	2396.0	1270.0	2396.3	1288.3	2396.7	1306.7	2397.0	1325.0	2397.8	1340.0
GR	2398.5	1355.0	2399.3	1370.0	2400.0	1385.0	2401.0	1397.5	2402.0	1410.0
GR	2403.0	1425.0	2404.0	1440.0						
ET			9.1						936.95	1484.30
X1	0.858	55	1000	1020	495	450	500			
GR	2404.0	592.0	2404.3	611.3	2404.7	630.7	2405.0	650.0	2405.2	667.5
GR	2405.3	685.0	2405.5	702.5	2405.7	720.0	2405.8	737.5	2406.0	755.0
GR	2405.8	772.0	2405.6	789.0	2405.4	806.0	2405.2	823.0	2405.0	840.0
GR	2404.8	860.0	2404.5	880.0	2404.3	900.0	2404.0	920.0	2402.0	935.0
GR	2400.0	950.0	2399.3	966.7	2398.7	983.3	2398.3	1000.0	2398.3	1020.0
GR	2398.7	1040.0	2399.0	1060.0	2399.0	1285.0	2399.1	1302.6	2399.3	1320.3
GR	2399.4	1337.9	2399.5	1355.5	2399.6	1373.1	2399.8	1390.8	2399.9	1408.4
GR	2400.0	1426.0	2400.5	1442.8	2401.0	1459.5	2401.5	1476.3	2402.0	1493.0
GR	2402.4	1510.4	2402.8	1527.8	2403.2	1545.2	2403.6	1562.6	2404.0	1580.0
GR	2404.5	1600.0	2405.0	1620.0	2405.5	1640.0	2406.0	1660.0	2407.0	1680.0
GR	2408.0	1700.0	2409.0	1718.8	2410.0	1737.5	2411.0	1756.3	2412.0	1775.0

ET			9.1						804.56	1431.90
X1	0.934	68	981.7	1015	415	395	400			
GR	2409.0	645.0	2408.5	665.5	2408.0	686.0	2407.4	702.1	2406.9	718.3
GR	2406.3	734.4	2405.7	750.6	2405.1	766.7	2404.6	782.9	2404.0	799.0
GR	2403.3	815.5	2402.5	832.0	2401.8	848.5	2401.0	865.0	2401.0	880.0
GR	2401.0	895.0	2401.0	910.0	2400.5	927.5	2400.0	945.0	2399.7	963.3
GR	2399.3	981.7	2399.0	1000.0	2399.3	1015.0	2399.7	1030.0	2400.0	1045.0
GR	2400.5	1060.0	2401.0	1075.0	2401.2	1092.0	2401.3	1109.0	2401.5	1126.0
GR	2401.7	1143.0	2401.8	1160.0	2402.0	1177.0	2402.0	1193.5	2402.0	1210.0
GR	2402.0	1226.5	2402.0	1243.0	2402.2	1258.2	2402.4	1273.4	2402.6	1288.6
GR	2402.8	1303.8	2403.0	1319.0	2403.1	1336.0	2403.2	1353.0	2403.3	1370.0
GR	2403.4	1387.0	2403.6	1404.0	2403.7	1421.0	2403.8	1438.0	2403.9	1455.0
GR	2404.0	1472.0	2404.3	1488.5	2404.5	1505.0	2404.8	1521.5	2405.0	1538.0
GR	2405.3	1554.6	2405.6	1571.2	2405.9	1587.8	2406.2	1604.4	2406.5	1621.0
GR	2406.8	1637.6	2407.1	1654.2	2407.4	1670.8	2407.7	1687.4	2408.0	1704.0
GR	2409.0	1721.0	2410.0	1738.0	2412.0	1755.0				
ET			9.1						787.10	1404.38
X1	1.034	96	987.6	1013	540	460	530			
GR	2416.0	399.0	2415.5	410.4	2415.0	421.8	2414.5	433.1	2414.0	444.5
GR	2413.5	455.9	2413.0	467.3	2412.5	478.6	2412.0	490.0	2411.8	502.5
GR	2411.7	515.0	2411.5	527.5	2411.3	540.0	2411.2	552.5	2411.0	565.0
GR	2410.8	576.7	2410.6	588.3	2410.4	600.0	2410.2	611.7	2410.0	623.3
GR	2409.8	635.0	2409.6	646.7	2409.4	658.3	2409.2	670.0	2409.0	681.7
GR	2408.8	693.3	2408.6	705.0	2408.4	716.7	2408.2	728.3	2408.0	740.0
GR	2407.6	751.7	2407.1	763.3	2406.7	775.0	2406.2	786.7	2405.8	798.3
GR	2405.3	810.0	2404.9	821.7	2404.4	833.3	2404.0	845.0	2403.8	856.3
GR	2403.7	867.7	2403.5	879.0	2403.3	890.3	2403.2	901.7	2403.0	913.0
GR	2402.9	925.4	2402.7	937.9	2402.6	950.3	2402.4	962.7	2402.3	975.1
GR	2402.1	987.6	2402.0	1000.0	2402.3	1013.0	2402.5	1026.0	2402.8	1039.0
GR	2403.0	1052.0	2403.0	1129.0	2403.1	1140.6	2403.3	1152.1	2403.4	1163.7
GR	2403.6	1175.3	2403.7	1186.9	2403.9	1198.4	2404.0	1210.0	2404.1	1221.7
GR	2404.3	1233.4	2404.4	1245.1	2404.5	1256.8	2404.6	1268.4	2404.8	1280.1
GR	2404.9	1291.8	2405.0	1303.5	2405.1	1315.2	2405.3	1326.9	2405.4	1338.6
GR	2405.5	1350.3	2405.6	1361.9	2405.8	1373.6	2405.9	1385.3	2406.0	1397.0
GR	2406.3	1408.9	2406.5	1420.8	2406.8	1432.6	2407.0	1444.5	2407.3	1456.4
GR	2407.5	1468.3	2407.8	1480.1	2408.0	1492.0	2408.8	1503.6	2409.6	1515.2
GR	2410.4	1526.8	2411.2	1538.4	2412.0	1550.0	2413.3	1563.3	2414.7	1576.7
GR	2416.0	1590.0								
ET			9.1						733.35	1335.53
X1	1.100	96	990.3	1010	350	360	350			
GR	2414.0	397.0	2413.9	406.9	2413.6	426.6	2413.3	446.3	2413.0	466.0
GR	2412.9	475.9	2412.7	485.7	2412.6	495.6	2412.4	505.4	2412.3	515.3
GR	2412.1	525.1	2412.0	535.0	2411.6	545.6	2411.1	556.1	2410.7	566.7
GR	2410.3	577.3	2409.9	587.9	2409.4	598.4	2409.0	609.0	2408.8	618.3
GR	2408.7	627.7	2408.5	637.0	2408.3	646.3	2408.2	655.7	2408.0	665.0
GR	2408.0	725.0	2407.6	735.0	2407.3	745.0	2406.9	755.0	2406.5	765.0
GR	2406.1	775.0	2405.8	785.0	2405.4	795.0	2405.0	805.0	2404.9	814.8
GR	2404.8	824.5	2404.8	834.3	2404.7	844.0	2404.6	853.8	2404.5	863.5
GR	2404.4	873.3	2404.3	883.0	2404.3	892.8	2404.2	902.5	2404.1	912.3
GR	2404.0	922.0	2403.9	931.8	2403.8	941.5	2403.6	951.3	2403.5	961.0
GR	2403.4	970.8	2403.3	980.5	2403.1	990.3	2403.0	1000.0	2403.3	1010.0

	2403.5	1020.0	2403.8	1030.0	2404.0	1040.0	2404.3	1050.7	2404.7	1061.3
GR	2405.0	1072.0	2405.1	1081.8	2405.2	1091.7	2405.3	1101.5	2405.3	1111.3
GR	2405.4	1121.2	2405.5	1131.0	2405.6	1140.8	2405.7	1150.7	2405.8	1160.5
GR	2405.8	1170.3	2405.9	1180.2	2406.0	1190.0	2406.1	1200.0	2406.2	1210.0
GR	2406.3	1220.0	2406.3	1230.0	2406.4	1240.0	2406.5	1250.0	2406.6	1260.0
GR	2406.7	1270.0	2406.8	1280.0	2406.8	1290.0	2406.9	1300.0	2407.0	1310.0
GR	2407.3	1320.0	2407.5	1330.0	2407.8	1340.0	2408.0	1350.0	2408.7	1359.2
GR	2409.3	1368.3	2410.0	1377.5	2410.7	1386.7	2411.3	1395.8	2412.0	1405.0
GR	2414.0	1417.5								
ET			9.1						424.03	1126.00
X1	1.222	87	985.5	1000	580	645	640			
GR	2414.9	8.3	2414.3	22.4	2413.7	36.6	2413.1	50.7	2412.6	64.9
GR	2412.0	79.0	2411.5	94.5	2411.0	110.0	2411.0	124.2	2411.0	138.3
GR	2411.0	152.5	2411.0	166.7	2411.0	180.8	2411.0	195.0	2411.2	208.3
GR	2411.3	221.7	2411.5	235.0	2411.7	248.3	2411.8	261.7	2412.0	275.0
GR	2411.9	288.9	2411.7	302.7	2411.6	316.6	2411.4	330.4	2411.3	344.3
GR	2411.1	358.1	2411.0	372.0	2410.9	386.0	2410.8	400.0	2410.7	414.0
GR	2410.6	428.0	2410.5	442.0	2410.4	456.0	2410.3	470.0	2410.2	484.0
GR	2410.1	498.0	2410.0	512.0	2409.9	526.5	2409.8	540.9	2409.7	555.4
GR	2409.6	569.8	2409.6	584.3	2409.4	598.7	2409.4	613.2	2409.3	627.6
GR	2409.2	642.1	2409.1	656.5	2409.0	671.0	2408.9	685.9	2408.8	700.8
GR	2408.7	715.7	2408.6	730.6	2408.4	745.4	2408.3	760.3	2408.2	775.2
GR	2408.1	790.1	2408.0	805.0	2407.9	820.2	2407.8	835.4	2407.7	850.7
GR	2407.6	865.9	2407.4	881.1	2407.3	896.3	2407.2	911.6	2407.1	926.8
	2407.0	942.0	2407.0	956.5	2407.0	971.0	2407.0	985.5	2407.0	1000.0
	2407.5	1016.0	2408.0	1032.0	2408.5	1046.0	2409.0	1060.0	2409.3	1073.8
GR	2409.5	1087.5	2409.8	1101.3	2410.0	1115.0	2411.0	1132.5	2412.0	1150.0
GR	2413.0	1164.5	2414.0	1179.0	2415.0	1193.5	2416.0	1208.0	2417.3	1222.0
GR	2418.7	1236.0	2420.0	1250.0						
ET			9.1						822.72	1104.80
X1	1.390	85	991.4	1008.3	850	890	890			
GR	2424.0	355.0	2423.7	363.3	2423.3	371.5	2423.0	379.8	2422.7	388.0
GR	2422.3	396.3	2422.0	404.5	2421.7	412.8	2421.3	421.0	2421.0	429.3
GR	2420.7	437.5	2420.3	445.8	2420.0	454.0	2419.7	462.6	2419.3	471.1
GR	2419.0	479.7	2418.7	488.2	2418.3	496.8	2418.0	505.3	2417.7	513.9
GR	2417.3	522.4	2417.0	531.0	2417.0	662.0	2416.9	670.7	2416.9	679.4
GR	2416.8	688.1	2416.8	696.8	2416.7	705.5	2416.6	714.2	2416.6	722.9
GR	2416.5	731.7	2416.5	740.3	2416.4	749.1	2416.4	757.8	2416.3	766.5
GR	2416.2	775.2	2416.2	783.9	2416.1	792.6	2416.1	801.3	2416.0	810.0
GR	2415.6	818.5	2415.3	827.1	2414.9	835.6	2414.6	844.2	2414.2	852.7
GR	2413.8	861.3	2413.4	869.8	2413.1	878.4	2412.7	886.9	2412.4	895.5
GR	2412.0	904.0	2411.8	913.0	2411.5	922.0	2411.3	931.0	2411.0	940.0
GR	2410.9	948.6	2410.7	957.1	2410.6	965.7	2410.4	974.3	2410.3	982.9
GR	2410.1	991.4	2410.0	1000.0	2410.2	1008.3	2410.3	1016.7	2410.5	1025.0
GR	2410.7	1033.3	2410.8	1041.7	2411.0	1050.0	2411.3	1057.3	2411.7	1064.7
GR	2412.0	1072.0	2413.0	1081.5	2414.0	1091.0	2415.0	1100.5	2416.0	1110.0
GR	2417.0	1117.5	2418.0	1125.0	2419.0	1132.5	2420.0	1140.0	2420.7	1148.8
GR	2421.3	1157.7	2422.0	1166.5	2422.7	1175.3	2423.3	1184.2	2424.0	1193.0

ET			9.1						891.10	1298.26
X1	1.508	96	990	1011	565	650	620			
GR	2428.0	290.0	2427.7	301.7	2427.0	325.0	2426.7	336.7	2426.0	360.0
GR	2425.7	371.7	2425.0	395.0	2424.7	406.7	2424.0	430.0	2423.5	441.3
GR	2423.0	452.5	2422.5	463.8	2422.0	475.0	2421.5	486.3	2421.0	497.5
GR	2420.5	508.8	2420.0	520.0	2419.5	535.0	2419.0	550.0	2419.5	561.5
GR	2420.0	573.0	2420.1	585.7	2420.3	598.4	2420.4	611.1	2420.6	623.9
GR	2420.7	636.6	2420.9	649.3	2421.0	662.0	2421.1	673.8	2421.2	685.6
GR	2421.3	697.4	2421.4	709.2	2421.5	721.0	2421.6	732.8	2421.7	744.6
GR	2421.8	756.4	2421.9	768.2	2422.0	780.0	2421.7	791.4	2421.4	802.9
GR	2421.1	814.3	2420.9	825.7	2420.6	837.1	2420.3	848.6	2420.0	860.0
GR	2419.5	873.3	2419.0	886.5	2418.5	899.8	2418.0	913.0	2417.5	923.5
GR	2417.0	934.0	2416.5	944.5	2416.0	955.0	2415.0	967.5	2414.0	980.0
GR	2413.5	990.0	2413.0	1000.0	2414.0	1011.0	2414.3	1024.0	2414.5	1037.0
GR	2414.8	1050.0	2415.0	1063.0	2415.1	1075.4	2415.2	1087.9	2415.3	1100.4
GR	2415.4	1112.8	2415.4	1125.3	2415.6	1137.7	2415.6	1150.2	2415.7	1162.6
GR	2415.8	1175.1	2415.9	1187.6	2416.0	1200.0	2416.3	1211.7	2416.7	1223.3
GR	2417.0	1235.0	2417.3	1246.7	2417.7	1258.3	2418.0	1270.0	2418.3	1281.7
GR	2418.7	1293.3	2419.0	1305.0	2419.3	1316.7	2419.7	1328.3	2420.0	1340.0
GR	2420.6	1352.1	2421.1	1364.3	2421.7	1376.4	2422.3	1388.6	2422.9	1400.7
GR	2423.4	1412.9	2424.0	1425.0	2425.0	1437.5	2426.0	1450.0	2427.0	1462.5
GR	2428.0	1475.0								

ET			9.1						895.94	1450.87
X1	1.602	91	990	1019	505	500	500			
[illegible]	2431.0	430.0	2431.0	480.0	2430.4	496.0	2429.8	512.0	2429.2	528.0
GR	2428.6	544.0	2428.0	560.0	2427.7	576.0	2427.3	592.0	2427.0	608.0
GR	2426.8	624.5	2426.5	641.0	2426.3	657.5	2426.0	674.0	2425.8	690.5
GR	2425.5	707.0	2425.3	723.5	2425.0	740.0	2424.9	755.7	2424.7	771.4
GR	2424.6	787.1	2424.4	802.9	2424.3	818.6	2424.1	834.3	2424.0	850.0
GR	2423.0	865.0	2422.0	880.0	2421.0	895.0	2420.0	910.0	2419.5	922.5
GR	2419.0	935.0	2418.0	952.5	2417.0	970.0	2416.0	990.0	2415.0	1000.0
GR	2416.0	1019.0	2417.0	1039.0	2417.0	1080.0	2417.1	1096.4	2417.2	1112.9
GR	2417.3	1129.3	2417.4	1145.8	2417.6	1162.2	2417.7	1178.7	2417.8	1195.1
GR	2417.9	1211.6	2418.0	1228.0	2418.2	1245.1	2418.4	1262.2	2418.6	1279.3
GR	2418.8	1296.4	2419.0	1313.5	2419.2	1330.6	2419.4	1347.7	2419.6	1364.8
GR	2419.8	1381.9	2420.0	1399.0	2420.3	1415.6	2420.6	1432.2	2420.9	1448.8
GR	2421.2	1465.5	2421.5	1482.1	2421.9	1498.7	2422.1	1515.3	2422.5	1531.9
GR	2422.8	1548.5	2423.1	1565.2	2423.4	1581.8	2423.7	1598.4	2424.0	1615.0
GR	2424.5	1632.4	2425.0	1649.8	2425.5	1667.1	2426.0	1684.5	2426.5	1701.9
GR	2427.0	1719.3	2427.5	1736.6	2428.0	1754.0	2428.3	1770.6	2428.6	1787.2
GR	2428.9	1803.8	2429.2	1820.5	2429.5	1837.1	2429.9	1853.7	2430.1	1870.3
GR	2430.5	1886.9	2430.8	1903.5	2431.1	1920.2	2431.4	1936.8	2431.7	1953.4
GR	2432.0	1970.0								

ET			9.1						815.84	1224.30
X1	1.714	78	990	1010	540	525	590			
GR	2428.0	569.0	2427.8	579.1	2427.6	589.2	2427.4	599.3	2427.3	609.4
GR	2427.1	619.5	2426.9	629.5	2426.7	639.6	2426.6	649.7	2426.4	659.8
GR	2426.2	669.9	2426.0	680.0	2425.8	689.8	2425.7	699.7	2425.5	709.5
[illegible]	2425.3	719.3	2425.2	729.2	2425.0	739.0	2424.8	748.8	2424.7	758.7
[illegible]	2424.5	768.5	2424.3	778.3	2424.2	788.2	2424.0	798.0	2423.3	808.7
GR	2422.7	819.3	2422.0	830.0	2421.5	840.0	2421.0	850.0	2422.0	860.0

	422.3	870.0	2422.7	880.0	2423.0	890.0	2423.0	915.0	2421.5	927.5
	2420.0	940.0	2419.5	950.0	2419.0	960.0	2418.5	970.0	2418.0	980.0
GR	2418.0	990.0	2418.0	1000.0	2418.0	1010.0	2418.0	1045.0	2418.3	1053.8
GR	2418.5	1062.5	2418.8	1071.3	2419.0	1080.0	2419.0	1119.0	2419.3	1127.7
GR	2419.7	1136.3	2420.0	1145.0	2420.3	1154.2	2420.7	1163.3	2421.0	1172.5
GR	2421.3	1181.7	2421.7	1190.8	2422.0	1200.0	2422.3	1209.2	2422.7	1218.3
GR	2423.0	1227.5	2423.3	1236.7	2423.7	1245.8	2424.0	1255.0	2424.7	1264.2
GR	2425.3	1273.3	2426.0	1282.5	2426.7	1291.7	2427.3	1300.8	2428.0	1310.0
GR	2428.5	1320.6	2429.0	1331.3	2429.5	1341.9	2430.0	1352.5	2430.5	1363.1
GR	2431.0	1373.8	2431.5	1384.4	2432.0	1395.0				
ET			9.1						945.36	1518.35
X1	1.816	63	995	1010	520	505	540			
GR	2428.0	830.0	2427.7	847.0	2427.4	864.0	2427.1	881.0	2426.9	898.0
GR	2426.6	915.0	2426.3	932.0	2426.0	949.0	2425.5	963.5	2425.0	978.0
GR	2424.0	990.0	2423.0	995.0	2422.0	1000.0	2423.0	1010.0	2423.0	1075.0
GR	2423.1	1092.5	2423.3	1110.0	2423.4	1127.5	2423.5	1145.0	2423.6	1162.5
GR	2423.8	1180.0	2423.9	1197.5	2424.0	1215.0	2424.5	1231.5	2425.0	1248.0
GR	2424.5	1265.5	2424.0	1283.0	2423.8	1301.0	2423.5	1319.0	2423.3	1337.0
GR	2423.0	1355.0	2423.0	1425.0	2423.3	1441.7	2423.7	1458.3	2424.0	1475.0
GR	2424.8	1491.8	2425.6	1508.6	2426.4	1525.4	2427.2	1542.2	2428.0	1559.0
GR	2428.3	1574.2	2428.7	1589.3	2429.0	1604.5	2429.3	1619.7	2429.7	1634.8
GR	2430.0	1650.0	2430.3	1665.5	2430.5	1681.0	2430.8	1696.5	2431.0	1712.0
GR	2430.8	1727.4	2430.6	1742.8	2430.4	1758.2	2430.2	1773.6	2430.0	1789.0
GR	2430.4	1805.8	2430.8	1822.6	2431.2	1839.4	2431.6	1856.2	2432.0	1873.0
	2432.7	1888.7	2433.3	1904.3	2434.0	1920.0				

CNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
	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 .038
3720 CRITICAL DEPTH ASSUMED
CONFLUENCE OF WASH AH2: SOLS WASH TRIBUTARY
AND SOLS WASH BETWEEN CROSS-SECTIONS
CQ (SOLS WASH RIVER MILE 8.67)
CR (SOLS WASH RIVER MILE 8.76)
CROSS-SECTION DESIGNATION FROM
SOLS WASH FLOODPLAIN DLINEATION
HASSAYAMPA RIVER TO MARICOPA COUNTY LINE
CELLA BARR ASSOCIATES

SWSE DETERMINED BY SLOPE AREA METHOD

.038	7.77	2378.77	2378.77	2378.77	2379.73	.96	.00	.00	2372.00
31.0	2268.8	1800.4	1961.8	572.2	138.2	502.5	.0	.0	2372.00
.00	3.97	13.03	3.90	.050	.030	.050	.000	2371.00	671.84
.004946	0.	0.	0.	0	4	0	.00	578.49	1250.33

FLOW DISTRIBUTION FOR SECNO= .04 CWSEL= 2378.77

STA=	672.	820.	871.	904.	938.	973.	990.	1009.	1020.	1045.	1079.	1115.	1130.
PER Q=	4.1	4.6	4.5	4.3	9.3	10.9	29.9	4.9	3.4	3.1	6.9	4.2	
AREA=	117.4	90.4	75.0	73.0	118.3	98.1	138.2	52.5	56.8	60.3	99.8	52.8	
VEL=	2.1	3.1	3.6	3.5	4.7	6.7	13.0	5.7	3.6	3.1	4.2	4.8	
DEPTH=	.8	1.8	2.3	2.2	3.3	5.8	7.3	4.8	2.3	1.8	2.8	3.5	

STA=	1130.	1145.	1175.	1250.
PER Q=	3.3	4.1	2.5	
AREA=	45.3	68.2	66.8	
VEL=	4.4	3.6	2.3	
DEPTH=	3.0	2.3	.9	

*SECNO .153

CNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
	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

.153	7.12	2382.12	2381.76	.00	2382.76	.64	3.00	.03	2375.50
6031.0	2060.1	911.9	3058.9	605.4	72.2	602.0	17.2	8.6	2375.50
.03	3.40	12.64	5.08	.050	.030	.050	.000	2375.00	469.60
.005010	590.	610.	610.	2	9	0	.00	670.98	1234.85

FLOW DISTRIBUTION FOR SECNO= .15 CWSEL= 2382.12

STA=	470.	706.	733.	760.	782.	796.	825.	863.	986.	995.	1006.	1011.	1016.
PER Q=	4.2	3.4	5.2	5.1	3.1	4.5	3.3	3.2	2.2	15.1	4.2	3.3	
AREA=	99.5	58.8	74.7	68.7	42.5	70.3	64.6	95.6	30.7	72.2	35.1	28.7	
VEL=	2.6	3.5	4.2	4.5	4.3	3.8	3.0	2.0	4.2	12.6	7.2	6.9	
DEPTH=	.4	2.2	2.8	3.1	3.0	2.4	1.7	.8	3.2	6.9	6.4	6.0	

STA=	1016.	1021.	1030.	1040.	1050.	1060.	1070.	1083.	1095.	1120.	1161.	1235.
PER Q=	3.0	5.4	5.1	4.6	4.3	3.8	4.2	3.3	4.4	3.6	1.6	
AREA=	26.9	50.8	50.0	47.2	45.0	42.2	48.4	42.2	65.6	70.5	49.6	
VEL=	6.7	6.4	6.1	5.9	5.7	5.5	5.2	4.7	4.0	3.0	1.9	
DEPTH=	5.7	5.3	5.0	4.7	4.5	4.2	3.9	3.4	2.6	1.7	.7	

*SECNO .278

.278	9.25	2384.25	2383.53	.00	2385.00	.76	2.21	.04	2376.00
6031.0	1002.1	1933.4	3095.5	233.5	175.0	867.6	34.8	16.5	2376.00
.06	4.29	11.05	3.57	.050	.030	.050	.000	2375.00	902.81
.002778	715.	660.	525.	3	11	0	.00	451.58	1354.39

FLOW DISTRIBUTION FOR SECNO= .28 CWSEL= 2384.25

STA=	903.	969.	980.	990.	1010.	1021.	1033.	1044.	1056.	1081.	1107.	1133.	1160.
PER Q=	5.0	4.3	7.3	32.1	8.6	6.7	4.3	3.4	5.4	4.6	4.1	3.5	
AREA=	102.2	55.1	76.1	175.0	85.2	74.7	57.5	50.4	88.3	82.5	77.3	70.3	
VEL=	3.0	4.7	5.8	11.0	6.1	5.4	4.6	4.0	3.7	3.4	3.2	3.0	
DEPTH=	1.5	5.2	7.2	8.7	7.7	6.5	5.0	4.1	3.6	3.1	2.9	2.7	

STA=	1160.	1186.	1226.	1294.	1354.
PER Q=	3.0	3.7	3.2	.7	
AREA=	64.2	85.7	96.1	35.3	
VEL=	2.8	2.6	2.0	1.2	
DEPTH=	2.4	2.1	1.4	.6	

CNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
	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 .373
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

.373	3.99	2386.99	2386.99	.00	2387.96	.97	2.19	.07	2383.00
6031.0	1615.9	2274.8	2140.4	374.0	199.5	431.3	47.6	21.8	2383.00
.08	4.32	11.40	4.96	.050	.030	.050	.000	2383.00	749.99
.008371	420.	500.	515.	0	18	0	.00	495.97	1245.96

FLOW DISTRIBUTION FOR SECNO= .37 CWSEL= 2386.99

STA=	750.	842.	884.	915.	944.	962.	980.	1030.	1040.	1050.	1060.	1081.	1102.
PER Q=	3.7	3.8	3.8	4.6	4.4	6.5	37.7	4.2	3.8	3.4	5.8	5.0	
AREA=	79.6	63.6	56.7	61.1	50.2	62.8	199.5	38.4	35.9	33.4	62.1	57.0	
VEL=	2.8	3.6	4.1	4.5	5.3	6.3	11.4	6.7	6.4	6.1	5.7	5.3	
DEPTH=	.9	1.5	1.8	2.1	2.7	3.5	4.0	3.8	3.6	3.3	3.0	2.7	

STA=	1102.	1123.	1144.	1176.	1246.
PER Q=	4.0	3.2	3.5	2.6	
AREA=	50.4	43.8	53.9	56.4	
VEL=	4.8	4.4	3.9	2.7	
DEPTH=	2.4	2.1	1.7	.8	

*SECNO .468

.468	4.38	2390.38	2389.64	.00	2390.92	.55	2.92	.04	2386.00
6031.0	1432.2	1567.8	3031.1	358.8	170.9	692.9	59.4	26.9	2386.00
.10	3.99	9.17	4.37	.050	.030	.050	.000	2386.00	805.94
.004784	500.	500.	430.	2	11	0	.00	455.35	1261.30

FLOW DISTRIBUTION FOR SECNO= .47 CWSEL= 2390.38

STA=	806.	896.	923.	950.	966.	981.	1020.	1039.	1129.	1145.	1160.	1176.	1207.
PER Q=	3.7	4.0	5.9	4.5	5.6	26.0	6.2	23.4	3.8	3.5	3.3	5.6	
AREA=	91.1	65.8	81.6	56.3	64.0	170.9	73.8	304.3	50.9	48.5	46.2	83.9	
VEL=	2.5	3.7	4.3	4.9	5.3	9.2	5.1	4.6	4.5	4.4	4.3	4.0	
DEPTH=	1.0	2.4	3.1	3.6	4.1	4.4	3.9	3.4	3.3	3.1	3.0	2.7	

STA=	1207.	1235.	1261.
PER Q=	3.8	.7	
AREA=	64.6	20.6	
VEL=	3.6	2.0	
DEPTH=	2.3	.8	

CNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
	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 .563

.563	5.73	2392.73	2391.99	.00	2393.38	.65	2.42	.03	2387.20
6031.0	2621.6	1205.9	2203.5	533.7	111.1	483.4	73.0	31.9	2387.50
.12	4.91	10.85	4.56	.050	.030	.050	.000	2387.00	773.52
.004885	490.	500.	510.	3	8	0	.00	416.79	1190.31

FLOW DISTRIBUTION FOR SECNO= .56 CWSEL= 2392.73

STA=	774.	880.	900.	920.	930.	940.	950.	960.	970.	980.	990.	1010.	1020.
PER Q=	3.8	3.0	4.6	3.1	3.7	4.3	4.8	5.1	5.4	5.8	20.0	5.0	
AREA=	93.4	48.6	62.6	37.3	41.3	45.3	48.3	50.3	52.3	54.3	111.1	49.8	
VEL=	2.4	3.8	4.5	5.0	5.3	5.7	5.9	6.1	6.3	6.4	10.9	6.1	
DEPTH=	.9	2.4	3.1	3.7	4.1	4.5	4.8	5.0	5.2	5.4	5.6	5.0	

STA=	1020.	1030.	1040.	1051.	1062.	1085.	1107.	1128.	1167.	1190.
PER Q=	4.2	3.4	3.4	3.2	5.6	4.8	3.7	3.1	.2	
AREA=	44.8	39.8	40.8	39.5	73.7	67.0	55.9	62.9	9.2	
VEL=	5.6	5.2	5.0	4.8	4.6	4.3	4.0	2.9	1.3	
DEPTH=	4.5	4.0	3.7	3.5	3.3	3.0	2.7	1.6	.4	

*SECNO .634

.634	5.48	2394.48	2393.04	.00	2394.80	.32	1.39	.03	2389.20
6031.0	3375.2	860.4	1795.4	917.7	107.5	489.3	84.6	35.9	2389.20
.15	3.68	8.00	3.67	.050	.030	.050	.000	2389.00	687.65
.002773	400.	380.	365.	2	19	0	.00	500.69	1188.34

FLOW DISTRIBUTION FOR SECNO= .63 CWSEL= 2394.48

STA=	688.	779.	809.	830.	850.	870.	890.	910.	930.	950.	960.	970.	980.
PER Q=	4.0	4.1	3.4	4.0	4.3	4.8	5.2	5.6	6.1	3.3	3.5	3.8	
AREA=	113.9	81.3	61.9	68.0	71.5	75.5	79.5	83.5	87.5	45.8	47.8	49.8	
VEL=	2.1	3.0	3.3	3.5	3.7	3.8	3.9	4.1	4.2	4.3	4.4	4.6	
DEPTH=	1.2	2.7	3.0	3.3	3.6	3.8	4.0	4.2	4.4	4.6	4.8	5.0	

STA=	980.	990.	1010.	1020.	1030.	1040.	1050.	1061.	1083.	1105.	1145.	1188.
PER Q=	4.0	14.3	4.0	3.8	3.5	3.3	3.2	5.0	3.3	3.0	.6	
AREA=	51.8	107.5	51.8	49.8	47.8	45.8	47.0	80.9	63.3	75.8	27.4	
VEL=	4.7	8.0	4.7	4.6	4.4	4.3	4.1	3.7	3.2	2.4	1.4	
DEPTH=	5.2	5.4	5.2	5.0	4.8	4.6	4.3	3.7	2.9	1.9	.6	

CNO	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 .721

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

.721	5.36	2396.36	2396.36	.00	2397.33	.97	1.91	.19	2391.00
6031.0	594.1	1965.0	3472.0	137.7	160.8	758.5	98.5	40.8	2391.00
.17	4.31	12.22	4.58	.050	.030	.050	.000	2391.00	919.21
.006484	445.	460.	495.	0	6	0	.00	402.14	1321.35

FLOW DISTRIBUTION FOR SECNO= .72 CWSEL= 2396.36

STA=	919.	935.	988.	990.	1020.	1040.	1320.	1321.
PER Q=	.0	8.8	1.0	32.6	11.1	46.5	.0	
AREA=	2.8	125.1	9.7	160.8	97.2	661.0	.2	
VEL=	.8	4.2	6.4	12.2	6.9	4.2	.7	
DEPTH=	.2	2.4	4.9	5.4	4.9	2.4	.2	

.763

3470 ENCROACHMENT STATIONS= 755.0 1440.0 TYPE= 1 TARGET= 685.000
ET RECORD: STA 755. ELIMINATE INEFFECTIVE
FLOW AREA IN LEFT OVERBANK

.763	3.49	2398.49	2397.82	.00	2399.02	.53	1.65	.04	2395.00
6031.0	539.9	707.6	4783.5	125.4	71.6	928.1	104.5	43.1	2395.00
.18	4.31	9.89	5.15	.050	.030	.050	.000	2395.00	907.70
.007520	210.	220.	245.	3	11	0	.00	447.12	1354.82

FLOW DISTRIBUTION FOR SECNO= .76 CWSEL= 2398.49

STA=	908.	965.	983.	1003.	1020.	1036.	1053.	1070.	1086.	1103.	1120.	1137.	1153.
PER Q=	4.3	4.6	11.7	5.6	5.5	5.3	5.1	4.9	4.8	4.7	4.6	4.3	
AREA=	73.0	52.4	71.6	57.5	56.6	55.8	54.1	53.0	52.5	51.6	50.8	49.1	
VEL=	3.6	5.3	9.9	5.9	5.8	5.8	5.6	5.6	5.5	5.5	5.4	5.3	
DEPTH=	1.3	3.0	3.5	3.4	3.4	3.3	3.2	3.2	3.1	3.1	3.0	2.9	

STA=	1153.	1170.	1187.	1203.	1220.	1237.	1253.	1270.	1288.	1325.	1355.
PER Q=	4.2	4.1	3.8	3.7	3.6	3.5	3.4	3.2	4.3	.8	
AREA=	48.3	47.5	45.8	44.7	44.1	43.3	42.4	42.8	66.7	21.5	
VEL=	5.2	5.2	5.0	5.0	4.9	4.9	4.8	4.5	3.9	2.4	
DEPTH=	2.9	2.8	2.7	2.7	2.6	2.6	2.5	2.3	1.8	.7	

CNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
	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 .858

.858	3.45	2401.75	2400.98	.00	2402.13	.38	3.09	.01	2398.30
6031.0	638.0	605.9	4787.1	146.4	69.0	1107.7	117.4	48.4	2398.30
.20	4.36	8.79	4.32	.050	.030	.050	.000	2398.30	936.89
.006040	495.	500.	450.	2	19	0	.00	547.70	1484.58

FLOW DISTRIBUTION FOR SECNO= .86 CWSEL= 2401.75

STA=	937.	983.	1000.	1020.	1040.	1060.	1285.	1303.	1320.	1356.	1391.	1426.	1485.
PER Q=	6.0	4.6	10.0	5.5	4.5	46.5	3.5	3.2	5.6	4.7	3.8	2.1	
AREA=	92.1	54.2	69.0	65.0	58.0	618.3	47.5	45.1	82.7	74.9	65.1	51.2	
VEL=	3.9	5.1	8.8	5.1	4.7	4.5	4.5	4.3	4.1	3.8	3.5	2.5	
DEPTH=	2.0	3.2	3.4	3.2	2.9	2.7	2.7	2.5	2.3	2.1	1.8	.9	

*SECNO .934

.934	4.77	2403.77	2403.22	.00	2404.28	.51	2.12	.04	2399.30
6031.0	2041.0	1444.9	2545.1	472.6	153.9	712.6	129.6	53.8	2399.30
.23	4.32	9.39	3.57	.050	.030	.050	.000	2399.00	804.37
.004665	415.	400.	395.	3	11	0	.00	628.90	1433.27

FLOW DISTRIBUTION FOR SECNO= .93 CWSEL= 2403.77

STA=	804.	865.	895.	928.	945.	963.	982.	1015.	1030.	1045.	1060.	1075.	1109.
PER Q=	4.1	5.5	6.5	4.8	6.0	7.0	24.0	5.7	4.9	4.1	3.2	5.6	
AREA=	82.9	83.2	94.5	61.6	71.8	78.6	153.9	64.1	58.8	52.8	45.3	88.3	
VEL=	3.0	4.0	4.1	4.7	5.0	5.3	9.4	5.3	5.0	4.7	4.2	3.8	
DEPTH=	1.4	2.8	2.9	3.5	3.9	4.3	4.6	4.3	3.9	3.5	3.0	2.6	

STA=	1109.	1143.	1177.	1227.	1273.	1433.
PER Q=	4.5	3.5	4.3	3.6	2.8	
AREA=	77.3	66.2	87.7	77.0	94.9	
VEL=	3.5	3.2	3.0	2.8	1.7	
DEPTH=	2.3	1.9	1.8	1.6	.6	

*SECNO 1.034

1.034	4.20	2406.20	2405.31	.00	2406.55	.35	2.25	.02	2402.10
6031.0	2106.2	867.7	3057.1	517.2	104.0	824.5	145.4	60.7	2402.30
.26	4.07	8.34	3.71	.050	.030	.050	.000	2402.00	786.84
.004334	540.	530.	460.	2	19	0	.00	617.89	1404.74

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

FLOW DISTRIBUTION FOR SECNO= 1.03 CWSEL= 2406.20

STA=	787.	856.	879.	902.	925.	938.	950.	963.	975.	988.	1013.	1026.	1039.
PER Q=	4.1	3.4	4.3	5.3	3.1	3.3	3.6	3.8	4.1	14.4	3.9	3.5	
AREA=	89.8	57.2	65.2	75.2	42.4	44.0	45.8	47.7	49.9	104.0	49.3	46.1	
VEL=	2.7	3.6	4.0	4.2	4.4	4.5	4.7	4.8	4.9	8.3	4.8	4.5	
DEPTH=	1.3	2.5	2.9	3.2	3.4	3.5	3.7	3.8	4.0	4.1	3.8	3.5	

STA=	1039.	1052.	1129.	1152.	1175.	1198.	1233.	1280.	1405.
PER Q=	3.1	17.3	4.9	4.1	3.4	4.0	3.6	2.9	
AREA=	42.8	246.0	70.9	64.3	57.1	74.5	78.6	94.9	
VEL=	4.3	4.2	4.1	3.9	3.6	3.2	2.8	1.9	
DEPTH=	3.3	3.2	3.1	2.8	2.5	2.1	1.7	.8	

*SECNO 1.100

1.100	4.68	2407.68	2406.78	.00	2408.03	.36	1.48	.00	2403.10
6031.0	3127.2	781.7	2122.0	744.5	90.1	626.5	157.3	65.7	2403.30
.28	4.20	8.68	3.39	.050	.030	.050	.000	2403.00	733.13
.004041	350.	350.	360.	2	15	0	.00	602.69	1335.83

FLOW DISTRIBUTION FOR SECNO= 1.10 CWSEL= 2407.68

STA=	733.	805.	825.	844.	864.	883.	903.	922.	942.	951.	961.	971.	981.
PER Q=	4.2	3.3	3.6	4.0	4.4	4.7	5.1	5.6	3.1	3.2	3.4	3.5	
AREA=	94.2	54.1	56.5	60.0	63.9	66.3	69.7	73.6	39.0	40.0	41.4	42.0	
VEL=	2.7	3.7	3.8	4.0	4.2	4.3	4.4	4.6	4.7	4.9	4.9	5.0	
DEPTH=	1.3	2.8	2.9	3.1	3.3	3.4	3.6	3.8	4.0	4.1	4.2	4.3	

STA=	981.	990.	1010.	1020.	1030.	1051.	1072.	1102.	1131.	1170.	1220.	1310.	1336.
PER Q=	3.7	13.0	3.5	3.2	5.6	4.2	4.3	3.7	3.9	3.5	3.1	.1	
AREA=	43.9	90.1	42.7	40.2	75.5	63.9	74.5	68.1	78.1	80.7	94.2	8.5	
VEL=	5.1	8.7	5.0	4.8	4.5	3.9	3.5	3.3	3.0	2.6	2.0	1.0	
DEPTH=	4.5	4.6	4.3	4.0	3.6	3.0	2.5	2.3	2.0	1.6	1.0	.3	

*SECNO 1.222

1.222	3.64	2410.64	2409.98	.00	2411.00	.36	2.97	.00	2407.00
6031.0	4650.8	483.6	896.6	1083.4	52.7	224.9	176.8	74.8	2407.00
.32	4.29	9.17	3.99	.050	.030	.050	.000	2407.00	422.87
.006128	580.	640.	645.	3	14	0	.00	703.28	1126.14

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

FLOW DISTRIBUTION FOR SECNO= 1.22 CWSEL= 2410.64

STA=	423.	599.	657.	701.	731.	760.	790.	820.	835.	851.	866.	881.	896.
PER Q=	3.6	3.7	4.1	3.5	4.3	5.1	5.8	3.2	3.5	3.6	3.9	4.3	
AREA=	108.0	78.0	74.8	57.7	65.7	72.6	79.4	42.4	44.2	45.4	47.7	50.0	
VEL=	2.0	2.8	3.3	3.6	4.0	4.2	4.4	4.6	4.7	4.8	5.0	5.1	
DEPTH=	.6	1.3	1.7	1.9	2.2	2.4	2.6	2.8	2.9	3.0	3.1	3.3	

STA=	896.	912.	927.	942.	957.	971.	986.	1000.	1016.	1032.	1060.	1126.
PER Q=	4.5	4.7	4.9	4.8	4.8	4.8	8.0	4.7	3.6	3.9	2.7	
AREA=	51.8	53.0	54.5	52.7	52.7	52.7	52.7	54.2	46.2	59.8	64.7	
VEL=	5.2	5.3	5.5	5.5	5.5	5.5	9.2	5.2	4.7	3.9	2.5	
DEPTH=	3.4	3.5	3.6	3.6	3.6	3.6	3.6	3.4	2.9	2.1	1.0	

*SECNO 1.390

1.390	5.46	2415.46	2414.52	.00	2416.23	.77	5.11	.12	2410.10
6031.0	2961.5	1046.3	2023.1	533.6	91.1	347.8	199.9	84.5	2410.20
.35	5.55	11.49	5.82	.050	.030	.050	.000	2410.00	822.43
.005697	850.	890.	890.	3	11	0	.00	282.46	1104.90

FLOW DISTRIBUTION FOR SECNO= 1.39 CWSEL= 2415.46

STA=	822.	878.	896.	913.	922.	931.	940.	949.	957.	966.	974.	983.	991.
PER Q=	3.3	3.4	5.0	3.1	3.5	3.8	3.9	4.1	4.4	4.6	4.9	5.0	
AREA=	66.1	46.8	59.8	34.3	36.6	38.8	38.8	39.6	41.4	42.7	44.0	44.7	
VEL=	3.0	4.4	5.1	5.5	5.7	5.9	6.1	6.3	6.4	6.5	6.7	6.8	
DEPTH=	1.2	2.7	3.4	3.8	4.1	4.3	4.5	4.7	4.8	5.0	5.1	5.3	

STA=	991.	1008.	1017.	1025.	1033.	1042.	1050.	1057.	1072.	1091.	1105.
PER Q=	17.3	4.9	4.6	4.3	4.1	3.9	3.1	5.0	3.2	.3	
AREA=	91.1	43.8	42.0	40.4	39.6	37.9	31.5	55.7	46.8	10.2	
VEL=	11.5	6.7	6.6	6.4	6.3	6.2	5.9	5.5	4.2	2.0	
DEPTH=	5.4	5.2	5.1	4.9	4.7	4.6	4.3	3.8	2.5	.7	

*SECNO 1.508

1.508	5.84	2418.84	2418.12	.00	2419.45	.61	3.20	.02	2413.50
6031.0	1057.0	1212.4	3761.6	233.5	114.6	823.2	215.1	89.4	2414.00
.38	4.53	10.58	4.57	.050	.030	.050	.000	2413.00	890.75
.004759	565.	620.	650.	2	12	0	.00	408.01	1298.76

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

FLOW DISTRIBUTION FOR SECNO= 1.51 CWSEL= 2418.84

STA=	891.	955.	968.	980.	990.	1011.	1024.	1037.	1050.	1063.	1075.	1088.	1100.
PER Q=	4.3	3.2	4.9	5.1	20.1	5.8	5.3	4.8	4.3	3.9	3.7	3.6	
AREA=	86.6	41.8	54.3	50.9	114.6	61.0	57.7	54.5	51.2	47.0	46.1	44.9	
VEL=	3.0	4.6	5.4	6.1	10.6	5.7	5.5	5.3	5.1	5.0	4.9	4.8	
DEPTH=	1.3	3.3	4.3	5.1	5.5	4.7	4.4	4.2	3.9	3.8	3.7	3.6	

STA=	1100.	1113.	1125.	1138.	1150.	1175.	1200.	1223.	1270.	1299.
PER Q=	3.4	3.3	3.1	3.0	5.7	5.1	3.7	3.2	.3	
AREA=	43.3	43.0	41.4	40.5	78.2	73.2	58.6	70.2	12.4	
VEL=	4.7	4.7	4.6	4.5	4.4	4.2	3.8	2.8	1.4	
DEPTH=	3.5	3.4	3.3	3.2	3.1	2.9	2.5	1.5	.4	

*SECNO 1.602

1.602	5.95	2420.95	2420.00	.00	2421.34	.39	1.87	.02	2416.00
6031.0	826.7	1327.6	3876.7	235.0	158.0	1118.9	230.5	94.9	2416.00
.41	3.52	8.40	3.46	.050	.030	.050	.000	2415.00	895.79
.003013	505.	500.	500.	2	12	0	.00	555.66	1451.45

FLOW DISTRIBUTION FOR SECNO= 1.60 CWSEL= 2420.95

STA=	896.	953.	970.	990.	1019.	1039.	1080.	1096.	1113.	1129.	1146.	1162.	1179.
PER Q=	3.5	3.7	6.5	22.0	6.5	10.9	4.3	4.1	3.9	3.8	3.5	3.3	
AREA=	85.8	60.3	89.0	158.0	89.0	161.8	63.9	62.7	60.6	59.4	56.5	54.4	
VEL=	2.5	3.7	4.4	8.4	4.4	4.1	4.0	4.0	3.9	3.8	3.7	3.6	
DEPTH=	1.5	3.4	4.4	5.4	4.4	3.9	3.9	3.8	3.7	3.6	3.4	3.3	

STA=	1179.	1195.	1228.	1262.	1296.	1348.	1451.
PER Q=	3.1	5.7	5.0	3.8	3.9	2.5	
AREA=	52.4	100.3	94.0	80.3	94.8	88.8	
VEL=	3.5	3.4	3.2	2.9	2.5	1.7	
DEPTH=	3.2	3.0	2.7	2.3	1.8	.9	

*SECNO 1.714

3265 DIVIDED FLOW

1.714	4.91	2422.91	2421.97	.00	2423.53	.62	2.12	.07	2418.00
6031.0	1408.5	1022.0	3600.5	301.3	98.1	682.1	246.4	100.6	2418.00
.44	4.67	10.42	5.28	.050	.030	.050	.000	2418.00	815.66
.005304	540.	590.	525.	2	14	0	.00	380.04	1224.62

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

FLOW DISTRIBUTION FOR SECNO= 1.71 CWSEL= 2422.91

STA=	816.	940.	960.	970.	980.	990.	1010.	1045.	1054.	1063.	1071.	1080.	1119.
PER Q=	4.2	5.5	3.9	4.7	5.1	16.9	17.8	4.2	3.8	3.5	3.2	13.6	
AREA=	96.0	68.1	41.6	46.6	49.1	98.1	171.7	41.9	39.2	37.5	34.9	152.3	
VEL=	2.6	4.9	5.6	6.0	6.2	10.4	6.2	6.1	5.9	5.7	5.5	5.4	
DEPTH=	.8	3.4	4.2	4.7	4.9	4.9	4.9	4.8	4.5	4.3	4.0	3.9	

STA=	1119.	1136.	1154.	1182.	1225.
PER Q=	5.2	3.8	3.4	1.2	
AREA=	62.0	51.9	57.0	33.8	
VEL=	5.1	4.4	3.5	2.2	
DEPTH=	3.6	2.9	2.1	.8	

*SECNO 1.816

1.816	4.08	2426.08	2425.29	.00	2426.44	.37	2.89	.03	2423.00
6031.0	143.4	479.1	5408.5	48.6	53.6	1238.0	260.6	106.2	2423.00
.47	2.95	8.94	4.37	.050	.030	.050	.000	2422.00	944.81
.006036	520.	540.	505.	3	23	0	.00	573.75	1518.55

FLOW DISTRIBUTION FOR SECNO= 1.82 CWSEL= 2426.08

STA=	945.	995.	1010.	1075.	1093.	1110.	1128.	1145.	1163.	1198.	1232.	1283.	1319.
PER Q=	2.4	7.9	16.2	4.2	3.9	3.6	3.3	3.1	5.4	4.1	3.9	5.5	
AREA=	48.6	53.6	199.8	52.9	50.3	47.7	45.9	44.2	80.5	67.3	76.9	82.8	
VEL=	3.0	8.9	4.9	4.8	4.7	4.5	4.4	4.3	4.0	3.7	3.1	4.0	
DEPTH=	1.0	3.6	3.1	3.0	2.9	2.7	2.6	2.5	2.3	2.0	1.5	2.3	

STA=	1319.	1337.	1355.	1425.	1442.	1458.	1492.	1519.
PER Q=	3.5	4.1	17.4	3.8	3.1	3.9	.5	
AREA=	48.1	52.6	215.2	48.8	42.7	65.3	17.0	
VEL=	4.4	4.7	4.9	4.7	4.3	3.6	1.9	
DEPTH=	2.7	2.9	3.1	2.9	2.6	1.9	.6	

T1 FLOODWAY DETERMINATION
T2 1.0 FT TARGET INCREASE
T3 WASH AH2: SOLS WASH TRIBUTARY

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
		3							2378.77	

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	15		-1				-1			

CNO	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
0

CCHV= .100 CEHV= .300
*SECNO .038

3470 ENCROACHMENT STATIONS= 672.0 1250.2 TYPE= 1 TARGET= 578.200
CONFLUENCE OF WASH AH2: SOLS WASH TRIBUTARY
AND SOLS WASH BETWEEN CROSS-SECTIONS
CQ (SOLS WASH RIVER MILE 8.67)
CR (SOLS WASH RIVER MILE 8.76)
CROSS-SECTION DESIGNATION FROM
SOLS WASH FLOODPLAIN DLINEATION
HASSAYAMPA RIVER TO MARICOPA COUNTY LINE
CELLA BARR ASSOCIATES

SWSE DETERMINED BY SLOPE AREA METHOD

.038	7.77	2378.77	2378.76	2378.77	2379.73	.96	.00	.00	2372.00
6031.0	2268.1	1801.7	1961.2	571.4	138.1	501.9	.0	.0	2372.00
.00	3.97	13.04	3.91	.050	.030	.050	.000	2371.00	672.02
.004960	0.	0.	0.	0	4	0	.00	578.20	1250.22

*SECNO .153

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 470.3 1234.1 TYPE= 1 TARGET= 763.800

.153	7.12	2382.12	2381.77	2382.12	2382.76	.64	3.00	.03	2375.50
6031.0	2061.4	911.3	3058.3	606.4	72.2	602.5	17.2	8.6	2375.50
.03	3.40	12.62	5.08	.050	.030	.050	.000	2375.00	470.30
.004998	590.	610.	610.	2	9	0	.00	669.71	1234.10

*SECNO .278

3470 ENCROACHMENT STATIONS= 903.3 1354.2 TYPE= 1 TARGET= 450.840

.278	9.25	2384.25	2383.54	2384.25	2385.00	.76	2.21	.04	2376.00
6031.0	1002.1	1933.7	3095.3	233.4	175.0	867.4	34.8	16.5	2376.00
.06	4.29	11.05	3.57	.050	.030	.050	.000	2375.00	903.34
.002779	715.	660.	525.	3	11	0	.00	450.84	1354.18

CNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
	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 .373

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 750.3 1245.6 TYPE= 1 TARGET= 495.250

.373	3.99	2386.99	2386.99	2386.99	2387.97	.98	2.19	.07	2383.00
6031.0	1615.1	2275.8	2140.1	373.5	199.4	430.8	47.6	21.7	2383.00
.08	4.32	11.41	4.97	.050	.030	.050	.000	2383.00	750.34
.008394	420.	500.	515.	0	18	0	.00	495.25	1245.59

*SECNO .468

3470 ENCROACHMENT STATIONS= 806.3 1261.1 TYPE= 1 TARGET= 454.820

.468	4.38	2390.38	2389.64	2390.38	2390.93	.55	2.92	.04	2386.00
6031.0	1432.5	1567.3	3031.2	359.1	171.0	693.3	59.4	26.8	2386.00
.10	3.99	9.17	4.37	.050	.030	.050	.000	2386.00	806.31
.004774	500.	500.	430.	2	11	0	.00	454.82	1261.13

.563

3470 ENCROACHMENT STATIONS= 774.0 1190.0 TYPE= 1 TARGET= 415.990

.563	5.73	2392.73	2391.99	2392.73	2393.38	.65	2.42	.03	2387.20
6031.0	2621.6	1206.1	2203.4	533.5	111.1	483.2	73.0	31.8	2387.50
.12	4.91	10.86	4.56	.050	.030	.050	.000	2387.00	774.05
.004890	490.	500.	510.	3	8	0	.00	415.99	1190.04

*SECNO .634

3470 ENCROACHMENT STATIONS= 688.0 1188.0 TYPE= 1 TARGET= 499.930

.634	5.48	2394.48	2393.04	2394.48	2394.80	.32	1.39	.03	2389.20
6031.0	3375.2	860.4	1795.4	917.7	107.5	489.3	84.6	35.9	2389.20
.15	3.68	8.00	3.67	.050	.030	.050	.000	2389.00	688.04
.002773	400.	380.	365.	2	19	0	.00	499.93	1187.97

*SECNO .721

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY

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 CNO     DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    L-BANK ELEV
         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=      919.6    1321.3  TYPE=      1  TARGET=      401.710
     .721      5.36   2396.36   2396.36   2396.36   2397.33      .97      1.91      .19   2391.00
  6031.0     594.2    1964.5    3472.3     137.8     160.9    758.8     98.5     40.8   2391.00
     .17      4.31     12.21      4.58      .050      .030     .050     .000   2391.00    919.61
 .006477      445.      460.      495.         0         6        0      .00    401.71   1321.32


*SECNO  .763

3470 ENCROACHMENT STATIONS=      907.9    1354.6  TYPE=      1  TARGET=      446.710
            ET RECORD: STA 755. ELIMINATE INEFFECTIVE
                       FLOW AREA IN LEFT OVERBANK

     .763      3.49   2398.49   2397.82   2398.49   2399.02      .53      1.65      .04   2395.00
  6031.0     539.9     707.6    4783.5     125.3      71.6    927.9    104.5     43.1   2395.00
     .18      4.31      9.89      5.16      .050      .030     .050     .000   2395.00    907.91
 .007524      210.      220.      245.         3        11        0      .00    446.71   1354.62


*SECNO  .858

3470 ENCROACHMENT STATIONS=      937.0    1484.3  TYPE=      1  TARGET=      547.350
     .858      3.45   2401.75   2400.98   2401.75   2402.13      .38      3.09      .01   2398.30
  6031.0     638.0     605.9    4787.1     146.4      69.0   1107.7    117.4     48.3   2398.30
     .20      4.36      8.79      4.32      .050      .030     .050     .000   2398.30    936.95
 .006040      495.      500.      450.         2        19        0      .00    547.35   1484.30


*SECNO  .934

3470 ENCROACHMENT STATIONS=      804.6    1431.9  TYPE=      1  TARGET=      627.340
     .934      4.77   2403.77   2403.22   2403.77   2404.28      .51      2.12      .04   2399.30
  6031.0    2041.0    1444.8    2545.2     472.6     153.9    712.7    129.6     53.7   2399.30
     .23      4.32      9.39      3.57      .050      .030     .050     .000   2399.00    804.56
 .004664      415.      400.      395.         3        11        0      .00    627.34   1431.90


*SECNO 1.034

3470 ENCROACHMENT STATIONS=      787.1    1404.4  TYPE=      1  TARGET=      617.280
    1.034      4.20   2406.20   2405.31   2406.20   2406.55      .35      2.25      .02   2402.10
  6031.0    2106.2     867.8    3057.0     517.1     104.0    824.3    145.4     60.6   2402.30
     .26      4.07      8.35      3.71      .050      .030     .050     .000   2402.00    787.10
 .004337      540.      530.      460.         2        19        0      .00    617.28   1404.38
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CNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
	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 1.100

3470 ENCROACHMENT STATIONS= 733.3 1335.5 TYPE= 1 TARGET= 602.180

1.100	4.68	2407.68	2406.78	2407.68	2408.03	.36	1.48	.00	2403.10
6031.0	3127.2	781.7	2122.1	744.6	90.1	626.5	157.3	65.6	2403.30
.28	4.20	8.67	3.39	.050	.030	.050	.000	2403.00	733.35
.004040	350.	350.	360.	2	15	0	.00	602.18	1335.53

*SECNO 1.222

3470 ENCROACHMENT STATIONS= 424.0 1126.0 TYPE= 1 TARGET= 701.970

1.222	3.64	2410.64	2409.98	2410.64	2411.00	.36	2.97	.00	2407.00
6031.0	4650.8	483.6	896.6	1083.4	52.7	224.9	176.8	74.7	2407.00
.32	4.29	9.17	3.99	.050	.030	.050	.000	2407.00	424.03
.006128	580.	640.	645.	3	14	0	.00	701.97	1126.00

*SECNO 1.390

NCROACHMENT STATIONS= 822.7 1104.8 TYPE= 1 TARGET= 282.080

1.390	5.46	2415.46	2414.52	2415.46	2416.23	.77	5.11	.12	2410.10
6031.0	2961.5	1046.4	2023.1	533.6	91.1	347.8	199.9	84.4	2410.20
.35	5.55	11.49	5.82	.050	.030	.050	.000	2410.00	822.72
.005698	850.	890.	890.	3	11	0	.00	282.08	1104.80

*SECNO 1.508

3470 ENCROACHMENT STATIONS= 891.1 1298.3 TYPE= 1 TARGET= 407.160

1.508	5.84	2418.84	2418.12	2418.84	2419.45	.61	3.20	.02	2413.50
6031.0	1057.0	1212.3	3761.6	233.5	114.6	823.2	215.1	89.3	2414.00
.38	4.53	10.57	4.57	.050	.030	.050	.000	2413.00	891.10
.004758	565.	620.	650.	2	12	0	.00	407.16	1298.26

*SECNO 1.602

3470 ENCROACHMENT STATIONS= 895.9 1450.9 TYPE= 1 TARGET= 554.930

1.602	5.95	2420.95	2420.00	2420.95	2421.34	.39	1.87	.02	2416.00
6031.0	826.7	1327.6	3876.6	235.0	158.0	1118.8	230.5	94.8	2416.00
.41	3.52	8.40	3.47	.050	.030	.050	.000	2415.00	895.94
.003014	505.	500.	500.	2	12	0	.00	554.93	1450.87

CNO	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 1.714

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 815.8 1224.3 TYPE= 1 TARGET= 408.460

1.714	4.91	2422.91	2421.97	2422.91	2423.53	.62	2.12	.07	2418.00
6031.0	1408.5	1022.0	3600.5	301.4	98.1	682.1	246.4	100.5	2418.00
.44	4.67	10.41	5.28	.050	.030	.050	.000	2418.00	815.84
.005302	540.	590.	525.	2	14	0	.00	379.55	1224.30

*SECNO 1.816

3470 ENCROACHMENT STATIONS= 945.4 1518.3 TYPE= 1 TARGET= 572.990

1.816	4.08	2426.08	2425.29	2426.08	2426.44	.37	2.89	.03	2423.00
6031.0	143.4	479.1	5408.5	48.6	53.6	1238.0	260.6	106.1	2423.00
.47	2.95	8.94	4.37	.050	.030	.050	.000	2422.00	945.36
.006036	520.	540.	505.	3	23	0	.00	572.99	1518.35

THIS RUN EXECUTED 14DEC93 08:02:19

****
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

WASH AH2: SOLS WASH TIRB

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	.038	.00	.00	.00	2371.00	6031.00	2378.77	2378.77	2379.73	49.46	13.03	1212.86	857.52
	.038	.00	.00	.00	2371.00	6031.00	2378.77	2378.76	2379.73	49.60	13.04	1211.44	856.39
	.153	610.00	.00	.00	2375.00	6031.00	2382.12	2381.76	2382.76	50.10	12.64	1279.63	852.04
	.153	610.00	.00	.00	2375.00	6031.00	2382.12	2381.77	2382.76	49.98	12.62	1281.09	853.10
	.278	660.00	.00	.00	2375.00	6031.00	2384.25	2383.53	2385.00	27.78	11.05	1276.08	1144.36
	.278	660.00	.00	.00	2375.00	6031.00	2384.25	2383.54	2385.00	27.79	11.05	1275.75	1144.03
*	.373	500.00	.00	.00	2383.00	6031.00	2386.99	2386.99	2387.96	83.71	11.40	1004.85	659.18
*	.373	500.00	.00	.00	2383.00	6031.00	2386.99	2386.99	2387.97	83.94	11.41	1003.76	658.26
	.468	500.00	.00	.00	2386.00	6031.00	2390.38	2389.64	2390.92	47.84	9.17	1222.54	871.93
	.468	500.00	.00	.00	2386.00	6031.00	2390.38	2389.64	2390.93	47.74	9.17	1223.42	872.83
	.563	500.00	.00	.00	2387.00	6031.00	2392.73	2391.99	2393.38	48.85	10.85	1128.17	862.86
	.563	500.00	.00	.00	2387.00	6031.00	2392.73	2391.99	2393.38	48.90	10.86	1127.76	862.47
	.634	380.00	.00	.00	2389.00	6031.00	2394.48	2393.04	2394.80	27.73	8.00	1514.51	1145.39
	.634	380.00	.00	.00	2389.00	6031.00	2394.48	2393.04	2394.80	27.73	8.00	1514.51	1145.39
*	.721	460.00	.00	.00	2391.00	6031.00	2396.36	2396.36	2397.33	64.84	12.22	1057.02	748.98
*	.721	460.00	.00	.00	2391.00	6031.00	2396.36	2396.36	2397.33	64.77	12.21	1057.41	749.37
	.763	220.00	.00	.00	2395.00	6031.00	2398.49	2397.82	2399.02	75.20	9.89	1125.04	695.49
	.763	220.00	.00	.00	2395.00	6031.00	2398.49	2397.82	2399.02	75.24	9.89	1124.82	695.30
	.858	500.00	.00	.00	2398.30	6031.00	2401.75	2400.98	2402.13	60.40	8.79	1323.00	776.02
	.858	500.00	.00	.00	2398.30	6031.00	2401.75	2400.98	2402.13	60.40	8.79	1323.00	776.03
	.934	400.00	.00	.00	2399.00	6031.00	2403.77	2403.22	2404.28	46.65	9.39	1339.07	882.98
	.934	400.00	.00	.00	2399.00	6031.00	2403.77	2403.22	2404.28	46.64	9.39	1339.22	883.11

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
1.034	530.00	.00	.00	2402.00	6031.00	2406.20	2405.31	2406.55	43.34	8.34	1445.69	916.08
1.034	530.00	.00	.00	2402.00	6031.00	2406.20	2405.31	2406.55	43.37	8.35	1445.38	915.82
1.100	350.00	.00	.00	2403.00	6031.00	2407.68	2406.78	2408.03	40.41	8.68	1461.10	948.70
1.100	350.00	.00	.00	2403.00	6031.00	2407.68	2406.78	2408.03	40.40	8.67	1461.25	948.84
1.222	640.00	.00	.00	2407.00	6031.00	2410.64	2409.98	2411.00	61.28	9.17	1361.02	770.41
1.222	640.00	.00	.00	2407.00	6031.00	2410.64	2409.98	2411.00	61.28	9.17	1361.01	770.42
1.390	890.00	.00	.00	2410.00	6031.00	2415.46	2414.52	2416.23	56.97	11.49	972.47	799.04
1.390	890.00	.00	.00	2410.00	6031.00	2415.46	2414.52	2416.23	56.98	11.49	972.40	798.96
1.508	620.00	.00	.00	2413.00	6031.00	2418.84	2418.12	2419.45	47.59	10.58	1171.34	874.24
1.508	620.00	.00	.00	2413.00	6031.00	2418.84	2418.12	2419.45	47.58	10.57	1171.43	874.34
1.602	500.00	.00	.00	2415.00	6031.00	2420.95	2420.00	2421.34	30.13	8.40	1511.90	1098.70
1.602	500.00	.00	.00	2415.00	6031.00	2420.95	2420.00	2421.34	30.14	8.40	1511.76	1098.58
1.714	590.00	.00	.00	2418.00	6031.00	2422.91	2421.97	2423.53	53.04	10.42	1081.53	828.14
1.714	590.00	.00	.00	2418.00	6031.00	2422.91	2421.97	2423.53	53.02	10.41	1081.62	828.23
1.816	540.00	.00	.00	2422.00	6031.00	2426.08	2425.29	2426.44	60.36	8.94	1340.17	776.28
1.816	540.00	.00	.00	2422.00	6031.00	2426.08	2425.29	2426.44	60.36	8.94	1340.17	776.29

H2: SOLS WASH TIRB

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	.038	6031.00	2378.77	.00	.00	.00	578.49	.00
	.038	6031.00	2378.77	.00	.00	.00	578.20	.00
	.153	6031.00	2382.12	.00	3.35	.00	670.98	610.00
	.153	6031.00	2382.12	.00	3.35	.00	669.71	610.00
	.278	6031.00	2384.25	.00	2.13	.00	451.58	660.00
	.278	6031.00	2384.25	.00	2.12	.00	450.84	660.00
*	.373	6031.00	2386.99	.00	2.74	.00	495.97	500.00
*	.373	6031.00	2386.99	.00	2.74	.00	495.25	500.00
	.468	6031.00	2390.38	.00	3.39	.00	455.35	500.00
	.468	6031.00	2390.38	.00	3.39	.00	454.82	500.00
	.563	6031.00	2392.73	.00	2.35	.00	416.79	500.00
	.563	6031.00	2392.73	.00	2.35	.00	415.99	500.00
	.634	6031.00	2394.48	.00	1.75	.00	500.69	380.00
	.634	6031.00	2394.48	.00	1.75	.00	499.93	380.00
*	.721	6031.00	2396.36	.00	1.89	.00	402.14	460.00
*	.721	6031.00	2396.36	.00	1.89	.00	401.71	460.00
	.763	6031.00	2398.49	.00	2.13	.00	447.12	220.00
	.763	6031.00	2398.49	.00	2.13	.00	446.71	220.00
	.858	6031.00	2401.75	.00	3.25	.00	547.70	500.00
	.858	6031.00	2401.75	.00	3.25	.00	547.35	500.00
	.934	6031.00	2403.77	.00	2.03	.00	628.90	400.00
	.934	6031.00	2403.77	.00	2.03	.00	627.34	400.00
	1.034	6031.00	2406.20	.00	2.42	.00	617.89	530.00
	1.034	6031.00	2406.20	.00	2.42	.00	617.28	530.00
	1.100	6031.00	2407.68	.00	1.48	.00	602.69	350.00
	1.100	6031.00	2407.68	.00	1.48	.00	602.18	350.00
	1.222	6031.00	2410.64	.00	2.96	.00	703.28	640.00
	1.222	6031.00	2410.64	.00	2.96	.00	701.97	640.00
	1.390	6031.00	2415.46	.00	4.82	.00	282.46	890.00
	1.390	6031.00	2415.46	.00	4.82	.00	282.08	890.00
	1.508	6031.00	2418.84	.00	3.38	.00	408.01	620.00
	1.508	6031.00	2418.84	.00	3.38	.00	407.16	620.00

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
1.602	6031.00	2420.95	.00	2.11	.00	555.66	500.00
1.602	6031.00	2420.95	.00	2.11	.00	554.93	500.00
1.714	6031.00	2422.91	.00	1.95	.00	380.04	590.00
1.714	6031.00	2422.91	.00	1.95	.00	379.55	590.00
1.816	6031.00	2426.08	.00	3.17	.00	573.75	540.00
1.816	6031.00	2426.08	.00	3.17	.00	572.99	540.00

SUMMARY OF ERRORS AND SPECIAL NOTES

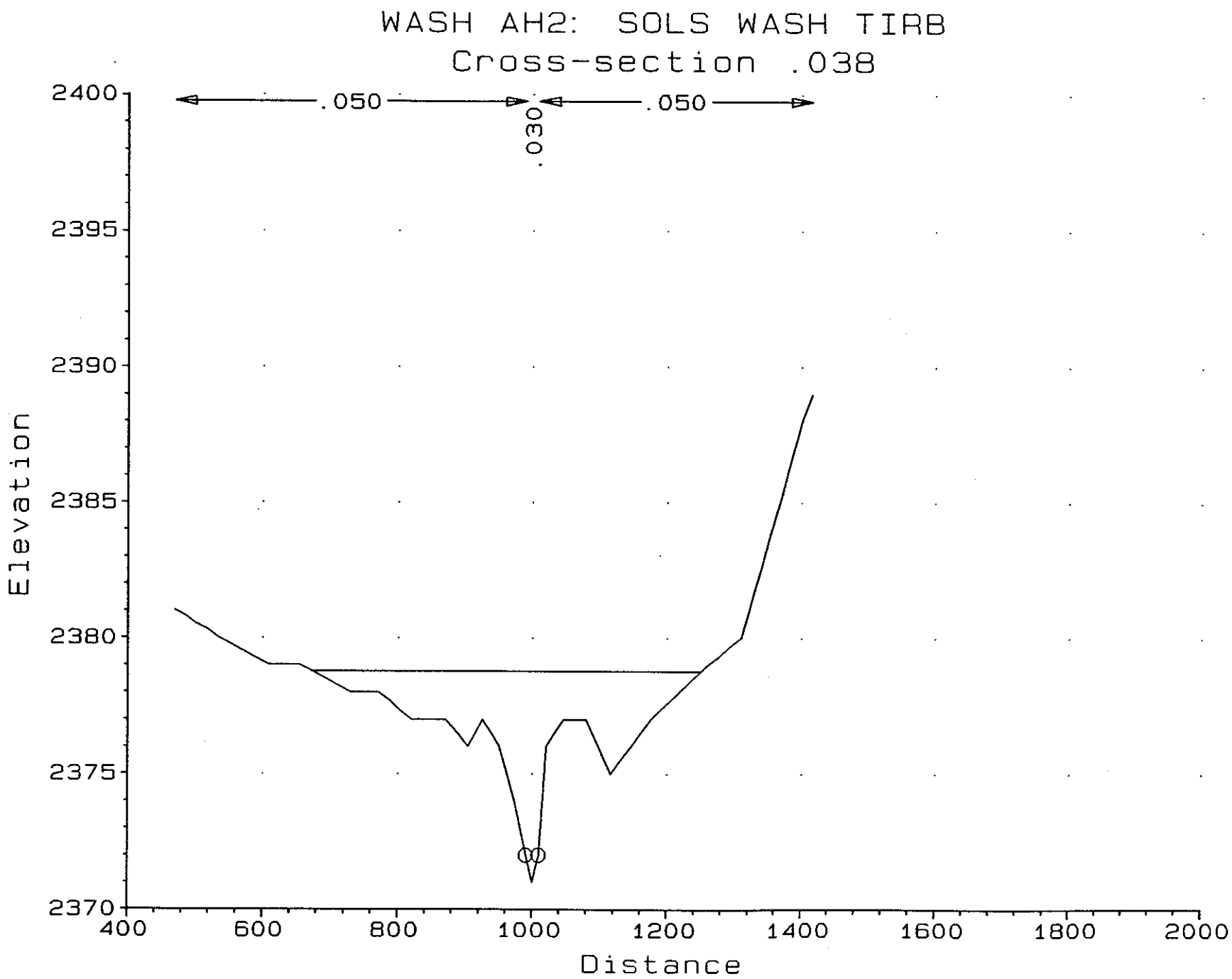
```
CAUTION SECNO=      .038  PROFILE=  1  CRITICAL DEPTH ASSUMED

CAUTION SECNO=      .373  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      .373  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=      .373  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      .373  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=      .721  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      .721  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=      .721  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      .721  PROFILE=  2  MINIMUM SPECIFIC ENERGY
```

FLOODWAY DATA, WASH AH2: SOLS WASH TIRB
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.038	578.	1211.	5.0	2378.8	2378.8	.0
.153	764.	1281.	4.7	2382.1	2382.1	.0
.278	451.	1276.	4.7	2384.2	2384.2	.0
.373	495.	1004.	6.0	2387.0	2387.0	.0
.468	455.	1223.	4.9	2390.4	2390.4	.0
.563	416.	1128.	5.3	2392.7	2392.7	.0
.634	500.	1515.	4.0	2394.5	2394.5	.0
.721	402.	1057.	5.7	2396.4	2396.4	.0
.763	447.	1125.	5.4	2398.5	2398.5	.0
.858	547.	1323.	4.6	2401.7	2401.7	.0
.934	627.	1339.	4.5	2403.8	2403.8	.0
1.034	617.	1445.	4.2	2406.2	2406.2	.0
1.100	602.	1461.	4.1	2407.7	2407.7	.0
1.222	702.	1361.	4.4	2410.6	2410.6	.0
1.390	282.	972.	6.2	2415.5	2415.5	.0
1.508	407.	1171.	5.1	2418.8	2418.8	.0
.602	555.	1512.	4.0	2421.0	2421.0	.0
1.714	408.	1082.	5.6	2422.9	2422.9	.0
1.816	573.	1340.	4.5	2426.1	2426.1	.0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Cross-section .038
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Elevation
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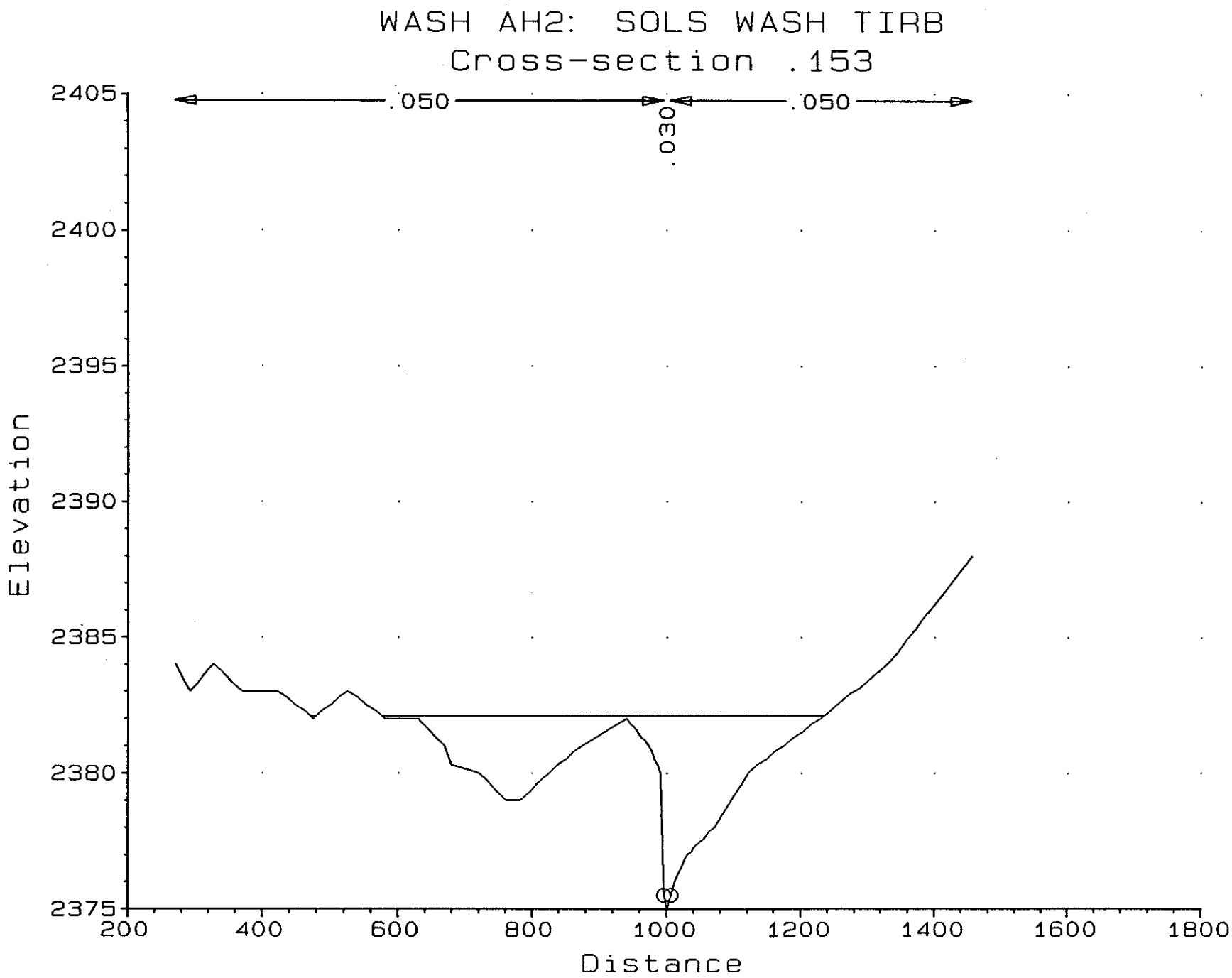
Distance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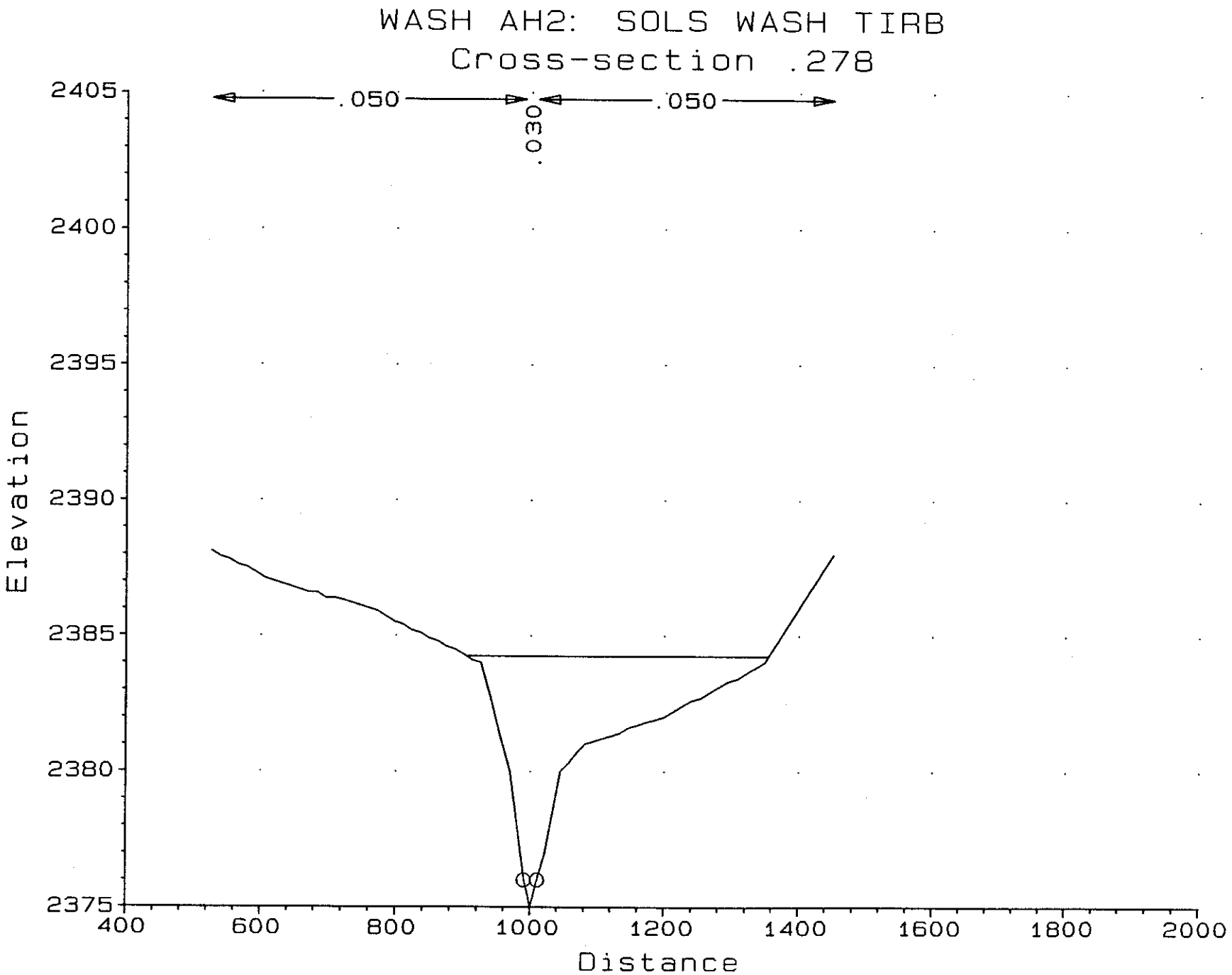
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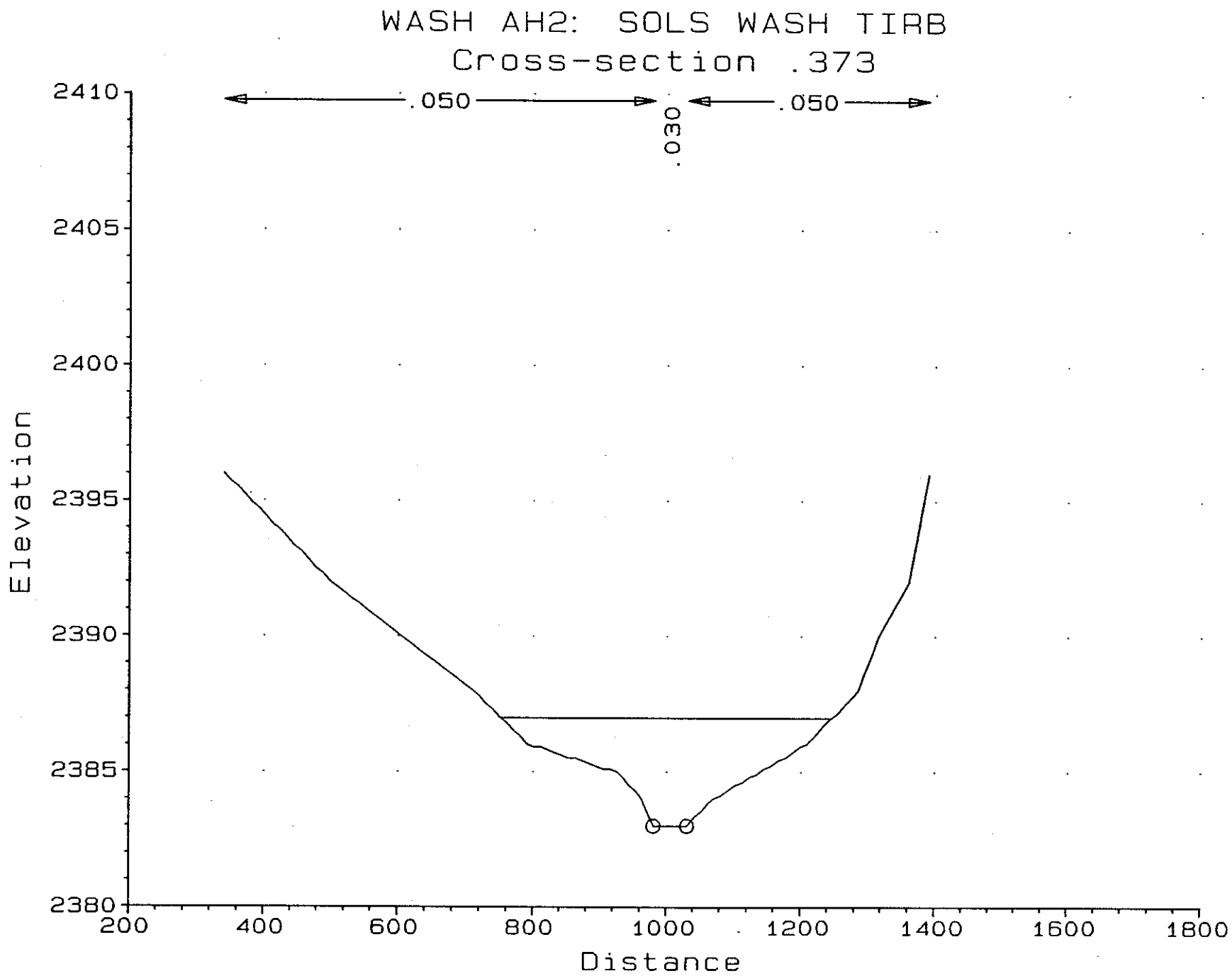
Distance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.050
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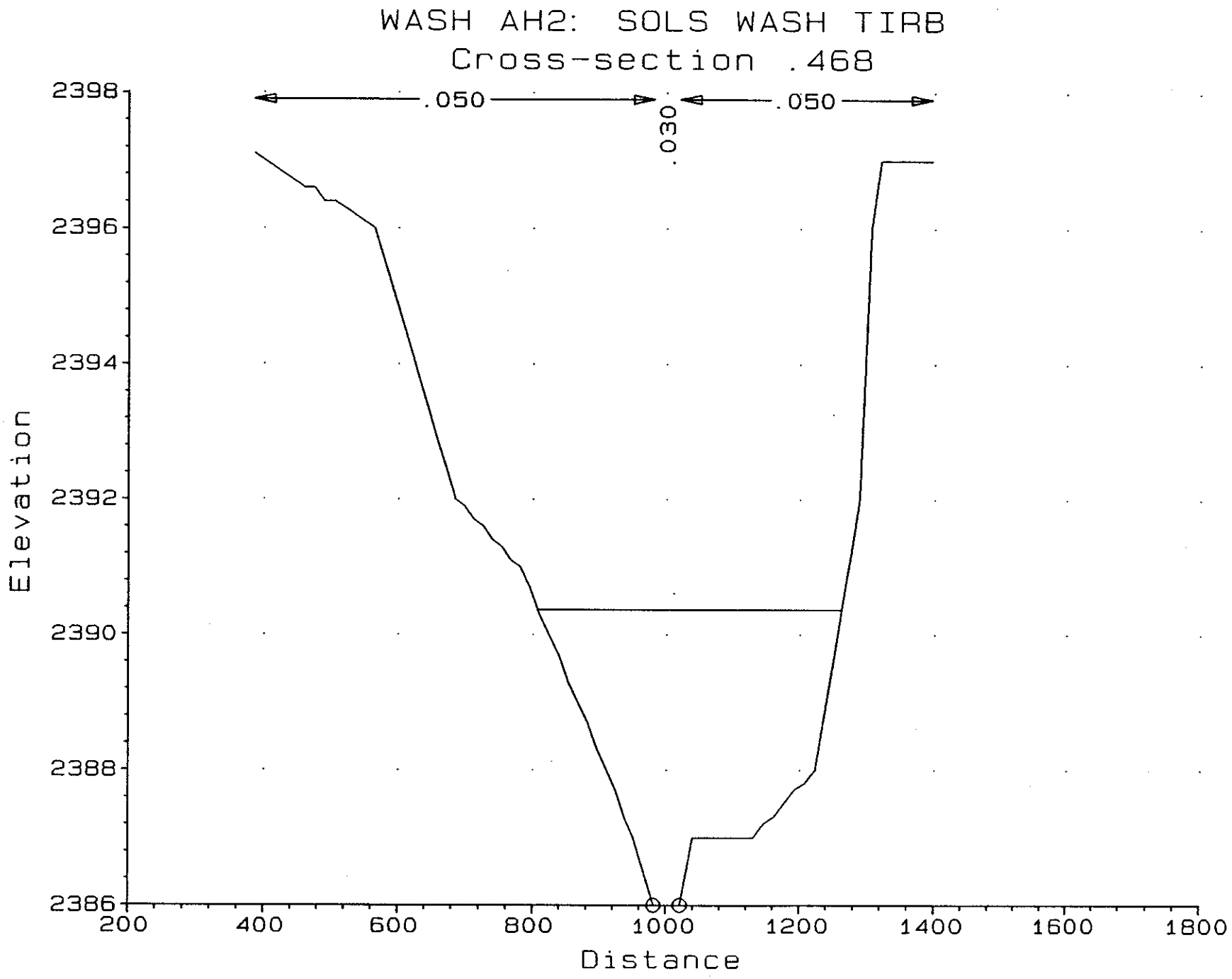
1800
Distance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.050
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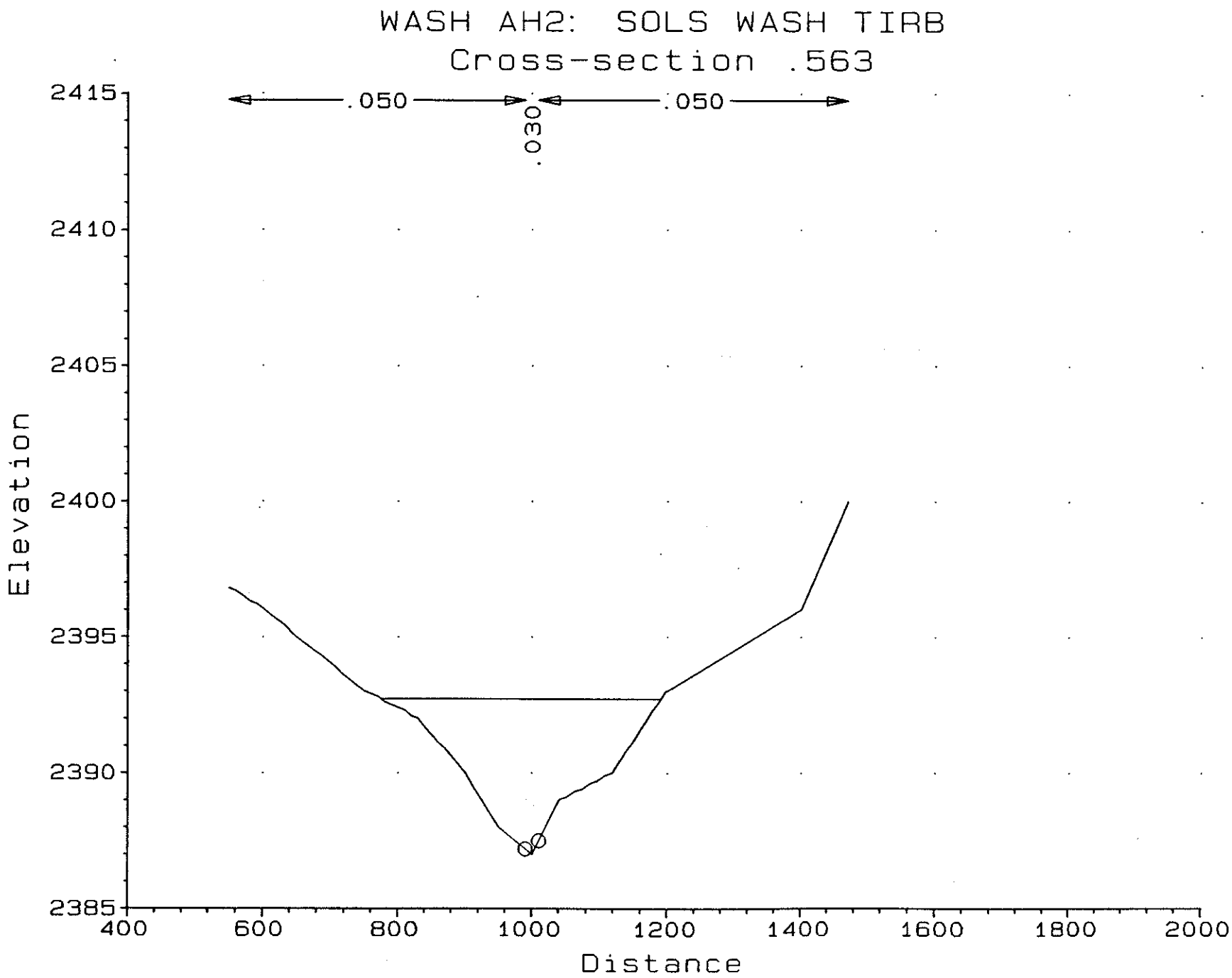
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.050
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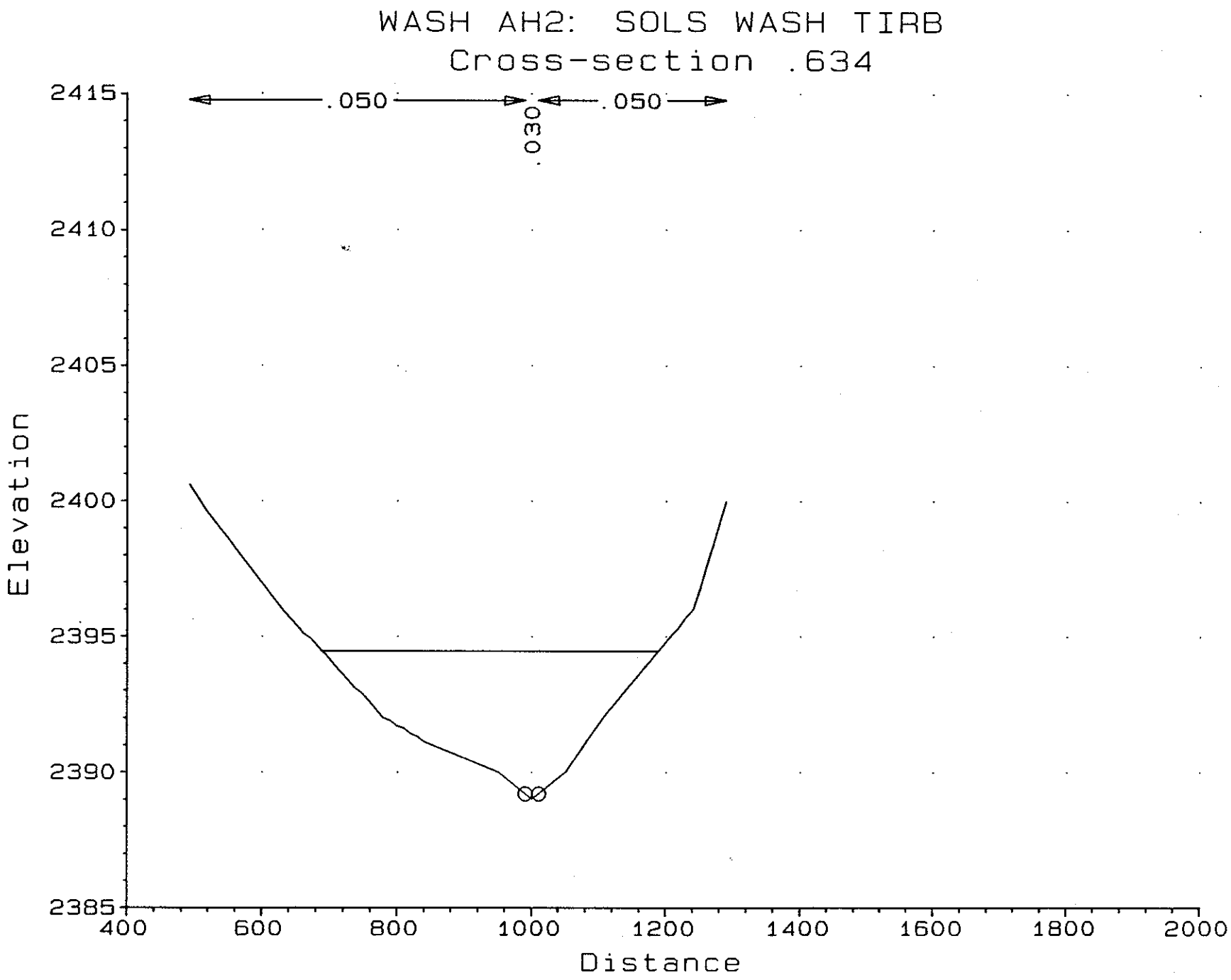
2000
Distance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2390
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Elevation
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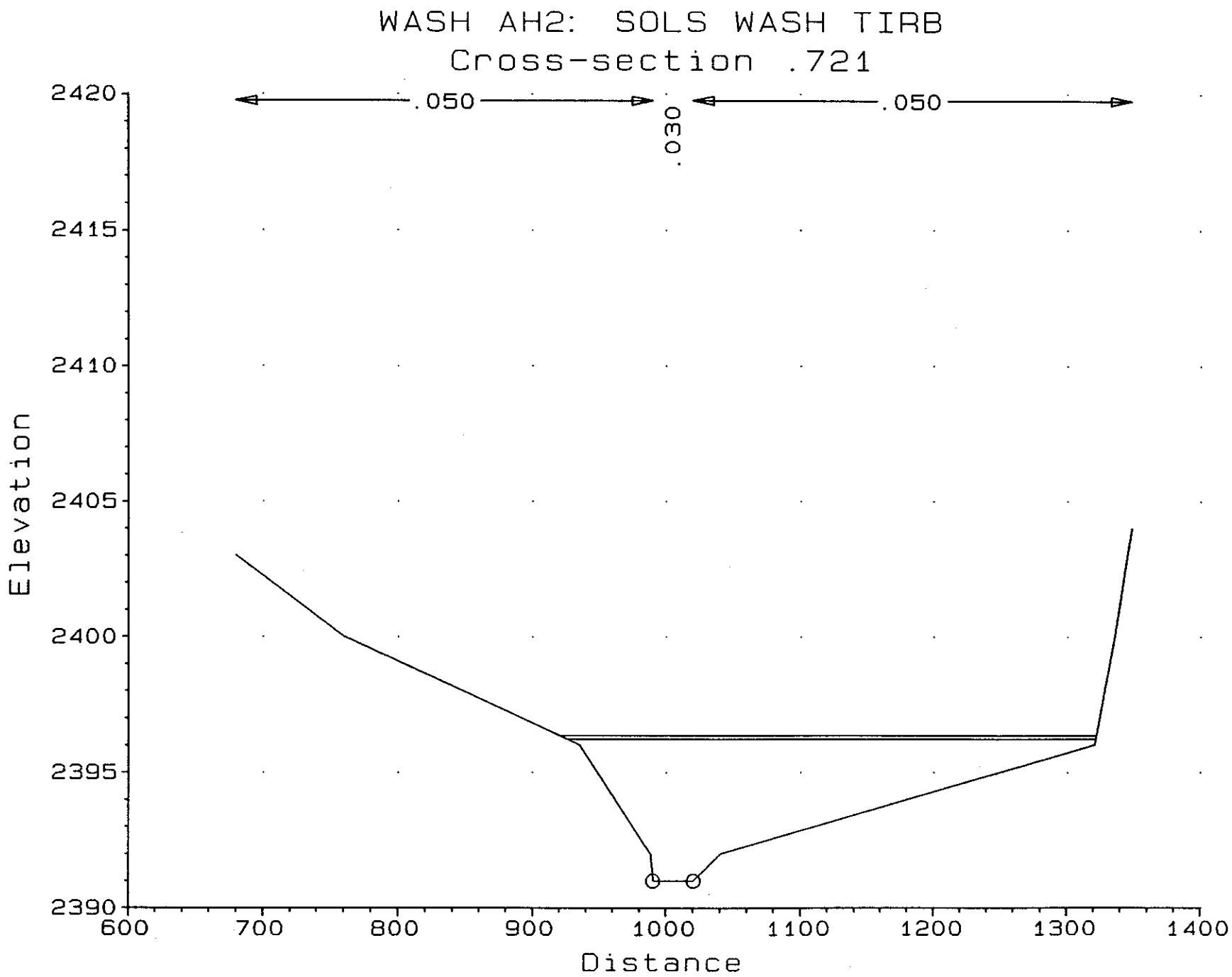
1800
2000
Distance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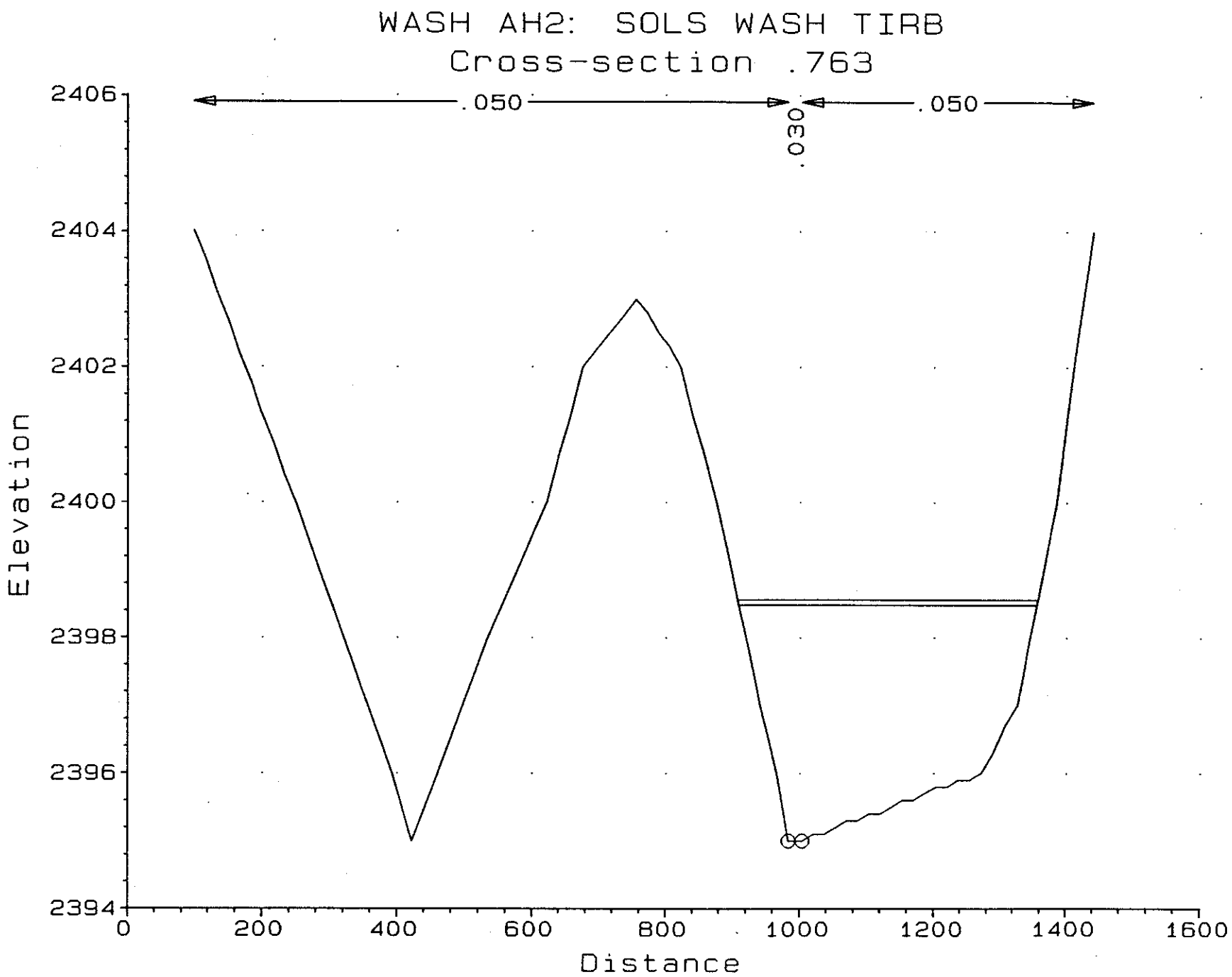
Distance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2400
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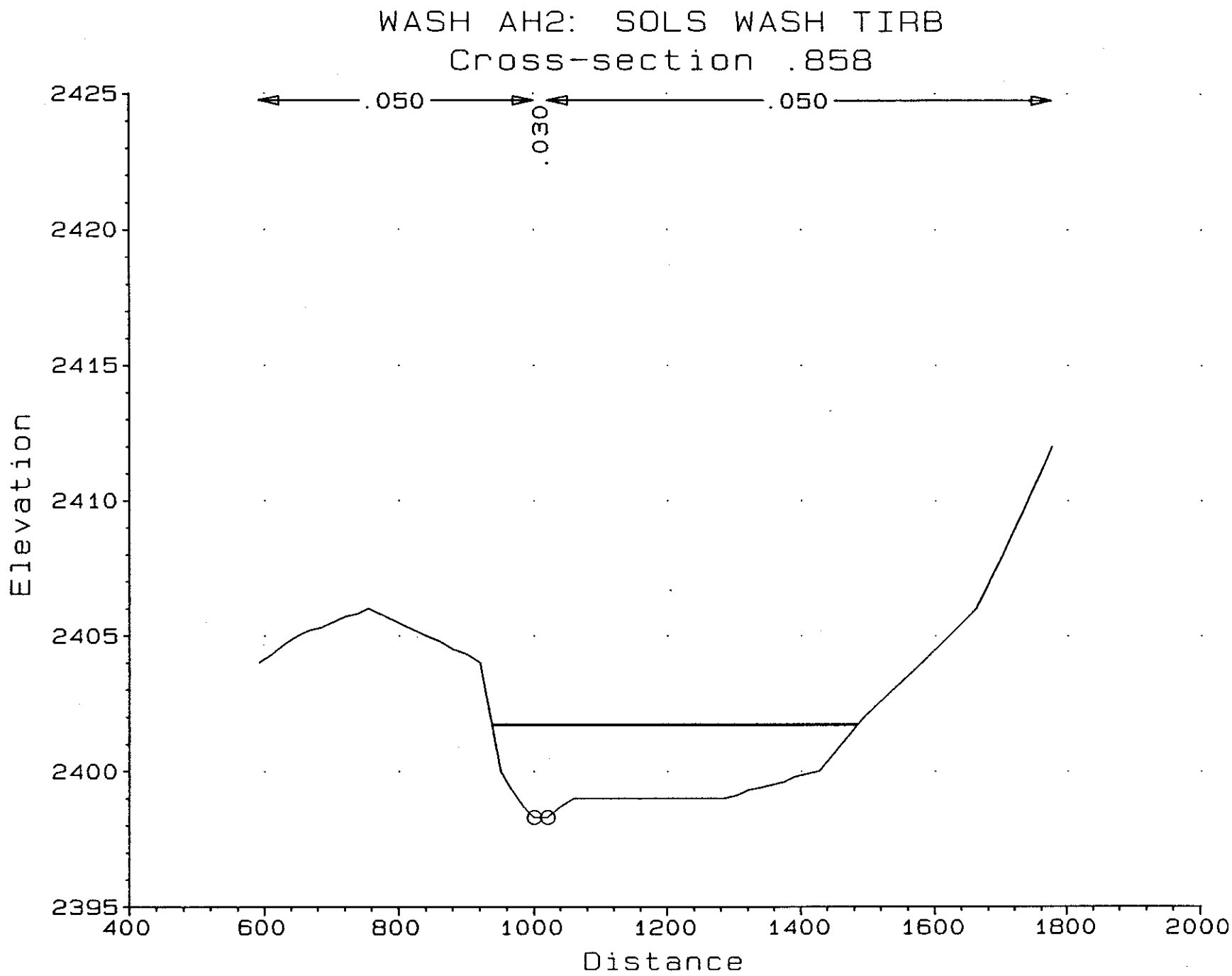
2396
2394
Elevation
0
200
400
600
800
1000
1200
1400
1600
Distance


WASH AH2: SOLS WASH TIRB
Cross-section .858
.050
.030
.050
2425
2420
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2410
2405
2400
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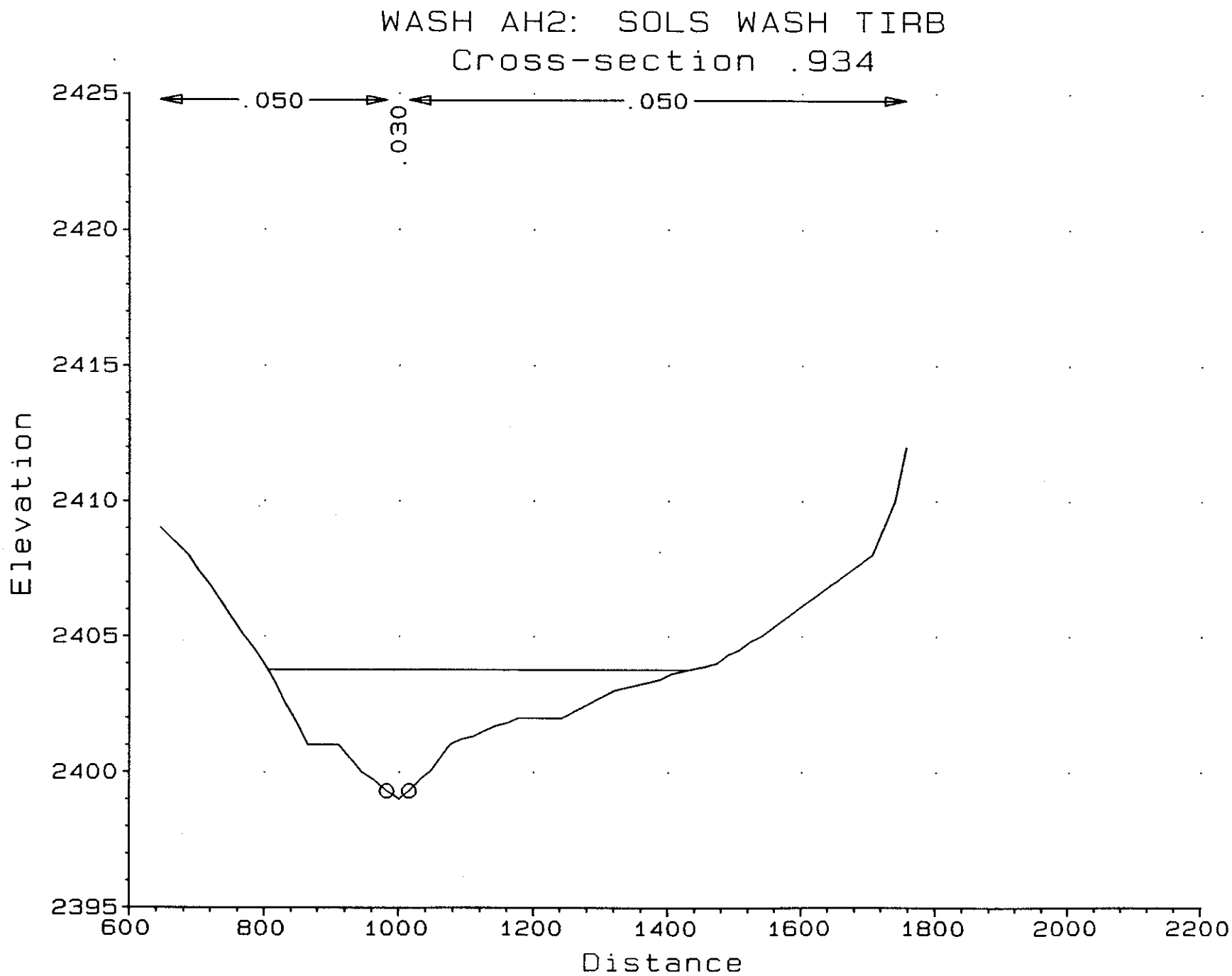
Distance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Cross-section .934
.050
.030
.050
Elevation
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2405
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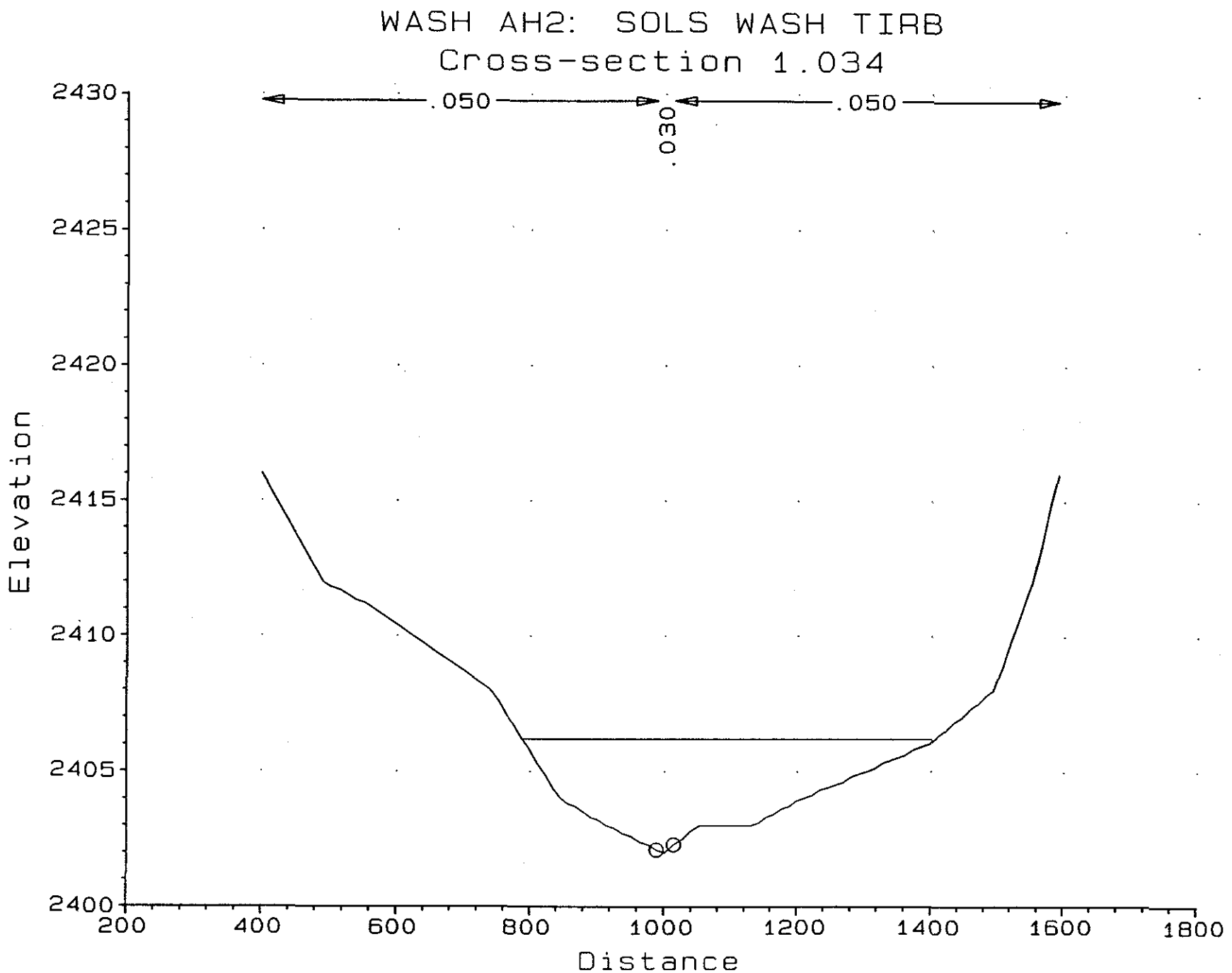
Distance


WASH AH2: SOLS WASH TIRB
Cross-section 1.034
.050
.050
.030
2430
2425
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Elevation
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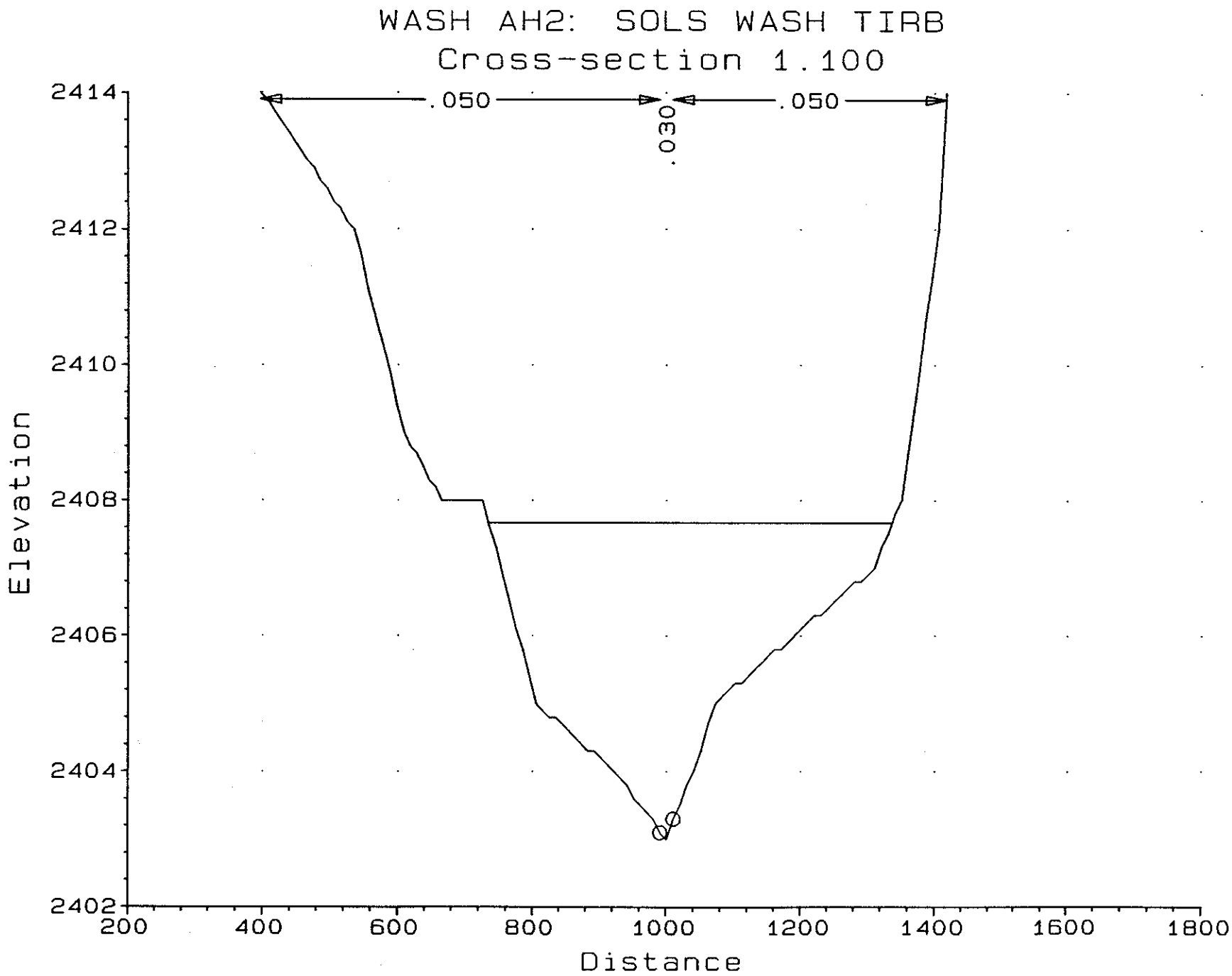
1600
1800
Distance


WASH AH2: SOLS WASH TIRB
Cross-section 1.100
.050
.030
.050
Elevation
2414
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2410
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2406
2404
2402
200
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600
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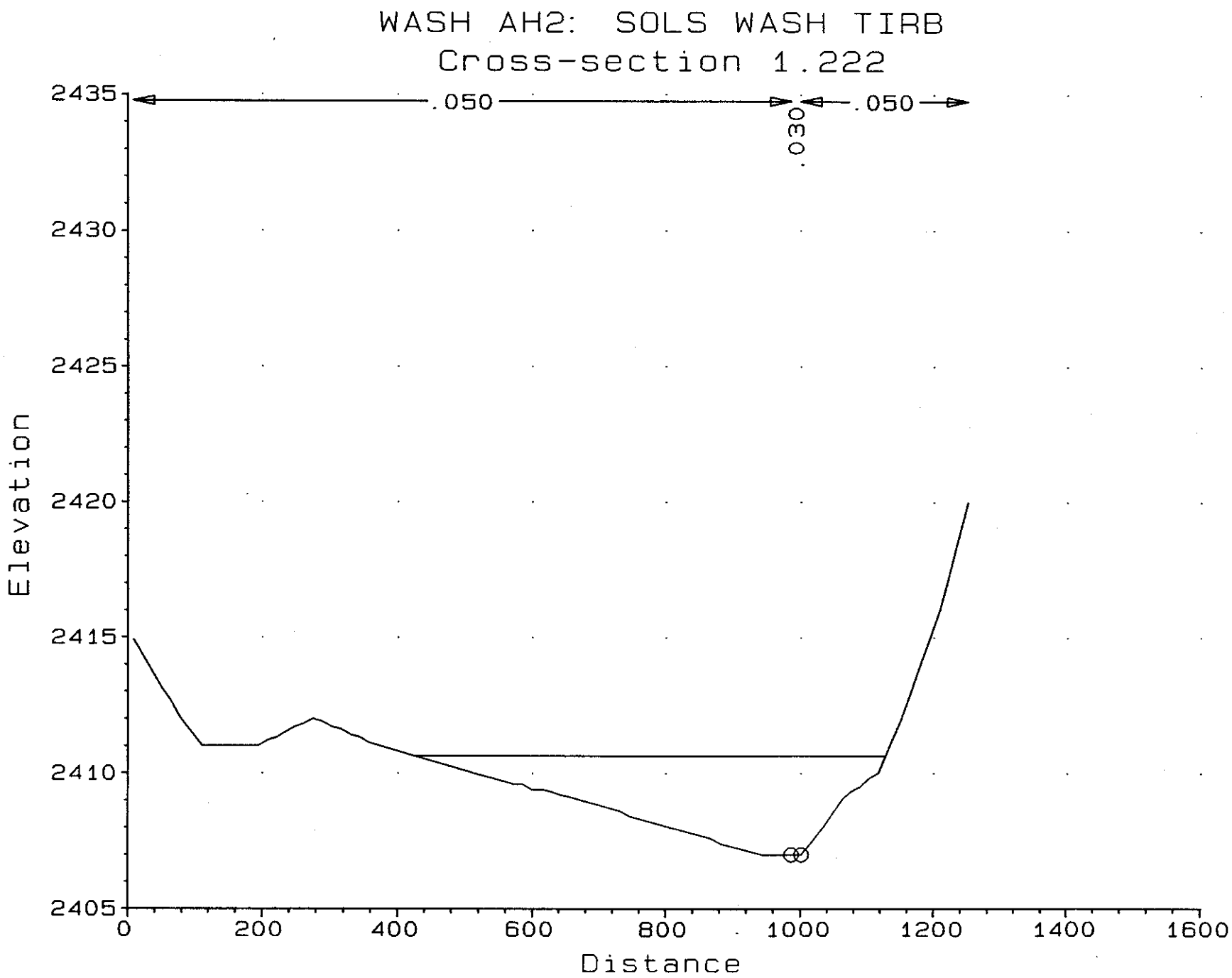
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Cross-section 1.222
.050
.030
.050
2435
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Elevation
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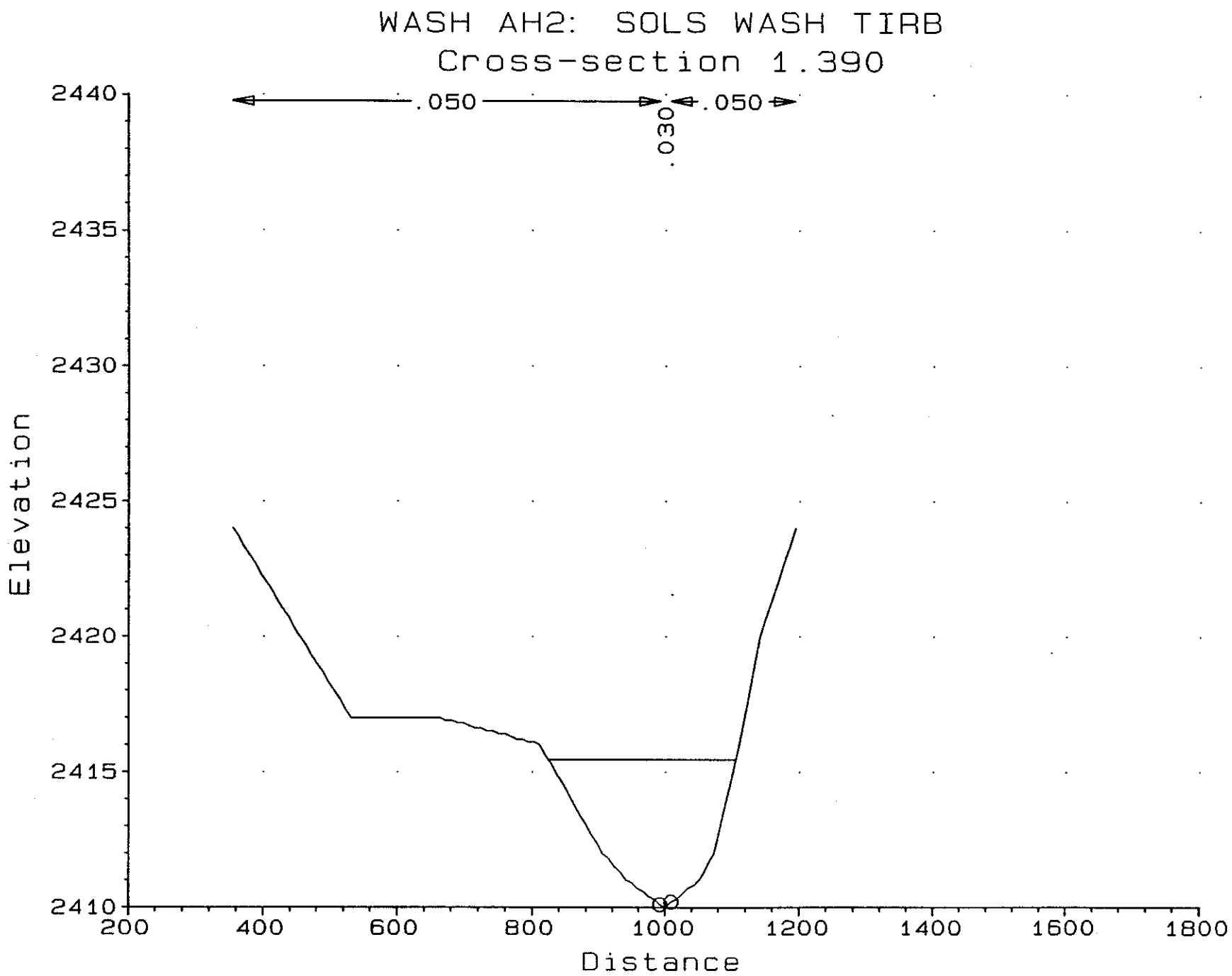
1600
Distance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Cross-section 1.390
.050
.050
.030
2440
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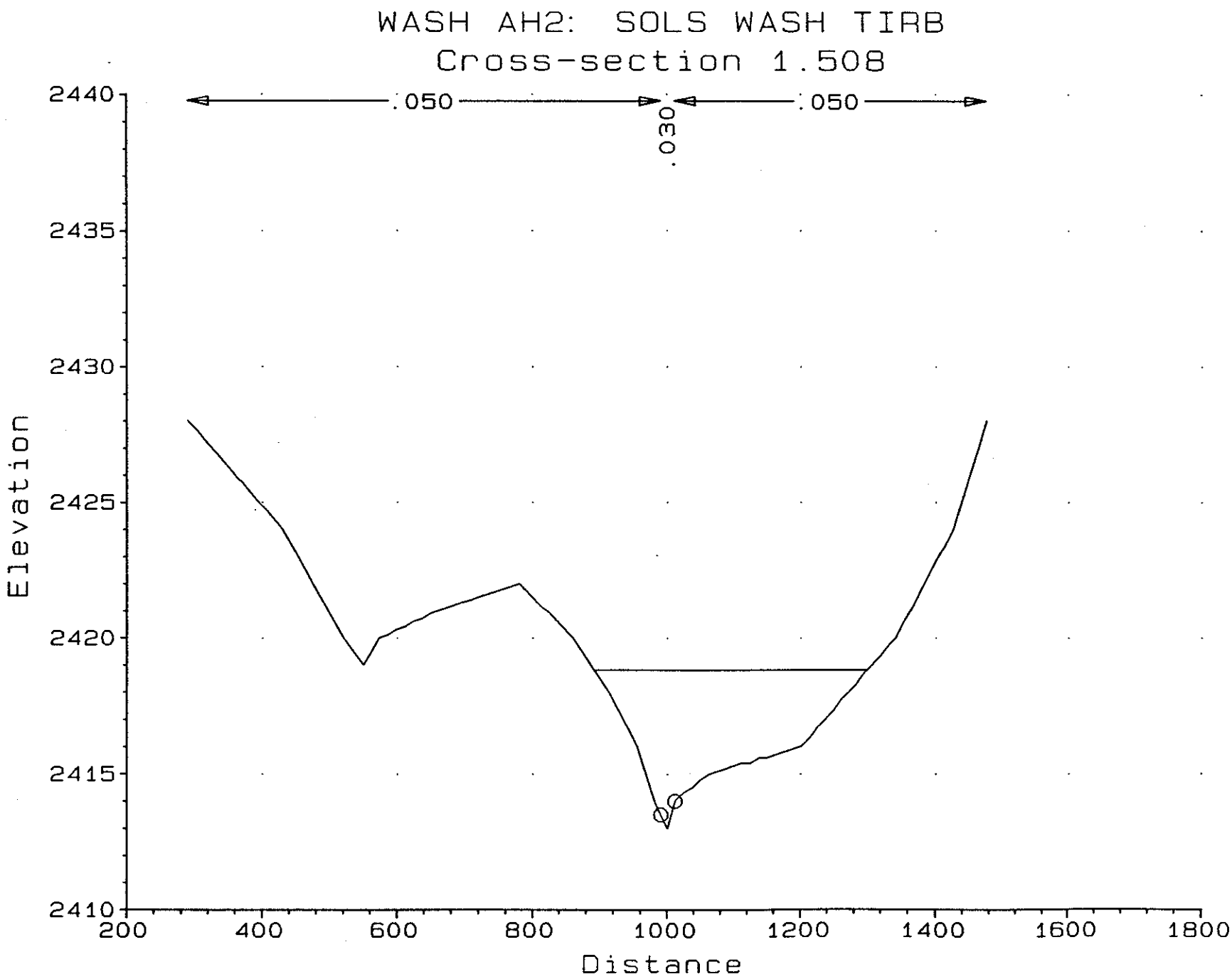
Distance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Cross-section 1.508
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.030
.050
2440
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2430
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2415
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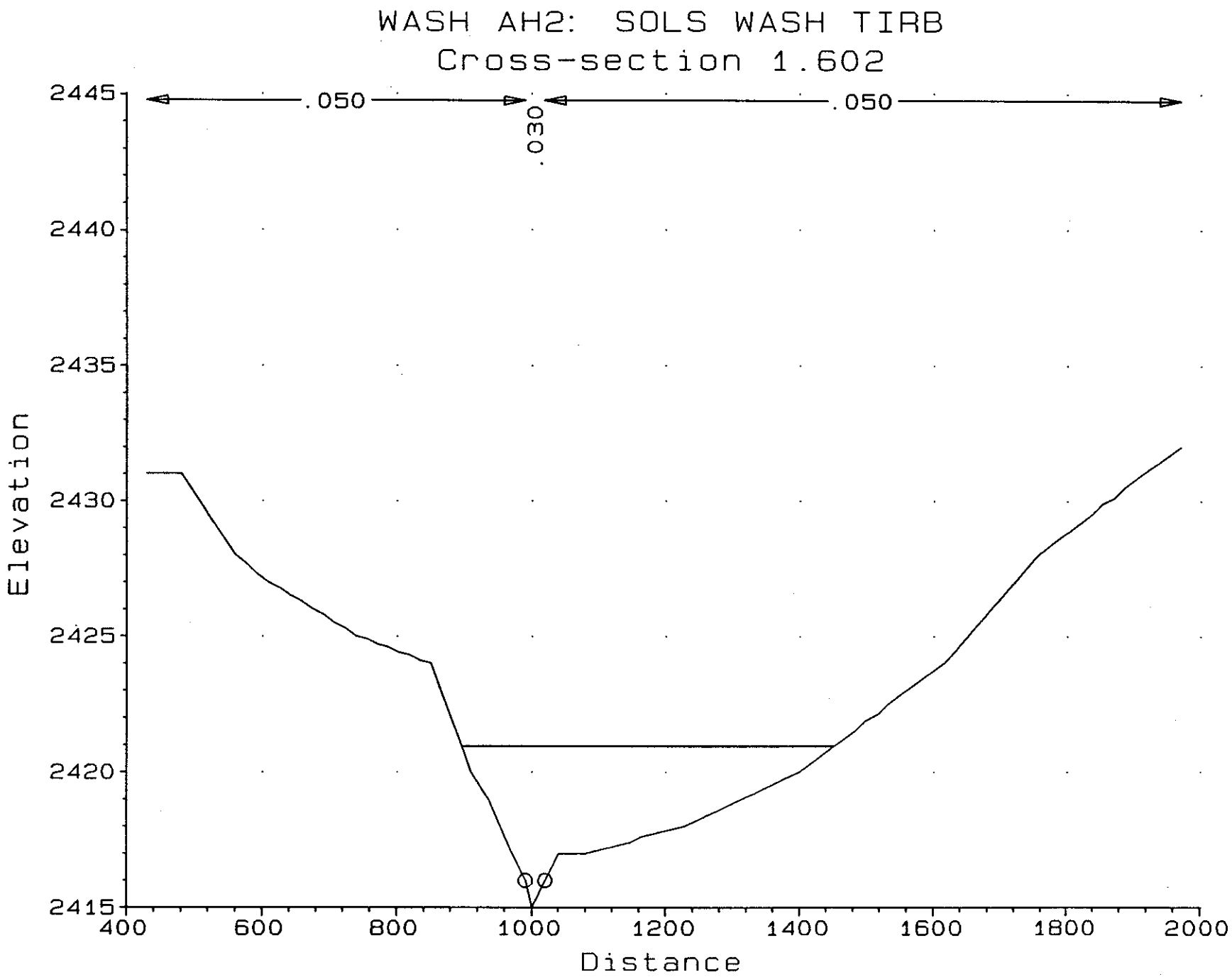
WASH AH2: SOLS WASH TIRB
Cross-section 1.602
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.030
.050
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2440
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2425
2420
2415
Elevation
400
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1200
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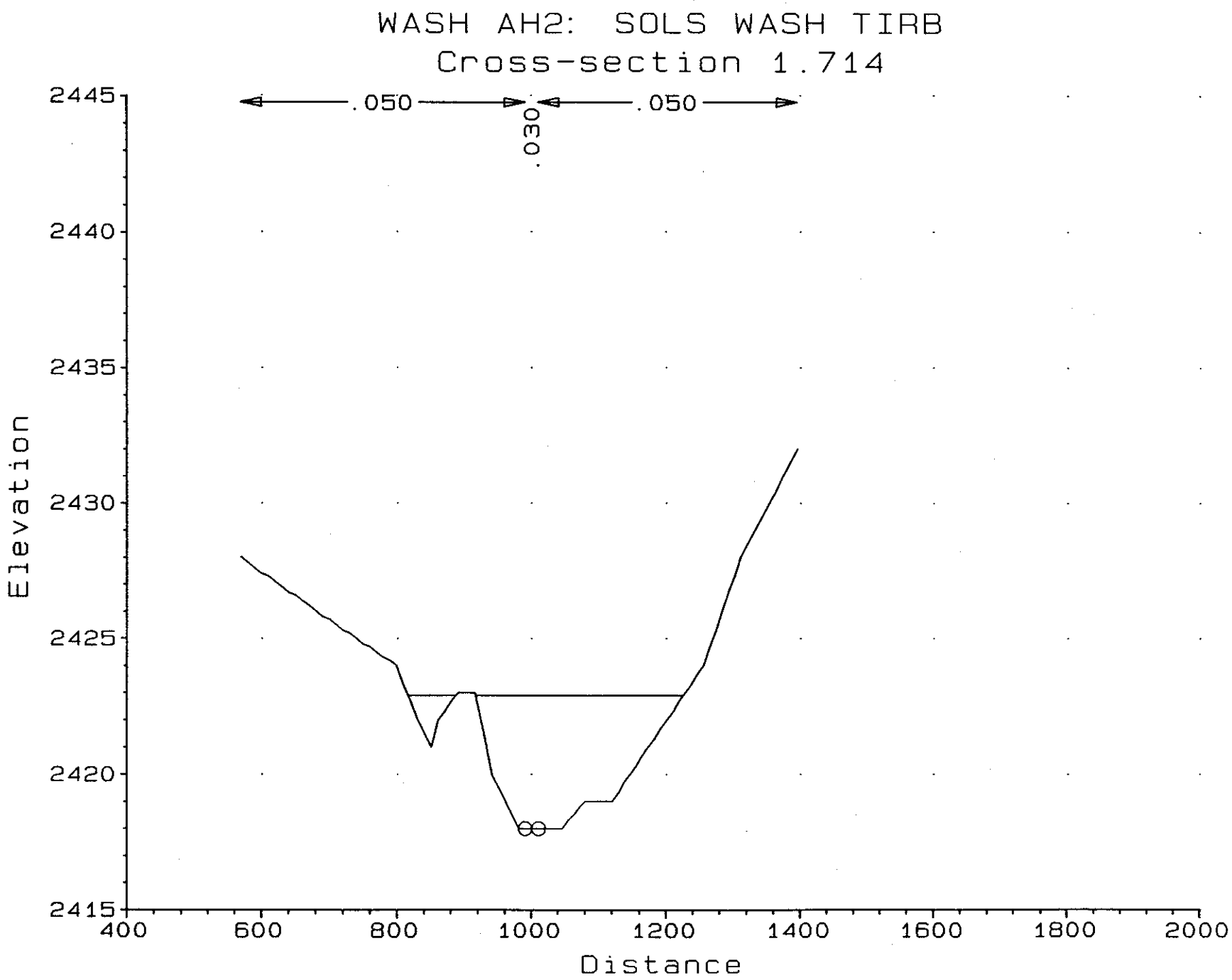
Distance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Cross-section 1.714
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.050
.030
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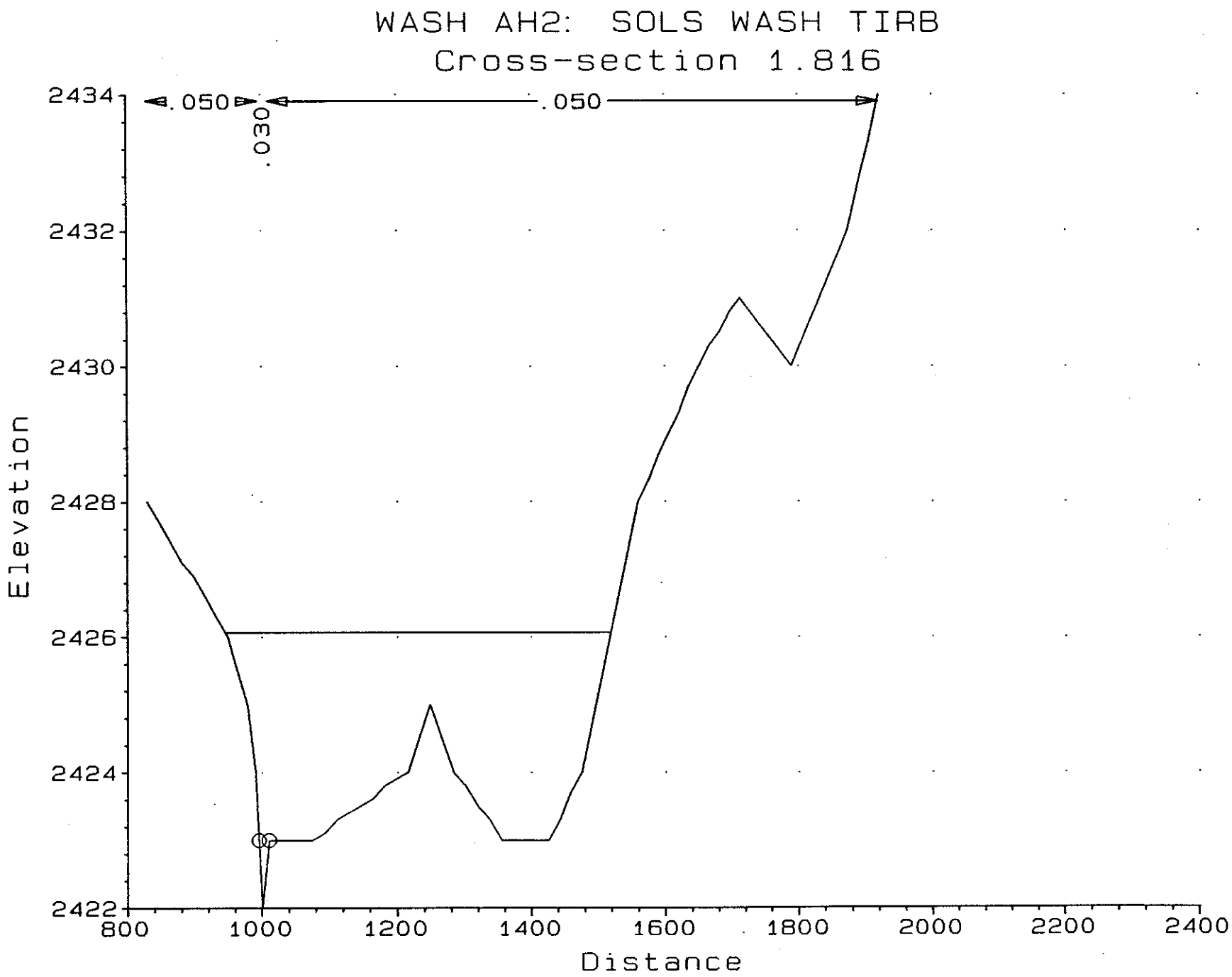
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Cross-section 1.816
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.030
.050
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1800
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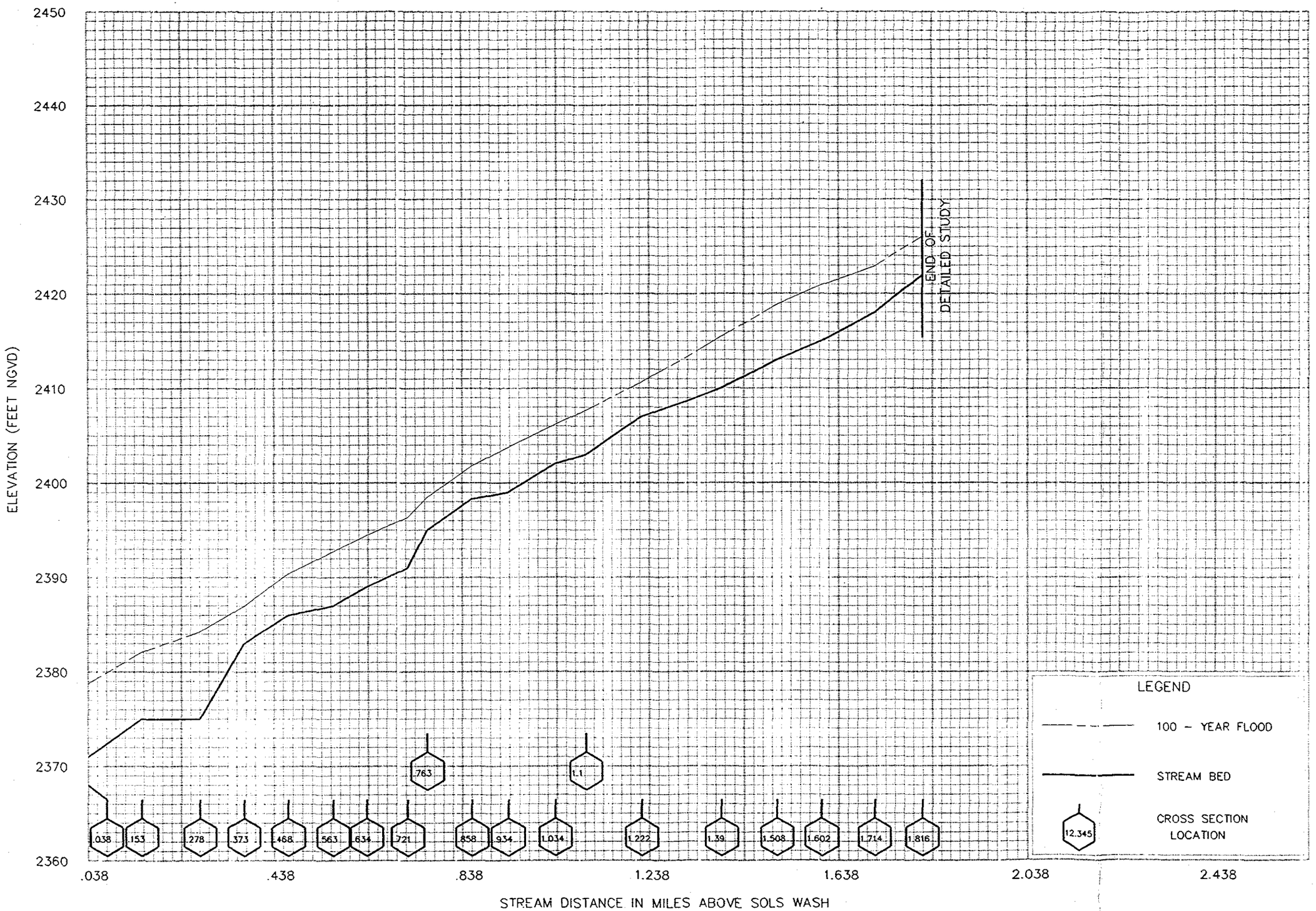
2200
2400
Distance



FLOOD PROFILES

UNNAMED SOLS WASH TRIBUTARY (AH2)

FEDERAL EMERGENCY MANAGEMENT AGENCY
MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

02/17/94 15:40:58 ACD-12_

PC FILE:AH2.DWG

Flood Control District of Maricopa County
Contract FCD 89-79

WICKENBURG AREA DRAINAGE MASTER STUDY

TECHNICAL DOCUMENTATION REPORT

Appendix 4.4: HEC-2 Models & Cross Section Plots for Sols Wash Area Wash
UNNAMED SOLS WASH TRIBUTARY (Wash ah3)

Submitted to the
Federal Emergency Management Agency
on Behalf of the
Flood Control District of Maricopa County

N:\1197\02\ADMIN\119702RP.083

May 1994

FEDERAL EMERGENCY MANAGEMENT AGENCY **HYDROLOGIC ANALYSIS FORM**	O.M.B. Burden No. 3067-0148 Expires July 31, 1994	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 3.67 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden, to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, S.W., Washington, DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

Community Name: UNINCORPORATED MARICOPA COUNTY / TOWN OF WICKENBURG

Flooding Source: WASH AA3: UNNAMED SOLS WASH TRIBUTARY (#3)
(One form for each flooding source)

Project Name /Identifier: WICKENBURG ADMS FCD 89-79

1. HYDROLOGIC ANALYSIS IN FIS

☐ Approximate study stream (Zone A)
☐ Detailed study stream (briefly explain methodology) NA

2. REASON FOR NEW HYDROLOGIC ANALYSIS

☒ No existing analysis
☐ Improved data *(see data revision on page 3)*
☐ Changed physical conditions of watershed *(explain)*

☐ Alternative methodology *(justify why the revised model is better than model used in the effective FIS)*

☐ Evaluation of proposed conditions (CLOMRs only) (explain)

☒ Other No existing analysis or analysis being updated to reflect existing conditions

If a computer program/model was used in revising the hydrologic analysis, please provide a diskette with the input files for the 10-, 50-, 100 - and 500-year recurrence intervals.

Only the 100-year recurrence interval need be included for SFHAs designated as Zone A.

3. APPROVAL OF ANALYSIS

☒ Approval of hydrologic analysis, including the resulting peak discharge value (s) has been provided by the appropriate local, state, or Federal Agency. (i.e., Flood Control District of Maricopa County)
Attach evidence of approval.

☐ Approval of the hydrologic analysis is not required by any local, State, or Federal Agency.

Stream: _____

Comparison of 100-year Discharges

Location:	Drainage area (Sq mi.)	FIS (cfs):	Revised (cfs):
Sols Wash Confluence	7.18	—	4046
Alt 3 Above Unnamed Trib	4.77	—	2741
Unnamed Trib	1.52	—	1680

Note: When revised discharges are not significantly different than FIS discharges, FEMA may require a confidence limits analysis on attachment D at a later date to complete the review.

As is often the case with revision requests, only a portion of a stream may actually be revised or be affected by a revision. Therefore, transition to the unrevised portion is important to maintain the continuity of the study. NFIP regulations stipulate that such a transition must be assured. What is the transition from the proposed discharges to the effective discharges? Please explain how the transition was made *(attach separate sheet if necessary)*

ATTACH A COMPLETED REVIEW OF RESULTS PAGE FOR EACH FLOODING SOURCE.

Is the new hydrologic analysis being developed solely to revise the flow values presented in the FIS *(i.e. no changed hydraulic conditions)*? ☐ Yes ☒ No

If yes, does the 100-year water surface elevation change by 1.0 foot or more? ☐ Yes ☐ No

FEMA does not normally revise NFIP maps solely due to insignificant flow changes where changes in 100-year water surface elevation are less than 1.0 foot.

5. HISTORICAL FLOODING INFORMATION

Is historical data available for the flooding source? ☐ Yes ☒ No

If yes, provide the following:

Location along flooding source: _____

Maximum peak discharge: _____ cfs

Second highest peak discharge: _____ cfs

Source of information: _____

6. GAGE RECORD INFORMATION

Location of nearest gage to project site *(along flooding source or similar watershed; specify)*

NA

Gaging Station: _____

Drainage area at gage: _____ mi^2

Number of years of data: _____

7. DATA REVISION

Please use the following table to list all the data and/or parameters affected by this request and identify them as new data (*New*) or as revising existing data (*Revised*). *(If necessary, attach a separate sheet.)*

Data Parameter	New	Revised	Data Source
NA	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	

- Data source can be from a Federal, State, or local government agency, or from a private source. Some State and local governments may have less strict data requirements than Federal agencies, in which case the hydrologic data may not be accepted by FEMA unless it is demonstrated that the data give a better estimate of the flood discharge.
- Attach documentation corroborating each data source *(i.e., certified statement, report, bibliographical reference to a published document)*. In the case of a published document or a government report, providing copies of the cover and pertinent pages may be helpful.

8. METHODOLOGY FOR NEW ANALYSIS

☐ Statistical Analysis of Gage Records (*use Attachment A*)

☐ Regional Regression Equations (*use Attachment B*)

☒ Precipitation/Runoff Model (*use Attachment C*)

☐ Other *(specify; attach backup computations and supporting data)* _____

Gaging Station: NA

Gage Location (latitude and longitude): _____

	FIS:	Revised:
1. Number of years of data	_____	_____
Systematic	_____	_____
Historical	_____	_____
2. Homogeneous data	☐ Yes ☐ No	☐ Yes ☐ No
3. Data adjustments	☐ Yes ☐ No	☐ Yes ☐ No
4. Number of high outliers	_____	_____
Low outliers	_____	_____
Zero events	_____	_____
5. Generalized skew	_____	_____
6. Station skew	_____	_____
7. Adopted skew	_____	_____
8. Probability distribution used (justify if log-Pearson III was not used)	_____	_____
9. Transfer equations to ungaged sites		☐ Yes ☐ No

If yes, specify method

_____

_____

_____

10. Expected probability* ☐ Yes ☐ No

11. Comparison of results with other analyses ☐ Yes ☐ No

If yes, describe comparison

_____

_____

_____

*FEMA does not accept expected probability analyses for the purpose of reflecting flood hazard information in a FIS.

If any data is not available, indicate by N/A.

Attach analysis including plot of flood frequency curve.

1. Bibliographical Reference:

NA

(Attach a copy of title page, table of contents, and pertinent pages including equations.)

2. Gaged or ungaged stream: _____

3. Hydrologic region(s): _____
Attach backup map.

4. Provide parameters, values, and source of data used to define parameters.

	FIS:		Revised:	
5. Urbanized conditions calculations	☐ Yes	☐ No	☐ Yes	☐ No
6 Percent of watershed urbanization	_____		_____	
7. Is the watershed controlled?	☐ Yes	☐ No	☐ Yes	☐ No
8. Comparison with other analyses	☐ Yes	☐ No	☐ Yes	☐ No

If the answer to 5, 7, or 8 is yes, explain methodology in Comments.

If data is not available, indicate by N/A.

Comments

Attach computation and supporting maps, delineating the watershed boundary and drainage area divides.

		FIS:	Revised
1.	Method or model used:		HEC-1
	Version:		VER 3.0
	Date:		02 AUG 88
2.	Source of rainfall depth:		NOAA ATLAS 2
3.	Source of rainfall distribution:		SCS TYPE II
4.	Rainfall duration:		24 HOURS
5.	Areal adjustment to precipitation (%):		NWS HYDRO-40
6.	Hydrograph development method:		S-GRAPH
7.	Loss rate method:		GREEN-AMPT
	Source of soils information:		SCS
	Source of land use information		Town of Wickenburg
8.	Channel routing method:		NORMAL DEPTH
9.	Reservoir routing:	☐ Yes ☐ No	☐ Yes ☐ No
10.	Baseflow considerations:	☐ Yes ☐ No	☐ Yes ☒ No

If yes, explain how baseflow was determined:

11.	Snowmelt considerations:	☐ Yes ☐ No	☐ Yes ☒ No
12.	Model calibration:	☐ Yes ☐ No	☒ Yes ☐ No

If yes, explain how calibration was performed Computed discharges were compared with DISCHARGE VS DRAINAGE AREA curves and envelopes prepared by the Flood Control District of Maricopa County

13. Future land use condition: ☐ Yes ☒ No

If yes, explain why

NOTE: FEMA policy is to base flooding on existing conditions.
If data is not available, indicate by N/A.

Attach precipitation/runoff model, hydrologic model schematic, curve number calculations, time of concentration calculations, and supporting maps, delineating the watershed boundary and drainage area divides.

Stream: NA – NO FLOW RECORDS

Select one location for Confidence Limits Evaluation (*describe location*): _____

_____

Discharges for selected location:

Exceedance Probability		FIS	Revised
10%	(10-year)	_____ cfs	_____ cfs
2%	(50-year)	_____ cfs	_____ cfs
1%	(100-year)	_____ cfs	_____ cfs
0.2%	(500-year)	_____ cfs	_____ cfs

1% (100-year) Flood Confidence Intervals

90% Confidence Interval: 5% limit _____ cfs

95% limit _____ cfs

50% Confidence Interval: 25% limit _____ cfs

75% limit _____ cfs

If the value of the 100-year frequency flood in the FIS is beyond the 50% confidence interval but within the 90% confidence interval, does the 100-year water surface elevation change by 1.0 foot or more? ☐ Yes ☐ No

An example of confidence limits analysis can be found in Appendix 9 of Bulletin 17B.

Attach Confidence Limits Analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **RIVERINE HYDRAULIC ANALYSIS FORM**	O.M.B. Burden No 3067-0148 Expires July 31, 1994	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 2.25 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden, to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, S.W., Washington, DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

Community Name: Unincorporated Maricopa County / Town of Wickenburg

Flooding Source: WASH AH3: UNNAMED SOLS WASH TRIBUTARY (#3)
(One form for each flooding source)

Project Name/Identifier: Wickenburg ADMS FCD 89-79

1. REACH TO BE REVISED

Downstream limit: Station 0.000 (Sols Wash Confluence)

Upstream limit: Station 7.542

2. EFFECTIVE FIS

☒ Not studied

☐ Studied by approximate methods

Downstream limit of study _____

Upstream limit of study _____

☐ Studied by detailed methods

Downstream limit of study _____

Upstream limit of study _____

☐ Floodway delineated

Downstream limit of Floodway _____

Upstream limit of Floodway _____

3. HYDRAULIC ANALYSIS

Why is the hydraulic analysis different from that used to develop the FIRM. *(Check all that apply)*

☒ Not studied in FIS

☒ Improved hydrologic data/analysis. Explain: Hydrologic Analysis procedures standardized by the Flood Control District of Maricopa County

☐ Improved hydraulic analysis. Explain: _____

☐ Flood control structure. Explain: _____

☐ Other. Explain: _____

Full input and output listings along with files on diskette *(if available)* for each of the models listed below and summary of the source of input parameters used in the models must be provided. The summary must include a complete description of any changes made from model to model *(e.g. duplicate effective model to corrected effective model)*. Only the Duplicate Effective and the Revised or Post-Project Conditions models must be submitted. See instructions for directions on when other models may be required. Only the 100-year flood profile is required for SFHAs with a Zone A designation. For areas which do not have detailed flooding, a hydraulic model is not required; however BFE's may not be added to the revised FIRM.

☐ Duplicate Effective Model — Natural ☐ Floodway ☐

Copies of the hydraulic analysis used in the effective FIS, referred to as the effective models *(10-, 50-, 100-, and 500-year multi-profile runs and the floodway run)* must be obtained and then reproduced on the requestor's equipment to produce the duplicate effective model. This is required to assure that the effective model input data has been transferred correctly to the requestor's equipment and to assure that the revised data will be integrated into the effective data to provide a continuous FIS model upstream and downstream of the revised reach.

☐ Corrected Effective Model — Natural ☐ Floodway ☐

The corrected effective model is the model that corrects any errors that occur in the duplicate effective model, adds any additional cross sections to the duplicate effective model, or incorporates more detailed topographic information than that used in the currently effective model. The corrected effective model must not reflect any man-made physical changes since the date of the effective model. An error could be a technical error in the modeling procedures, or any construction in the floodplain that occurred prior to the date of the effective model but was not incorporated into the effective model.

☐ Existing or Pre-Project Conditions Model — Natural ☐ Floodway ☐

The duplicate effective or corrected model is modified to produce the existing or pre-project conditions model to reflect any modifications that have occurred within the floodplain since the date of the effective model but prior to the construction of the project for which the revision is being requested. If no modification has occurred since the date of the effective model, then this model would be identical to the corrected effective or duplicate effective model.

☐ Revised or Post-Project Conditions Model — Natural ☐ Floodway ☐

The existing or pre-project conditions model *(or duplicate effective or corrected effective model, as appropriate)* is revised to reflect revised or post-project conditions. This model must incorporate any physical changes to the floodplain since the effective model was produced as well as the effects of the project. When the request is for proposed project this model should reflect proposed conditions.

☒ Other: Please attach a sheet describing all other models or calculations submitted. — Natural ☒ Floodway ☒

New Model
(Proposed Effective Model)

4. MODEL PARAMETERS *(from model used to revise 100-year water surface elevation)*

Discharges:	Upstream Limit	Downstream Limit
10-year		
50-year		
100-year	1908	4046
500-year		

Attach diagram showing changes in 100-year discharge

2. Explain how the starting water surface elevations were determined Starting water surface elevation determined by the Slope-Area Method

3. Give range of friction loss coefficients (*Manning's "N"*) Channel 0.035

Overbanks 0.055

If friction loss coefficients are different anywhere along the revised reach from those used to develop the FIRM, give location, value used in the effective FIS, and revised values and an explanation as to how the revised values were determined.

Location	FIS	Revised
NA		

Explain:

4. Describe how the cross section geometry data were determined (*e.g., field survey, topographic map, taken from previous study*) and list cross sections that were added.

Data points for cross sections are based on the photogrammetric models for the topographic maps

5. Explain how reach lengths for channel and overbanks were determined:

All reach lengths were measured from floodplain work maps.

5. RESULTS (from model used to revise 100-year water surface elevations)

1. Do the results indicate:

a. Water surface elevations higher than end points of cross sections? ..... ☐ Yes ☒ No

b. Supercritical depth? ..... ☐ Yes ☒ No

c. Critical depth? ..... ☒ Yes ☐ No

d. Other unique situations ..... ☐ Yes ☒ No

(If yes, Special Problem Report attached)

If yes to any of the above, attach an explanation that discusses the situation and how it is presented on the profiles, tables, and maps.

2. What is the maximum change in energy gradient between cross-sections? ..... 8.42 FT

Specify location 5.534

3. What is the distance between the cross-sections in 2 above? 540

Specify location 5.534

4. What is the maximum distance between cross-sections? 650

Specify location 1.995; 5.272

5. Floodway determination

a. What is the maximum surcharge allowed by the community or State? ..... 1 foot

b. What is the maximum surcharge for the revised conditions? ..... 1.0 foot

Specify location ..... .652, 2.126, 3.467, etc.

c. What is the maximum velocity? ..... 12.5 fps

Specify location 6.107, 6.297

Explain:

d. Are there any negeative surcharge values at any cross-section ☒ Yes ☐ No

If yes, the floodway may need to widen. If it is not widened, please explain and indicate the maximum negative surcharge

The maximum negative surcharge is 0.4 ft at Section 1.229. This is a result of adjacent encroachment that increases velocity and lowers the water surface elevation at the section.

FEDERAL EMERGENCY MANAGMENT AGENCY

WATER SURFACE ELEVATION CHECK

COMMUNITY NAME	FLOODIND SOURCE	PROJECT NAME /IDENTIFIER
Unincorporated Maricopa County/ Town of Wickenburg	WASH AH3: UNNAMED SOLS WASH TRIB (#3)	Wickenburg ADMS FY 89-79

	EFFECTIVE			DUPLICATE EFFECTIVE			CORRECTED EFFECTIVE			EXISTING/PRE-PROJECT			REVISED/PROJECT		
SECNO	NCWSEL[1]	FCWSEL[2]	SURC.[3]	NCWSEL[1]	FCWSEL[2]	SURC.[3]	NCWSEL[1]	FCWSEL[2]	SURC.[3]	NCWSEL[1]	FCWSEL[2]	SURC.[3]	NCWSEL[1]	FCWSEL[2]	SURC.[3]

COMMENTS: New Model - See following Floodway Data Table

1-100-year (natural) Water Surface Elevation 2-Encroachment (floodway) Water Surface Elevation 3-Surcharge Value

Include all cross sections in the models between tie-in points. Any interpolated values should be indicated in parentheses.

Sheet 1 of 1

6. Is the discharge value used to determine the floodway anywhere different from that used to determine the natural 100-year flood elevations? ..... ☐ Yes ☒ No

If Yes, explain:

7. Do 100-year water surface elevations increase at any location? ..... ☐ Yes ☒ No

If yes, please attach a list of the locations where the increases occur, state whether or not the increases are located on the requestor's property, and provide an explanation of the reason for the increases.

NA- New Model

Please attach a completed comparison table entitled: Water Surface Elevation Check (See page 6)

6. REVISED FIRM/FBFM AND FLOOD PROFILES

A. The revised water surface elevations tie into those computed by the effective FIS Model *(10-, 50-, 100-, and 500-year)*, downstream of the project at cross-section NA within _____ feet and upstream of the project at cross section _____ within _____ feet.

B. The revised floodway elevations tie into those computed by the effective FIS model, dowstream of the project at cross section NA within _____ feet and upstream of the project at cross section _____ within NA feet.

C. Attach profiles, at the same vertical and horizontal scale as the profiles in the effective FIS report, showing stream bed and profiles of all floods studied (without encroachment). Also, label all cross sections, road crossings (including low chord and top-of-road data), culverts, tributaries, corporate limits, and study limits. If channel distance has changed, the stationing should be revised for all profile sheets.

D. Attach a Floodway Data Table showing data for each cross section listed in the published Floodway Data Table in the FIS report.

Proceed to Riverine /Coastal Mapping Form

Wickenburg ADMS FCD 89-79

EXPLANATORY NOTES FOR
FORM 4 SECTION 5 PARAGRAPH 1.C

This watercourse islocated in a mountainous area. It is common for this watercourse to flow in subcritical, supercritical, and transitional flow regimes. The subcritical profile has been used to delineate the 100 year floodplain and prepare maps, tables, etc.

FLOODWAY DATA, WASH AH3
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.090	656.	846.	4.8	2323.9	2323.9	.0
.187	378.	582.	6.9	2329.0	2328.8	.2
.283	210.	638.	6.3	2335.7	2334.9	.8
.392	273.	790.	5.1	2340.3	2339.7	.6
.455	311.	642.	6.3	2342.3	2341.7	.6
.564	140.	469.	8.6	2347.9	2347.5	.4
.652	137.	623.	6.5	2351.8	2350.8	1.0
.751	233.	631.	6.4	2353.9	2353.3	.6
.809	162.	511.	7.9	2355.5	2355.4	.1
.860	164.	513.	7.9	2358.1	2357.8	.3
.945	103.	416.	9.7	2362.3	2362.0	.3
1.038	123.	449.	9.0	2366.7	2366.7	.0
1.131	143.	598.	6.8	2370.7	2370.2	.5
1.229	101.	432.	9.4	2373.3	2373.7	-.4
1.330	126.	569.	7.1	2377.9	2377.0	.9
1.396	111.	438.	9.2	2379.5	2379.8	-.3
1.499	118.	362.	7.6	2385.2	2384.8	.4
1.569	97.	390.	7.0	2387.9	2387.3	.6
1.683	121.	380.	7.2	2391.9	2391.5	.4
1.774	140.	411.	6.7	2396.1	2396.0	.1
1.872	211.	622.	4.4	2399.5	2398.8	.7
1.995	122.	327.	8.4	2403.1	2403.1	.0
2.067	73.	265.	10.3	2409.4	2409.7	-.3
2.126	158.	669.	4.1	2412.5	2411.5	1.0
2.245	199.	482.	5.7	2414.2	2414.4	-.2
2.344	142.	373.	7.3	2419.8	2419.7	.1
2.444	143.	528.	5.2	2423.9	2423.1	.8
2.534	314.	508.	5.4	2426.5	2426.2	.3
2.640	188.	395.	6.9	2430.5	2430.3	.2
2.716	164.	394.	7.0	2434.8	2434.2	.6
2.818	97.	327.	8.4	2439.5	2439.2	.3
2.891	70.	314.	8.7	2442.9	2442.2	.7
2.997	103.	401.	6.8	2447.4	2446.7	.7
3.092	115.	301.	9.1	2452.0	2451.5	.5
3.186	105.	451.	6.1	2456.2	2455.4	.8
3.279	78.	290.	9.5	2458.7	2458.5	.2
3.372	57.	276.	9.9	2463.2	2462.8	.4
3.467	79.	434.	6.3	2466.7	2465.7	1.0
3.568	64.	262.	10.5	2468.9	2468.6	.3
3.665	66.	266.	10.3	2474.6	2474.4	.2
3.766	134.	469.	5.8	2479.6	2478.6	1.0
3.862	87.	409.	6.7	2481.8	2481.2	.6

FLOODWAY DATA, WASH AH3
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
3.940	83.	286.	9.6	2484.6	2484.2	.4
4.000	111.	528.	5.2	2487.7	2486.8	.9
4.042	111.	331.	8.3	2489.3	2488.8	.5
4.127	163.	592.	4.6	2493.2	2492.3	.9
4.222	96.	417.	6.6	2495.0	2494.3	.7
4.290	69.	267.	10.3	2497.7	2497.5	.2
4.399	129.	348.	7.9	2505.4	2504.8	.6
4.491	110.	386.	7.1	2509.9	2509.3	.6
4.560	50.	251.	10.9	2512.2	2512.2	.0
4.680	190.	736.	3.7	2516.7	2515.8	.9
4.783	87.	295.	9.3	2519.0	2518.8	.2
4.869	184.	793.	3.5	2522.3	2521.3	1.0
4.956	89.	302.	9.1	2524.0	2524.0	.0
4.998	284.	1243.	2.2	2526.3	2526.3	.0
5.041	250.	752.	3.6	2526.5	2526.5	.0
5.149	85.	306.	9.0	2530.0	2529.7	.3
5.272	44.	235.	11.7	2536.5	2536.4	.1
5.343	64.	307.	8.9	2540.6	2539.9	.7
5.432	49.	253.	10.8	2544.5	2544.1	.4
5.534	104.	318.	8.6	2552.5	2552.5	.0
5.620	162.	525.	5.2	2556.1	2556.1	.0
5.696	167.	489.	5.6	2557.4	2557.4	.0
5.821	85.	293.	9.4	2563.6	2563.6	.0
5.868	103.	545.	5.0	2566.4	2566.4	.0
5.908	90.	282.	9.7	2568.1	2568.1	.0
5.965	112.	385.	7.1	2571.2	2571.2	.0
6.029	104.	223.	8.5	2577.1	2577.1	.0
6.084	83.	394.	4.8	2579.3	2579.3	.0
6.107	32.	152.	12.5	2579.6	2579.6	.0
6.118	32.	238.	8.0	2582.7	2582.7	.0
6.134	70.	551.	3.5	2583.7	2583.8	-.1
6.165	50.	282.	6.8	2583.6	2583.9	-.3
6.214	108.	364.	5.2	2584.9	2583.9	1.0
6.265	89.	299.	6.4	2586.0	2585.9	.1
6.297	32.	153.	12.5	2586.6	2586.6	.0
6.304	41.	280.	6.8	2590.6	2590.6	.0
6.313	90.	600.	3.2	2591.5	2591.5	.0
6.361	90.	501.	3.8	2591.6	2591.6	.0
6.406	73.	327.	5.8	2591.9	2591.9	.0
6.463	86.	286.	6.7	2593.2	2592.9	.3
6.523	76.	280.	6.8	2595.5	2595.4	.1
6.581	120.	419.	4.6	2597.6	2596.7	.9

FLOODWAY DATA, WASH AH3
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
6.674	80.	271.	7.0	2599.8	2599.9	-.1
6.776	67.	235.	8.1	2604.3	2603.9	.4
6.865	83.	281.	6.8	2608.2	2607.6	.6
6.955	211.	543.	3.5	2611.3	2611.1	.2
7.067	80.	236.	8.1	2618.3	2618.1	.2
7.164	113.	507.	3.8	2621.4	2620.8	.6
7.223	135.	297.	6.4	2622.9	2622.9	.0
7.339	191.	517.	3.7	2627.5	2627.3	.2
7.441	106.	257.	7.4	2632.3	2631.8	.5
7.496	135.	550.	3.5	2634.8	2633.8	1.0
7.542	53.	200.	9.6	2635.2	2634.9	.3
-1.396	111.	438.	9.2	2379.5	2379.8	-.3
.114	88.	232.	7.3	2387.2	2386.9	.3
.171	47.	167.	10.0	2390.9	2390.6	.3
.236	51.	204.	8.2	2394.5	2393.7	.8
.306	45.	172.	9.8	2397.3	2397.1	.2
.386	49.	198.	8.5	2400.9	2400.4	.5
.462	49.	165.	10.2	2404.0	2403.9	.1
.539	49.	202.	8.3	2408.2	2407.6	.6
.635	59.	189.	8.9	2414.1	2414.0	.1
.733	60.	235.	7.2	2418.9	2418.4	.5
.813	46.	165.	10.2	2423.0	2422.8	.2
.911	92.	260.	6.5	2429.6	2428.8	.8
.990	77.	187.	9.0	2436.4	2436.4	.0
1.111	49.	183.	9.2	2442.7	2442.5	.2
1.192	76.	324.	5.2	2446.8	2445.8	1.0
1.287	57.	191.	8.8	2450.5	2450.2	.3
1.387	48.	220.	7.6	2455.9	2455.1	.8
1.471	54.	186.	9.0	2461.3	2461.0	.3
1.568	62.	205.	8.2	2469.9	2469.5	.4
1.666	61.	197.	8.5	2477.4	2477.0	.4
1.752	57.	228.	7.4	2482.6	2481.9	.7
1.845	71.	210.	8.0	2490.3	2490.0	.3
1.957	81.	256.	6.6	2498.7	2497.8	.9
2.041	81.	225.	7.5	2503.4	2503.0	.4

FEDERAL EMERGENCY MANAGEMENT AGENCY BRIDGE/CULVERT FORM	O.M.B. Burden No. 3067-0148 Expires July 31, 1994	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 2 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden, to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, S.W., Washington, DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

Community Name: Unincorporated Maricopa County / Town of Wickenburg

Flooding Source: WASH AH3: UNNAMED SOLS WASH TRIBUTARY (#3)

Project Name/Identifier: Wickenburg ADMS FCD 89-79

1. IDENTIFIER

1. Name of roadway, railroad, etc.: U.S. Hwy 60
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): Station 6.107 to Station 6.118
3. This revision reflects *(check one of the following)*:
   - ☒ New bridge/culvert not modeled in the FIS
   - ☐ Modified bridge/culvert previously modeled in the FIS
   - ☐ New analysis of bridge/culvert previously modeled in the FIS

   (Explain why new analysis was performed) _____

2. BACKGROUND

Provide the following information about the structure:

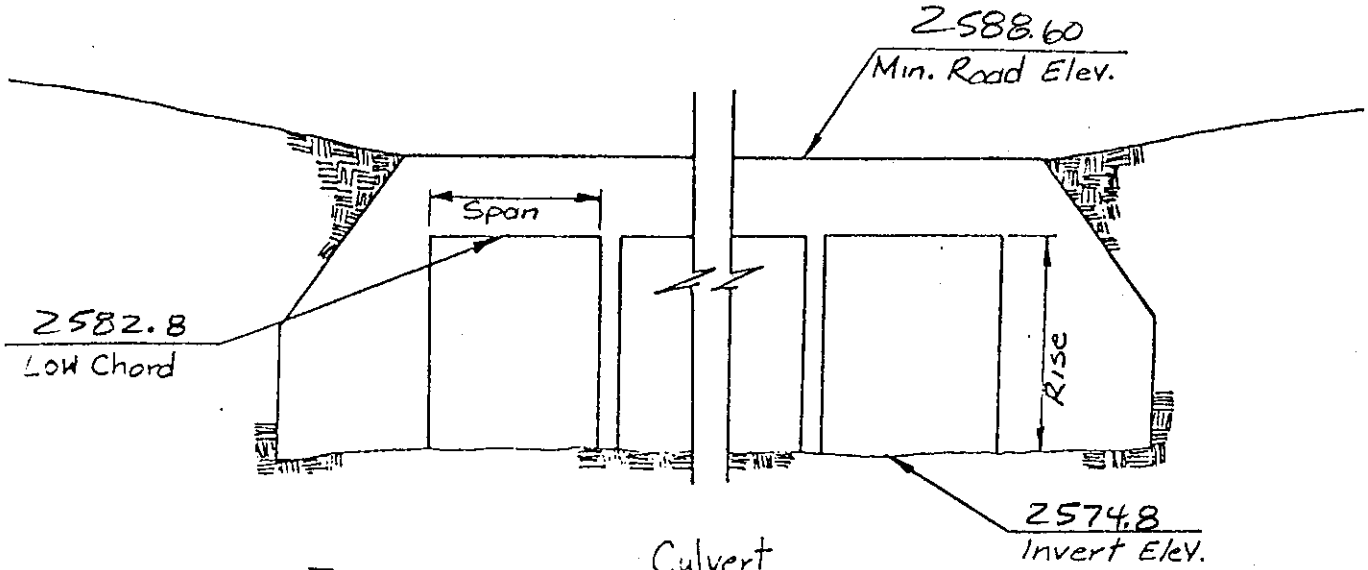
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of two 3- foot diameter circular piers; 40-foot wide ogee shape spillway) Triple 10x8 reinforced concrete box culvert
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) 30°-70° wing walls with square top edge.
3. Hydraulic model used to analyze the structure (*e.g., HEC-2 with special bridge routine, WSPRO, HY8*) HEC-2 with special culvert routine

   If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A

* One form per new/revised bridge/culvert

Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



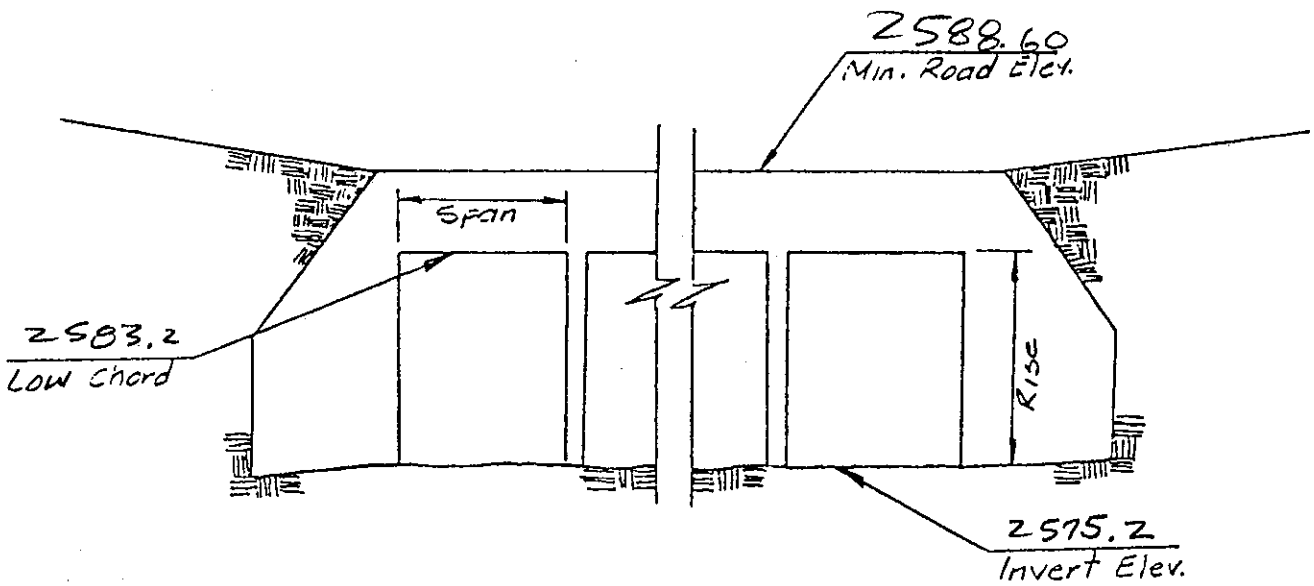
Culvert

No. of Barrels: 3

Culvert Size: 10x8

Approx. Depth of Sediment in Culvert: 0 See Cross Section # 6.107

Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



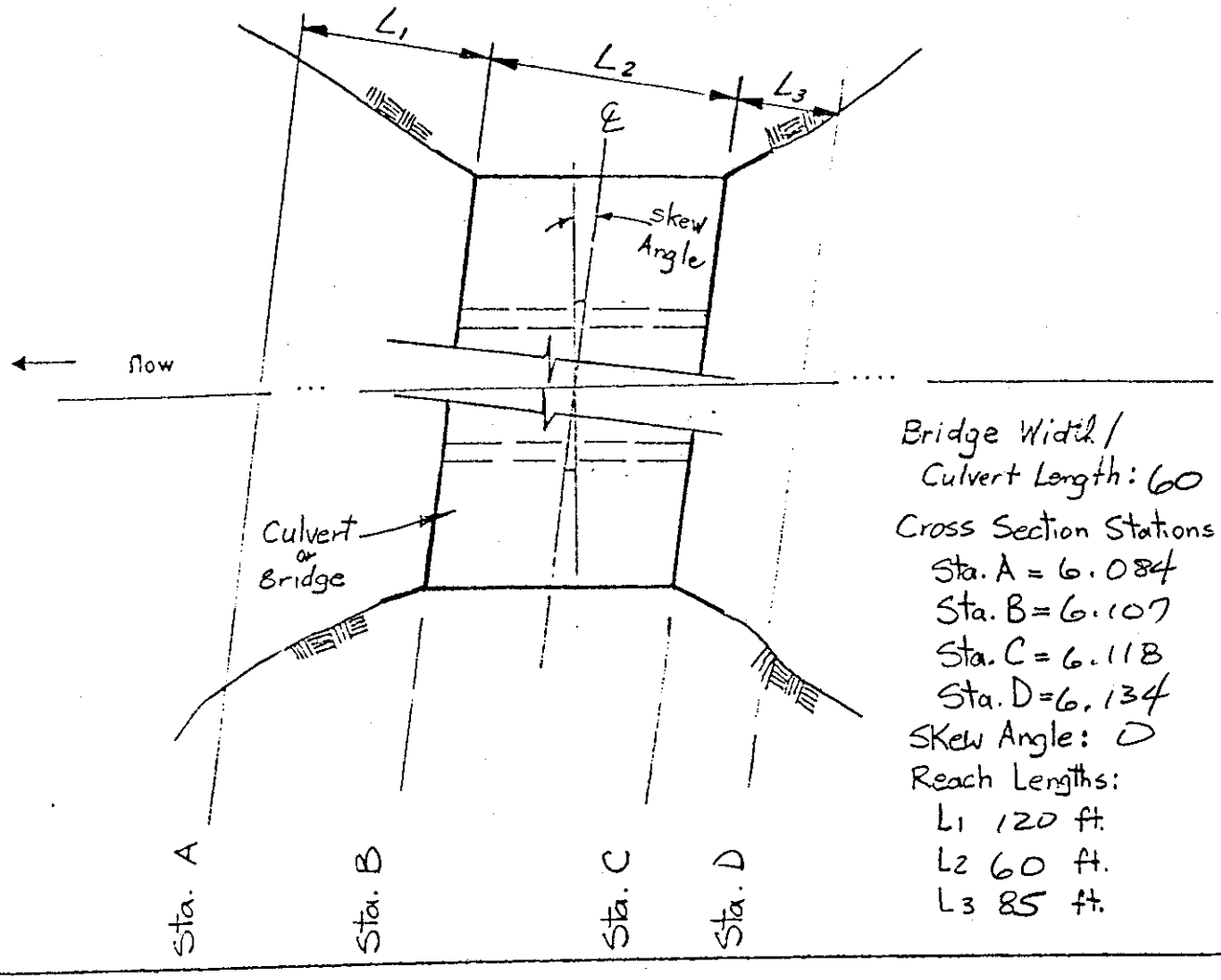
No. of Barrels: 3

Culvert

Culvert Size: 10x8

Approx. Depth of Sediment in Culvert: 0 See Cross Section # 6.118

Sketch the plan view of the structure(s) Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure (s).



Attach plans of the structure (s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	60 FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	240
Total culvert/bridge area (ft^2)	240

Elevations Above Which Flow is Effective for Overbanks

	Left Overbank	Right Overbank
Upstream face	2590.0	2589.8
Downstream face	2590.0	2589.8

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2588.60	2588.60
Downstream face	2588.60	2588.60

100-Year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2582.71	2583.71
Downstream face	2579.62	2582.05

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure (s) (cfs)	1908	—	—	1908

The maximum depth of flow over the roadway/railroad (ft.) ..... —

Weir length (ft.) ..... —

Top Widths

	Floodplain	Floodway
Upstream face	31.7	31.7
Downstream face	31.7	31.7

Top Widths

	Effective Flow	Effective and Ineffective Flow
Upstream face	31.7	31.7
Downstream face	31.7	31.7

Loss Coefficients

Entrance loss coefficient	0.40
Manning's "n" value assigned to the structure(s)	0.016
Friction loss coefficient through structure (s)	—
Other loss coefficients (e.g., bend manhole, etc.)	—
Total loss coefficient	—
Weir coefficient	3.00
Pier coefficient	—
Contraction loss coefficient	0.60
Expansion loss coefficient	0.80

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? ..... ☐ Yes ☐ No

B Based on the conditions *(such as geomorphology, vegetative cover and development of the watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? ..... ☐ Yes ☐ No

.. If the answer to either 1A or 1B is yes:

A. What is the estimated sediment *(bed material)* load?
_____cfs *(attach gradation curve)*

Explain method used to estimate the sediment transport and the depth of scour and/or deposition NA - Sediment transport not considered in analysis.

B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

If yes, explain the impact on the conveyance capacity through the bridge/culvert?

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (floodway run) NA

Comments *(explain any unusual situations)*:

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY BRIDGE/CULVERT FORM	O.M.B. Burden No. 3067-0148 Expires July 31, 1994	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

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Community Name: Unincorporated Maricopa County / Town of Wickenburg

Flooding Source: WASH AH3: UNNAMED SOLS WASH TRIBUTARY (#3)

Project Name/Identifier: Wickenburg ADMS FCD 89-79

1. IDENTIFIER

1. Name of roadway, railroad, etc.: ABANDONED U.S. Hwy 60
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): Station 6.297 to Station 6.304
3. This revision reflects *(check one of the following)*:
   - ☒ New bridge/culvert not modeled in the FIS
   - ☐ Modified bridge/culvert previously modeled in the FIS
   - ☐ New analysis of bridge/culvert previously modeled in the FIS

   (Explain why new analysis was performed) _____

2. BACKGROUND

Provide the following information about the structure:

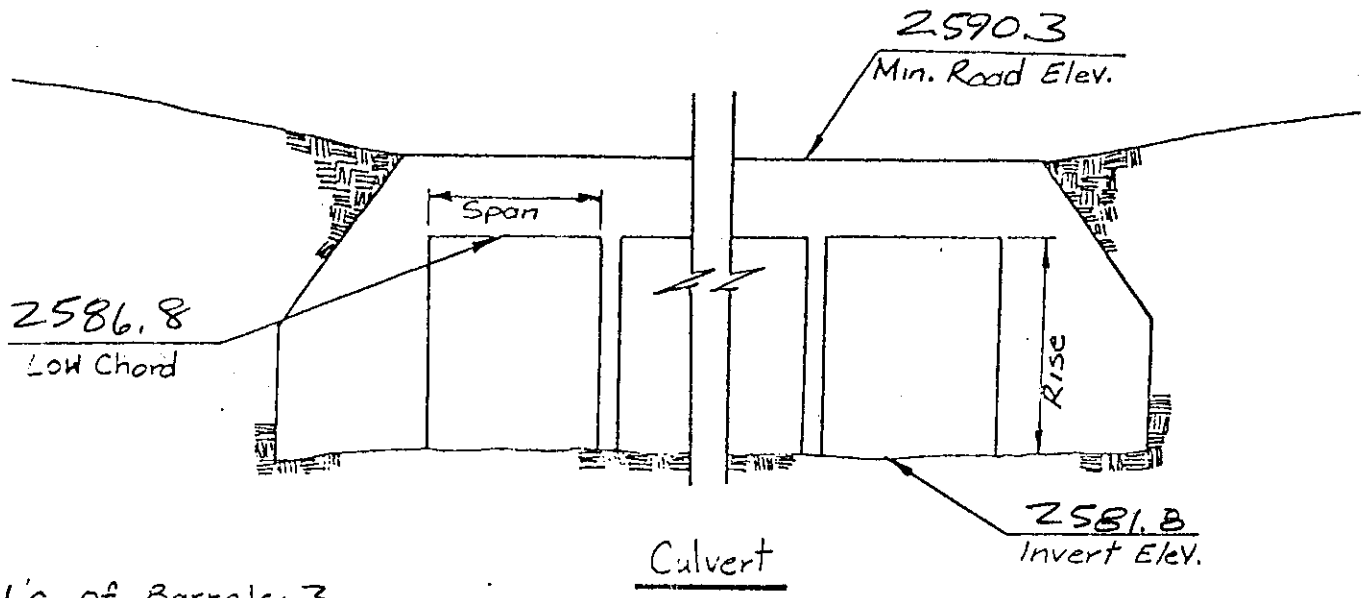
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of two 3- foot diameter circular piers; 40-foot wide ogee shape spillway) Triple 10 x 5 ft reinforced concrete box culvert
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) 30°-75° wing walls with no inlet top edge bevel
3. Hydraulic model used to analyze the structure (*e.g., HEC-2 with special bridge routine, WSPRO, HY8*) HEC-2 with special culvert routine

If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A

* One form per new/revised bridge/culvert

Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.

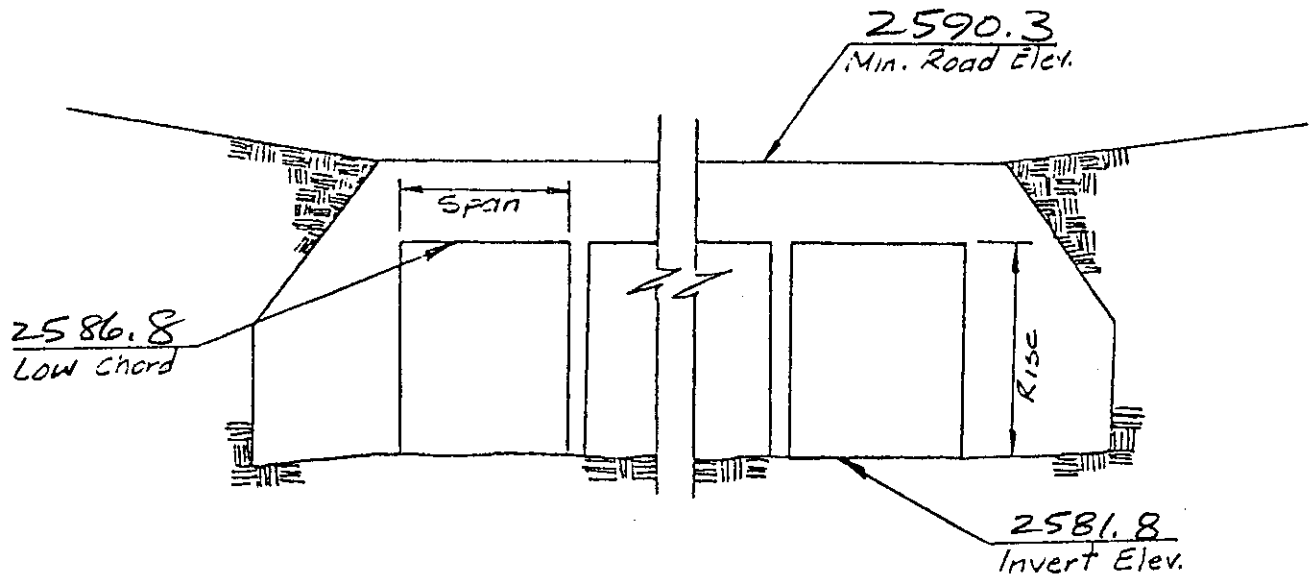


No. of Barrels: 3

Culvert Size: 10x5

Approx. Depth of Sediment in Culvert: 0 - included See Cross Section # 6.297

Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.

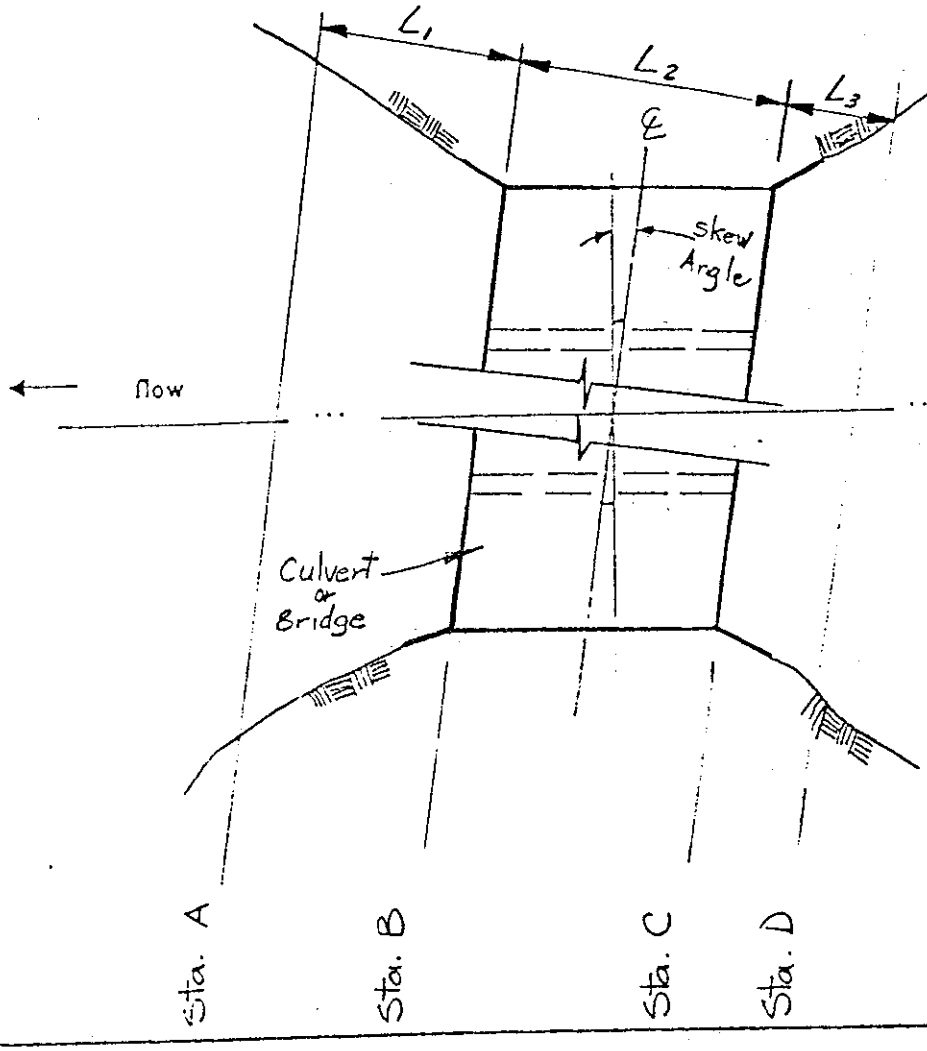


No. of Barrels: 3

Culvert Size: 10x5

Approx. Depth of Sediment in Culvert: 0 - included See Cross Section # 6.304

Sketch the plan view of the structure(s) Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure (s).



Bridge Width / Culvert Length: 34

Cross Section Stations

Sta. A = 6.265

Sta. B = 6.297

Sta. C = 6.304

Sta. D = 6.313

Skew Angle: 0

Reach Lengths:

L1 175 ft.

L2 34 ft.

L3 50 ft.

Attach plans of the structure (s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	34
Calculated culvert/bridge area (ft²) by the hydraulic model, if applicable	150
Total culvert/bridge area (ft²)	150

Elevations Above Which Flow is Effective for Overbanks

	Left Overbank	Right Overbank
Upstream face	2590.5	2590.8
Downstream face	2590.5	2590.8

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2590.3	2590.3
Downstream face	2590.3	2590.3

100-Year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2590.62	2591.35
Downstream face	2586.62	2589.05

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure (s) (cfs)		1792	112	1908

The maximum depth of flow over the roadway/railroad (ft.) 1.05

Weir length (ft.) 61

Top Widths

	Floodplain	Floodway
Upstream face	41.30	41.47
Downstream face	31.71	31.71

Top Widths

	Effective Flow	Effective and Ineffective Flow
Upstream face	31.71	41.47
Downstream face	31.71	31.71

Loss Coefficients

Entrance loss coefficient	0.40
Manning's "n" value assigned to the structure(s)	0.015
Friction loss coefficient through structure (s)	—
Other loss coefficients (e.g., bend manhole, etc.)	—
Total loss coefficient	—
Weir coefficient	3.0
Pier coefficient	~~0.3~~
Contraction loss coefficient	0.6
Expansion loss coefficient	0.8

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? ..... ☐ Yes ☐ No

B Based on the conditions *(such as geomorphology, vegetative cover and development of the watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? ..... ☐ Yes ☐ No

.. If the answer to either 1A or 1B is yes:

A. What is the estimated sediment *(bed material)* load?
_____cfs *(attach gradation curve)*

Explain method used to estimate the sediment transport and the depth of scour and/or deposition NA - Sediment transport not considered in analysis.

B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

If yes, explain the impact on the conveyance capacity through the bridge/culvert?_____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (floodway run) _____

Comments *(explain any unusual situations)*:

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **RIVERINE/COASTAL MAPPING FORM**	O.M.B. Burden No. 3067-0148 Expires July 31, 1994	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 1.5 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden, to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, S.W., Washington, DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

Community Name: Unincorporated Maricopa County/Town of Wickenburg

Flooding Source: WASH AH3: UNNAMED SOLS WASH TRIBUTARY (#3)

Project Name/Identifier: Wickenburg ADMS FCD 89-79

1. MAPPING CHANGES

1. A topographic work map of suitable scale, contour interval, and planimetric definition must be submitted showing *(indicate N/A when not applicable)*:

		Included		
A.	Revised approximate 100-year floodplain boundaries (Zone A)	☐ Yes	☒ No	☐ N/A
B.	Revised detailed 100- and 500-year floodplain boundaries	☒ Yes	☐ No	☐ N/A
C.	Revised 100-year floodway boundaries	☒ Yes	☐ No	☐ N/A
D.	Location and alignment of all cross sections used in the revised hydraulic model with stationing control indicated	☒ Yes	☐ No	☐ N/A
E.	Stream alignments, road and dam alignments	☒ Yes	☐ No	☐ N/A
F.	Current community boundaries	☒ Yes	☐ No	☐ N/A
G.	Effective 100- and 500-year floodplain and 100-year floodway boundaries from the FIRM/FBFM reduced or enlarged to the scale of the topographic work map	☐ Yes	☐ No	☒ N/A
H.	Tie-ins between the effective and revised 100- and 500-year floodplains and 100-year floodway boundaries	☐ Yes	☐ No	☒ N/A
I.	The requestor's property boundaries and community easements	☐ Yes	☐ No	☒ N/A
J.	The signed certification of a registered professional engineer	☒ Yes	☐ No	☐ N/A
K.	Location and description of reference marks	☒ Yes	☐ No	☐ N/A
L.	Vertical datum (example: NGVD, NAVD etc.)	☒ Yes	☐ No	☐ N/A
M.	Coastal zone designations tie into adjacent areas not being revised	☐ Yes	☐ No	☒ N/A
N.	Location and alignment of all coastal transects used to revise the coastal analyses	☐ Yes	☐ No	☒ N/A

If any of the items above are marked no or N/A, please explain: No Zone A, 500-year, or coastal zones revised or delineated. Revised 100-year floodplains tie into effective Hassayampa River floodplain.

2. What is the source and date of the updated topographic information *(example: orthophoto maps, July 1985; field survey, May 1979, beach profiles, June 1987, etc.)*? Photo: Jan. 1991 (E), Oct 1990 (W); Maps 1992

3. What is the scale and contour interval of the following work maps?
   a. Effective FIS unknown scale unknown Contour interval
   b. Revision Request 1" = 200' scale 4 FT Contour interval

NOTE: Revised topographic information must be of equal or greater detail.

4. Attach an annotated FIRM and FBFM at the scale of the effective FIRM and FBFM showing the revised 100-year and 500-year floodplains and the 100-year floodway boundaries and how they tie into those shown on the effective FIRM and FBFM downstream and upstream of the revision or adjacent to the area of revision for coastal studies.

Attach additional pages if needed.

5. Flood Boundaries and 100-year water surface elevations:

Has the 100-year floodplain been shifted or increased or the 100-year water surface elevation increased at any location on property other than the requestor's or community's? ☐ Yes ☒ No

If yes, please give the location of shift or increase and an explanation for the increase.

~~Revised~~ New detailed 100-year floodplain; ~~replaces~~ proposed effective zone AE floodplain.

a. Have the affected property owners been notified of this shift or increase and the effect it will have on their property? ..... ☐ Yes ☒ No

If yes, please attach letters from these property owners stating they have no objections to the revised flood boundaries if a LOMR is being requested.

b. What is the number of insurable structures that will be impacted by this shift or increase? _____

6. Have the floodway boundaries shifted or increased at any location compared to those shown on the effective FBFM or FIRM? ..... ☐ Yes ☒ No

If yes, explain:

7. If a V-zone has been designated, has it been delineated to extend landward to the heel of the primary frontal dune? ☐ Yes ☒ No

If no, explain: NA

8. Manual or digital map submission:

☒ Manual

☐ Digital

Digital map submissions may be used to update digital FIRMs (DFIRMs). For updating DFIRMs, these submissions must be coordinated with FEMA Headquarters as far in advance of submission as possible.

2. EARTH FILL PLACEMENT

1. The fill is: ☐ Existing ☐ Proposed ☒ N/A

2. Has fill been/will be placed in the regulatory floodway? ..... ☐ Yes ☒ No
   If yes, please attach completed Riverine Hydraulic Analysis Form.

3. Has fill been/will be placed in floodway fringe *(area between the floodway and 100-year floodplain boundaries)*? ..... ☐ Yes ☒ No

   If yes, then complete A, B, C, and D below.

   A. Are fill slopes for granular materials steeper than one vertical on one-and-one-half horizontal? ..... ☐ Yes ☐ No

      If yes, justify steeper slopes _____

      _____

   B. Is adequate erosion protection provided for fill slopes exposed to moving flood waters? *(Slopes exposed to flows with velocities of up to 5 feet per second (fps) during the 100-year flood must, at a minimum, be protected by a cover of grass, vines, weeds, or similar vegetation; slopes exposed to flows with velocities greater than 5 fps during the 100-year flood must, at a minimum, be protected by stone or rock riprap.)* ..... ☐ Yes ☐ No

      If no, describe erosion protection provided _____

      _____

   C. Has all fill placed in revised 100-year floodplain been compacted to 95 percent of the maximum density obtainable with the Standard Proctor Test Method or acceptable equivalent method? ☐ Yes ☐ No

   D. Can structures conceivably be constructed on the fill at any time in the future? ☐ Yes ☐ No

   If yes, provide certification of fill compaction (item C. above) by the community's NFIP permit official, a registered professional engineer, or an accredited soils engineer.

4. Has fill been/will be placed in a V-zone? ☐ Yes ☒ No

   If yes, is the fill protected from erosion by a flood control structure such as a revetment or seawall? ☐ Yes ☐ No

   If yes, attach the coastal structures form.

```
*********************************************
*  HEC-2 WATER SURFACE PROFILES             *
*                                           *
*  Version   4.6.2;  May 1991               *
*                                           *
*  RUN DATE    20AUG92    TIME  08:58:36    *
*********************************************
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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 20AUG92 08:58:36

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

 Version   4.6.2;  May 1991
*************************************
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T1 WICKENBURG ADMS CONTRACT FCD 89-79

B&V PN 17676 CVL JN 1197-02
WASH AH3 UNNAMED TRIBUTARY TO SOLS WASH

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	2	0	0	.01	0	0	0	2319.0	0

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	1	0	-1	0	0	0	-1	0	0	15

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

150 200

QT	2	4046	4046							
NC	0.055	.055	.035	.3	.1					
ET			9.1						381.2	1038.12

Starting WSEL determined using slope-area method.
Flowrate from HEC-1 model combine operation CAH96.

X1	0.090	63	955	1015	0	0	0			
GR	2328.4	1.4	2328.4	19.1	2328.3	36.8	2328.2	54.5	2328.1	72.3
GR	2328	90	2327.8	107.4	2327.6	124.7	2327.4	142.1	2327.3	159.4
GR	2327.1	176.8	2326.9	194.2	2326.7	211.6	2326.6	228.9	2326.4	246.3
GR	2326.2	263.6	2326	281	2325.6	298.8	2325.2	316.6	2324.8	334.4
GR	2324.4	352.2	2324	370	2323.9	387.8	2323.9	405.5	2323.9	423.3
GR	2323.8	441.1	2323.8	458.9	2323.7	476.6	2323.7	494.4	2323.6	512.2
GR	2323.6	530	2323.6	547.7	2323.5	565.5	2323.4	583.3	2323.4	601
GR	2323.4	618.8	2323.3	636.6	2323.3	654.4	2323.2	672.1	2323.2	689.9
GR	2323.1	707.7	2323.1	725.5	2323.1	743.2	2323	761	2322.8	779
GR	2322.7	797	2322.5	815	2322.3	833	2322.2	851	2322	869
GR	2321.8	886.2	2321.6	903.4	2321.4	920.6	2321.2	937.8	2321	955
GR	2320	975	2318	1000	2320	1015	2322.7	1030.7	2325.3	1046.3
GR	2328	1062	2329	1081	2330	1100				

ET			9.1						691.43	1069.37

Section lies in Sols Wash Floodplain and is extremely wide and flat.
Channel virtually undefined except as a narrow strip without growth.

X1	0.187	68	979	1042.3	350	500	510			
GR	2331.3	3.3	2331.2	22.5	2331.1	41.8	2331	61	2331	78.9
GR	2331	96.8	2331	114.6	2331	132.5	2331	150.4	2331	168.3
GR	2331	186.1	2331	204	2330.9	222.3	2330.8	240.7	2330.7	259
GR	2330.6	277.3	2330.4	295.7	2330.3	314	2330.2	332.3	2330.1	350.7
GR	2330	369	2329.8	387.6	2329.6	406.2	2329.4	424.8	2329.2	443.4
GR	2329	462	2328.8	480.6	2328.6	499.2	2328.4	517.8	2328.2	536.4
GR	2328	555	2327.9	573.9	2327.8	592.8	2327.8	611.8	2327.7	630.7
GR	2327.6	649.6	2327.5	668.5	2327.4	687.4	2327.3	706.3	2327.3	725.3
GR	2327.2	744.2	2327.1	763.1	2327	782	2327.1	801.2	2327.2	820.4
GR	2327.3	839.7	2327.4	858.9	2327.6	878.1	2327.7	897.3	2327.8	916.6
GR	2327.9	935.8	2328	955	2328	979	2327	1000	2328	1022
GR	2327.7	1042.3	2327.3	1062.7	2327	1083	2327	1101.5	2327	1120
GR	2328	1142	2329	1164	2328.5	1184.5	2328	1205	2329	1230
GR	2330	1246.7	2331	1263.3	2332	1280				

			9.1						866.41	1076.26
X1	0.283	62	963.3	1025	450	520	510			
GR	2338.8	457	2338.6	474	2338.4	491	2338.2	508	2338	525
GR	2337.7	542.1	2337.4	559.3	2337.1	576.4	2336.9	593.6	2336.6	610.7
GR	2336.3	627.9	2336	645	2335.5	661.3	2335	677.5	2334.5	693.8
GR	2334	710	2333.9	726.9	2333.9	743.8	2333.8	760.8	2333.7	777.7
GR	2333.6	794.6	2333.5	811.5	2333.5	828.5	2333.4	845.4	2333.3	862.3
GR	2333.2	879.2	2333.1	896.2	2333.1	913.1	2333	930	2332.7	946.7
GR	2332.3	963.3	2332	980	2331	1000	2332	1013	2333	1025
GR	2333	1042.5	2333	1060	2333.1	1076.7	2333.2	1093.3	2333.3	1110
GR	2333.4	1126.7	2333.6	1143.3	2333.7	1160	2333.8	1176.7	2333.9	1193.3
GR	2334	1210	2334.3	1226.8	2334.7	1243.7	2335	1260.5	2335.3	1277.3
GR	2335.7	1294.2	2336	1311	2336.2	1329.6	2336.4	1348.2	2336.6	1366.8
GR	2336.8	1385.4	2337	1404	2337.3	1420.3	2337.7	1436.7	2338	1453
GR	2339	1471	2340	1489						
ET			9.1						783.54	1056.07

Secondary channel on right begins at Section 0.455. Appears to be
a viable conveyance. Floodplain shifted 40 ft to match topography.

X1	0.392	46	965	1032	610	540	575			
GR	2342.8	635.3	2342.5	648.5	2342.3	661.8	2342	675	2341	692.5
GR	2340	710	2338.5	724.5	2337	739	2337	752.7	2337	766.4
GR	2337	780.1	2337	793.9	2337	807.6	2337	821.3	2337	835
GR	2337.2	848.3	2337.3	861.7	2337.5	875	2337.7	888.3	2337.8	901.7
GR	2338	915	2338	931.7	2338	948.3	2338	965	2337.5	977.5
GR	2337	990	2336	1000	2337	1019	2337.5	1032	2338	1045
GR	2338	1059.8	2338	1074.5	2338	1089.3	2338	1104	2338.1	1117.8
GR	2338.2	1131.6	2338.3	1145.3	2338.4	1159.1	2338.6	1172.9	2338.7	1186.7
GR	2338.8	1200.4	2338.9	1214.2	2339	1228	2340.7	1242.3	2342.3	1256.7
GR	2344	1271								
ET			9.1						794.12	1104.67
X1	0.455	80	990	1057.4	370	300	330			
GR	2353.3	701.7	2351.1	708.9	2348.9	716.1	2346.7	723.3	2344.4	730.6
GR	2342.2	737.8	2340	745	2339.3	753.3	2338.7	761.7	2338	770
GR	2338	777.5	2338	785	2338.8	793	2339.6	801	2340.4	809
GR	2341.2	817	2342	825	2342	832.4	2342	839.8	2342	847.2
GR	2342	854.6	2342	862	2342	869.4	2342	876.8	2342	884.2
GR	2342	891.6	2342	899	2341.9	906.8	2341.8	914.5	2341.6	922.3
GR	2341.5	930	2341.4	937.8	2341.3	945.5	2341.1	953.3	2341	961
GR	2340.5	968.5	2340	976	2339.5	983	2339	990	2338	1000
GR	2339	1010	2338.8	1018	2338.6	1026	2338.4	1034	2338.2	1042
GR	2338	1050	2338.1	1057.4	2338.2	1064.8	2338.3	1072.3	2338.3	1079.7
GR	2338.4	1087.1	2338.5	1094.5	2338.6	1101.9	2338.7	1109.3	2338.8	1116.8
GR	2338.8	1124.2	2338.9	1131.6	2339	1139	2339.3	1146.8	2339.5	1154.5
GR	2339.8	1162.3	2340	1170	2340.6	1177.4	2341.1	1184.9	2341.7	1192.3
GR	2342.3	1199.7	2342.9	1207.1	2343.4	1214.6	2344	1222	2345	1230.3
GR	2346	1238.5	2347	1246.8	2348	1255	2348.6	1262.9	2349.1	1270.7
GR	2349.7	1278.6	2350.3	1286.4	2350.9	1294.3	2351.4	1302.1	2352	1310

			9.1						971.00	1111.37
X1	0.564	60	971	1030	570	560	580			
GR	2361	800	2360	810	2356	820	2352	830	2350.7	840.7
GR	2349.3	851.3	2348	862	2347.8	871.5	2347.5	881	2347.3	890.5
GR	2347	900	2346.8	909.2	2346.7	918.3	2346.5	927.5	2346.3	936.7
GR	2346.2	945.8	2346	955	2345.3	963	2344.7	971	2344	979
GR	2343	989	2342	1000	2343	1009	2344	1020	2344.3	1030
GR	2344.7	1040	2345	1050	2345.3	1060.5	2345.5	1071	2345.8	1081.5
GR	2346	1092	2345.8	1102.3	2345.5	1112.5	2345.3	1122.8	2345	1133
GR	2345.2	1142.7	2345.4	1152.3	2345.7	1162	2345.9	1171.7	2346.1	1181.3
GR	2346.3	1191	2346.6	1200.7	2346.8	1210.3	2347	1220	2347.2	1230
GR	2347.3	1240	2347.5	1250	2347.7	1260	2347.8	1270	2348	1280
GR	2352	1290	2356	1300	2357	1310.5	2358	1321	2359	1331.5
GR	2360	1342	2360.3	1352.3	2360.5	1362.5	2360.8	1372.8	2361	1383
ET			9.1						985.00	1122.30
X1	0.652	87	985	1039	445	485	460			
GR	2357.3	901	2356	911	2354.7	920.3	2353.3	929.7	2352	939
GR	2351	949.5	2350	960	2349	972	2346	985	2345.5	992.5
GR	2345	1000	2345.5	1010	2346	1020	2346.5	1029.5	2347	1039
GR	2347.5	1049.5	2348	1060	2348.1	1069.4	2348.3	1078.8	2348.4	1088.1
GR	2348.5	1097.5	2348.6	1106.9	2348.8	1116.3	2348.9	1125.6	2349	1135
GR	2349.1	1144	2349.2	1153	2349.3	1162	2349.4	1171	2349.5	1180
GR	2349.6	1189	2349.7	1198	2349.8	1207	2349.9	1216	2350	1225
GR	2350.1	1234.1	2350.1	1243.2	2350.2	1252.3	2350.2	1261.5	2350.3	1270.6
[illegible]	2350.4	1279.7	2350.4	1288.8	2350.5	1297.9	2350.5	1307.1	2350.6	1316.2
[illegible]	2350.6	1325.3	2350.7	1334.4	2350.8	1343.5	2350.8	1352.7	2350.9	1361.8
GR	2350.9	1370.9	2351	1380	2351	1389.2	2351	1398.5	2351	1407.7
GR	2351	1416.9	2351	1426.2	2351	1435.4	2351	1444.6	2351	1453.8
GR	2351	1463.1	2351	1472.3	2351	1481.5	2351	1490.8	2351	1500
GR	2351.1	1508.9	2351.1	1517.7	2351.2	1526.6	2351.3	1535.5	2351.3	1544.3
GR	2351.4	1553.2	2351.5	1562.1	2351.5	1570.9	2351.6	1579.8	2351.7	1588.7
GR	2351.7	1597.5	2351.8	1606.4	2351.9	1615.3	2351.9	1624.1	2352	1633
GR	2352.8	1641.4	2353.6	1649.8	2354.4	1658.2	2355.2	1666.6	2356	1675
GR	2356.5	1684	2357	1693						
ET			9.1						965.00	1197.51
X1	0.751	80	965	1011	555	375	525			
GR	2364	890	2363	897	2362	904	2361	911	2360	918
GR	2356	924	2352	930	2351.2	937	2350.4	944	2349.6	951
GR	2348.8	958	2348	965	2347.7	973.3	2347.3	981.7	2347	990
GR	2347	1000	2348	1011	2348.5	1018	2349	1025	2350	1033.3
GR	2351	1041.7	2352	1050	2352.3	1057.5	2352.5	1065	2352.8	1072.5
GR	2353	1087.8	2353	1103.3	2353	1118.8	2353	1134.3	2352.9	1149.3
GR	2352.6	1163.8	2352.4	1178.3	2352.1	1192.8	2352	1200	2352.3	1207.3
GR	2352.7	1214.7	2353	1222	2352.8	1229	2352.5	1236	2352.3	1243
GR	2352	1250	2351.7	1257	2351.3	1264	2351	1271	2351	1285.8
GR	2351	1300.5	2351	1315.3	2351	1330	2351.4	1343.6	2351.6	1350.4
GR	2352	1364	2352.4	1372.2	2352.8	1380.4	2353.2	1388.6	2353.6	1396.8
GR	2354	1405	2354	1419.4	2354	1433.9	2354	1448.3	2354	1462.8
[illegible]	2354	1470	2354.3	1477.5	2354.5	1485	2354.8	1492.5	2355	1500
[illegible]	2355.3	1507.5	2355.5	1515	2355.8	1522.5	2356	1530	2356.3	1537.5
GR	2356.7	1545	2357	1552.5	2357.3	1560	2357.7	1567.5	2358	1575

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     2358.3    1582.5    2358.7    1590      2359      1597.5    2359.3    1605      2359.7    1612.5

ET             7.1       9.1                                     890       1330      968.36    1130.
          Section 0.809 taken from topographic map.  Added for improved
          representation of contraction between sections 0.751 and 0.860.
X1   0.809     7         970       1030      280       280       305
GR   2360      865       2356      890       2352      970       2350      1000      2352      1030
GR   2356      1210      2360      1330


ET             7.1       9.1                                     850       1210      969.96    1134.00
X1   0.860     81        980       1022      300       225       270
GR   2366      760       2365.5    765       2365      770       2364.5    775       2364      780
GR   2363.7    784.6     2363.3    789.2     2363      793.8     2362.7    798.3     2362.3    802.9
GR   2362      807.5     2361.7    812.1     2361.3    816.7     2361      821.3     2360.7    825.8
GR   2360.3    830.4     2360      835       2359.8    839.4     2359.5    843.8     2359.3    848.1
GR   2359      852.5     2358.8    856.9     2358.5    861.3     2358.3    865.6     2358      870
GR   2357.7    883.6     2357.6    892.7     2357.4    897.3     2357.2    910.9     2356.9    924.3
GR   2356.6    932.9     2356.4    937.1     2356.1    945.7     2356      950       2355.7    954.3
GR   2355.4    958.6     2355.1    962.9     2354.9    967.1     2354.6    971.4     2354.3    975.7
GR   2354      980       2353.5    985       2353      990       2352.5    995       2352      1000
GR   2352.7    1005      2353.3    1010      2354      1015      2355      1018.5    2356      1022
GR   2356.4    1031.2    2356.6    1035.8    2357      1045      2356.6    1058.1    2356.4    1066.9
GR   2356.1    1075.6    2355.8    1084.5    2355.6    1089      2355.4    1093.5    2355      1102.5
GR   2354.6    1111.5    2354.4    1116      2354      1125      2354.3    1129.6    2354.6    1134.1
GR   2354.9    1138.7    2355.1    1143.3    2355.4    1147.9    2355.7    1152.4    2356      1157
     2356.4    1161.8    2356.8    1166.5    2357.1    1171.3    2357.5    1176      2357.9    1180.8
     2358.3    1185.5    2358.6    1190.3    2359      1195      2359.3    1200      2359.5    1205
GR   2359.8    1210

ET                       9.1                                                         917.23    1020.06
X1   0.945     68        968       1014      350       455       450
GR   2370      620       2369.6    624       2369.2    628       2368.8    632       2368.4    636
GR   2368      640       2367.4    644.1     2366.9    648.3     2366.3    652.4     2365.7    656.6
GR   2365.1    660.7     2364.6    664.9     2364      669       2363.7    677.7     2363.3    686.3
GR   2363      695       2363      703.3     2363      711.7     2363      720       2363      728.3
GR   2363      736.7     2363      745       2362.9    753       2362.8    761       2362.6    769
GR   2362.5    777       2362.4    785       2362.3    793       2362.1    801       2362      809
GR   2361.7    817       2361.5    825       2361.2    833       2361.1    837       2360.9    841
GR   2360.7    849       2360.4    857       2360.1    865       2359.9    872.9     2359.8    880.8
GR   2359.6    888.6     2359.5    896.5     2359.3    904.3     2359.1    912.2     2359      920
GR   2359.4    928       2359.6    932       2360      940       2360      948       2360      956
GR   2360      960       2359.4    964       2358.8    968       2358.2    972       2357.6    976
GR   2357      980       2356.7    983.7     2356.3    987.3     2356      991       2355.5    995.5
GR   2355      1000      2355.5    1005      2356      1010      2358.4    1014      2360.8    1018
GR   2363.2    1022      2365.6    1026      2368      1030

ET                       9.1                                                         902       1025.39
X1   1.038     48        970.2     1018.7    440       495       490
GR   2378.8    760.0     2378.0    774.4     2376.8    792.6     2375.7    797.1     2374.8    803.8
GR   2373.9    809.4     2372.8    815.4     2372.1    819.7     2371.0    821.4     2369.4    822.7
     2368.6    824.2     2367.7    825.4     2367.4    831.6     2366.5    839.7     2365.3    847.3
     2365.0    855.2     2364.7    858.9     2365.1    863.4     2365.4    870.6     2365.5    880.8
GR   2365.2    888.6     2364.9    901.5     2364.4    916.7     2363.9    927.4     2364.3    938.2
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	2364.3	951.7	2364.1	964.3	2363.0	970.2	2361.6	981.4	2360.0	992.3
	2359.8	994.2	2359.8	996.7	2359.7	1000.0	2359.8	1007.6	2361.7	1014.6
GR	2364.0	1018.7	2369.2	1031.6	2371.8	1040.8	2372.9	1052.9	2373.3	1063.8
GR	2373.2	1077.4	2372.7	1085.4	2372.3	1098.3	2368.4	1114.1	2368.8	1121.8
GR	2369.8	1133.8	2370.5	1141.5	2371.1	1150.7				
ET			9.1						973.78	1116.40
X1	1.131	31	980	1022.5	470	440	490			
GR	2386.7	954.3	2380	962	2372.5	971	2365	980	2364.5	990
GR	2364	1000	2364.5	1007.5	2365	1015	2365.5	1022.5	2366	1030
GR	2366.2	1037.8	2366.4	1045.6	2366.7	1053.3	2366.9	1061.1	2367.1	1068.9
GR	2367.3	1076.7	2367.6	1084.4	2367.8	1092.2	2368	1100	2369	1107.5
GR	2370	1115	2371	1122.5	2372	1130	2373	1138	2374	1146
GR	2375	1154	2376	1162	2376.2	1169.7	2376.3	1177.3	2376.5	1185
GR	2376.7	1192.7								
ET		7.1	9.1				850	1155	965	1066
	Encroach to 850 for small left bank tributary.									
X1	1.229	74	980	1029	425	520	520			
GR	2380	740	2379.2	743.7	2378.3	747.3	2377.5	751	2376.7	754.7
GR	2375.8	758.3	2375	762	2374.6	769.6	2374.4	773.4	2374	781
GR	2373.6	788.6	2373.4	792.4	2373	800	2373.3	808	2373.6	820
GR	2373.9	828	2374	841	2373.9	854	2373.7	865.8	2373.4	877.7
GR	2373.2	889.6	2373	901.5	2372.7	913.4	2372.5	925.2	2372.2	937.1
GR	2372	949	2371.6	952.9	2371.3	956.8	2370.9	960.6	2370.5	964.5
GR	2370.1	968.4	2369.8	972.3	2369.4	976.1	2369	980	2368.5	985
	2368	990	2367.5	995	2367	1000	2367.5	1005	2368	1010
	2368.4	1017.6	2368.6	1021.4	2369	1029	2369.2	1033.1	2369.5	1037.2
GR	2369.9	1045.3	2370.1	1049.4	2370.4	1053.5	2370.6	1057.5	2370.9	1061.6
GR	2371.1	1065.7	2371.5	1073.8	2371.8	1077.9	2372	1082	2372.4	1085.8
GR	2372.8	1089.6	2373.2	1093.4	2373.6	1097.2	2374	1101	2374.4	1104.8
GR	2374.8	1108.6	2375.2	1112.4	2375.6	1116.2	2376	1120	2376.4	1123.9
GR	2376.7	1127.8	2377.1	1131.7	2377.4	1135.6	2377.8	1139.6	2378.2	1143.4
GR	2378.6	1147.4	2378.9	1151.3	2379.3	1155.2	2379.6	1159.1		
ET			9.1						964.77	1090.67
X1	1.330	77	986.8	1028.7	510	530	535			
GR	2385	820	2384.7	827.1	2384.6	830.7	2384.4	834.3	2384.1	841.4
GR	2383.9	848.6	2383.6	855.7	2383.4	859.3	2383.1	866.4	2382.9	873.6
GR	2382.6	880.7	2382.4	884.3	2382.1	891.4	2381.8	898.6	2381.6	902.3
GR	2381.4	905.9	2381.1	913.2	2380.9	916.8	2380.6	924.1	2380.4	927.7
GR	2380	935	2379.6	938.5	2379.3	942.1	2378.9	945.6	2378.6	949.2
GR	2378.2	952.7	2377.8	956.3	2377.4	959.8	2377.1	963.4	2376.7	966.9
GR	2376.4	970.5	2376	974	2375.2	977.2	2374.4	980.4	2373.6	983.6
GR	2372.8	986.8	2372	990	2371.7	993.3	2371.3	996.7	2371	1000
GR	2371.3	1003	2371.7	1006	2372	1009	2372.3	1015.6	2372.4	1018.9
GR	2372.6	1022.1	2372.9	1028.7	2373.1	1035.6	2373.2	1046.2	2373.4	1056.9
GR	2373.6	1067.6	2373.7	1078.2	2373.9	1088.9	2374	1096	2374.5	1099.8
GR	2375	1103.5	2375.5	1107.3	2376	1111	2376.4	1114.6	2376.7	1118.1
GR	2377.1	1121.6	2377.4	1125.2	2377.8	1128.7	2378.2	1132.3	2378.6	1135.8
GR	2378.9	1139.4	2379.3	1142.9	2379.6	1146.4	2380	1150	2380.4	1153.3
	2380.9	1156.7	2381.3	1160	2381.8	1163.3	2382.2	1166.7	2382.7	1170
	2383.1	1173.3	2383.6	1176.7						

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                7.1       9.1                                820      1140       928    1039.18
        Encroach to 1140 for upstream contraction.
        Floodplain mapped to WSEL.
X1    1.396       70       952    1011.3       335       220       345
GR     2388      820    2387.5       824      2387       828    2386.5       832      2386       836
GR   2385.5      840      2385       844    2384.5       848      2384       852    2383.6     855.8
GR   2383.2    859.6    2382.8     863.4    2382.4     867.2      2382       871    2381.6     874.8
GR   2381.2    878.6    2380.8     882.4    2380.4     886.2      2380       890    2379.7     894.2
GR   2379.3    898.3      2379     902.5    2378.7     906.7    2378.3     910.8      2378       915
GR   2377.7    919.2    2377.3     923.3      2377     927.5    2376.7     931.7    2376.3     935.8
GR     2376      940    2375.6       948    2375.4       952      2375       960      2375     972.4
GR     2375    984.9      2375       989    2374.7     992.7    2374.3     996.3      2374      1000
GR   2374.5   1003.8      2375    1007.5    2375.5    1011.3      2376      1015    2376.3      1023
GR   2376.7     1031      2377      1039    2377.3    1051.3    2377.6    1063.6    2377.9    1075.9
GR   2378.1   1083.9    2378.3    1095.7    2378.5    1107.5    2378.7    1119.3    2378.9    1131.1
GR   2379.1   1138.9    2379.4    1150.6    2379.4    1154.6    2379.6    1158.4    2379.8    1170.2
GR     2380     1178      2381    1182.2      2382    1186.4      2383    1190.6      2384    1194.8
GR     2385     1199      2386    1203.2      2387    1207.4      2388    1211.6      2389    1215.8


QT        2     2741      2741
ET              7.1       9.1                                804      1280    941.51    1059.60
        Flowrate upstream of right bank tributary from HEC-1 operation CAH86.
X1    1.499       35       978      1020       425       575       545
GR     2392      804      2388       831    2386.7     841.3    2385.3     851.7      2384       862
GR   2383.8      884    2383.6       895    2383.4       917    2383.3       928    2383.1       939
GR     2383      950    2382.7     959.3    2382.3     968.7      2382       978      2381       990
GR     2381     1000      2381      1010      2382      1020    2382.3    1031.7    2382.7    1043.3
GR     2383     1055    2383.3    1075.8    2383.5    1096.5    2383.6    1106.9    2383.8    1117.3
GR     2384     1138      2386      1159      2388      1180    2388.8      1204    2389.6      1228
GR     2390     1240    2391.5      1270      2392      1280      2392      1310      2392      1320

ET              7.1       9.1                                890      1250    958.00    1055.00
X1    1.569       31       970      1020       390       325       370
GR     2396      905      2394       920      2392       935      2388       956      2384       970
GR     2383      979      2382      1000      2383      1008      2384      1020      2385      1040
GR   2385.5     1055      2386      1070      2386    1093.3      2386      1105    2385.7      1120
GR   2385.3     1135      2385      1150    2385.5    1163.8      2386    1177.7    2386.5    1191.5
GR     2387   1205.3    2387.5    1219.2      2388      1233    2389.3    1257.7    2390.7    1282.3
GR     2392     1307      2392    1332.6      2392    1358.2      2392      1371    2392.8    1384.8
GR   2393.6   1398.6

ET                        9.1                                                       960.00    1081.00
X1    1.683       28       980      1030       520       575       600
GR   2400.8      596    2397.6       649      2396       675      2394     727.5      2392       780
GR     2390      840      2391       860    2391.3       875    2391.7       890      2392       905
GR     2392      929      2391       960      2390       980      2388       991      2387      1000
GR     2388     1009      2389      1015      2389      1030      2388      1050      2388      1069
GR   2389.7     1081    2391.3      1093      2393      1105      2396      1145    2396.9    1185.7
GR     2398     1240    2399.6    1298.4      2400      1313
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			9.1						969.00	1109.00
X1	1.774	68	982.5	1025	405	510	480			
GR	2400.7	748.2	2400.4	754.1	2400	760	2399.7	766.1	2399.4	772.1
GR	2399.1	778.2	2398.9	784.3	2398.6	790.4	2398.3	796.4	2398	802.5
GR	2397.7	808.6	2397.4	814.6	2397.1	820.7	2396.9	826.8	2396.6	832.9
GR	2396.3	838.9	2396	845	2395.8	851	2395.6	857	2395.3	863
GR	2395.1	869	2394.9	875	2394.7	881	2394.4	887	2394.2	893
GR	2394	899	2394.2	905	2394.3	911	2394.5	917	2394.7	923
GR	2394.8	929	2395	935	2394.9	940.7	2394.7	946.4	2394.6	952.1
GR	2394.4	957.9	2394.3	963.6	2394.1	969.3	2394	975	2393	982.5
GR	2392	990	2391.5	995	2391	1000	2391.5	1005	2392	1010
GR	2392.5	1017.5	2393	1025	2393.2	1036.8	2393.4	1048.6	2393.4	1054.6
GR	2393.6	1060.4	2393.7	1072.3	2393.9	1084.1	2394	1096.4	2394	1109.2
GR	2394	1122	2394.3	1128.4	2394.5	1134.8	2394.8	1141.1	2395	1147.5
GR	2395.3	1153.9	2395.5	1160.3	2395.8	1166.6	2396	1173	2396.8	1179.4
GR	2397.6	1185.8	2398.4	1192.2	2399.2	1198.6				

ET			9.1						980.00	1191.00
NH	5	.055	980	.035	1020	.055	1158.1	.035	1196.9	.055
NH	1312									
X1	1.872	85	980	1020	515	475	520			
GR	2408.0	800.0	2407.5	806.3	2407.0	812.5	2406.5	818.8	2406.0	825.0
GR	2405.8	831.0	2405.6	837.0	2405.4	843.0	2405.2	849.0	2405.0	855.0
GR	2404.8	861.0	2404.6	867.0	2404.4	873.0	2404.2	879.0	2404.0	885.0
[illegible]	2403.2	891.0	2402.4	897.0	2401.6	903.0	2400.8	909.0	2400.0	915.0
[illegible]	2399.5	921.3	2399.0	927.5	2398.5	933.8	2398.0	940.0	2397.7	945.7
GR	2397.4	951.4	2397.1	957.1	2396.9	962.9	2396.6	968.6	2396.3	974.3
GR	2396.0	980.0	2395.7	986.7	2395.3	993.3	2395.0	1000.0	2395.3	1006.7
GR	2395.7	1013.3	2396.0	1020.0	2396.2	1026.0	2396.4	1032.0	2396.6	1038.0
GR	2396.8	1044.0	2397.0	1050.0	2397.1	1056.1	2397.2	1062.2	2397.3	1068.3
GR	2397.4	1074.4	2397.6	1080.6	2397.7	1086.7	2397.8	1092.8	2397.9	1098.9
GR	2398.0	1105.0	2397.8	1110.9	2397.6	1116.8	2397.4	1122.7	2397.2	1128.6
GR	2397.0	1134.5	2396.8	1140.4	2396.6	1146.3	2396.4	1152.2	2396.2	1158.1
GR	2396.0	1164.0	2395.7	1169.3	2395.3	1174.7	2395.0	1180.0	2395.5	1185.5
GR	2396.0	1191.0	2396.3	1196.9	2396.5	1202.8	2396.8	1208.6	2397.0	1214.5
GR	2397.3	1220.4	2397.5	1226.3	2397.8	1232.1	2398.0	1238.0	2398.2	1244.4
GR	2398.4	1250.8	2398.6	1257.2	2398.8	1263.6	2399.0	1270.0	2399.5	1277.5
GR	2400.0	1285.0	2401.0	1291.8	2402.0	1298.5	2403.0	1305.3	2404.0	1312.0

NC	.055	.055	.035	.2	.4					
ET			9.1						980.00	1101.69
X1	1.995	90	980	1025	690	570	650			
GR	2424	770	2423.6	774.5	2423.3	778.9	2422.9	783.4	2422.6	787.8
GR	2422.2	792.3	2421.8	796.7	2421.4	801.2	2421.1	805.6	2420.7	810.1
GR	2420.4	814.5	2420	819	2419.3	823.4	2418.7	827.8	2418	832.3
GR	2417.3	836.7	2416.7	841.1	2416	845.5	2415.3	849.9	2414.7	854.3
GR	2414	858.8	2413.3	863.2	2412.7	867.6	2412	872	2411.3	876.5
GR	2410.6	880.9	2409.8	885.4	2409.1	889.8	2408.4	894.3	2407.6	898.7
GR	2406.9	903.2	2406.2	907.6	2405.4	912.1	2404.7	916.5	2404	921
[illegible]	2403.8	929.5	2403.6	933.8	2403.4	942.3	2403.3	946.5	2403.1	950.8
[illegible]	2403	955	2402.7	959.2	2402.3	963.3	2402	967.5	2401.7	971.7
GR	2401.3	975.8	2401	980	2400.5	985	2400	990	2399.5	995

	2399	1000	2399.5	1005	2400	1010	2400.3	1015	2400.7	1020
	2401	1025	2401	1037.5	2401	1050	2400.8	1055	2400.5	1060
GR	2400.3	1065	2400	1070	2400	1085	2400	1090	2401.3	1095
GR	2402.7	1100	2404	1105	2405.1	1109.6	2406.2	1114.1	2407.3	1118.6
GR	2408.4	1123.2	2409.4	1127.7	2410.6	1132.3	2411.6	1136.8	2412.7	1141.4
GR	2413.8	1145.9	2414.9	1150.4	2416	1155	2416.7	1159.2	2417.3	1163.3
GR	2418	1167.5	2418.7	1171.7	2419.3	1175.8	2420	1180	2421.1	1184.3
GR	2422.3	1188.6	2423.4	1192.9	2424.6	1197.1	2425.7	1201.4	2426.9	1205.7
ET			9.1						969.47	1042.
X1	2.067	84	977.7	1023.3	430	320	380			
GR	2417	615	2416.7	620.9	2416.4	626.8	2416.2	632.7	2415.9	638.6
GR	2415.6	644.5	2415.4	650.5	2415.1	656.4	2414.8	662.3	2414.6	668.2
GR	2414.3	674.1	2414	680	2414.2	691.8	2414.4	703.6	2414.4	709.5
GR	2414.6	715.5	2414.7	727.3	2414.9	739.1	2415	745	2414.7	750.9
GR	2414.4	756.8	2414.2	762.7	2413.9	768.6	2413.6	774.5	2413.4	780.5
GR	2413.1	786.4	2412.8	792.3	2412.6	798.2	2412.3	804.1	2412	810
GR	2411	816.3	2410	822.5	2409	828.8	2408	835	2408	846.5
GR	2408	858	2408	869.5	2408	881	2408.2	892.6	2408.4	904.2
GR	2408.6	915.8	2408.8	927.4	2409	939	2408.7	950	2408.3	961
GR	2408	972	2406.7	977.7	2405.3	983.3	2404	989	2403.5	994.5
GR	2403	1000	2403.5	1005	2404	1010	2405.3	1016.7	2406.7	1023.3
GR	2408	1030	2408.1	1036.1	2408.2	1042.2	2408.3	1048.3	2408.4	1054.4
GR	2408.6	1060.6	2408.7	1066.7	2408.8	1072.8	2408.9	1078.9	2409	1085
GR	2409.3	1090.8	2409.5	1096.7	2409.8	1102.5	2410	1108.3	2410.3	1114.2
GR	2410.5	1120	2410.8	1125.8	2411	1131.7	2411.3	1137.5	2411.5	1143.3
[illegible]	2411.8	1149.2	2412	1155	2412.5	1160.6	2413	1166.3	2413.5	1171.9
[illegible]	2414	1177.5	2414.5	1183.1	2415	1188.8	2415.5	1194.4		
ET			9.1						872.24	1030.22
X1	2.126	88	972	1015	310	315	310			
GR	2420	465	2419.8	476.8	2419.6	488.6	2419.6	494.5	2419.4	500.5
GR	2419.3	512.3	2419.1	524.1	2418.9	535.9	2418.8	547.7	2418.7	559.4
GR	2418.6	571.2	2418.5	582.9	2418.4	594.7	2418.2	606.5	2418.1	618.2
GR	2418	630	2417.9	636.1	2417.7	642.3	2417.6	648.4	2417.5	654.5
GR	2417.3	660.7	2417.2	666.8	2417.1	672.9	2416.9	679.1	2416.8	685.2
GR	2416.7	691.3	2416.5	697.5	2416.4	703.6	2416.3	709.7	2416.1	715.9
GR	2416	722	2415.8	728.1	2415.6	734.2	2415.4	740.3	2415.2	746.4
GR	2415.1	752.5	2414.9	758.6	2414.7	764.7	2414.5	770.8	2414.3	776.9
GR	2414.1	783	2413.9	789	2413.7	795.1	2413.5	801.2	2413.3	807.3
GR	2413.1	813.4	2412.9	819.5	2412.8	825.6	2412.6	831.7	2412.4	837.8
GR	2412.2	843.9	2412	850	2411.3	855.5	2410.5	861	2409.8	866.5
GR	2409	872	2408.7	877.7	2408.3	883.3	2408	889	2408.3	894.3
GR	2408.7	899.7	2409	905	2409	911.3	2409	917.5	2409	923.8
GR	2409	930	2408.7	942	2408.6	948	2408.4	954	2408.1	966
GR	2408	972	2407.6	977.6	2407.2	983.2	2406.8	988.8	2406.4	994.4
GR	2406	1000	2407	1007.5	2408	1015	2409.3	1020.8	2410.7	1026.7
GR	2412	1032.5	2413.3	1038.3	2414.7	1044.2	2416	1050	2418.4	1056
GR	2420.8	1062	2423.2	1068	2425.6	1074				

			9.1						823.77	1026.10
	Floodplain moved 10 ft to match topographic map.									
X1	2.245	75	975	1020	490	660	630			
GR	2424	272	2423	287.8	2422	303.5	2421	319.3	2420	335
GR	2419.9	343.3	2419.8	351.7	2419.7	360	2419.6	368.3	2419.4	376.7
GR	2419.3	385	2419.2	393.3	2419.1	401.7	2419	410	2418.9	418.1
GR	2418.9	426.1	2418.8	434.2	2418.7	442.3	2418.6	450.4	2418.5	458.5
GR	2418.5	466.5	2418.4	474.6	2418.3	482.7	2418.2	490.8	2418.1	498.9
GR	2418.1	506.9	2418	515	2417.8	530.5	2417.5	546	2417.3	561.5
GR	2417	577	2416.8	592.5	2416.5	608	2416.3	623.5	2416	639
GR	2415.9	647.3	2415.8	655.5	2415.7	663.8	2415.6	672.1	2415.6	680.4
GR	2415.4	688.6	2415.4	696.9	2415.3	705.2	2415.2	713.5	2415.1	721.7
GR	2415	730	2415	746	2415	762	2415	778	2415	794
GR	2415	810	2414.7	818.3	2414.3	826.7	2414	835	2413.7	843.3
GR	2413.3	851.7	2413	860	2412	875	2411	890	2411.5	905
GR	2412	920	2412	935.7	2412	951.4	2412	967.1	2412	975
GR	2410	986	2409	1000	2410	1005	2411	1012.5	2412	1020
GR	2416	1030	2420	1040	2426.7	1047.7	2433.3	1055.3	2440	1063
ET			9.1						908.60	1050.14
X1	2.344	80	981	1020	440	550	520			
GR	2428	465	2427.8	473.3	2427.6	481.7	2427.3	490	2427.1	498.3
GR	2426.9	506.7	2426.7	515	2426.4	523.3	2426.2	531.7	2426	540
GR	2425.8	548.2	2425.6	556.4	2425.4	564.6	2425.2	572.8	2425	581
GR	2424.8	589.2	2424.6	597.4	2424.4	605.6	2424.2	613.8	2424	622
	2423.8	630.1	2423.7	638.2	2423.5	646.3	2423.3	654.3	2423.2	662.4
	2423	670.5	2422.8	678.6	2422.7	686.7	2422.5	694.8	2422.3	702.8
GR	2422.2	710.9	2422	719	2421.7	734.9	2421.6	742.8	2421.4	750.7
GR	2421.1	766.6	2420.9	782.4	2420.6	798.3	2420.4	806.2	2420.1	822.1
GR	2419.9	837.9	2419.6	853.6	2419.4	861.4	2419.1	877.1	2418.9	892.9
GR	2418.6	908.6	2418.4	916.4	2418.1	932.1	2417.8	948	2417.5	956
GR	2417.3	964	2417	972	2416.5	981	2416	990	2415	1000
GR	2416	1010	2416.5	1020	2417	1030	2417.4	1045.2	2417.6	1052.8
GR	2418	1068	2418.3	1083.5	2418.6	1099.1	2418.9	1114.6	2419.1	1122.4
GR	2419.4	1137.9	2419.7	1153.5	2420	1169	2420.7	1177.3	2421.3	1185.7
GR	2422	1194	2422.7	1202.3	2423.3	1210.7	2424	1219	2424.6	1227
GR	2425.1	1235	2425.7	1243	2426.3	1251	2426.9	1259	2427.4	1267
ET			9.1						872.75	1016.00
X1	2.444	86	976.6	1016	540	410	530			
GR	2432	770	2431.3	775.2	2430.7	780.3	2430	785.5	2429.3	790.7
GR	2428.7	795.8	2428	801	2426.7	807	2425.3	813	2424	819
GR	2423	824.5	2422	830	2421.7	835.3	2421.3	840.7	2421	846
GR	2420.7	851.3	2420.3	856.7	2420	862	2419.7	868	2419.3	874
GR	2419	880	2419.5	886.5	2420	893	2420.4	898	2420.8	903
GR	2421.2	908	2421.6	913	2422	918	2422	929	2422	940
GR	2421.5	945.3	2421	950.5	2420.5	955.8	2420	961	2419.6	971.4
GR	2419.4	976.6	2419	987	2418.5	993.5	2418	1000	2418.5	1005
GR	2419	1010	2419.5	1016	2420	1022	2420.3	1027.8	2420.5	1033.5
GR	2420.8	1039.3	2421	1045	2421.4	1050.5	2421.8	1056	2422.2	1061.5
	2422.6	1067	2423	1072.5	2423.4	1078	2423.8	1083.5	2424.2	1089
	2424.6	1094.5	2425	1100	2424.8	1111.2	2424.6	1122.4	2424.4	1133.6
GR	2424.2	1144.8	2424	1156	2424.3	1161.7	2424.6	1167.4	2424.9	1173.1

	2425.2	1178.8	2425.5	1184.5	2425.9	1190.2	2426.1	1195.8	2426.5	1201.5
	2426.8	1207.2	2427.1	1212.9	2427.4	1218.6	2427.7	1224.3	2428	1230
GR	2428.3	1235.5	2428.7	1241	2429	1246.5	2429.3	1252	2429.7	1257.5
GR	2430	1263	2430.3	1268.5	2430.7	1274	2431	1279.5	2431.3	1285
GR	2431.7	1290.5								
ET			9.1						708.00	1022.50
X1	2.534	87	978	1022.5	445	460	475			
GR	2436	544	2435	550.5	2434	557	2433	563.5	2432	570
GR	2431.3	576.5	2430.7	583	2430	589.5	2429.3	596	2428.7	602.5
GR	2428	609	2427.6	616.2	2427.2	623.4	2426.8	630.6	2426.4	637.8
GR	2426	645	2425.8	651.9	2425.5	658.8	2425.3	665.6	2425	672.5
GR	2424.8	679.4	2424.5	686.3	2424.3	693.1	2424	700	2423.5	707.5
GR	2423	715	2423.5	722.5	2424	730	2424.3	736.7	2424.7	743.3
GR	2425	750	2425.3	756.7	2425.7	763.3	2426	770	2425.7	783.3
GR	2425.3	796.7	2425	810	2425.3	824.3	2425.4	831.4	2425.6	838.6
GR	2425.9	852.9	2426	866.9	2426	880.7	2426	894.4	2426	908.2
GR	2426	922	2425.6	935.2	2425.4	941.8	2425	955	2424.5	963
GR	2424	971	2423.5	978	2423	985	2422.5	992.5	2422	1000
GR	2422.5	1007.5	2423	1015	2423.5	1022.5	2424	1030	2424.3	1036.7
GR	2424.7	1043.3	2425	1050	2425.4	1056.9	2425.8	1063.8	2426.1	1070.6
GR	2426.5	1077.5	2426.9	1084.4	2427.3	1091.3	2427.6	1098.1	2428	1105
GR	2428.3	1112.1	2428.6	1119.3	2428.9	1126.4	2429.1	1133.6	2429.4	1140.7
GR	2429.7	1147.9	2430	1155	2430.3	1162.1	2430.6	1169.3	2430.9	1176.4
GR	2431.1	1183.6	2431.4	1190.7	2431.7	1197.9	2432	1205	2433.3	1212.7
GR	2434.7	1220.3	2436	1228						
			9.1						852.65	1040.65
X1	2.640	81	972	1022	425	535	560			
GR	2440	780	2439	786	2438	792	2437	798	2436	804
GR	2435.3	810	2434.7	816	2434	822	2433.3	828	2432.7	834
GR	2432	840	2431.2	846	2430.4	852	2429.6	858	2428.8	864
GR	2428	870	2428.4	876	2428.8	882	2429.2	888	2429.6	894
GR	2430	900	2430	912.3	2430	924.5	2430	936.8	2430	949
GR	2429.8	954.8	2429.5	960.5	2429.3	966.3	2429	972	2426	980
GR	2425.7	986.7	2425.3	993.3	2425	1000	2425.5	1005	2426	1010
GR	2426.5	1016	2427	1022	2427.3	1028.8	2427.5	1035.5	2427.8	1042.3
GR	2428	1049	2428.3	1054.7	2428.7	1060.3	2429	1066	2429.3	1071.7
GR	2429.7	1077.3	2430	1083	2429.7	1096	2429.3	1109	2429	1122
GR	2429.3	1127.9	2429.7	1133.8	2430	1139.7	2430.3	1145.6	2430.7	1151.4
GR	2431	1157.3	2431.3	1163.2	2431.7	1169.1	2432	1175	2432.4	1187.1
GR	2432.6	1193.1	2432.9	1205.2	2433.1	1211.3	2433.5	1223.4	2433.9	1235.5
GR	2434.1	1241.5	2434.5	1253.6	2434.9	1265.7	2435.1	1271.8	2435.4	1283.9
GR	2435.6	1289.9	2436	1302	2436.4	1307.8	2436.8	1313.6	2437.2	1319.4
GR	2437.6	1325.2	2438	1331	2438.4	1336.8	2438.8	1342.6	2439.2	1348.4
GR	2439.6	1354.2								
ET			9.1						869.01	1032.67
X1	2.716	79	981	1020	365	410	400			
GR	2444	720	2443.2	728.2	2442.4	736.4	2441.6	744.6	2440.8	752.8
GR	2440	761	2438	769.5	2436	778	2435.3	785.3	2434.7	792.7
	2434	800	2433.5	808	2433	816	2432.5	824	2432	832
	2432.4	849.2	2432.6	857.8	2433	875	2433.3	883.8	2433.5	892.5
GR	2433.8	901.3	2434	918	2434	934	2434	950	2433.3	957.3

	2432.7	964.7	2432	972	2431	981	2430	990	2429	1000
	2430	1005	2430.5	1012.5	2431	1020	2431.3	1027.5	2431.5	1035
GR	2431.8	1042.5	2432	1050	2432.4	1058	2432.8	1066	2433.2	1074
GR	2433.6	1082	2434	1090	2434.3	1098.6	2434.6	1107.1	2434.9	1115.7
GR	2435.1	1124.3	2435.4	1132.9	2435.7	1141.4	2436	1150	2436.3	1167
GR	2436.4	1175.5	2436.6	1184	2436.9	1201	2437.1	1218	2437.4	1235
GR	2437.6	1243.5	2437.9	1260.5	2438.1	1277.4	2438.2	1294.2	2438.3	1311
GR	2438.5	1327.8	2438.6	1344.6	2438.7	1361.4	2438.9	1378.2	2439	1395
GR	2439.3	1413.3	2439.7	1431.7	2440	1450	2440.3	1458.4	2440.7	1466.8
GR	2441	1475.3	2441.3	1483.7	2441.7	1492.1	2442	1500.5	2442.3	1508.9
GR	2442.7	1517.3	2443	1525.8	2443.3	1534.2	2443.7	1542.6		
ET			9.1						964.98	1061.68
X1	2.818	77	985	1025	480	540	540			
GR	2448	670	2447.6	676.5	2447.2	683	2446.8	689.5	2446.4	696
GR	2446	702.5	2445.6	709	2445.2	715.5	2444.8	722	2444.4	728.5
GR	2444	735	2443.7	741.4	2443.4	747.9	2443.1	754.3	2442.9	760.7
GR	2442.6	767.1	2442.3	773.6	2442	780	2441.6	792.5	2441.4	798.8
GR	2441.1	811.4	2440.9	817.6	2440.6	830.2	2440.4	836.5	2440	849
GR	2439.6	855.6	2439.2	862.2	2438.8	868.8	2438.4	875.4	2438	882
GR	2438	895.6	2438	909.2	2438	922.8	2438	936.4	2438	950
GR	2437.7	956.7	2437.3	963.3	2437	970	2436.5	977.5	2436	985
GR	2435.5	992.5	2435	1000	2435	1010	2435.5	1017.5	2436	1025
GR	2436.3	1031.7	2436.7	1038.3	2437	1045	2437	1058.3	2437.2	1071.5
GR	2437.5	1084.5	2437.8	1097.5	2438.1	1110.5	2438.4	1123.5	2438.6	1130
GR	2438.9	1143	2439.1	1156	2439.4	1169	2439.6	1175.5	2439.9	1188.5
	2440	1195	2440.3	1201.3	2440.5	1207.5	2440.8	1213.8	2441	1220
	2441.3	1226.3	2441.5	1232.5	2441.8	1238.8	2442	1245	2442.5	1251
GR	2443	1257	2443.5	1263	2444	1269	2444.8	1275.6	2445.6	1282.2
GR	2446.4	1288.8	2447.2	1295.4						
ET		7.1	9.1				920	1300	974.00	1044.14
	Encroach to 920 for small left bank tributary.									
X1	2.891	83	974	1022	400	365	385			
GR	2452	510	2451.6	517.8	2451.1	525.6	2450.7	533.3	2450.2	541.1
GR	2449.8	548.9	2449.3	556.7	2448.9	564.4	2448.4	572.2	2448	580
GR	2447.6	596.4	2447.3	604.7	2447.1	612.9	2446.9	621.1	2446.7	629.3
GR	2446.4	637.6	2446	654	2445.6	670.4	2445.3	678.7	2445.1	686.9
GR	2444.9	695.1	2444.7	703.3	2444.4	711.6	2444	728	2443.8	735.6
GR	2443.5	743.3	2443.3	750.9	2443	758.5	2442.8	766.1	2442.5	773.8
GR	2442.3	781.4	2442	789	2442.3	796	2442.7	803	2443	810
GR	2443	830	2442.8	838	2442.5	846	2442.3	854	2442	862
GR	2442.3	878	2442.7	894	2443	910	2442.6	917.8	2442.2	925.6
GR	2441.8	933.4	2441.4	941.2	2441	949	2440.5	958.5	2440	968
GR	2439	974	2438	980	2437.5	990	2437	1000	2438	1006
GR	2438.5	1014	2439	1022	2439.5	1031	2440	1040	2440.4	1055.4
GR	2440.6	1063.2	2440.9	1078.6	2441.1	1086.4	2441.4	1101.8	2441.6	1109.6
GR	2442	1125	2442.2	1141.7	2442.3	1158.3	2442.5	1175	2442.7	1191.7
GR	2442.8	1208.3	2443	1225	2443.3	1239.7	2443.7	1254.3	2444	1269
GR	2444.6	1277	2445.1	1285	2445.7	1293	2446.3	1301	2446.9	1309
GR	2447.4	1317	2448	1325	2450	1332.5				

			9.1						917.06	1020.00
X1	2.997	87	978	1020	610	500	560			
GR	2456	520	2455.6	526.5	2455.2	533	2454.8	539.5	2454.4	546
GR	2454	552.5	2453.6	559	2453.2	565.5	2452.8	572	2452.4	578.5
GR	2452	585	2451.7	591.3	2451.3	597.5	2451	603.8	2450.7	610
GR	2450.3	616.3	2450	622.5	2449.7	628.8	2449.3	635	2449	641.3
GR	2448.7	647.5	2448.3	653.8	2448	660	2447.8	672.7	2447.6	685.5
GR	2447.6	691.8	2447.4	698.2	2447.3	710.9	2447.1	723.6	2446.9	736.4
GR	2446.7	749.1	2446.6	761.8	2446.4	768.2	2446.3	780.9	2446.1	793.6
GR	2445.9	806.7	2445.7	820	2445.6	826.7	2445.4	833.3	2445.2	846.7
GR	2445	860	2445	873	2445	886	2445	899	2444.5	905.5
GR	2444	912	2443.3	917.7	2442.7	923.3	2442	929	2443	934.5
GR	2444	940	2444.3	946.7	2444.7	953.3	2445	960	2444.7	966
GR	2444.3	972	2444	978	2443.5	984	2443	990	2442.5	995
GR	2442	1000	2443	1009	2443.5	1014.5	2444	1020	2444.7	1026.7
GR	2445.3	1033.3	2446	1040	2446.3	1046.7	2446.7	1053.3	2447	1060
GR	2447.3	1066.7	2447.7	1073.3	2448	1080	2448.4	1086.4	2448.7	1092.7
GR	2449.1	1099.1	2449.4	1105.4	2449.8	1111.8	2450.2	1118.2	2450.6	1124.6
GR	2450.9	1130.9	2451.3	1137.3	2451.6	1143.6	2452	1150	2453.3	1157.3
GR	2454.7	1164.7	2456	1172						
ET			9.1						914.54	1030.00
X1	3.092	81	980	1030	370	520	500			
GR	2460	570	2459.6	576.7	2459.1	583.3	2458.7	590	2458.2	596.7
GR	2457.8	603.3	2457.3	610	2456.9	616.7	2456.4	623.3	2456	630
[illegible]	2455.7	643.6	2455.6	650.4	2455.4	657.1	2455.1	670.7	2454.9	684.3
[illegible]	2454.6	697.9	2454.4	704.6	2454.1	718.2	2453.8	732.3	2453.6	739.5
GR	2453.4	746.8	2453.1	761.4	2452.9	768.6	2452.6	783.2	2452.4	790.5
GR	2452	805	2451.8	818.8	2451.5	832.5	2451.3	846.3	2451	860
GR	2450.7	867.5	2450.3	875	2450	882.5	2449.7	890	2449.3	897.5
GR	2449	905	2448.8	911.3	2448.5	917.5	2448.3	923.8	2448	930
GR	2448.8	936.4	2449.6	942.8	2450.4	949.2	2451.2	955.6	2452	962
GR	2452	974	2452	980	2448	990	2447	1000	2447.5	1006
GR	2448	1012	2448.3	1018	2448.7	1024	2449	1030	2449.4	1036.6
GR	2449.8	1043.3	2450.1	1049.9	2450.5	1056.5	2450.9	1063.1	2451.3	1069.8
GR	2451.6	1076.4	2452	1083	2452.6	1089.7	2453.1	1096.4	2453.7	1103.1
GR	2454.3	1109.9	2454.9	1116.6	2455.4	1123.3	2456	1130	2456.4	1144.6
GR	2456.6	1151.8	2456.9	1166.4	2457.1	1173.6	2457.4	1188.2	2457.6	1195.4
GR	2458	1210	2458.3	1216.7	2458.7	1223.3	2459	1230	2459.3	1236.7
GR	2459.7	1243.3								
ET			9.1						955.26	1060.05
X1	3.186	74	975	1020	530	435	500			
GR	2465	750	2464.5	757.5	2464	765	2463.2	772	2462.4	779
GR	2461.6	786	2460.8	793	2460	800	2459.4	806.4	2458.9	812.9
GR	2458.3	819.3	2457.7	825.7	2457.1	832.1	2456.6	838.6	2456	845
GR	2455.6	858	2455.4	864.5	2455	877.5	2454.6	890.5	2454.4	897
GR	2454	910	2453.8	922.8	2453.5	935.5	2453.3	948.3	2453	961
GR	2452.5	968	2452	975	2451.5	982.5	2451	990	2450.5	995
GR	2450	1000	2450.5	1005	2451	1010	2451.5	1015	2452	1020
[illegible]	2452.4	1034	2452.6	1041	2453	1055	2453.3	1067.9	2453.4	1074.3
[illegible]	2453.6	1080.7	2453.9	1093.6	2454.1	1106.4	2454.4	1119.3	2454.6	1125.7
GR	2454.9	1138.6	2455.1	1151.7	2455.3	1165	2455.4	1178.3	2455.6	1191.7

	2455.8	1205	2455.9	1218.3	2456	1225	2456.3	1231.9	2456.6	1238.7
	2456.9	1245.6	2457.1	1252.4	2457.4	1259.3	2457.7	1266.1	2458	1273
GR	2458.3	1279	2458.7	1285	2459	1291	2459.3	1297	2459.7	1303
GR	2460	1309	2460.4	1315.8	2460.9	1322.6	2461.3	1329.3	2461.8	1336.1
GR	2462.2	1342.9	2462.7	1349.7	2463.1	1356.4	2463.6	1363.2		
ET			9.1						944.54	1022.96
X1	3.279	68	980	1020	525	450	490			
GR	2468	300	2467.7	317.4	2467.4	334.9	2467.1	352.3	2466.9	369.7
GR	2466.6	387.1	2466.3	404.6	2466	422	2465.9	431.1	2465.7	440.1
GR	2465.6	449.2	2465.4	458.3	2465.3	467.4	2465.1	476.4	2465	485.5
GR	2464.9	494.6	2464.7	503.6	2464.6	512.7	2464.4	521.8	2464.3	530.9
GR	2464.1	539.9	2464	549	2463.8	566.7	2463.7	584.3	2463.5	602
GR	2463.3	619.7	2463.2	637.3	2463	655	2462.5	672.5	2462	690
GR	2461.5	707.5	2461	725	2460.5	742.5	2460	760	2459.5	777.5
GR	2459	795	2458.5	812.5	2458	830	2457.8	847.5	2457.7	865
GR	2457.5	882.5	2457.3	900	2457.2	917.5	2457	935	2456.7	945
GR	2456.3	955	2456	965	2455	980	2454	990	2453	1000
GR	2454	1010	2455	1020	2455.5	1030	2456	1040	2458	1051
GR	2460	1062	2462	1071	2464	1080	2464.3	1090	2464.7	1100
GR	2465	1110	2465.3	1120	2465.7	1130	2466	1140	2466.6	1156.9
GR	2467.1	1173.7	2467.7	1190.6	2468	1199				
ET			9.1						964.92	1022.00
X1	3.372	79	980	1022	425	490	490			
	2472	360	2471.7	369.3	2471.4	378.6	2471.1	387.9	2470.9	397.1
	2470.6	406.4	2470.3	415.7	2470	425	2469.7	434.3	2469.4	443.6
	2469.1	452.9	2468.9	462.1	2468.6	471.4	2468.3	480.7	2468	490
GR	2467.6	507.8	2467.3	516.7	2467.1	525.6	2466.9	534.4	2466.7	543.3
GR	2466.4	552.2	2466	570	2465.6	587.3	2465.4	595.9	2465.1	613.2
GR	2464.9	621.8	2464.6	639.1	2464.4	647.7	2464	665	2463.7	683.3
GR	2463.6	692.4	2463.4	701.6	2463.1	719.9	2463	737.9	2463	755.7
GR	2463	773.4	2463	791.2	2463	809	2462.7	826.4	2462.6	835.1
GR	2462.4	843.9	2462.1	861.3	2462	878.5	2462	895.5	2462	912.5
GR	2462	929.5	2462	938	2461.3	947	2460.7	956	2460	965
GR	2459.5	972.5	2459	980	2458	990	2457	1000	2458	1011
GR	2459	1022	2460	1029.7	2461	1037.3	2462	1045	2462.7	1053.3
GR	2463.3	1061.7	2464	1070	2464	1090	2464	1100	2463.5	1110
GR	2463	1120	2464	1131	2465.3	1140.7	2466.7	1150.3	2468	1160
GR	2468.7	1170	2469.3	1180	2470	1190	2470.5	1199.8	2471	1209.5
GR	2471.5	1219.3	2472	1229	2472.3	1239.3	2472.7	1249.7		
ET			9.1						981.00	1059.74
X1	3.467	73	981	1025	445	470	500			
GR	2472	950	2470.4	954.4	2468.8	958.8	2467.2	963.2	2465.6	967.6
GR	2464	972	2463	976.5	2462	981	2461	985.5	2460	990
GR	2459.5	995	2459	1000	2459.5	1004.5	2460	1009	2460.5	1014.5
GR	2461	1020	2461.3	1025	2461.5	1030	2461.8	1035	2462	1040
GR	2462.5	1045	2463	1050	2463.5	1055	2464	1060	2463.8	1064.4
GR	2463.6	1068.8	2463.4	1073.2	2463.2	1077.6	2463	1082	2463.3	1086.7
GR	2463.7	1091.3	2464	1096	2464.3	1100.7	2464.7	1105.3	2465	1110
	2465.1	1114.6	2465.3	1119.1	2465.4	1123.7	2465.6	1128.3	2465.7	1132.9
	2465.9	1137.4	2466.1	1146.6	2466.3	1151.1	2466.4	1155.7	2466.6	1160.3
GR	2466.7	1164.9	2466.9	1169.4	2467.1	1178.6	2467.3	1192.4	2467.5	1206.2

	2467.7	1220	2467.9	1233.8	2468.1	1247.6	2468.3	1256.8	2468.5	1266
	2468.7	1275.2	2468.9	1284.4	2469.1	1293.6	2469.3	1302.8	2469.5	1312
GR	2469.7	1321.2	2469.9	1330.4	2470.1	1339.4	2470.3	1348.3	2470.4	1352.8
GR	2470.6	1357.2	2470.8	1366.1	2471	1375	2471.2	1383.9	2471.4	1392.8
GR	2471.6	1397.2	2471.8	1406.1	2471.9	1410.6				
ET			9.1						948.26	1012.70
X1	3.568	89	971.4	1012.7	535	415	535			
GR	2476	825	2475.4	828.4	2474.9	831.9	2474.3	835.3	2473.7	838.7
GR	2473.1	842.1	2472.6	845.6	2472	849	2471.6	852.4	2471.1	855.9
GR	2470.7	859.3	2470.2	862.8	2469.8	866.2	2469.3	869.7	2468.9	873.1
GR	2468.4	876.6	2468	880	2467.8	883.3	2467.7	886.7	2467.5	890
GR	2467.3	893.3	2467.2	896.7	2467	900	2466.8	910.6	2466.6	921.2
GR	2466.5	931.8	2466.3	942.3	2466.1	952.9	2466	960	2465.8	963.8
GR	2465.6	967.6	2465.4	971.4	2465.2	975.2	2465	979	2464.7	982.7
GR	2464.3	986.3	2464	990	2463.7	993.3	2463.3	996.7	2463	1000
GR	2463.3	1003	2463.7	1006	2464	1009	2465.3	1012.7	2466.7	1016.3
GR	2468	1020	2468.3	1023.8	2468.5	1027.5	2468.8	1031.3	2469	1035
GR	2469.2	1041.9	2469.4	1048.8	2469.6	1052.2	2469.8	1059.1	2470	1066
GR	2470.2	1069.4	2470.4	1072.8	2470.6	1076.2	2470.8	1079.6	2471	1083
GR	2471.2	1086.4	2471.4	1089.8	2471.6	1093.2	2471.8	1096.6	2472	1100
GR	2472.1	1103.4	2472.3	1106.9	2472.5	1113.8	2472.6	1117.2	2472.8	1120.6
GR	2473	1127.5	2473.1	1130.9	2473.3	1134.4	2473.5	1141.3	2473.6	1144.7
GR	2473.8	1148.1	2474	1155	2474.1	1158.4	2474.3	1161.9	2474.5	1168.8
GR	2474.6	1172.2	2474.8	1175.6	2475	1182.5	2475.1	1185.9	2475.3	1189.4
GR	2475.5	1196.3	2475.6	1199.7	2475.8	1203.1	2475.9	1206.6		
		7.1	9.1				600	1120	958.57	1024.81
	Encroach to 1120 for small right bank tributary. Mapped to WSEL.									
X1	3.665	57	975	1022	395	610	510			
GR	2478	815	2477.7	823.3	2477.3	831.7	2477	840	2476.5	850
GR	2476	860	2475.8	868	2475.5	876	2475.3	884	2475	892
GR	2474.6	900.3	2474.1	908.6	2473.7	916.9	2473.3	925.1	2472.9	933.4
GR	2472.4	941.7	2472	950	2471.7	958.3	2471.3	966.7	2471	975
GR	2470.5	982.5	2470	990	2469	1000	2470	1010	2472	1022
GR	2472.3	1031.3	2472.7	1040.7	2473	1050	2473.3	1058.8	2473.5	1067.5
GR	2473.8	1076.3	2474	1085	2474.2	1093	2474.4	1101	2474.6	1109
GR	2474.8	1117	2475	1125	2474.8	1142	2474.6	1159	2474.4	1176
GR	2474.2	1193	2474	1210	2474	1227.5	2474	1245	2474	1262.5
GR	2474	1280	2474.1	1288.8	2474.3	1297.5	2474.5	1315	2474.6	1323.8
GR	2474.8	1332.5	2475	1350	2475.3	1358	2475.5	1366	2475.8	1374
GR	2476	1382	2477.3	1391.3						
ET		7.1	9.1				872	1230	972.00	1105.70
	Encroach to 1230 for small right bank tributary. Mapped to WSEL.									
X1	3.766	84	972	1025	525	325	535			
GR	2484.6	860.3	2484	872	2480	890	2479	902.5	2478	915
GR	2477.7	926.3	2477.3	937.7	2477	949	2476.5	960.5	2476	972
GR	2475	990	2474	1000	2475	1010	2476	1025	2476.3	1036.5
GR	2476.5	1048	2476.8	1059.5	2477	1071	2477	1082.8	2477	1094.5
GR	2477	1106.3	2477	1118	2477	1129.8	2477	1141.5	2477	1153.3
	2477	1165	2478	1168	2478.1	1172.6	2478.3	1185.1	2478.4	1197.7
	2478.6	1210.3	2478.7	1222.9	2478.9	1235.4	2479	1248	2478.9	1260
GR	2478.8	1272	2478.7	1284	2478.6	1296	2478.6	1308	2478.4	1320

	2478.4	1332	2478.3	1344	2478.2	1356	2478.1	1368	2478	1380
	2478	1393.1	2478	1406.3	2478	1419.4	2478	1432.5	2478	1445.6
GR	2478	1458.8	2478	1471.9	2478	1485	2478.1	1497.5	2478.2	1510
GR	2478.3	1522.5	2478.3	1535	2478.4	1547.5	2478.5	1560	2478.6	1572.5
GR	2478.7	1585	2478.8	1597.5	2478.8	1610	2478.9	1622.5	2479	1635
GR	2479.1	1647.1	2479.3	1659.3	2479.4	1671.4	2479.6	1683.6	2479.7	1695.7
GR	2479.9	1707.9	2480	1720	2480.3	1732.8	2480.7	1745.7	2481	1758.5
GR	2481.3	1771.3	2481.7	1784.2	2482	1797	2482.3	1809.8	2482.7	1822.7
GR	2483	1835.5	2483.3	1848.3	2483.7	1861.2	2484	1874		
ET			9.1						932.57	1019.55
	Flow regime shift from critical to subcritical causes KRATIO to exceed 1.40.									
X1	3.862	79	973.3	1019.5	475	480	505			
GR	2488	740	2487.4	748.6	2486.9	757.1	2486.3	765.7	2485.7	774.3
GR	2485.1	782.9	2484.6	791.4	2484	800	2482.7	809.7	2481.3	819.3
GR	2480	829	2479.8	838	2479.5	847	2479.3	856	2479	865
GR	2478.8	881	2478.6	889	2478.4	905	2478.3	913	2478.1	921
GR	2478	938	2478	956	2478	965	2477.3	973.3	2476.7	981.7
GR	2476	990	2475	1000	2476	1010	2478	1019.5	2480	1029
GR	2481	1039	2482	1049	2482.7	1056.7	2483.3	1064.3	2484	1072
GR	2485	1100	2485	1116	2485	1132	2484.9	1148.6	2484.7	1165.9
GR	2484.6	1183.2	2484.4	1191.8	2484.3	1209.1	2484.1	1226.4	2483.9	1243.6
GR	2483.7	1252.1	2483.6	1260.7	2483.4	1269.3	2483.3	1277.9	2483.1	1286.4
GR	2483	1295	2483.3	1302.5	2483.5	1310	2483.8	1317.5	2484	1325
GR	2484	1341.7	2484	1358.3	2484	1375	2484	1391.7	2484	1400
	2483.8	1408.8	2483.5	1417.5	2483.3	1426.3	2483	1435	2483.5	1445
	2484	1455	2484.3	1463.4	2484.6	1471.7	2484.9	1480.1	2485.1	1488.4
GR	2485.4	1496.8	2485.7	1505.1	2486	1513.5	2486.3	1521.9	2486.6	1530.2
GR	2486.9	1538.6	2487.1	1546.9	2487.4	1555.3	2487.7	1563.6		
ET		7.1	9.1				920	1500	945.92	1029.00
	Encroach to 920 for small left bank tributary. Mapped to WSEL.									
X1	3.940	90	977.5	1029	400	395	415			
GR	2492	660	2491.5	670	2491	680	2490.5	690	2490	700
GR	2489.5	710	2489	720	2488.5	730	2488	740	2487.5	750.4
GR	2487	760.8	2486.5	771.1	2486	781.5	2485.5	791.9	2485	802.3
GR	2484.5	812.6	2484	823	2483.8	842.3	2483.6	861.7	2483.4	871.3
GR	2483.2	890.7	2483	910	2482.5	920	2482	930	2482	950
GR	2482	970	2481.5	977.5	2481	985	2480.5	992.5	2480	1000
GR	2480.5	1009.5	2481	1019	2481.5	1029	2482	1039	2482.4	1049
GR	2482.8	1059	2483.2	1069	2483.6	1079	2484	1089	2484	1105
GR	2485	1113.8	2486	1122.5	2487	1131.3	2488	1140	2488.2	1150.8
GR	2488.3	1161.7	2488.5	1172.5	2488.7	1183.3	2488.8	1194.2	2489	1205
GR	2489.2	1215	2489.3	1225	2489.5	1235	2489.7	1245	2489.8	1255
GR	2490	1265	2489.8	1275.8	2489.6	1286.6	2489.4	1297.4	2489.2	1308.2
GR	2489	1319	2488.8	1328.2	2488.6	1337.4	2488.4	1346.6	2488.2	1355.8
GR	2488	1365	2488.2	1375	2488.4	1385	2488.6	1395	2488.8	1405
GR	2489	1415	2488.8	1424.4	2488.6	1433.8	2488.4	1443.2	2488.2	1452.6
GR	2488	1462	2487.8	1471.5	2487.5	1481	2487.3	1490.5	2487	1500
GR	2487	1518.3	2487	1536.7	2487	1555	2487.3	1565.8	2487.5	1576.5
	2487.8	1587.3	2488	1598	2489	1608.8	2490	1619.5	2491	1630.3

			9.1						929.43	1040.77
	Small right bank tributary affects channel configuration. KRATIO is reasonable.									
X1	4.000	90	981	1023.5	305	305	315			
GR	2496	571	2495.8	581.1	2495.6	591.2	2495.3	601.3	2495.1	611.4
GR	2494.9	621.6	2494.7	631.7	2494.4	641.8	2494.2	651.9	2494	662
GR	2493.7	672.4	2493.4	682.9	2493.1	693.3	2492.9	703.7	2492.6	714.1
GR	2492.3	724.6	2492	735	2491.2	745	2490.4	755	2489.6	765
GR	2488.8	775	2488	785	2487.7	795.8	2487.3	806.7	2487	817.5
GR	2486.7	828.3	2486.3	839.2	2486	850	2485.7	868.3	2485.3	886.7
GR	2485	905	2484.8	915	2484.5	925	2484.3	935	2484	945
GR	2483.7	954	2483.3	963	2483	972	2482.5	981	2482	990
GR	2482	1000	2482	1012	2482.5	1023.5	2483	1035	2483.5	1047.5
GR	2484	1060	2486	1072.5	2488	1085	2490	1095	2492	1105
GR	2492.3	1115.3	2492.5	1125.5	2492.8	1135.8	2493	1146	2493	1156.3
GR	2493	1166.5	2493	1176.8	2493	1187	2492.8	1197.6	2492.6	1208.2
GR	2492.4	1218.8	2492.2	1229.4	2492	1240	2492	1260	2492	1280
GR	2491.9	1300	2491.7	1320	2491.5	1340	2491.3	1360	2491.1	1380
GR	2491	1390	2491.1	1400.3	2491.3	1410.6	2491.4	1420.9	2491.6	1431.1
GR	2491.7	1441.4	2491.9	1451.7	2492	1462	2492.3	1471.8	2492.6	1481.5
GR	2492.9	1491.3	2493.2	1501.1	2493.5	1510.8	2493.9	1520.6	2494.1	1530.4
GR	2494.5	1540.2	2494.8	1549.9	2495.1	1559.7	2495.4	1569.5	2495.7	1579.2
ET			9.1						903.97	1015.00
X1	4.042	70	985	1015	185	235	220			
[illegible]	2496	550	2495.6	558.2	2495.3	566.4	2494.9	574.5	2494.6	582.7
[illegible]	2494.2	590.9	2493.8	599.1	2493.4	607.3	2493.1	615.5	2492.7	623.6
GR	2492.4	631.8	2492	640	2491.7	656.5	2491.3	673	2491	689.5
GR	2490.7	706	2490.3	722.5	2490	739	2489.6	755.5	2489.4	763.8
GR	2489.1	780.4	2488.9	788.6	2488.6	805.2	2488.4	813.5	2488	830
GR	2487.6	846.4	2487.4	854.6	2487	871	2487	887	2487	903
GR	2487	919	2486.8	935.5	2486.5	952	2486.3	968.5	2486	985
GR	2485.5	992.5	2485	1000	2485.5	1007.5	2486	1015	2486.5	1022.5
GR	2487	1030	2487.5	1037.5	2488	1045	2490	1053.5	2492	1062
GR	2492.4	1070.6	2492.8	1079.2	2493.2	1087.8	2493.6	1096.4	2494	1105
GR	2494	1120.7	2494	1136.4	2494	1152.1	2494	1160	2493.7	1168.7
GR	2493.3	1177.3	2493	1186	2492.7	1194.7	2492.3	1203.3	2492	1212
GR	2492.4	1220.3	2492.9	1228.6	2493.3	1236.9	2493.7	1245.1	2494.1	1253.4
GR	2494.6	1261.7	2495	1270	2495.3	1286.7	2495.7	1303.3	2496	1320
ET		7.1	9.1				800	1550	879.92	1042.84
	Encroach to 800 for small left bank tributary. Mapped to WSEL.									
X1	4.127	91	979	1030	470	435	450			
GR	2512	515	2508	526.7	2504	538.3	2500	550	2499.3	562
GR	2498.7	574	2498	586	2497.3	598	2496.7	610	2496	622
GR	2495.6	633.1	2495.1	644.3	2494.7	655.4	2494.3	666.6	2493.9	677.7
GR	2493.4	688.9	2493	700	2492.5	714	2492	728	2491.5	739
GR	2491	750	2491.3	759.7	2491.7	769.3	2492	789.3	2492	810
GR	2491	822.5	2490	835	2490	857.5	2490	880	2490.3	890
GR	2490.7	900	2490.7	920	2490.3	930	2490	940	2489.7	953
[illegible]	2489.3	966	2489	979	2488.5	989.5	2488	1000	2488.3	1010
[illegible]	2488.7	1020	2489	1030	2489.3	1042.3	2489.5	1054.5	2489.8	1066.8
GR	2490	1079	2490.5	1090.5	2491	1102	2491.5	1113.5	2492	1125

	2492.8	1136	2493.6	1147	2494.4	1158	2495.2	1169	2496	1180
	2496.3	1191.3	2496.7	1202.7	2497.3	1225.3	2497.7	1236.7	2498	1248
GR	2498.2	1260.6	2498.4	1273.2	2498.6	1285.8	2498.8	1298.4	2499	1311
GR	2498.8	1323.3	2498.7	1335.7	2498.5	1348	2498.3	1360.3	2498.2	1372.7
GR	2498	1385	2498.1	1397.1	2498.3	1409.3	2498.4	1421.4	2498.6	1433.6
GR	2498.7	1445.7	2498.9	1457.9	2499	1470	2499.3	1492.9	2499.6	1515.7
GR	2499.9	1538.6	2500	1550	2500.4	1561.9	2500.8	1573.8	2501.2	1585.7
GR	2501.6	1597.6	2502	1609.5	2502.4	1621.4	2502.8	1633.3	2503.2	1645.2
GR	2503.6	1657.1								
ET			9.1						975.00	1071.18
X1	4.222	88	975	1015	545	475	505			
GR	2504	730	2503.7	735.4	2503.4	740.7	2502.9	751.4	2502.6	756.8
GR	2502.3	762.1	2502	767.5	2501.7	772.9	2501.4	778.2	2500.9	788.9
GR	2500.6	794.3	2500.3	799.6	2500	805	2499.6	810	2499.2	815
GR	2498.8	820	2498.4	825	2498	830	2497.6	841	2497.2	852
GR	2496.8	863	2496.4	874	2496	885	2495.6	897	2495.2	909
GR	2495	915	2494.6	920.7	2494.1	926.4	2493.7	932.1	2493.3	937.9
GR	2492.9	943.6	2492.4	949.3	2492	955	2491.7	960	2491.3	965
GR	2491	970	2490.8	975	2490.5	980	2490.3	985	2490	990
GR	2490	1005	2490.3	1010	2490.7	1015	2491	1020	2491	1030.9
GR	2491	1041.8	2491	1052.7	2491	1063.6	2491	1074.6	2491	1080
GR	2491.3	1085	2491.7	1090	2492	1095	2492.3	1100.3	2492.7	1105.7
GR	2493	1111	2493.3	1116.3	2493.7	1121.7	2494	1127	2494.3	1132.3
GR	2494.7	1137.7	2495	1143	2495.3	1148.3	2495.7	1153.7	2496	1159
GR	2496.2	1164.5	2496.5	1169.9	2496.9	1180.9	2497.2	1186.3	2497.6	1197.3
	2498.1	1208.2	2498.6	1219.2	2498.8	1224.7	2499.1	1230.1	2499.5	1241.1
	2499.8	1246.5	2500	1252	2500.3	1257.6	2500.6	1263.1	2501.1	1274.3
GR	2501.4	1279.9	2501.7	1285.4	2502	1291	2502.3	1296.6	2502.6	1302.1
GR	2503.1	1313.3	2503.4	1318.9	2503.7	1324.4				
ET			9.1						968.59	1037.68
X1	4.290	85	975	1020	340	360	360			
GR	2508	590	2507.5	598.1	2507	606.3	2506.5	614.4	2506	622.5
GR	2505.5	630.6	2505	638.8	2504.5	646.9	2504	655	2503.4	663.1
GR	2502.9	671.3	2502.3	679.4	2501.7	687.6	2501.1	695.7	2500.6	703.9
GR	2500	712	2499.8	720.3	2499.5	728.5	2499.3	736.8	2499	745
GR	2499.4	761	2499.6	769	2500	785	2499.4	793.4	2498.8	801.8
GR	2498.2	810.2	2497.6	818.6	2497	827	2497.4	843.4	2497.6	851.6
GR	2498	868	2498.3	877	2498.7	886	2499	895	2498.5	903.5
GR	2498	912	2497.5	920.5	2497	929	2496.7	936	2496.3	943
GR	2496	950	2495.3	958.3	2494.7	966.7	2494	975	2493.7	983.3
GR	2493.3	991.7	2493	1000	2493.5	1010	2494	1020	2494.3	1027.3
GR	2494.7	1034.7	2495	1042	2495.3	1049.3	2495.7	1056.7	2496	1064
GR	2496.7	1071.3	2497.3	1078.7	2498	1086	2498.7	1093.3	2499.3	1100.7
GR	2500	1108	2500.4	1116.4	2500.8	1124.8	2501.2	1133.2	2501.6	1141.6
GR	2502	1150	2502.4	1158.4	2502.8	1166.8	2503.2	1175.2	2503.6	1183.6
GR	2504	1192	2504.3	1208	2504.5	1224	2504.8	1240	2504.9	1248
GR	2505.1	1256	2505.3	1272	2505.6	1288	2505.9	1304	2506.2	1319.8
GR	2506.5	1335.3	2506.8	1350.8	2507.2	1366.3	2507.5	1381.8	2507.8	1397.3

			9.1						902.07	1031.00
X1	4.399	53	950	1031	450	575	575			
GR	2516.0	240.0	2515.5	258.8	2515.0	277.5	2514.5	296.3	2514.0	315.0
GR	2513.5	337.5	2513.0	360.0	2512.5	382.5	2512.0	405.0	2512.0	428.0
GR	2512.0	451.0	2512.0	474.0	2512.0	497.0	2512.0	520.0	2512.0	540.0
GR	2512.0	560.0	2512.0	580.0	2512.0	600.0	2510.7	623.3	2509.3	646.7
GR	2508.0	670.0	2507.0	689.5	2506.0	709.0	2505.0	728.5	2504.0	748.0
GR	2503.0	769.0	2504.0	772.0	2504.5	788.5	2505.0	805.0	2504.0	825.0
GR	2503.0	845.0	2503.0	867.0	2503.0	889.0	2503.0	911.0	2503.0	930.5
GR	2503.0	950.0	2502.0	980.0	2502.0	1000.0	2503.0	1013.0	2503.5	1031.0
GR	2504.0	1049.0	2505.0	1071.0	2505.5	1093.0	2506.0	1115.0	2506.3	1136.0
GR	2506.7	1157.0	2507.0	1178.0	2508.0	1205.0	2509.3	1226.7	2510.7	1248.3
GR	2512.0	1270.0	2516.0	1300.0	2517.0	1311.0				
ET			9.1						959.00	1068.90
X1	4.491	38	959	1011	480	440	485			
GR	2516.0	810.0	2515.2	826.2	2514.4	842.4	2513.6	858.6	2512.8	874.8
GR	2512.0	891.0	2511.0	908.0	2510.0	925.0	2509.0	942.0	2508.0	959.0
GR	2505.0	981.0	2505.0	1000.0	2506.0	1011.0	2507.0	1031.0	2507.0	1050.0
GR	2508.0	1071.0	2508.5	1085.5	2509.0	1100.0	2508.0	1120.0	2507.5	1140.0
GR	2507.0	1160.0	2507.0	1173.5	2507.0	1187.0	2507.5	1200.0	2508.0	1213.0
GR	2508.8	1231.4	2509.6	1249.8	2510.4	1268.2	2511.2	1286.6	2512.0	1305.0
GR	2512.5	1322.7	2513.0	1340.3	2513.5	1358.0	2514.0	1375.7	2514.5	1393.3
GR	2515.0	1411.0	2515.5	1430.5	2516.0	1450.0				
			9.1						970.00	1019.90
[illegible]	4.560	70	981	1015	365	360	365			
GR	2520.0	798.0	2519.3	815.7	2518.7	833.3	2518.0	851.0	2517.3	868.7
GR	2516.7	886.3	2516.0	904.0	2514.0	927.0	2512.0	950.0	2511.0	955.0
GR	2510.0	960.0	2509.0	965.0	2508.0	970.0	2507.8	975.5	2507.5	981.0
GR	2507.3	986.5	2507.0	992.0	2506.5	996.0	2506.0	1000.0	2506.5	1005.0
GR	2507.0	1010.0	2507.5	1015.0	2508.0	1020.0	2510.0	1025.0	2512.0	1030.0
GR	2512.2	1034.8	2512.3	1039.7	2512.5	1044.5	2512.7	1049.3	2512.8	1054.2
GR	2513.0	1059.0	2512.8	1064.3	2512.5	1069.5	2512.3	1074.8	2512.0	1080.0
GR	2511.8	1084.8	2511.7	1089.7	2511.5	1094.5	2511.3	1099.3	2511.2	1104.2
GR	2511.0	1109.0	2511.3	1114.3	2511.5	1119.5	2511.8	1124.8	2512.0	1130.0
GR	2512.2	1134.7	2512.3	1139.3	2512.5	1144.0	2512.7	1148.7	2512.8	1153.3
GR	2513.0	1158.0	2512.0	1173.0	2511.0	1190.0	2512.0	1211.0	2512.0	1232.0
GR	2512.8	1249.0	2513.5	1266.0	2514.3	1283.0	2515.0	1300.0	2515.5	1317.5
GR	2516.0	1335.0	2516.5	1352.5	2517.0	1370.0	2517.3	1387.0	2517.7	1404.0
GR	2518.0	1421.0	2518.5	1438.0	2519.0	1455.0	2519.5	1472.0	2520.0	1489.0
ET			9.1						840.00	1030.00
NH	5	.055	830	.035	876	.055	973	.035	1030	.055
NH	1259									

NH card used to represent well-defined secondary channel.

X1	4.680	77	973	1030	570	490	635			
GR	2524.0	603.0	2522.7	618.7	2521.3	634.3	2520.0	650.0	2519.5	664.0
GR	2519.0	678.0	2519.0	692.3	2519.0	706.7	2519.0	721.0	2518.5	740.5
GR	2518.0	760.0	2517.3	775.0	2516.7	790.0	2516.0	805.0	2515.5	810.0
[illegible]	2515.0	815.0	2514.5	820.0	2514.0	825.0	2513.3	830.0	2512.7	835.0
[illegible]	2512.0	840.0	2511.7	845.0	2511.3	850.0	2511.0	855.0	2511.5	860.0
GR	2512.0	865.0	2512.5	870.5	2513.0	876.0	2513.1	880.9	2513.2	885.8

	2513.3	890.7	2513.4	895.6	2513.6	900.4	2513.7	905.3	2513.8	910.2
	2513.9	915.1	2514.0	920.0	2514.0	925.0	2514.0	930.0	2514.0	935.0
GR	2514.0	940.0	2514.0	945.0	2514.0	950.0	2514.0	955.0	2513.8	959.5
GR	2513.5	964.0	2513.3	968.5	2513.0	973.0	2512.5	979.0	2512.0	985.0
GR	2511.7	990.0	2511.3	995.0	2511.0	1000.0	2511.0	1005.5	2511.0	1011.0
GR	2511.5	1015.5	2512.0	1020.0	2512.7	1025.0	2513.3	1030.0	2514.0	1035.0
GR	2514.6	1040.2	2515.2	1045.4	2515.8	1050.6	2516.4	1055.8	2517.0	1061.0
GR	2516.8	1078.3	2516.5	1095.5	2516.3	1112.8	2516.0	1130.0	2517.3	1146.7
GR	2518.7	1163.3	2520.0	1180.0	2520.8	1195.8	2521.6	1211.6	2522.4	1227.4
GR	2523.2	1243.2	2524.0	1259.0						
NC	.055	.055	.035	.2	.4					
ET			9.1						952.14	1038.91
X1	4.783	45	972	1021	510	555	540			
GR	2528.0	655.0	2527.3	670.8	2526.7	686.7	2526.0	702.5	2525.3	718.3
GR	2524.7	734.2	2524.0	750.0	2523.4	765.7	2522.9	781.4	2522.3	797.1
GR	2521.7	812.9	2521.1	828.6	2520.6	844.3	2520.0	860.0	2519.3	873.8
GR	2518.5	887.5	2517.8	901.3	2517.0	915.0	2517.0	925.0	2517.0	937.5
GR	2517.0	950.0	2516.0	972.0	2515.0	980.0	2514.0	1000.0	2515.0	1010.0
GR	2516.0	1021.0	2517.0	1043.0	2517.3	1059.8	2517.5	1076.5	2517.8	1093.3
GR	2518.0	1110.0	2518.2	1125.2	2518.4	1140.4	2518.6	1155.6	2518.8	1170.8
GR	2519.0	1186.0	2519.0	1200.8	2519.0	1215.5	2519.0	1230.3	2519.0	1245.0
GR	2519.5	1257.5	2520.0	1270.0	2522.7	1283.3	2525.3	1296.7	2528.0	1310.0
ET			9.1						986.00	1169.98

No encroachment appears warranted at this section. KRATIO exceeds 1.4 due to natural expansion.

	4.869	51	986	1030	445	375	450			
GR	2532.0	640.0	2530.7	655.0	2529.3	670.0	2528.0	685.0	2527.0	700.0
GR	2526.0	715.0	2525.0	730.0	2524.0	745.0	2523.7	763.3	2523.3	781.7
GR	2523.0	800.0	2522.7	818.3	2522.3	836.7	2522.0	855.0	2521.7	870.8
GR	2521.3	886.7	2521.0	902.5	2520.7	918.3	2520.3	934.2	2520.0	950.0
GR	2519.0	971.0	2518.0	986.0	2517.0	1000.0	2517.0	1015.0	2518.0	1030.0
GR	2518.0	1050.0	2518.0	1065.0	2518.0	1080.0	2518.0	1095.0	2518.0	1110.0
GR	2518.3	1126.3	2518.5	1142.5	2518.8	1158.8	2519.0	1175.0	2519.3	1191.3
GR	2519.5	1207.5	2519.8	1223.8	2520.0	1240.0	2520.4	1258.0	2520.8	1276.0
GR	2521.2	1294.0	2521.6	1312.0	2522.0	1330.0	2522.3	1347.5	2522.5	1365.0
GR	2522.8	1382.5	2523.0	1400.0	2524.0	1410.0	2528.0	1430.0	2530.0	1445.0
GR	2532.0	1460.0								
ET			9.1						961.10	1049.83
X1	4.956	38	983.5	1015	450	355	460			
GR	2532.0	600.0	2531.0	622.3	2530.0	644.5	2529.0	666.8	2528.0	689.0
GR	2526.0	780.0	2525.0	900.0	2524.9	905.1	2524.8	910.2	2524.8	915.3
GR	2524.7	920.3	2524.6	925.4	2524.5	930.5	2524.4	935.6	2524.3	940.7
GR	2524.3	945.8	2524.2	950.8	2524.1	955.9	2524.0	961.0	2522.7	966.7
GR	2521.3	972.3	2520.0	978.0	2519.5	983.5	2519.0	989.0	2518.5	994.5
GR	2518.0	1000.0	2518.5	1005.0	2519.0	1010.0	2519.5	1015.0	2520.0	1020.0
GR	2520.7	1025.0	2521.3	1030.0	2522.0	1035.0	2522.7	1040.0	2523.3	1045.0
GR	2524.0	1050.0	2528.0	1072.0	2533.0	1100.0				

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                        9.1                                                 810.75    1095.16
        Section taken from topographic map to better represent contraction
        between Sections 4.956 and 5.041.  Contraction confirmed on
        aerial photographs.
X1    4.998       13      980     1025      220      220      220
GR     2532      665     2528      690     2524      810     2522      850     2524      900
GR     2524      940     2520      980     2520     1000     2520     1025     2520     1060
GR     2524     1105     2528     1145     2532     1215

ET                        9.1                                                 768.46    1018.10
        Sudden widening and flattening of channel cross section for 500 ft.
        Upstream and downstream reaches very narrow.  KRATIO reasonable.
X1    5.041       63    982.7   1018.1      210      225      230
GR   2540.0    445.0   2539.1    461.3   2537.9    472.8   2537.2    492.5   2536.1    502.9
GR   2535.4    518.6   2534.8    536.8   2534.1    547.3   2533.4    567.9   2532.7    580.2
GR   2531.8    599.4   2531.2    606.6   2530.6    627.3   2529.9    640.9   2529.4    658.4
GR   2528.8    671.3   2528.2    682.3   2527.9    693.2   2525.1    708.1   2523.9    721.5
GR   2523.3    742.6   2523.2    748.6   2523.1    751.2   2523.1    757.2   2523.3    762.3
GR   2523.7    781.4   2524.0    790.1   2525.1    804.6   2525.5    822.7   2525.2    832.7
GR   2524.5    844.0   2523.7    858.7   2523.2    871.9   2522.3    884.1   2522.0    892.7
GR   2522.1    897.3   2522.8    908.4   2523.3    917.0   2524.0    935.2   2524.1    942.8
GR   2524.0    955.4   2523.4    968.0   2522.4    982.7   2522.0    990.0   2521.4    994.1
GR   2521.4   1000.0   2521.5   1004.3   2522.0   1009.4   2521.9   1018.1   2523.4   1033.8
GR   2524.4   1051.6   2524.8   1066.4   2525.7   1079.4   2526.2   1083.6   2526.1   1094.8
GR   2526.1   1106.2   2526.5   1119.3   2527.0   1134.5   2528.1   1151.6   2531.4   1173.4
     2532.8   1187.7   2537.2   1210.9   2540.0   1231.5

ET                        9.1                                                 935.12    1020.41
X1    5.149       67      982     1014      550      555      570
GR   2540.0    635.0   2538.7    656.7   2537.3    678.3   2536.0    700.0   2536.5    715.0
GR   2537.0    730.0   2536.0    749.0   2534.0    764.5   2532.0    780.0   2531.5    797.5
GR   2531.0    815.0   2530.5    830.0   2530.0    845.0   2529.5    862.0   2529.0    879.0
GR   2528.5    897.0   2528.0    915.0   2527.9    920.0   2527.8    925.0   2527.7    930.0
GR   2527.6    935.0   2527.5    940.0   2527.4    945.0   2527.3    950.0   2527.2    955.0
GR   2527.1    960.0   2527.0    965.0   2526.7    970.7   2526.3    976.3   2526.0    982.0
GR   2525.8    986.5   2525.5    991.0   2525.3    995.5   2525.0   1000.0   2525.3   1004.7
GR   2525.7   1009.3   2526.0   1014.0   2526.5   1019.5   2527.0   1025.0   2527.5   1030.0
GR   2528.0   1035.0   2528.1   1039.9   2528.3   1044.8   2528.5   1049.8   2528.6   1054.7
GR   2528.8   1059.6   2528.9   1064.5   2529.1   1069.5   2529.2   1074.4   2529.4   1079.3
GR   2529.5   1084.2   2529.7   1089.2   2529.9   1094.1   2530.0   1099.0   2530.5   1116.8
GR   2531.0   1134.5   2531.5   1152.3   2532.0   1170.0   2533.0   1196.0   2533.0   1213.0
GR   2533.0   1230.0   2532.0   1255.0   2531.0   1272.0   2532.0   1290.0   2536.0   1315.0
GR   2538.0   1332.5   2540.0   1350.0

ET                      7.1       9.1                          850      1150     975.53    1020.00
        Encroach to 850 for small left bank tributary.
X1    5.272       83      982     1020      560      590      650
GR   2544.0    740.0   2543.5    745.0   2543.0    750.0   2542.5    755.0   2542.0    760.0
GR   2541.5    765.0   2541.0    770.0   2540.5    775.0   2540.0    780.0   2538.7    785.0
GR   2537.3    790.0   2536.0    795.0   2535.7    799.7   2535.3    804.3   2535.0    809.0
     2535.3    814.3   2535.5    819.5   2535.8    824.8   2536.0    830.0   2536.3    835.0
     2536.5    840.0   2536.8    845.0   2537.0    850.0   2536.8    855.3   2536.5    860.5
GR   2536.3    865.8   2536.0    871.0   2535.8    876.0   2535.6    881.0   2535.4    886.0
```

	2535.2	891.0	2535.0	896.0	2535.0	900.9	2535.0	905.8	2535.0	910.6
	2535.0	915.5	2535.0	920.4	2535.0	925.3	2535.0	930.1	2535.0	935.0
GR	2535.2	940.0	2535.4	945.0	2535.6	950.0	2535.8	955.0	2536.0	960.0
GR	2535.0	965.5	2534.0	971.0	2533.0	976.5	2532.0	982.0	2531.5	986.0
GR	2531.0	990.0	2530.5	995.0	2530.0	1000.0	2530.5	1005.5	2531.0	1011.0
GR	2531.5	1015.5	2532.0	1020.0	2533.3	1024.3	2534.7	1028.7	2536.0	1033.0
GR	2536.2	1038.1	2536.4	1043.3	2536.6	1048.4	2536.9	1053.6	2537.1	1058.7
GR	2537.3	1063.9	2537.5	1069.0	2537.7	1074.1	2537.9	1079.3	2538.1	1084.4
GR	2538.4	1089.6	2538.6	1094.7	2538.8	1099.9	2539.0	1105.0	2539.3	1110.3
GR	2539.7	1115.7	2540.0	1121.0	2540.7	1125.8	2541.3	1130.7	2542.0	1135.5
GR	2542.7	1140.3	2543.3	1145.2	2544.0	1150.0				
ET		7.1	9.1				820	1185	979.00	1042.56
	Encroach to 820 for small left bank tributary.									
X1	5.343	45	979	1010	330	385	375			
GR	2548.0	632.0	2546.0	643.5	2544.0	655.0	2542.7	668.3	2541.3	681.7
GR	2540.0	695.0	2540.0	707.0	2540.0	719.0	2540.0	731.0	2540.0	743.0
GR	2541.0	757.3	2542.0	771.5	2543.0	785.8	2544.0	800.0	2545.0	811.0
GR	2546.0	822.0	2547.0	833.0	2546.5	846.5	2546.0	860.0	2545.5	873.0
GR	2545.0	886.0	2544.5	899.0	2544.0	912.0	2543.3	924.0	2542.5	936.0
GR	2541.8	948.0	2541.0	960.0	2536.0	979.0	2535.0	985.0	2534.0	1000.0
GR	2536.0	1010.0	2537.0	1025.0	2537.0	1035.0	2537.4	1047.0	2537.8	1059.0
GR	2538.2	1071.0	2538.6	1083.0	2539.0	1095.0	2539.5	1107.5	2540.0	1120.0
GR	2542.0	1130.0	2544.0	1140.0	2545.3	1155.0	2546.7	1170.0	2548.0	1185.0
ET			9.1						972.00	1021.30
	5.432	31	987.4	1021.3	435	415	470			
	2552.0	895.0	2550.2	904.1	2548.1	912.7	2546.3	918.0	2544.5	931.5
GR	2543.7	941.0	2543.0	947.2	2542.1	966.3	2541.2	971.8	2540.0	981.3
GR	2539.3	987.4	2538.8	992.4	2538.6	997.4	2538.6	1000.0	2538.6	1003.4
GR	2539.1	1011.9	2540.0	1021.3	2542.8	1033.4	2544.1	1042.7	2545.4	1053.3
GR	2546.7	1067.4	2547.5	1081.6	2548.4	1098.2	2549.0	1112.0	2549.4	1127.4
GR	2549.7	1143.2	2550.2	1162.7	2550.8	1178.6	2551.3	1190.4	2551.6	1200.0
GR	2552.0	1210.0								
ET			9.1						945.05	1048.90
	Floodplain shifted 10 ft to match topogaphic map.									
X1	5.534	72	981.3	1016.8	525	480	540			
GR	2558	900	2557.6	903.6	2557.4	905.4	2557.1	907.1	2556.9	908.9
GR	2556.5	912.5	2556.1	916.1	2555.9	917.9	2555.6	919.6	2555.4	921.4
GR	2555	925	2554.6	928.6	2554.4	930.4	2554.1	932.1	2553.9	933.9
GR	2553.5	937.5	2553.1	941.1	2552.9	942.9	2552.6	944.6	2552.4	946.4
GR	2552	950	2551.6	953.7	2551.4	955.5	2551.2	957.4	2550.9	959.2
GR	2550.5	962.9	2550.1	966.6	2549.9	968.4	2549.5	972.1	2549.1	975.8
GR	2548.8	977.6	2548.6	979.5	2548.4	981.3	2548	985	2547.8	988.8
GR	2547.5	992.5	2547.3	996.3	2547	1000	2547.3	1003.8	2547.5	1007.5
GR	2547.8	1011.3	2548	1015	2548.2	1016.8	2548.5	1018.6	2548.7	1020.4
GR	2549	1022.2	2549.4	1025.8	2549.7	1027.6	2549.9	1029.4	2550.2	1031.2
GR	2550.4	1033	2550.6	1034.8	2550.9	1036.6	2551.1	1038.4	2551.4	1040.2
GR	2551.6	1042	2551.8	1043.8	2552.1	1045.6	2552.3	1047.4	2552.6	1049.2
GR	2553	1052.8	2553.3	1054.6	2553.5	1056.4	2553.8	1058.2	2554.2	1061.8
	2554.4	1063.6	2554.6	1065.4	2554.9	1069.1	2555.1	1070.9	2555.4	1074.6
	2555.6	1076.4	2556	1080						

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                          9.1                                                969.05    1130.84
        Section becomes flat and wide at sharp 90 degree turn.  KRATIO OK.
X1    5.620       65     988.8    1037.5      400      510      450
GR   2564.0    650.0    2563.8     662.8   2563.5    675.5   2563.3    688.3   2563.0     701.0
GR   2562.8    712.8    2562.6     724.6   2562.4    736.4   2562.2    748.2   2562.0     760.0
GR   2561.8    772.0    2561.6     784.0   2561.4    796.0   2561.2    808.0   2561.0     820.0
GR   2560.8    834.0    2560.6     848.0   2560.4    862.0   2560.2    876.0   2560.0     890.0
GR   2559.5    903.8    2559.0     917.5   2558.5    931.3   2558.0    945.0   2557.8     947.9
GR   2557.6    950.8    2557.3     953.7   2557.1    956.6   2556.9    959.4   2556.7     962.3
GR   2556.4    965.2    2556.2     968.1   2556.0    971.0   2555.2    974.0   2554.4     977.0
GR   2553.6    980.0    2552.8     983.0   2552.0    986.0   2551.6    988.8   2551.2     991.6
GR   2550.8    994.4    2550.4     997.2   2550.0   1000.0   2550.3   1003.3   2550.7    1006.7
GR   2551.0   1010.0    2551.0    1013.0   2551.0   1016.0   2551.0   1019.0   2551.0    1022.0
GR   2551.0   1025.0    2551.1    1028.1   2551.3   1031.3   2551.4   1034.4   2551.5    1037.5
GR   2551.6   1040.6    2551.8    1043.8   2551.9   1046.9   2552.0   1050.0   2556.0    1130.0
GR   2560.0   1155.0    2561.0    1168.8   2562.0   1182.5   2563.0   1196.3   2564.0    1210.0

ET                          9.1                                                968.75    1135.79
X1    5.696       58     983.7    1024.7      390      270      405
GR   2568.0    905.0    2566.7     910.3   2565.3    915.7   2564.0    921.0   2563.5     926.1
GR   2563.0    931.3    2562.5     936.4   2562.0    941.5   2561.5    946.6   2561.0     951.8
GR   2560.5    956.9    2560.0     962.0   2558.3    966.3   2556.7    970.7   2555.0     975.0
GR   2554.0    979.3    2553.0     983.7   2552.0    988.0   2551.5    994.0   2551.0    1000.0
GR   2551.0   1005.0    2551.0    1010.0   2552.0   1016.0   2552.7   1020.3   2553.3    1024.7
GR   2554.0   1029.0    2554.4    1033.6   2554.8   1038.2   2555.2   1042.8   2555.6    1047.4
     2556.0   1052.0    2555.9    1056.8   2555.8   1061.6   2555.7   1066.3   2555.6    1071.1
     2555.4   1075.9    2555.3    1080.7   2555.2   1085.4   2555.1   1090.2   2555.0    1095.0
GR   2555.2   1100.0    2555.3    1105.0   2555.5   1110.0   2555.7   1115.0   2555.8    1120.0
GR   2556.0   1125.0    2556.7    1130.0   2557.3   1135.0   2558.0   1140.0   2558.7    1145.0
GR   2559.3   1150.0    2560.0    1155.0   2561.3   1160.0   2562.7   1165.0   2564.0    1170.0
GR   2565.3   1175.0    2566.7    1180.0   2568.0   1185.0


NC   0.055      .055      .035       .4       .6
ET                          9.1                                                958.16    1043.61
        In the upper reaches of Wash AH3, variations in slope and channel
        cross section are common, and warning messages pertaining to KRATIO
        values higher than "normal" frequent.  Only extreme variations will
        be explained.
        Extremely tortuous channel.  CCHV and CEHV increased accordingly.
X1    5.821       65     984.5    1020      545      505      565
GR   2580.0    910.0    2577.8     915.0   2575.5    920.0   2573.3    925.0   2571.0     930.0
GR   2570.0    935.0    2569.0     940.0   2568.0    945.0   2566.0    950.5   2564.0     956.0
GR   2563.2    960.8    2562.4     965.6   2561.6    970.4   2560.8    975.2   2560.0     980.0
GR   2559.5    984.5    2559.0     989.0   2558.5    994.5   2558.0   1000.0   2558.5    1005.0
GR   2559.0   1010.0    2559.3    1015.0   2559.5   1020.0   2559.8   1025.0   2560.0    1030.0
GR   2561.3   1035.0    2562.7    1040.0   2564.0   1045.0   2564.8   1049.8   2565.6    1054.6
GR   2566.4   1059.4    2567.2    1064.2   2568.0   1069.0   2568.2   1074.2   2568.3    1079.3
GR   2568.5   1084.5    2568.7    1089.7   2568.8   1094.8   2569.0   1100.0   2569.1    1105.0
GR   2569.3   1110.0    2569.4    1115.0   2569.5   1120.0   2569.6   1125.0   2569.8    1130.0
     2569.9   1135.0    2570.0    1140.0   2570.1   1145.0   2570.3   1150.0   2570.4    1155.0
     2570.5   1160.0    2570.6    1165.0   2570.8   1170.0   2570.9   1175.0   2571.0    1180.0
GR   2571.1   1185.0    2571.2    1190.0   2571.3   1195.0   2571.4   1200.0   2571.5    1205.0
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    2571.6    1210.0    2571.7    1215.0    2571.8    1220.0    2571.9    1225.0    2572.0    1230.0

ET                        9.1                                                         954.12    1056.75
  SECTION 5.868 TAKEN FROM TOPOGRAPHIC MAP.
        In this vicinity, channel changes course more than 180 degrees
        in about 500 ft.  Conveyance change reasonable for conditions.
X1   5.868        11       980      1020       270       240       250
GR    2572       940      2568       950      2564       960      2560       970    2559.5       980
GR    2559      1000    2559.5      1020      2560      1030      2564      1045      2567      1060
GR    2572      1080

ET                 7.1       9.1                                 931.4      1140     931.4   1021.20
        NOTE:  Encroachment to limit of effective flow on inside portion
        of loop.  Location estimated from review of aerial photographs.
        Floodplain plotted to WSEL.
X1   5.908        80     945.7    1013.3       130       165       200
GR    2576       780    2575.5     783.8      2575     787.5    2574.5     791.3      2574       795
GR  2573.5     798.8      2573     802.5    2572.5     806.3      2572       810    2571.5     813.8
GR    2571     817.5    2570.5     821.3      2570       825    2569.5     828.8      2569     832.5
GR  2568.5     836.3      2568       840    2567.6     847.4    2567.4       851    2567.2     854.7
GR  2566.9     858.4    2566.5     865.8    2566.1     873.2    2565.9     876.8    2565.5     884.2
GR  2565.1     891.6    2564.8     895.3    2564.6       899    2564.4     902.6      2564       910
GR  2564.3     917.1    2564.4     920.7    2564.6     924.3    2564.9     931.4    2565.1     938.6
GR  2565.4     945.7    2565.6     949.3    2565.9     956.4    2565.8     963.8    2565.5     967.5
GR  2565.3     971.3      2565       975    2564.8     978.8    2564.5     982.5    2564.3     986.3
GR    2564       990    2563.7     993.3    2563.3     996.7      2563      1000    2563.3    1003.3
GR  2563.7    1006.7      2564      1010    2565.3    1013.3    2566.7    1016.7      2568      1020
GR  2568.3    1023.8    2568.7    1027.5      2569    1031.3    2569.3      1035    2569.7    1038.8
GR    2570    1042.5    2570.3    1046.3    2570.7      1050      2571    1053.8    2571.3    1057.5
GR  2571.7    1061.3      2572      1065    2572.4    1072.1    2572.6    1075.7    2572.9    1082.9
GR  2573.1    1086.4    2573.5    1093.6    2573.9    1100.7    2574.1    1104.3    2574.5    1111.4
GR  2574.9    1118.6    2575.1    1122.1    2575.4    1129.3    2575.6    1132.9      2576      1140

  SECTION 5.965 TAKEN FROM TOPOGRAPHIC MAP.

ET                        9.1                                                         920.05    1031.60
X1   5.965         7       980      1020       210       310       300
GR    2572       910      2568       960      2567       980      2565      1000      2567      1020
GR    2568      1030      2572      1032


QT       2      1908      1908
ET                        9.1                                                         985.80    1090.30
        Flowrate through both new and old US 60 culverts from HEC-1 operation
        SAH80.  Continues through end of detailed study.
X1   6.029        42       985      1045       330       325       340
GR  2600.0     950.0    2597.5     954.8    2595.0     959.7    2592.5     964.5    2590.0     969.3
GR  2587.5     974.2    2585.0     979.0    2580.0     980.0    2577.5     985.0    2575.0     990.0
GR  2572.5     995.0    2570.0    1000.0    2571.0    1005.0    2572.0    1010.0    2573.0    1015.0
GR  2574.0    1020.0    2574.5    1025.0    2575.0    1030.0    2575.5    1035.0    2576.0    1040.0
GR  2576.5    1045.0    2577.0    1050.0    2576.8    1055.0    2576.7    1060.0    2576.5    1065.0
    2576.3    1070.0    2576.2    1075.0    2576.0    1080.0    2576.6    1085.1    2577.1    1090.3
    2577.7    1095.4    2578.3    1100.6    2578.9    1105.7    2579.4    1110.9    2580.0    1116.0
GR  2580.7    1120.9    2581.4    1125.7    2582.1    1130.6    2582.9    1135.4    2583.6    1140.3
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     2584.3    1145.1    2585.0    1150.0

ET              7.1       9.1                                   940       1025       940    1023.22
        Extremely flat slope and wide cross section in this reach.
        Begin Special Culvert analysis of US 60 bridge (3-8x10 RCB).
        Section 1 in SC routine.  Left overbank encroached to 940 to
        meet 4 to 1 flow expansion criteria downstream from culvert.
        Floodplain mapped to WSEL.
X1   6.084        7       960      1015       280       235       290
GR    2580      840      2576       960      2572       990      2572      1000      2572      1005
GR    2576     1015      2580      1025

NC    .055     .055      .016        .6        .8
        Section 2 in SC routine.  Sections constructed from US 60 centerline
        elevation data and structure survey (Structure designation X-2).
X1   6.107       31     984.1    1015.9       120       120       120
X3      10
GR  2593.3    709.3    2593.2     719.4      2593     729.5    2592.8     739.6    2592.7     749.7
GR  2592.5    759.8    2592.3     769.8    2592.2     779.9      2592       790    2591.7     809.2
GR  2591.3    828.3      2591     847.5    2590.7     866.7    2590.3     885.8      2590       905
GR    2590      924      2590       943      2590       962      2590       981      2590     984.1
GR  2574.8    984.2    2574.8      1000    2574.8    1015.8    2589.8    1015.9    2589.7      1020
GR  2589.4     1040    2589.1      1060      2589      1070    2588.9      1080    2588.6      1100
GR    2592     1110

SC   3.016      0.4       3.0         0         8        10        60       8.1    2575.2    2574.8
        Conveyance change through culvert.  Structure X-2 in Structure Survey.
        Section 3 in SC routine.
X1   6.118       33     984.1    1015.9        60        60        60
X2                         2    2583.0    2588.6
X3      10
BT     -19    828.3    2591.3    2591.3     847.5      2591      2591     866.7    2590.7    2590.7
BT            885.8    2590.3    2590.3       905      2590      2590       924      2590      2590
BT              943      2590      2590       962      2590      2590       981      2590      2590
BT            984.1      2590      2590     984.2      2590      2583      1000      2590      2583
BT           1015.8    2589.8      2583    1015.9    2589.8    2589.8      1020    2589.7    2589.7
BT             1040    2589.4    2589.4      1060    2589.1    2589.1      1080    2588.9    2588.9
BT             1100    2588.6    2588.6
GR  2593.3    709.3    2593.2     719.4      2593     729.5    2592.8     739.6    2592.7     749.7
GR  2592.5    759.8    2592.3     769.8    2592.2     779.9      2592       790    2591.7     809.2
GR  2591.3    828.3      2591     847.5    2590.7     866.7    2590.3     885.8      2590       905
GR    2590      924      2590       943      2590       962      2590       981      2590     984.1
GR  2575.2    984.2    2575.2      1000    2575.2    1015.8    2589.8    1015.9    2589.7      1020
GR  2589.4     1040    2589.1      1060      2589      1070    2588.9      1080    2588.6      1100
GR  2588.3     1120      2588      1130      2592      1135

NC    .055     .055      .035        .2        .4
ET              7.1       9.1                                   960       1100       970      1040
        Conveyance change due to culvert.  Section 4 in SC routine.
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          GR data taken from topographic map.  Encroachments added to meet
          1 to 1 flow contraction criteria.  Floodplain mapped to WSEL.
X1    6.134       10      970     1020       80       90       85
GR     2588      890     2584      910     2580      925     2576      970     2576     1000
GR   2575.5     1020     2576     1040     2580     1062     2584     1120     2588     1140

  6.165 TAKEN FROM TOPOGRAPHIC MAP.

ET                          9.1                                                975     1025
X1    6.165        9      975     1025      160      170      160
GR     2588      780     2584      890     2580      920     2578      975     2578     1000
GR     2578     1025     2580     1055     2584     1085     2588     1175


ET                          9.1                                                928     1036
          Conveyance change due to culvert.  Moving upstream from backwater
          area.  Floodplain shifted 20 ft right to match topography.
X1    6.214       29      975     1030      280      255      260
GR   2590.0    870.0   2583.0    900.0   2582.7    914.0   2582.3    928.0   2582.0    942.0
GR   2581.5    958.5   2581.0    975.0   2581.0    987.5   2581.0   1000.0   2581.0   1020.0
GR   2582.0   1030.0   2585.0   1040.0   2585.5   1054.0   2586.0   1068.0   2586.5   1086.5
GR   2587.0   1105.0   2586.3   1121.7   2585.7   1138.3   2585.0   1155.0   2584.0   1170.0
GR   2585.0   1189.0   2585.8   1203.0   2586.5   1217.0   2587.3   1231.0   2588.0   1245.0
GR   2589.5   1262.5   2591.0   1280.0   2593.5   1292.5   2596.0   1305.0


      .055     .055     .035       .6       .8
                          9.1                                               950.37   1039.26
          Section 1 in SC routine for Old US 60.  GR data taken from topographic
          map.  Section placed to meet 4 to 1 expansion criteria downstream from
          culvert.
X1    6.265        9      975     1025      270      270      270
GR     2592      940     2588      945     2584      955     2582      975   2581.5     1000
GR     2582     1025     2584     1030     2588     1050     2592     1380


NC     .055     .055     .016      0.6      0.8

          Section 2 in SC routine.  Structure X-1 from structure survey.
          Downstream face of 3-10x5 Reinforced Concrete Box (RCB) Culvert.
          Road abandoned in 1960s.  Sediment depth unknown, estimate 5 ft.
          Sections 2 and 3 constructed from roadway centerline elevation and
          structure survey data.
X1    6.297       42    984.1    1015.9      175      175      170
X3       10
GR     2596      820   2595.3      827   2594.7      834     2594      841   2593.3      848
GR   2592.7      855     2592      862   2591.8    877.1   2591.6    892.2   2591.6    899.7
GR   2591.4    907.3   2591.3    922.4   2591.1    937.5   2590.9    952.9   2590.7    968.6
GR   2590.5    984.1   2581.8    984.2   2581.8     1000   2581.8   1015.8   2590.8   1015.9
GR   2591.3   1029.1   2591.5   1036.3   2591.8   1043.6     2592   1050.9   2592.3   1058.1
GR   2592.5   1065.4   2592.8   1072.7     2593   1079.9   2593.3   1087.2   2593.5   1094.5
GR   2593.8   1101.7     2594     1109   2594.2   1123.6   2594.4   1138.2   2594.6   1152.8
GR   2594.8   1167.4     2595     1182   2595.2   1197.1   2595.4   1212.2   2595.6   1219.8
GR   2595.8   1234.9     2596     1250
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SC    3.015       .4       3.0         0       5.0      10.0      34.0       8.1    2581.8    2581.8
          Section 3 in SC routine.  Upstream face of culvert.
X1    6.304        42     984.1    1015.9        34        34        34
X2                          2     2586.8
X3       10
BT      - 8     968.6    2590.7    2590.7     984.1    2590.5    2590.5     984.2    2590.5    2586.8
BT             1000     2590.3    2586.8    1007.3    2590.6    2586.8    1015.8    2590.8    2586.8
BT           1015.9     2590.8    2590.8    1029.1    2591.3    2591.3
GR     2596      820     2595.3       827    2594.7       834      2594       841    2593.3       848
GR   2592.7      855       2592       862    2591.8     877.1    2591.6     892.2    2591.6     899.7
GR   2591.4    907.3     2591.3     922.4    2591.1     937.5    2590.9     952.9    2590.7     968.6
GR   2590.5    984.1     2581.8     984.2    2581.8      1000    2581.8    1015.8    2590.8    1015.9
GR   2591.3   1029.1     2591.5    1036.3    2591.8    1043.6      2592    1050.9    2592.3    1058.1
GR   2592.5   1065.4     2592.8    1072.7      2593    1079.9    2593.3    1087.2    2593.5    1094.5
GR   2593.8   1101.7       2594      1109    2594.2    1123.6    2594.4    1138.2    2594.6    1152.8
GR   2594.8   1167.4       2595      1182    2595.2    1197.1    2595.4    1212.2    2595.6    1219.8
GR   2595.8   1234.9       2596      1250


NC     .055     .055       .035        .6        .8
ET               9.1        9.1       9.1                                                950      1040
          Section 4 in SC routing.  Encroachments added to meet 1 to 1 flow
          contraction criteria.  Floodplain mapped to WSEL.
X1    6.313        8        980      1020        50        50        50
      2592      770       2588       910      2588       950      2584       980      2582      1000
      2584     1020       2588      1035      2592      1110

NC     .055     .055       .035        .2        .4
ET                          9.1                                                           950      1040
X1    6.361       38      986.3      1010       240       245       250
GR   2600.0    820.0     2597.5     831.5    2595.0     843.0    2594.5     855.2    2594.0     867.3
GR   2593.5    879.5     2593.0     891.7    2592.5     903.8    2592.0     916.0    2590.0     930.5
GR   2588.0    945.0     2587.6     949.3    2587.3     953.5    2586.9     957.8    2586.5     962.0
GR   2586.1    966.3     2585.8     970.5    2585.4     974.8    2585.0     979.0    2584.7     982.7
GR   2584.3    986.3     2584.0     990.0    2583.5     995.0    2583.0    1000.0    2583.5    1005.0
GR   2584.0   1010.0     2586.0    1015.0    2588.0    1020.0    2588.4    1024.0    2588.8    1028.0
GR   2589.2   1032.0     2589.6    1036.0    2590.0    1040.0    2592.0    1055.0    2596.0    1070.0
GR   2597.3   1083.3     2598.7    1096.7    2600.0    1110.0

ET                          9.1                                                          950.00   1023.00
          Conveyance change due to culvert constriction.  Moving upstream from
          backwater area.  Floodplain shifted 10 ft to match topographic
          map.
X1    6.406       48       988    1006.7       250       230       240
GR   2600.0    710.0     2599.5     727.8    2599.0     745.5    2598.5     763.3    2598.0     781.0
GR   2597.3    797.3     2596.7     813.7    2596.0     830.0    2595.0     847.5    2594.0     865.0
GR   2593.0    882.5     2592.0     900.0    2591.0     916.7    2590.0     933.3    2589.0     950.0
GR   2588.8    953.0     2588.6     956.0    2588.4     959.0    2588.2     962.0    2588.0     965.0
GR   2587.8    967.8     2587.7     970.7    2587.5     973.5    2587.3     976.3    2587.2     979.2
     2587.0    982.0     2586.8     985.0    2586.7     988.0    2586.5     991.0    2586.3     994.0
     2586.2    997.0     2586.0    1000.0    2586.3    1003.3    2586.7    1006.7    2587.0    1010.0
GR   2587.3   1013.3     2587.7    1016.7    2588.0    1020.0    2588.6    1022.9    2589.1    1025.7
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     2589.7    1028.6    2590.3    1031.4    2590.9    1034.3    2591.4    1037.1    2592.0    1040.0
     2596.0    1060.0    2598.0    1074.5    2600.0    1089.0

ET                        9.1                                                         997.30    1083.28
X1    6.463        26     997.3      1020       285       265       300
GR   2601.0     960.0    2598.0     974.5    2595.0     989.0    2589.0     997.3    2587.0    1000.0
GR   2588.0    1010.0    2589.0    1020.0    2589.7    1031.3    2590.3    1042.7    2591.0    1054.0
GR   2591.3    1065.5    2591.5    1077.0    2591.8    1088.5    2592.0    1100.0    2592.5    1111.7
GR   2593.0    1123.3    2593.5    1135.0    2594.0    1146.7    2594.5    1158.3    2595.0    1170.0
GR   2595.3    1183.3    2595.7    1196.7    2596.0    1210.0    2597.3    1223.3    2598.7    1236.7
GR     2600      1250

ET                        9.1                                                         946.26    1022.00
X1    6.523        45     990.3      1011       235       295       315
GR   2605.8     710.0    2604.4     721.3    2602.8     735.6    2601.2     742.2    2600.0     751.3
GR   2598.3     760.2    2597.4     774.3    2596.5     784.1    2595.8     796.3    2595.5     801.5
GR   2595.3     808.2    2594.9     823.0    2594.7     831.1    2594.6     840.0    2594.4     853.2
GR   2594.2     862.2    2594.0     866.3    2593.7     882.3    2593.5     894.1    2593.3     900.5
GR   2593.1     907.1    2592.9     924.3    2592.8     929.8    2592.7     941.5    2592.5     954.1
GR   2592.4     966.0    2592.1     970.4    2591.9     978.4    2591.2     990.3    2590.9     992.7
GR   2590.7     997.2    2590.7    1000.0    2590.7    1003.2    2591.1    1006.7    2591.3    1011.0
GR   2592.0    1021.7    2593.6    1028.2    2595.2    1041.5    2597.1    1047.8    2598.8    1060.2
GR   2601.3    1067.3    2603.0    1081.3    2605.0    1093.6    2606.4    1100.1    2607.0    1107.2

ET                  7.1     9.1                                       730    1061.9     942.00    1061.9
          Encroach to 1061.9 for small right bank tributary.  Floodplain
          mapped to WSEL.
     6.581        45     978.0     1007.3       250       345       310
GR   2608.0     705.9    2605.7     720.3    2603.4     734.0    2602.3     754.0    2601.4     766.0
GR   2600.8     778.2    2600.1     794.2    2599.3     812.7    2598.4     822.7    2597.7     842.2
GR   2597.1     859.4    2596.4     871.9    2596.0     887.0    2595.6     904.2    2595.4     915.9
GR   2595.0     930.0    2594.7     942.1    2594.3     957.1    2594.1     971.4    2593.8     978.0
GR   2593.6     992.1    2593.4     992.8    2593.4    1000.0    2593.7    1007.3    2594.0    1016.5
GR   2594.3    1030.0    2594.7    1044.2    2595.0    1061.9    2594.8    1079.6    2594.6    1087.8
GR   2594.4    1098.2    2594.2    1108.2    2593.9    1109.6    2593.4    1112.9    2593.4    1115.9
GR   2593.6    1118.7    2594.0    1123.4    2594.4    1131.2    2595.1    1142.2    2595.8    1157.7
GR   2600.6    1177.4    2604.7    1193.8    2606.9    1204.1    2608.7    1221.2    2609.3    1235.9

ET                  7.1     9.1                                       850       1130       950      1030
          Floodplain shifted 20 ft right to conform with map.
X1    6.674        80       990      1015       480       485       490
GR    2608       780    2607.6       787    2607.2       794    2606.8       801    2606.4       808
GR    2606       815    2605.6       822    2605.2       829    2604.8       836    2604.4       843
GR    2604       850    2603.6     857.2    2603.1     864.4    2602.7     871.7    2602.2     878.9
GR   2601.8     886.1    2601.3     893.3    2600.9     900.6    2600.4     907.8      2600       915
GR   2599.6     921.8    2599.3     928.6    2598.9     935.5    2598.6     942.3    2598.2     949.1
GR   2597.8     955.9    2597.4     962.7    2597.1     969.5    2596.7     976.4    2596.4     983.2
GR    2596       990      2595      1000    2595.5    1007.5      2596      1015    2596.7    1022.5
GR   2597.3     1030      2598    1037.5    2598.7      1045    2599.3    1052.5      2600      1060
GR   2600.4     1074    2600.8      1088    2601.2      1102    2601.6      1116      2602      1130
GR   2601.8    1144.1    2601.5    1158.2    2601.3    1172.3    2601.1    1186.5    2600.8    1200.6
     2600.6    1214.7    2600.4    1228.8    2600.1    1242.9      2600      1250    2599.6    1257.1
     2599.1    1264.3    2598.7    1271.4    2598.3    1278.6    2597.9    1285.7    2597.4    1292.9
GR    2597      1300    2597.3      1315    2597.7      1330      2598      1345    2597.8    1358.8
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[illegible]	2597.5	1372.5	2597.3	1386.3	2597	1400	2597.5	1406.7	2598	1413.3
[illegible]	2598.5	1420	2599	1426.7	2599.5	1433.3	2600	1440	2601.3	1446.7
GR	2602.7	1453.3	2604	1460	2605.3	1466.7	2606.7	1473.3	2608	1480
ET			9.1						952.03	1018.67
X1	6.776	53	985	1010	560	515	540			
GR	2612.0	515.0	2611.5	537.5	2611.0	560.0	2610.3	577.5	2609.5	595.0
GR	2608.8	612.5	2608.0	630.0	2607.6	649.0	2607.2	668.0	2606.8	687.0
GR	2606.4	706.0	2606.0	725.0	2605.5	746.3	2605.0	767.5	2604.5	788.8
GR	2604.0	810.0	2603.7	826.7	2603.3	843.3	2603.0	860.0	2602.8	879.4
GR	2602.6	898.8	2602.4	918.2	2602.2	937.6	2602.0	957.0	2601.8	960.6
GR	2601.6	964.2	2601.4	967.8	2601.2	971.4	2601.0	975.0	2600.7	978.3
GR	2600.3	981.7	2600.0	985.0	2599.8	988.0	2599.6	991.0	2599.4	994.0
GR	2599.2	997.0	2599.0	1000.0	2599.3	1003.3	2599.7	1006.7	2600.0	1010.0
GR	2601.3	1013.0	2602.7	1016.0	2604.0	1019.0	2604.4	1022.4	2604.9	1025.9
GR	2605.3	1029.3	2605.8	1032.8	2606.2	1036.2	2606.7	1039.7	2607.1	1043.1
GR	2607.6	1046.6	2608.0	1050.0	2610.0	1075.0				
ET			9.1						936.04	1018.89
X1	6.865	50	990	1009	325	410	470			
GR	2616.0	640.0	2612.0	655.0	2611.5	680.0	2611.0	705.0	2610.5	724.3
GR	2610.0	743.7	2609.5	763.0	2609.0	782.3	2608.5	801.7	2608.0	821.0
GR	2607.5	845.5	2607.0	870.0	2606.5	892.5	2606.0	915.0	2605.5	937.5
GR	2605.0	960.0	2605.0	963.2	2605.0	966.3	2605.0	969.5	2605.0	972.7
GR	2605.0	975.8	2605.0	979.0	2604.8	981.8	2604.5	984.5	2604.3	987.3
GR	2604.0	990.0	2603.7	993.3	2603.3	996.7	2603.0	1000.0	2603.3	1003.0
[illegible]	2603.7	1006.0	2604.0	1009.0	2605.0	1011.8	2606.0	1014.5	2607.0	1017.3
[illegible]	2608.0	1020.0	2608.6	1022.8	2609.2	1025.6	2609.8	1028.4	2610.4	1031.2
GR	2611.0	1034.0	2611.1	1037.0	2611.3	1040.0	2611.4	1043.0	2611.6	1046.0
GR	2611.7	1049.0	2611.9	1052.0	2612.0	1055.0	2614.5	1072.0	2617.0	1089.0
ET			9.1						831.91	1042.50
X1	6.955	57	991	1010	400	490	475			
GR	2616.0	811.0	2612.0	828.0	2608.0	845.0	2607.0	860.0	2607.0	870.0
GR	2608.0	881.0	2608.3	894.3	2608.7	907.7	2609.0	921.0	2609.5	938.0
GR	2610.0	955.0	2609.9	958.1	2609.8	961.3	2609.6	964.4	2609.5	967.5
GR	2609.4	970.6	2609.3	973.8	2609.1	976.9	2609.0	980.0	2608.8	982.8
GR	2608.5	985.5	2608.3	988.3	2608.0	991.0	2607.7	994.0	2607.3	997.0
GR	2607.0	1000.0	2607.3	1003.3	2607.7	1006.7	2608.0	1010.0	2608.3	1012.8
GR	2608.5	1015.5	2608.8	1018.3	2609.0	1021.0	2609.3	1024.1	2609.6	1027.2
GR	2609.9	1030.3	2610.2	1033.4	2610.5	1036.5	2610.8	1039.6	2611.1	1042.7
GR	2611.4	1045.8	2611.7	1048.9	2612.0	1052.0	2612.4	1066.7	2612.9	1081.4
GR	2613.3	1096.1	2613.7	1110.9	2614.1	1125.6	2614.6	1140.3	2615.0	1155.0
GR	2615.3	1170.3	2615.5	1185.5	2615.8	1200.8	2616.0	1216.0	2617.0	1227.5
GR	2618.0	1239.0	2620.0	1261.0						
ET			9.1						977.00	1057.47
X1	7.067	84	990	1011	675	570	590			
GR	2628	769	2627	789.3	2626	809.5	2625	829.8	2624	850
GR	2623.3	869.3	2622.7	888.7	2622	908	2621	931.5	2620	955
[illegible]	2619.4	958.1	2618.8	961.3	2618.1	964.4	2617.5	967.5	2616.9	970.6
[illegible]	2616.3	973.8	2615.6	976.9	2615	980	2615	990	2614.7	993.3
GR	2614.3	996.7	2614	1000	2614.3	1002.8	2614.5	1005.5	2614.8	1008.3

	2615	1011	2615	1022	2615.2	1025.1	2615.4	1028.2	2615.7	1031.3
	2615.9	1034.4	2616.1	1037.6	2616.3	1040.7	2616.6	1043.8	2616.8	1046.9
GR	2617	1050	2616.9	1052.9	2616.7	1055.7	2616.6	1058.6	2616.4	1061.4
GR	2616.3	1064.3	2616.1	1067.1	2616	1070	2616.2	1073.1	2616.4	1076.1
GR	2616.6	1079.2	2616.8	1082.3	2616.9	1085.3	2617.1	1088.4	2617.3	1091.4
GR	2617.5	1094.5	2617.7	1097.6	2617.9	1100.6	2618.1	1103.7	2618.3	1106.8
GR	2618.4	1109.8	2618.6	1112.9	2618.8	1115.9	2619	1119	2619.1	1122.1
GR	2619.3	1125.3	2619.5	1131.5	2619.6	1134.6	2619.8	1137.8	2620	1144
GR	2620.2	1147.1	2620.4	1150.2	2620.6	1153.3	2620.7	1156.4	2620.9	1159.4
GR	2621.1	1162.6	2621.3	1165.6	2621.4	1168.7	2621.6	1171.8	2621.8	1174.9
GR	2622	1178	2622.4	1181	2622.9	1184	2623.3	1187	2623.8	1190
GR	2624.2	1193	2624.7	1196	2625.1	1199	2625.6	1202		
ET			9.1						955.00	1067.52

In the vicinity of the tank, several large changes in channel slope occur, and flow changes from subcritical to critical with each new section. This affects Sections 7.164 through 7.339. No engineering data or construction plans available for small dam.

X1	7.164	50	989	1010	435	455	510			
GR	2628.0	230.0	2627.3	247.5	2626.7	265.0	2626.0	282.5	2625.3	300.0
GR	2624.7	317.5	2624.0	335.0	2623.8	352.4	2623.6	369.8	2623.4	387.2
GR	2623.2	404.6	2623.0	422.0	2623.0	441.0	2623.0	460.0	2623.0	479.0
GR	2623.0	505.0	2622.0	525.0	2622.0	547.5	2622.0	570.0	2622.0	590.0
GR	2622.0	610.0	2622.0	630.0	2622.0	650.0	2622.0	670.0	2624.0	695.0
GR	2624.5	712.5	2625.0	730.0	2624.5	745.0	2624.0	760.0	2622.0	774.5
GR	2620.0	789.0	2619.0	805.0	2620.0	825.0	2621.0	849.0	2621.0	866.5
	2621.0	884.0	2620.5	902.5	2620.0	921.0	2619.0	938.0	2618.0	955.0
	2616.0	975.0	2615.0	989.0	2614.0	1000.0	2616.0	1010.0	2617.0	1024.0
GR	2618.0	1045.0	2620.0	1063.0	2624.0	1085.0	2626.0	1100.0	2628.0	1115.0
ET		7.1	9.1				670	1100	893	1027.62
X1	7.223	78	988.6	1006.7	220	320	315			
GR	2632.0	70.0	2630.7	93.3	2629.3	116.7	2628.0	140.0	2627.0	163.0
GR	2626.0	186.0	2625.0	209.0	2624.0	232.0	2623.0	238.0	2623.0	259.8
GR	2623.0	281.7	2623.0	303.5	2623.0	325.3	2623.0	347.2	2623.0	369.0
GR	2624.0	390.0	2624.0	405.0	2622.0	422.0	2622.2	444.0	2622.4	466.0
GR	2622.7	488.0	2622.9	510.0	2623.1	532.0	2623.3	554.0	2623.6	576.0
GR	2623.8	598.0	2624.0	620.0	2625.0	638.0	2625.0	669.0	2624.5	689.5
GR	2624.0	710.0	2623.0	732.0	2622.8	755.6	2622.6	779.2	2622.4	802.8
GR	2622.2	826.4	2622.0	850.0	2621.8	871.3	2621.5	892.5	2621.3	913.8
GR	2621.0	935.0	2621.0	938.1	2621.0	941.3	2621.0	944.4	2621.0	947.5
GR	2621.0	950.6	2621.0	953.8	2621.0	956.9	2621.0	960.0	2620.9	962.9
GR	2620.7	965.7	2620.6	968.6	2620.4	971.4	2620.3	974.3	2620.1	977.1
GR	2620.0	980.0	2619.9	982.9	2619.7	985.7	2619.6	988.6	2619.4	991.4
GR	2619.3	994.3	2619.1	997.1	2619.0	1000.0	2619.3	1003.3	2619.7	1006.7
GR	2620.0	1010.0	2620.3	1013.3	2620.5	1016.5	2620.8	1019.8	2621.0	1023.0
GR	2622.2	1025.8	2623.3	1028.7	2624.5	1031.5	2625.7	1034.3	2626.8	1037.2
GR	2628.0	1040.0	2630.0	1064.5	2632.0	1089.0				

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                7.1       9.1                                   850      1041       850      1041
        Floodplain mapped to WSEL.
X1    7.339       37       980      1021       525       615       610
GR   2640.0    480.0    2638.0     502.5    2636.0     525.0    2634.0     548.5    2632.0     572.0
GR   2631.0    600.0    2629.5     624.5    2628.0     649.0    2627.5     674.0    2627.0     699.0
GR   2626.0    726.0    2625.0     753.0    2624.0     780.0    2623.0     808.0    2623.5     829.0
GR   2624.0    850.0    2624.0     874.0    2624.0     898.0    2624.0     919.0    2624.0     940.0
GR   2626.0    965.0    2626.0     970.0    2626.0     980.0    2625.5     990.0    2625.0    1000.0
GR   2625.5   1010.5    2626.0    1021.0    2626.0    1030.0    2626.0    1041.0    2626.0    1050.0
GR   2626.5   1072.0    2627.0    1094.0    2628.0    1125.0    2630.0    1147.5    2632.0    1170.0
GR   2638.0   1195.0    2641.0    1220.0

ET                      9.1                                                          978.20    1084.17
X1    7.441       58       990    1012.5       530       525       540
GR   2640.0    750.0    2638.0     767.5    2636.0     785.0    2635.3     803.3    2634.7     821.7
GR   2634.0    840.0    2633.3     860.7    2632.7     881.3    2632.0     902.0    2631.5     918.5
GR   2631.0    935.0    2630.9     938.4    2630.8     941.8    2630.6     945.1    2630.5     948.5
GR   2630.4    951.9    2630.3     955.3    2630.1     958.6    2630.0     962.0    2630.0     965.6
GR   2630.0    969.2    2630.0     972.8    2630.0     976.4    2630.0     980.0    2629.8     983.3
GR   2629.7    986.7    2629.5     990.0    2629.3     993.3    2629.2     996.7    2629.0    1000.0
GR   2629.1   1003.1    2629.3    1006.3    2629.4    1009.4    2629.5    1012.5    2629.6    1015.6
GR   2629.8   1018.8    2629.9    1021.9    2630.0    1025.0    2630.0    1028.2    2630.0    1031.4
GR   2630.0   1034.7    2630.0    1037.9    2630.0    1041.1    2630.0    1044.3    2630.0    1047.6
GR   2630.0   1050.8    2630.0    1054.0    2630.2    1073.0    2630.4    1092.0    2630.6    1111.0
GR   2630.8   1130.0    2631.0    1149.0    2631.5    1174.5    2632.0    1200.0    2634.0    1221.5
GR   2636.0   1243.0    2638.0    1264.0    2640.0    1285.0

ET                      9.1                                                          867.80    1003.30
X1    7.496       86     982.3    1003.3       250       300       290
GR    2644      595      2640       605      2639       619      2636       651     2635.3       675
GR   2634.7      699      2634       723    2633.3       747    2632.7       771      2632       795
GR   2631.8    816.8    2631.5     838.5    2631.3     860.3      2631       882      2631     910.5
GR    2631      939     2630.8     944.8    2630.6     950.6    2630.6     953.5    2630.4     956.5
GR   2630.2    965.2      2630       971      2630     982.3      2630       994      2630      1000
GR   2630.7   1003.3    2631.3    1006.7      2632      1010    2632.3    1013.3    2632.7    1016.7
GR    2633     1020     2633.2    1023.1    2633.5    1026.2    2633.7    1029.2    2633.9    1032.3
GR   2634.1   1035.4    2634.4    1038.5    2634.6    1041.5    2634.9    1044.6    2635.1    1047.7
GR   2635.3   1050.8    2635.5    1053.8    2635.8    1056.9      2636      1060    2636.3    1063.1
GR   2636.6   1066.2    2636.9    1069.2    2637.2    1072.3    2637.5    1075.4    2637.9    1078.5
GR   2638.1   1081.5    2638.5    1084.6    2638.8    1087.7    2639.1    1090.8    2639.4    1093.8
GR   2639.7   1096.9      2640      1100    2640.1      1103    2640.3      1106    2640.4      1109
GR   2640.6     1112    2640.8      1115    2640.9      1118    2641.1      1121    2641.2      1124
GR   2641.4     1127    2641.6      1133    2641.8      1136    2641.9      1139    2642.1      1142
GR   2642.3     1145    2642.4      1148    2642.6      1151    2642.7      1154    2642.9      1157
GR   2643.1     1163    2643.3      1169    2643.5      1175    2643.7      1181    2643.9      1187
GR   2644.1   1192.9    2644.3    1195.7    2644.4    1198.6    2644.6    1201.4    2644.7    1204.3
GR   2644.9   1207.1
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                          9.1                                                   974.13    1027.60
X1    7.542        9      990      1010       240       225       245
GR     2640      820     2636       910      2632       980      2631       990     2631      1000
GR     2631     1010     2632      1028      2636      1065      2640      1085


QT        2     4046     4046
NC     .055     .055     .035        .2        .4
ET                        9.1                                                      928    1039.18
          Begin right bank tributary to AH3.  First two sections lie near
          the confluence with AH3.  Original sections 1.499 and 1.569
          from the main channel data included GR data for tributary channel
          as well.  Modifications of these sections have been incorporated
          into the tributary model as sections 0.114 and 0.171.  Sections
          0.236 and 0.306 were taken from the topographic map.
          Cross section stationing based on 600 ft distance from confluence.
X1   -1.396       70      952    1011.3       335       220       345
GR     2388      820    2387.5       824      2387       828    2386.5       832     2386       836
GR   2385.5      840     2385       844    2384.5       848      2384       852   2383.6     855.8
GR   2383.2    859.6    2382.8     863.4    2382.4     867.2      2382       871   2381.6     874.8
GR   2381.2    878.6    2380.8     882.4    2380.4     886.2      2380       890   2379.7     894.2
GR   2379.3    898.3     2379      902.5    2378.7     906.7    2378.3     910.8     2378       915
GR   2377.7    919.2    2377.3     923.3      2377     927.5    2376.7     931.7   2376.3     935.8
GR     2376      940    2375.6       948    2375.4       952      2375       960     2375     972.4
GR     2375    984.9      2375       989    2374.7     992.7    2374.3     996.3     2374      1000
GR   2374.5   1003.8      2375    1007.5    2375.5    1011.3      2376      1015   2376.3      1023
GR   2376.7     1031      2377      1039    2377.3    1051.3    2377.6    1063.6   2377.9    1075.9
GR   2378.1   1083.9    2378.3    1095.7    2378.5    1107.5    2378.7    1119.3   2378.9    1131.1
GR   2379.1   1138.9    2379.4    1150.6    2379.4    1154.6    2379.6    1158.4   2379.8    1170.2
GR     2380     1178      2381    1182.2      2382    1186.4      2383    1190.6     2384    1194.8
GR     2385     1199      2386    1203.2      2387    1207.4      2388    1211.6     2389    1215.8

QT        2     1680     1680
ET                        9.1                                                     961.00    1048.99
X1    0.114       22      961      1041       750       750       755
GR     2392      786     2392       796    2391.3     807.7    2390.7     819.3   2389.3     842.7
GR   2388.7    854.3     2388       866    2387.6     887.1    2387.3     897.7   2386.9     918.8
GR   2386.7    929.3    2386.4     939.9      2386       961      2384       986     2383      1000
GR     2384     1018      2386      1041    2388.4      1063    2390.8      1085     2392      1096
GR   2393.3   1107.7    2394.7    1119.3

ET                        9.1                                                     985.00    1031.97
X1    0.171       24      985      1020       290       300       300
GR   2397.3    813.8    2397.5     827.5    2397.5     827.6    2397.8     841.3     2398       855
GR   2397.4    879.3    2396.9     903.6    2396.3     927.9      2396       940     2392       957
GR     2390      971      2388       985      2386      1000      2388      1020   2388.4    1033.2
GR   2388.8   1046.4    2389.2    1059.6    2389.6    1072.8      2390      1086   2391.3    1111.3
GR     2392     1124      2394    1139.5      2396      1155      2400      1172
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			9.1						966.37	1017.68
X1	0.236	8	970	1012	345	345	345			
GR	2400	750	2396	795	2392	950	2391.5	970	2388.8	1000
GR	2392	1012	2396	1025	2400	1030				
ET			9.1						980	1025
X1	0.306	11	980	1025	315	350	370			
GR	2404.9	820	2404	935	2400	960	2396	970	2395	980
GR	2393.3	985	2393.3	1000	2393.3	1020	2395	1025	2396	1040
GR	2400	1200								
ET			9.1						976.20	1024.76
X1	0.386	80	980	1013.7	330	440	420			
GR	2409	608	2408.6	612.4	2408.3	616.9	2407.9	621.3	2407.6	625.7
GR	2407.2	630.1	2406.9	634.6	2406.5	639	2406.1	643.4	2405.8	647.9
GR	2405.4	652.3	2405.1	656.7	2404.7	661.1	2404.4	665.6	2404	670
GR	2403.8	679.1	2403.6	688.2	2403.4	692.8	2403.2	701.9	2403	711
GR	2403	719.9	2403	728.8	2403	737.7	2403	746.6	2403	755.5
GR	2402.9	764.5	2402.8	769	2402.6	773.5	2402.4	782.5	2402.3	787
GR	2402.1	791.5	2401.9	800.5	2401.8	805	2401.6	809.5	2401.4	818.5
GR	2401.3	823	2401.1	827.5	2400.9	836.4	2400.9	845.2	2400.8	854
GR	2400.6	862.8	2400.6	871.6	2400.4	880.4	2400.4	889.2	2400.3	898
GR	2400.1	906.8	2400.1	915.6	2400	920	2399.8	924.2	2399.7	928.3
GR	2399.5	932.5	2399.3	936.7	2399.2	940.8	2399	945	2398.8	949.2
[illegible]	2398.7	953.3	2398.5	957.5	2398.3	961.7	2398.2	965.8	2398	970
[illegible]	2397.5	975	2397	980	2396.5	985	2396	990	2395.5	995
GR	2395	1000	2395.5	1004.5	2396	1009	2397.3	1013.7	2398.7	1018.3
GR	2400	1023	2401	1028	2402	1033	2403	1038	2404	1043
GR	2404.7	1047.8	2405.3	1052.7	2406	1057.5	2406.7	1062.3	2407.3	1067.2
ET			9.1						970.44	1019.00
X1	0.462	85	985	1019	365	400	400			
GR	2412	860	2411.9	863	2411.7	866	2411.5	872	2411.3	875
GR	2411.1	881	2410.9	884	2410.7	890	2410.5	893	2410.3	899
GR	2410.1	902	2409.9	908	2409.7	914	2409.6	920	2409.4	923
GR	2409.2	932	2409	938	2408.6	940.9	2408.1	943.8	2407.6	946.7
GR	2407.2	949.6	2406.7	952.5	2406.3	955.5	2405.8	958.4	2405.4	961.3
GR	2404.9	964.2	2404.4	967.1	2404	970	2403.3	973	2402.7	976
GR	2402	979	2401.3	982	2400.7	985	2400	988	2399.8	991
GR	2399.5	994	2399.3	997	2399	1000	2399.3	1003.3	2399.7	1006.7
GR	2400	1010	2400.3	1013	2400.6	1016	2400.9	1019	2401.2	1022
GR	2401.5	1025	2401.8	1028	2402.1	1031	2402.4	1034	2402.7	1037
GR	2403	1040	2403.1	1043.1	2403.3	1046.3	2403.5	1052.5	2403.6	1055.6
GR	2403.8	1058.8	2404	1065	2404.1	1068.1	2404.3	1071.3	2404.5	1077.5
GR	2404.6	1080.6	2404.8	1083.8	2405	1090	2405.4	1093	2405.7	1096.1
GR	2406	1099.1	2406.4	1102.2	2406.7	1105.2	2407.1	1108.3	2407.4	1111.3
GR	2407.8	1114.3	2408.1	1117.4	2408.5	1120.4	2408.8	1123.5	2409.2	1126.5
GR	2409.5	1129.6	2409.9	1132.6	2410.2	1135.7	2410.6	1138.7	2410.9	1141.7
GR	2411.3	1144.8	2411.6	1147.8	2412	1150.9	2412.3	1153.9	2412.6	1157

			9.1						975.31	1024.25
X1	0.539	75	981	1016	380	390	405			
GR	2416	860	2415.4	862.9	2414.9	865.7	2414.3	868.6	2413.7	871.4
GR	2413.1	874.3	2412.6	877.1	2412	880	2411.6	886	2411.2	892
GR	2410.8	898	2410.4	904	2410	910	2409.6	916	2409.2	922
GR	2408.8	928	2408.4	934	2408	940	2407.8	942.9	2407.5	945.8
GR	2407.3	948.8	2407	951.7	2406.8	954.6	2406.5	957.5	2406.3	960.4
GR	2406	963.3	2405.8	966.3	2405.5	969.2	2405.3	972.1	2405	975
GR	2404.6	981	2404.2	987	2404	990	2403.7	993.3	2403.3	996.7
GR	2403	1000	2403.3	1003.3	2403.7	1006.7	2404	1010	2404.4	1016
GR	2404.8	1022	2405	1025	2405.3	1027.9	2405.5	1030.8	2405.8	1033.8
GR	2406	1036.7	2406.3	1039.6	2406.5	1042.5	2406.8	1045.4	2407	1048.3
GR	2407.3	1051.3	2407.5	1054.2	2407.8	1057.1	2408.2	1063	2408.6	1069
GR	2409	1075	2409.4	1081	2409.8	1087	2410.2	1093	2410.6	1099
GR	2411	1105	2411.4	1111	2411.8	1117	2412.2	1122.9	2412.5	1125.9
GR	2412.9	1131.8	2413.2	1134.7	2413.6	1140.6	2413.9	1143.5	2414.1	1146.5
GR	2414.4	1149.4	2414.8	1155.3	2415.1	1158.2	2415.5	1164.1	2415.8	1167.1
ET			9.1						947.63	1006.19
X1	0.635	73	976.3	1005	495	495	500			
GR	2424	905	2423	910	2422	915	2421	920	2420	925
GR	2418.9	929.3	2417.7	933.6	2416.6	937.9	2415.4	942.1	2414.3	946.4
GR	2413.1	950.7	2412	955	2411.8	959.3	2411.5	963.5	2411.3	967.8
GR	2411	972	2410.7	976.3	2410.3	980.7	2410	985	2409.7	990
GR	2409.3	995	2409	1000	2410.5	1005	2412	1010	2412.3	1015
[illegible]	2412.5	1020	2412.8	1025	2413.2	1034.4	2413.4	1038.9	2413.7	1043.3
[illegible]	2413.9	1047.8	2414.1	1052.2	2414.3	1056.7	2414.6	1061.1	2415	1070
GR	2415.2	1079.2	2415.3	1088.3	2415.5	1097.5	2415.7	1106.7	2415.8	1115.8
GR	2416	1125	2416.3	1133.8	2416.6	1142.7	2416.9	1151.5	2417.1	1156
GR	2417.4	1164.8	2417.7	1173.7	2418	1182.5	2418.3	1191.3	2418.6	1200.2
GR	2418.9	1209	2419.1	1213.5	2419.4	1222.3	2419.7	1231.2	2420	1240
GR	2420.3	1244.4	2420.5	1248.9	2420.8	1253.3	2421	1257.8	2421.3	1262.2
GR	2421.5	1266.6	2421.8	1271.1	2422	1275.5	2422.3	1279.9	2422.5	1284.4
GR	2422.8	1288.8	2423	1293.3	2423.3	1297.7	2423.5	1302.1	2423.8	1306.6
GR	2424.2	1315.8	2424.5	1325.5	2424.8	1335.2				
ET			9.1						959.81	1019.98
X1	0.733	86	980	1010	470	410	525			
GR	2428	630	2427.7	635.4	2427.3	640.8	2427	646.3	2426.7	651.7
GR	2426.3	657.1	2426	662.5	2425.7	667.9	2425.3	673.3	2425	678.8
GR	2424.7	684.2	2424.3	689.6	2424	695	2423.7	700.7	2423.5	706.3
GR	2423.2	712	2422.9	717.7	2422.7	723.3	2422.4	729	2422.1	734.7
GR	2421.9	740.3	2421.6	746	2421.3	751.7	2421.1	757.3	2420.8	763
GR	2420.5	768.7	2420.3	774.3	2420	780	2419.9	790.8	2419.7	801.5
GR	2419.5	812.3	2419.4	823.1	2419.2	833.8	2419.1	844.6	2418.9	855.5
GR	2418.8	861	2418.6	866.5	2418.4	877.5	2418.3	883	2418.1	888.5
GR	2418	899.2	2418	909.6	2418	920	2417.8	925.5	2417.5	931
GR	2417.3	936.5	2417	942	2416.8	947.5	2416.5	953	2416.3	958.5
GR	2416	964	2415.7	969.3	2415.3	974.7	2415	980	2414.8	985
GR	2414.5	990	2414.3	995	2414	1000	2414.5	1005	2415	1010
[illegible]	2415	1020	2416	1026.3	2417	1032.7	2418	1039	2418.5	1044.3
[illegible]	2419	1049.5	2419.5	1054.8	2420	1060	2420.8	1066	2421.6	1072
GR	2422.4	1078	2423.2	1084	2424	1090	2424.3	1095.6	2424.6	1101.1

	2424.9	1106.7	2425.1	1112.3	2425.4	1117.9	2425.7	1123.4	2426	1129
	2426.3	1134.6	2426.6	1140.1	2426.9	1145.7	2427.1	1151.3	2427.4	1156.9
GR	2427.7	1162.4								
ET			9.1						967.41	1013.59
X1	0.813	85	973.8	1010	355	455	420			
GR	2432	730	2431.7	735.8	2431.3	741.5	2431	747.3	2430.7	753
GR	2430.3	758.8	2430	764.5	2429.7	770.3	2429.3	776	2429	781.8
GR	2428.7	787.5	2428.3	793.3	2428	799	2427.8	804.3	2427.5	809.5
GR	2427.3	814.8	2427	820	2426.6	832	2426.4	838	2426	850
GR	2425.6	862	2425.4	868	2425	880	2424.6	892	2424.4	898
GR	2424	910	2423.6	915.6	2423.3	921.3	2422.9	926.9	2422.5	932.5
GR	2422.1	938.1	2421.8	943.8	2421.4	949.4	2421	955	2420.8	961.3
GR	2420.5	967.5	2420.3	973.8	2420	980	2419.5	985	2419	990
GR	2418.5	995	2418	1000	2419	1005	2420	1010	2420.5	1015
GR	2421	1020	2421.3	1026.3	2421.5	1032.5	2421.8	1038.8	2422	1045
GR	2422.3	1051.3	2422.5	1057.5	2422.8	1063.8	2423	1070	2423.3	1076.3
GR	2423.5	1082.5	2423.8	1088.8	2424.2	1100.9	2424.5	1106.8	2424.9	1118.5
GR	2425.2	1124.4	2425.4	1130.3	2425.6	1136.2	2425.9	1142.1	2426.1	1147.9
GR	2426.4	1153.8	2426.6	1159.7	2426.8	1165.6	2427.1	1171.5	2427.5	1183.2
GR	2427.8	1189.1	2428.2	1201	2428.4	1207	2428.6	1213	2429	1225
GR	2429.4	1237	2429.6	1243	2430	1255	2430.4	1266.8	2430.6	1272.7
GR	2430.9	1284.6	2431.1	1290.4	2431.4	1302.3	2431.6	1308.2	2431.8	1314.1
ET			9.1						937.42	1029.85
X1	0.911	90	980	1015	515	470	520			
	2440	785	2439.3	790.8	2438.7	796.7	2438	802.5	2437.3	808.3
	2436.7	814.2	2436	820	2435.2	826	2434.4	832	2433.6	838
GR	2432.8	844	2432	850	2431.6	855.6	2431.1	861.1	2430.7	866.7
GR	2430.2	872.2	2429.8	877.8	2429.3	883.3	2428.9	888.9	2428.4	894.4
GR	2428	900	2427.8	905	2427.6	910	2427.4	915	2427.2	920
GR	2427	925	2427	936.4	2427	947.9	2427	959.3	2427	970
GR	2427	980	2426.8	985	2426.5	990	2426.3	995	2426	1000
GR	2426.3	1005	2426.7	1010	2427	1015	2427	1025	2427	1035
GR	2427	1040	2427.2	1046	2427.4	1052	2427.6	1058	2427.8	1064
GR	2428	1070	2428.8	1076	2429.6	1082	2430.4	1088	2431.2	1094
GR	2432	1100	2432.2	1106	2432.4	1112	2432.6	1118	2432.8	1124
GR	2433	1130	2433.1	1135.7	2433.3	1141.4	2433.4	1147.1	2433.6	1152.9
GR	2433.7	1158.6	2433.9	1164.3	2434.1	1175.4	2434.3	1180.8	2434.5	1191.5
GR	2434.6	1196.9	2434.8	1202.3	2435	1213	2435.1	1218.3	2435.3	1223.6
GR	2435.4	1228.9	2435.6	1234.1	2435.7	1239.4	2435.9	1244.7	2436	1250
GR	2436.3	1255.6	2436.5	1261.3	2436.8	1266.9	2437	1272.5	2437.3	1278.1
GR	2437.5	1283.8	2437.8	1289.4	2438	1295	2438.3	1300.6	2438.5	1306.3
GR	2438.8	1311.9	2439	1317.5	2439.3	1323.1	2439.5	1328.8	2439.8	1334.4
ET			9.1						964.59	1041.35

Flowrate from HEC-1 operation SAH90.
Small stock watering tank right of channel. No engineering data or construction plans available for the small dam forming the tank.

Floodplain placed at the limit of natural flow conveyance.
WSEL for the water ponded in the tank is estimated from the average
of the EGL values at cross sections that bracket the inlet.

X1	0.990	84	985	1017	390	430	415			
GR	2448	770	2447.5	776.5	2447	783	2446.5	789.5	2446	796
GR	2445.5	802.5	2445	809	2444.5	815.5	2444	822	2443.6	828.6
GR	2443.1	835.1	2442.7	841.7	2442.2	848.2	2441.8	854.8	2441.3	861.3
GR	2440.9	867.9	2440.4	874.4	2440	881	2439.7	887.6	2439.3	894.1
GR	2439	900.7	2438.7	907.2	2438.3	913.8	2438	920.3	2437.7	926.9
GR	2437.3	933.4	2437	940	2436.8	946.7	2436.7	953.3	2436.5	960
GR	2436.3	966.7	2436.2	973.3	2436	980	2434	985	2432	990
GR	2431.5	995	2431	1000	2431.5	1005.5	2432	1011	2433	1017
GR	2434	1023	2435	1029	2436	1035	2436.4	1042	2436.8	1049
GR	2437.2	1056	2437.6	1063	2438	1070	2439.5	1076.3	2441	1082.5
GR	2442.5	1088.8	2444	1095	2444.3	1100.7	2444.7	1106.3	2445	1112
GR	2444.8	1117.8	2444.5	1123.5	2444.3	1129.3	2444	1135	2442.8	1142
GR	2441.6	1149	2440.4	1156	2439.2	1163	2438	1170	2438	1182.9
GR	2438	1195.8	2438	1208.7	2438	1221.6	2438	1234.5	2438	1247.4
GR	2438	1260.3	2438	1273.2	2438	1286.1	2438	1299	2438	1311.9
GR	2438	1324.8	2438	1337.7	2438	1350.7	2438	1363.6	2438	1370
GR	2440	1376.7	2442	1383.3	2444	1390	2444	1397.5		
NC	.055	.055	.035							
ET			9.1						972.11	1020.72
X1	1.111	79	990	1010	505	630	640			
GR	2451	660	2450.6	670.3	2450.4	675.4	2450.1	680.6	2449.9	685.7
GR	2449.5	696	2449.1	706.3	2448.9	711.4	2448.6	716.6	2448.4	721.7
GR	2448	732	2447.7	741.7	2447.6	746.6	2447.4	751.4	2447.1	761.1
GR	2446.9	770.9	2446.6	780.6	2446.4	785.4	2446.1	795.1	2445.9	805
GR	2445.6	815	2445.4	825	2445.1	840	2444.9	845	2444.6	860
GR	2444.4	870	2444.1	880	2443.9	890	2443.6	900	2443.4	905
GR	2443.1	915	2443	920	2442.7	925	2442.4	930	2442.1	935
GR	2441.9	940	2441.6	945	2441.3	950	2441	955	2440.7	960
GR	2440.3	965	2440	970	2439.8	975	2439.5	980	2439.3	985
GR	2439	990	2438.5	995	2438	1000	2438.3	1005	2438.7	1010
GR	2439	1015	2439.3	1020	2439.7	1025	2440	1030	2441	1035
GR	2442	1040	2443	1045	2444	1050	2444.4	1055	2444.8	1060
GR	2445.2	1065	2445.6	1070	2446	1075	2446.3	1080	2446.5	1085
GR	2446.8	1090	2447	1095	2447.3	1100	2447.5	1105	2447.8	1110
GR	2448	1115	2448.4	1120.2	2448.9	1125.4	2449.3	1130.7	2449.8	1135.9
GR	2450.2	1141.1	2450.7	1146.3	2451.1	1151.6	2451.6	1156.8		
ET			9.1						966.99	1042.79

KRATIO = 1.56, outside expected range due to change in flow regime
from critical to subcritical.

X1	1.192	83	990	1005	410	400	430			
GR	2456	835	2455.7	840	2455.4	845	2455.1	850	2454.9	855
GR	2454.6	860	2454.3	865	2454	870	2453.7	875	2453.4	880
GR	2453.1	885	2452.9	890	2452.6	895	2452.3	900	2452	905
GR	2451.1	910	2450.2	915	2449.3	920	2448.4	925	2447.6	930
GR	2446.7	935	2445.8	940	2444.9	945	2444	950	2443.8	955.5
GR	2443.5	961	2443.3	966.5	2443	972	2442.7	976.3	2442.3	980.7
GR	2442	985	2441.7	990	2441.3	995	2441	1000	2442	1005
GR	2442.3	1010	2442.5	1015	2442.8	1020	2443.2	1029.8	2443.4	1034.6

	2443.6	1039.4	2444	1049	2444.3	1059.3	2444.7	1069.7	2445	1080
	2445.3	1089.9	2445.4	1094.8	2445.6	1099.7	2445.9	1109.6	2446.1	1119.4
GR	2446.4	1129.3	2446.6	1134.2	2446.9	1144.1	2447.1	1154.1	2447.3	1164.3
GR	2447.4	1174.4	2447.6	1184.6	2447.8	1194.8	2447.9	1204.9	2448	1210
GR	2448.5	1215	2449	1220	2449.5	1225	2450	1230	2450.5	1235
GR	2451	1240	2451.5	1245	2452	1250	2452.3	1254.9	2452.5	1259.8
GR	2452.8	1264.6	2453	1269.5	2453.3	1274.4	2453.5	1279.3	2453.8	1284.1
GR	2454.1	1294	2454.4	1309	2454.6	1314	2454.9	1329	2455.1	1339
GR	2455.4	1354	2455.6	1359	2455.9	1374				
ET			9.1						962.52	1019.52
X1	1.287	88	990	1009	475	480	500			
GR	2460	810	2459.7	813.6	2459.4	817.1	2459.1	820.7	2458.9	824.3
GR	2458.6	827.9	2458.3	831.4	2458	835	2457.7	838.6	2457.4	842.1
GR	2457.1	845.7	2456.9	849.3	2456.6	852.9	2456.3	856.4	2456	860
GR	2455.6	863.4	2455.1	866.9	2454.7	870.3	2454.2	873.8	2453.8	877.2
GR	2453.3	880.7	2452.9	884.1	2452.4	887.6	2452	891	2451.6	898
GR	2451.4	901.5	2451.1	905	2450.9	908.5	2450.5	915.5	2450.1	922.5
GR	2449.9	926	2449.6	929.5	2449.4	933	2449	940	2448.7	947.3
GR	2448.3	954.7	2448	962	2447.6	972.5	2447.4	979.5	2447.1	986.5
GR	2447	990	2446.7	993.3	2446.3	996.7	2446	1000	2446.3	1003
GR	2446.7	1006	2447	1009	2447.3	1012.3	2447.5	1015.5	2447.8	1018.8
GR	2448.2	1025.4	2448.4	1028.9	2448.6	1032.4	2448.9	1039.3	2449.1	1042.7
GR	2449.4	1049.6	2449.6	1053.1	2450	1060	2450.3	1063.6	2450.5	1067.3
GR	2450.8	1070.9	2451	1074.5	2451.3	1078.1	2451.5	1081.8	2451.8	1085.4
GR	2452	1089	2452.4	1092.4	2452.9	1095.9	2453.3	1099.3	2453.8	1102.8
	2454.2	1106.2	2454.7	1109.7	2455.1	1113.1	2455.6	1116.6	2456	1120
	2456.3	1123.6	2456.6	1127.1	2456.9	1130.7	2457.1	1134.3	2457.4	1137.9
GR	2457.7	1141.4	2458	1145	2458.3	1148.6	2458.6	1152.1	2458.9	1155.7
GR	2459.1	1159.3	2459.4	1162.9	2459.7	1166.4				
ET			9.1						962.50	1010.05
X1	1.387	88	989	1006.7	540	535	530			
GR	2464.0	830.0	2463.6	833.3	2463.1	836.7	2462.7	840.0	2462.2	843.3
GR	2461.8	846.7	2461.3	850.0	2460.9	853.3	2460.4	856.7	2460.0	860.0
GR	2459.8	863.4	2459.5	866.9	2459.3	870.3	2459.0	873.8	2458.8	877.2
GR	2458.5	880.6	2458.3	884.1	2458.0	887.5	2457.8	890.9	2457.5	894.4
GR	2457.3	897.8	2457.0	901.3	2456.8	904.7	2456.5	908.1	2456.3	911.6
GR	2456.0	915.0	2455.8	918.4	2455.5	921.8	2455.3	925.1	2455.0	928.5
GR	2454.8	931.9	2454.5	935.3	2454.3	938.6	2454.0	942.0	2453.8	945.5
GR	2453.5	949.0	2453.3	952.5	2453.0	956.0	2452.8	959.5	2452.5	963.0
GR	2452.3	966.5	2452.0	970.0	2451.8	973.8	2451.6	977.6	2451.4	981.4
GR	2451.2	985.2	2451.0	989.0	2450.7	992.7	2450.3	996.3	2450.0	1000.0
GR	2450.7	1003.3	2451.3	1006.7	2452.0	1010.0	2452.5	1013.8	2453.0	1017.5
GR	2453.5	1021.3	2454.0	1025.0	2454.3	1028.6	2454.6	1032.3	2454.8	1035.9
GR	2455.1	1039.6	2455.4	1043.2	2455.6	1046.8	2455.9	1050.4	2456.2	1054.1
GR	2456.4	1057.7	2456.7	1061.4	2457.0	1065.0	2457.3	1068.6	2457.6	1072.3
GR	2457.8	1075.9	2458.1	1079.6	2458.4	1083.2	2458.6	1086.8	2458.9	1090.4
GR	2459.2	1094.1	2459.4	1097.7	2459.7	1101.4	2460.0	1105.0	2460.4	1108.3
GR	2460.9	1111.7	2461.3	1115.0	2461.8	1118.3	2462.2	1121.7	2462.7	1125.0
GR	2463.1	1128.3	2463.6	1131.7	2464.0	1135.0				

			9.1						988.18	1042.36
X1	1.471	68	992.5	1012	440	440	445			
GR	2472	820	2471.4	827.1	2470.9	834.3	2470.3	841.4	2469.7	848.6
GR	2469.1	855.7	2468.6	862.9	2468	870	2467.4	877.1	2466.9	884.3
GR	2466.3	891.4	2465.7	898.6	2465.1	905.7	2464.6	912.9	2464	920
GR	2463.4	927.1	2462.9	934.3	2462.3	941.4	2461.7	948.6	2461.1	955.7
GR	2460.6	962.9	2460	970	2459.6	973.8	2459.3	977.5	2458.9	981.3
GR	2458.5	985	2458.1	988.8	2457.8	992.5	2457.4	996.3	2457	1000
GR	2457.2	1004	2457.4	1008	2457.6	1012	2457.8	1016	2458	1020
GR	2458.3	1027.1	2458.6	1034.3	2458.9	1041.4	2459.1	1048.6	2459.4	1055.7
GR	2459.7	1062.9	2460	1070	2460.5	1077.3	2461.1	1084.7	2461.6	1092
GR	2462.1	1099.3	2462.7	1106.7	2463.2	1114	2463.7	1121.3	2464	1125
GR	2464.5	1128.6	2465	1132.2	2465.5	1135.8	2466	1139.4	2466.5	1143.1
GR	2467	1146.7	2467.5	1150.3	2468	1153.9	2468.5	1157.5	2469	1161.1
GR	2469.5	1164.7	2470	1168.3	2470.5	1171.9	2471	1175.6	2471.5	1179.2
GR	2472	1182.8	2472.5	1186.4	2473	1190				
ET			9.1						944.88	1007.15
X1	1.568	79	990	1005	510	505	510			
GR	2476	720	2475.8	724.4	2475.5	728.8	2475.3	733.2	2475.1	737.7
GR	2474.8	742.1	2474.6	746.5	2474.4	750.9	2474.1	755.3	2473.9	759.7
GR	2473.6	764.1	2473.4	768.5	2473.2	772.9	2472.9	777.3	2472.7	781.8
GR	2472.5	786.2	2472.2	790.6	2472	795	2471.9	799.4	2471.8	803.8
GR	2471.6	808.2	2471.5	812.7	2471.4	817.1	2471.3	821.5	2471.2	825.9
GR	2471.1	830.3	2470.9	834.7	2470.8	839.1	2470.7	843.5	2470.6	847.9
[illegible]	2470.5	852.3	2470.4	856.8	2470.2	861.2	2470.1	865.6	2470	870
[illegible]	2469.9	874.5	2469.7	879.1	2469.5	883.6	2469.4	888.2	2469.2	892.7
GR	2469.1	897.2	2468.9	901.8	2468.8	906.3	2468.6	910.8	2468.5	915.4
GR	2468.3	919.9	2468.1	924.5	2468	929	2467.9	933.7	2467.8	938.3
GR	2467.7	943	2467.6	947.7	2467.4	952.3	2467.3	957	2467.2	961.7
GR	2467.1	966.3	2467	971	2466.8	975.8	2466.5	980.5	2466.3	985.3
GR	2466	990	2465.5	995	2465	1000	2466	1005	2467	1010
GR	2467.3	1015	2467.7	1020	2468	1025	2469.3	1029.2	2470.7	1033.3
GR	2472	1037.5	2473.3	1041.7	2474.7	1045.8	2476	1050	2476.6	1054.3
GR	2477.1	1058.6	2477.7	1062.9	2478.3	1067.1	2478.9	1071.4		
ET			9.1						963.06	1024.30
X1	1.666	81	991.8	1006.7	535	500	515			
GR	2481	870	2480.8	875.8	2480.6	881.6	2480.4	887.4	2480.2	893.2
GR	2480	899	2479.6	902.1	2479.2	905.2	2478.8	908.3	2478.4	911.4
GR	2478	914.5	2477.6	917.6	2477.2	920.7	2476.8	923.8	2476.4	926.9
GR	2476	930	2475.8	936.2	2475.6	942.4	2475.6	945.5	2475.4	948.5
GR	2475.2	957.8	2475	964	2474.8	970.3	2474.6	973.4	2474.4	979.6
GR	2474.3	982.8	2474.1	985.9	2474	989	2473.8	991.8	2473.5	994.5
GR	2473.3	997.3	2473	1000	2473.3	1003.3	2473.7	1006.7	2474	1010
GR	2474.1	1012.9	2474.3	1015.7	2474.4	1018.6	2474.6	1021.4	2474.7	1024.3
GR	2474.9	1027.1	2475.1	1032.9	2475.3	1035.7	2475.4	1038.6	2475.6	1041.4
GR	2475.7	1044.3	2475.9	1047.1	2476	1050	2476.2	1053	2476.4	1056
GR	2476.6	1059	2476.8	1062	2477	1065	2477.2	1068	2477.4	1071
GR	2477.6	1074	2477.8	1077	2478	1080	2478.2	1083	2478.4	1086
[illegible]	2478.6	1089	2478.8	1092	2479	1095	2479.1	1098.1	2479.3	1101.3
[illegible]	2479.5	1107.5	2479.6	1110.6	2479.8	1113.8	2480	1120	2480.3	1123.1
GR	2480.6	1126.2	2480.9	1129.2	2481.2	1132.3	2481.5	1135.4	2481.9	1138.5

	2482.1	1141.5	2482.5	1144.6	2482.8	1147.7	2483.1	1150.8	2483.4	1153.8
GR	2483.7	1156.9								
ET			9.1						981.32	1038.57
X1	1.752	83	995	1015.7	475	425	455			
GR	2492	780	2491.6	785.3	2491.3	790.5	2490.9	795.8	2490.5	801
GR	2490.1	806.3	2489.8	811.5	2489.4	816.8	2489	822	2488.7	831.4
GR	2488.6	836.1	2488.4	840.9	2488.1	850.3	2488	855	2487.6	860.4
GR	2487.2	865.8	2486.8	871.2	2486.4	876.6	2486	882	2485.6	891.6
GR	2485.3	896.3	2485.1	901.1	2484.9	905.9	2484.7	910.7	2484.4	915.4
GR	2484	925	2483.6	930	2483.1	935	2482.7	940	2482.2	945
GR	2481.8	950	2481.3	955	2480.9	960	2480.4	965	2480	970
GR	2479.7	975	2479.3	980	2479	985	2478.7	990	2478.3	995
GR	2478	1000	2478	1011	2478.3	1015.7	2478.7	1020.3	2479	1025
GR	2479.4	1035.8	2479.6	1041.2	2480	1052	2480.4	1056.8	2480.9	1061.6
GR	2481.3	1066.3	2481.8	1071.1	2482.2	1075.9	2482.7	1080.7	2483.1	1085.4
GR	2483.6	1090.2	2484	1095	2484.4	1100	2484.7	1105	2485.1	1110
GR	2485.4	1115	2485.8	1120	2486.2	1125	2486.6	1130	2486.9	1135
GR	2487.3	1140	2487.6	1145	2488	1150	2488.4	1165	2488.6	1175
GR	2488.9	1190	2489.1	1195	2489.4	1210	2489.6	1220	2489.9	1230
GR	2490.1	1240	2490.5	1250	2490.8	1260	2490.9	1265	2491.1	1270
GR	2491.4	1280	2491.7	1290	2491.9	1295				
ET			9.1						965.82	1036.99
X1	1.845	87	995	1005.5	485	490	490			
	2500	650	2499.6	661.7	2499.3	667.5	2499.1	673.3	2498.9	679.2
	2498.7	685	2498.4	690.8	2498	702.5	2497.6	714.2	2497.3	720
GR	2497.1	725.8	2496.9	731.7	2496.7	737.5	2496.4	743.3	2496	755
GR	2495.6	761.1	2495.1	767.2	2494.7	773.3	2494.2	779.4	2493.8	785.6
GR	2493.3	791.7	2492.9	797.8	2492.4	803.9	2492	810	2491.8	816.4
GR	2491.6	822.8	2491.4	829.2	2491.2	835.6	2491	842	2490.6	854
GR	2490.4	860	2490	872	2489.6	884	2489.4	890	2489	902
GR	2489	908.7	2489	915.3	2489	922	2489	933	2489	944
GR	2489	955	2488.7	960.7	2488.3	966.3	2488	972	2487.7	978
GR	2487.3	984	2487	990	2486.5	995	2486	1000	2486.5	1005.5
GR	2487	1011	2487.3	1017.3	2487.7	1023.7	2488	1030	2488.3	1041.3
GR	2488.5	1052.5	2488.8	1063.8	2489	1075	2489.2	1081.2	2489.5	1087.3
GR	2489.7	1093.5	2489.9	1099.6	2490.1	1105.8	2490.4	1111.9	2490.6	1118.1
GR	2490.9	1124.2	2491.1	1130.4	2491.3	1136.5	2491.5	1142.7	2491.8	1148.8
GR	2492	1155	2492.5	1160.6	2493	1166.3	2493.5	1171.9	2494	1177.5
GR	2494.5	1183.1	2495	1188.8	2495.5	1194.4	2496	1200	2496.4	1206.1
GR	2496.9	1212.2	2497.3	1218.3	2497.8	1224.4	2498.2	1230.6	2498.7	1236.7
GR	2499.1	1242.8	2499.6	1248.9						
ET			9.1						990.00	1070.99
X1	1.957	71	990	1007.5	590	585	590			
GR	2508	480	2507.6	494.3	2507.2	508.6	2506.9	522.9	2506.5	537.1
GR	2506.1	551.4	2505.7	565.7	2505.3	580	2504.9	594.3	2504.6	608.6
GR	2504.2	622.9	2504	630	2503.3	637.5	2502.7	645	2502	652.5
GR	2501.3	660	2500.7	667.5	2500	675	2499.8	681.9	2499.5	688.8
GR	2499.3	695.6	2499	702.5	2498.8	709.4	2498.5	716.3	2498.3	723.1
	2498	730	2498.3	744.3	2498.6	758.6	2498.9	772.9	2498.9	787.4
	2498.8	802.1	2498.7	816.8	2498.6	831.6	2498.5	846.3	2498.4	861
GR	2498.3	875.8	2498.2	890.5	2498.1	905.3	2498	920	2497.6	934

	2497.2	948	2496.8	962	2496.4	976	2496	990	2495	1000
	2495.3	1007.5	2495.5	1015	2495.8	1022.5	2495.8	1037	2495.4	1051
GR	2495	1065	2495.3	1071.7	2495.7	1078.3	2496	1085	2496.3	1092.5
GR	2496.7	1100	2497	1107.5	2497.3	1115	2497.7	1122.5	2498	1130
GR	2499	1137.5	2500	1145	2500.9	1152.2	2501.8	1159.4	2502.7	1166.7
GR	2503.6	1173.9	2504.4	1181.1	2505.3	1188.3	2506.2	1195.6	2507.1	1202.8
GR	2508	1210								
ET			9.1						939.15	1020.47
X1	2.041	84	990	1010	430	460	445			
GR	2509.8	305.8	2509.7	316.7	2509.5	327.5	2509.3	338.3	2509.2	349.2
GR	2509	360	2509	370	2509	380	2509	390	2509	400
GR	2508.9	410.6	2508.8	421.1	2508.7	431.7	2508.6	442.2	2508.4	452.8
GR	2508.3	463.3	2508.2	473.9	2508.1	484.4	2508	495	2507.8	506
GR	2507.6	517	2507.4	528	2507.2	539	2507	550	2506.7	560.8
GR	2506.3	571.7	2506	582.5	2505.7	593.3	2505.3	604.2	2505	615
GR	2505	626	2505	637	2505	648	2505	659	2505	670
GR	2505.3	680.3	2505.5	690.5	2505.8	700.8	2506	711	2506.2	722.3
GR	2506.3	733.7	2506.5	745	2506.7	756.3	2506.8	767.7	2507	779
GR	2506.7	789.3	2506.3	799.7	2506	810	2505.7	820.3	2505.3	830.7
GR	2505	841	2504.8	852	2504.5	863	2504.3	874	2504	885
GR	2501	900	2501.3	910.5	2501.5	921	2501.8	931.5	2502	942
GR	2501.7	952	2501.3	962	2501	972	2500.5	981	2500	990
GR	2499	1000	2500	1010	2501	1025	2501.3	1035	2501.7	1045
GR	2502	1055	2502.7	1066.3	2503.3	1077.7	2504	1089	2504.5	1099.8
GR	2505	1110.5	2505.5	1121.3	2506	1132	2506.5	1142.8	2507	1153.5
	2507.5	1164.3	2508	1175	2509.3	1186.3	2510.7	1197.7		

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

*PROF 1

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV= .300 CEHV= .100
*SECNO .090
3720 CRITICAL DEPTH ASSUMED
Starting WSEL determined using slope-area method.
Flowrate from HEC-1 model combine operation CAH96.

.090	5.94	2323.94	2323.94	2319.00	2324.72	.79	.00	.00	2321.00
4046.0	1494.6	2384.0	167.4	536.0	266.2	45.2	.0	.0	2320.00
.00	2.79	8.95	3.70	.055	.035	.055	.000	2318.00	381.20
.006133	0.	0.	0.	0	32	11	.00	656.92	1038.12

FLOW DISTRIBUTION FOR SECNO= .09 CWSEL= 2323.94

STA=	381.	672.	761.	815.	851.	886.	903.	921.	938.	955.	1015.	1031.	1038.
PER Q=	3.1	3.3	3.8	4.2	5.5	3.4	4.0	4.5	5.1	58.9	4.0	.2	
AREA=	98.6	72.6	64.1	58.0	68.1	38.5	41.9	45.4	48.8	266.2	40.6	4.6	
EL=	1.3	1.9	2.4	2.9	3.3	3.6	3.8	4.0	4.2	9.0	3.9	1.5	
TH=	.3	.8	1.2	1.6	1.9	2.2	2.4	2.6	2.8	4.4	2.6	.6	

*SECNO .187

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .55

Section lies in Sols Wash Floodplain and is extremely wide and flat.
Channel virtually undefined except as a narrow strip without growth.

.187	1.82	2328.82	2328.64	.00	2329.20	.38	4.36	.12	2328.00
4046.0	2631.3	522.1	892.6	576.5	76.4	186.6	7.8	6.2	2327.70
.02	4.56	6.84	4.78	.055	.035	.055	.000	2327.00	478.85
.020198	350.	510.	500.	3	14	0	.00	735.21	1225.47

FLOW DISTRIBUTION FOR SECNO= .19 CWSEL= 2328.82

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

STA=	479.	574.	612.	650.	687.	706.	725.	744.	763.	782.	801.	820.	840.
PER Q=	3.3	3.6	4.3	5.7	3.4	3.6	3.8	4.2	4.6	4.7	4.3	3.9	
AREA=	47.6	37.7	42.3	49.9	27.8	28.9	29.7	31.5	33.4	34.0	32.0	30.3	
VEL=	2.8	3.8	4.1	4.6	5.0	5.1	5.2	5.4	5.6	5.6	5.4	5.2	
DEPTH=	.5	1.0	1.1	1.3	1.5	1.5	1.6	1.7	1.8	1.8	1.7	1.6	

STA=	840.	859.	897.	936.	979.	1042.	1063.	1083.	1102.	1120.	1142.	1225.
PER Q=	3.5	5.3	3.8	3.1	12.9	3.1	4.5	4.8	4.8	3.3	1.6	
AREA=	28.2	47.8	39.2	36.3	76.4	26.9	33.9	33.6	33.6	29.0	29.5	
VEL=	5.0	4.4	3.9	3.4	6.8	4.6	5.4	5.7	5.7	4.6	2.3	
DEPTH=	1.5	1.2	1.0	.8	1.2	1.3	1.7	1.8	1.8	1.3	.4	

*SECNO .283

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

.283	3.93	2334.93	2334.79	.00	2335.48	.56	6.27	.02	2332.30
4046.0	1411.1	1606.5	1028.4	404.2	188.9	304.3	17.4	13.3	2333.00
.05	3.49	8.50	3.38	.055	.035	.055	.000	2331.00	679.72
.009047	450.	510.	520.	3	20	0	.00	576.97	1256.69

FLOW DISTRIBUTION FOR SECNO= .28 CWSEL= 2334.93

STA=	680.	761.	795.	829.	862.	896.	930.	947.	963.	1025.	1043.	1060.	1077.
PER Q=	4.0	3.0	3.8	4.4	5.4	6.0	3.6	4.6	39.7	3.3	3.3	3.0	
AREA=	66.5	41.6	47.7	51.8	58.7	62.8	34.8	40.4	188.9	33.8	33.8	31.4	
VEL=	2.4	3.0	3.2	3.4	3.7	3.9	4.2	4.6	8.5	4.0	4.0	3.9	
DEPTH=	.8	1.2	1.4	1.5	1.7	1.9	2.1	2.4	3.1	1.9	1.9	1.9	

STA=	1077.	1110.	1143.	1177.	1244.	1257.
PER Q=	5.3	4.2	3.0	3.2	.0	
AREA=	57.7	50.2	41.1	54.8	1.5	
VEL=	3.7	3.4	3.0	2.4	.6	
DEPTH=	1.7	1.5	1.2	.8	.1	

*SECNO .392

Secondary channel on right begins at Section 0.455. Appears to be
a viable conveyance. Floodplain shifted 40 ft to match topography.

.392	3.68	2339.68	2339.14	.00	2340.02	.34	4.47	.07	2338.00
4046.0	2102.1	1178.5	765.4	550.3	178.3	272.4	30.0	20.6	2337.50
.09	3.82	6.61	2.81	.055	.035	.055	.000	2336.00	713.10
.006588	610.	575.	540.	3	16	0	.00	520.62	1233.72

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

FLOW DISTRIBUTION FOR SECNO= .39 CWSEL= 2339.68

STA=	713.	753.	766.	780.	794.	808.	821.	835.	848.	862.	888.	915.	948.
PER Q=	6.4	3.8	3.8	3.9	3.8	3.8	3.8	3.5	3.2	5.3	4.1	4.3	
AREA=	71.4	36.7	36.7	37.0	36.7	36.7	36.7	34.3	32.6	58.0	49.5	55.9	
VEL=	3.6	4.2	4.2	4.2	4.2	4.2	4.2	4.1	4.0	3.7	3.3	3.1	
DEPTH=	1.8	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4	2.2	1.9	1.7	

STA=	948.	965.	1032.	1060.	1089.	1118.	1159.	1228.	1234.
PER Q=	2.1	29.1	4.0	3.8	3.6	4.1	3.4	.1	
AREA=	28.0	178.3	49.9	49.5	47.2	59.0	64.7	1.9	
VEL=	3.1	6.6	3.2	3.1	3.1	2.8	2.1	1.1	
DEPTH=	1.7	2.7	1.8	1.7	1.7	1.4	.9	.3	

*SECNO .455

3265 DIVIDED FLOW

.455	3.70	2341.70	2340.89	.00	2342.18	.48	2.15	.01	2339.00
4046.0	999.0	1593.8	1453.3	258.3	218.3	342.1	37.1	24.0	2338.10
.10	3.87	7.30	4.25	.055	.035	.055	.000	2338.00	739.47
.006182	370.	330.	300.	2	15	0	.00	355.80	1192.17

FLOW DISTRIBUTION FOR SECNO= .46 CWSEL= 2341.70

STA=	739.	762.	770.	778.	785.	793.	817.	990.	1057.	1065.	1072.	1087.	1102.
PER Q=	3.9	3.2	3.5	3.5	3.0	3.3	4.3	39.4	3.2	3.1	5.9	5.4	
AREA=	44.2	27.7	27.7	27.7	26.3	40.6	64.2	218.3	26.2	25.8	49.8	47.2	
VEL=	3.6	4.7	5.1	5.1	4.7	3.3	2.7	7.3	4.9	4.8	4.8	4.6	
DEPTH=	2.0	3.3	3.7	3.7	3.3	1.7	.4	3.2	3.5	3.4	3.4	3.2	

STA=	1102.	1117.	1132.	1147.	1170.	1192.
PER Q=	4.9	4.5	4.0	4.0	1.0	
AREA=	44.5	42.4	40.1	47.3	18.7	
VEL=	4.4	4.3	4.1	3.4	2.2	
DEPTH=	3.0	2.9	2.6	2.0	.8	

*SECNO .564

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

.564	5.48	2347.48	2347.48	.00	2348.47	.99	4.08	.05	2344.70
4046.0	285.7	2392.1	1368.2	92.6	241.7	354.8	46.9	28.7	2344.30
.12	3.09	9.90	3.86	.055	.035	.055	.000	2342.00	881.78
.008328	570.	580.	560.	0	14	0	.00	367.40	1249.18

FLOW DISTRIBUTION FOR SECNO= .56 CWSEL= 2347.48

STA=	882.	955.	971.	1030.	1040.	1050.	1071.	1092.	1113.	1133.	1152.	1172.	1210.
PER Q=	3.5	3.6	59.1	3.8	3.1	4.8	3.1	3.1	4.7	4.7	3.2	3.0	
AREA=	58.1	34.5	241.7	29.8	26.3	46.4	35.9	35.0	45.3	44.1	35.1	44.2	
VEL=	2.4	4.2	9.9	5.1	4.7	4.2	3.5	3.5	4.2	4.3	3.7	2.8	
DEPTH=	.8	2.2	4.1	3.0	2.6	2.2	1.7	1.7	2.2	2.3	1.8	1.1	

STA=	1210.	1249.
PER Q=	.4	
AREA=	12.7	
VEL=	1.4	
DEPTH=	.3	

*SECNO .652

.652	5.80	2350.80	2350.62	.00	2351.71	.91	3.22	.02	2346.00
4046.0	235.0	2510.2	1300.8	62.0	267.5	408.7	54.7	32.9	2347.00
.14	3.79	9.38	3.18	.055	.035	.055	.000	2345.00	951.55
.005798	445.	460.	485.	2	8	0	.00	401.62	1353.17

FLOW DISTRIBUTION FOR SECNO= .65 CWSEL= 2350.80

STA=	952.	985.	1039.	1050.	1060.	1079.	1098.	1116.	1144.	1180.	1243.	1353.
PER Q=	5.8	62.0	4.4	3.4	4.9	4.1	3.5	4.0	3.6	3.1	1.1	
AREA=	62.0	267.5	37.3	32.1	50.4	45.0	41.0	51.4	54.2	60.8	36.6	
VEL=	3.8	9.4	4.8	4.3	4.0	3.7	3.5	3.1	2.7	2.0	1.2	
DEPTH=	1.9	5.0	3.6	3.1	2.7	2.4	2.2	1.9	1.5	1.0	.3	

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


*SECNO  .751
     .751      6.29   2353.29   2352.68       .00   2353.94       .66      2.15       .08   2348.00
   4046.0     439.0    2251.4    1355.6     116.4     271.3     513.7      63.0      37.0   2348.00
     .17      3.77      8.30      2.64      .055      .035      .055      .000   2347.00    928.07
  .003592     555.      525.      375.         2         5         0       .00    462.36   1390.43


FLOW DISTRIBUTION FOR SECNO=       .75          CWSEL=   2353.29

STA=     928.     951.     965.    1011.    1018.    1025.    1033.    1058.    1215.    1271.    1301.    1330.    1364.
  PER Q=      4.0      6.8     55.6      4.1      3.5      3.0      3.1      3.0      3.1      4.7      4.7      3.6
   AREA=     53.5     62.8    271.3     35.3     31.8     31.4     46.8     93.3     62.2     67.5     67.5     60.8
    VEL=      3.0      4.4      8.3      4.8      4.4      3.9      2.7      1.3      2.0      2.8      2.8      2.4
  DEPTH=      2.3      4.5      5.9      5.0      4.5      3.8      1.9       .6      1.1      2.3      2.3      1.8

STA=    1364.    1390.
  PER Q=       .6
   AREA=     17.0
    VEL=      1.4
  DEPTH=       .6

*SECNO  .809

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      890.0    1330.0  TYPE=      1  TARGET=      440.000
         Section 0.809 taken from topographic map.  Added for improved
         representation of contraction between sections 0.751 and 0.860.
     .809      5.37   2355.37   2355.37       .00   2356.58      1.22      1.56       .06   2352.00
   4046.0     400.3    2744.3     901.4     113.3     262.0     255.0      68.1      39.4   2352.00
     .17      3.53     10.48      3.54      .055      .035      .055      .000   2350.00    902.68
  .008555     280.      305.      280.         0        11         0       .00    278.80   1181.48


FLOW DISTRIBUTION FOR SECNO=       .81          CWSEL=   2355.37

STA=     903.     970.    1030.    1181.
  PER Q=      9.9     67.8     22.3
   AREA=    113.3    262.0    255.0
    VEL=      3.5     10.5      3.5
  DEPTH=      1.7      4.4      1.7
```

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

*SECNO .860

3470 ENCROACHMENT STATIONS= 850.0 1210.0 TYPE= 1 TARGET= 360.000

.860	5.85	2357.85	2357.79	.00	2358.87	1.03	2.23	.06	2354.00
4046.0	595.3	2019.4	1431.3	144.2	189.7	319.4	71.9	41.1	2356.00
.18	4.13	10.65	4.48	.055	.035	.055	.000	2352.00	876.85
.008564	300.	270.	225.	0	8	0	.00	303.34	1180.19

FLOW DISTRIBUTION FOR SECNO= .86 CWSEL= 2357.85

STA=	877.	946.	963.	971.	980.	1022.	1058.	1085.	1103.	1112.	1125.	1134.	1143.
PER Q=	3.2	3.9	3.2	4.4	49.9	3.3	3.7	5.0	3.6	6.9	4.6	3.5	
AREA=	51.0	37.4	25.3	30.5	189.7	44.8	42.7	44.1	27.4	47.9	32.3	27.4	
VEL=	2.5	4.2	5.2	5.8	10.6	3.0	3.5	4.6	5.3	5.8	5.8	5.2	
DEPTH=	.7	2.2	3.0	3.5	4.5	1.2	1.6	2.4	3.0	3.5	3.6	3.0	

STA=	1143.	1157.	1180.
PER Q=	3.4	1.5	
AREA=	31.5	21.4	
VEL=	4.4	2.8	
DEPTH=	2.3	.9	

*SECNO .945
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

.945	7.03	2362.03	2362.03	.00	2363.44	1.41	3.36	.04	2358.80
4046.0	1186.5	2821.1	38.4	303.9	254.0	11.0	77.7	43.4	2358.40
.20	3.90	11.11	3.49	.055	.035	.055	.000	2355.00	806.29
.007209	350.	450.	455.	0	11	0	.00	213.77	1020.06

FLOW DISTRIBUTION FOR SECNO= .94 CWSEL= 2362.03

STA=	806.	865.	881.	897.	912.	928.	948.	964.	968.	1014.	1020.
PER Q=	3.5	3.1	3.9	4.8	5.3	4.3	3.1	1.4	69.7	.9	
AREA=	54.1	33.3	37.8	42.9	45.9	44.3	33.7	11.7	254.0	11.0	
VEL=	2.6	3.8	4.1	4.5	4.7	3.9	3.8	4.7	11.1	3.5	
DEPTH=	.9	2.1	2.4	2.7	2.9	2.2	2.1	2.9	5.5	1.8	

ECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
	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 1.038
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

1.038	7.00	2366.70	2366.70	.00	2368.20	1.50	3.36	.01	2363.00
4046.0	949.7	3072.8	23.5	256.9	276.7	9.0	83.6	45.5	2364.00
.21	3.70	11.10	2.61	.055	.035	.055	.000	2359.70	837.94
.006905	440.	490.	495.	0	5	0	.00	187.45	1025.39

FLOW DISTRIBUTION FOR SECNO= 1.04 CWSEL= 2366.70

STA=	838.	871.	902.	927.	952.	964.	970.	1019.	1025.
PER Q=	3.2	3.2	5.6	6.2	3.2	2.2	75.9	.6	
AREA=	43.8	44.4	58.3	60.4	31.4	18.6	276.7	9.0	
VEL=	2.9	2.9	3.9	4.1	4.1	4.8	11.1	2.6	
DEPTH=	1.3	1.4	2.3	2.5	2.5	3.1	5.7	1.3	

*SECNO 1.131

1.131	6.19	2370.19	2369.82	.00	2371.56	1.38	3.33	.04	2365.00
4046.0	57.7	2624.8	1363.4	16.1	236.1	274.3	89.4	47.3	2365.50
.23	3.58	11.12	4.97	.055	.035	.055	.000	2364.00	973.78
006986	470.	490.	440.	3	15	0	.00	142.63	1116.40

FLOW DISTRIBUTION FOR SECNO= 1.13 CWSEL= 2370.19

STA=	974.	980.	1023.	1030.	1038.	1046.	1053.	1061.	1069.	1084.	1100.	1116.
PER Q=	1.4	64.9	5.0	4.5	4.2	3.7	3.3	3.0	5.0	3.7	1.2	
AREA=	16.1	236.1	33.3	31.9	30.3	28.0	26.4	24.9	44.4	37.2	17.9	
VEL=	3.6	11.1	6.1	5.8	5.6	5.3	5.1	4.9	4.6	4.0	2.8	
DEPTH=	2.6	5.6	4.4	4.1	3.9	3.6	3.4	3.2	2.9	2.4	1.1	

*SECNO 1.229

3470 ENCROACHMENT STATIONS= 850.0 1155.0 TYPE= 1 TARGET= 305.000
Encroach to 850 for small left bank tributary.

1.229	6.71	2373.71	2373.24	.00	2374.76	1.05	3.09	.10	2369.00
4046.0	589.1	2673.9	782.9	171.6	275.2	183.9	96.1	49.4	2369.00
.25	3.43	9.72	4.26	.055	.035	.055	.000	2367.00	865.34
.005272	425.	520.	520.	2	5	0	.00	232.88	1098.22

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

FLOW DISTRIBUTION FOR SECNO= 1.23 CWSEL= 2373.71

STA=	865.	949.	965.	972.	980.	1029.	1037.	1045.	1054.	1066.	1086.	1098.
PER Q=	3.8	3.4	3.2	4.3	66.1	4.8	4.0	3.3	3.6	3.3	.3	
AREA=	72.5	37.9	27.9	33.2	275.2	36.8	32.5	29.4	36.1	41.1	8.1	
VEL=	2.1	3.6	4.6	5.2	9.7	5.3	4.9	4.6	4.0	3.2	1.7	
DEPTH=	.9	2.4	3.6	4.3	5.6	4.5	4.0	3.6	3.0	2.0	.7	

*SECNO 1.330

1.330	5.95	2376.95	2376.74	.00	2378.37	1.41	3.57	.04	2372.80
4046.0	169.2	2385.8	1491.0	36.8	206.7	266.6	103.0	51.7	2372.90
.26	4.60	11.54	5.59	.055	.035	.055	.000	2371.00	964.77
.008870	510.	535.	530.	1	15	0	.00	155.46	1120.23

FLOW DISTRIBUTION FOR SECNO= 1.33 CWSEL= 2376.95

STA=	965.	987.	1029.	1036.	1046.	1057.	1068.	1078.	1089.	1100.	1120.
PER Q=	4.2	59.0	4.3	6.2	5.8	5.3	4.9	4.5	4.0	1.9	
AREA=	36.8	206.7	27.2	40.2	39.0	36.8	34.9	33.6	31.5	23.3	
EL=	4.6	11.5	6.3	6.2	6.0	5.8	5.6	5.5	5.2	3.3	
TH=	1.7	4.9	3.9	3.8	3.6	3.4	3.3	3.1	2.9	1.1	

*SECNO 1.396

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 820.0 1140.0 TYPE= 1 TARGET= 320.000
Encroach to 1140 for upstream contraction.
Floodplain mapped to WSEL.

1.396	5.75	2379.75	2379.27	.00	2380.62	.87	2.10	.16	2375.40
4046.0	561.5	2583.6	900.9	136.6	288.4	257.2	107.0	53.0	2375.50
.27	4.11	8.96	3.50	.055	.035	.055	.000	2374.00	893.50
.005420	335.	345.	220.	3	15	0	.00	246.50	1140.00

FLOW DISTRIBUTION FOR SECNO= 1.40 CWSEL= 2379.75

STA=	893.	928.	940.	948.	952.	1011.	1023.	1039.	1064.	1096.	1140.
PER Q=	3.4	4.4	3.9	2.2	63.9	5.1	5.1	5.4	4.1	2.5	
AREA=	47.3	40.6	31.6	17.0	288.4	43.6	49.2	60.3	56.9	47.3	
VEL=	2.9	4.4	5.0	5.2	9.0	4.8	4.2	3.6	2.9	2.1	
DEPTH=	1.4	3.3	4.0	4.3	4.9	3.7	3.1	2.5	1.8	1.1	

ECNO	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 1.499
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 804.0 1280.0 TYPE= 1 TARGET= 476.000
Flowrate upstream of right bank tributary from HEC-1 operation CAH86.

1.499	3.77	2384.77	2384.77	.00	2385.59	.83	3.54	.01	2382.00
2741.0	642.9	1404.3	693.8	176.3	147.2	186.2	114.1	56.2	2382.00
.30	3.65	9.54	3.73	.055	.035	.055	.000	2381.00	855.92
.009500	425.	545.	575.	0	23	0	.00	290.15	1146.06

FLOW DISTRIBUTION FOR SECNO= 1.50 CWSEL= 2384.77

STA=	856.	917.	939.	959.	969.	978.	1020.	1032.	1043.	1055.	1076.	1097.	1138.
PER Q=	6.1	4.1	5.2	3.5	4.4	51.2	5.6	4.4	3.3	4.5	3.4	4.1	
AREA=	61.1	32.8	36.7	21.3	24.3	147.2	30.6	26.3	22.4	33.7	28.3	41.7	
VEL=	2.7	3.4	3.9	4.5	5.0	9.5	5.0	4.5	4.1	3.6	3.2	2.7	
DEPTH=	1.0	1.5	1.8	2.3	2.6	3.5	2.6	2.3	1.9	1.6	1.4	1.0	

	1138.	1146.
PER Q=	.2	
AREA=	3.1	
VEL=	1.4	
DEPTH=	.4	

*SECNO 1.569

3470 ENCROACHMENT STATIONS= 890.0 1250.0 TYPE= 1 TARGET= 360.000

1.569	5.34	2387.34	2386.99	.00	2388.04	.69	2.40	.04	2384.00
2741.0	51.0	1775.9	914.2	19.5	221.1	317.8	118.5	58.4	2384.00
.31	2.61	8.03	2.88	.055	.035	.055	.000	2382.00	958.30
.004955	390.	370.	325.	3	11	0	.00	256.50	1214.80

FLOW DISTRIBUTION FOR SECNO= 1.57 CWSEL= 2387.34

STA=	958.	970.	1020.	1040.	1055.	1093.	1120.	1150.	1164.	1192.	1215.
PER Q=	1.9	64.8	7.9	3.6	4.9	3.4	6.7	3.3	3.2	.4	
AREA=	19.5	221.1	56.8	31.4	55.1	38.1	60.5	28.9	37.2	9.8	
VEL=	2.6	8.0	3.8	3.1	2.4	2.4	3.0	3.1	2.4	1.2	
DEPTH=	1.7	4.4	2.8	2.1	1.4	1.4	2.0	2.1	1.3	.4	

ECNO	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 1.683

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

1.683	4.49	2391.49	2391.49	.00	2392.52	1.03	4.29	.03	2390.00
2741.0	208.0	1507.8	1025.1	82.4	154.5	169.8	124.9	61.6	2389.00
.33	2.53	9.76	6.04	.055	.035	.055	.000	2387.00	795.31
.011859	520.	600.	575.	0	15	0	.00	236.33	1094.34

FLOW DISTRIBUTION FOR SECNO= 1.68 CWSEL= 2391.49

STA=	795.	840.	860.	875.	882.	960.	980.	1030.	1050.	1069.	1081.	1093.	1094.
PER Q=	2.9	2.1	.3	.0	.2	2.1	55.0	13.3	16.4	6.5	1.3	.0	
AREA=	33.3	19.8	5.1	.7	3.7	19.8	154.5	59.8	66.3	31.7	11.9	.1	
VEL=	2.4	2.9	1.4	.6	1.2	2.9	9.8	6.1	6.8	5.6	2.9	.6	
DEPTH=	.7	1.0	.3	.1	.0	1.0	3.1	3.0	3.5	2.6	1.0	.1	

0 1.774

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

1.774	4.95	2395.95	2395.64	.00	2396.52	.57	3.86	.14	2393.00
2741.0	491.1	1335.7	914.2	180.5	166.8	269.6	130.4	64.5	2393.00
.36	2.72	8.01	3.39	.055	.035	.055	.000	2391.00	846.36
.005779	405.	480.	510.	4	8	0	.00	325.18	1171.55

FLOW DISTRIBUTION FOR SECNO= 1.77 CWSEL= 2395.95

STA=	846.	893.	911.	941.	969.	983.	1025.	1037.	1049.	1060.	1072.	1084.	1109.
PER Q=	3.3	3.6	3.2	4.0	3.7	48.7	5.1	4.5	4.1	3.6	3.2	5.9	
AREA=	40.5	32.5	36.7	41.6	29.3	166.8	33.7	31.3	29.6	27.4	25.4	49.7	
VEL=	2.2	3.0	2.4	2.7	3.5	8.0	4.1	3.9	3.8	3.6	3.4	3.2	
DEPTH=	.9	1.8	1.2	1.5	2.2	3.9	2.9	2.7	2.5	2.3	2.2	2.0	

STA=	1109.	1128.	1172.
PER Q=	4.2	2.8	
AREA=	36.6	35.9	
VEL=	3.2	2.2	
DEPTH=	1.9	.8	

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

1490 NH CARD USED
*SECNO 1.872

1.872	3.84	2398.84	2398.20	.00	2399.19	.35	2.61	.06	2396.00
2741.0	221.5	873.8	1645.7	78.0	133.6	439.2	137.6	68.3	2396.00
.39	2.84	6.54	3.75	.055	.035	.046	.000	2395.00	929.52
.004762	515.	520.	475.	3	14	0	.00	335.34	1264.87

FLOW DISTRIBUTION FOR SECNO= 1.87 CWSEL= 2398.84

STA=	930.	963.	980.	1020.	1032.	1044.	1062.	1093.	1129.	1146.	1158.	1164.	1169.
PER Q=	3.1	5.0	31.9	4.1	3.1	3.3	3.4	3.1	3.6	3.6	3.4	3.5	
AREA=	37.1	40.9	133.6	31.7	26.9	32.9	41.0	40.7	34.3	28.8	16.2	15.8	
VEL=	2.3	3.3	6.5	3.6	3.2	2.8	2.3	2.1	2.9	3.4	5.7	6.1	
DEPTH=	1.1	2.4	3.3	2.6	2.2	1.8	1.3	1.1	1.9	2.4	2.7	3.0	

STA=	1169.	1175.	1180.	1186.	1191.	1197.	1209.	1232.	1265.
PER Q=	4.3	5.0	4.9	3.8	3.3	3.2	3.4	.9	
AREA=	18.0	19.6	19.7	17.0	15.9	27.1	36.8	16.8	
VEL=	6.5	7.0	6.9	6.2	5.7	3.3	2.6	1.4	
DEPTH=	3.3	3.7	3.6	3.1	2.7	2.3	1.6	.5	

CCHV= .200 CEHV= .400
*SECNO 1.995

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

1.995	4.14	2403.14	2403.14	.00	2404.36	1.22	4.69	.35	2401.00
2741.0	115.0	1489.1	1136.9	28.9	138.8	187.1	144.6	71.6	2401.00
.41	3.98	10.73	6.08	.055	.035	.055	.000	2399.00	949.94
.014295	690.	650.	570.	0	8	0	.00	151.75	1101.69

FLOW DISTRIBUTION FOR SECNO= 2.00 CWSEL= 2403.14

STA=	950.	980.	1025.	1038.	1050.	1060.	1065.	1070.	1085.	1090.	1100.	1102.
PER Q=	4.2	54.3	5.2	5.2	5.0	3.2	3.7	11.9	4.0	3.4	.0	
AREA=	28.9	138.8	26.8	26.8	23.7	13.7	15.0	47.1	15.7	18.2	.4	
VEL=	4.0	10.7	5.4	5.4	5.7	6.3	6.7	6.9	6.9	5.1	1.2	
DEPTH=	1.0	3.1	2.1	2.1	2.4	2.7	3.0	3.1	3.1	1.8	.2	

ECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
	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 2.067
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

2.067	6.66	2409.66	2409.66	.00	2410.57	.92	2.87	.06	2406.70
2741.0	484.4	2064.9	191.7	203.2	236.0	83.8	148.4	73.5	2406.70
.42	2.38	8.75	2.29	.055	.035	.055	.000	2403.00	824.66
.004838	430.	380.	320.	0	16	0	.00	275.08	1099.74

FLOW DISTRIBUTION FOR SECNO= 2.07 CWSEL= 2409.66

STA=	825.	858.	881.	916.	972.	978.	1023.	1042.	1079.	1100.
PER Q=	4.2	3.7	4.0	4.2	1.5	75.3	3.6	3.0	.4	
AREA=	46.7	38.1	47.2	58.1	13.2	236.0	34.5	40.3	9.0	
VEL=	2.5	2.6	2.3	2.0	3.2	8.7	2.8	2.0	1.2	
DEPTH=	1.4	1.7	1.4	1.0	2.3	5.2	1.8	1.1	.4	

*SECNO 2.126

2.126	5.48	2411.48	2410.73	.00	2412.11	.63	1.48	.06	2408.00
2741.0	1135.5	1523.3	82.3	309.1	193.0	26.6	152.1	75.1	2408.00
.44	3.67	7.89	3.09	.055	.035	.055	.000	2406.00	854.02
004697	310.	310.	315.	2	19	0	.00	176.20	1030.22

FLOW DISTRIBUTION FOR SECNO= 2.13 CWSEL= 2411.48

STA=	854.	878.	889.	900.	911.	924.	942.	954.	966.	972.	1015.	1030.
PER Q=	4.0	5.2	4.9	3.7	3.9	6.0	4.8	5.7	3.2	55.6	3.0	
AREA=	37.3	35.8	33.8	29.7	31.1	47.1	35.0	38.9	20.6	193.0	26.6	
VEL=	2.9	4.0	4.0	3.5	3.4	3.5	3.8	4.1	4.2	7.9	3.1	
DEPTH=	1.6	3.2	3.2	2.6	2.5	2.6	2.9	3.2	3.4	4.5	1.7	

*SECNO 2.245
Floodplain moved 10 ft to match topographic map.

2.245	5.44	2414.44	2413.91	.00	2415.12	.68	2.99	.02	2412.00
2741.0	1212.3	1511.9	16.7	321.7	183.3	7.4	158.7	77.4	2412.00
.46	3.77	8.25	2.25	.055	.035	.055	.000	2409.00	823.77
.005880	490.	630.	660.	2	15	0	.00	202.33	1026.10

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

FLOW DISTRIBUTION FOR SECNO= 2.24 CWSEL= 2414.44

STA=	824.	875.	890.	905.	920.	936.	951.	967.	975.	1020.	1026.
PER Q=	5.3	6.8	7.8	5.9	5.2	5.2	5.2	2.6	55.2	.6	
AREA=	55.2	44.1	47.8	40.3	38.3	38.3	38.3	19.3	183.3	7.4	
VEL=	2.6	4.2	4.5	4.0	3.8	3.8	3.8	3.8	8.2	2.3	
DEPTH=	1.1	2.9	3.2	2.7	2.4	2.4	2.4	2.4	4.1	1.2	

*SECNO 2.344
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

2.344	4.65	2419.65	2419.65	.00	2420.52	.86	3.55	.07	2416.50
2741.0	628.1	1429.6	683.4	170.3	147.7	179.9	164.3	80.2	2416.50
.48	3.69	9.68	3.80	.055	.035	.055	.000	2415.00	850.85
.008841	440.	520.	550.	0	15	0	.00	300.19	1151.04

FLOW DISTRIBUTION FOR SECNO= 2.34 CWSEL= 2419.65

STA=	851.	916.	948.	964.	972.	981.	1020.	1030.	1045.	1068.	1099.	1151.
PER Q=	3.2	6.1	5.2	3.4	4.9	52.2	5.5	6.3	6.5	4.8	1.9	
AREA=	41.0	49.1	34.0	20.0	26.1	147.7	29.0	37.3	44.5	42.0	27.0	
VEL=	2.1	3.4	4.2	4.7	5.2	9.7	5.2	4.6	4.0	3.1	2.0	
DEPTH=	.6	1.6	2.1	2.5	2.9	3.8	2.9	2.5	2.0	1.4	.5	

*SECNO 2.444

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

2.444	5.11	2423.11	2422.28	.00	2423.55	.44	2.95	.08	2419.40
2741.0	1192.1	1213.5	335.4	356.8	169.7	110.0	170.9	83.3	2419.50
.51	3.34	7.15	3.05	.055	.035	.055	.000	2418.00	823.92
.004066	540.	530.	410.	3	15	0	.00	250.03	1073.95

FLOW DISTRIBUTION FOR SECNO= 2.44 CWSEL= 2423.11

ECNO	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

STA=	824.	851.	862.	874.	880.	887.	893.	903.	929.	956.	971.	977.	1016.
PER Q=	3.7	3.7	5.9	3.7	3.9	3.1	3.3	3.2	3.7	6.7	2.8	44.3	
AREA=	41.0	29.7	41.2	23.7	25.1	21.8	27.1	37.7	41.5	49.2	18.7	169.7	
VEL=	2.5	3.4	3.9	4.3	4.2	3.9	3.3	2.3	2.4	3.7	4.0	7.2	
DEPTH=	1.5	2.8	3.4	4.0	3.9	3.4	2.7	1.5	1.5	3.2	3.6	4.3	

STA=	1016.	1028.	1039.	1056.	1074.
PER Q=	5.0	3.5	3.0	.6	
AREA=	37.3	29.7	31.3	11.7	
VEL=	3.7	3.2	2.7	1.5	
DEPTH=	3.2	2.6	1.9	.7	

*SECNO 2.534
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

2.534	4.24	2426.24	2426.24	.00	2426.92	.68	2.57	.09	2423.50
2741.0	1140.1	1365.8	235.1	349.6	155.5	67.2	177.2	86.9	2423.50
.53	3.26	8.78	3.50	.055	.035	.055	.000	2422.00	640.70
.008092	445.	475.	460.	0	12	0	.00	432.30	1073.00

DISTRIBUTION FOR SECNO= 2.53 CWSEL= 2426.24

STA=	641.	686.	700.	708.	715.	723.	730.	743.	797.	831.	955.	971.	978.
PER Q=	3.8	3.8	3.0	4.1	4.1	3.0	3.5	3.1	3.3	3.3	3.6	2.8	
AREA=	40.3	26.9	18.7	22.4	22.4	18.7	25.5	39.2	36.4	53.9	27.8	17.4	
VEL=	2.6	3.8	4.5	5.0	5.0	4.5	3.8	2.2	2.5	1.7	3.6	4.5	
DEPTH=	.9	2.0	2.5	3.0	3.0	2.5	1.9	.7	1.0	.4	1.7	2.5	

STA=	978.	1023.	1030.	1043.	1073.
PER Q=	49.8	3.0	3.5	2.0	
AREA=	155.5	18.7	25.5	23.0	
VEL=	8.8	4.5	3.8	2.4	
DEPTH=	3.5	2.5	1.9	.8	

*SECNO 2.640
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

2.640	5.31	2430.31	2430.31	.00	2431.28	.97	3.89	.12	2429.00
2741.0	227.1	1948.2	565.7	92.9	212.7	167.1	183.1	90.8	2427.00
.55	2.44	9.16	3.39	.055	.035	.055	.000	2425.00	852.65
.006873	425.	560.	535.	0	11	0	.00	293.15	1145.79

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

FLOW DISTRIBUTION FOR SECNO= 2.64 CWSEL= 2430.31

STA=	853.	876.	949.	972.	1022.	1029.	1036.	1049.	1066.	1122.	1146.
PER Q=	3.8	3.1	1.3	71.1	3.8	3.3	5.2	3.8	3.5	1.1	
AREA=	32.8	42.1	18.1	212.7	21.5	19.5	34.3	30.8	45.6	15.4	
VEL=	3.2	2.0	2.0	9.2	4.8	4.6	4.2	3.4	2.1	2.0	
DEPTH=	1.4	.6	.8	4.3	3.2	2.9	2.5	1.8	.8	.6	

*SECNO 2.716
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

2.716	5.24	2434.24	2434.24	.00	2435.15	.91	2.92	.01	2431.00
2741.0	647.1	1556.8	537.1	201.9	160.8	131.8	187.5	93.4	2431.00
.57	3.20	9.68	4.08	.055	.035	.055	.000	2429.00	797.51
.007928	365.	400.	410.	0	5	0	.00	299.32	1096.84

FLOW DISTRIBUTION FOR SECNO= 2.72 CWSEL= 2434.24

STA=	798.	832.	849.	875.	965.	981.	1020.	1028.	1035.	1043.	1058.	1082.	1097.
Q=	4.5	4.9	4.7	3.5	6.1	56.8	4.3	3.7	3.2	5.0	3.1	.2	
REA=	39.9	35.1	39.7	48.8	38.4	160.8	23.2	21.3	19.4	33.8	29.7	4.3	
VEL=	3.1	3.9	3.2	1.9	4.3	9.7	5.1	4.8	4.5	4.1	2.9	1.2	
DEPTH=	1.2	2.0	1.5	.5	2.4	4.1	3.1	2.8	2.6	2.2	1.2	.3	

*SECNO 2.818
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

2.818	4.19	2439.19	2439.19	.00	2440.01	.82	4.27	.02	2436.00
2741.0	561.7	1440.4	738.9	167.3	152.8	196.2	193.5	96.9	2436.00
.59	3.36	9.43	3.77	.055	.035	.055	.000	2435.00	862.30
.008279	480.	540.	540.	0	16	0	.00	297.78	1160.08

FLOW DISTRIBUTION FOR SECNO= 2.82 CWSEL= 2439.19

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

STA=	862.	909.	936.	963.	978.	985.	1025.	1032.	1038.	1058.	1072.	1085.	1111.
PER Q=	4.2	3.3	4.0	5.0	4.1	52.5	3.8	3.1	6.9	4.1	3.2	4.1	
AREA=	44.2	32.5	36.4	32.0	22.1	152.8	20.4	17.8	44.9	27.6	24.0	36.2	
VEL=	2.6	2.8	3.0	4.2	5.0	9.4	5.2	4.8	4.2	4.0	3.7	3.1	
DEPTH=	.9	1.2	1.4	2.3	2.9	3.8	3.0	2.7	2.2	2.1	1.8	1.4	

STA=	1111.	1160.
PER Q=	1.8	
AREA=	25.3	
VEL=	1.9	
DEPTH=	.5	

*SECNO 2.891
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 920.0 1300.0 TYPE= 1 TARGET= 380.000
Encroach to 920 for small left bank tributary.

2.891	5.23	2442.23	2442.23	.00	2443.33	1.10	3.01	.11	2439.00
2741.0	216.4	1983.1	541.5	64.2	205.3	156.5	197.6	99.2	2439.00
.60	3.37	9.66	3.46	.055	.035	.055	.000	2437.00	924.93
07507	400.	385.	365.	0	11	0	.00	222.48	1147.41

FLOW DISTRIBUTION FOR SECNO= 2.89 CWSEL= 2442.23

STA=	925.	968.	974.	1022.	1031.	1040.	1055.	1079.	1142.
PER Q=	5.2	2.7	72.3	4.8	3.5	4.3	4.2	3.0	
AREA=	47.8	16.4	205.3	26.9	22.4	31.3	36.4	39.4	
VEL=	3.0	4.5	9.7	4.8	4.3	3.8	3.2	2.1	
DEPTH=	1.1	2.7	4.3	3.0	2.5	2.0	1.6	.6	

*SECNO 2.997

3301 HV CHANGED MORE THAN HVINS

2.997	4.75	2446.75	2446.31	.00	2447.30	.55	3.86	.11	2444.00
2741.0	1384.3	1236.6	120.1	381.5	155.3	40.6	204.2	102.6	2444.00
.63	3.63	7.96	2.96	.055	.035	.055	.000	2442.00	746.18
.006185	610.	560.	500.	3	15	0	.00	308.14	1054.32

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

FLOW DISTRIBUTION FOR SECNO= 3.00 CWSEL= 2446.75

STA=	746.	833.	860.	886.	906.	918.	923.	929.	935.	940.	953.	972.	978.
PER Q=	3.5	4.3	5.1	4.1	5.2	3.9	5.2	4.7	3.0	4.5	4.6	2.3	
AREA=	52.7	41.3	45.4	35.7	33.9	21.0	25.1	23.4	17.9	32.2	37.6	15.6	
VEL=	1.8	2.8	3.1	3.2	4.2	5.1	5.7	5.5	4.6	3.8	3.4	4.0	
DEPTH=	.6	1.5	1.7	1.8	2.8	3.7	4.4	4.2	3.2	2.4	2.0	2.6	

STA=	978.	1020.	1033.	1054.
PER Q=	45.1	3.5	.9	
AREA=	155.3	27.6	13.0	
VEL=	8.0	3.5	1.8	
DEPTH=	3.7	2.1	.6	

*SECNO 3.092

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

.092	4.51	2451.51	2451.51	.00	2452.51	1.00	3.66	.18	2452.00
741.0	976.6	1547.4	217.1	197.8	157.6	54.7	209.0	105.1	2449.00
.65	4.94	9.82	3.97	.055	.035	.055	.000	2447.00	832.22
.011433	370.	500.	520.	0	11	0	.00	218.93	1074.33

FLOW DISTRIBUTION FOR SECNO= 3.09 CWSEL= 2451.51

STA=	832.	890.	905.	911.	918.	924.	930.	936.	949.	958.	1030.	1043.	1070.
PER Q=	4.6	5.8	3.3	3.8	4.4	4.9	4.4	4.0	.4	56.5	4.9	3.0	
AREA=	41.4	32.7	16.4	17.7	19.6	20.8	19.9	24.4	4.9	157.6	28.0	26.3	
VEL=	3.1	4.9	5.5	5.8	6.1	6.5	6.1	4.5	2.2	9.8	4.8	3.2	
DEPTH=	.7	2.2	2.6	2.9	3.1	3.4	3.1	1.9	.6	3.2	2.1	1.0	

STA=	1070.	1074.
PER Q=	.0	
AREA=	.5	
VEL=	.6	
DEPTH=	.1	

ECNO	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 3.186

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.58

3.186	5.44	2455.44	2454.99	.00	2456.02	.57	3.42	.09	2452.00
2741.0	494.9	1521.3	724.8	173.0	197.5	239.7	214.8	108.1	2452.00
.67	2.86	7.70	3.02	.055	.035	.055	.000	2450.00	863.04
.004604	530.	500.	435.	3	8	0	.00	318.27	1181.31

FLOW DISTRIBUTION FOR SECNO= 3.19 CWSEL= 2455.44

STA=	863.	923.	948.	961.	975.	1020.	1034.	1055.	1068.	1094.	1126.	1181.
PER Q=	3.9	5.1	3.4	5.7	55.5	6.7	7.6	3.4	4.8	3.1	.8	
AREA=	53.7	49.0	29.1	41.2	197.5	45.4	57.6	29.6	47.7	40.0	19.4	
VEL=	2.0	2.8	3.2	3.8	7.7	4.0	3.6	3.2	2.8	2.1	1.1	
DEPTH=	.9	1.9	2.3	2.9	4.4	3.2	2.7	2.3	1.9	1.2	.3	

*SECNO 3.279
7185 MINIMUM SPECIFIC ENERGY
CRITICAL DEPTH ASSUMED

3.279	5.46	2458.46	2458.46	.00	2459.48	1.02	2.80	.18	2455.00
2741.0	665.3	1745.8	329.9	207.6	178.4	75.8	220.8	111.3	2455.00
.69	3.20	9.79	4.35	.055	.035	.055	.000	2453.00	813.92
.007287	525.	490.	450.	0	5	0	.00	239.61	1053.53

FLOW DISTRIBUTION FOR SECNO= 3.28 CWSEL= 2458.46

STA=	814.	900.	935.	955.	965.	980.	1020.	1030.	1040.	1054.
PER Q=	4.3	4.5	4.4	3.4	7.7	63.7	5.9	4.4	1.7	
AREA=	59.5	45.0	35.7	23.1	44.4	178.4	32.1	27.1	16.6	
VEL=	2.0	2.7	3.4	4.0	4.7	9.8	5.0	4.5	2.9	
DEPTH=	.7	1.3	1.8	2.3	3.0	4.5	3.2	2.7	1.2	

*SECNO 3.372
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3.372	5.79	2462.79	2462.79	.00	2463.93	1.14	3.33	.05	2459.00
2741.0	537.0	1983.3	220.7	171.1	201.2	56.4	225.5	113.7	2459.00
.71	3.14	9.86	3.91	.055	.035	.055	.000	2457.00	821.09
.006710	425.	490.	490.	0	8	0	.00	233.49	1054.58

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

FLOW DISTRIBUTION FOR SECNO= 3.37 CWSEL= 2462.79

STA=	821.	913.	956.	965.	973.	980.	1022.	1030.	1045.	1055.
PER Q=	3.3	4.2	3.2	3.9	5.0	72.4	4.5	3.4	.2	
AREA=	53.1	46.6	22.0	22.8	26.6	201.2	25.3	27.4	3.7	
VEL=	1.7	2.5	4.0	4.6	5.1	9.9	4.9	3.4	1.3	
DEPTH=	.6	1.1	2.4	3.0	3.5	4.8	3.3	1.8	.4	

*SECNO 3.467

3.467	6.68	2465.68	2464.84	.00	2466.47	.79	2.46	.07	2462.00
2741.0	84.7	1954.1	702.2	28.0	239.1	216.5	230.6	115.8	2461.30
.73	3.03	8.17	3.24	.055	.035	.055	.000	2459.00	967.38
.003921	445.	500.	470.	2	5	0	.00	164.55	1131.93

FLOW DISTRIBUTION FOR SECNO= 3.47 CWSEL= 2465.68

STA=	967.	981.	1025.	1030.	1035.	1045.	1055.	1073.	1087.	1110.	1132.
PER Q=	3.1	71.3	3.5	3.1	5.2	3.2	3.5	3.8	3.0	.3	
AREA=	28.0	239.1	21.4	20.1	36.0	26.8	35.8	33.7	35.1	7.5	
EL=	3.0	8.2	4.5	4.3	4.0	3.3	2.7	3.1	2.3	1.0	
TH=	2.1	5.4	4.3	4.0	3.6	2.7	2.0	2.5	1.5	.3	

*SECNO 3.568

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3.568	5.59	2468.59	2468.59	.00	2469.89	1.30	2.91	.20	2465.40
2741.0	756.9	1925.9	58.3	182.4	182.2	16.4	235.6	117.6	2465.30
.74	4.15	10.57	3.55	.055	.035	.055	.000	2463.00	875.25
.008676	535.	535.	415.	0	15	0	.00	153.43	1028.68

FLOW DISTRIBUTION FOR SECNO= 3.57 CWSEL= 2468.59

STA=	875.	911.	932.	942.	953.	960.	968.	971.	1013.	1029.
PER Q=	4.6	6.0	3.6	4.2	3.1	3.9	2.3	70.3	2.1	
AREA=	41.3	41.7	23.0	25.4	18.1	21.2	11.8	182.2	16.4	
VEL=	3.1	4.0	4.2	4.5	4.7	5.0	5.3	10.6	3.6	
DEPTH=	1.2	2.0	2.2	2.4	2.5	2.8	3.1	4.4	1.0	

ECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
	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 3.665
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 600.0 1120.0 TYPE= 1 TARGET= 520.000
Encroach to 1120 for small right bank tributary. Mapped to WSEL.

3.665	5.39	2474.39	2474.39	.00	2475.52	1.13	4.08	.03	2471.00
2741.0	534.3	1935.5	271.2	127.6	196.8	86.2	239.9	119.6	2472.00
.76	4.19	9.83	3.15	.055	.035	.055	.000	2469.00	903.79
.008015	395.	510.	610.	0	8	0	.00	196.80	1100.59

FLOW DISTRIBUTION FOR SECNO= 3.66 CWSEL= 2474.39

STA=	904.	942.	958.	967.	975.	1022.	1031.	1050.	1101.
PER Q=	3.8	6.2	4.3	5.2	70.6	3.1	4.1	2.7	
AREA=	37.2	39.3	24.3	26.9	196.8	20.8	32.1	33.3	
VEL=	2.8	4.3	4.9	5.3	9.8	4.1	3.5	2.2	
DEPTH=	1.0	2.4	2.9	3.2	4.2	2.2	1.7	.7	

0 3.766

3470 ENCROACHMENT STATIONS= 872.0 1230.0 TYPE= 1 TARGET= 358.000
Encroach to 1230 for small right bank tributary. Mapped to WSEL.

3.766	4.64	2478.64	2478.49	.00	2479.33	.69	3.72	.09	2476.00
2741.0	293.3	1555.9	891.8	90.7	186.6	269.1	244.9	122.0	2476.00
.78	3.23	8.34	3.31	.055	.035	.055	.000	2474.00	906.96
.007234	525.	535.	325.	2	12	0	.00	308.73	1215.69

FLOW DISTRIBUTION FOR SECNO= 3.77 CWSEL= 2478.64

STA=	907.	949.	972.	1025.	1037.	1048.	1060.	1083.	1106.	1130.	1153.	1198.	1216.
PER Q=	3.8	6.9	56.8	4.4	3.7	3.0	4.7	4.5	4.5	4.5	3.1	.0	
AREA=	41.4	49.3	186.6	28.7	25.8	22.9	39.4	38.6	38.6	38.6	34.6	1.9	
VEL=	2.5	3.8	8.3	4.2	3.9	3.6	3.3	3.2	3.2	3.2	2.5	.6	
DEPTH=	1.0	2.1	3.5	2.5	2.2	2.0	1.7	1.6	1.6	1.6	.8	.1	

*SECNO 3.862

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 = 1.50

Flow regime shift from critical to subcritical causes KRATIO
to exceed 1.40.

3.862	6.16	2481.16	2480.25	.00	2481.64	.48	2.28	.04	2477.30
2741.0	1106.5	1575.1	59.4	376.0	227.7	27.3	251.5	124.9	2478.00
.81	2.94	6.92	2.18	.055	.035	.055	.000	2475.00	820.33
.003199	475.	505.	480.	3	8	0	.00	220.28	1040.62

FLOW DISTRIBUTION FOR SECNO= 3.86 CWSEL= 2481.16

STA=	820.	856.	881.	905.	921.	938.	956.	965.	973.	1020.	1041.
PER Q=	3.2	5.1	6.6	5.2	6.3	6.8	3.4	3.7	57.5	2.2	
AREA=	45.8	54.3	62.3	46.2	52.9	56.9	28.5	29.1	227.7	27.3	
VEL=	1.9	2.6	2.9	3.1	3.3	3.3	3.3	3.5	6.9	2.2	
DEPTH=	1.3	2.2	2.6	2.9	3.1	3.2	3.2	3.5	4.9	1.3	

*SECNO 3.940

HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 920.0 1500.0 TYPE= 1 TARGET= 580.000
Encroach to 920 for small left bank tributary. Mapped to WSEL.

3.940	4.24	2484.24	2484.24	.00	2485.35	1.12	2.17	.25	2481.50
2741.0	597.3	1792.2	351.5	128.1	179.4	90.8	256.3	126.8	2481.50
.82	4.66	9.99	3.87	.055	.035	.055	.000	2480.00	920.00
.010511	400.	415.	395.	0	19	0	.00	187.09	1107.09

FLOW DISTRIBUTION FOR SECNO= 3.94 CWSEL= 2484.24

STA=	920.	950.	970.	978.	1029.	1039.	1049.	1069.	1107.
PER Q=	10.6	7.7	3.5	65.4	4.6	3.3	3.7	1.2	
AREA=	64.6	44.8	18.7	179.4	24.9	20.4	28.8	16.8	
VEL=	4.5	4.7	5.1	10.0	5.1	4.5	3.6	1.9	
DEPTH=	2.2	2.2	2.5	3.5	2.5	2.0	1.4	.4	

ECNO	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 4.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.75

Small right bank tributary affects channel configuration. KRATIO is reasonable.

4.000	4.77	2486.77	2485.81	.00	2487.22	.45	1.73	.13	2482.50
2741.0	844.7	1371.9	524.4	294.0	197.7	152.0	260.0	128.4	2482.50
.84	2.87	6.94	3.45	.055	.035	.055	.000	2482.00	825.73
.003445	305.	315.	305.	3	11	0	.00	251.59	1077.32

FLOW DISTRIBUTION FOR SECNO= 4.00 CWSEL= 2486.77

STA=	826.	905.	925.	945.	954.	963.	972.	981.	1024.	1035.	1048.	1060.	1077.
PER Q=	5.2	3.7	5.3	3.1	3.8	4.4	5.3	50.0	6.8	5.9	4.6	1.9	
AREA=	79.6	39.9	49.9	26.3	29.4	32.6	36.2	197.7	46.2	44.0	37.8	24.0	
VEL=	1.8	2.5	2.9	3.2	3.5	3.7	4.0	6.9	4.0	3.7	3.3	2.2	
DEPTH=	1.0	2.0	2.5	2.9	3.3	3.6	4.0	4.7	4.0	3.5	3.0	1.4	

*SECNO 4.042
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

4.042	3.82	2488.82	2488.82	.00	2489.69	.87	1.23	.17	2486.00
2741.0	1427.1	1052.7	261.3	307.2	99.6	56.0	262.5	129.5	2486.00
.85	4.65	10.57	4.66	.055	.035	.055	.000	2485.00	793.02
.012546	185.	220.	235.	0	15	0	.00	255.47	1048.49

FLOW DISTRIBUTION FOR SECNO= 4.04 CWSEL= 2488.82

STA=	793.	855.	871.	887.	903.	919.	936.	952.	969.	985.	1015.	1023.	1038.
PER Q=	4.3	4.0	4.8	4.8	4.8	5.4	6.6	7.9	9.4	38.4	4.0	4.5	
AREA=	41.8	26.6	29.1	29.1	29.1	31.7	35.8	39.9	44.1	99.6	19.3	27.3	
VEL=	2.8	4.2	4.5	4.5	4.5	4.7	5.1	5.5	5.8	10.6	5.7	4.6	
DEPTH=	.7	1.6	1.8	1.8	1.8	1.9	2.2	2.4	2.7	3.3	2.6	1.8	

STA=	1038.	1048.
PER Q=	1.0	
AREA=	9.5	
VEL=	2.9	
DEPTH=	.9	

ECNO	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 4.127

3301 HV CHANGED MORE THAN HVINS

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

3470 ENCROACHMENT STATIONS= 800.0 1550.0 TYPE= 1 TARGET= 750.000
Encroach to 800 for small left bank tributary. Mapped to WSEL.

4.127	4.27	2492.27	2491.49	.00	2492.60	.33	2.80	.11	2489.00
2741.0	981.4	1198.3	561.4	356.3	193.0	194.8	268.9	132.6	2489.00
.88	2.75	6.21	2.88	.055	.035	.055	.000	2488.00	800.00
.003631	470.	450.	435.	3	15	0	.00	328.90	1128.90

FLOW DISTRIBUTION FOR SECNO= 4.13 CWSEL= 2492.27

STA=	800.	858.	880.	900.	930.	953.	966.	979.	1030.	1042.	1055.	1067.	1079.
PER Q=	7.8	5.3	3.7	4.1	5.5	4.3	5.2	43.7	4.9	4.2	3.7	3.1	
AREA=	86.3	51.4	39.2	49.5	53.0	36.2	40.7	193.0	38.5	35.2	32.4	29.1	
VEL=	2.5	2.8	2.6	2.3	2.8	3.2	3.5	6.2	3.5	3.3	3.1	2.9	
DEPTH=	1.5	2.3	2.0	1.7	2.3	2.8	3.1	3.8	3.1	2.9	2.6	2.4	

STA=	1079.	1102.	1129.
PER Q=	3.6	1.0	
AREA=	41.0	18.6	
VEL=	2.4	1.4	
DEPTH=	1.8	.7	

*SECNO 4.222

4.222	4.29	2494.29	2493.47	.00	2494.83	.54	2.14	.08	2490.80
2741.0	320.2	1243.3	1177.5	94.2	162.6	299.3	276.5	135.7	2490.70
.90	3.40	7.65	3.93	.055	.035	.055	.000	2490.00	924.16
.005004	545.	505.	475.	3	15	0	.00	208.09	1132.24

FLOW DISTRIBUTION FOR SECNO= 4.22 CWSEL= 2494.29

ECNO	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

STA=	924.	955.	965.	975.	1015.	1031.	1042.	1053.	1064.	1075.	1085.	1095.	1111.
PER Q=	3.2	3.5	5.0	45.4	8.3	5.6	5.6	5.6	5.6	5.1	3.5	3.0	
AREA=	35.3	26.2	32.7	162.6	53.2	35.9	35.9	35.9	36.3	33.5	26.2	28.8	
VEL=	2.5	3.6	4.2	7.6	4.3	4.2	4.2	4.2	4.2	4.2	3.6	2.9	
DEPTH=	1.1	2.6	3.3	4.1	3.3	3.3	3.3	3.3	3.3	3.2	2.6	1.8	

STA=	1111.	1132.
PER Q=	.8	
AREA=	13.5	
VEL=	1.7	
DEPTH=	.6	

*SECNO 4.290

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

4.290	4.46	2497.46	2497.46	.00	2498.64	1.19	2.38	.26	2494.00
2741.0	359.6	1824.9	556.5	89.0	178.0	119.7	280.3	137.3	2494.00
.91	4.04	10.25	4.65	.055	.035	.055	.000	2493.00	820.61
.009327	340.	360.	360.	0	8	0	.00	184.18	1080.33

FLOW DISTRIBUTION FOR SECNO= 4.29 CWSEL= 2497.46

STA=	821.	958.	967.	975.	1020.	1027.	1035.	1042.	1057.	1080.
PER Q=	4.3	3.6	5.2	66.6	5.1	4.3	3.4	4.9	2.5	
AREA=	42.6	20.6	25.8	178.0	24.1	21.9	19.0	31.3	23.3	
VEL=	2.8	4.7	5.5	10.3	5.8	5.4	4.9	4.3	3.0	
DEPTH=	.3	2.5	3.1	4.0	3.3	3.0	2.6	2.1	1.0	

*SECNO 4.399

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

ECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
	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
4.399	2.77	2504.77	2504.77	.00	2505.54	.77	6.14	.08	2503.00
2741.0	1120.8	1549.4	70.8	263.4	180.5	24.9	285.5	140.3	2503.50
.94	4.25	8.59	2.84	.055	.035	.055	.000	2502.00	732.97
.014070	450.	575.	575.	0	14	0	.00	320.86	1065.96

FLOW DISTRIBUTION FOR SECNO= 4.40 CWSEL= 2504.77

STA=	733.	769.	845.	867.	889.	911.	931.	950.	1031.	1066.
PER Q=	4.0	5.0	6.7	6.7	6.7	5.9	5.9	56.5	2.6	
AREA=	32.5	45.0	39.0	39.0	39.0	34.5	34.5	180.5	24.9	
VEL=	3.4	3.1	4.7	4.7	4.7	4.7	4.7	8.6	2.8	
DEPTH=	.9	.6	1.8	1.8	1.8	1.8	1.8	2.2	.7	

*SECNO 4.491

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

4.491	4.30	2509.30	2509.00	.00	2509.90	.60	4.33	.03	2508.00
2741.0	25.7	1461.4	1253.9	14.3	185.0	376.6	291.0	143.6	2506.00
.96	1.79	7.90	3.33	.055	.035	.055	.000	2505.00	936.93
06414	480.	485.	440.	4	14	0	.00	305.92	1242.85

FLOW DISTRIBUTION FOR SECNO= 4.49 CWSEL= 2509.30

STA=	937.	959.	1011.	1031.	1050.	1071.	1140.	1160.	1174.	1187.	1200.	1231.	1243.
PER Q=	.9	53.3	8.8	6.0	4.4	6.0	5.2	4.3	4.3	3.4	3.3	.1	
AREA=	14.3	185.0	56.0	43.7	37.8	70.1	41.0	31.0	31.0	26.6	36.6	2.9	
VEL=	1.8	7.9	4.3	3.8	3.2	2.4	3.5	3.8	3.8	3.5	2.5	.9	
DEPTH=	.6	3.6	2.8	2.3	1.8	1.0	2.0	2.3	2.3	2.0	1.2	.2	

*SECNO 4.560

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

ECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
	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
4.560	6.24	2512.24	2512.24	.00	2513.52	1.28	2.35	.27	2507.50
2741.0	478.2	1917.3	345.5	94.1	182.7	116.8	295.1	145.8	2507.50
.97	5.08	10.49	2.96	.055	.035	.055	.000	2506.00	947.29
.006523	365.	365.	360.	0	14	0	.00	217.25	1237.01

FLOW DISTRIBUTION FOR SECNO= 4.56 CWSEL= 2512.24

STA=	947.	965.	970.	976.	981.	1015.	1020.	1030.	1190.	1237.
PER Q=	3.3	3.5	5.0	5.5	69.9	4.8	3.2	3.4	1.2	
AREA=	26.4	18.7	23.8	25.2	182.7	22.4	22.4	51.1	21.0	
VEL=	3.5	5.2	5.8	6.0	10.5	5.9	3.9	1.8	1.5	
DEPTH=	1.5	3.7	4.3	4.6	5.4	4.5	2.2	.3	.4	

1490 NH CARD USED
*SECNO 4.680

3301 HV CHANGED MORE THAN HVINS

ARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.56

NH card used to represent well-defined secondary channel.

4.680	4.78	2515.78	2514.60	.00	2516.10	.32	2.39	.19	2513.00
2741.0	1459.0	1236.8	45.1	404.1	225.8	24.4	302.1	148.7	2513.30
1.01	3.61	5.48	1.85	.042	.035	.055	.000	2511.00	807.18
.002668	570.	635.	490.	2	11	0	.00	243.26	1050.44

FLOW DISTRIBUTION FOR SECNO= 4.68 CWSEL= 2515.78

STA=	807.	835.	840.	845.	850.	855.	860.	865.	871.	881.	896.	915.	940.
PER Q=	4.0	3.1	3.9	4.5	5.1	4.9	4.1	3.6	4.1	3.5	3.4	3.4	
AREA=	40.4	17.2	19.7	21.4	23.2	22.7	20.2	19.4	30.1	37.2	40.8	44.6	
VEL=	2.7	5.0	5.5	5.8	6.1	6.0	5.5	5.1	3.8	2.6	2.3	2.1	
DEPTH=	1.5	3.4	3.9	4.3	4.6	4.5	4.0	3.5	2.9	2.5	2.1	1.8	

STA=	940.	964.	973.	1030.	1050.
PER Q=	3.5	2.1	45.1	1.6	
AREA=	44.8	22.6	225.8	24.4	
VEL=	2.1	2.6	5.5	1.8	
DEPTH=	1.9	2.5	4.0	1.2	

ECNO	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= .200 CEHV= .400
*SECNO 4.783

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

4.783	4.78	2518.78	2518.78	.00	2519.69	.91	2.25	.24	2516.00
2741.0	496.9	1761.9	482.2	141.0	190.9	157.9	309.0	151.9	2516.00
1.03	3.52	9.23	3.05	.055	.035	.055	.000	2514.00	882.65
.007749	510.	540.	555.	0	5	0	.00	286.87	1169.52

FLOW DISTRIBUTION FOR SECNO= 4.78 CWSEL= 2518.78

STA=	883.	925.	950.	972.	1021.	1043.	1060.	1093.	1170.
PER Q=	4.9	5.7	7.6	64.3	7.6	3.3	4.3	2.5	
AREA=	46.2	44.6	50.2	190.9	50.2	27.4	42.1	38.1	
VEL=	2.9	3.5	4.1	9.2	4.1	3.3	2.8	1.8	
DEPTH=	1.1	1.8	2.3	3.9	2.3	1.6	1.3	.5	

*SECNO 4.869

3301 HV CHANGED MORE THAN HVINS

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

No encroachment appears warranted at this section. KRATIO exceeds
1.4 due to natural expansion.

4.869	4.32	2521.32	2520.15	.00	2521.54	.21	1.70	.14	2518.00
2741.0	240.7	933.5	1566.8	122.4	175.7	603.9	315.6	155.2	2518.00
1.06	1.97	5.31	2.59	.055	.035	.055	.000	2517.00	885.80
.002477	445.	450.	375.	3	14	0	.00	413.73	1299.52

FLOW DISTRIBUTION FOR SECNO= 4.87 CWSEL= 2521.32

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

STA=	886.	971.	986.	1030.	1050.	1065.	1080.	1095.	1110.	1126.	1143.	1159.	1175.
PER Q=	4.6	4.1	34.1	7.3	5.4	5.4	5.4	5.4	5.5	4.7	4.1	3.5	
AREA=	80.1	42.3	175.7	66.5	49.8	49.8	49.8	49.8	51.7	47.3	43.6	39.2	
VEL=	1.6	2.7	5.3	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.6	2.4	
DEPTH=	.9	2.8	4.0	3.3	3.3	3.3	3.3	3.3	3.2	2.9	2.7	2.4	

STA=	1175.	1208.	1240.	1300.
PER Q=	5.3	3.3	1.7	
AREA=	66.6	50.3	39.4	
VEL=	2.2	1.8	1.2	
DEPTH=	2.0	1.5	.7	

*SECNO 4.956

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

4.956	5.98	2523.98	2523.98	.00	2525.77	1.80	1.80	.63	2519.50
2741.0	313.9	2001.4	425.8	56.8	164.6	80.4	321.1	157.4	2519.50
1.07	5.52	12.16	5.29	.055	.035	.055	.000	2518.00	961.10
009095	450.	460.	355.	0	11	0	.00	88.72	1049.83

FLOW DISTRIBUTION FOR SECNO= 4.96 CWSEL= 2523.98

STA=	961.	967.	972.	978.	984.	1015.	1020.	1025.	1030.	1035.	1040.	1045.	1050.
PER Q=	.2	1.6	3.9	5.7	73.0	5.2	4.0	2.9	1.9	1.1	.4	.1	
AREA=	3.6	11.1	19.0	23.2	164.6	21.1	18.1	14.9	11.6	8.1	4.9	1.6	
VEL=	1.9	4.0	5.6	6.7	12.2	6.7	6.0	5.3	4.5	3.5	2.5	1.2	
DEPTH=	.6	2.0	3.3	4.2	5.2	4.2	3.6	3.0	2.3	1.6	1.0	.3	

*SECNO 4.998

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.98

Section taken from topographic map to better represent contraction
between Sections 4.956 and 5.041. Contraction confirmed on

aerial photographs.

4.998	6.34	2526.34	2523.17	.00	2526.44	.10	.32	.34	2520.00
2741.0	898.6	994.8	847.6	649.7	285.3	444.5	325.3	158.6	2520.00
1.10	1.38	3.49	1.91	.055	.035	.055	.000	2520.00	739.83
.000575	220.	220.	220.	2	11	0	.00	388.56	1128.39

FLOW DISTRIBUTION FOR SECNO= 5.00 CWSEL= 2526.34

STA=	740.	810.	850.	900.	940.	980.	1025.	1060.	1105.	1128.
PER Q=	2.2	7.0	8.8	3.9	10.9	36.3	18.0	12.2	.7	
AREA=	82.1	133.6	167.0	93.6	173.6	285.3	221.9	195.3	27.4	
VEL=	.7	1.4	1.4	1.1	1.7	3.5	2.2	1.7	.7	
DEPTH=	1.2	3.3	3.3	2.3	4.3	6.3	6.3	4.3	1.2	

*SECNO 5.041

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

Sudden widening and flattening of channel cross section for 500 ft.
Upstream and downstream reaches very narrow. KRATIO reasonable.

5.041	5.11	2526.51	2524.95	.00	2526.65	.14	.19	.02	2522.40
2741.0	1649.2	772.3	319.5	761.5	166.6	164.2	331.5	160.6	2521.90
1.12	2.17	4.64	1.95	.055	.035	.055	.000	2521.40	700.67
.001517	210.	230.	225.	2	11	0	.00	418.52	1119.19

FLOW DISTRIBUTION FOR SECNO= 5.04 CWSEL= 2526.51

STA=	701.	743.	757.	781.	805.	859.	872.	884.	893.	908.	935.	955.	983.
PER Q=	6.5	4.2	6.0	3.4	4.8	3.2	4.2	3.8	6.5	6.6	3.4	7.4	
AREA=	93.1	48.6	74.0	51.3	87.0	40.2	45.7	37.4	65.4	81.4	49.4	88.1	
VEL=	1.9	2.3	2.2	1.8	1.5	2.2	2.5	2.8	2.7	2.2	1.9	2.3	
DEPTH=	2.2	3.3	3.1	2.2	1.6	3.0	3.7	4.3	4.2	3.0	2.4	3.2	

STA=	983.	1018.	1034.	1052.	1119.
PER Q=	28.2	5.7	3.3	2.6	
AREA=	166.6	60.4	46.2	57.5	
VEL=	4.6	2.6	2.0	1.3	
DEPTH=	4.7	3.8	2.6	.9	

*SECNO 5.149

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

ECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
	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
5.149	4.70	2529.70	2529.70	.00	2530.70	1.00	1.70	.34	2526.00
2741.0	923.5	1399.2	418.3	215.5	133.8	103.4	341.3	164.8	2526.00
1.14	4.29	10.45	4.04	.055	.035	.055	.000	2525.00	855.33
.009022	550.	570.	555.	0	15	0	.00	233.78	1089.11

FLOW DISTRIBUTION FOR SECNO= 5.15 CWSEL= 2529.70

STA=	855.	915.	930.	940.	950.	960.	971.	976.	982.	1014.	1020.	1025.	1035.
PER Q=	5.1	3.9	3.2	3.7	4.3	5.4	3.6	4.4	51.0	4.0	3.1	3.5	
AREA=	51.3	27.7	21.0	23.0	25.0	29.5	17.9	20.2	133.8	19.0	16.2	22.0	
VEL=	2.7	3.9	4.2	4.5	4.7	5.0	5.6	6.0	10.5	5.8	5.3	4.4	
DEPTH=	.9	1.8	2.1	2.3	2.5	2.8	3.2	3.5	4.2	3.4	2.9	2.2	

STA=	1035.	1055.	1089.
PER Q=	3.2	1.4	
AREA=	27.5	18.8	
VEL=	3.2	2.0	
DEPTH=	1.4	.5	

0 5.272
MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 850.0 1150.0 TYPE= 1 TARGET= 300.000
Encroach to 850 for small left bank tributary.

5.272	6.41	2536.41	2536.41	.00	2537.74	1.33	4.60	.13	2532.00
2741.0	468.2	2141.4	131.5	155.0	207.6	33.5	347.2	167.6	2532.00
1.16	3.02	10.32	3.93	.055	.035	.055	.000	2530.00	862.89
.006183	560.	650.	590.	0	11	0	.00	180.65	1043.55

FLOW DISTRIBUTION FOR SECNO= 5.27 CWSEL= 2536.41

STA=	863.	906.	930.	971.	982.	1020.	1029.	1044.
PER Q=	3.1	3.3	4.0	6.6	78.1	4.4	.4	
AREA=	38.1	34.3	45.2	37.5	207.6	26.8	6.7	
VEL=	2.3	2.7	2.4	4.8	10.3	4.5	1.7	
DEPTH=	.9	1.4	1.1	3.4	5.5	3.1	.5	

ECNO	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 5.343
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 820.0 1185.0 TYPE= 1 TARGET= 365.000
Encroach to 820 for small left bank tributary.

5.343	5.94	2539.94	2539.94	.00	2541.24	1.29	2.57	.01	2536.00
2741.0	108.3	1736.4	896.3	29.6	157.8	208.9	350.5	168.9	2536.00
1.18	3.66	11.01	4.29	.055	.035	.055	.000	2534.00	964.01
.007778	330.	375.	385.	0	12	0	.00	154.60	1118.61

FLOW DISTRIBUTION FOR SECNO= 5.34 CWSEL= 2539.94

STA=	964.	979.	1010.	1025.	1035.	1047.	1059.	1071.	1083.	1095.	1108.	1119.
PER Q=	4.0	63.3	10.2	5.3	5.6	4.3	3.2	2.2	1.3	.6	.1	
AREA=	29.6	157.8	51.7	29.4	32.9	28.1	23.3	18.5	13.7	8.7	2.5	
VEL=	3.7	11.0	5.4	4.9	4.7	4.2	3.7	3.2	2.6	1.9	.9	
DEPTH=	2.0	5.1	3.4	2.9	2.7	2.3	1.9	1.5	1.1	.7	.2	

O 5.432
MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

5.432	5.52	2544.12	2544.12	.00	2545.77	1.65	3.72	.14	2539.30
2741.0	551.1	2020.1	169.7	110.2	173.4	39.2	354.2	170.2	2540.00
1.19	5.00	11.65	4.33	.055	.035	.055	.000	2538.60	936.00
.008579	435.	470.	415.	0	11	0	.00	106.87	1042.87

FLOW DISTRIBUTION FOR SECNO= 5.43 CWSEL= 2544.12

STA=	936.	941.	947.	966.	972.	981.	987.	1021.	1033.	1043.
PER Q=	.0	.4	3.7	2.2	7.0	6.7	73.7	5.8	.4	
AREA=	1.1	4.8	30.0	13.6	33.5	27.3	173.4	32.9	6.2	
VEL=	.9	2.1	3.4	4.5	5.8	6.8	11.7	4.8	1.9	
DEPTH=	.2	.8	1.6	2.5	3.5	4.5	5.1	2.7	.7	

*SECNO 5.534
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
Floodplain shifted 10 ft to match topogaphic map.

ECNO	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
5.534	5.55	2552.55	2552.55	.00	2554.19	1.64	4.65	.00	2548.40
2741.0	364.8	2025.6	350.6	74.5	174.8	69.7	358.1	171.5	2548.20
1.20	4.90	11.58	5.03	.055	.035	.055	.000	2547.00	945.05
.008918	525.	540.	480.	0	5	0	.00	103.85	1048.90

FLOW DISTRIBUTION FOR SECNO= 5.53 CWSEL= 2552.55

STA=	945.	967.	976.	980.	981.	1017.	1020.	1026.	1033.	1049.
PER Q=	3.3	5.2	3.1	1.7	73.9	3.5	4.0	3.3	2.0	
AREA=	26.3	27.2	13.8	7.3	174.8	14.7	18.7	18.9	17.4	
VEL=	3.5	5.3	6.1	6.5	11.6	6.5	5.8	4.9	3.2	
DEPTH=	1.2	3.0	3.7	4.0	4.9	4.1	3.5	2.6	1.1	

*SECNO 5.620

3301 HV CHANGED MORE THAN HVINS

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

Section becomes flat and wide at sharp 90 degree turn. KRATIO OK.

5.620	6.14	2556.14	2554.96	.00	2556.80	.66	2.41	.20	2551.60
2741.0	147.0	1909.8	684.1	44.3	254.0	225.5	362.5	172.9	2551.50
1.22	3.32	7.52	3.03	.055	.035	.055	.000	2550.00	969.05
.003482	400.	450.	510.	2	12	0	.00	161.80	1130.84

FLOW DISTRIBUTION FOR SECNO= 5.62 CWSEL= 2556.14

STA=	969.	986.	989.	1038.	1044.	1050.	1130.
PER Q=	3.5	1.9	69.7	4.5	4.0	16.5	
AREA=	32.2	12.1	254.0	28.4	26.3	170.8	
VEL=	3.0	4.2	7.5	4.3	4.2	2.6	
DEPTH=	1.9	4.3	5.2	4.5	4.2	2.1	

*SECNO 5.696

5.696	6.41	2557.41	2556.81	.00	2558.27	.86	1.39	.08	2553.00
2741.0	130.3	1984.6	626.1	37.1	232.8	218.4	366.6	174.1	2553.30
1.24	3.51	8.53	2.87	.055	.035	.055	.000	2551.00	968.75
.004026	390.	405.	270.	3	11	0	.00	167.04	1135.79

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

FLOW DISTRIBUTION FOR SECNO= 5.70 CWSEL= 2557.41

STA=	969.	984.	1025.	1034.	1047.	1071.	1090.	1105.	1125.	1136.
PER Q=	4.8	72.4	4.4	3.8	3.3	4.1	3.6	3.2	.4	
AREA=	37.1	232.8	30.9	33.3	38.2	40.1	33.7	35.0	7.4	
VEL=	3.5	8.5	3.9	3.1	2.4	2.8	3.0	2.5	1.5	
DEPTH=	2.5	5.7	3.5	2.4	1.6	2.1	2.3	1.7	.7	

CCHV= .400 CEHV= .600
*SECNO 5.821

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

In the upper reaches of Wash AH3, variations in slope and channel cross section are common, and warning messages pertaining to KRATIO values higher than "normal" frequent. Only extreme variations will be explained.

Extremely tortuous channel. CCHV and CEHV increased accordingly.

5.821	5.64	2563.64	2563.64	.00	2565.46	1.82	3.32	.58	2559.50
741.0	303.1	2067.0	370.9	57.2	171.3	63.5	371.4	175.7	2559.50
1.25	5.30	12.07	5.84	.055	.035	.055	.000	2558.00	958.16
.009953	545.	565.	505.	0	15	0	.00	85.45	1043.61

FLOW DISTRIBUTION FOR SECNO= 5.82 CWSEL= 2563.64

STA=	958.	961.	966.	970.	975.	980.	985.	1020.	1025.	1030.	1035.	1040.	1044.
PER Q=	.0	.3	1.1	2.1	3.3	4.2	75.4	4.9	4.4	3.0	1.1	.1	
AREA=	.6	4.0	7.9	11.7	15.5	17.5	171.3	19.9	18.7	14.9	8.2	1.7	
VEL=	1.0	2.4	3.7	4.8	5.8	6.6	12.1	6.8	6.5	5.5	3.7	1.6	
DEPTH=	.2	.8	1.6	2.4	3.2	3.9	4.8	4.0	3.7	3.0	1.6	.5	

*SECNO 5.868

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.38

In this vicinity, channel changes course more than 180 degrees
in about 500 ft. Conveyance change reasonable for conditions.

5.868	7.35	2566.35	2563.51	.00	2566.86	.51	.88	.52	2559.50
2741.0	396.9	1870.7	473.5	116.4	284.0	145.1	373.8	176.2	2559.50
1.27	3.41	6.59	3.26	.055	.035	.055	.000	2559.00	954.12
.001764	270.	250.	240.	2	15	0	.00	102.63	1056.75

FLOW DISTRIBUTION FOR SECNO= 5.87 CWSEL= 2566.35

STA=	954.	960.	970.	980.	1020.	1030.	1045.	1057.
PER Q=	.3	4.6	9.6	68.2	9.6	7.0	.6	
AREA=	6.9	43.5	66.0	284.0	66.0	65.3	13.8	
VEL=	1.2	2.9	4.0	6.6	4.0	3.0	1.2	
DEPTH=	1.2	4.4	6.6	7.1	6.6	4.4	1.2	

*SECNO 5.908

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 931.4 1140.0 TYPE= 1 TARGET= 208.600
NOTE: Encroachment to limit of effective flow on inside portion
of loop. Location estimated from review of aerial photographs.
Floodplain plotted to WSEL.

5.908	5.09	2568.09	2568.09	.00	2569.75	1.66	.71	.69	2565.40
2741.0	235.7	2465.9	39.5	42.5	229.6	9.6	375.5	176.6	2565.30
1.27	5.55	10.74	4.10	.055	.035	.055	.000	2563.00	931.40
.012644	130.	200.	165.	0	19	0	.00	89.80	1021.20

FLOW DISTRIBUTION FOR SECNO= 5.91 CWSEL= 2568.09

STA=	931.	939.	946.	1013.	1017.	1020.
PER Q=	4.1	4.5	90.0	1.2	.2	
AREA=	22.3	20.2	229.6	7.1	2.5	
VEL=	5.1	6.1	10.7	4.7	2.4	
DEPTH=	3.1	2.8	3.4	2.1	.7	

*SECNO 5.965

3301 HV CHANGED MORE THAN HVINS

ECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
	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 = 1.47

5.965	6.19	2571.19	2570.56	.00	2572.33	1.14	2.38	.21	2567.00
2741.0	543.2	2012.2	185.6	137.7	207.8	39.5	377.6	177.2	2567.00
1.28	3.94	9.68	4.70	.055	.035	.055	.000	2565.00	920.05
.005816	210.	300.	310.	2	8	0	.00	111.55	1031.60

FLOW DISTRIBUTION FOR SECNO= 5.97 CWSEL= 2571.19

STA=	920.	960.	980.	1020.	1030.	1032.
PER Q=	6.5	13.3	73.4	6.6	.2	
AREA=	63.8	73.9	207.8	37.0	2.6	
VEL=	2.8	4.9	9.7	4.9	1.6	
DEPTH=	1.6	3.7	5.2	3.7	1.6	

*SECNO 6.029
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
Flowrate through both new and old US 60 culverts from HEC-1 operation
SAH80. Continues through end of detailed study.

6.029	7.10	2577.10	2577.10	.00	2578.42	1.32	2.42	.11	2577.50
1908.0	.0	1855.7	52.3	.0	198.7	25.1	380.0	178.1	2576.50
1.29	.00	9.34	2.08	.000	.035	.055	.000	2570.00	985.80
.010113	330.	340.	325.	0	8	0	.00	104.50	1090.30

FLOW DISTRIBUTION FOR SECNO= 6.03 CWSEL= 2577.10

STA=	986.	1045.	1050.	1055.	1060.	1065.	1070.	1075.	1080.	1085.	1090.
PER Q=	97.3	.1	.0	.1	.2	.4	.5	.7	.5	.1	
AREA=	198.7	1.8	1.0	1.8	2.5	3.5	4.3	5.0	4.1	1.3	
VEL=	9.3	1.3	.9	1.3	1.7	2.1	2.4	2.7	2.3	1.1	
DEPTH=	3.4	.4	.2	.4	.5	.7	.9	1.0	.8	.3	

*SECNO 6.084

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


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.48


3470 ENCROACHMENT STATIONS=      940.0    1025.0  TYPE=      1  TARGET=      85.000
        Extremely flat slope and wide cross section in this reach.
        Begin Special Culvert analysis of US 60 bridge (3-8x10 RCB).
        Section 1 in SC routine.  Left overbank encroached to 940 to
        meet 4 to 1 flow expansion criteria downstream from culvert.
        Floodplain mapped to WSEL.
   6.084      7.29   2579.29   2576.89       .00   2579.73       .44       .96       .35   2576.00
  1908.0     122.6    1765.7      19.6      59.1     320.9      13.5     382.0     178.6   2576.00
    1.31      2.07      5.50      1.45      .055      .035      .055      .000   2572.00    940.00
 .001639      280.      290.      235.         2        19         0       .00     83.22   1023.22


FLOW DISTRIBUTION FOR SECNO=      6.08         CWSEL=   2579.29

STA=     940.     960.    1015.    1023.
 PER Q=      6.4      92.5      1.0
 AREA=      59.1     320.9     13.5
 VEL=        2.1       5.5      1.5
 DEPTH=      3.0       5.8      1.6

CCHV=     .600 CEHV=     .800
*SECNO 6.107

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      2590.00 ELREA=      2589.80

        Section 2 in SC routine.  Sections constructed from US 60 centerline
        elevation data and structure survey (Structure designation X-2).
   6.107      4.82   2579.62   2579.62       .00   2582.05      2.43       .27      1.59   2590.00
  1908.0        .0    1908.0        .0        .0     152.5        .0     382.8     178.8   2589.80
    1.31       .00     12.51       .00      .000      .016      .000      .000   2574.80    984.17
 .003174      120.      120.      120.         0        14         0       .00     31.66   1015.83
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ECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 6.11 CWSEL= 2579.62

STA= 984. 1016.
PER Q= 100.0
AREA= 152.5
VEL= 12.5
DEPTH= 4.8

SPECIAL CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	3	.016	.40	3.00	.00	8.00	10.00	60.00	8	1	2575.20	2574.80

CHART 8 - BOX CULVERT WITH FLARED WINGWALLS; NO INLET TOP EDGE BEVEL
SCALE 1 - WINGWALLS FLARED 30 TO 75 DEGREES

*SECNO 6.118

SPECIAL CULVERT OUTLET CONTROL
= 2583.270 EGOC = 2583.714 PCWSE= 2579.621 ELTRD= 2588.600

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.93

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
2583.27	2583.71	1.66	0.	1908.	8.021	240.0	2588.60	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 2590.00 ELREA= 2589.80

Conveyance change through culvert. Structure X-2 in Structure Survey.
Section 3 in SC routine.

6.118	7.51	2582.71	.00	.00	2583.71	1.00	1.66	.00	2590.00
1908.0	.0	1908.0	.0	.0	237.9	.0	383.0	178.8	2589.80
1.31	.00	8.02	.00	.000	.016	.000	.000	2575.20	984.15
.000849	60.	60.	60.	3	0	0	.00	31.70	1015.85

DISTRIBUTION FOR SECNO= 6.12 CWSEL= 2582.71

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


STA=     984.    1016.
  PER Q=    100.0
   AREA=    237.9
    VEL=      8.0
  DEPTH=      7.5

CCHV=     .200 CEHV=     .400
*SECNO 6.134

3301 HV CHANGED MORE THAN HVINS


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


3470 ENCROACHMENT STATIONS=      960.0    1100.0  TYPE=      1  TARGET=      140.000
         Conveyance change due to culvert.  Section 4 in SC routine.
         GR data taken from topographic map.  Encroachments added to meet
         1 to 1 flow contraction criteria.  Floodplain mapped to WSEL.
     6.134      8.33   2583.83   2578.58       .00   2583.94       .10       .04       .18   2576.00
    1908.0      96.0    1209.1     602.9      73.9     396.8     386.0     384.1     179.0   2575.50
      1.32      1.30      3.05      1.56      .055      .035      .055      .000   2575.50    960.00
   .000325       80.       85.       90.         2        18         0       .00    140.00   1100.00


FLOW DISTRIBUTION FOR SECNO=      6.13          CWSEL=   2583.83

STA=     960.     970.    1020.    1040.    1062.    1100.
  PER Q=      5.0     63.4     16.6     10.5      4.4
   AREA=     73.9    396.8    161.7    128.4     96.0
    VEL=      1.3      3.0      2.0      1.6       .9
  DEPTH=      7.4      7.9      8.1      5.8      2.5

*SECNO 6.165
     6.165      5.89   2583.89   2580.74       .00   2584.01       .12       .07       .00   2578.00
    1908.0     571.1     999.2     337.7     326.1     294.7     203.7     387.3     179.6   2578.00
      1.34      1.75      3.39      1.66      .055      .035      .055      .000   2578.00    890.79
   .000599      160.      160.      170.         2        17         0       .00    193.41   1084.21
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ECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 6.16 CWSEL= 2583.89

STA=	891.	920.	975.	1025.	1055.	1084.
PER Q=	3.1	26.9	52.4	14.6	3.1	
AREA=	56.9	269.2	294.7	146.8	56.9	
VEL=	1.0	1.9	3.4	1.9	1.0	
DEPTH=	1.9	4.9	5.9	4.9	1.9	

*SECNO 6.214

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .24

Conveyance change due to culvert. Moving upstream from backwater area. Floodplain shifted 20 ft right to match topography.

6.214	2.85	2583.85	2583.72	.00	2584.73	.87	.41	.30	2581.00
1908.0	586.1	1307.1	14.8	136.5	152.2	5.8	390.7	180.7	2582.00
1.35	4.29	8.59	2.57	.055	.035	.055	.000	2581.00	896.32
10537	280.	260.	255.	2	14	0	.00	139.88	1036.20

FLOW DISTRIBUTION FOR SECNO= 6.21 CWSEL= 2583.85

STA=	896.	900.	914.	928.	942.	959.	975.	1030.	1036.
PER Q=	.1	2.1	3.4	5.0	8.3	11.9	68.5	.8	
AREA=	1.6	14.1	19.0	23.9	34.8	43.0	152.2	5.8	
VEL=	1.6	2.8	3.4	4.0	4.6	5.3	8.6	2.6	
DEPTH=	.4	1.0	1.4	1.7	2.1	2.6	2.8	.9	

CCHV= .600 CEHV= .800
*SECNO 6.265

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.42

Section 1 in SC routine for Old US 60. GR data taken from topographic map. Section placed to meet 4 to 1 expansion criteria downstream from culvert.

6.265	4.35	2585.85	2585.07	.00	2586.69	.84	1.94	.02	2582.00
1908.0	230.0	1609.3	68.7	61.2	204.7	22.7	392.5	181.4	2582.00
1.36	3.76	7.86	3.02	.055	.035	.055	.000	2581.50	950.39
.005232	270.	270.	270.	2	11	0	.00	88.84	1039.22

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

FLOW DISTRIBUTION FOR SECNO= 6.26 CWSEL= 2585.85

STA=	950.	955.	975.	1025.	1030.	1039.
PER Q=	.4	11.7	84.3	2.8	.8	
AREA=	4.3	56.9	204.7	14.2	8.5	
VEL=	1.8	3.9	7.9	3.7	1.8	
DEPTH=	.9	2.8	4.1	2.8	.9	

CCHV= .600 CEHV= .800
*SECNO 6.297

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 2590.50 ELREA= 2590.80

Section 2 in SC routine. Structure X-1 from structure survey.
Downstream face of 3-10x5 Reinforced Concrete Box (RCB) Culvert.
Road abandoned in 1960s. Sediment depth unknown, estimate 5 ft.
Sections 2 and 3 constructed from roadway centerline elevation and
structure survey data.

6.297	4.82	2586.62	2586.62	.00	2589.05	2.42	.68	1.27	2590.50
1908.0	.0	1908.0	.0	.0	152.7	.0	393.4	181.6	2590.80
1.36	.00	12.50	.00	.000	.016	.000	.000	2581.80	984.14
.003161	175.	170.	175.	0	8	0	.00	31.71	1015.85

FLOW DISTRIBUTION FOR SECNO= 6.30 CWSEL= 2586.62

STA=	984.	1016.
PER Q=	100.0	
AREA=	152.7	
VEL=	12.5	
DEPTH=	4.8	

ECNO	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

SPECIAL CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	3	.015	.40	3.00	.00	5.00	10.00	34.00	8	1	2581.80	2581.80

CHART 8 - BOX CULVERT WITH FLARED WINGWALLS; NO INLET TOP EDGE BEVEL
SCALE 1 - WINGWALLS FLARED 30 TO 75 DEGREES

*SECNO 6.304

SPECIAL CULVERT INLET CONTROL + WEIR FLOW, EG = 2591.34

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.44

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
592.08	2590.42	2.30	112.	1792.	6.822	150.0	2590.30	61.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 2590.50 ELREA= 2590.80

Section 3 in SC routine. Upstream face of culvert.

6.304	8.82	2590.62	.00	.00	2591.34	.72	2.30	.00	2590.50
1908.0	.1	1907.9	.0	.6	279.7	.0	393.6	181.6	2590.80
1.36	.10	6.82	.00	.055	.016	.000	.000	2581.80	974.60
.000531	34.	34.	34.	2	0	0	.00	41.30	1015.90

FLOW DISTRIBUTION FOR SECNO= 6.30 CWSEL= 2590.62

STA=	975.	984.	1016.
PER Q=	.0	100.0	
AREA=	.6	279.7	
VEL=	.1	6.8	
DEPTH=	.1	8.8	

CCHV= .600 CEHV= .800
*SECNO 6.313

HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 950.0 1040.0 TYPE= 1 TARGET= 90.000

Section 4 in SC routing. Encroachments added to meet 1 to 1 flow contraction criteria. Floodplain mapped to WSEL.

6.313	9.46	2591.46	2587.04	.00	2591.67	.22	.03	.30	2584.00
1908.0	304.4	1425.4	178.1	164.0	338.6	98.6	394.1	181.7	2584.00
1.37	1.86	4.21	1.81	.055	.035	.055	.000	2582.00	950.00
.000574	50.	50.	50.	2	11	0	.00	90.00	1040.00

FLOW DISTRIBUTION FOR SECNO= 6.31 CWSEL= 2591.46

STA=	950.	980.	1020.	1035.	1040.
PER Q=	16.0	74.7	8.4	.9	
AREA=	164.0	338.6	82.0	16.7	
VEL=	1.9	4.2	2.0	1.0	
DEPTH=	5.5	8.5	5.5	3.3	

CCHV= .200 CEHV= .400

*SECNO 6.361

6.361	8.61	2591.61	2588.49	.00	2591.88	.27	.18	.02	2584.30
1908.0	662.0	1008.5	237.5	270.3	189.5	117.5	397.4	182.3	2584.00
1.39	2.45	5.32	2.02	.055	.035	.055	.000	2583.00	918.92
.000989	240.	250.	245.	1	11	0	.00	133.07	1051.98

FLOW DISTRIBUTION FOR SECNO= 6.36 CWSEL= 2591.61

STA=	919.	945.	954.	962.	966.	971.	975.	979.	983.	986.	1010.	1015.	1024.
PER Q=	3.5	3.8	5.0	3.1	3.3	3.8	4.1	4.0	4.2	52.9	4.9	4.1	
AREA=	46.9	33.8	39.9	22.8	23.7	25.8	26.9	25.0	25.6	189.5	33.0	36.6	
VEL=	1.4	2.1	2.4	2.6	2.7	2.8	2.9	3.0	3.1	5.3	2.8	2.1	
DEPTH=	1.8	4.0	4.7	5.3	5.6	6.0	6.4	6.7	7.1	8.0	6.6	4.1	

STA=	1024.	1040.	1052.
PER Q=	3.1	.4	
AREA=	38.4	9.6	
VEL=	1.5	.7	
DEPTH=	2.4	.8	

*SECNO 6.406

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .56

Conveyance change due to culvert constriction. Moving upstream from backwater area. Floodplain shifted 10 ft to match topographic map.

6.406	5.88	2591.88	2590.56	.00	2592.35	.47	.39	.08	2586.70
1908.0	772.8	777.5	357.7	224.9	103.8	98.1	400.2	183.1	2586.70
1.40	3.44	7.49	3.64	.055	.035	.055	.000	2586.00	901.95
.003183	250.	240.	230.	2	11	0	.00	137.49	1039.44

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

FLOW DISTRIBUTION FOR SECNO= 6.41 CWSEL= 2591.88

STA=	902.	950.	956.	962.	968.	974.	979.	982.	985.	988.	1007.	1010.	1013.
PER Q=	8.2	3.1	3.8	4.4	5.0	5.7	3.0	3.5	3.7	40.8	3.9	3.5	
AREA=	69.3	18.5	20.9	22.5	24.0	26.0	13.4	14.9	15.4	103.8	16.6	15.6	
VEL=	2.3	3.2	3.5	3.8	4.0	4.2	4.3	4.4	4.5	7.5	4.5	4.3	
DEPTH=	1.4	3.1	3.5	3.9	4.2	4.6	4.8	5.0	5.1	5.5	5.0	4.7	

STA=	1013.	1017.	1023.	1031.	1039.
PER Q=	3.2	4.6	3.1	.5	
AREA=	14.9	23.7	21.0	6.3	
VEL=	4.1	3.7	2.8	1.5	
DEPTH=	4.4	3.8	2.5	.8	

*SECNO 6.463

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

.463	5.90	2592.90	2592.90	.00	2594.08	1.18	1.36	.28	2589.00
908.0	34.1	1180.1	693.8	10.5	111.2	171.1	402.5	183.9	2589.00
1.41	3.25	10.62	4.06	.055	.035	.055	.000	2587.00	991.91
.007853	285.	300.	265.	0	5	0	.00	129.01	1120.92

FLOW DISTRIBUTION FOR SECNO= 6.46 CWSEL= 2592.90

STA=	992.	997.	1020.	1031.	1043.	1054.	1066.	1077.	1089.	1100.	1112.	1121.
PER Q=	1.8	61.9	11.7	8.4	5.5	3.7	2.8	2.1	1.4	.7	.1	
AREA=	10.5	111.2	40.1	33.0	25.4	20.1	17.2	14.3	11.5	7.6	1.8	
VEL=	3.2	10.6	5.6	4.9	4.1	3.5	3.1	2.8	2.4	1.8	.8	
DEPTH=	1.9	4.9	3.5	2.9	2.2	1.7	1.5	1.2	1.0	.6	.2	

*SECNO 6.523

3301 HV CHANGED MORE THAN HVINS

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

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
6.523	4.68	2595.38	2594.53	.00	2595.72	.34	1.47	.17	2591.20
1908.0	1042.1	640.2	225.7	355.5	92.6	69.6	405.0	185.1	2591.30
1.43	2.93	6.91	3.24	.055	.035	.055	.000	2590.70	805.70
.003605	235.	315.	295.	2	14	0	.00	236.38	1042.08

FLOW DISTRIBUTION FOR SECNO= 6.52 CWSEL= 2595.38

STA=	806.	866.	894.	907.	924.	942.	954.	966.	978.	990.	1011.	1022.	1042.
PER Q=	3.1	5.4	3.7	6.2	7.2	5.9	6.1	7.7	9.5	33.6	8.1	3.7	
AREA=	41.6	45.3	27.0	40.8	44.6	35.0	34.8	40.7	45.5	92.6	39.9	29.7	
VEL=	1.4	2.3	2.6	2.9	3.1	3.2	3.3	3.6	4.0	6.9	3.9	2.4	
DEPTH=	.7	1.6	2.1	2.4	2.6	2.8	2.9	3.3	3.8	4.5	3.7	1.5	

*SECNO 6.581

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

3470 ENCROACHMENT STATIONS= 730.0 1061.9 TYPE= 1 TARGET= 331.900
Encroach to 1061.9 for small right bank tributary. Floodplain
mapped to WSEL.

6.581	3.34	2596.74	2596.36	.00	2597.28	.54	1.49	.08	2593.80
1908.0	630.0	746.5	531.5	173.0	92.5	126.9	408.0	186.4	2593.70
1.44	3.64	8.07	4.19	.055	.035	.055	.000	2593.40	865.80
.007809	250.	310.	345.	2	14	0	.00	196.10	1061.90

FLOW DISTRIBUTION FOR SECNO= 6.58 CWSEL= 2596.74

STA=	866.	916.	930.	942.	957.	971.	978.	1007.	1017.	1030.	1044.	1062.
PER Q=	4.8	3.6	4.4	7.2	8.5	4.6	39.1	6.8	8.3	6.8	6.0	
AREA=	39.9	21.7	22.9	33.6	36.3	18.4	92.5	26.6	35.0	31.8	33.5	
VEL=	2.3	3.2	3.7	4.1	4.4	4.7	8.1	4.8	4.5	4.1	3.4	
DEPTH=	.8	1.5	1.9	2.2	2.5	2.8	3.2	2.9	2.6	2.2	1.9	

*SECNO 6.674

3470 ENCROACHMENT STATIONS= 850.0 1130.0 TYPE= 1 TARGET= 280.000
Floodplain shifted 20 ft right to conform with map.

6.674	4.94	2599.94	2599.51	.00	2600.70	.76	3.33	.09	2596.00
1908.0	573.9	992.1	342.0	145.9	111.1	87.5	412.1	188.3	2596.00
1.46	3.93	8.93	3.91	.055	.035	.055	.000	2595.00	915.94
.006079	480.	490.	485.	3	11	0	.00	143.46	1059.41

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

FLOW DISTRIBUTION FOR SECNO= 6.67 CWSEL= 2599.94

STA=	916.	949.	963.	970.	976.	983.	990.	1015.	1023.	1030.	1038.	1059.
PER Q=	3.4	5.4	3.9	4.9	5.8	6.8	52.0	7.0	5.0	3.3	2.7	
AREA=	28.8	29.2	18.3	21.0	23.1	25.5	111.1	27.0	22.1	17.2	21.3	
VEL=	2.2	3.5	4.1	4.4	4.8	5.1	8.9	4.9	4.3	3.7	2.4	
DEPTH=	.9	2.1	2.7	3.0	3.4	3.7	4.4	3.6	2.9	2.3	1.0	

*SECNO 6.776
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

6.776	4.86	2603.86	2603.86	.00	2604.78	.92	3.67	.06	2600.00
1908.0	771.7	1069.1	67.2	226.2	108.9	16.7	416.5	190.5	2600.00
1.48	3.41	9.81	4.02	.055	.035	.055	.000	2599.00	817.91
.007537	560.	540.	515.	0	5	0	.00	200.76	1018.67

FLOW DISTRIBUTION FOR SECNO= 6.78 CWSEL= 2603.86

STA=	818.	879.	899.	918.	938.	957.	968.	975.	982.	985.	1010.	1016.	1019.
Q=	3.8	3.0	4.0	5.0	6.1	4.8	4.5	5.7	3.6	56.0	3.4	.1	
EA=	37.0	22.5	26.3	30.2	34.1	23.3	19.1	21.3	12.2	108.9	15.2	1.5	
VEL=	1.9	2.6	2.9	3.2	3.4	3.9	4.5	5.1	5.6	9.8	4.3	1.5	
DEPTH=	.6	1.2	1.4	1.6	1.8	2.2	2.7	3.2	3.7	4.4	2.5	.6	

*SECNO 6.865
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

6.865	4.59	2607.59	2607.59	.00	2608.52	.93	3.41	.00	2604.00
1908.0	1001.2	827.6	79.2	234.5	77.7	17.8	419.4	192.0	2604.00
1.50	4.27	10.65	4.45	.055	.035	.055	.000	2603.00	841.10
.009692	325.	470.	410.	0	11	0	.00	177.79	1018.89

FLOW DISTRIBUTION FOR SECNO= 6.86 CWSEL= 2607.59

STA=	841.	915.	938.	960.	966.	973.	979.	985.	990.	1009.	1015.	1019.
PER Q=	8.0	8.7	12.9	4.3	4.4	4.3	4.3	5.6	43.4	3.7	.5	
AREA=	57.6	41.4	52.6	16.3	16.6	16.3	15.5	18.2	77.7	14.3	3.5	
VEL=	2.7	4.0	4.7	5.0	5.0	5.0	5.3	5.9	10.6	4.9	2.5	
DEPTH=	.8	1.8	2.3	2.6	2.6	2.6	2.8	3.3	4.1	2.6	.8	

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 6.955

3301 HV CHANGED MORE THAN HVINS

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

6.955	4.08	2611.08	2610.15	.00	2611.38	.30	2.74	.13	2608.00
1908.0	1311.5	451.6	144.9	378.3	68.0	50.5	423.3	193.9	2608.00
1.53	3.47	6.64	2.87	.055	.035	.055	.000	2607.00	831.91
.004495	400.	475.	490.	3	19	0	.00	210.59	1042.50

FLOW DISTRIBUTION FOR SECNO= 6.95 CWSEL= 2611.08

STA=	832.	860.	870.	881.	894.	908.	921.	938.	961.	977.	986.	991.	1010.
PER Q=	14.4	9.9	8.7	7.6	6.2	4.8	4.4	3.4	3.4	3.1	2.9	23.7	
AREA=	73.9	40.8	39.4	39.0	34.6	29.7	31.1	30.1	25.4	19.0	15.4	68.0	
VEL=	3.7	4.6	4.2	3.7	3.4	3.1	2.7	2.1	2.5	3.1	3.6	6.6	
DEPTH=	2.6	4.1	3.6	2.9	2.6	2.2	1.8	1.3	1.6	2.2	2.8	3.6	

	1010.	1018.	1033.	1042.
PER Q=	4.1	3.3	.3	
AREA=	22.2	24.2	4.0	
VEL=	3.5	2.6	1.2	
DEPTH=	2.7	1.6	.4	

*SECNO 7.067

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

7.067	4.12	2618.12	2618.12	.00	2619.13	1.01	4.28	.28	2615.00
1908.0	306.9	821.2	779.9	55.3	75.7	162.1	429.1	196.4	2615.00
1.55	5.55	10.85	4.81	.055	.035	.055	.000	2614.00	964.33
.011884	675.	590.	570.	0	5	0	.00	139.63	1103.96

FLOW DISTRIBUTION FOR SECNO= 7.07 CWSEL= 2618.12

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

STA=	964.	977.	990.	1011.	1022.	1025.	1031.	1038.	1047.	1061.	1070.	1079.	1101.
PER Q=	3.2	12.9	43.0	11.3	3.0	5.0	3.7	3.4	3.7	3.9	3.9	3.0	
AREA=	15.4	39.9	75.7	34.3	9.4	16.7	14.0	15.5	19.6	16.5	16.7	19.2	
VEL=	3.9	6.2	10.8	6.3	6.1	5.7	5.0	4.2	3.6	4.6	4.4	3.0	
DEPTH=	1.2	3.0	3.6	3.1	3.0	2.7	2.2	1.7	1.4	1.9	1.8	.9	

STA=	1101.	1104.
PER Q=	.0	
AREA=	.4	
VEL=	.7	
DEPTH=	.1	

*SECNO 7.164

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.48

In the vicinity of the tank, several large changes in channel slope occur, and flow changes from subcritical to critical with each new section. This affects Sections 7.164 through 7.339. No engineering data or construction plans available for small dam.

7.164	6.82	2620.82	2619.21	.00	2621.12	.30	1.85	.14	2615.00
1908.0	687.8	787.2	433.0	283.5	127.8	164.9	433.7	198.3	2616.00
1.58	2.43	6.16	2.63	.055	.035	.055	.000	2614.00	783.04
.001925	435.	510.	455.	4	11	0	.00	238.62	1067.52

FLOW DISTRIBUTION FOR SECNO= 7.16 CWSEL= 2620.82

STA=	783.	825.	955.	975.	989.	1010.	1024.	1045.	1063.	1068.
PER Q=	3.6	6.7	11.6	14.1	41.3	10.0	9.6	3.0	.1	
AREA=	50.0	82.6	76.4	74.5	127.8	60.5	69.8	32.8	1.9	
VEL=	1.4	1.6	2.9	3.6	6.2	3.1	2.6	1.8	.6	
DEPTH=	1.2	.6	3.8	5.3	6.1	4.3	3.3	1.8	.4	

ECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
	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 7.223
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 670.0 1100.0 TYPE= 1 TARGET= 430.000

7.223	3.89	2622.89	2622.89	.00	2623.55	.66	1.01	.14	2619.60
1908.0	1052.0	641.1	214.9	284.6	65.1	45.1	436.6	199.8	2619.70
1.60	3.70	9.85	4.77	.055	.035	.055	.000	2619.00	744.85
.009795	220.	315.	320.	0	11	0	.00	282.77	1027.62

FLOW DISTRIBUTION FOR SECNO= 7.22 CWSEL= 2622.89

STA=	745.	850.	893.	914.	935.	944.	954.	963.	971.	977.	983.	989.	1007.
PER Q=	4.5	7.2	5.8	7.5	3.8	3.8	3.7	4.6	4.0	4.8	5.5	33.6	
AREA=	46.9	47.4	31.8	36.9	17.8	17.8	17.4	19.0	14.9	16.8	18.1	65.1	
VEL=	1.8	2.9	3.5	3.9	4.1	4.1	4.1	4.6	5.1	5.4	5.8	9.8	
DEPTH=	.4	1.1	1.5	1.7	1.9	1.9	1.9	2.2	2.6	2.9	3.2	3.6	

STA=	1007.	1013.	1020.	1028.
PER Q=	5.4	3.8	2.0	
AREA=	19.1	15.4	10.6	
VEL=	5.4	4.7	3.6	
DEPTH=	2.9	2.4	1.4	

*SECNO 7.339

3470 ENCROACHMENT STATIONS= 850.0 1041.0 TYPE= 1 TARGET= 191.000
Floodplain mapped to WSEL.

7.339	4.29	2627.29	2626.30	.00	2627.56	.26	3.92	.08	2626.00
1908.0	1512.5	337.1	58.3	373.0	73.5	25.8	442.0	202.7	2626.00
1.63	4.06	4.59	2.26	.055	.035	.055	.000	2623.00	850.00
.005372	525.	610.	615.	4	12	0	.00	191.00	1041.00

FLOW DISTRIBUTION FOR SECNO= 7.34 CWSEL= 2627.29

STA=	850.	874.	898.	919.	940.	965.	970.	980.	1021.	1030.	1041.
PER Q=	16.7	18.1	15.9	15.9	10.3	.8	1.6	17.7	1.4	1.6	
AREA=	79.0	79.0	69.1	69.1	57.3	6.5	12.9	73.5	11.6	14.2	
VEL=	4.0	4.4	4.4	4.4	3.4	2.3	2.3	4.6	2.3	2.2	
DEPTH=	3.3	3.3	3.3	3.3	2.3	1.3	1.3	1.8	1.3	1.3	

ECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
	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 7.441
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

7.441	2.79	2631.79	2631.79	.00	2632.43	.63	4.49	.15	2629.50
1908.0	429.3	555.6	923.2	97.6	57.1	216.1	447.1	205.6	2629.50
1.66	4.40	9.74	4.27	.055	.035	.055	.000	2629.00	908.86
.015237	530.	540.	525.	0	23	0	.00	280.55	1189.40

FLOW DISTRIBUTION FOR SECNO= 7.44 CWSEL= 2631.79

STA=	909.	949.	959.	966.	973.	980.	987.	990.	1013.	1019.	1025.	1035.	1044.
PER Q=	3.6	3.3	3.2	3.3	3.3	3.6	2.1	29.1	4.0	3.1	4.5	4.4	
AREA=	24.3	14.7	12.4	12.9	12.9	13.2	7.2	57.1	13.6	11.7	17.4	17.2	
VEL=	2.8	4.3	4.9	4.9	4.9	5.2	5.6	9.7	5.6	5.1	4.9	4.9	
DEPTH=	.6	1.5	1.8	1.8	1.8	2.0	2.2	2.5	2.2	1.9	1.8	1.8	

STA=	1044.	1051.	1073.	1092.	1111.	1130.	1175.	1189.
PER Q=	3.0	9.5	6.5	5.1	3.8	4.4	.1	
AREA=	11.6	37.9	28.4	24.6	20.8	30.8	2.2	
EL=	4.9	4.8	4.4	4.0	3.5	2.7	.9	
TH=	1.8	1.7	1.5	1.3	1.1	.7	.1	

*SECNO 7.496

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.43

7.496	3.77	2633.77	2632.57	.00	2633.94	.17	1.42	.09	2630.00
1908.0	1438.7	403.8	65.5	557.8	78.1	33.1	450.3	207.4	2630.70
1.68	2.58	5.17	1.98	.055	.035	.055	.000	2630.00	730.79
.002588	250.	290.	300.	4	11	0	.00	299.55	1030.33

FLOW DISTRIBUTION FOR SECNO= 7.50 CWSEL= 2633.77

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

STA=	731.	795.	817.	839.	860.	882.	911.	939.	951.	965.	971.	982.	1003.
PER Q=	4.3	4.5	5.5	6.6	7.8	11.2	11.2	5.1	8.0	3.7	7.4	21.2	
AREA=	56.5	40.8	46.1	51.7	56.9	79.0	79.0	34.5	49.2	21.3	42.6	78.1	
VEL=	1.5	2.1	2.3	2.4	2.6	2.7	2.7	2.8	3.1	3.3	3.3	5.2	
DEPTH=	.9	1.9	2.1	2.4	2.6	2.8	2.8	3.0	3.4	3.7	3.8	3.7	

STA=	1003.	1017.	1030.
PER Q=	3.0	.4	
AREA=	26.1	7.0	
VEL=	2.2	1.1	
DEPTH=	1.9	.5	

*SECNO 7.542

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

7.542	3.85	2634.85	2634.85	.00	2636.01	1.15	1.15	.39	2631.00
1908.0	488.0	880.1	539.9	104.7	77.1	98.0	452.9	208.6	2631.00
1.69	4.66	11.42	5.51	.055	.035	.055	.000	2631.00	930.08
11981	240.	245.	225.	0	5	0	.00	124.31	1054.39

FLOW DISTRIBUTION FOR SECNO= 7.54 CWSEL= 2634.85

STA=	930.	980.	990.	1010.	1028.	1054.
PER Q=	14.0	11.6	46.1	20.9	7.4	
AREA=	71.2	33.5	77.1	60.4	37.6	
VEL=	3.7	6.6	11.4	6.6	3.7	
DEPTH=	1.4	3.4	3.9	3.4	1.4	

CCHV= .200 CEHV= .400
*SECNO -1.396
START TRIB COMP
-1.396 1.396 2379.750

Begin right bank tributary to AH3. First two sections lie near the confluence with AH3. Original sections 1.499 and 1.569 from the main channel data included GR data for tributary channel as well. Modifications of these sections have been incorporated into the tributary model as sections 0.114 and 0.171. Sections

0.236 and 0.306 were taken from the topographic map.
Cross section stationing based on 600 ft distance from confluence.

-1.396	5.75	2379.75	.00	.00	2380.62	.87	2.10	-.55	2375.40
4046.0	560.3	2577.9	907.9	136.6	288.4	265.4	456.2	209.8	2375.50
1.70	4.10	8.94	3.42	.055	.035	.055	.000	2374.00	893.50
.005396	335.	345.	220.	0	0	0	.00	273.76	1167.26

FLOW DISTRIBUTION FOR SECNO= -1.40 CWSEL= 2379.75

STA=	893.	928.	940.	948.	952.	1011.	1023.	1039.	1064.	1096.	1167.
PER Q=	3.4	4.4	3.9	2.2	63.7	5.1	5.1	5.4	4.1	2.7	
AREA=	47.3	40.6	31.6	17.0	288.4	43.6	49.2	60.3	56.9	55.4	
VEL=	2.9	4.4	5.0	5.2	8.9	4.8	4.2	3.6	2.9	2.0	
DEPTH=	1.4	3.3	4.0	4.3	4.9	3.7	3.1	2.5	1.8	.8	

*SECNO .114
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

.114	3.87	2386.87	2386.87	.00	2387.91	1.04	4.93	.07	2386.00
1680.0	36.4	1637.8	5.8	18.3	197.7	3.5	464.1	213.3	2386.00
1.73	1.99	8.28	1.65	.055	.035	.055	.000	2383.00	920.31
.011441	750.	755.	750.	0	19	0	.00	128.67	1048.99

FLOW DISTRIBUTION FOR SECNO= .11 CWSEL= 2386.87

	920.	929.	940.	961.	1041.	1049.
PER Q=	.0	.3	1.9	97.5	.3	
AREA=	.8	3.4	14.2	197.7	3.5	
VEL=	.6	1.4	2.2	8.3	1.7	
DEPTH=	.1	.3	.7	2.5	.4	

*SECNO .171
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

.171	4.60	2390.60	2390.60	.00	2391.66	1.06	3.05	.01	2388.00
1680.0	80.1	1196.4	403.5	23.7	126.0	109.1	465.7	214.2	2388.00
1.74	3.38	9.49	3.70	.055	.035	.055	.000	2386.00	966.80
.009140	290.	300.	300.	0	11	0	.00	130.89	1097.69

FLOW DISTRIBUTION FOR SECNO= .17 CWSEL= 2390.60

STA=	967.	971.	985.	1020.	1033.	1046.	1060.	1073.	1086.	1098.
PER Q=	.1	4.7	71.2	8.7	6.4	4.4	2.8	1.4	.2	
AREA=	1.3	22.4	126.0	31.7	26.4	21.1	15.8	10.6	3.5	
VEL=	1.2	3.5	9.5	4.6	4.1	3.5	2.9	2.2	1.2	
DEPTH=	.3	1.6	3.6	2.4	2.0	1.6	1.2	.8	.3	

```
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  .236
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     .236      4.95   2393.75   2393.75       .00   2394.85      1.10      3.12       .02   2391.50
   1680.0     300.7    1368.0      11.3      99.2     148.1       5.0     467.7     215.3   2392.00
     1.75      3.03      9.23      2.27      .055      .035      .055      .000   2388.80    882.23
  .008960      345.      345.      345.         0         8         0       .00    135.45   1017.68


FLOW DISTRIBUTION FOR SECNO=       .24          CWSEL=   2393.75

STA=     882.     950.     970.    1012.    1018.
  PER Q=      8.2      9.7     81.4       .7
   AREA=     59.3     40.0    148.1      5.0
    VEL=      2.3      4.1      9.2      2.3
  DEPTH=       .9      2.0      3.5       .9

*SECNO  .306
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     .306      3.78   2397.08   2397.08       .00   2398.29      1.21      3.23       .04   2395.00
   1680.0      56.8    1502.0     121.3      17.3     161.7      47.2     469.7     216.2   2395.00
     1.76      3.28      9.29      2.57      .055      .035      .055      .000   2393.30    967.29
  .008841      315.      370.      350.         0        15         0       .00    116.00   1083.29


FLOW DISTRIBUTION FOR SECNO=       .31          CWSEL=   2397.08

STA=     967.     970.     980.    1025.    1040.    1083.
  PER Q=       .1      3.2     89.4      4.9      2.4
   AREA=      1.5     15.8    161.7     23.7     23.4
    VEL=      1.6      3.4      9.3      3.4      1.7
  DEPTH=       .5      1.6      3.6      1.6       .5

*SECNO  .386
     .386      5.35   2400.35   2400.08       .00   2401.34       .99      3.00       .04   2397.00
   1680.0     317.9    1312.8      49.3     101.1     148.1      15.8     471.9     217.4   2397.30
     1.78      3.14      8.86      3.11      .055      .035      .055      .000   2395.00    893.40
  .006132      330.      420.      440.         2        11         0       .00    131.37   1024.76
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= .39 CWSEL= 2400.35

STA=	893.	949.	962.	970.	975.	980.	1014.	1025.
PER Q=	3.8	4.1	3.8	3.1	4.1	78.1	2.9	
AREA=	32.4	22.1	18.1	13.0	15.5	148.1	15.8	
VEL=	2.0	3.1	3.6	4.0	4.5	8.9	3.1	
DEPTH=	.6	1.8	2.2	2.6	3.1	4.4	1.4	

*SECNO .462
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

.462	4.90	2403.90	2403.90	.00	2405.26	1.36	2.89	.15	2400.70
1680.0	95.7	1397.1	187.1	23.5	138.1	50.6	474.1	218.3	2400.90
1.79	4.07	10.12	3.70	.055	.035	.055	.000	2399.00	970.44
.008842	365.	400.	400.	0	11	0	.00	91.34	1061.78

FLOW DISTRIBUTION FOR SECNO= .46 CWSEL= 2403.90

STA=	970.	982.	985.	1019.	1025.	1031.	1053.	1062.
PER Q=	3.1	2.6	83.2	4.7	3.1	3.2	.1	
AREA=	14.8	8.7	138.1	16.2	12.6	20.0	1.8	
VEL=	3.5	5.1	10.1	4.9	4.2	2.7	1.0	
DEPTH=	1.3	2.9	4.1	2.7	2.1	.9	.2	

*SECNO .539

.539	4.64	2407.64	2407.41	.00	2408.61	.97	3.28	.08	2404.60
1680.0	213.9	1204.4	261.7	57.0	133.6	66.5	476.2	219.2	2404.40
1.81	3.75	9.01	3.93	.055	.035	.055	.000	2403.00	944.41
.007591	380.	405.	390.	2	15	0	.00	111.17	1055.59

FLOW DISTRIBUTION FOR SECNO= .54 CWSEL= 2407.64

STA=	944.	966.	975.	981.	1016.	1022.	1028.	1037.	1056.
PER Q=	3.2	4.7	4.8	71.7	5.4	4.1	3.9	2.2	
AREA=	20.5	19.5	17.1	133.6	18.3	15.5	17.5	15.3	
VEL=	2.7	4.0	4.7	9.0	4.9	4.5	3.7	2.4	
DEPTH=	.9	2.2	2.8	3.8	3.0	2.6	2.0	.8	

```
 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
           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  .635
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     .635      4.96   2413.96   2413.96       .00   2415.21      1.26      4.07       .11   2410.70
   1680.0     282.7    1221.9     175.4      62.0     119.4      51.3     479.0     220.5   2410.50
     1.82      4.56     10.23      3.42      .055      .035      .055      .000   2409.00    947.63
  .008785      495.      500.      495.         0         8         0       .00    101.40   1049.03


FLOW DISTRIBUTION FOR SECNO=       .63         CWSEL=   2413.96

STA=     948.     959.     968.     972.     976.    1005.    1010.    1020.    1048.
  PER Q=     3.4      5.6      3.5      4.3     72.7      3.8      3.6      3.0
   AREA=    16.2     20.7     11.8     13.4    119.4     13.5     16.8     21.0
    VEL=     3.5      4.6      5.0      5.4     10.2      4.8      3.6      2.4
  DEPTH=     1.4      2.4      2.8      3.1      4.2      2.7      1.7       .8

*SECNO  .733
     .733      4.36   2418.36   2418.05       .00   2419.12       .76      3.81       .10   2415.00
   1680.0     394.2     986.8     299.0     116.9     115.5      69.8     482.0     221.9   2415.00
     1.84      3.37      8.54      4.28      .055      .035      .055      .000   2414.00    879.34
  .006734      470.      525.      410.         2        15         0       .00    163.54   1042.88


FLOW DISTRIBUTION FOR SECNO=       .73         CWSEL=   2418.36

STA=     879.     942.     953.     964.     969.     975.     980.    1010.    1020.    1026.    1039.    1043.
  PER Q=     3.1      3.2      5.0      3.3      4.1      4.9     58.7     10.0      4.8      3.0       .0
   AREA=    30.6     17.5     23.0     13.3     15.5     17.0    115.5     33.7     18.1     17.4       .7
    VEL=     1.7      3.0      3.6      4.1      4.5      4.8      8.5      5.0      4.4      2.9       .7
  DEPTH=      .5      1.6      2.1      2.5      2.9      3.2      3.8      3.4      2.9      1.4       .2

*SECNO  .813
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     .813      4.82   2422.82   2422.82       .00   2423.86      1.03      3.16       .11   2420.30
   1680.0     241.8    1222.3     215.9      65.4     131.2      63.6     484.6     223.2   2420.00
     1.86      3.70      9.31      3.39      .055      .035      .055      .000   2418.00    927.99
  .008741      355.      420.      455.         0         8         0       .00    136.48   1064.47
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= .81 CWSEL= 2422.82

STA=	928.	955.	968.	974.	1010.	1015.	1026.	1045.	1064.
PER Q=	4.1	6.2	4.1	72.8	3.6	4.8	3.7	.8	
AREA=	24.5	25.6	15.3	131.2	12.9	20.9	21.9	7.9	
VEL=	2.8	4.1	4.6	9.3	4.7	3.8	2.9	1.6	
DEPTH=	.9	2.0	2.4	3.6	2.6	1.8	1.2	.4	

*SECNO .911

.911	2.81	2428.81	2428.73	.00	2429.47	.66	5.54	.07	2427.00
1680.0	608.3	699.3	372.4	136.8	80.4	87.1	487.9	225.1	2427.00
1.88	4.45	8.70	4.28	.055	.035	.055	.000	2426.00	889.87
.013876	515.	520.	470.	2	11	0	.00	186.21	1076.09

FLOW DISTRIBUTION FOR SECNO= .91 CWSEL= 2428.81

STA=	890.	915.	925.	936.	948.	959.	970.	980.	1015.	1025.	1035.	1046.	1058.
PER Q=	4.0	4.2	5.8	5.9	5.8	5.5	5.1	41.6	5.1	5.1	5.3	4.0	
AREA=	21.0	16.1	20.7	20.8	20.7	19.4	18.1	80.4	18.1	18.1	19.3	16.9	
VEL=	3.2	4.4	4.7	4.7	4.7	4.7	4.7	8.7	4.7	4.7	4.6	4.0	
DEPTH=	.8	1.6	1.8	1.8	1.8	1.8	1.8	2.3	1.8	1.8	1.8	1.4	

STA=	1058.	1076.
PER Q=	2.6	
AREA=	14.6	
VEL=	3.0	
DEPTH=	.8	

*SECNO .990

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

Flowrate from HEC-1 operation SAH90.
Small stock watering tank right of channel. No engineering data or construction plans available for the small dam forming the tank.
Floodplain placed at the limit of natural flow conveyance.
WSEL for the water ponded in the tank is estimated from the average of the EGL values at cross sections that bracket the inlet.

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
	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
.990	5.36	2436.36	2436.36	.00	2437.98	1.61	4.51	.38	2434.00
1680.0	22.5	1514.9	142.5	9.4	142.1	34.7	490.2	226.3	2433.00
1.89	2.40	10.66	4.11	.055	.035	.055	.000	2431.00	964.59
.008837	390.	415.	430.	0	17	0	.00	76.77	1041.35

FLOW DISTRIBUTION FOR SECNO= .99 CWSEL= 2436.36

STA=	965.	973.	980.	985.	1017.	1023.	1029.	1035.	1041.
PER Q=	.0	.1	1.2	90.2	5.2	2.5	.7	.1	
AREA=	.8	1.8	6.8	142.1	17.2	11.2	5.2	1.2	
VEL=	.5	1.0	3.0	10.7	5.1	3.8	2.3	.8	
DEPTH=	.1	.3	1.4	4.4	2.9	1.9	.9	.2	

*SECNO 1.111

3301 HV CHANGED MORE THAN HVINS

1.111	4.51	2442.51	2442.25	.00	2443.42	.91	5.30	.14	2439.00
1680.0	475.0	812.1	392.9	110.1	82.1	79.4	493.4	227.6	2438.70
1.92	4.31	9.89	4.95	.055	.035	.055	.000	2438.00	928.05
.008302	505.	640.	630.	2	15	0	.00	114.54	1042.59

FLOW DISTRIBUTION FOR SECNO= 1.11 CWSEL= 2442.51

STA=	928.	960.	970.	975.	980.	985.	990.	1010.	1015.	1020.	1025.	1030.	1040.
PER Q=	4.6	5.4	3.6	4.2	4.9	5.5	48.3	6.4	5.5	4.6	3.8	3.1	
AREA=	28.4	21.9	13.1	14.3	15.6	16.8	82.1	18.3	16.8	15.1	13.3	15.2	
VEL=	2.7	4.2	4.7	5.0	5.3	5.5	9.9	5.8	5.5	5.1	4.7	3.4	
DEPTH=	.9	2.2	2.6	2.9	3.1	3.4	4.1	3.7	3.4	3.0	2.7	1.5	

STA=	1040.	1043.
PER Q=	.0	
AREA=	.7	
VEL=	1.0	
DEPTH=	.3	

*SECNO 1.192

KRATIO = 1.56, outside expected range due to change in flow regime
from critical to subcritical.

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
1.192	4.80	2445.80	2445.27	.00	2446.34	.54	2.85	.07	2441.70
1680.0	495.6	572.6	611.8	121.7	66.2	171.7	496.3	228.9	2442.00
1.94	4.07	8.64	3.56	.055	.035	.055	.000	2441.00	940.00
.005784	410.	430.	400.	2	11	0	.00	166.27	1106.28

FLOW DISTRIBUTION FOR SECNO= 1.19 CWSEL= 2445.80

STA=	940.	956.	967.	972.	976.	981.	985.	990.	1005.	1010.	1015.	1020.	1030.
PER Q=	3.1	5.3	3.4	3.2	3.9	4.5	6.0	34.1	5.3	4.7	4.1	6.7	
AREA=	19.4	25.0	14.6	12.7	14.5	15.7	19.7	66.2	18.2	17.0	15.7	27.4	
VEL=	2.7	3.6	3.9	4.2	4.5	4.9	5.1	8.6	4.9	4.6	4.4	4.1	
DEPTH=	1.3	2.3	2.6	2.9	3.3	3.6	3.9	4.4	3.6	3.4	3.1	2.8	

STA=	1030.	1039.	1049.	1070.	1106.
PER Q=	5.1	3.7	4.9	2.0	
AREA=	23.0	19.2	30.5	20.5	
VEL=	3.7	3.3	2.7	1.6	
DEPTH=	2.4	2.0	1.5	.6	

O 1.287
MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

1.287	4.17	2450.17	2450.17	.00	2451.13	.96	3.80	.17	2447.00
1680.0	591.4	741.3	347.2	123.0	69.7	79.1	499.8	230.6	2447.00
1.96	4.81	10.63	4.39	.055	.035	.055	.000	2446.00	921.26
.011152	475.	500.	480.	0	15	0	.00	140.78	1062.05

FLOW DISTRIBUTION FOR SECNO= 1.29 CWSEL= 2450.17

STA=	921.	947.	962.	973.	980.	987.	990.	1009.	1012.	1019.	1025.	1032.	1050.
PER Q=	3.6	7.0	7.5	6.1	7.1	4.0	44.1	3.5	5.6	4.1	3.1	3.9	
AREA=	20.9	27.1	24.9	18.7	20.4	10.9	69.7	10.0	17.2	14.3	12.4	20.1	
VEL=	2.9	4.3	5.1	5.5	5.8	6.1	10.6	5.9	5.5	4.8	4.2	3.2	
DEPTH=	.8	1.8	2.4	2.7	2.9	3.1	3.7	3.0	2.6	2.2	1.8	1.2	

STA=	1050.	1062.
PER Q=	.5	
AREA=	5.1	
VEL=	1.8	
DEPTH=	.4	

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
	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 1.387

1.387	5.13	2455.13	2454.89	.00	2456.10	.97	4.96	.00	2451.00
1680.0	644.5	827.8	207.6	135.7	80.6	51.5	503.1	232.2	2451.30
1.98	4.75	10.27	4.03	.055	.035	.055	.000	2450.00	927.11
.007846	540.	530.	535.	4	11	0	.00	112.77	1039.88

FLOW DISTRIBUTION FOR SECNO= 1.39 CWSEL= 2455.13

STA=	927.	953.	960.	967.	970.	974.	978.	981.	985.	989.	1007.	1010.	1014.
PER Q=	3.8	3.4	4.9	3.1	3.8	4.2	4.6	5.1	5.5	49.3	3.7	3.1	
AREA=	23.6	14.7	18.2	10.4	12.2	13.0	13.8	14.5	15.3	80.6	11.5	10.9	
VEL=	2.7	3.9	4.5	4.9	5.2	5.4	5.6	5.8	6.0	10.3	5.4	4.8	
DEPTH=	.9	2.1	2.6	3.0	3.2	3.4	3.6	3.8	4.0	4.6	3.5	2.9	

STA=	1014.	1021.	1040.
PER Q=	3.7	1.8	
AREA=	15.9	13.2	
VEL=	4.0	2.3	
DEPTH=	2.1	.7	

O 1.471
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

1.471	4.01	2461.01	2461.01	.00	2462.03	1.02	4.14	.02	2457.80
1680.0	251.5	770.5	658.0	54.1	71.6	133.5	505.8	233.4	2457.60
1.99	4.65	10.76	4.93	.055	.035	.055	.000	2457.00	956.97
.011374	440.	445.	440.	0	15	0	.00	126.65	1083.62

FLOW DISTRIBUTION FOR SECNO= 1.47 CWSEL= 2461.01

STA=	957.	981.	989.	993.	1012.	1016.	1020.	1027.	1034.	1041.	1049.	1056.	1070.
PER Q=	4.9	6.0	4.1	45.9	5.0	4.5	7.0	5.9	4.7	4.0	3.1	3.9	
AREA=	23.9	18.9	11.3	71.6	13.2	12.4	20.3	18.4	16.1	14.5	12.5	18.8	
VEL=	3.4	5.3	6.1	10.8	6.4	6.1	5.8	5.4	5.0	4.6	4.2	3.5	
DEPTH=	1.0	2.5	3.1	3.7	3.3	3.1	2.9	2.6	2.3	2.0	1.8	1.3	

STA=	1070.	1084.
PER Q=	.9	
AREA=	7.2	
VEL=	2.1	
DEPTH=	.5	

ECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
	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 1.568
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

1.568	4.51	2469.51	2469.51	.00	2470.43	.91	5.54	.02	2466.00
1680.0	796.1	655.2	228.7	175.4	60.2	49.0	509.0	235.0	2466.00
2.01	4.54	10.88	4.67	.055	.035	.055	.000	2465.00	883.28
.010432	510.	510.	505.	0	8	0	.00	146.55	1029.83

FLOW DISTRIBUTION FOR SECNO= 1.57 CWSEL= 2469.51

STA=	883.	925.	934.	943.	952.	962.	966.	971.	976.	981.	985.	990.	1005.
PER Q=	4.1	3.0	3.8	4.6	5.8	3.2	3.5	3.9	4.5	5.2	5.8	39.0	
AREA=	27.4	13.9	15.9	18.0	20.8	10.9	11.6	12.5	13.5	14.9	15.8	60.2	
VEL=	2.5	3.6	4.0	4.3	4.7	4.9	5.0	5.2	5.6	5.9	6.2	10.9	
DEPTH=	.7	1.5	1.7	1.9	2.2	2.4	2.5	2.6	2.9	3.1	3.4	4.0	

STA=	1005.	1010.	1015.	1025.	1030.
PER Q=	5.1	3.4	4.5	.5	
AREA=	15.1	11.8	18.4	3.7	
VEL=	5.7	4.9	4.2	2.4	
DEPTH=	3.0	2.4	1.8	.8	

*SECNO 1.666
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

1.666	3.98	2476.98	2476.98	.00	2477.90	.92	5.93	.00	2473.80
1680.0	606.3	598.0	475.7	124.3	53.8	96.5	512.3	236.7	2473.70
2.03	4.88	11.12	4.93	.055	.035	.055	.000	2473.00	922.44
.012486	535.	515.	500.	0	15	0	.00	142.19	1064.63

FLOW DISTRIBUTION FOR SECNO= 1.67 CWSEL= 2476.98

STA=	922.	942.	958.	964.	970.	980.	986.	989.	992.	1007.	1010.	1013.	1019.
PER Q=	3.4	5.9	3.2	3.8	7.2	5.9	3.3	3.3	35.6	4.0	3.1	5.4	
AREA=	18.3	24.3	11.6	13.1	22.4	17.0	9.1	8.6	53.8	10.3	8.5	15.4	
VEL=	3.1	4.1	4.6	4.9	5.4	5.9	6.2	6.4	11.1	6.4	6.2	5.8	
DEPTH=	.9	1.6	1.9	2.1	2.4	2.7	2.9	3.1	3.6	3.1	2.9	2.7	

STA=	1019.	1024.	1033.	1041.	1065.
PER Q=	4.4	5.1	3.4	3.0	
AREA=	13.7	17.6	13.8	17.2	
VEL=	5.4	4.9	4.2	2.9	
DEPTH=	2.4	2.0	1.6	.7	

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

*SECNO 1.752

1.752	3.85	2481.85	2481.64	.00	2482.72	.87	4.81	.01	2478.30
1680.0	396.8	771.6	511.6	86.5	78.2	111.6	515.2	238.1	2478.30
2.05	4.59	9.86	4.58	.055	.035	.055	.000	2478.00	949.37
.009171	475.	455.	425.	4	11	0	.00	122.33	1071.70

FLOW DISTRIBUTION FOR SECNO= 1.75 CWSEL= 2481.85

STA=	949.	970.	980.	985.	990.	995.	1016.	1020.	1025.	1036.	1041.	1052.	1066.
PER Q=	3.4	5.6	4.0	4.8	5.8	45.9	5.3	4.5	8.4	3.5	5.5	3.1	
AREA=	19.5	21.8	13.5	15.0	16.8	78.2	15.4	14.1	28.6	12.7	22.1	17.2	
VEL=	2.9	4.4	5.0	5.4	5.8	9.9	5.8	5.4	5.0	4.6	4.2	3.1	
DEPTH=	.9	2.2	2.7	3.0	3.4	3.8	3.4	3.0	2.7	2.4	2.1	1.2	

STA=	1066.	1072.
PER Q=	.1	
AREA=	1.5	
VEL=	1.1	
DEPTH=	.3	

SECNO 1.845
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

1.845	3.96	2489.96	2489.96	.00	2490.66	.69	5.05	.04	2486.50
1680.0	612.4	429.5	638.1	150.4	39.0	141.8	518.6	240.0	2486.50
2.07	4.07	11.01	4.50	.055	.035	.055	.000	2486.00	873.06
.011761	485.	490.	490.	0	8	0	.00	228.54	1101.60

FLOW DISTRIBUTION FOR SECNO= 1.85 CWSEL= 2489.96

STA=	873.	915.	944.	966.	978.	984.	990.	995.	1006.	1011.	1017.	1024.	1030.
PER Q=	3.9	4.7	4.8	6.3	4.7	5.9	6.1	25.6	6.7	6.2	5.0	3.8	
AREA=	26.8	27.7	25.2	23.0	14.8	16.9	16.1	39.0	17.7	17.7	15.8	13.3	
VEL=	2.5	2.9	3.2	4.6	5.3	5.8	6.4	11.0	6.4	5.8	5.3	4.8	
DEPTH=	.6	1.0	1.1	2.0	2.5	2.8	3.2	3.7	3.2	2.8	2.5	2.1	

STA=	1030.	1041.	1053.	1064.	1081.	1102.
PER Q=	5.3	4.1	3.1	3.0	.7	
AREA=	20.5	17.5	14.9	17.3	7.1	
VEL=	4.4	3.9	3.5	2.9	1.7	
DEPTH=	1.8	1.6	1.3	1.0	.3	

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 1.957

1.957	2.76	2497.76	2497.61	.00	2498.38	.61	7.70	.02	2496.00
1680.0	192.0	388.9	1099.1	54.1	42.1	207.9	522.9	242.9	2495.30
2.10	3.55	9.23	5.29	.055	.035	.055	.000	2495.00	928.47
.014702	590.	590.	585.	3	14	0	.00	195.48	1123.95

FLOW DISTRIBUTION FOR SECNO= 1.96 CWSEL= 2497.76

STA=	928.	976.	990.	1008.	1015.	1023.	1037.	1051.	1065.	1072.	1078.	1085.	1093.
PER Q=	5.7	5.7	23.2	6.1	5.1	8.7	9.8	13.1	6.5	5.0	3.8	3.2	
AREA=	32.3	21.8	42.1	17.7	15.8	28.4	30.2	35.8	17.5	14.9	12.8	12.1	
VEL=	3.0	4.4	9.2	5.8	5.4	5.1	5.5	6.1	6.2	5.6	5.0	4.5	
DEPTH=	.7	1.6	2.4	2.4	2.1	2.0	2.2	2.6	2.6	2.3	1.9	1.6	

STA=	1093.	1108.	1124.
PER Q=	3.4	.8	
AREA=	16.2	6.5	
VEL=	3.5	2.0	
DEPTH=	1.1	.4	

NO 2.041

2.041	4.01	2503.01	2502.93	.00	2503.74	.73	5.32	.05	2500.00
1680.0	635.8	679.6	364.6	163.1	70.2	91.4	526.1	244.8	2500.00
2.12	3.90	9.68	3.99	.055	.035	.055	.000	2499.00	889.94
.009795	430.	445.	460.	3	14	0	.00	182.28	1072.22

FLOW DISTRIBUTION FOR SECNO= 2.04 CWSEL= 2503.01

STA=	890.	911.	921.	942.	962.	972.	981.	990.	1010.	1025.	1035.	1045.	1072.
PER Q=	6.3	3.7	4.8	5.2	4.5	5.6	7.8	40.5	11.1	4.5	3.2	3.0	
AREA=	29.7	16.9	26.0	26.7	18.6	20.4	24.9	70.2	37.7	18.6	15.1	20.0	
VEL=	3.6	3.7	3.1	3.3	4.0	4.6	5.3	9.7	4.9	4.0	3.5	2.5	
DEPTH=	1.4	1.6	1.2	1.3	1.9	2.3	2.8	3.5	2.5	1.9	1.5	.7	

FLOODWAY RUN
FINAL FLOODWAY RUN (BASED ON PRELIMINARY RUN THAT USED METHOD 6).

T3	WASH AH3			UNNAMED TRIBUTARY TO SOLS WASH						
J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
		3			.010				2319.00	
J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	15		-1				-1			

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

CCHV=     .300 CEHV=     .100
*SECNO  .090
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      381.2    1038.1  TYPE=      1  TARGET=      656.920
         Starting WSEL determined using slope-area method.
         Flowrate from HEC-1 model combine operation CAH96.
     .090      5.93   2323.93   2323.93   2323.94   2324.72       .79       .00       .00   2321.00
   4046.0    1492.4    2386.2     167.4     534.3     266.0      45.1        .0        .0   2320.00
     .00      2.79      8.97      3.71      .055      .035      .055      .000   2318.00    381.72
  .006158        0.        0.        0         0        32        11       .00    656.38   1038.10


*SECNO  .187
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      691.4    1069.4  TYPE=      1  TARGET=      377.940
         Section lies in Sols Wash Floodplain and is extremely wide and flat.
         Channel virtually undefined except as a narrow strip without growth.
     .187      2.02   2329.02   2329.02   2328.82   2329.82       .80      4.97       .00   2328.00
   4046.0    2947.6     834.1     264.3     450.5      89.0      42.7       6.5       4.5   2327.70
     .02      6.54      9.38      6.18      .055      .035      .055      .000   2327.00    691.43
  .030999      350.      510.      500.         0        22         0       .00    377.94   1069.37


*SECNO  .283

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.97


3470 ENCROACHMENT STATIONS=      866.4    1076.3  TYPE=      1  TARGET=      209.850
     .283      4.70   2335.70   2335.27   2334.93   2336.57       .87      6.74       .01   2332.30
   4046.0    1234.3    2189.5     622.2     264.1     236.2     137.5      13.2       7.7   2333.00
     .04      4.67      9.27      4.52      .055      .035      .055      .000   2331.00    866.41
  .007979      450.      510.      520.         6        17         0       .00    209.85   1076.26
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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 .392

3470 ENCROACHMENT STATIONS= 783.5 1056.1 TYPE= 1 TARGET= 272.530
Secondary channel on right begins at Section 0.455. Appears to be
a viable conveyance. Floodplain shifted 40 ft to match topography.

.392	4.31	2340.31	2339.48	2339.68	2340.83	.52	4.15	.11	2338.00
4046.0	2183.6	1644.3	218.1	510.3	220.4	58.8	22.9	10.9	2337.50
.06	4.28	7.46	3.71	.055	.035	.055	.000	2336.00	783.54
.006323	610.	575.	540.	5	19	0	.00	272.53	1056.07

*SECNO .455

3470 ENCROACHMENT STATIONS= 794.1 1104.7 TYPE= 1 TARGET= 310.550

.455	4.31	2342.31	2341.83	2341.70	2343.21	.91	2.34	.04	2339.00
4046.0	613.3	2359.7	1073.0	195.4	259.9	186.7	28.5	13.3	2338.10
.08	3.14	9.08	5.75	.055	.035	.055	.000	2338.00	794.12
.007579	370.	330.	300.	2	8	0	.00	310.55	1104.67

*SECNO .564

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 971.0 1111.4 TYPE= 1 TARGET= 140.370

.564	5.88	2347.88	2347.88	2347.48	2349.47	1.58	5.05	.07	2344.70
4046.0	.0	3006.6	1039.4	.0	265.4	203.8	35.8	16.2	2344.30
.09	.00	11.33	5.10	.000	.035	.055	.000	2342.00	971.00
.010335	570.	580.	560.	0	11	0	.00	140.37	1111.37

*SECNO .652

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.53

3470 ENCROACHMENT STATIONS= 985.0 1122.3 TYPE= 1 TARGET= 137.300

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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


   .652      6.81   2351.81   2350.70   2350.80   2352.69       .88      3.01       .21   2346.00
 4046.0        .0    2778.3    1267.7        .0     321.7     301.2      41.7      17.7   2347.00
   .11        .00      8.64      4.21      .000      .035      .055      .000   2345.00    985.00
.004399      445.      460.      485.         3         8         0       .00    137.30   1122.30


*SECNO  .751

3470 ENCROACHMENT STATIONS=      965.0    1197.5  TYPE=      1  TARGET=      232.510
   .751      6.88   2353.88   2353.42   2353.29   2354.94      1.06      2.23       .02   2348.00
 4046.0        .0    2861.1    1184.9        .0     298.8     332.7      48.2      19.5   2348.00
   .13        .00      9.58      3.56      .000      .035      .055      .000   2347.00    965.00
.004938      555.      525.      375.         2        11         0       .00    232.51   1197.51


*SECNO  .809

3470 ENCROACHMENT STATIONS=      968.4    1130.0  TYPE=      1  TARGET=      161.640
         Section 0.809 taken from topographic map.  Added for improved
         representation of contraction between sections 0.751 and 0.860.
   .809      5.48   2355.48   2355.42   2355.37   2356.94      1.46      1.95       .04   2352.00
 4046.0      15.7    2955.5    1074.8       5.6     268.5     236.5      52.0      20.8   2352.00
   .14      2.78     11.01      4.55      .055      .035      .055      .000   2350.00    968.36
.009135      280.      305.      280.         0        15         0       .00    161.64   1130.00


*SECNO  .860
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      970.0    1134.0  TYPE=      1  TARGET=      164.040
   .860      6.15   2358.15   2358.15   2357.85   2359.65      1.50      2.45       .00   2354.00
 4046.0     232.3    2418.3    1395.4      38.1     202.2     272.4      54.9      21.7   2356.00
   .15      6.09     11.96      5.12      .055      .035      .055      .000   2352.00    969.96
.009914      300.      270.      225.         0         8         0       .00    164.04   1134.00


*SECNO  .945

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
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CNO	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= 917.2 1020.1 TYPE= 1 TARGET= 102.830

.945	7.33	2362.33	2362.33	2362.03	2364.41	2.08	4.05	.06	2358.80
4046.0	639.6	3354.5	51.9	135.9	267.7	12.8	59.6	23.0	2358.40
.16	4.71	12.53	4.05	.055	.035	.055	.000	2355.00	917.23
.008552	350.	450.	455.	0	11	0	.00	102.83	1020.06

*SECNO 1.038
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 902.0 1025.4 TYPE= 1 TARGET= 123.390

1.038	6.96	2366.66	2366.66	2366.70	2368.53	1.87	4.01	.06	2363.00
4046.0	723.3	3298.1	24.6	165.5	275.1	8.8	64.3	24.2	2364.00
.17	4.37	11.99	2.80	.055	.035	.055	.000	2359.70	902.00
.008113	440.	490.	495.	0	11	0	.00	123.30	1025.30

*SECNO 1.131

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 973.8 1116.4 TYPE= 1 TARGET= 142.620

1.131	6.69	2370.69	2369.82	2370.19	2371.74	1.06	2.96	.24	2365.00
4046.0	62.2	2531.7	1452.1	19.3	257.3	321.3	69.9	25.6	2365.50
.19	3.23	9.84	4.52	.055	.035	.055	.000	2364.00	973.78
.004876	470.	490.	440.	2	15	0	.00	142.62	1116.40

*SECNO 1.229

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 965.0 1066.0 TYPE= 1 TARGET= 101.000
Encroach to 850 for small left bank tributary.

1.229	6.32	2373.32	2373.09	2373.71	2375.11	1.79	3.29	.07	2369.00
4046.0	300.9	3059.1	686.0	53.8	256.6	121.4	76.0	27.1	2369.00
.20	5.59	11.92	5.65	.055	.035	.055	.000	2367.00	965.00
.008716	425.	520.	520.	2	11	0	.00	101.00	1066.00

ECNO	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 1.330

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 964.8 1090.7 TYPE= 1 TARGET= 125.900

1.330	6.81	2377.81	2376.81	2376.95	2378.88	1.07	3.56	.21	2372.80
4046.0	226.3	2412.5	1407.2	55.9	242.8	270.7	82.1	28.5	2372.90
.22	4.05	9.93	5.20	.055	.035	.055	.000	2371.00	964.77
.005296	510.	535.	530.	2	11	0	.00	125.90	1090.67

*SECNO 1.396

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 928.0 1039.2 TYPE= 1 TARGET= 111.180

Encroach to 1140 for upstream contraction.

Floodplain mapped to WSEL.

1.396	5.47	2379.47	2379.26	2379.75	2381.13	1.67	2.19	.06	2375.40
4046.0	470.9	3098.8	476.4	81.1	271.6	85.4	85.5	29.3	2375.50
.23	5.81	11.41	5.58	.055	.035	.055	.000	2374.00	928.00
.009520	335.	345.	220.	3	15	0	.00	111.18	1039.18

*SECNO 1.499

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .66

3470 ENCROACHMENT STATIONS= 941.5 1059.6 TYPE= 1 TARGET= 118.090

Flowrate upstream of right bank tributary from HEC-1 operation CAH86.

1.499	4.19	2385.19	2385.02	2384.77	2386.44	1.25	5.18	.13	2382.00
2741.0	467.2	1743.6	530.2	93.5	164.9	104.0	90.4	30.6	2382.00
.24	5.00	10.57	5.10	.055	.035	.055	.000	2381.00	941.51
.010042	425.	545.	575.	2	19	0	.00	118.09	1059.60

*SECNO 1.569

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

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= 958.0 1055.0 TYPE= 1 TARGET= 97.000

1.569	5.98	2387.98	2387.08	2387.34	2388.99	1.01	2.49	.07	2384.00
2741.0	84.1	2217.4	439.5	27.1	252.8	110.4	93.5	31.5	2384.00
.26	3.10	8.77	3.98	.055	.035	.055	.000	2382.00	958.00
.004945	390.	370.	325.	2	11	0	.00	97.00	1055.00

*SECNO 1.683

3470 ENCROACHMENT STATIONS= 960.0 1081.0 TYPE= 1 TARGET= 121.000

1.683	4.88	2391.88	2391.38	2391.49	2392.88	.99	3.88	.01	2390.00
2741.0	86.1	1615.7	1039.2	27.7	174.2	177.9	98.7	33.0	2389.00
.28	3.11	9.28	5.84	.055	.035	.055	.000	2387.00	960.00
.009127	520.	600.	575.	2	19	0	.00	121.00	1081.00

*SECNO 1.774

3470 ENCROACHMENT STATIONS= 969.0 1109.0 TYPE= 1 TARGET= 140.000

1.774	5.08	2396.08	2395.78	2395.95	2397.11	1.03	4.23	.00	2393.00
2741.0	134.8	1680.3	925.9	31.5	172.1	207.2	103.1	34.4	2393.00
.30	4.28	9.76	4.47	.055	.035	.055	.000	2391.00	969.00
.008237	405.	480.	510.	3	5	0	.00	140.00	1109.00

1490 NH CARD USED
*SECNO 1.872

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.52

3470 ENCROACHMENT STATIONS= 980.0 1191.0 TYPE= 1 TARGET= 211.000

1.872	4.54	2399.54	2398.40	2398.84	2399.89	.35	2.58	.20	2396.00
2741.0	.0	976.5	1764.5	.0	161.2	460.6	108.9	36.4	2396.00
.33	.00	6.06	3.83	.000	.035	.046	.000	2395.00	980.00
.003559	515.	520.	475.	2	19	0	.00	211.00	1191.00

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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


CCHV=     .200 CEHV=     .400
*SECNO 1.995

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      980.0    1101.7  TYPE=      1  TARGET=      121.690
     1.995      4.15   2403.15   2403.15   2403.14   2404.49      1.33      3.98       .39   2401.00
    2741.0        .0    1532.7    1208.3        .0     139.3     187.9     115.4      38.6   2401.00
       .34       .00     11.01      6.43      .000      .035      .055      .000   2399.00    980.00
   .015940      690.      650.      570.         0        11         0       .00    121.69   1101.69


*SECNO 2.067

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      969.5    1042.0  TYPE=      1  TARGET=       72.530
     2.067      6.35   2409.35   2409.35   2409.66   2411.35      2.01      4.39       .27   2406.70
    2741.0      54.3    2588.8      97.9      14.7     221.9      28.4     117.8      39.4   2406.70
       .35      3.69     11.67      3.45      .055      .035      .055      .000   2403.00    969.47
   .009336      430.      380.      320.         0        14         0       .00     72.53   1042.00


*SECNO 2.126

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.10


3470 ENCROACHMENT STATIONS=      872.2    1030.2  TYPE=      1  TARGET=      157.980
     2.126      6.52   2412.52   2410.73   2411.48   2412.89       .37      1.21       .33   2408.00
    2741.0    1187.8    1445.3     107.9     389.0     237.3      42.3     121.2      40.2   2408.00
       .37      3.05      6.09      2.55      .055      .035      .055      .000   2406.00    872.24
   .002124      310.      310.      315.         2        19         0       .00    157.98   1030.22
```

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

*SECNO 2.245

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .55

3470 ENCROACHMENT STATIONS= 823.8 1026.1 TYPE= 1 TARGET= 202.330
Floodplain moved 10 ft to match topographic map.

2.245	5.29	2414.29	2413.91	2414.44	2415.06	.77	2.01	.16	2412.00
2741.0	1182.7	1543.0	15.3	298.7	176.4	6.5	128.4	42.4	2412.00
.40	3.96	8.75	2.35	.055	.035	.055	.000	2409.00	827.08
.006961	490.	630.	660.	3	19	0	.00	198.63	1025.71

*SECNO 2.344

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

ENCROACHMENT STATIONS= 908.6 1050.1 TYPE= 1 TARGET= 141.540

2.344	4.72	2419.72	2419.72	2419.65	2421.00	1.28	4.30	.20	2416.50
2741.0	668.4	1652.4	420.1	143.4	150.5	79.3	133.1	44.3	2416.50
.41	4.66	10.98	5.30	.055	.035	.055	.000	2415.00	908.60
.011098	440.	520.	550.	0	15	0	.00	141.54	1050.14

*SECNO 2.444

3301 HV CHANGED MORE THAN HVINS

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

3470 ENCROACHMENT STATIONS= 872.8 1016.0 TYPE= 1 TARGET= 143.250

2.444	5.87	2423.87	2422.69	2423.11	2424.43	.56	3.29	.14	2419.40
2741.0	1265.0	1476.0	.0	328.7	199.7	.0	138.6	46.0	100000.00
.44	3.85	7.39	.00	.055	.035	.000	.000	2418.00	872.75
.004018	540.	530.	410.	3	5	0	.00	143.25	1016.00

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 2.534
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 708.0 1022.5 TYPE= 1 TARGET= 314.500

2.534	4.53	2426.53	2426.53	2426.24	2427.36	.84	2.64	.11	2423.50
2741.0	1185.1	1555.9	.0	339.7	168.3	.0	144.0	48.4	100000.00
.46	3.49	9.25	.00	.055	.035	.000	.000	2422.00	708.00
.008814	445.	475.	460.	0	19	0	.00	314.50	1022.50

*SECNO 2.640

3470 ENCROACHMENT STATIONS= 852.7 1040.7 TYPE= 1 TARGET= 188.000

2.640	5.50	2430.50	2430.45	2430.31	2431.71	1.21	4.20	.15	2429.00
2741.0	307.6	2161.2	272.1	114.6	221.7	58.3	149.1	51.0	2427.00
.47	2.68	9.75	4.67	.055	.035	.055	.000	2425.00	852.65
.007360	425.	560.	535.	2	11	0	.00	188.00	1040.65

*SECNO 2.716
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 869.0 1032.7 TYPE= 1 TARGET= 163.660

2.716	5.85	2434.85	2434.85	2434.24	2436.15	1.30	3.00	.04	2431.00
2741.0	562.3	1949.4	229.2	163.6	184.7	45.8	152.6	52.5	2431.00
.49	3.44	10.56	5.01	.055	.035	.055	.000	2429.00	869.01
.007837	365.	400.	410.	0	8	0	.00	163.66	1032.67

*SECNO 2.818

3470 ENCROACHMENT STATIONS= 965.0 1061.7 TYPE= 1 TARGET= 96.700

2.818	4.53	2439.53	2439.41	2439.19	2441.02	1.49	4.79	.07	2436.00
2741.0	312.0	1871.6	557.3	57.6	166.3	102.8	156.9	54.0	2436.00
.50	5.41	11.26	5.42	.055	.035	.055	.000	2435.00	964.98
.010536	480.	540.	540.	2	19	0	.00	96.70	1061.68

*SECNO 2.891

3470 ENCROACHMENT STATIONS= 974.0 1044.1 TYPE= 1 TARGET= 70.140

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     Encroach to 920 for small left bank tributary.
   2.891      5.95   2442.95   2442.28   2442.23   2444.33      1.37      3.28       .02   2439.00
  2741.0        .0    2376.9     364.1        .0     239.8      74.2     159.7      54.7   2439.00
     .51       .00      9.91      4.91      .000      .035      .055      .000   2437.00    974.00
 .007132      400.      385.      365.         2        11         0       .00     70.14   1044.14


*SECNO 2.997

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=      917.1    1020.0  TYPE=      1  TARGET=      102.940
   2.997      5.44   2447.44   2446.54   2446.75   2448.31       .87      3.88       .10   2444.00
  2741.0    1129.5    1611.5        .0     216.8     184.3        .0     164.4      55.9 100000.00
     .54      5.21      8.74       .00      .055      .035      .000      .000   2442.00    917.06
 .006590      610.      560.      500.         2        15         0       .00    102.94   1020.00


*SECNO 3.092

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS

     MINIMUM SPECIFIC ENERGY
     CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      914.5    1030.0  TYPE=      1  TARGET=      115.460
   3.092      4.99   2451.99   2451.99   2451.51   2453.51      1.52      4.12       .26   2452.00
  2741.0     755.1    1985.9        .0     120.1     181.3        .0     167.9      56.9 100000.00
     .55      6.29     10.95       .00      .055      .035      .000      .000   2447.00    914.54
 .013177      370.      500.      520.         0        11         0       .00     97.32   1030.00


*SECNO 3.186

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.80


3470 ENCROACHMENT STATIONS=      955.3    1060.1  TYPE=      1  TARGET=      104.790
   3.186      6.23   2456.23   2455.05   2455.44   2457.00       .77      3.35       .15   2452.00
  2741.0     268.0    1885.3     587.6      70.5     233.3     146.9     172.2      58.0   2452.00
     .57      3.80      8.08      4.00      .055      .035      .055      .000   2450.00    955.26
 .004062      530.      500.      435.         3         5         0       .00    104.79   1060.05
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 3.279

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 944.5 1023.0 TYPE= 1 TARGET= 78.420

3.279	5.63	2458.63	2458.63	2458.46	2460.48	1.85	3.00	.43	2455.00
2741.0	496.8	2204.3	39.9	94.1	185.3	10.5	176.3	59.1	2455.00
.58	5.28	11.89	3.79	.055	.035	.055	.000	2453.00	944.54
.010227	525.	490.	450.	0	11	0	.00	78.42	1022.96

*SECNO 3.372

3470 ENCROACHMENT STATIONS= 964.9 1022.0 TYPE= 1 TARGET= 57.080

3.372	6.24	2463.24	2462.73	2462.79	2464.94	1.70	4.43	.03	2459.00
2741.0	333.7	2407.3	.0	56.3	220.0	.0	179.4	59.8	100000.00
.59	5.93	10.94	.00	.055	.035	.000	.000	2457.00	964.92
.008350	425.	490.	490.	2	5	0	.00	57.08	1022.00

*SECNO 3.467

3301 HV CHANGED MORE THAN HVINS

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

3470 ENCROACHMENT STATIONS= 981.0 1059.7 TYPE= 1 TARGET= 78.740

3.467	7.71	2466.71	2464.77	2465.68	2467.46	.75	2.34	.19	2462.00
2741.0	.0	2152.4	588.6	.0	284.7	149.5	183.4	60.5	2461.30
.61	.00	7.56	3.94	.000	.035	.055	.000	2459.00	981.00
.003044	445.	500.	470.	3	11	0	.00	78.74	1059.74

*SECNO 3.568

3301 HV CHANGED MORE THAN HVINS

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

3470 ENCROACHMENT STATIONS=      948.3    1012.7  TYPE=      1  TARGET=      64.440
   3.568      5.86   2468.86   2468.86   2468.59   2470.89      2.03      2.80       .51   2465.40
  2741.0     397.1    2343.9       .0      68.5     193.1        .0     187.5      61.4 100000.00
     .63      5.80     12.14       .00      .055      .035      .000      .000   2463.00    948.26
 .011808      535.      535.      415.         0        19         0       .00     64.44   1012.70


*SECNO 3.665

3470 ENCROACHMENT STATIONS=      958.6    1024.8  TYPE=      1  TARGET=      66.240
        Encroach to 1120 for small right bank tributary.  Mapped to WSEL.
   3.665      5.57   2474.57   2474.48   2474.39   2476.52      1.95      5.61       .02   2471.00
  2741.0     302.5    2414.2      24.2      53.4     205.2       7.1     190.4      62.1   2472.00
     .64      5.67     11.77      3.42      .055      .035      .055      .000   2469.00    958.57
 .010859      395.      510.      610.         2        11         0       .00     66.24   1024.81


*SECNO 3.766

HV CHANGED MORE THAN HVINS


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


3470 ENCROACHMENT STATIONS=      972.0    1105.7  TYPE=      1  TARGET=     133.700
        Encroach to 1230 for small right bank tributary.  Mapped to WSEL.
   3.766      5.60   2479.60   2478.75   2478.64   2480.31       .71      3.55       .25   2476.00
  2741.0        .0    1852.5     888.5        .0     237.5     231.9     194.3      63.1   2476.00
     .66       .00      7.80      3.83      .000      .035      .055      .000   2474.00    972.00
 .005008      525.      535.      325.         2        15         0       .00    133.70   1105.70


*SECNO 3.862

3470 ENCROACHMENT STATIONS=      932.6    1019.5  TYPE=      1  TARGET=      86.980
        Flow regime shift from  critical to subcritical causes KRATIO
        to exceed 1.40.
   3.862      6.72   2481.72   2480.48   2481.16   2482.62       .89      2.23       .07   2477.30
  2741.0     621.6    2119.4        .0     154.6     253.8        .2     199.3      64.4   2478.00
     .68      4.02      8.35       .23      .055      .035      .055      .000   2475.00    932.57
 .004031      475.      505.      480.         3         8         0       .00     86.98   1019.55
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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 3.940

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 945.9 1029.0 TYPE= 1 TARGET= 83.080
Encroach to 920 for small left bank tributary. Mapped to WSEL.

3.940	4.64	2484.64	2484.64	2484.24	2486.36	1.71	2.70	.33	2481.50
2741.0	483.0	2258.0	.0	85.3	200.2	.0	202.6	65.1	100000.00
.69	5.66	11.28	.00	.055	.035	.000	.000	2480.00	945.92
.012512	400.	415.	395.	0	19	0	.00	83.08	1029.00

*SECNO 4.000

3301 HV CHANGED MORE THAN HVINS

WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.10

3470 ENCROACHMENT STATIONS= 929.4 1040.8 TYPE= 1 TARGET= 111.340
Small right bank tributary affects channel configuration. KRATIO
is reasonable.

4.000	5.66	2487.66	2485.89	2486.77	2488.22	.56	1.63	.23	2482.50
2741.0	764.5	1670.4	306.2	210.1	235.5	82.7	205.5	65.8	2482.50
.71	3.64	7.09	3.70	.055	.035	.055	.000	2482.00	929.43
.002848	305.	315.	305.	3	15	0	.00	111.34	1040.77

*SECNO 4.042

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 904.0 1015.0 TYPE= 1 TARGET= 111.030

4.042	4.30	2489.30	2489.30	2488.82	2490.70	1.40	1.15	.34	2486.00
2741.0	1390.2	1350.8	.0	217.5	113.9	.0	207.5	66.4	100000.00
.71	6.39	11.86	.00	.055	.035	.000	.000	2485.00	903.97
.015176	185.	220.	235.	0	19	0	.00	111.03	1015.00

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 4.127

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.20

3470 ENCROACHMENT STATIONS= 879.9 1042.8 TYPE= 1 TARGET= 162.920
Encroach to 800 for small left bank tributary. Mapped to WSEL.

4.127	5.14	2493.14	2491.88	2492.27	2493.60	.46	2.72	.19	2489.00
2741.0	985.6	1566.4	188.9	303.8	236.7	51.2	212.3	67.8	2489.00
.74	3.24	6.62	3.69	.055	.035	.055	.000	2488.00	879.92
.003139	470.	450.	435.	4	15	0	.00	162.92	1042.84

*SECNO 4.222

3470 ENCROACHMENT STATIONS= 975.0 1071.2 TYPE= 1 TARGET= 96.180

4.222	5.01	2495.01	2493.87	2494.29	2495.82	.81	2.08	.14	2490.80
2741.0	.0	1618.0	1123.0	.0	191.3	226.2	218.2	69.3	2490.70
.76	.00	8.46	4.96	.000	.035	.055	.000	2490.00	975.00
.005639	545.	505.	475.	3	15	0	.00	96.18	1071.18

*SECNO 4.290

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 968.6 1037.7 TYPE= 1 TARGET= 69.090

4.290	4.66	2497.66	2497.66	2497.46	2499.64	1.98	2.87	.47	2494.00
2741.0	112.1	2268.6	360.2	21.8	187.4	57.7	221.1	70.0	2494.00
.77	5.15	12.10	6.24	.055	.035	.055	.000	2493.00	968.59
.012146	340.	360.	360.	0	11	0	.00	69.09	1037.68

*SECNO 4.399

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


3470 ENCROACHMENT STATIONS=      902.1    1031.0  TYPE=      1  TARGET=      128.930
     4.399      3.42   2505.42   2505.25   2504.77   2506.54      1.12      6.72       .17   2503.00
    2741.0     597.6    2143.4       .0     115.8     232.7        .0     224.9      71.2 100000.00
       .78      5.16      9.21       .00      .055      .035      .000      .000   2502.00    902.07
   .011908      450.      575.      575.         3        19         0       .00    128.93   1031.00


*SECNO 4.491

3470 ENCROACHMENT STATIONS=      959.0    1068.9  TYPE=      1  TARGET=      109.900
     4.491      4.90   2509.90   2509.33   2509.30   2510.90      1.00      4.34       .02   2508.00
    2741.0        .0    1954.6     786.4        .0     216.3     169.4     228.9      72.5   2506.00
       .80       .00      9.04      4.64      .000      .035      .055      .000   2505.00    959.00
   .007150      480.      485.      440.         3        11         0       .00    109.90   1068.90


*SECNO 4.560

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=      970.0    1019.9  TYPE=      1  TARGET=       49.900
     4.560      6.19   2512.19   2511.95   2512.24   2514.47      2.29      3.06       .51   2507.50
    2741.0     299.6    2336.5     104.9      48.5     180.9      21.7     231.6      73.2   2507.50
       .81      6.18     12.91      4.83      .055      .035      .055      .000   2506.00    970.00
   .010016      365.      365.      360.         2        11         0       .00     49.90   1019.90


1490 NH CARD USED
*SECNO 4.680

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.49


3470 ENCROACHMENT STATIONS=      840.0    1030.0  TYPE=      1  TARGET=      190.000
         NH card used to represent well-defined secondary channel.
     4.680      5.65   2516.65   2514.64   2515.78   2516.89       .24      2.01       .41   2513.00
    2741.0    1456.9    1284.1       .0     461.2     275.0        .0     238.4      74.8 100000.00
       .85      3.16      4.67       .00      .044      .035      .000      .000   2511.00    840.00
   .001609      570.      635.      490.         2        14         0       .00    190.00   1030.00
```

```
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


CCHV=     .200 CEHV=     .400
*SECNO 4.783

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      952.1    1038.9  TYPE=      1  TARGET=      86.770
     4.783      4.96   2518.96   2518.96   2518.78   2520.69      1.73      1.79       .60   2516.00
    2741.0     245.0    2270.8     225.3      49.8     199.5      45.7     244.6      76.5   2516.00
       .87      4.92     11.38      4.93      .055      .035      .055      .000   2514.00    952.14
   .011113      510.      540.      555.         0        15         0       .00     86.77   1038.91


*SECNO 4.869

3301 HV CHANGED MORE THAN HVINS


WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.50


3470 ENCROACHMENT STATIONS=      986.0    1170.0  TYPE=      1  TARGET=     183.980
         No encroachment appears warranted at this section.  KRATIO exceeds
         1.4 due to natural expansion.
     4.869      5.31   2522.31   2520.16   2521.32   2522.53       .23      1.54       .30   2518.00
    2741.0        .0    1075.0    1666.0        .0     219.1     574.0     249.7      77.8   2518.00
       .90       .00      4.91      2.90      .000      .035      .055      .000   2517.00    986.00
   .001781      445.      450.      375.         3        14         0       .00    183.98   1169.98


*SECNO 4.956

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      961.1    1049.8  TYPE=      1  TARGET=      88.730
     4.956      5.98   2523.98   2523.98   2523.98   2525.77      1.80      1.44       .63   2519.50
    2741.0     313.9    2001.2     425.9      56.9     164.7      80.5     254.6      79.0   2519.50
       .91      5.52     12.15      5.29      .055      .035      .055      .000   2518.00    961.10
   .009086      450.      460.      355.         0         8         0       .00     88.73   1049.83
```

ECNO	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 4.998

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.79

3470 ENCROACHMENT STATIONS= 810.8 1095.2 TYPE= 1 TARGET= 284.410
Section taken from topographic map to better represent contraction
between Sections 4.956 and 5.041. Contraction confirmed on
aerial photographs.

4.998	6.35	2526.35	2523.19	2526.34	2526.46	.11	.35	.34	2520.00
2741.0	873.5	1045.0	822.4	566.9	285.5	390.2	258.5	79.9	2520.00
.94	1.54	3.66	2.11	.055	.035	.055	.000	2520.00	810.75
.000633	220.	220.	220.	2	11	0	.00	284.41	1095.16

*SECNO 5.041

WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .47

3470 ENCROACHMENT STATIONS= 768.5 1018.1 TYPE= 1 TARGET= 249.640
Sudden widening and flattening of channel cross section for 500 ft.
Upstream and downstream reaches very narrow. KRATIO reasonable.

5.041	5.10	2526.50	2525.24	2526.51	2526.79	.29	.26	.07	2522.40
2741.0	1753.3	987.7	.0	585.0	166.8	.0	263.5	81.3	100000.00
.95	3.00	5.92	.00	.055	.035	.000	.000	2521.40	768.46
.002908	210.	230.	225.	3	14	0	.00	249.64	1018.10

*SECNO 5.149

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 935.1 1020.4 TYPE= 1 TARGET= 85.290

5.149	4.98	2529.98	2529.98	2529.70	2531.70	1.72	2.89	.57	2526.00
2741.0	828.9	1762.2	149.9	139.2	142.9	23.6	270.3	83.4	2526.00
.97	5.95	12.34	6.34	.055	.035	.055	.000	2525.00	935.12
.011512	550.	570.	555.	0	8	0	.00	85.29	1020.41

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 5.272

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 975.5 1020.0 TYPE= 1 TARGET= 44.470

Encroach to 850 for small left bank tributary.

5.272	6.46	2536.46	2536.18	2536.41	2538.72	2.26	6.81	.22	2532.00
2741.0	154.3	2586.7	.0	25.1	209.8	.0	274.1	84.3	100000.00
.98	6.15	12.33	.00	.055	.035	.000	.000	2530.00	975.53
.010087	560.	650.	590.	2	11	0	.00	44.47	1020.00

*SECNO 5.343

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 979.0 1042.6 TYPE= 1 TARGET= 63.560

Encroach to 820 for small left bank tributary.

5.343	6.67	2540.67	2540.09	2539.94	2542.23	1.56	3.38	.14	2536.00
2741.0	.0	2016.7	724.3	.0	180.4	126.2	276.5	84.8	2536.00
.99	.00	11.18	5.74	.000	.035	.055	.000	2534.00	979.00
.008079	330.	375.	385.	2	11	0	.00	63.56	1042.56

*SECNO 5.432

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 972.0 1021.3 TYPE= 1 TARGET= 49.300

5.432	5.93	2544.53	2544.16	2544.12	2546.62	2.09	4.17	.21	2539.30
2741.0	435.5	2305.5	.0	66.4	187.0	.0	279.4	85.3	100000.00
1.00	6.56	12.33	.00	.055	.035	.000	.000	2538.60	972.00
.010245	435.	470.	415.	2	15	0	.00	49.30	1021.30

*SECNO 5.534
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 945.0 1048.9 TYPE= 1 TARGET= 103.850

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      Floodplain shifted 10 ft to match topogaphic map.
   5.534      5.54   2552.54   2552.54   2552.55   2554.19      1.65      5.12       .09   2548.40
  2741.0     363.8    2027.4     349.8      74.1     174.4      69.3     282.8      86.3   2548.20
    1.02      4.91     11.62      5.05      .055      .035      .055      .000   2547.00    945.16
 .009004      525.      540.      480.         0        11         0       .00    103.67   1048.83


*SECNO 5.620

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.61


3470 ENCROACHMENT STATIONS=      969.0    1130.8  TYPE=      1  TARGET=      161.790
        Section becomes flat and wide at sharp 90 degree turn.  KRATIO OK.
   5.620      6.15   2556.15   2554.96   2556.14   2556.80       .65      2.41       .20   2551.60
  2741.0     147.2    1908.7     685.1      44.4     254.3     226.1     287.3      87.7   2551.50
    1.04      3.31      7.50      3.03      .055      .035      .055      .000   2550.00    969.05
 .003465      400.      450.      510.         2        12         0       .00    161.79   1130.84


*SECNO 5.696

3470 ENCROACHMENT STATIONS=      968.8    1135.8  TYPE=      1  TARGET=      167.040
   5.696      6.41   2557.41   2556.81   2557.41   2558.27       .85      1.39       .08   2553.00
  2741.0     130.3    1984.3     626.4      37.1     232.8     218.6     291.3      88.9   2553.30
    1.05      3.51      8.52      2.87      .055      .035      .055      .000   2551.00    968.75
 .004021      390.      405.      270.         3        11         0       .00    167.04   1135.79


CCHV=     .400 CEHV=     .600
*SECNO 5.821

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      958.2    1043.6  TYPE=      1  TARGET=       85.450
        In the upper reaches of Wash AH3, variations in slope and channel
        cross section are common, and warning messages pertaining to KRATIO
        values higher than "normal" frequent.  Only extreme variations will
        be explained.
        Extremely tortuous channel.  CCHV and CEHV increased accordingly.
   5.821      5.65   2563.65   2563.65   2563.64   2565.46      1.82      3.31       .58   2559.50
  2741.0     303.7    2066.1     371.2      57.5     171.6      63.7     296.2      90.4   2559.50
    1.07      5.29     12.04      5.83      .055      .035      .055      .000   2558.00    958.16
 .009887      545.      565.      505.         0        15         0       .00     85.45   1043.61
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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 5.868

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.36

3470 ENCROACHMENT STATIONS= 954.1 1056.8 TYPE= 1 TARGET= 102.630
In this vicinity, channel changes course more than 180 degrees
in about 500 ft. Conveyance change reasonable for conditions.

5.868	7.35	2566.35	2563.51	2566.35	2566.86	.52	.88	.52	2559.50
2741.0	396.8	1870.9	473.3	116.3	283.8	144.9	298.6	91.0	2559.50
1.08	3.41	6.59	3.27	.055	.035	.055	.000	2559.00	954.14
.001768	270.	250.	240.	2	15	0	.00	102.59	1056.73

*SECNO 5.908

3301 HV CHANGED MORE THAN HVINS

MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 931.4 1021.2 TYPE= 1 TARGET= 89.800
NOTE: Encroachment to limit of effective flow on inside portion
of loop. Location estimated from review of aerial photographs.
Floodplain plotted to WSEL.

5.908	5.10	2568.10	2568.10	2568.09	2569.75	1.66	.71	.68	2565.40
2741.0	235.7	2465.9	39.5	42.5	229.6	9.6	300.3	91.4	2565.30
1.09	5.55	10.74	4.10	.055	.035	.055	.000	2563.00	931.40
.012638	130.	200.	165.	0	19	0	.00	89.80	1021.20

*SECNO 5.965

3301 HV CHANGED MORE THAN HVINS

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

3470 ENCROACHMENT STATIONS= 920.0 1031.6 TYPE= 1 TARGET= 111.550

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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


  5.965      6.19   2571.19   2570.56   2571.19   2572.33      1.14      2.38       .21   2567.00
 2741.0     543.2    2012.2     185.6     137.8     207.8      39.5     302.4      92.0   2567.00
   1.10      3.94      9.68      4.70      .055      .035      .055      .000   2565.00    920.05
.005815      210.      300.      310.         2         8         0       .00    111.55   1031.60


*SECNO 6.029
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      985.8    1090.3  TYPE=      1  TARGET=      104.500
        Flowrate through both new and old US 60 culverts from HEC-1 operation
        SAH80.  Continues through end of detailed study.
  6.029      7.09   2577.09   2577.09   2577.10   2578.42      1.33      2.43       .11 100000.00
 1908.0        .0    1856.3      51.7        .0     198.3      24.9     304.8      92.8   2576.50
   1.11       .00      9.36      2.08      .000      .035      .055      .000   2570.00    985.81
.010171      330.      340.      325.         0         8         0       .00    104.43   1090.24


*SECNO 6.084

 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.49


3470 ENCROACHMENT STATIONS=      940.0    1023.2  TYPE=      1  TARGET=       83.220
        Extremely flat slope and wide cross section in this reach.
        Begin Special Culvert analysis of US 60 bridge (3-8x10 RCB).
        Section 1 in SC routine.  Left overbank encroached to 940 to
        meet 4 to 1 flow expansion criteria downstream from culvert.
        Floodplain mapped to WSEL.
  6.084      7.30   2579.30   2576.89   2579.29   2579.74       .44       .96       .35   2576.00
 1908.0     122.7    1765.6      19.7      59.2     321.1      13.6     306.8      93.4   2576.00
   1.12      2.07      5.50      1.45      .055      .035      .055      .000   2572.00    940.00
.001635      280.      290.      235.         2        19         0       .00     83.22   1023.22


CCHV=     .600 CEHV=     .800
*SECNO 6.107
```

ECNO	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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 2590.00 ELREA= 2589.80

Section 2 in SC routine. Sections constructed from US 60 centerline
elevation data and structure survey (Structure designation X-2).

6.107	4.82	2579.62	2579.62	2579.62	2582.05	2.43	.27	1.60	2590.00
1908.0	.0	1908.0	.0	.0	152.4	.0	307.6	93.5	2589.80
1.12	.00	12.52	.00	.000	.016	.000	.000	2574.80	984.17
.003178	120.	120.	120.	0	14	0	.00	31.66	1015.83

SPECIAL CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	3	.016	.40	3.00	.00	8.00	10.00	60.00	8	1	2575.20	2574.80

CHART 8 - BOX CULVERT WITH FLARED WINGWALLS; NO INLET TOP EDGE BEVEL
SCALE 1 - WINGWALLS FLARED 30 TO 75 DEGREES

*SECNO 6.118

SPECIAL CULVERT OUTLET CONTROL
EGIC = 2583.270 EGOC = 2583.714 PCWSE= 2579.619 ELTRD= 2588.600

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.93

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
2583.27	2583.71	1.66	0.	1908.	8.021	240.0	2588.60	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 2590.00 ELREA= 2589.80

Conveyance change through culvert. Structure X-2 in Structure Survey.
Section 3 in SC routine.

6.118	7.51	2582.71	.00	2582.71	2583.71	1.00	1.66	.00	2590.00
1908.0	.0	1908.0	.0	.0	237.9	.0	307.8	93.6	2589.80
1.13	.00	8.02	.00	.000	.016	.000	.000	2575.20	984.15

.000849	60.	60.	60.	3	0	0	.00	31.70	1015.85

ECNO	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= .200 CEHV= .400
*SECNO 6.134

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 970.0 1040.0 TYPE= 1 TARGET= 70.000
Conveyance change due to culvert. Section 4 in SC routine.
GR data taken from topographic map. Encroachments added to meet
1 to 1 flow contraction criteria. Floodplain mapped to WSEL.

6.134	8.22	2583.72	2578.78	2583.83	2583.94	.21	.06	.16	2576.00
1908.0	.0	1548.1	359.9	.0	391.4	159.6	308.6	93.7	2575.50
1.13	.00	3.95	2.26	.000	.035	.055	.000	2575.50	970.00
.000676	80.	85.	90.	2	14	0	.00	70.00	1040.00

*SECNO 6.165

3301 HV CHANGED MORE THAN HVINS

WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .45

3470 ENCROACHMENT STATIONS= 975.0 1025.0 TYPE= 1 TARGET= 50.000

6.165	5.63	2583.63	2581.55	2583.89	2584.34	.71	.21	.20	2578.00
1908.0	.0	1908.0	.0	.0	281.5	.0	310.1	93.9	100000.00
1.14	.00	6.78	.00	.000	.035	.000	.000	2578.00	975.00
.003334	160.	160.	170.	2	14	0	.00	50.00	1025.00

*SECNO 6.214

3470 ENCROACHMENT STATIONS= 928.0 1036.0 TYPE= 1 TARGET= 108.000
Conveyance change due to culvert. Moving upstream from backwater
area. Floodplain shifted 20 ft right to match topography.

6.214	3.82	2584.82	2583.74	2583.85	2585.35	.53	.97	.04	2581.00
1908.0	536.3	1344.5	27.2	147.1	205.3	11.5	312.1	94.4	2582.00
1.15	3.65	6.55	2.35	.055	.035	.055	.000	2581.00	928.00
.004117	280.	260.	255.	3	11	0	.00	108.00	1036.00

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

CCHV= .600 CEHV= .800
*SECNO 6.265

3470 ENCROACHMENT STATIONS= 950.4 1039.3 TYPE= 1 TARGET= 88.890
Section 1 in SC routine for Old US 60. GR data taken from topographic map. Section placed to meet 4 to 1 expansion criteria downstream from culvert.

6.265	4.46	2585.96	2585.07	2585.85	2586.75	.79	1.19	.21	2582.00
1908.0	234.5	1601.8	71.7	64.0	210.5	24.4	314.2	95.0	2582.00
1.16	3.66	7.61	2.94	.055	.035	.055	.000	2581.50	950.37
.004726	270.	270.	270.	2	11	0	.00	88.89	1039.26

CCHV= .600 CEHV= .800
*SECNO 6.297

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 2590.50 ELREA= 2590.80

Section 2 in SC routine. Structure X-1 from structure survey. Downstream face of 3-10x5 Reinforced Concrete Box (RCB) Culvert. Road abandoned in 1960s. Sediment depth unknown, estimate 5 ft. Sections 2 and 3 constructed from roadway centerline elevation and structure survey data.

6.297	4.82	2586.62	2586.62	2586.62	2589.05	2.43	.65	1.31	2590.50
1908.0	.0	1908.0	.0	.0	152.6	.0	315.0	95.2	2590.80
1.17	.00	12.51	.00	.000	.016	.000	.000	2581.80	984.14
.003169	175.	170.	175.	0	8	0	.00	31.71	1015.85

SPECIAL CULVERT

SC	CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
	3	.015	.40	3.00	.00	5.00	10.00	34.00	8	1	2581.80	2581.80

CHART 8 - BOX CULVERT WITH FLARED WINGWALLS; NO INLET TOP EDGE BEVEL
SCALE 1 - WINGWALLS FLARED 30 TO 75 DEGREES

*SECNO 6.304

IAL CULVERT INLET CONTROL + WEIR FLOW, EG = 2591.35

3301 HV CHANGED MORE THAN HVINS

ECNO	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 = 2.44

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
2592.08	2590.42	2.30	112.	1792.	6.820	150.0	2590.30	61.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 2590.50 ELREA= 2590.80

Section 3 in SC routine. Upstream face of culvert.

6.304	8.82	2590.62	.00	2590.62	2591.35	.72	2.30	.00	2590.50
1908.0	.1	1907.9	.0	.6	279.7	.0	315.2	95.3	2590.80
1.17	.10	6.82	.00	.055	.016	.000	.000	2581.80	974.43
.000530	34.	34.	34.	2	0	0	.00	41.47	1015.90

CCHV= .600 CEHV= .800
*SECNO 6.313

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 950.0 1040.0 TYPE= 1 TARGET= 90.000

Section 4 in SC routing. Encroachments added to meet 1 to 1 flow contraction criteria. Floodplain mapped to WSEL.

6.313	9.46	2591.46	2587.04	2591.46	2591.68	.22	.03	.30	2584.00
1908.0	304.3	1425.8	178.0	163.7	338.2	98.4	315.7	95.3	2584.00
1.17	1.86	4.22	1.81	.055	.035	.055	.000	2582.00	950.00
.000576	50.	50.	50.	3	11	0	.00	90.00	1040.00

CCHV= .200 CEHV= .400
*SECNO 6.361

3470 ENCROACHMENT STATIONS= 950.0 1040.0 TYPE= 1 TARGET= 90.000

6.361	8.58	2591.58	2588.44	2591.61	2591.92	.34	.19	.05	2584.30
1908.0	581.4	1081.8	244.8	203.8	189.2	107.6	318.8	95.9	2584.00
1.19	2.85	5.72	2.28	.055	.035	.055	.000	2583.00	950.00
.001143	240.	250.	245.	1	11	0	.00	90.00	1040.00

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 6.406

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .52

3470 ENCROACHMENT STATIONS= 950.0 1023.0 TYPE= 1 TARGET= 73.000
Conveyance change due to culvert constriction. Moving upstream from backwater area. Floodplain shifted 10 ft to match topographic map.

6.406	5.84	2591.84	2590.50	2591.88	2592.55	.71	.48	.15	2586.70
1908.0	689.0	889.0	329.9	153.8	102.9	70.4	321.1	96.3	2586.70
1.20	4.48	8.64	4.69	.055	.035	.055	.000	2586.00	950.00
.004282	250.	240.	230.	2	11	0	.00	73.00	1023.00

*SECNO 6.463

3470 ENCROACHMENT STATIONS= 997.3 1083.3 TYPE= 1 TARGET= 85.980

6.463	6.25	2593.25	2592.80	2592.90	2594.23	.99	1.58	.11	2589.00
1908.0	.0	1144.1	763.9	.0	119.3	166.8	323.1	96.8	2589.00
1.21	.00	9.59	4.58	.000	.035	.055	.000	2587.00	997.30
.007283	285.	300.	265.	2	5	0	.00	85.98	1083.28

*SECNO 6.523

3470 ENCROACHMENT STATIONS= 946.3 1022.0 TYPE= 1 TARGET= 75.740

6.523	4.73	2595.43	2594.79	2595.38	2596.41	.98	2.18	.00	2591.20
1908.0	738.7	939.8	229.5	145.2	93.6	41.4	325.0	97.3	2591.30
1.22	5.09	10.04	5.55	.055	.035	.055	.000	2590.70	946.26
.007505	235.	315.	295.	2	14	0	.00	75.74	1022.00

*SECNO 6.581

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 942.0 1061.9 TYPE= 1 TARGET= 119.900
Encroach to 1061.9 for small right bank tributary. Floodplain mapped to WSEL.

6.581	4.27	2597.67	2596.42	2596.74	2598.09	.42	1.57	.11	2593.80
1908.0	460.9	804.7	642.3	121.9	119.6	177.3	327.4	98.0	2593.70
1.24	3.78	6.73	3.62	.055	.035	.055	.000	2593.40	942.00
.003858	250.	310.	345.	1	14	0	.00	119.90	1061.90

ECNO	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 6.674

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .69

3470 ENCROACHMENT STATIONS= 950.0 1030.0 TYPE= 1 TARGET= 80.000

Floodplain shifted 20 ft right to conform with map.

6.674	4.88	2599.88	2599.47	2599.94	2600.98	1.10	2.62	.27	2596.00
1908.0	554.6	1117.4	236.0	113.0	109.6	48.1	331.2	99.1	2596.00
1.25	4.91	10.20	4.90	.055	.035	.055	.000	2595.00	950.00
.008077	480.	490.	485.	2	8	0	.00	80.00	1030.00

*SECNO 6.776

3470 ENCROACHMENT STATIONS= 952.0 1018.7 TYPE= 1 TARGET= 66.640

6.776	5.22	2604.22	2604.00	2603.86	2605.67	1.44	4.55	.14	2600.00
908.0	503.8	1312.4	91.8	97.3	118.1	19.9	334.4	100.0	2600.00
1.27	5.18	11.11	4.60	.055	.035	.055	.000	2599.00	952.03
.008671	560.	540.	515.	2	8	0	.00	66.64	1018.67

*SECNO 6.865

3470 ENCROACHMENT STATIONS= 936.0 1018.9 TYPE= 1 TARGET= 82.850

6.865	5.15	2608.15	2607.74	2607.59	2609.20	1.05	3.46	.08	2604.00
1908.0	869.5	932.9	105.6	168.9	88.4	23.4	336.7	100.7	2604.00
1.28	5.15	10.55	4.51	.055	.035	.055	.000	2603.00	936.04
.008014	325.	470.	410.	2	15	0	.00	82.85	1018.89

*SECNO 6.955

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.52

3470 ENCROACHMENT STATIONS= 831.9 1042.5 TYPE= 1 TARGET= 210.590

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
6.955	4.30	2611.30	2610.16	2611.08	2611.55	.25	2.18	.16	2608.00
1908.0	1317.8	437.7	152.6	413.2	72.2	57.6	340.7	102.1	2608.00
1.32	3.19	6.06	2.65	.055	.035	.055	.000	2607.00	831.91
.003463	400.	475.	490.	2	14	0	.00	210.59	1042.50

*SECNO 7.067

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 977.0 1057.5 TYPE= 1 TARGET= 80.470

7.067	4.34	2618.34	2618.34	2618.12	2619.75	1.41	3.79	.47	2615.00
1908.0	272.2	964.3	671.5	42.5	80.3	113.3	346.4	104.2	2615.00
1.33	6.41	12.01	5.92	.055	.035	.055	.000	2614.00	977.00
.013465	675.	590.	570.	0	5	0	.00	80.47	1057.47

*SECNO 7.164

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.84

3470 ENCROACHMENT STATIONS= 955.0 1067.5 TYPE= 1 TARGET= 112.520

In the vicinity of the tank, several large changes in channel slope occur, and flow changes from subcritical to critical with each new section. This affects Sections 7.164 through 7.339. No engineering data or construction plans available for small dam.

7.164	7.38	2621.38	2619.13	2620.82	2621.71	.33	1.75	.22	2615.00
1908.0	529.4	850.2	528.4	170.0	139.6	197.2	350.3	105.3	2616.00
1.37	3.11	6.09	2.68	.055	.035	.055	.000	2614.00	955.00
.001673	435.	510.	455.	4	11	0	.00	112.52	1067.52

*SECNO 7.223

3301 HV CHANGED MORE THAN HVINS

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ECNO     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


7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      893.0    1027.6  TYPE=      1  TARGET=      134.620
     7.223      3.87   2622.87   2622.87   2622.89   2623.88      1.01      1.02       .27   2619.60
    1908.0     931.2     732.6     244.2     187.5      64.7      44.6     352.9     106.0   2619.70
      1.38      4.97     11.32      5.48      .055      .035      .055      .000   2619.00    893.00
   .013065      220.      315.      320.         0        11         0       .00    134.56   1027.56


*SECNO 7.339

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.80


3470 ENCROACHMENT STATIONS=      850.0    1041.0  TYPE=      1  TARGET=      191.000
        Floodplain mapped to WSEL.
     7.339      4.53   2627.53   2626.33   2627.29   2627.75       .22      3.71       .16   2626.00
    1908.0    1483.7     358.1      66.2     403.4      83.1      30.5     358.0     108.1   2626.00
      1.42      3.68      4.31      2.17      .055      .035      .055      .000   2623.00    850.00
   .004028      525.      610.      615.         3        10         0       .00    191.00   1041.00


*SECNO 7.441

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      978.2    1084.2  TYPE=      1  TARGET=      105.970
     7.441      3.26   2632.26   2632.26   2631.79   2633.43      1.16      3.87       .38   2629.50
    1908.0     177.5     777.0     953.5      29.2      67.6     160.4     362.7     109.9   2629.50
      1.43      6.08     11.49      5.95      .055      .035      .055      .000   2629.00    978.20
   .016900      530.      540.      525.         0        19         0       .00    105.97   1084.17


*SECNO 7.496
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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 =  2.76


3470 ENCROACHMENT STATIONS=      867.8    1003.3  TYPE=      1  TARGET=      135.500
     7.496      4.72   2634.72   2632.69   2633.77   2634.93       .21      1.32       .19   2630.00
    1908.0    1422.6     485.4        .0     452.2      98.0        .0     365.2     110.6 100000.00
      1.46      3.15      4.95       .00      .055      .035      .000      .000   2630.00    867.80
   .002214      250.      290.      300.         4        15         0       .00    135.50   1003.30


*SECNO 7.542

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3770 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      974.1    1027.6  TYPE=      1  TARGET=       53.470
     7.542      4.11   2635.11   2635.11   2634.85   2637.01      1.89      1.11       .67   2631.00
    1908.0     369.9    1093.8     444.3      53.4      82.3      63.8     367.3     111.2   2631.00
      1.46      6.92     13.29      6.96      .055      .035      .055      .000   2631.00    974.13
   .014868      240.      245.      225.         0        11         0       .00     53.47   1027.60


CCHV=     .200 CEHV=     .400
*SECNO -1.396
START TRIB COMP
    -1.396     1.396  2379.467

3470 ENCROACHMENT STATIONS=      928.0    1039.2  TYPE=      1  TARGET=      111.180
         Begin right bank tributary to AH3.  First two sections lie near
         the confluence with AH3.  Original sections 1.499 and 1.569
         from the main channel data included GR data for tributary channel
         as well.  Modifications of these sections have been incorporated
         into the tributary model as sections 0.114 and 0.171.  Sections
         0.236 and 0.306 were taken from the topographic map.
         Cross section stationing based on 600 ft distance from confluence.
   -1.396      5.47   2379.47       .00   2379.75   2381.13      1.67      3.49     -1.71   2375.40
   4046.0     470.9    3098.8     476.3      81.1     271.6      85.4     369.6     111.7   2375.50
     1.47      5.81     11.41      5.58      .055      .035      .055      .000   2374.00    928.00
  .009522      335.      345.      220.         0         0         0       .00    111.18   1039.18
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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 .114

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .46

3470 ENCROACHMENT STATIONS= 961.0 1049.0 TYPE= 1 TARGET= 87.990

.114	4.22	2387.22	2386.79	2386.87	2388.07	.85	6.77	.16	2386.00
1680.0	.0	1667.8	12.2	.0	225.3	6.2	375.4	113.5	2386.00
1.50	.00	7.40	1.96	.000	.035	.055	.000	2383.00	961.00
.007827	750.	755.	750.	2	19	0	.00	87.99	1048.99

*SECNO .171

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 985.0 1032.0 TYPE= 1 TARGET= 46.970

.171	4.87	2390.87	2390.87	2390.60	2392.66	1.79	2.96	.38	2388.00
1680.0	.0	1512.9	167.1	.0	135.3	32.1	376.7	113.9	2388.00
1.51	.00	11.18	5.20	.000	.035	.055	.000	2386.00	985.00
.012790	290.	300.	300.	0	8	0	.00	46.97	1031.97

*SECNO .236

3301 HV CHANGED MORE THAN HVINS

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

3470 ENCROACHMENT STATIONS= 966.4 1017.7 TYPE= 1 TARGET= 51.310

.236	5.78	2394.58	2393.85	2393.75	2395.76	1.18	2.98	.12	2391.50
1680.0	32.9	1620.9	26.2	11.0	183.0	9.7	378.2	114.3	2392.00
1.52	2.99	8.86	2.70	.055	.035	.055	.000	2388.80	966.37
.006224	345.	345.	345.	3	8	0	.00	51.31	1017.68

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 .306

3470 ENCROACHMENT STATIONS= 980.0 1025.0 TYPE= 1 TARGET= 45.000

.306	4.00	2397.30	2396.99	2397.08	2398.79	1.49	2.91	.12	2395.00
1680.0	.0	1680.0	.0	.0	171.7	.0	379.8	114.7	100000.00
1.53	.00	9.79	.00	.000	.035	.000	.000	2393.30	980.00
.010300	315.	370.	350.	3	14	0	.00	45.00	1025.00

*SECNO .386

3470 ENCROACHMENT STATIONS= 976.2 1024.8 TYPE= 1 TARGET= 48.560

.386	5.80	2400.80	2400.12	2400.35	2402.14	1.33	3.32	.03	2397.00
1680.0	45.0	1562.0	73.0	13.7	163.3	20.8	381.6	115.2	2397.30
1.54	3.28	9.56	3.50	.055	.035	.055	.000	2395.00	976.20
.006264	330.	420.	440.	2	11	0	.00	48.56	1024.76

*SECNO .462
7185 MINIMUM SPECIFIC ENERGY
CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 970.4 1019.0 TYPE= 1 TARGET= 48.560

.462	4.98	2403.98	2403.98	2403.90	2405.78	1.81	3.32	.19	2400.70
1680.0	117.2	1562.8	.0	24.7	140.7	.0	383.2	115.6	100000.00
1.55	4.75	11.10	.00	.055	.035	.000	.000	2399.00	970.44
.011639	365.	400.	400.	0	15	0	.00	48.56	1019.00

*SECNO .539

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 975.3 1024.3 TYPE= 1 TARGET= 48.940

.539	5.21	2408.21	2407.56	2407.64	2409.49	1.28	3.61	.11	2404.60
1680.0	74.5	1468.4	137.0	19.5	153.6	29.2	384.9	116.1	2404.40
1.56	3.83	9.56	4.69	.055	.035	.055	.000	2403.00	975.31
.007100	380.	405.	390.	2	11	0	.00	48.94	1024.25

*SECNO .635
7185 MINIMUM SPECIFIC ENERGY

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= 947.6 1006.2 TYPE= 1 TARGET= 58.560

.635	5.02	2414.02	2414.02	2413.96	2415.64	1.62	4.21	.14	2410.70
1680.0	318.6	1351.3	10.1	63.9	121.3	4.0	387.1	116.7	2410.50
1.58	4.99	11.14	2.55	.055	.035	.055	.000	2409.00	947.63
.010208	495.	500.	495.	0	8	0	.00	58.56	1006.19

*SECNO .733

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 959.8 1020.0 TYPE= 1 TARGET= 60.170

.733	4.87	2418.87	2418.12	2418.36	2419.91	1.04	4.15	.12	2415.00
1680.0	304.6	1206.4	169.0	65.5	130.6	38.6	389.6	117.3	2415.00
1.60	4.65	9.23	4.37	.055	.035	.055	.000	2414.00	959.81
.006675	470.	525.	410.	2	15	0	.00	60.17	1019.98

*SECNO .813

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 967.4 1013.6 TYPE= 1 TARGET= 46.180

.813	5.00	2423.00	2423.00	2422.82	2424.84	1.83	3.62	.32	2420.30
1680.0	91.6	1547.2	41.2	16.6	137.8	10.1	391.4	117.8	2420.00
1.61	5.51	11.23	4.07	.055	.035	.055	.000	2418.00	967.41
.011897	355.	420.	455.	0	8	0	.00	46.18	1013.59

*SECNO .911

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 937.4 1029.8 TYPE= 1 TARGET= 92.430

.911	3.64	2429.64	2429.20	2428.81	2430.48	.84	5.44	.20	2427.00
1680.0	541.5	959.1	179.5	112.1	109.2	39.1	393.9	118.7	2427.00
1.63	4.83	8.78	4.59	.055	.035	.055	.000	2426.00	937.42
.009414	515.	520.	470.	3	14	0	.00	92.43	1029.85

ECNO	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 .990

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 964.6 1041.3 TYPE= 1 TARGET= 76.760
Flowrate from HEC-1 operation SAH90.
Small stock watering tank right of channel. No engineering data or
construction plans available for the small dam forming the tank.
Floodplain placed at the limit of natural flow conveyance.
WSEL for the water ponded in the tank is estimated from the average
of the EGL values at cross sections that bracket the inlet.

.990	5.38	2436.38	2436.38	2436.36	2437.98	1.60	3.74	.31	2434.00
1680.0	22.9	1513.8	143.2	9.6	142.5	35.0	396.0	119.4	2433.00
1.64	2.38	10.62	4.09	.055	.035	.055	.000	2431.00	964.59
.008746	390.	415.	430.	0	14	0	.00	76.76	1041.35

O 1.111

3470 ENCROACHMENT STATIONS= 972.1 1020.7 TYPE= 1 TARGET= 48.610

1.111	4.69	2442.69	2442.60	2442.51	2444.41	1.72	6.39	.05	2439.00
1680.0	357.5	1054.5	268.0	57.6	85.6	39.3	398.7	120.3	2438.70
1.66	6.21	12.32	6.81	.055	.035	.055	.000	2438.00	972.11
.012171	505.	640.	630.	2	15	0	.00	48.61	1020.72

*SECNO 1.192

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.75

3470 ENCROACHMENT STATIONS= 967.0 1042.8 TYPE= 1 TARGET= 75.800
KRATIO = 1.56, outside expected range due to change in flow regime
from critical to subcritical.

1.192	5.76	2446.76	2445.36	2445.80	2447.34	.57	2.69	.23	2441.70
1680.0	421.0	660.5	598.6	98.1	80.7	145.0	401.1	120.9	2442.00
1.68	4.29	8.19	4.13	.055	.035	.055	.000	2441.00	966.99
.003988	410.	430.	400.	2	11	0	.00	75.80	1042.79

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 1.287

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 962.5 1019.5 TYPE= 1 TARGET= 57.000

1.287	4.49	2450.49	2450.49	2450.17	2452.13	1.64	3.29	.43	2447.00
1680.0	524.9	947.1	208.0	82.6	75.8	32.2	403.9	121.6	2447.00
1.69	6.35	12.49	6.46	.055	.035	.055	.000	2446.00	962.52
.013769	475.	500.	480.	0	15	0	.00	57.00	1019.52

*SECNO 1.387

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.46

3470 ENCROACHMENT STATIONS= 962.5 1010.0 TYPE= 1 TARGET= 47.550

1.387	5.91	2455.91	2455.05	2455.13	2457.08	1.17	4.86	.09	2451.00
1680.0	622.1	978.9	79.0	110.9	94.5	14.2	406.4	122.3	2451.30
1.71	5.61	10.36	5.55	.055	.035	.055	.000	2450.00	962.50
.006454	540.	530.	535.	3	8	0	.00	47.55	1010.05

*SECNO 1.471

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 988.2 1042.4 TYPE= 1 TARGET= 54.180

1.471	4.35	2461.35	2461.35	2461.01	2463.03	1.67	4.00	.20	2457.80
1680.0	93.4	974.2	612.4	14.6	78.3	92.9	408.5	122.8	2457.60
1.72	6.40	12.44	6.59	.055	.035	.055	.000	2457.00	988.18
.013505	440.	445.	440.	0	19	0	.00	54.18	1042.36

*SECNO 1.568
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

ECNO	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= 944.9 1007.2 TYPE= 1 TARGET= 62.270

1.568	4.89	2469.89	2469.89	2469.51	2471.43	1.54	6.64	.03	2466.00
1680.0	813.8	836.2	30.0	131.5	65.8	7.9	410.8	123.5	2466.00
1.74	6.19	12.70	3.79	.055	.035	.055	.000	2465.00	944.88
.012624	510.	510.	505.	0	8	0	.00	62.27	1007.15

*SECNO 1.666
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 963.1 1024.3 TYPE= 1 TARGET= 61.240

1.666	4.36	2477.36	2477.36	2476.98	2478.91	1.55	7.08	.00	2473.80
1680.0	548.4	767.5	364.1	83.1	59.5	54.7	413.2	124.2	2473.70
1.75	6.60	12.90	6.66	.055	.035	.055	.000	2473.00	963.06
.014656	535.	515.	500.	0	15	0	.00	61.24	1024.30

*SECNO 1.752

ENCROACHMENT STATIONS= 981.3 1038.6 TYPE= 1 TARGET= 57.250

1.752	4.60	2482.60	2481.94	2481.85	2483.72	1.13	4.73	.08	2478.30
1680.0	278.2	961.0	440.9	52.0	93.7	81.8	415.4	124.8	2478.30
1.77	5.35	10.26	5.39	.055	.035	.055	.000	2478.00	981.32
.007809	475.	455.	425.	3	11	0	.00	57.25	1038.57

*SECNO 1.845
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 965.8 1037.0 TYPE= 1 TARGET= 71.170

1.845	4.27	2490.27	2490.27	2489.96	2491.66	1.39	5.24	.11	2486.50
1680.0	539.8	564.6	575.7	80.5	42.2	87.2	417.8	125.5	2486.50
1.78	6.71	13.37	6.60	.055	.035	.055	.000	2486.00	965.82
.015612	485.	490.	490.	0	11	0	.00	71.17	1036.99

*SECNO 1.957

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

3470 ENCROACHMENT STATIONS= 990.0 1071.0 TYPE= 1 TARGET= 80.990

1.957	3.63	2498.63	2497.95	2497.76	2499.38	.75	7.59	.13	2496.00
1680.0	.0	510.2	1169.8	.0	57.4	199.0	421.0	126.6	2495.30
1.81	.00	8.89	5.88	.000	.035	.055	.000	2495.00	990.00
.010872	590.	590.	585.	4	19	0	.00	80.99	1070.99

*SECNO 2.041

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 939.2 1020.5 TYPE= 1 TARGET= 81.320

2.041	4.42	2503.42	2503.41	2503.01	2504.74	1.32	5.13	.23	2500.00
1680.0	599.9	907.2	172.9	114.4	78.4	32.2	423.5	127.4	2500.00
1.82	5.24	11.57	5.37	.055	.035	.055	.000	2499.00	939.15
.012076	430.	445.	460.	3	11	0	.00	81.32	1020.47

THIS RUN EXECUTED 20AUG92 09:00:57

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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

WASH AH3

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	.090	.00	.00	.00	2318.00	4046.00	2323.94	2323.94	2324.72	61.33	8.95	847.43	516.64
*	.090	.00	.00	.00	2318.00	4046.00	2323.93	2323.93	2324.72	61.58	8.97	845.51	515.59
*	.187	510.00	.00	.00	2327.00	4046.00	2328.82	2328.64	2329.20	201.98	6.84	839.44	284.69
*	.187	510.00	.00	.00	2327.00	4046.00	2329.02	2329.02	2329.82	309.99	9.38	582.23	229.80
	.283	510.00	.00	.00	2331.00	4046.00	2334.93	2334.79	2335.48	90.47	8.50	897.47	425.37
	.283	510.00	.00	.00	2331.00	4046.00	2335.70	2335.27	2336.57	79.79	9.27	637.85	452.95
	.392	575.00	.00	.00	2336.00	4046.00	2339.68	2339.14	2340.02	65.88	6.61	1000.89	498.47
	.392	575.00	.00	.00	2336.00	4046.00	2340.31	2339.48	2340.83	63.23	7.46	789.55	508.83
	.455	330.00	.00	.00	2338.00	4046.00	2341.70	2340.89	2342.18	61.82	7.30	818.67	514.58
	.455	330.00	.00	.00	2338.00	4046.00	2342.31	2341.83	2343.21	75.79	9.08	642.00	464.76
*	.564	580.00	.00	.00	2342.00	4046.00	2347.48	2347.48	2348.47	83.28	9.90	689.15	443.36
*	.564	580.00	.00	.00	2342.00	4046.00	2347.88	2347.88	2349.47	103.35	11.33	469.23	397.98
	.652	460.00	.00	.00	2345.00	4046.00	2350.80	2350.62	2351.71	57.98	9.38	738.24	531.36
*	.652	460.00	.00	.00	2345.00	4046.00	2351.81	2350.70	2352.69	43.99	8.64	622.90	610.05
	.751	525.00	.00	.00	2347.00	4046.00	2353.29	2352.68	2353.94	35.92	8.30	901.40	675.11
	.751	525.00	.00	.00	2347.00	4046.00	2353.88	2353.42	2354.94	49.38	9.58	631.42	575.79
*	.809	305.00	.00	.00	2350.00	4046.00	2355.37	2355.37	2356.58	85.55	10.48	630.24	437.44
	.809	305.00	.00	.00	2350.00	4046.00	2355.48	2355.42	2356.94	91.35	11.01	510.66	423.31
	.860	270.00	.00	.00	2352.00	4046.00	2357.85	2357.79	2358.87	85.64	10.65	653.25	437.21
*	.860	270.00	.00	.00	2352.00	4046.00	2358.15	2358.15	2359.65	99.14	11.96	512.77	406.34
*	.945	450.00	.00	.00	2355.00	4046.00	2362.03	2362.03	2363.44	72.09	11.11	568.90	476.54
	.945	450.00	.00	.00	2355.00	4046.00	2362.33	2362.33	2364.41	85.52	12.53	416.43	437.51

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	1.038	490.00	.00	.00	2359.70	4046.00	2366.70	2366.70	2368.20	69.05	11.10	542.67	486.91
*	1.038	490.00	.00	.00	2359.70	4046.00	2366.66	2366.66	2368.53	81.13	11.99	449.42	449.20
	1.131	490.00	.00	.00	2364.00	4046.00	2370.19	2369.82	2371.56	69.86	11.12	526.56	484.07
	1.131	490.00	.00	.00	2364.00	4046.00	2370.69	2369.82	2371.74	48.76	9.84	597.86	579.39
	1.229	520.00	.00	.00	2367.00	4046.00	2373.71	2373.24	2374.76	52.72	9.72	630.60	557.25
	1.229	520.00	.00	.00	2367.00	4046.00	2373.32	2373.09	2375.11	87.16	11.92	431.74	433.38
	1.330	535.00	.00	.00	2371.00	4046.00	2376.95	2376.74	2378.37	88.70	11.54	510.04	429.59
	1.330	535.00	.00	.00	2371.00	4046.00	2377.81	2376.81	2378.88	52.96	9.93	569.39	555.95
	1.396	345.00	.00	.00	2374.00	4046.00	2379.75	2379.27	2380.62	54.20	8.96	682.22	549.56
	1.396	345.00	.00	.00	2374.00	4046.00	2379.47	2379.26	2381.13	95.20	11.41	438.13	414.67
*	1.499	545.00	.00	.00	2381.00	2741.00	2384.77	2384.77	2385.59	95.00	9.54	509.71	281.21
*	1.499	545.00	.00	.00	2381.00	2741.00	2385.19	2385.02	2386.44	100.42	10.57	362.40	273.52
	1.569	370.00	.00	.00	2382.00	2741.00	2387.34	2386.99	2388.04	49.55	8.03	558.42	389.39
*	1.569	370.00	.00	.00	2382.00	2741.00	2387.98	2387.08	2388.99	49.45	8.77	390.26	389.79
*	1.683	600.00	.00	.00	2387.00	2741.00	2391.49	2391.49	2392.52	118.59	9.76	406.64	251.70
	1.683	600.00	.00	.00	2387.00	2741.00	2391.88	2391.38	2392.88	91.27	9.28	379.74	286.91
	1.774	480.00	.00	.00	2391.00	2741.00	2395.95	2395.64	2396.52	57.79	8.01	616.94	360.55
	1.774	480.00	.00	.00	2391.00	2741.00	2396.08	2395.78	2397.11	82.37	9.76	410.88	302.02
	1.872	520.00	.00	.00	2395.00	2741.00	2398.84	2398.20	2399.19	47.62	6.54	650.71	397.19
*	1.872	520.00	.00	.00	2395.00	2741.00	2399.54	2398.40	2399.89	35.59	6.06	621.78	459.44
*	1.995	650.00	.00	.00	2399.00	2741.00	2403.14	2403.14	2404.36	142.95	10.73	354.84	229.25
*	1.995	650.00	.00	.00	2399.00	2741.00	2403.15	2403.15	2404.49	159.40	11.01	327.16	217.10
*	2.067	380.00	.00	.00	2403.00	2741.00	2409.66	2409.66	2410.57	48.38	8.75	523.04	394.07
*	2.067	380.00	.00	.00	2403.00	2741.00	2409.35	2409.35	2411.35	93.36	11.67	265.03	283.69
	2.126	310.00	.00	.00	2406.00	2741.00	2411.48	2410.73	2412.11	46.97	7.89	528.77	399.95
*	2.126	310.00	.00	.00	2406.00	2741.00	2412.52	2410.73	2412.89	21.24	6.09	668.60	594.70
	2.245	630.00	.00	.00	2409.00	2741.00	2414.44	2413.91	2415.12	58.80	8.25	512.39	357.45
*	2.245	630.00	.00	.00	2409.00	2741.00	2414.29	2413.91	2415.06	69.61	8.75	481.60	328.53
*	2.344	520.00	.00	.00	2415.00	2741.00	2419.65	2419.65	2420.52	88.41	9.68	497.88	291.52
*	2.344	520.00	.00	.00	2415.00	2741.00	2419.72	2419.72	2421.00	110.98	10.98	373.20	260.19
*	2.444	530.00	.00	.00	2418.00	2741.00	2423.11	2422.28	2423.55	40.66	7.15	636.41	429.88
*	2.444	530.00	.00	.00	2418.00	2741.00	2423.87	2422.69	2424.43	40.18	7.39	528.38	432.40
*	2.534	475.00	.00	.00	2422.00	2741.00	2426.24	2426.24	2426.92	80.92	8.78	572.27	304.70
	2.534	475.00	.00	.00	2422.00	2741.00	2426.53	2426.53	2427.36	88.14	9.25	507.95	291.95

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	2.640	560.00	.00	.00	2425.00	2741.00	2430.31	2430.31	2431.28	68.73	9.16	472.68	330.62
	2.640	560.00	.00	.00	2425.00	2741.00	2430.50	2430.45	2431.71	73.60	9.75	394.65	319.51
*	2.716	400.00	.00	.00	2429.00	2741.00	2434.24	2434.24	2435.15	79.28	9.68	494.48	307.84
*	2.716	400.00	.00	.00	2429.00	2741.00	2434.85	2434.85	2436.15	78.37	10.56	394.04	309.63
*	2.818	540.00	.00	.00	2435.00	2741.00	2439.19	2439.19	2440.01	82.79	9.43	516.22	301.24
	2.818	540.00	.00	.00	2435.00	2741.00	2439.53	2439.41	2441.02	105.36	11.26	326.71	267.04
*	2.891	385.00	.00	.00	2437.00	2741.00	2442.23	2442.23	2443.33	75.07	9.66	425.95	316.36
	2.891	385.00	.00	.00	2437.00	2741.00	2442.95	2442.28	2444.33	71.32	9.91	313.98	324.56
	2.997	560.00	.00	.00	2442.00	2741.00	2446.75	2446.31	2447.30	61.85	7.96	577.39	348.52
	2.997	560.00	.00	.00	2442.00	2741.00	2447.44	2446.54	2448.31	65.90	8.74	401.15	337.64
*	3.092	500.00	.00	.00	2447.00	2741.00	2451.51	2451.51	2452.51	114.33	9.82	410.13	256.35
*	3.092	500.00	.00	.00	2447.00	2741.00	2451.99	2451.99	2453.51	131.77	10.95	301.41	238.78
*	3.186	500.00	.00	.00	2450.00	2741.00	2455.44	2454.99	2456.02	46.04	7.70	610.27	403.97
*	3.186	500.00	.00	.00	2450.00	2741.00	2456.23	2455.05	2457.00	40.62	8.08	450.73	430.10
*	3.279	490.00	.00	.00	2453.00	2741.00	2458.46	2458.46	2459.48	72.87	9.79	461.82	321.11
*	3.279	490.00	.00	.00	2453.00	2741.00	2458.63	2458.63	2460.48	102.27	11.89	289.92	271.05
	3.372	490.00	.00	.00	2457.00	2741.00	2462.79	2462.79	2463.93	67.10	9.86	428.72	334.62
	3.372	490.00	.00	.00	2457.00	2741.00	2463.24	2462.73	2464.94	83.50	10.94	276.27	299.96
	3.467	500.00	.00	.00	2459.00	2741.00	2465.68	2464.84	2466.47	39.21	8.17	483.60	437.71
*	3.467	500.00	.00	.00	2459.00	2741.00	2466.71	2464.77	2467.46	30.44	7.56	434.22	496.84
*	3.568	535.00	.00	.00	2463.00	2741.00	2468.59	2468.59	2469.89	86.76	10.57	381.01	294.28
*	3.568	535.00	.00	.00	2463.00	2741.00	2468.86	2468.86	2470.89	118.08	12.14	261.60	252.25
*	3.665	510.00	.00	.00	2469.00	2741.00	2474.39	2474.39	2475.52	80.15	9.83	410.66	306.16
	3.665	510.00	.00	.00	2469.00	2741.00	2474.57	2474.48	2476.52	108.59	11.77	265.59	263.03
	3.766	535.00	.00	.00	2474.00	2741.00	2478.64	2478.49	2479.33	72.34	8.34	546.43	322.28
*	3.766	535.00	.00	.00	2474.00	2741.00	2479.60	2478.75	2480.31	50.08	7.80	469.37	387.31
*	3.862	505.00	.00	.00	2475.00	2741.00	2481.16	2480.25	2481.64	31.99	6.92	630.95	484.62
	3.862	505.00	.00	.00	2475.00	2741.00	2481.72	2480.48	2482.62	40.31	8.35	408.63	431.70
*	3.940	415.00	.00	.00	2480.00	2741.00	2484.24	2484.24	2485.35	105.11	9.99	398.29	267.35
*	3.940	415.00	.00	.00	2480.00	2741.00	2484.64	2484.64	2486.36	125.12	11.28	285.58	245.05
*	4.000	315.00	.00	.00	2482.00	2741.00	2486.77	2485.81	2487.22	34.45	6.94	643.72	467.00
*	4.000	315.00	.00	.00	2482.00	2741.00	2487.66	2485.89	2488.22	28.48	7.09	528.33	513.62
*	4.042	220.00	.00	.00	2485.00	2741.00	2488.82	2488.82	2489.69	125.46	10.57	462.82	244.71
	4.042	220.00	.00	.00	2485.00	2741.00	2489.30	2489.30	2490.70	151.76	11.86	331.37	222.50

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	4.127	450.00	.00	.00	2488.00	2741.00	2492.27	2491.49	2492.60	36.31	6.21	744.13	454.89
*	4.127	450.00	.00	.00	2488.00	2741.00	2493.14	2491.88	2493.60	31.39	6.62	591.74	489.22
	4.222	505.00	.00	.00	2490.00	2741.00	2494.29	2493.47	2494.83	50.04	7.65	556.11	387.47
	4.222	505.00	.00	.00	2490.00	2741.00	2495.01	2493.87	2495.82	56.39	8.46	417.46	365.01
*	4.290	360.00	.00	.00	2493.00	2741.00	2497.46	2497.46	2498.64	93.27	10.25	386.68	283.81
*	4.290	360.00	.00	.00	2493.00	2741.00	2497.66	2497.66	2499.64	121.46	12.10	266.90	248.71
*	4.399	575.00	.00	.00	2502.00	2741.00	2504.77	2504.77	2505.54	140.70	8.59	468.79	231.08
	4.399	575.00	.00	.00	2502.00	2741.00	2505.42	2505.25	2506.54	119.08	9.21	348.43	251.19
*	4.491	485.00	.00	.00	2505.00	2741.00	2509.30	2509.00	2509.90	64.14	7.90	575.92	342.24
	4.491	485.00	.00	.00	2505.00	2741.00	2509.90	2509.33	2510.90	71.50	9.04	385.64	324.16
*	4.560	365.00	.00	.00	2506.00	2741.00	2512.24	2512.24	2513.52	65.23	10.49	393.68	339.38
	4.560	365.00	.00	.00	2506.00	2741.00	2512.19	2511.95	2514.47	100.16	12.91	251.15	273.89
*	4.680	635.00	.00	.00	2511.00	2741.00	2515.78	2514.60	2516.10	26.68	5.48	654.34	530.63
*	4.680	635.00	.00	.00	2511.00	2741.00	2516.65	2514.64	2516.89	16.09	4.67	736.16	683.29
*	4.783	540.00	.00	.00	2514.00	2741.00	2518.78	2518.78	2519.69	77.49	9.23	489.76	311.37
*	4.783	540.00	.00	.00	2514.00	2741.00	2518.96	2518.96	2520.69	111.13	11.38	294.97	260.01
	4.869	450.00	.00	.00	2517.00	2741.00	2521.32	2520.15	2521.54	24.77	5.31	902.08	550.78
	4.869	450.00	.00	.00	2517.00	2741.00	2522.31	2520.16	2522.53	17.81	4.91	793.18	649.42
*	4.956	460.00	.00	.00	2518.00	2741.00	2523.98	2523.98	2525.77	90.95	12.16	301.87	287.42
*	4.956	460.00	.00	.00	2518.00	2741.00	2523.98	2523.98	2525.77	90.86	12.15	301.98	287.55
*	4.998	220.00	.00	.00	2520.00	2741.00	2526.34	2523.17	2526.44	5.75	3.49	1379.47	1143.14
*	4.998	220.00	.00	.00	2520.00	2741.00	2526.35	2523.19	2526.46	6.33	3.66	1242.61	1089.82
*	5.041	230.00	.00	.00	2521.40	2741.00	2526.51	2524.95	2526.65	15.17	4.64	1092.26	703.72
*	5.041	230.00	.00	.00	2521.40	2741.00	2526.50	2525.24	2526.79	29.08	5.92	751.70	508.27
*	5.149	570.00	.00	.00	2525.00	2741.00	2529.70	2529.70	2530.70	90.22	10.45	452.73	288.57
*	5.149	570.00	.00	.00	2525.00	2741.00	2529.98	2529.98	2531.70	115.12	12.34	305.70	255.46
*	5.272	650.00	.00	.00	2530.00	2741.00	2536.41	2536.41	2537.74	61.83	10.32	396.03	348.59
	5.272	650.00	.00	.00	2530.00	2741.00	2536.46	2536.18	2538.72	100.87	12.33	234.92	272.91
*	5.343	375.00	.00	.00	2534.00	2741.00	2539.94	2539.94	2541.24	77.78	11.01	396.25	310.79
	5.343	375.00	.00	.00	2534.00	2741.00	2540.67	2540.09	2542.23	80.79	11.18	306.60	304.96
*	5.432	470.00	.00	.00	2538.60	2741.00	2544.12	2544.12	2545.77	85.79	11.65	322.68	295.94
	5.432	470.00	.00	.00	2538.60	2741.00	2544.53	2544.16	2546.62	102.45	12.33	253.41	270.80
*	5.534	540.00	.00	.00	2547.00	2741.00	2552.55	2552.55	2554.19	89.18	11.58	319.02	290.25
	5.534	540.00	.00	.00	2547.00	2741.00	2552.54	2552.54	2554.19	90.04	11.62	317.83	288.87

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	5.620	450.00	.00	.00	2550.00	2741.00	2556.14	2554.96	2556.80	34.82	7.52	523.82	464.48
*	5.620	450.00	.00	.00	2550.00	2741.00	2556.15	2554.96	2556.80	34.65	7.50	524.80	465.66
	5.696	405.00	.00	.00	2551.00	2741.00	2557.41	2556.81	2558.27	40.26	8.53	488.32	432.01
	5.696	405.00	.00	.00	2551.00	2741.00	2557.41	2556.81	2558.27	40.21	8.52	488.52	432.23
*	5.821	565.00	.00	.00	2558.00	2741.00	2563.64	2563.64	2565.46	99.53	12.07	292.03	274.75
*	5.821	565.00	.00	.00	2558.00	2741.00	2563.65	2563.65	2565.46	98.87	12.04	292.73	275.66
*	5.868	250.00	.00	.00	2559.00	2741.00	2566.35	2563.51	2566.86	17.64	6.59	545.52	652.65
*	5.868	250.00	.00	.00	2559.00	2741.00	2566.35	2563.51	2566.86	17.68	6.59	545.02	651.81
*	5.908	200.00	.00	.00	2563.00	2741.00	2568.09	2568.09	2569.75	126.44	10.74	281.68	243.76
*	5.908	200.00	.00	.00	2563.00	2741.00	2568.10	2568.10	2569.75	126.38	10.74	281.72	243.82
*	5.965	300.00	.00	.00	2565.00	2741.00	2571.19	2570.56	2572.33	58.16	9.68	385.09	359.41
*	5.965	300.00	.00	.00	2565.00	2741.00	2571.19	2570.56	2572.33	58.15	9.68	385.12	359.44
*	6.029	340.00	.00	.00	2570.00	1908.00	2577.10	2577.10	2578.42	101.13	9.34	223.80	189.73
*	6.029	340.00	.00	.00	2570.00	1908.00	2577.09	2577.09	2578.42	101.71	9.36	223.24	189.19
*	6.084	290.00	.00	.00	2572.00	1908.00	2579.29	2576.89	2579.73	16.39	5.50	393.55	471.30
*	6.084	290.00	.00	.00	2572.00	1908.00	2579.30	2576.89	2579.74	16.35	5.50	393.86	471.83
	6.107	120.00	.00	.00	2574.80	1908.00	2579.62	2579.62	2582.05	31.74	12.51	152.49	338.66
	6.107	120.00	.00	.00	2574.80	1908.00	2579.62	2579.62	2582.05	31.78	12.52	152.42	338.43
*	6.118	60.00	2588.60	2583.00	2575.20	1908.00	2582.71	.00	2583.71	8.49	8.02	237.89	654.76
*	6.118	60.00	2588.60	2583.00	2575.20	1908.00	2582.71	.00	2583.71	8.49	8.02	237.89	654.76
*	6.134	85.00	.00	.00	2575.50	1908.00	2583.83	2578.58	2583.94	3.25	3.05	856.72	1057.63
	6.134	85.00	.00	.00	2575.50	1908.00	2583.72	2578.78	2583.94	6.76	3.95	551.01	733.81
	6.165	160.00	.00	.00	2578.00	1908.00	2583.89	2580.74	2584.01	5.99	3.39	824.47	779.72
*	6.165	160.00	.00	.00	2578.00	1908.00	2583.63	2581.55	2584.34	33.34	6.78	281.54	330.43
*	6.214	260.00	.00	.00	2581.00	1908.00	2583.85	2583.72	2584.73	105.37	8.59	294.46	185.87
	6.214	260.00	.00	.00	2581.00	1908.00	2584.82	2583.74	2585.35	41.17	6.55	363.86	297.37
*	6.265	270.00	.00	.00	2581.50	1908.00	2585.85	2585.07	2586.69	52.32	7.86	288.64	263.78
	6.265	270.00	.00	.00	2581.50	1908.00	2585.96	2585.07	2586.75	47.26	7.61	298.86	277.54
*	6.297	170.00	.00	.00	2581.80	1908.00	2586.62	2586.62	2589.05	31.61	12.50	152.69	339.38
*	6.297	170.00	.00	.00	2581.80	1908.00	2586.62	2586.62	2589.05	31.69	12.51	152.57	338.96
*	6.304	34.00	2590.30	2590.80	2581.80	1908.00	2590.62	.00	2591.34	5.31	6.82	280.25	828.24
*	6.304	34.00	2590.30	2590.80	2581.80	1908.00	2590.62	.00	2591.35	5.30	6.82	280.34	828.56
	6.313	50.00	.00	.00	2582.00	1908.00	2591.46	2587.04	2591.67	5.74	4.21	601.19	796.68
	6.313	50.00	.00	.00	2582.00	1908.00	2591.46	2587.04	2591.68	5.76	4.22	600.35	795.04

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	6.361	250.00	.00	.00	2583.00	1908.00	2591.61	2588.49	2591.88	9.89	5.32	577.30	606.85
	6.361	250.00	.00	.00	2583.00	1908.00	2591.58	2588.44	2591.92	11.43	5.72	500.58	564.35
*	6.406	240.00	.00	.00	2586.00	1908.00	2591.88	2590.56	2592.35	31.83	7.49	426.81	338.21
*	6.406	240.00	.00	.00	2586.00	1908.00	2591.84	2590.50	2592.55	42.82	8.64	327.09	291.58
*	6.463	300.00	.00	.00	2587.00	1908.00	2592.90	2592.90	2594.08	78.53	10.62	292.73	215.31
	6.463	300.00	.00	.00	2587.00	1908.00	2593.25	2592.80	2594.23	72.83	9.59	286.10	223.57
*	6.523	315.00	.00	.00	2590.70	1908.00	2595.38	2594.53	2595.72	36.05	6.91	517.75	317.77
	6.523	315.00	.00	.00	2590.70	1908.00	2595.43	2594.79	2596.41	75.05	10.04	280.13	220.25
*	6.581	310.00	.00	.00	2593.40	1908.00	2596.74	2596.36	2597.28	78.09	8.07	392.39	215.92
	6.581	310.00	.00	.00	2593.40	1908.00	2597.67	2596.42	2598.09	38.58	6.73	418.79	307.20
	6.674	490.00	.00	.00	2595.00	1908.00	2599.94	2599.51	2600.70	60.79	8.93	344.51	244.72
*	6.674	490.00	.00	.00	2595.00	1908.00	2599.88	2599.47	2600.98	80.77	10.20	270.68	212.30
*	6.776	540.00	.00	.00	2599.00	1908.00	2603.86	2603.86	2604.78	75.37	9.81	351.89	219.78
	6.776	540.00	.00	.00	2599.00	1908.00	2604.22	2604.00	2605.67	86.71	11.11	235.32	204.90
*	6.865	470.00	.00	.00	2603.00	1908.00	2607.59	2607.59	2608.52	96.92	10.65	330.03	193.81
	6.865	470.00	.00	.00	2603.00	1908.00	2608.15	2607.74	2609.20	80.14	10.55	280.71	213.14
	6.955	475.00	.00	.00	2607.00	1908.00	2611.08	2610.15	2611.38	44.95	6.64	496.83	284.57
	6.955	475.00	.00	.00	2607.00	1908.00	2611.30	2610.16	2611.55	34.63	6.06	543.05	324.23
*	7.067	590.00	.00	.00	2614.00	1908.00	2618.12	2618.12	2619.13	118.84	10.85	293.13	175.03
*	7.067	590.00	.00	.00	2614.00	1908.00	2618.34	2618.34	2619.75	134.65	12.01	236.13	164.43
*	7.164	510.00	.00	.00	2614.00	1908.00	2620.82	2619.21	2621.12	19.25	6.16	576.24	434.83
*	7.164	510.00	.00	.00	2614.00	1908.00	2621.38	2619.13	2621.71	16.73	6.09	506.85	466.45
*	7.223	315.00	.00	.00	2619.00	1908.00	2622.89	2622.89	2623.55	97.95	9.85	394.81	192.79
*	7.223	315.00	.00	.00	2619.00	1908.00	2622.87	2622.87	2623.88	130.65	11.32	296.75	166.93
	7.339	610.00	.00	.00	2623.00	1908.00	2627.29	2626.30	2627.56	53.72	4.59	472.32	260.32
*	7.339	610.00	.00	.00	2623.00	1908.00	2627.53	2626.33	2627.75	40.28	4.31	516.94	300.62
*	7.441	540.00	.00	.00	2629.00	1908.00	2631.79	2631.79	2632.43	152.37	9.74	370.75	154.57
*	7.441	540.00	.00	.00	2629.00	1908.00	2632.26	2632.26	2633.43	169.00	11.49	257.19	146.77
*	7.496	290.00	.00	.00	2630.00	1908.00	2633.77	2632.57	2633.94	25.88	5.17	669.00	375.07
*	7.496	290.00	.00	.00	2630.00	1908.00	2634.72	2632.69	2634.93	22.14	4.95	550.23	405.46
*	7.542	245.00	.00	.00	2631.00	1908.00	2634.85	2634.85	2636.01	119.81	11.42	279.78	174.31
*	7.542	245.00	.00	.00	2631.00	1908.00	2635.11	2635.11	2637.01	148.68	13.29	199.53	156.48
	-1.396	345.00	.00	.00	2374.00	4046.00	2379.75	.00	2380.62	53.96	8.94	690.39	550.78
	-1.396	345.00	.00	.00	2374.00	4046.00	2379.47	.00	2381.13	95.22	11.41	438.10	414.63

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	.114	755.00	.00	.00	2383.00	1680.00	2386.87	2386.87	2387.91	114.41	8.28	219.50	157.06
*	.114	755.00	.00	.00	2383.00	1680.00	2387.22	2386.79	2388.07	78.27	7.40	231.54	189.89
*	.171	300.00	.00	.00	2386.00	1680.00	2390.60	2390.60	2391.66	91.40	9.49	258.84	175.72
*	.171	300.00	.00	.00	2386.00	1680.00	2390.87	2390.87	2392.66	127.90	11.18	167.48	148.55
*	.236	345.00	.00	.00	2388.80	1680.00	2393.75	2393.75	2394.85	89.60	9.23	252.35	177.48
*	.236	345.00	.00	.00	2388.80	1680.00	2394.58	2393.85	2395.76	62.24	8.86	203.65	212.96
*	.306	370.00	.00	.00	2393.30	1680.00	2397.08	2397.08	2398.29	88.41	9.29	226.15	178.67
	.306	370.00	.00	.00	2393.30	1680.00	2397.30	2396.99	2398.79	103.00	9.79	171.68	165.54
	.386	420.00	.00	.00	2395.00	1680.00	2400.35	2400.08	2401.34	61.32	8.86	265.11	214.54
	.386	420.00	.00	.00	2395.00	1680.00	2400.80	2400.12	2402.14	62.64	9.56	197.92	212.26
*	.462	400.00	.00	.00	2399.00	1680.00	2403.90	2403.90	2405.26	88.42	10.12	212.23	178.66
*	.462	400.00	.00	.00	2399.00	1680.00	2403.98	2403.98	2405.78	116.39	11.10	165.41	155.72
	.539	405.00	.00	.00	2403.00	1680.00	2407.64	2407.41	2408.61	75.91	9.01	257.20	192.82
	.539	405.00	.00	.00	2403.00	1680.00	2408.21	2407.56	2409.49	71.00	9.56	202.21	199.38
*	.635	500.00	.00	.00	2409.00	1680.00	2413.96	2413.96	2415.21	87.85	10.23	232.80	179.24
*	.635	500.00	.00	.00	2409.00	1680.00	2414.02	2414.02	2415.64	102.08	11.14	189.13	166.28
	.733	525.00	.00	.00	2414.00	1680.00	2418.36	2418.05	2419.12	67.34	8.54	302.26	204.73
	.733	525.00	.00	.00	2414.00	1680.00	2418.87	2418.12	2419.91	66.75	9.23	234.77	205.63
*	.813	420.00	.00	.00	2418.00	1680.00	2422.82	2422.82	2423.86	87.41	9.31	260.18	179.69
*	.813	420.00	.00	.00	2418.00	1680.00	2423.00	2423.00	2424.84	118.97	11.23	164.57	154.03
	.911	520.00	.00	.00	2426.00	1680.00	2428.81	2428.73	2429.47	138.76	8.70	304.28	142.62
	.911	520.00	.00	.00	2426.00	1680.00	2429.64	2429.20	2430.48	94.14	8.78	260.42	173.15
*	.990	415.00	.00	.00	2431.00	1680.00	2436.36	2436.36	2437.98	88.37	10.66	186.20	178.71
*	.990	415.00	.00	.00	2431.00	1680.00	2436.38	2436.38	2437.98	87.46	10.62	187.11	179.64
	1.111	640.00	.00	.00	2438.00	1680.00	2442.51	2442.25	2443.42	83.02	9.89	271.66	184.39
	1.111	640.00	.00	.00	2438.00	1680.00	2442.69	2442.60	2444.41	121.71	12.32	182.54	152.28
	1.192	430.00	.00	.00	2441.00	1680.00	2445.80	2445.27	2446.34	57.84	8.64	359.59	220.90
*	1.192	430.00	.00	.00	2441.00	1680.00	2446.76	2445.36	2447.34	39.88	8.19	323.86	266.03
*	1.287	500.00	.00	.00	2446.00	1680.00	2450.17	2450.17	2451.13	111.52	10.63	271.79	159.09
*	1.287	500.00	.00	.00	2446.00	1680.00	2450.49	2450.49	2452.13	137.69	12.49	190.67	143.17
	1.387	530.00	.00	.00	2450.00	1680.00	2455.13	2454.89	2456.10	78.46	10.27	267.87	189.66
*	1.387	530.00	.00	.00	2450.00	1680.00	2455.91	2455.05	2457.08	64.54	10.36	219.68	209.12
*	1.471	445.00	.00	.00	2457.00	1680.00	2461.01	2461.01	2462.03	113.74	10.76	259.23	157.53
	1.471	445.00	.00	.00	2457.00	1680.00	2461.35	2461.35	2463.03	135.05	12.44	185.85	144.56

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	1.568	510.00	.00	.00	2465.00	1680.00	2469.51	2469.51	2470.43	104.32	10.88	284.55	164.48
*	1.568	510.00	.00	.00	2465.00	1680.00	2469.89	2469.89	2471.43	126.24	12.70	205.22	149.53
*	1.666	515.00	.00	.00	2473.00	1680.00	2476.98	2476.98	2477.90	124.86	11.12	274.57	150.35
*	1.666	515.00	.00	.00	2473.00	1680.00	2477.36	2477.36	2478.91	146.56	12.90	197.28	138.77
	1.752	455.00	.00	.00	2478.00	1680.00	2481.85	2481.64	2482.72	91.71	9.86	276.42	175.43
	1.752	455.00	.00	.00	2478.00	1680.00	2482.60	2481.94	2483.72	78.09	10.26	227.52	190.11
*	1.845	490.00	.00	.00	2486.00	1680.00	2489.96	2489.96	2490.66	117.61	11.01	331.17	154.92
*	1.845	490.00	.00	.00	2486.00	1680.00	2490.27	2490.27	2491.66	156.12	13.37	209.93	134.46
	1.957	590.00	.00	.00	2495.00	1680.00	2497.76	2497.61	2498.38	147.02	9.23	304.15	138.55
	1.957	590.00	.00	.00	2495.00	1680.00	2498.63	2497.95	2499.38	108.72	8.89	256.44	161.12
	2.041	445.00	.00	.00	2499.00	1680.00	2503.01	2502.93	2503.74	97.95	9.68	324.78	169.75
	2.041	445.00	.00	.00	2499.00	1680.00	2503.42	2503.41	2504.74	120.76	11.57	225.01	152.88

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SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	.090	4046.00	2323.94	.00	.00	4.94	656.92	.00
*	.090	4046.00	2323.93	.00	.00	.00	656.38	.00
*	.187	4046.00	2328.82	.00	4.88	.00	735.21	510.00
*	.187	4046.00	2329.02	.20	5.08	.20	377.94	510.00
*	.283	4046.00	2334.93	.00	6.11	.00	576.97	510.00
*	.283	4046.00	2335.70	.77	6.68	.77	209.85	510.00
	.392	4046.00	2339.68	.00	4.75	.00	520.62	575.00
	.392	4046.00	2340.31	.64	4.62	.64	272.53	575.00
	.455	4046.00	2341.70	.00	2.02	.00	355.80	330.00
	.455	4046.00	2342.31	.61	1.99	.61	310.55	330.00
*	.564	4046.00	2347.48	.00	5.78	.00	367.40	580.00
*	.564	4046.00	2347.88	.40	5.58	.40	140.37	580.00
	.652	4046.00	2350.80	.00	3.32	.00	401.62	460.00
	.652	4046.00	2351.81	1.01	3.92	1.01	137.30	460.00
	.751	4046.00	2353.29	.00	2.49	.00	462.36	525.00
	.751	4046.00	2353.88	.59	2.07	.59	232.51	525.00
*	.809	4046.00	2355.37	.00	2.08	.00	278.80	305.00
	.809	4046.00	2355.48	.11	1.60	.11	161.64	305.00
	.860	4046.00	2357.85	.00	2.48	.00	303.34	270.00
*	.860	4046.00	2358.15	.30	2.67	.30	164.04	270.00
*	.945	4046.00	2362.03	.00	4.19	.00	213.77	450.00
*	.945	4046.00	2362.33	.30	4.18	.30	102.83	450.00
*	1.038	4046.00	2366.70	.00	4.66	.00	187.45	490.00
*	1.038	4046.00	2366.66	-.03	4.33	-.03	123.30	490.00
	1.131	4046.00	2370.19	.00	3.49	.00	142.63	490.00
	1.131	4046.00	2370.69	.50	4.02	.50	142.62	490.00
	1.229	4046.00	2373.71	.00	3.52	.00	232.88	520.00
	1.229	4046.00	2373.32	-.39	2.63	-.39	101.00	520.00
	1.330	4046.00	2376.95	.00	3.25	.00	155.46	535.00
	1.330	4046.00	2377.81	.86	4.49	.86	125.90	535.00
	1.396	4046.00	2379.75	.00	2.80	.00	246.50	345.00
	1.396	4046.00	2379.47	-.28	1.66	-.28	111.18	345.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	1.499	2741.00	2384.77	.00	5.02	.00	290.15	545.00
*	1.499	2741.00	2385.19	.42	5.72	.42	118.09	545.00
	1.569	2741.00	2387.34	.00	2.57	.00	256.50	370.00
*	1.569	2741.00	2387.98	.64	2.80	.64	97.00	370.00
*	1.683	2741.00	2391.49	.00	4.15	.00	236.33	600.00
	1.683	2741.00	2391.88	.39	3.90	.39	121.00	600.00
*	1.774	2741.00	2395.95	.00	4.46	.00	325.18	480.00
	1.774	2741.00	2396.08	.13	4.20	.13	140.00	480.00
	1.872	2741.00	2398.84	.00	2.88	.00	335.34	520.00
*	1.872	2741.00	2399.54	.70	3.46	.70	211.00	520.00
*	1.995	2741.00	2403.14	.00	4.30	.00	151.75	650.00
*	1.995	2741.00	2403.15	.01	3.61	.01	121.69	650.00
*	2.067	2741.00	2409.66	.00	6.52	.00	275.08	380.00
*	2.067	2741.00	2409.35	-.31	6.20	-.31	72.53	380.00
	2.126	2741.00	2411.48	.00	1.82	.00	176.20	310.00
*	2.126	2741.00	2412.52	1.04	3.17	1.04	157.98	310.00
	2.245	2741.00	2414.44	.00	2.96	.00	202.33	630.00
	2.245	2741.00	2414.29	-.15	1.77	-.15	198.63	630.00
*	2.344	2741.00	2419.65	.00	5.21	.00	300.19	520.00
*	2.344	2741.00	2419.72	.07	5.44	.07	141.54	520.00
*	2.444	2741.00	2423.11	.00	3.45	.00	250.03	530.00
*	2.444	2741.00	2423.87	.76	4.14	.76	143.25	530.00
*	2.534	2741.00	2426.24	.00	3.13	.00	432.30	475.00
*	2.534	2741.00	2426.53	.29	2.66	.29	314.50	475.00
*	2.640	2741.00	2430.31	.00	4.07	.00	293.15	560.00
	2.640	2741.00	2430.50	.18	3.97	.18	188.00	560.00
*	2.716	2741.00	2434.24	.00	3.93	.00	299.32	400.00
*	2.716	2741.00	2434.85	.61	4.35	.61	163.66	400.00
*	2.818	2741.00	2439.19	.00	4.96	.00	297.78	540.00
	2.818	2741.00	2439.53	.34	4.68	.34	96.70	540.00
*	2.891	2741.00	2442.23	.00	3.04	.00	222.48	385.00
	2.891	2741.00	2442.95	.72	3.42	.72	70.14	385.00
	2.997	2741.00	2446.75	.00	4.51	.00	308.14	560.00
	2.997	2741.00	2447.44	.69	4.48	.69	102.94	560.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	3.092	2741.00	2451.51	.00	4.76	.00	218.93	500.00
*	3.092	2741.00	2451.99	.48	4.55	.48	97.32	500.00
*	3.186	2741.00	2455.44	.00	3.94	.00	318.27	500.00
*	3.186	2741.00	2456.23	.79	4.24	.79	104.79	500.00
*	3.279	2741.00	2458.46	.00	3.02	.00	239.61	490.00
*	3.279	2741.00	2458.63	.17	2.40	.17	78.42	490.00
*	3.372	2741.00	2462.79	.00	4.33	.00	233.49	490.00
	3.372	2741.00	2463.24	.45	4.60	.45	57.08	490.00
	3.467	2741.00	2465.68	.00	2.89	.00	164.55	500.00
*	3.467	2741.00	2466.71	1.03	3.48	1.03	78.74	500.00
*	3.568	2741.00	2468.59	.00	2.91	.00	153.43	535.00
*	3.568	2741.00	2468.86	.26	2.14	.26	64.44	535.00
*	3.665	2741.00	2474.39	.00	5.80	.00	196.80	510.00
	3.665	2741.00	2474.57	.18	5.71	.18	66.24	510.00
	3.766	2741.00	2478.64	.00	4.25	.00	308.73	535.00
*	3.766	2741.00	2479.60	.96	5.03	.96	133.70	535.00
	3.862	2741.00	2481.16	.00	2.52	.00	220.28	505.00
	3.862	2741.00	2481.72	.56	2.12	.56	86.98	505.00
*	3.940	2741.00	2484.24	.00	3.08	.00	187.09	415.00
*	3.940	2741.00	2484.64	.41	2.92	.41	83.08	415.00
*	4.000	2741.00	2486.77	.00	2.53	.00	251.59	315.00
*	4.000	2741.00	2487.66	.89	3.02	.89	111.34	315.00
*	4.042	2741.00	2488.82	.00	2.05	.00	255.47	220.00
*	4.042	2741.00	2489.30	.48	1.64	.48	111.03	220.00
*	4.127	2741.00	2492.27	.00	3.45	.00	328.90	450.00
*	4.127	2741.00	2493.14	.86	3.84	.86	162.92	450.00
	4.222	2741.00	2494.29	.00	2.02	.00	208.09	505.00
	4.222	2741.00	2495.01	.72	1.87	.72	96.18	505.00
*	4.290	2741.00	2497.46	.00	3.17	.00	184.18	360.00
*	4.290	2741.00	2497.66	.21	2.66	.21	69.09	360.00
*	4.399	2741.00	2504.77	.00	7.31	.00	320.86	575.00
	4.399	2741.00	2505.42	.64	7.75	.64	128.93	575.00
*	4.491	2741.00	2509.30	.00	4.53	.00	305.92	485.00
	4.491	2741.00	2509.90	.60	4.48	.60	109.90	485.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	4.560	2741.00	2512.24	.00	2.94	.00	217.25	365.00
	4.560	2741.00	2512.19	-.05	2.29	-.05	49.90	365.00
*	4.680	2741.00	2515.78	.00	3.55	.00	243.26	635.00
*	4.680	2741.00	2516.65	.87	4.46	.87	190.00	635.00
*	4.783	2741.00	2518.78	.00	3.00	.00	286.87	540.00
*	4.783	2741.00	2518.96	.18	2.31	.18	86.77	540.00
*	4.869	2741.00	2521.32	.00	2.54	.00	413.73	450.00
*	4.869	2741.00	2522.31	.98	3.35	.98	183.98	450.00
*	4.956	2741.00	2523.98	.00	2.65	.00	88.72	460.00
*	4.956	2741.00	2523.98	.00	1.67	.00	88.73	460.00
*	4.998	2741.00	2526.34	.00	2.37	.00	388.56	220.00
*	4.998	2741.00	2526.35	.01	2.37	.01	284.41	220.00
*	5.041	2741.00	2526.51	.00	.16	.00	418.52	230.00
*	5.041	2741.00	2526.50	.00	.15	.00	249.64	230.00
*	5.149	2741.00	2529.70	.00	3.19	.00	233.78	570.00
*	5.149	2741.00	2529.98	.28	3.48	.28	85.29	570.00
	5.272	2741.00	2536.41	.00	6.71	.00	180.65	650.00
	5.272	2741.00	2536.46	.05	6.48	.05	44.47	650.00
*	5.343	2741.00	2539.94	.00	3.53	.00	154.60	375.00
	5.343	2741.00	2540.67	.73	4.21	.73	63.56	375.00
*	5.432	2741.00	2544.12	.00	4.18	.00	106.87	470.00
	5.432	2741.00	2544.53	.40	3.85	.40	49.30	470.00
*	5.534	2741.00	2552.55	.00	8.43	.00	103.85	540.00
*	5.534	2741.00	2552.54	-.01	8.01	-.01	103.67	540.00
*	5.620	2741.00	2556.14	.00	3.59	.00	161.80	450.00
*	5.620	2741.00	2556.15	.01	3.61	.01	161.79	450.00
	5.696	2741.00	2557.41	.00	1.27	.00	167.04	405.00
	5.696	2741.00	2557.41	.00	1.27	.00	167.04	405.00
*	5.821	2741.00	2563.64	.00	6.23	.00	85.45	565.00
*	5.821	2741.00	2563.65	.01	6.24	.01	85.45	565.00
*	5.868	2741.00	2566.35	.00	2.71	.00	102.63	250.00
*	5.868	2741.00	2566.35	-.01	2.70	-.01	102.59	250.00
*	5.908	2741.00	2568.09	.00	1.74	.00	89.80	200.00
	5.908	2741.00	2568.10	.00	1.75	.00	89.80	200.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	5.965	2741.00	2571.19	.00	3.10	.00	111.55	300.00
*	5.965	2741.00	2571.19	.00	3.10	.00	111.55	300.00
*	6.029	1908.00	2577.10	.00	5.91	.00	104.50	340.00
*	6.029	1908.00	2577.09	-.01	5.90	-.01	104.43	340.00
*	6.084	1908.00	2579.29	.00	2.19	.00	83.22	290.00
*	6.084	1908.00	2579.30	.00	2.20	.00	83.22	290.00
*	6.107	1908.00	2579.62	.00	.33	.00	31.66	120.00
*	6.107	1908.00	2579.62	.00	.32	.00	31.66	120.00
*	6.118	1908.00	2582.71	.00	3.09	.00	31.70	60.00
*	6.118	1908.00	2582.71	.00	3.10	.00	31.70	60.00
*	6.134	1908.00	2583.83	.00	1.12	.00	140.00	85.00
	6.134	1908.00	2583.72	-.11	1.01	-.11	70.00	85.00
	6.165	1908.00	2583.89	.00	.06	.00	193.41	160.00
*	6.165	1908.00	2583.63	-.26	-.09	-.26	50.00	160.00
*	6.214	1908.00	2583.85	.00	-.04	.00	139.88	260.00
	6.214	1908.00	2584.82	.97	1.19	.97	108.00	260.00
	6.265	1908.00	2585.85	.00	2.00	.00	88.84	270.00
	6.265	1908.00	2585.96	.11	1.14	.11	88.89	270.00
*	6.297	1908.00	2586.62	.00	.77	.00	31.71	170.00
*	6.297	1908.00	2586.62	.00	.66	.00	31.71	170.00
*	6.304	1908.00	2590.62	.00	4.00	.00	41.30	34.00
*	6.304	1908.00	2590.62	.00	4.00	.00	41.47	34.00
	6.313	1908.00	2591.46	.00	.83	.00	90.00	50.00
	6.313	1908.00	2591.46	.00	.83	.00	90.00	50.00
	6.361	1908.00	2591.61	.00	.15	.00	133.07	250.00
	6.361	1908.00	2591.58	-.03	.12	-.03	90.00	250.00
*	6.406	1908.00	2591.88	.00	.28	.00	137.49	240.00
*	6.406	1908.00	2591.84	-.05	.26	-.05	73.00	240.00
*	6.463	1908.00	2592.90	.00	1.01	.00	129.01	300.00
	6.463	1908.00	2593.25	.35	1.41	.35	85.98	300.00
*	6.523	1908.00	2595.38	.00	2.48	.00	236.38	315.00
	6.523	1908.00	2595.43	.05	2.18	.05	75.74	315.00
*	6.581	1908.00	2596.74	.00	1.37	.00	196.10	310.00
	6.581	1908.00	2597.67	.93	2.24	.93	119.90	310.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	6.674	1908.00	2599.94	.00	3.20	.00	143.46	490.00
*	6.674	1908.00	2599.88	-.06	2.21	-.06	80.00	490.00
*	6.776	1908.00	2603.86	.00	3.91	.00	200.76	540.00
	6.776	1908.00	2604.22	.37	4.34	.37	66.64	540.00
*	6.865	1908.00	2607.59	.00	3.73	.00	177.79	470.00
	6.865	1908.00	2608.15	.56	3.93	.56	82.85	470.00
*	6.955	1908.00	2611.08	.00	3.49	.00	210.59	475.00
*	6.955	1908.00	2611.30	.22	3.15	.22	210.59	475.00
*	7.067	1908.00	2618.12	.00	7.04	.00	139.63	590.00
*	7.067	1908.00	2618.34	.22	7.04	.22	80.47	590.00
*	7.164	1908.00	2620.82	.00	2.70	.00	238.62	510.00
*	7.164	1908.00	2621.38	.56	3.05	.56	112.52	510.00
*	7.223	1908.00	2622.89	.00	2.07	.00	282.77	315.00
*	7.223	1908.00	2622.87	-.02	1.49	-.02	134.56	315.00
	7.339	1908.00	2627.29	.00	4.40	.00	191.00	610.00
*	7.339	1908.00	2627.53	.23	4.66	.23	191.00	610.00
	7.441	1908.00	2631.79	.00	4.50	.00	280.55	540.00
	7.441	1908.00	2632.26	.47	4.74	.47	105.97	540.00
*	7.496	1908.00	2633.77	.00	1.98	.00	299.55	290.00
*	7.496	1908.00	2634.72	.95	2.46	.95	135.50	290.00
*	7.542	1908.00	2634.85	.00	1.08	.00	124.31	245.00
*	7.542	1908.00	2635.11	.26	.39	.26	53.47	245.00
	-1.396	4046.00	2379.75	.00	-255.10	.00	273.76	345.00
	-1.396	4046.00	2379.47	-.28	-255.65	-.28	111.18	345.00
*	.114	1680.00	2386.87	.00	7.12	.00	128.67	755.00
*	.114	1680.00	2387.22	.35	7.75	.35	87.99	755.00
*	.171	1680.00	2390.60	.00	3.73	.00	130.89	300.00
*	.171	1680.00	2390.87	.27	3.65	.27	46.97	300.00
*	.236	1680.00	2393.75	.00	3.15	.00	135.45	345.00
*	.236	1680.00	2394.58	.83	3.71	.83	51.31	345.00
*	.306	1680.00	2397.08	.00	3.33	.00	116.00	370.00
	.306	1680.00	2397.30	.22	2.73	.22	45.00	370.00
	.386	1680.00	2400.35	.00	3.27	.00	131.37	420.00
	.386	1680.00	2400.80	.45	3.50	.45	48.56	420.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	.462	1680.00	2403.90	.00	3.54	.00	91.34	400.00
*	.462	1680.00	2403.98	.08	3.17	.08	48.56	400.00
	.539	1680.00	2407.64	.00	3.75	.00	111.17	405.00
	.539	1680.00	2408.21	.57	4.24	.57	48.94	405.00
*	.635	1680.00	2413.96	.00	6.31	.00	101.40	500.00
*	.635	1680.00	2414.02	.06	5.81	.06	58.56	500.00
	.733	1680.00	2418.36	.00	4.41	.00	163.54	525.00
	.733	1680.00	2418.87	.51	4.85	.51	60.17	525.00
*	.813	1680.00	2422.82	.00	4.46	.00	136.48	420.00
*	.813	1680.00	2423.00	.18	4.13	.18	46.18	420.00
	.911	1680.00	2428.81	.00	5.99	.00	186.21	520.00
	.911	1680.00	2429.64	.83	6.64	.83	92.43	520.00
*	.990	1680.00	2436.36	.00	7.55	.00	76.77	415.00
*	.990	1680.00	2436.38	.01	6.73	.01	76.76	415.00
	1.111	1680.00	2442.51	.00	6.15	.00	114.54	640.00
	1.111	1680.00	2442.69	.18	6.32	.18	48.61	640.00
	1.192	1680.00	2445.80	.00	3.29	.00	166.27	430.00
	1.192	1680.00	2446.76	.96	4.07	.96	75.80	430.00
*	1.287	1680.00	2450.17	.00	4.37	.00	140.78	500.00
*	1.287	1680.00	2450.49	.32	3.73	.32	57.00	500.00
	1.387	1680.00	2455.13	.00	4.96	.00	112.77	530.00
*	1.387	1680.00	2455.91	.78	5.42	.78	47.55	530.00
*	1.471	1680.00	2461.01	.00	5.89	.00	126.65	445.00
*	1.471	1680.00	2461.35	.34	5.45	.34	54.18	445.00
*	1.568	1680.00	2469.51	.00	8.50	.00	146.55	510.00
*	1.568	1680.00	2469.89	.37	8.53	.37	62.27	510.00
*	1.666	1680.00	2476.98	.00	7.46	.00	142.19	515.00
*	1.666	1680.00	2477.36	.39	7.47	.39	61.24	515.00
	1.752	1680.00	2481.85	.00	4.87	.00	122.33	455.00
	1.752	1680.00	2482.60	.75	5.23	.75	57.25	455.00
*	1.845	1680.00	2489.96	.00	8.11	.00	228.54	490.00
*	1.845	1680.00	2490.27	.31	7.68	.31	71.17	490.00
	1.957	1680.00	2497.76	.00	7.80	.00	195.48	590.00
	1.957	1680.00	2498.63	.87	8.36	.87	80.99	590.00

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
2.041	1680.00	2503.01	.00	5.25	.00	182.28	445.00
2.041	1680.00	2503.42	.41	4.79	.41	81.32	445.00

SUMMARY OF ERRORS AND SPECIAL NOTES

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CAUTION SECNO=      .090  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      .090  PROFILE=  2  CRITICAL DEPTH ASSUMED

WARNING SECNO=      .187  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=      .187  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      .187  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=      .283  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      .283  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=      .564  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      .564  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=      .564  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      .564  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=      .652  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=      .809  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      .809  PROFILE=  1  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=      .860  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      .860  PROFILE=  2  MINIMUM SPECIFIC ENERGY

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CAUTION SECNO=     1.038  PROFILE=  1  CRITICAL DEPTH ASSUMED
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CAUTION SECNO=     1.499  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     1.499  PROFILE=  1  MINIMUM SPECIFIC ENERGY
WARNING SECNO=     1.499  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     1.569  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=     1.683  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     1.683  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=     1.774  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     1.872  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=     1.995  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     1.995  PROFILE=  1  MINIMUM SPECIFIC ENERGY
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CAUTION SECNO=     1.995  PROFILE=  2  MINIMUM SPECIFIC ENERGY
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CAUTION SECNO=     2.067  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     2.067  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=     2.067  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     2.067  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=     2.126  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     2.245  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=     2.344  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     2.344  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=     2.344  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     2.344  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=     2.444  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=     2.444  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

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CAUTION SECNO=     2.534  PROFILE=  1  MINIMUM SPECIFIC ENERGY
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CAUTION SECNO=     2.818  PROFILE=  1  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=     2.891  PROFILE=  1  CRITICAL DEPTH ASSUMED
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CAUTION SECNO=     3.092  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     3.092  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=     3.186  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=     3.186  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=     3.279  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     3.279  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=     3.279  PROFILE=  2  CRITICAL DEPTH ASSUMED
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CAUTION SECNO=     3.372  PROFILE=  1  CRITICAL DEPTH ASSUMED
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WARNING SECNO=     3.467  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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CAUTION SECNO=     3.568  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=     3.568  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     3.568  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=     3.665  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     3.665  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=     3.766  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     3.862  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=     3.940  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     3.940  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=     3.940  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     3.940  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=     4.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=     4.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=     4.042  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     4.042  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=     4.042  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     4.042  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=     4.127  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=     4.127  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=     4.290  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     4.290  PROFILE=  1  MINIMUM SPECIFIC ENERGY
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CAUTION SECNO=     4.399  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     4.399  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=     4.491  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=     4.560  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     4.560  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=     4.680  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=     4.680  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=     4.783  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     4.783  PROFILE=  1  MINIMUM SPECIFIC ENERGY
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CAUTION SECNO=     4.783  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=     4.869  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=     4.869  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=     4.956  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     4.956  PROFILE=  1  MINIMUM SPECIFIC ENERGY
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[illegible]ON SECNO=     4.956  PROFILE= 2  CRITICAL DEPTH ASSUMED
[illegible]TION SECNO=   4.956  PROFILE= 2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=           4.998  PROFILE= 1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=           4.998  PROFILE= 2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=           5.041  PROFILE= 1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=           5.041  PROFILE= 2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=           5.149  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=           5.149  PROFILE= 1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=           5.149  PROFILE= 2  CRITICAL DEPTH ASSUMED
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CAUTION SECNO=           5.272  PROFILE= 1  CRITICAL DEPTH ASSUMED
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CAUTION SECNO=           5.432  PROFILE= 1  CRITICAL DEPTH ASSUMED
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CAUTION SECNO=           5.534  PROFILE= 1  CRITICAL DEPTH ASSUMED
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[illegible]TION SECNO=   5.534  PROFILE= 2  CRITICAL DEPTH ASSUMED
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WARNING SECNO=           5.620  PROFILE= 1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=           5.620  PROFILE= 2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=           5.821  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=           5.821  PROFILE= 1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=           5.821  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=           5.821  PROFILE= 2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=           5.868  PROFILE= 1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=           5.868  PROFILE= 2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=           5.908  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=           5.908  PROFILE= 1  MINIMUM SPECIFIC ENERGY
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CAUTION SECNO=           5.908  PROFILE= 2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=           5.965  PROFILE= 1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=           5.965  PROFILE= 2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

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CAUTION SECNO=           6.029  PROFILE= 2  MINIMUM SPECIFIC ENERGY

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WARNING SECNO=           6.084  PROFILE= 2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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CAUTION SECNO=      6.107  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=      6.107  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      6.107  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=      6.118  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      6.118  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      6.134  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      6.165  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      6.214  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      6.265  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=      6.297  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      6.297  PROFILE=  1  MINIMUM SPECIFIC ENERGY
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CAUTION SECNO=      6.297  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=      6.304  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      6.304  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      6.406  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      6.406  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=      6.463  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      6.463  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=      6.523  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      6.581  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      6.674  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=      6.776  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      6.776  PROFILE=  1  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=      6.865  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      6.865  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=      6.955  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      6.955  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=      7.067  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      7.067  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=      7.067  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      7.067  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=      7.164  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      7.164  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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CAUTION SECNO=     7.223  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=     7.223  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     7.223  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=     7.339  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=     7.441  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     7.441  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=     7.441  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     7.441  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=     7.496  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=     7.496  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=     7.542  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     7.542  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=     7.542  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     7.542  PROFILE=  2  MINIMUM SPECIFIC ENERGY

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WARNING SECNO=      .114  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

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CAUTION SECNO=      .171  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=      .236  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      .236  PROFILE=  1  MINIMUM SPECIFIC ENERGY
WARNING SECNO=      .236  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

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CAUTION SECNO=      .306  PROFILE=  1  MINIMUM SPECIFIC ENERGY

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CAUTION SECNO=      .635  PROFILE=  1  CRITICAL DEPTH ASSUMED
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CAUTION SECNO=      .990  PROFILE=  2  CRITICAL DEPTH ASSUMED
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WARNING SECNO=  1.192  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

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CAUTION SECNO=  1.287  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  1.287  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  1.387  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

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CAUTION SECNO=  1.666  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  1.666  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  1.666  PROFILE=  2  CRITICAL DEPTH ASSUMED
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CAUTION SECNO=  1.845  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  1.845  PROFILE=  2  MINIMUM SPECIFIC ENERGY
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FLOODWAY DATA, WASH AH3
PROFILE NO. 2

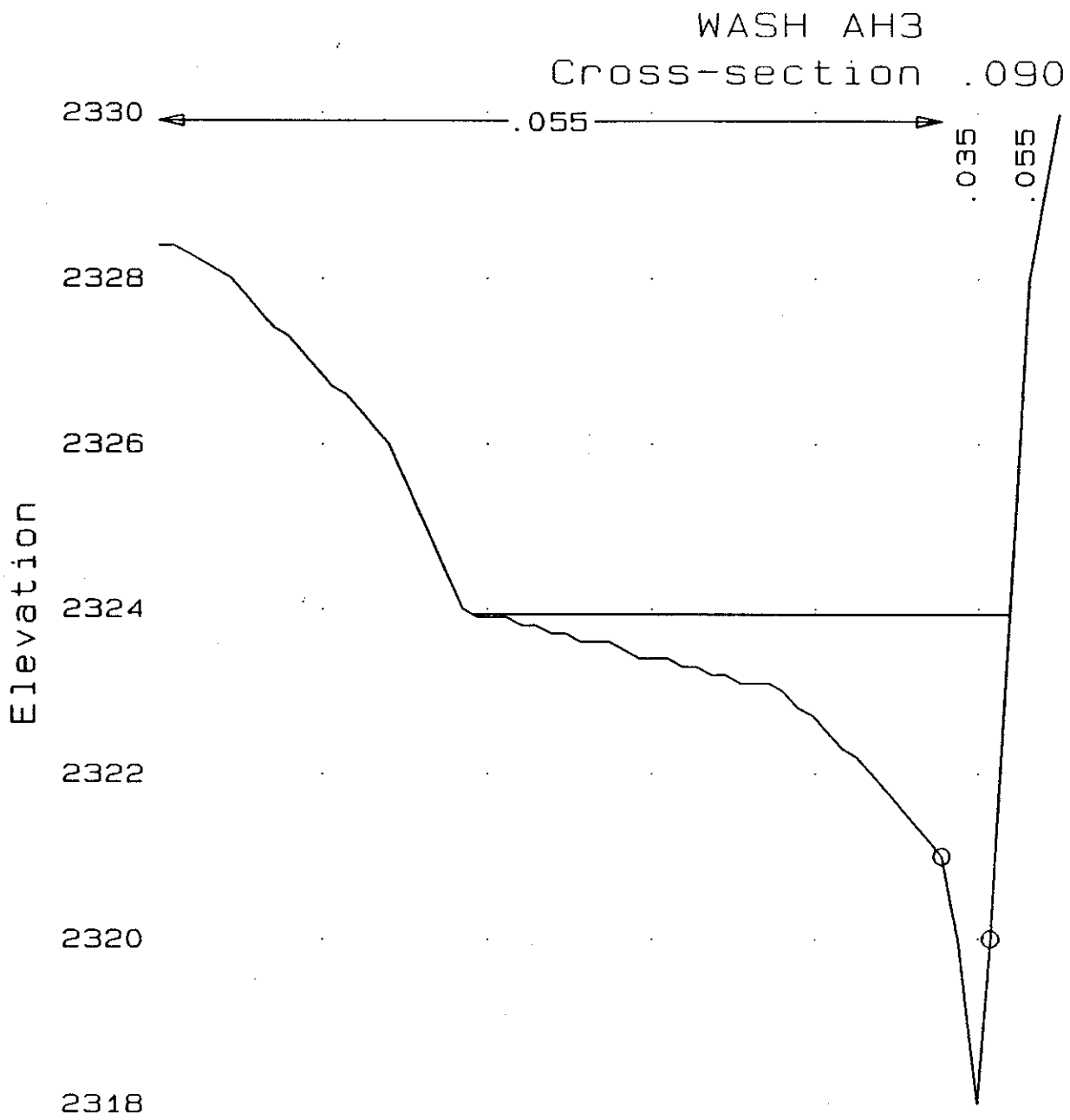
STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.090	656.	846.	4.8	2323.9	2323.9	.0
.187	378.	582.	6.9	2329.0	2328.8	.2
.283	210.	638.	6.3	2335.7	2334.9	.8
.392	273.	790.	5.1	2340.3	2339.7	.6
.455	311.	642.	6.3	2342.3	2341.7	.6
.564	140.	469.	8.6	2347.9	2347.5	.4
.652	137.	623.	6.5	2351.8	2350.8	1.0
.751	233.	631.	6.4	2353.9	2353.3	.6
.809	162.	511.	7.9	2355.5	2355.4	.1
.860	164.	513.	7.9	2358.1	2357.8	.3
.945	103.	416.	9.7	2362.3	2362.0	.3
1.038	123.	449.	9.0	2366.7	2366.7	.0
1.131	143.	598.	6.8	2370.7	2370.2	.5
1.229	101.	432.	9.4	2373.3	2373.7	-.4
1.330	126.	569.	7.1	2377.9	2377.0	.9
1.396	111.	438.	9.2	2379.5	2379.8	-.3
1.499	118.	362.	7.6	2385.2	2384.8	.4
1.569	97.	390.	7.0	2387.9	2387.3	.6
1.683	121.	380.	7.2	2391.9	2391.5	.4
1.774	140.	411.	6.7	2396.1	2396.0	.1
1.872	211.	622.	4.4	2399.5	2398.8	.7
1.995	122.	327.	8.4	2403.1	2403.1	.0
2.067	73.	265.	10.3	2409.4	2409.7	-.3
2.126	158.	669.	4.1	2412.5	2411.5	1.0
2.245	199.	482.	5.7	2414.2	2414.4	-.2
2.344	142.	373.	7.3	2419.8	2419.7	.1
2.444	143.	528.	5.2	2423.9	2423.1	.8
2.534	314.	508.	5.4	2426.5	2426.2	.3
2.640	188.	395.	6.9	2430.5	2430.3	.2
2.716	164.	394.	7.0	2434.8	2434.2	.6
2.818	97.	327.	8.4	2439.5	2439.2	.3
2.891	70.	314.	8.7	2442.9	2442.2	.7
2.997	103.	401.	6.8	2447.4	2446.7	.7
3.092	115.	301.	9.1	2452.0	2451.5	.5
3.186	105.	451.	6.1	2456.2	2455.4	.8
3.279	78.	290.	9.5	2458.7	2458.5	.2
3.372	57.	276.	9.9	2463.2	2462.8	.4
3.467	79.	434.	6.3	2466.7	2465.7	1.0
3.568	64.	262.	10.5	2468.9	2468.6	.3
3.665	66.	266.	10.3	2474.6	2474.4	.2
3.766	134.	469.	5.8	2479.6	2478.6	1.0
3.862	87.	409.	6.7	2481.8	2481.2	.6

FLOODWAY DATA, WASH AH3
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
3.940	83.	286.	9.6	2484.6	2484.2	.4
4.000	111.	528.	5.2	2487.7	2486.8	.9
4.042	111.	331.	8.3	2489.3	2488.8	.5
4.127	163.	592.	4.6	2493.2	2492.3	.9
4.222	96.	417.	6.6	2495.0	2494.3	.7
4.290	69.	267.	10.3	2497.7	2497.5	.2
4.399	129.	348.	7.9	2505.4	2504.8	.6
4.491	110.	386.	7.1	2509.9	2509.3	.6
4.560	50.	251.	10.9	2512.2	2512.2	.0
4.680	190.	736.	3.7	2516.7	2515.8	.9
4.783	87.	295.	9.3	2519.0	2518.8	.2
4.869	184.	793.	3.5	2522.3	2521.3	1.0
4.956	89.	302.	9.1	2524.0	2524.0	.0
4.998	284.	1243.	2.2	2526.3	2526.3	.0
5.041	250.	752.	3.6	2526.5	2526.5	.0
5.149	85.	306.	9.0	2530.0	2529.7	.3
5.272	44.	235.	11.7	2536.5	2536.4	.1
5.343	64.	307.	8.9	2540.6	2539.9	.7
5.432	49.	253.	10.8	2544.5	2544.1	.4
5.534	104.	318.	8.6	2552.5	2552.5	.0
5.620	162.	525.	5.2	2556.1	2556.1	.0
5.696	167.	489.	5.6	2557.4	2557.4	.0
5.821	85.	293.	9.4	2563.6	2563.6	.0
5.868	103.	545.	5.0	2566.4	2566.4	.0
5.908	90.	282.	9.7	2568.1	2568.1	.0
5.965	112.	385.	7.1	2571.2	2571.2	.0
6.029	104.	223.	8.5	2577.1	2577.1	.0
6.084	83.	394.	4.8	2579.3	2579.3	.0
6.107	32.	152.	12.5	2579.6	2579.6	.0
6.118	32.	238.	8.0	2582.7	2582.7	.0
6.134	70.	551.	3.5	2583.7	2583.8	-.1
6.165	50.	282.	6.8	2583.6	2583.9	-.3
6.214	108.	364.	5.2	2584.9	2583.9	1.0
6.265	89.	299.	6.4	2586.0	2585.9	.1
6.297	32.	153.	12.5	2586.6	2586.6	.0
6.304	41.	280.	6.8	2590.6	2590.6	.0
6.313	90.	600.	3.2	2591.5	2591.5	.0
6.361	90.	501.	3.8	2591.6	2591.6	.0
6.406	73.	327.	5.8	2591.9	2591.9	.0
6.463	86.	286.	6.7	2593.2	2592.9	.3
6.523	76.	280.	6.8	2595.5	2595.4	.1
6.581	120.	419.	4.6	2597.6	2596.7	.9

FLOODWAY DATA, WASH AH3
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
6.674	80.	271.	7.0	2599.8	2599.9	-.1
6.776	67.	235.	8.1	2604.3	2603.9	.4
6.865	83.	281.	6.8	2608.2	2607.6	.6
6.955	211.	543.	3.5	2611.3	2611.1	.2
7.067	80.	236.	8.1	2618.3	2618.1	.2
7.164	113.	507.	3.8	2621.4	2620.8	.6
7.223	135.	297.	6.4	2622.9	2622.9	.0
7.339	191.	517.	3.7	2627.5	2627.3	.2
7.441	106.	257.	7.4	2632.3	2631.8	.5
7.496	135.	550.	3.5	2634.8	2633.8	1.0
7.542	53.	200.	9.6	2635.2	2634.9	.3
-1.396	111.	438.	9.2	2379.5	2379.8	-.3
.114	88.	232.	7.3	2387.2	2386.9	.3
.171	47.	167.	10.0	2390.9	2390.6	.3
.236	51.	204.	8.2	2394.5	2393.7	.8
.306	45.	172.	9.8	2397.3	2397.1	.2
.386	49.	198.	8.5	2400.9	2400.4	.5
.462	49.	165.	10.2	2404.0	2403.9	.1
.539	49.	202.	8.3	2408.2	2407.6	.6
.635	59.	189.	8.9	2414.1	2414.0	.1
.733	60.	235.	7.2	2418.9	2418.4	.5
.813	46.	165.	10.2	2423.0	2422.8	.2
.911	92.	260.	6.5	2429.6	2428.8	.8
.990	77.	187.	9.0	2436.4	2436.4	.0
1.111	49.	183.	9.2	2442.7	2442.5	.2
1.192	76.	324.	5.2	2446.8	2445.8	1.0
1.287	57.	191.	8.8	2450.5	2450.2	.3
1.387	48.	220.	7.6	2455.9	2455.1	.8
1.471	54.	186.	9.0	2461.3	2461.0	.3
1.568	62.	205.	8.2	2469.9	2469.5	.4
1.666	61.	197.	8.5	2477.4	2477.0	.4
1.752	57.	228.	7.4	2482.6	2481.9	.7
1.845	71.	210.	8.0	2490.3	2490.0	.3
1.957	81.	256.	6.6	2498.7	2497.8	.9
2.041	81.	225.	7.5	2503.4	2503.0	.4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2320
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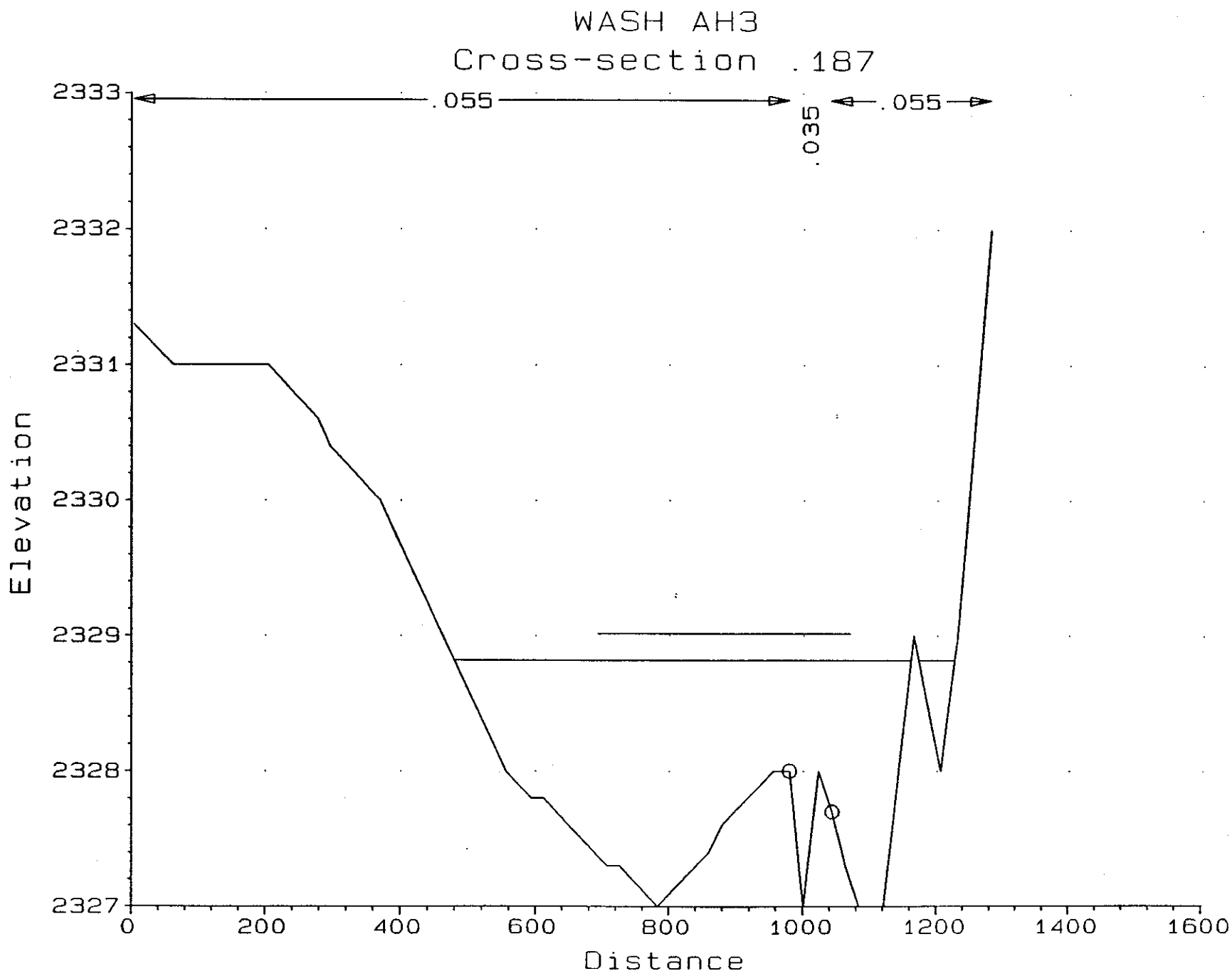
Elevation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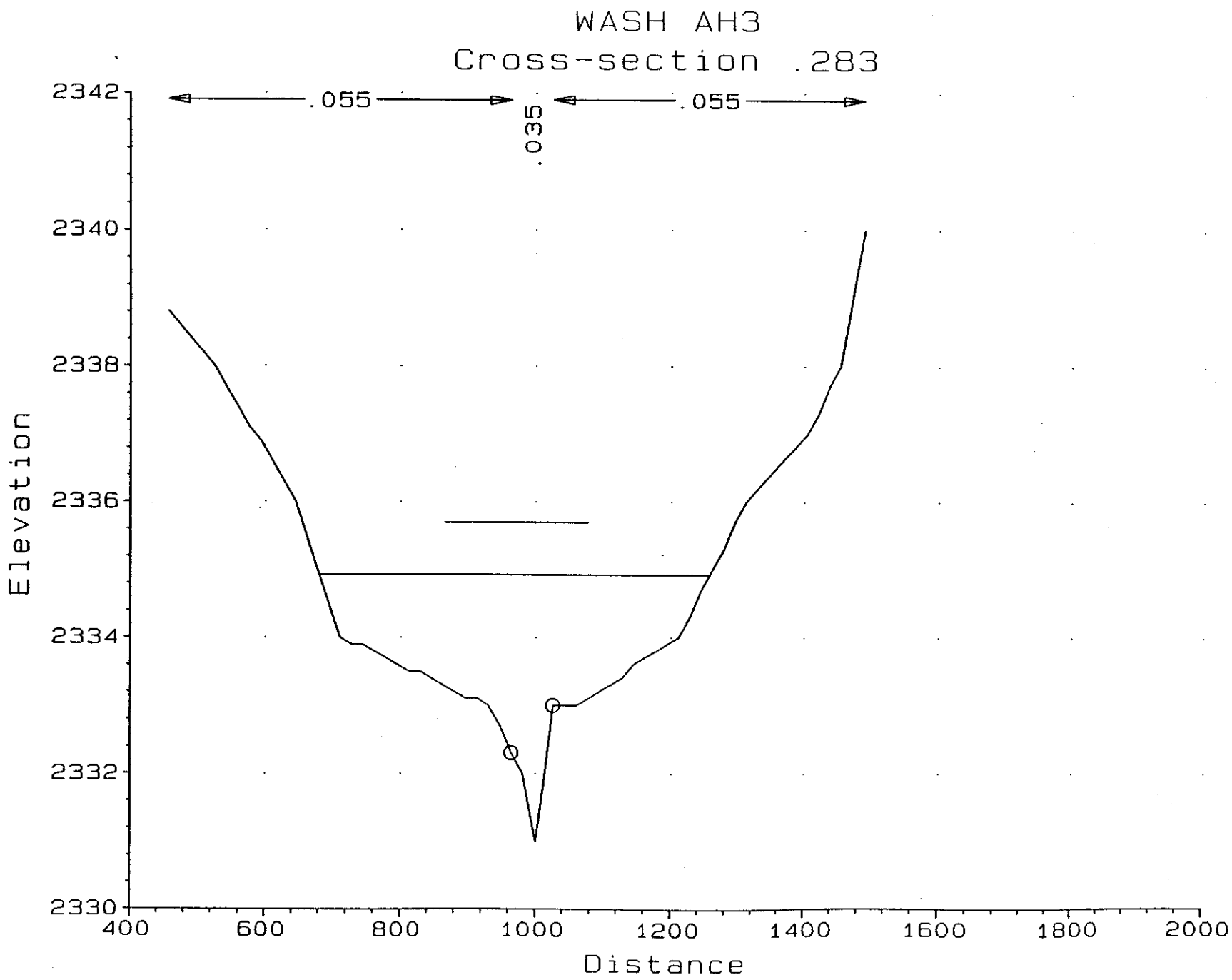
Distance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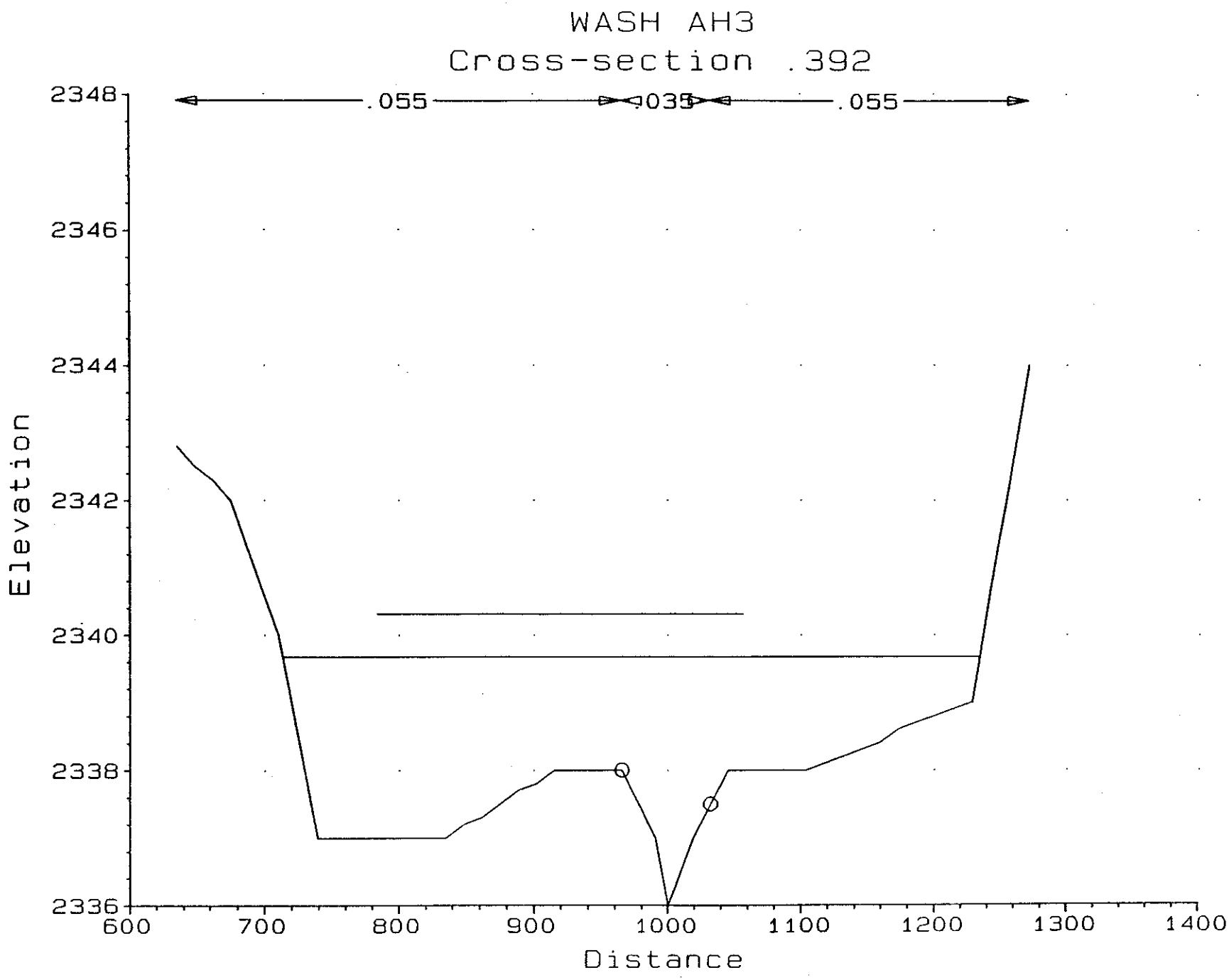
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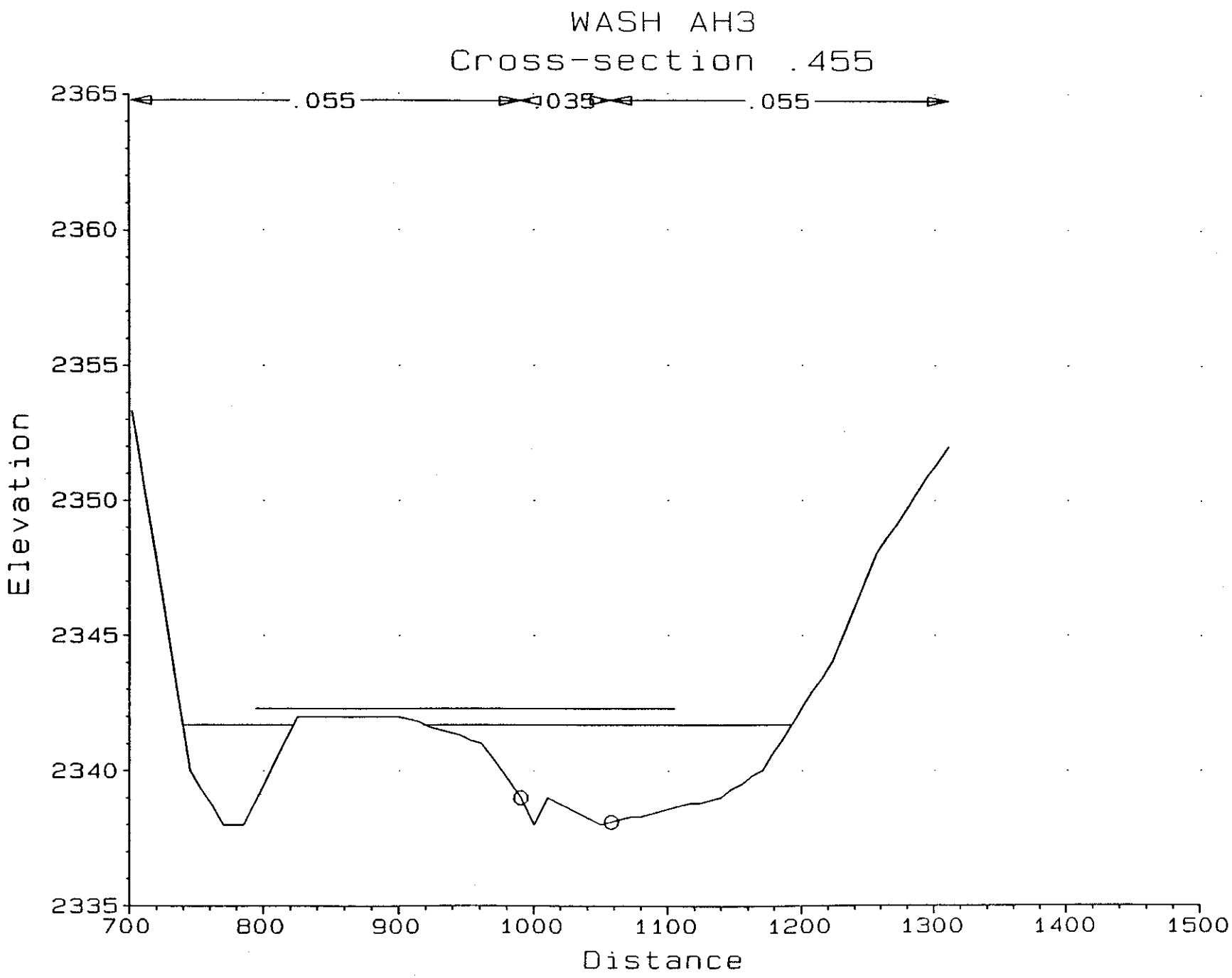
1300
1400
Distance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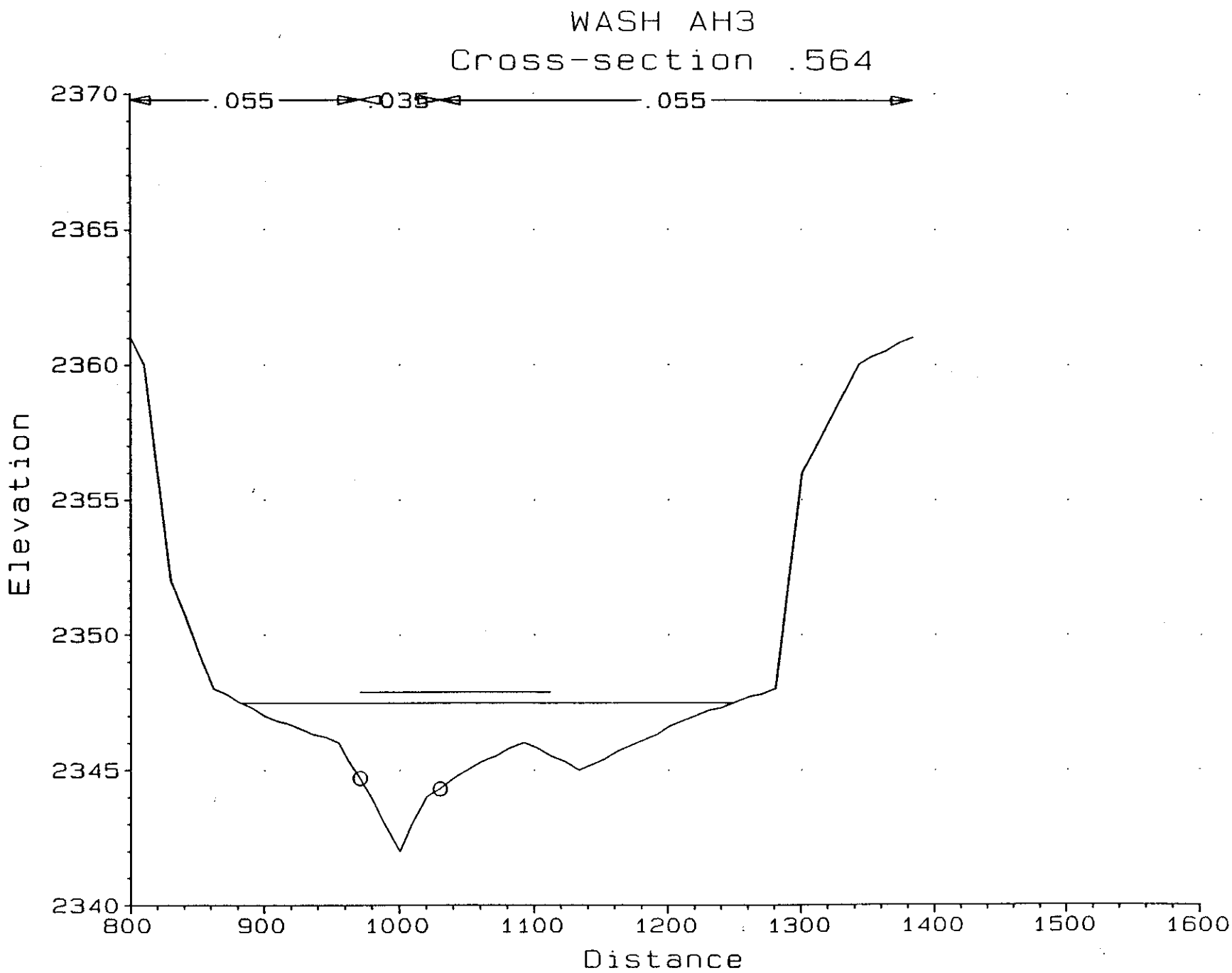
1300
1400
1500
Distance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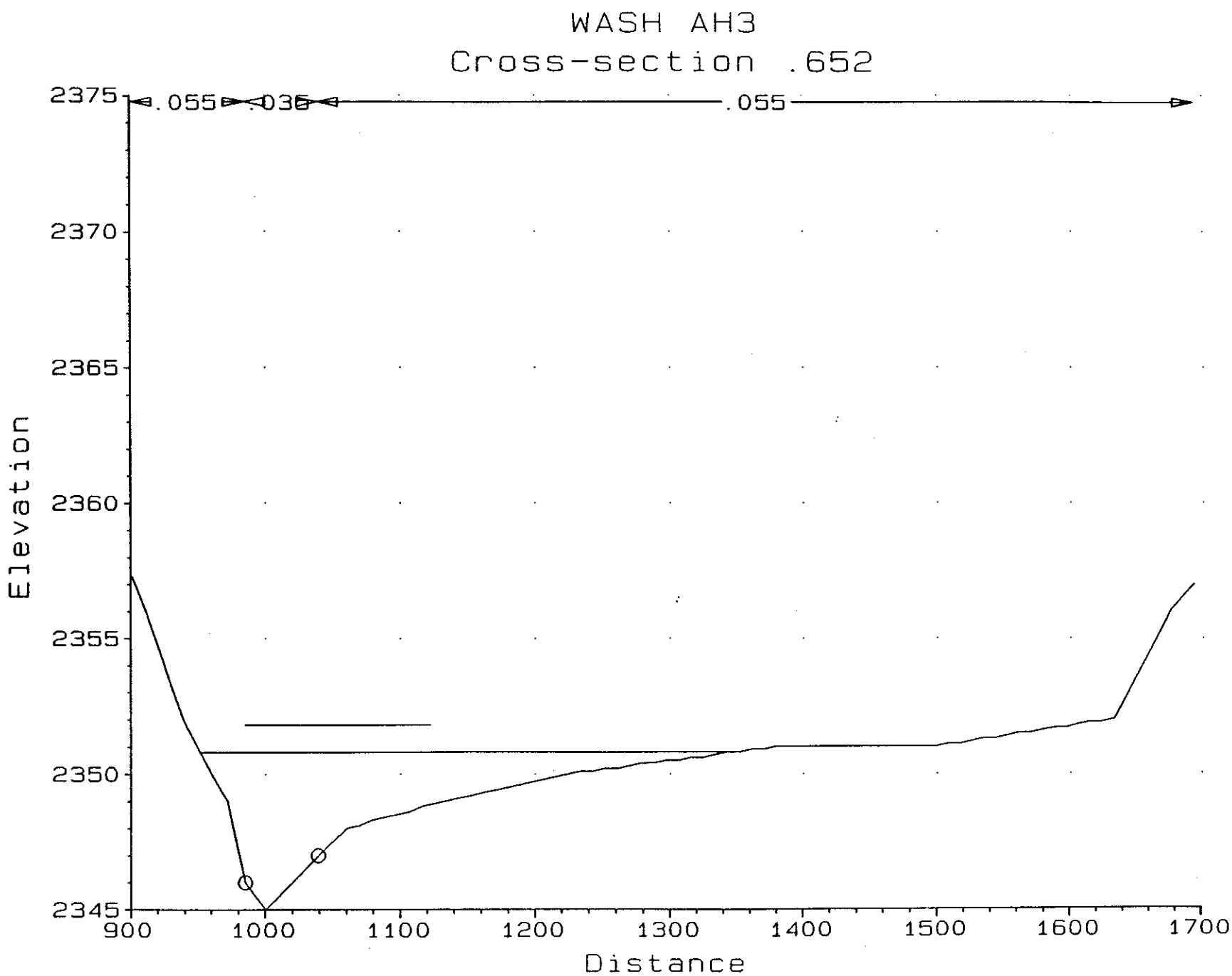
1600
Distance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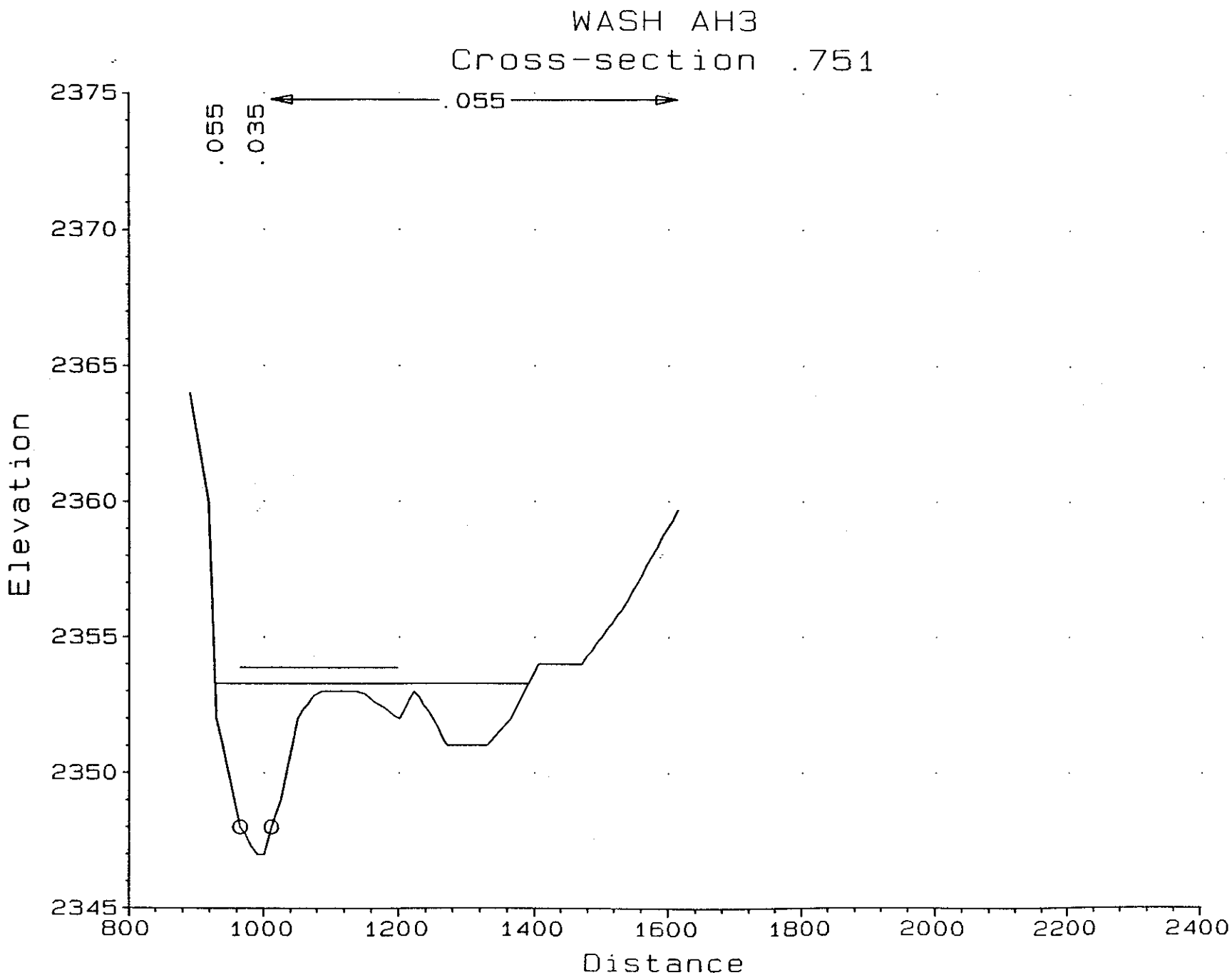
Distance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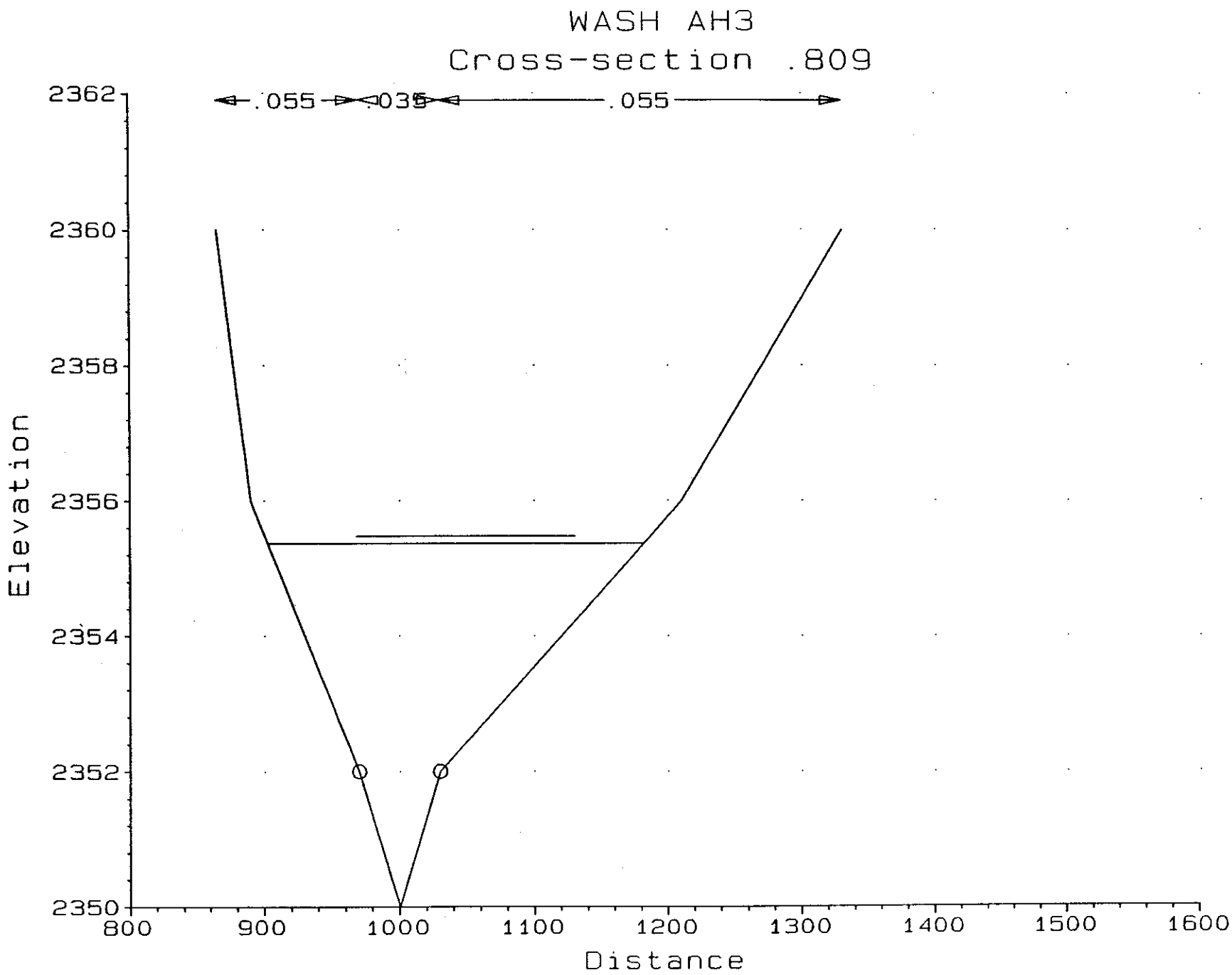
2200
2400
Distance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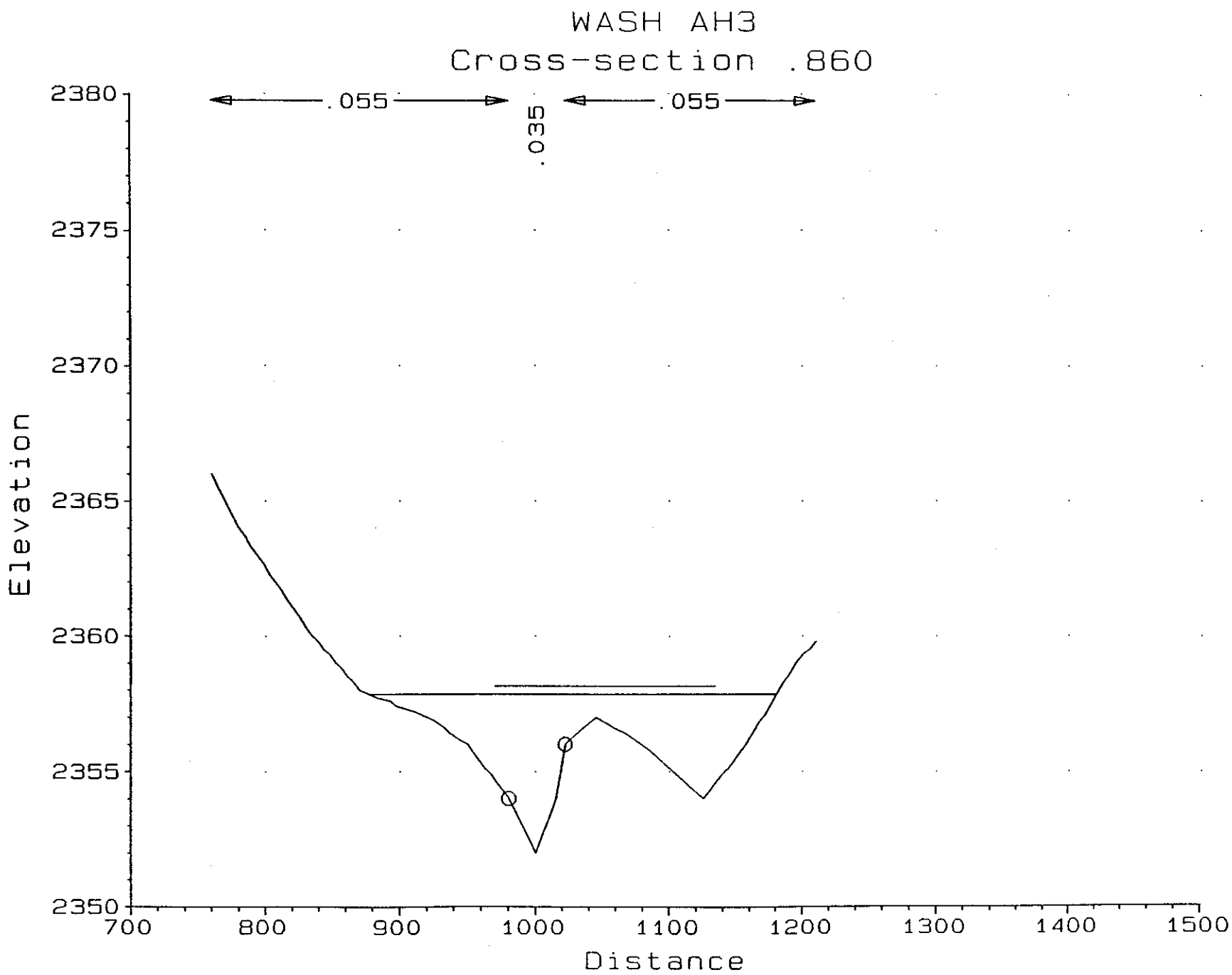
1600
Distance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Elevation
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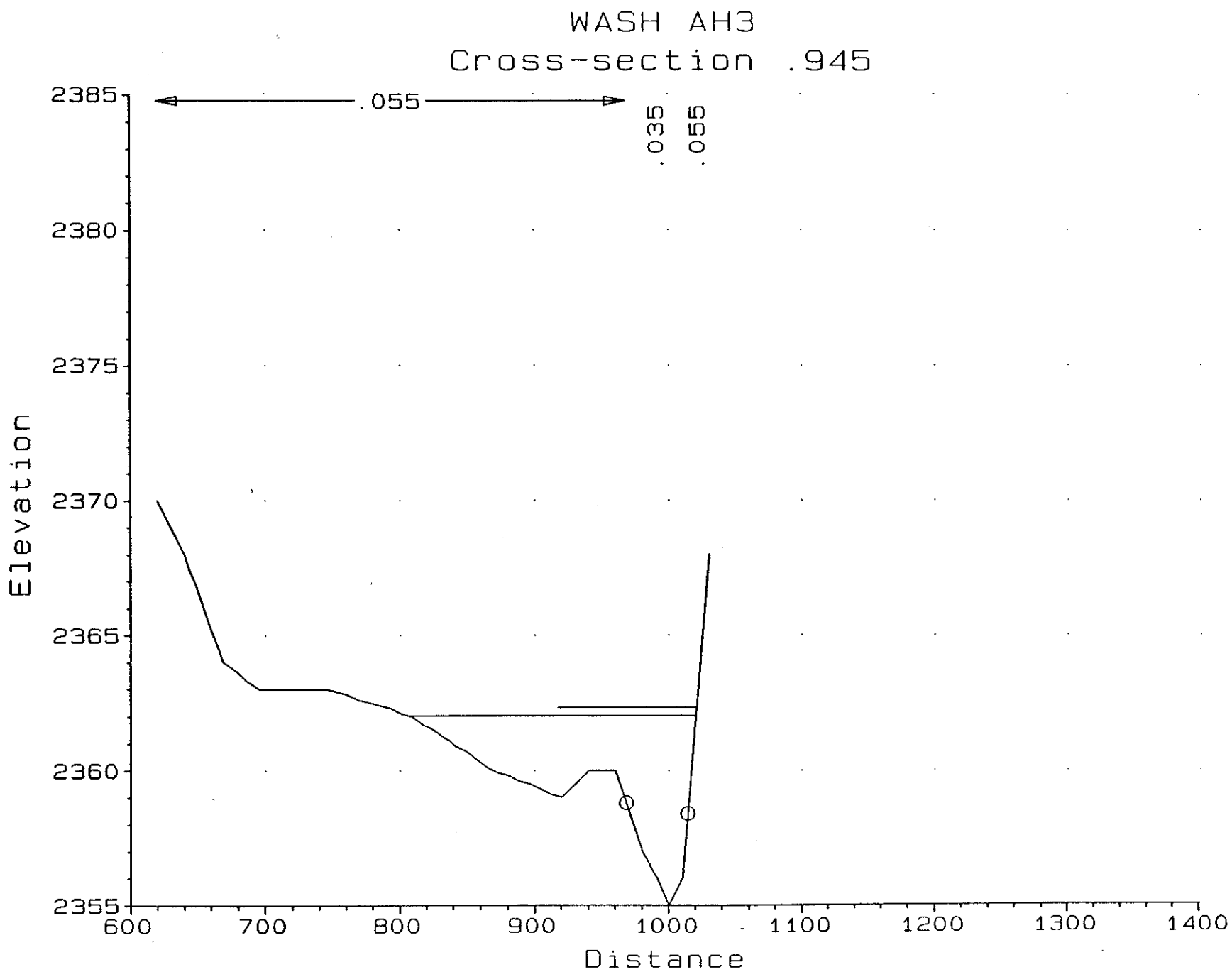
Distance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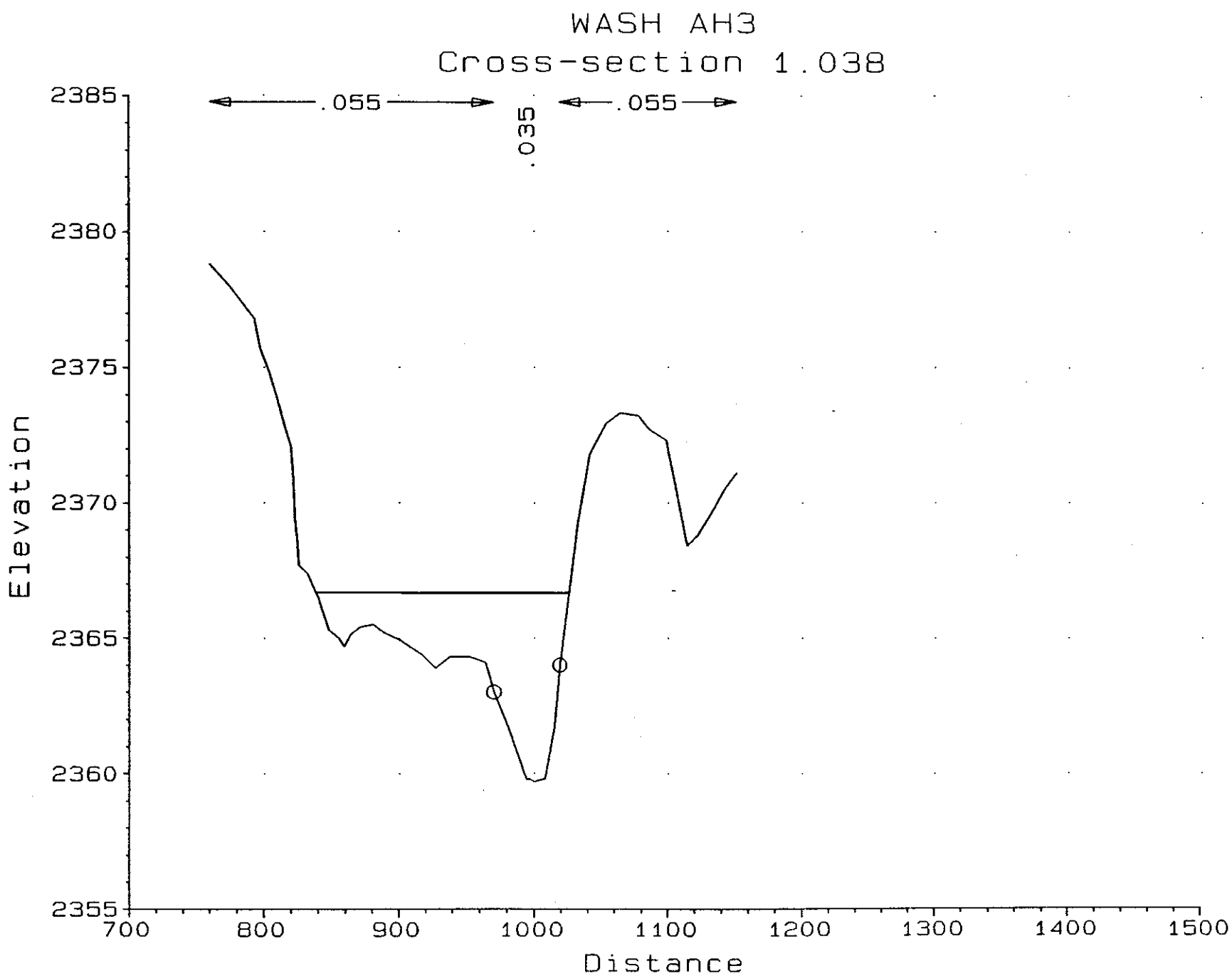
Distance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Elevation
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800
900
1000
1100
1200
1300
1400
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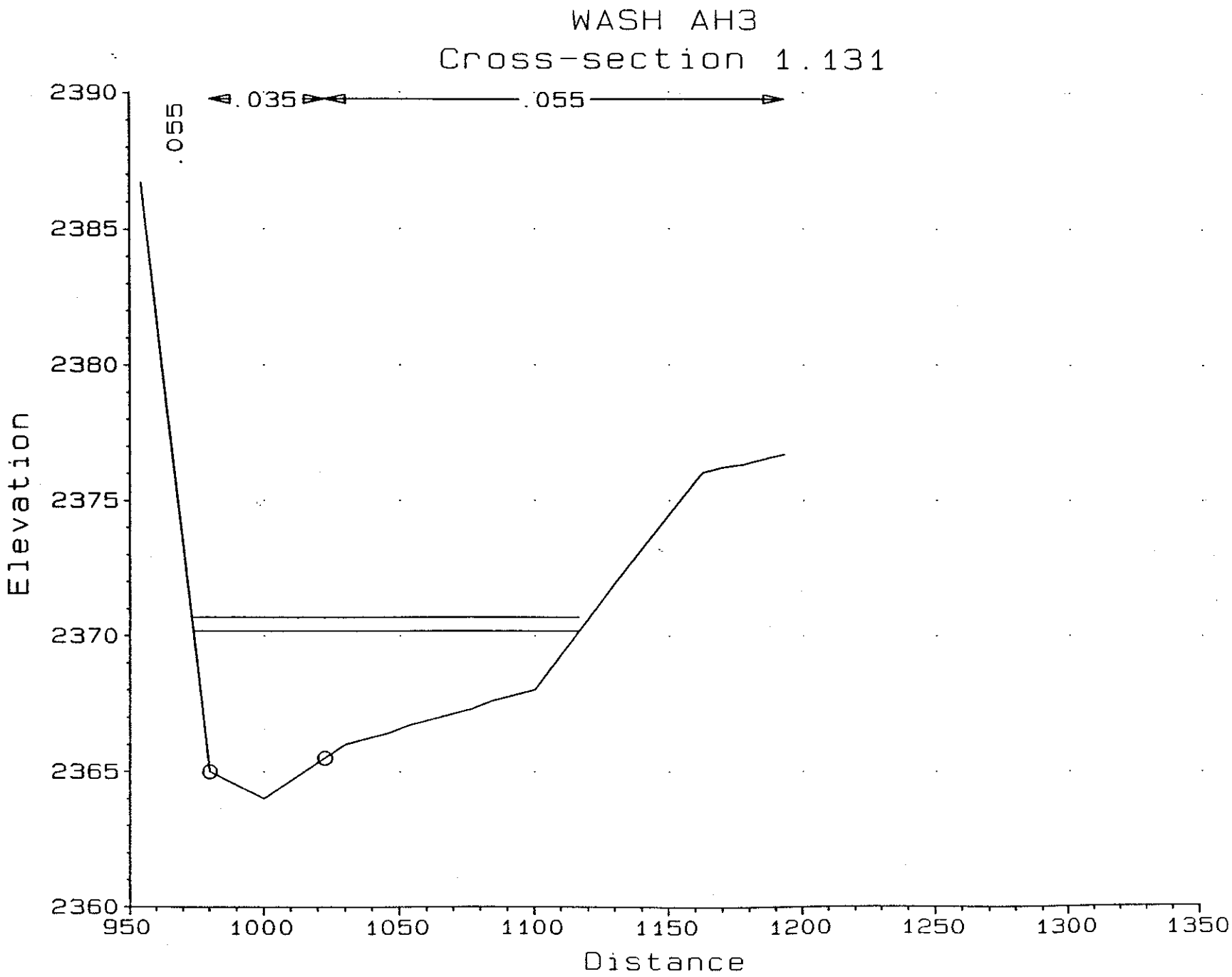
Distance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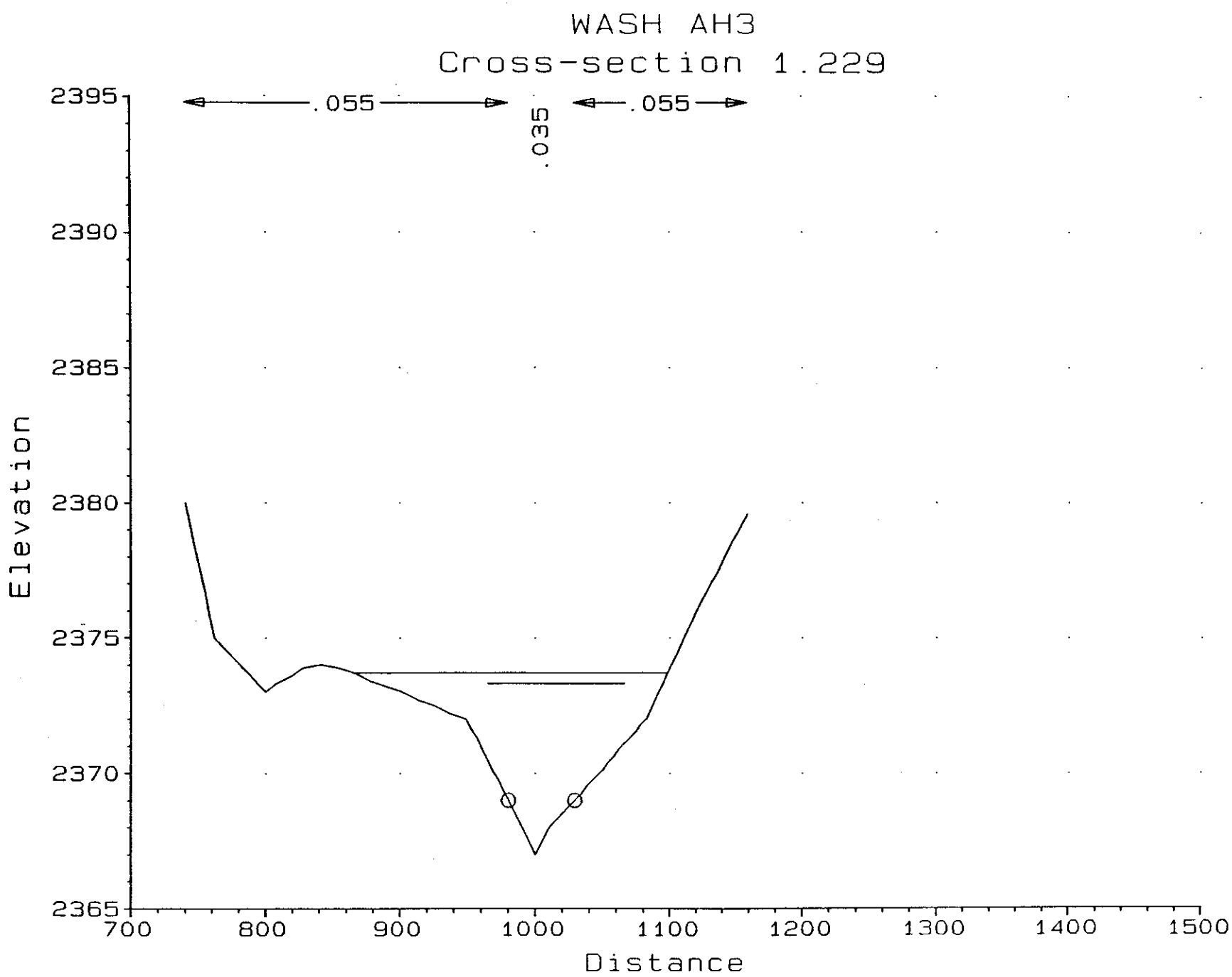
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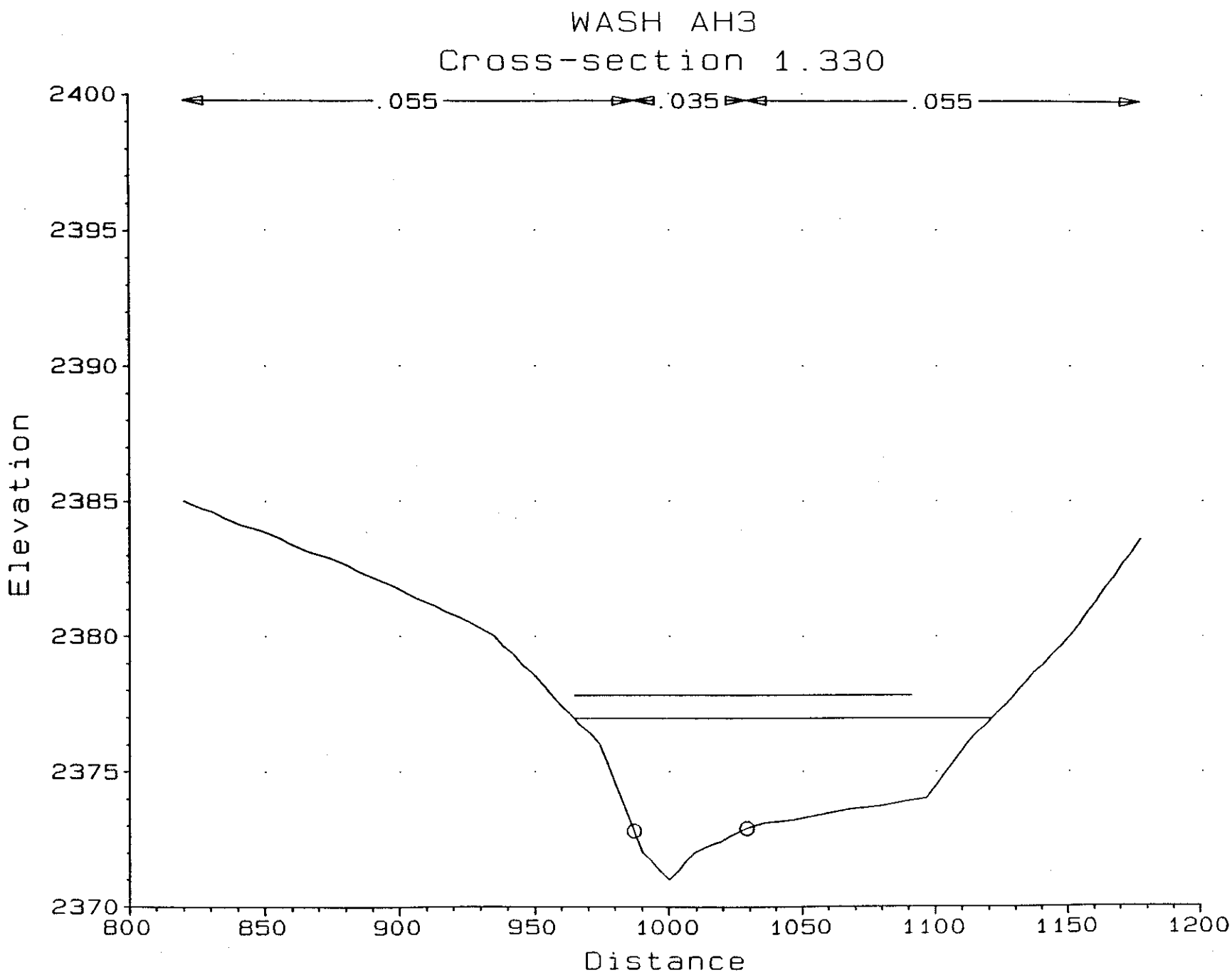
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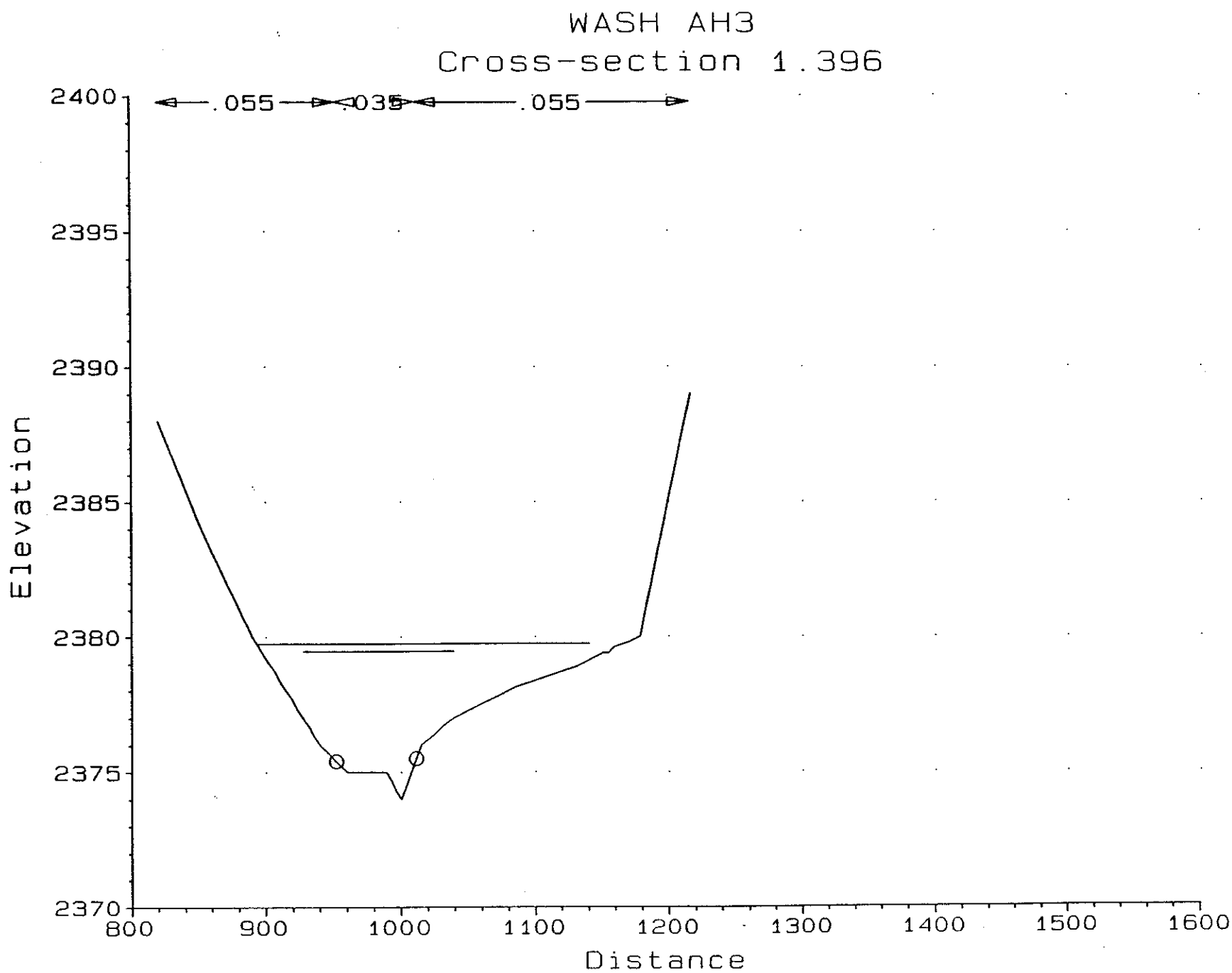
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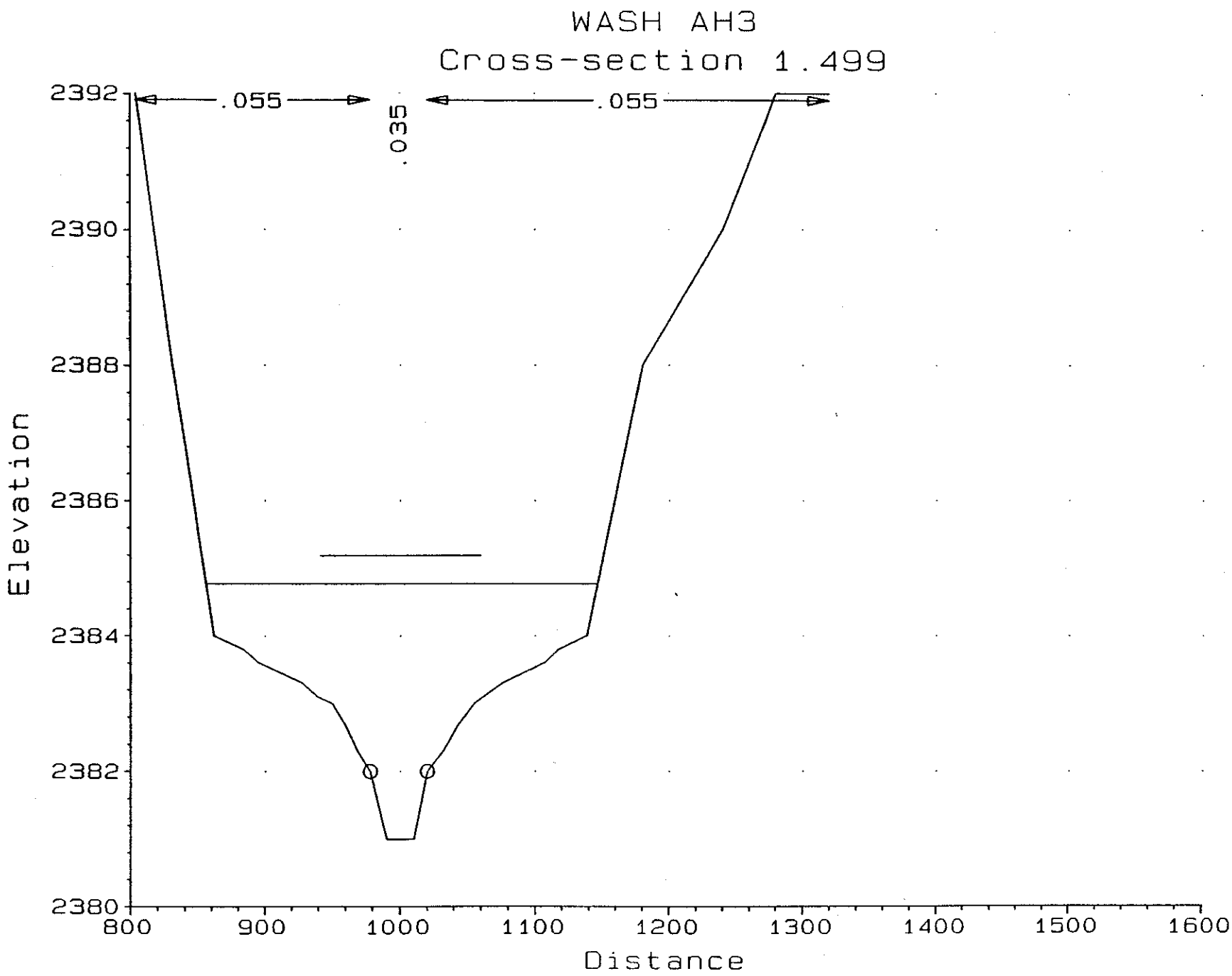
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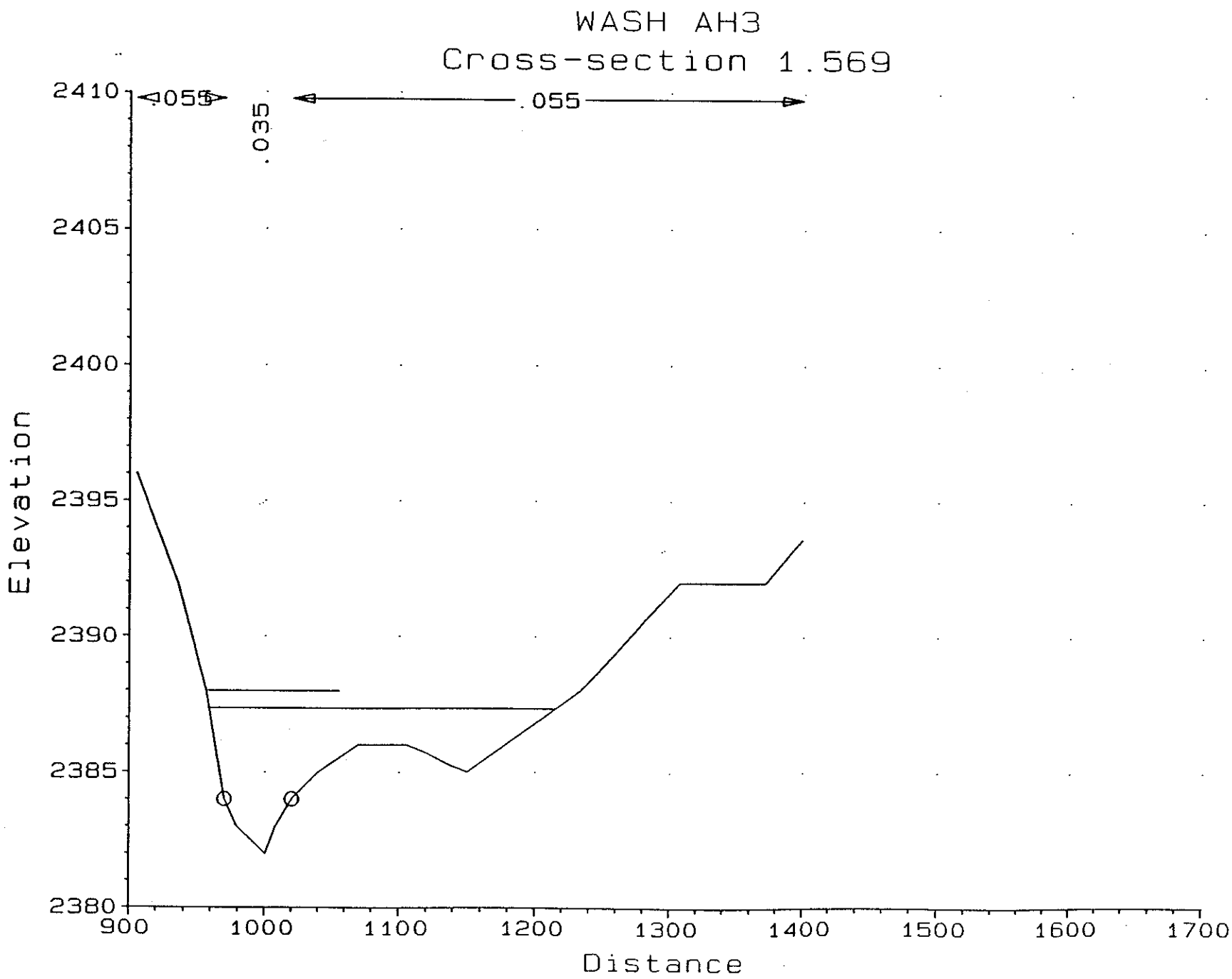
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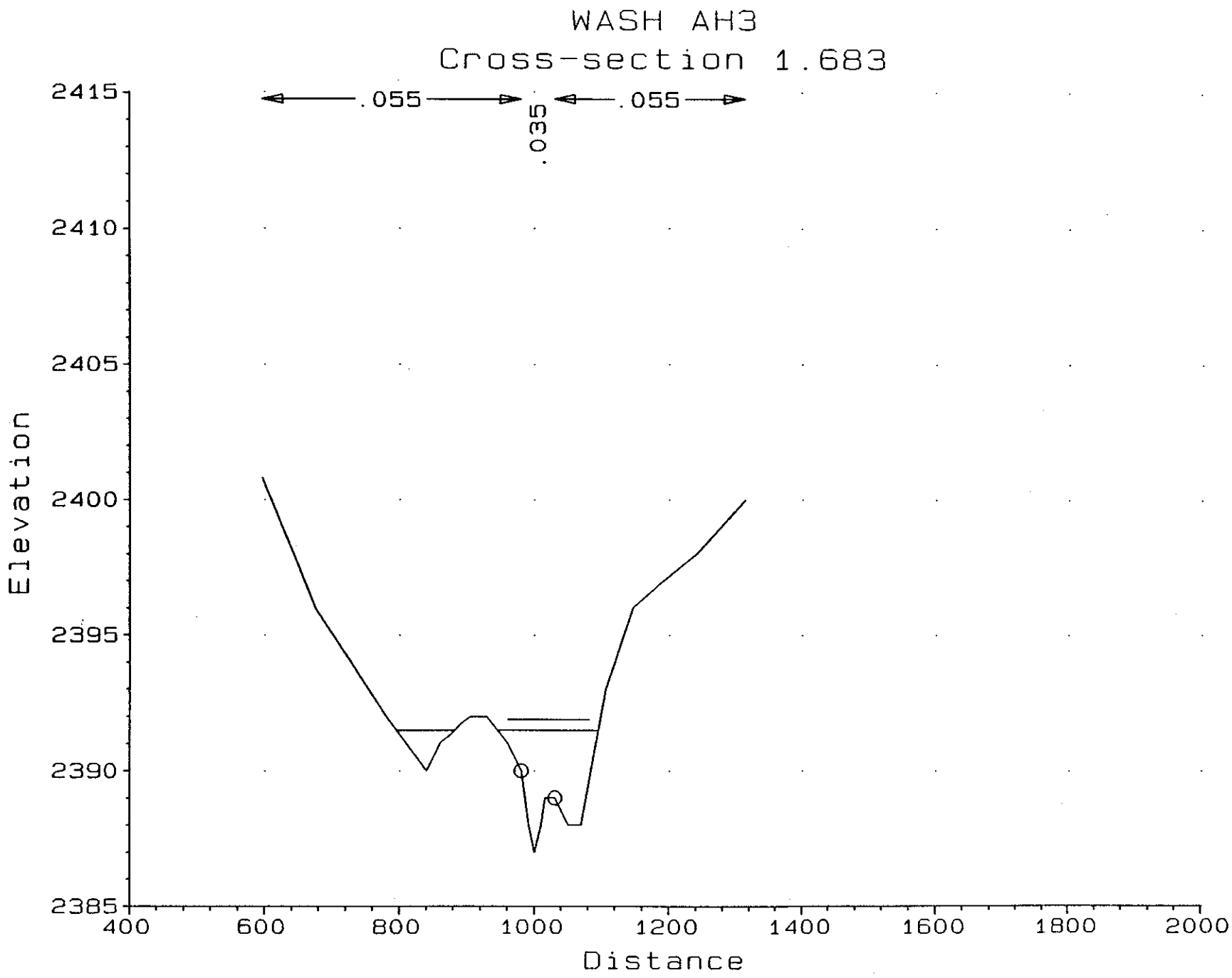
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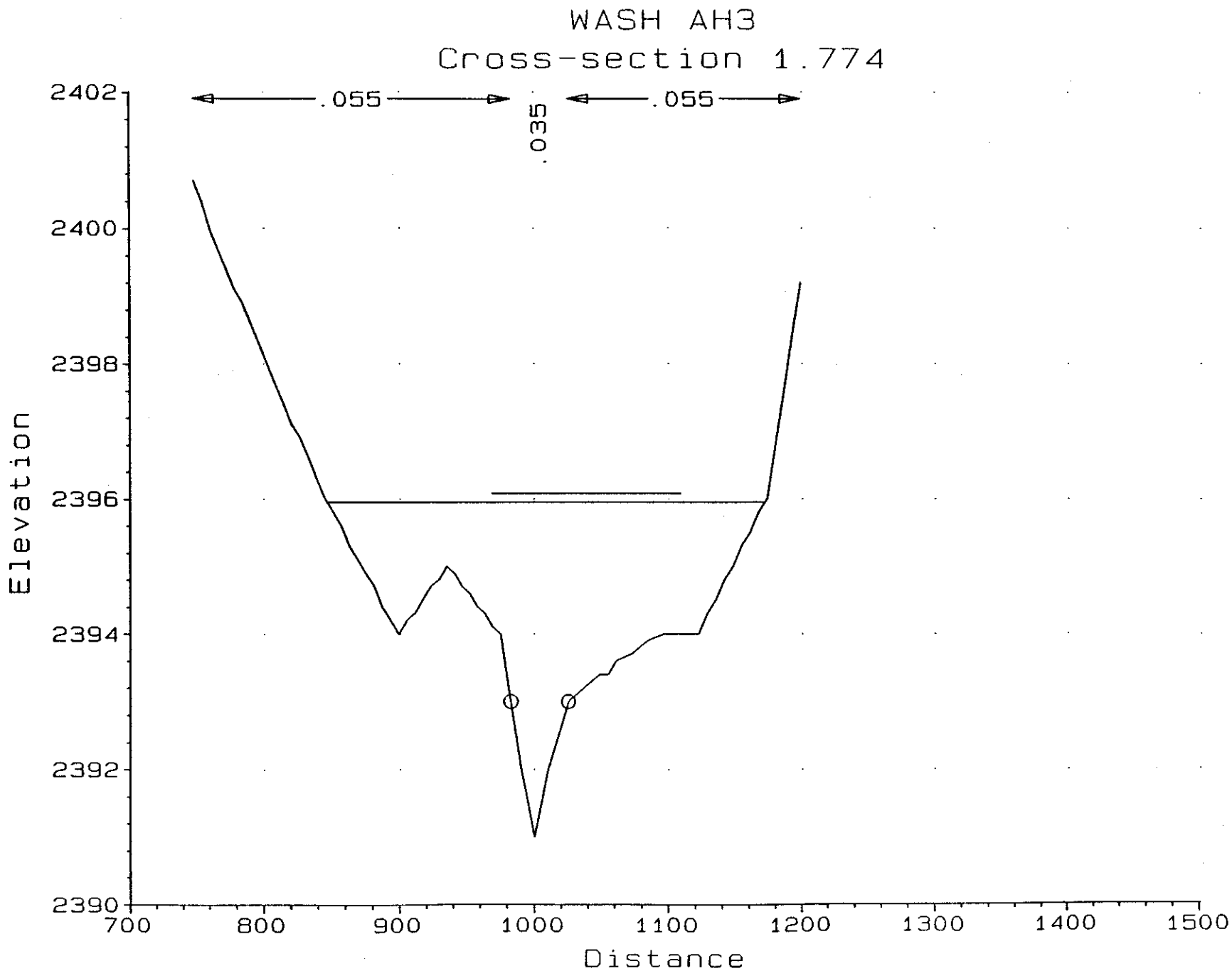
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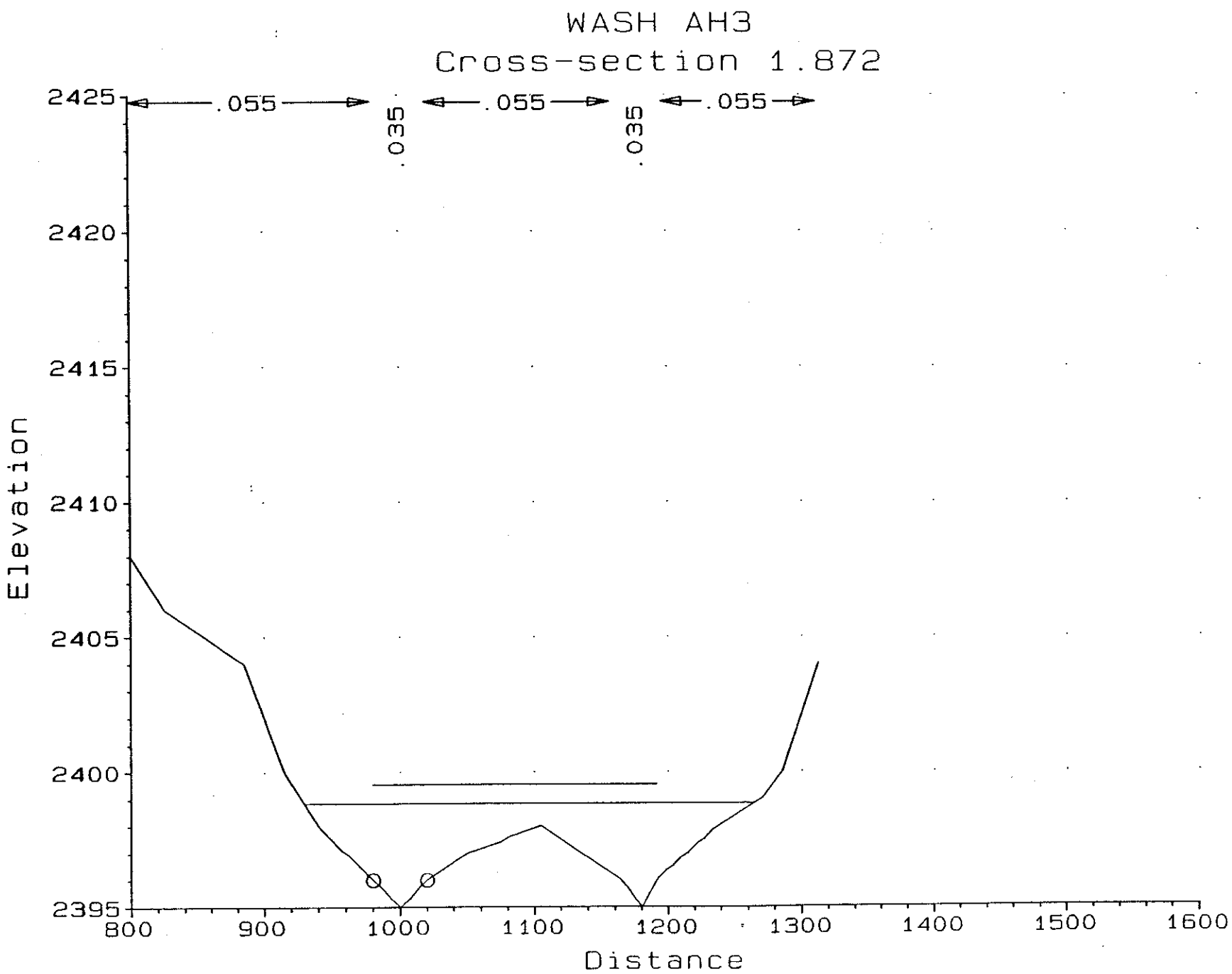
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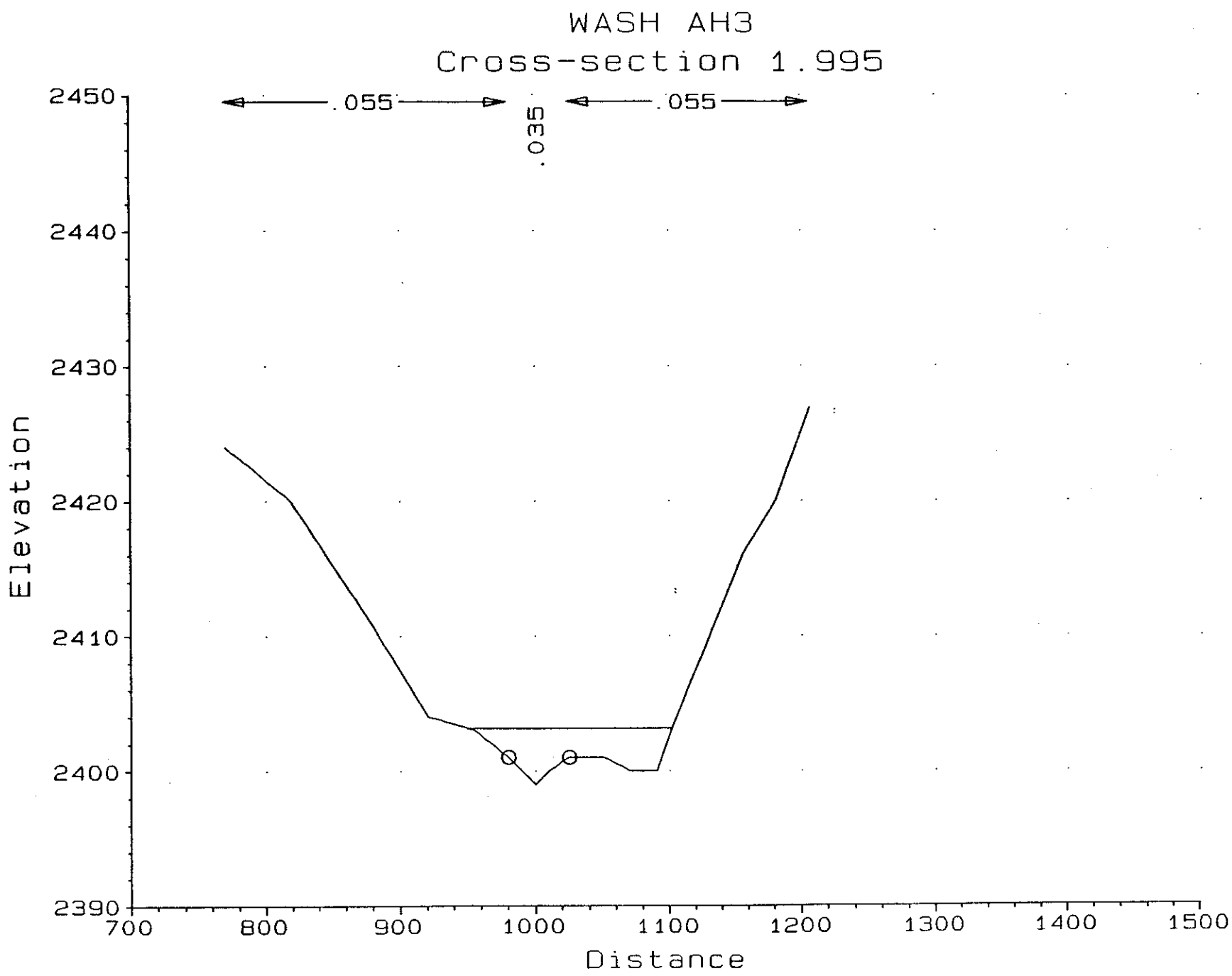
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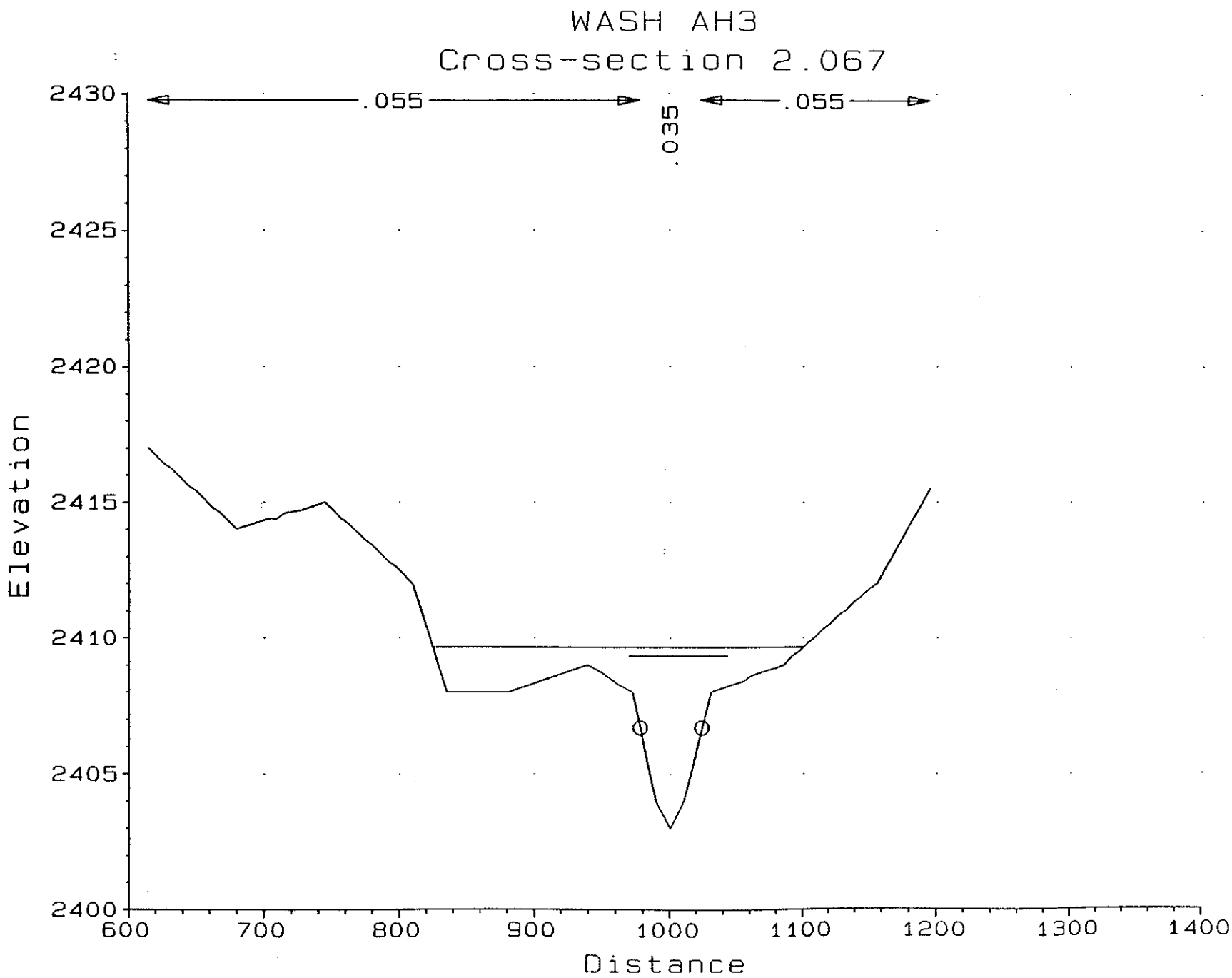
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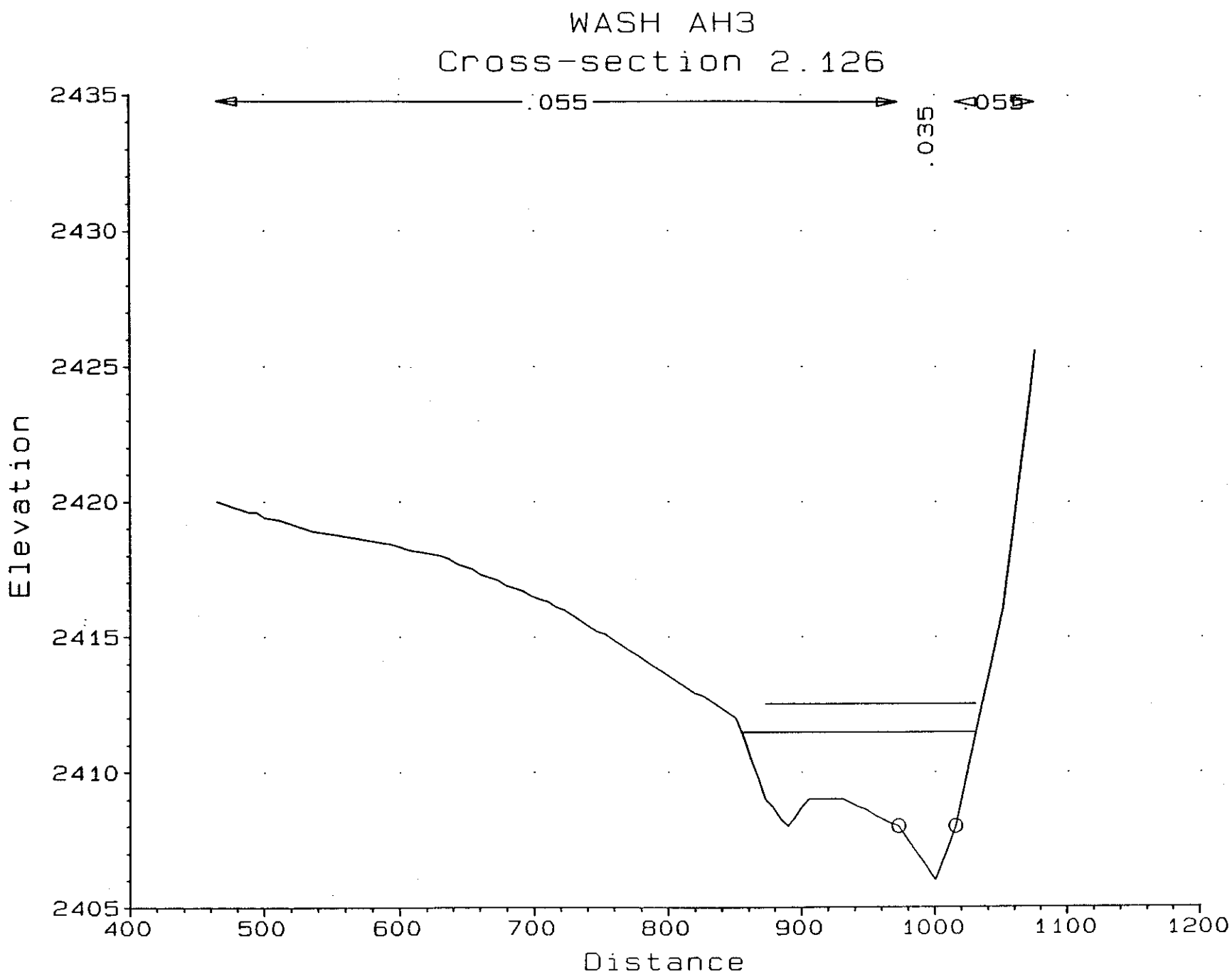
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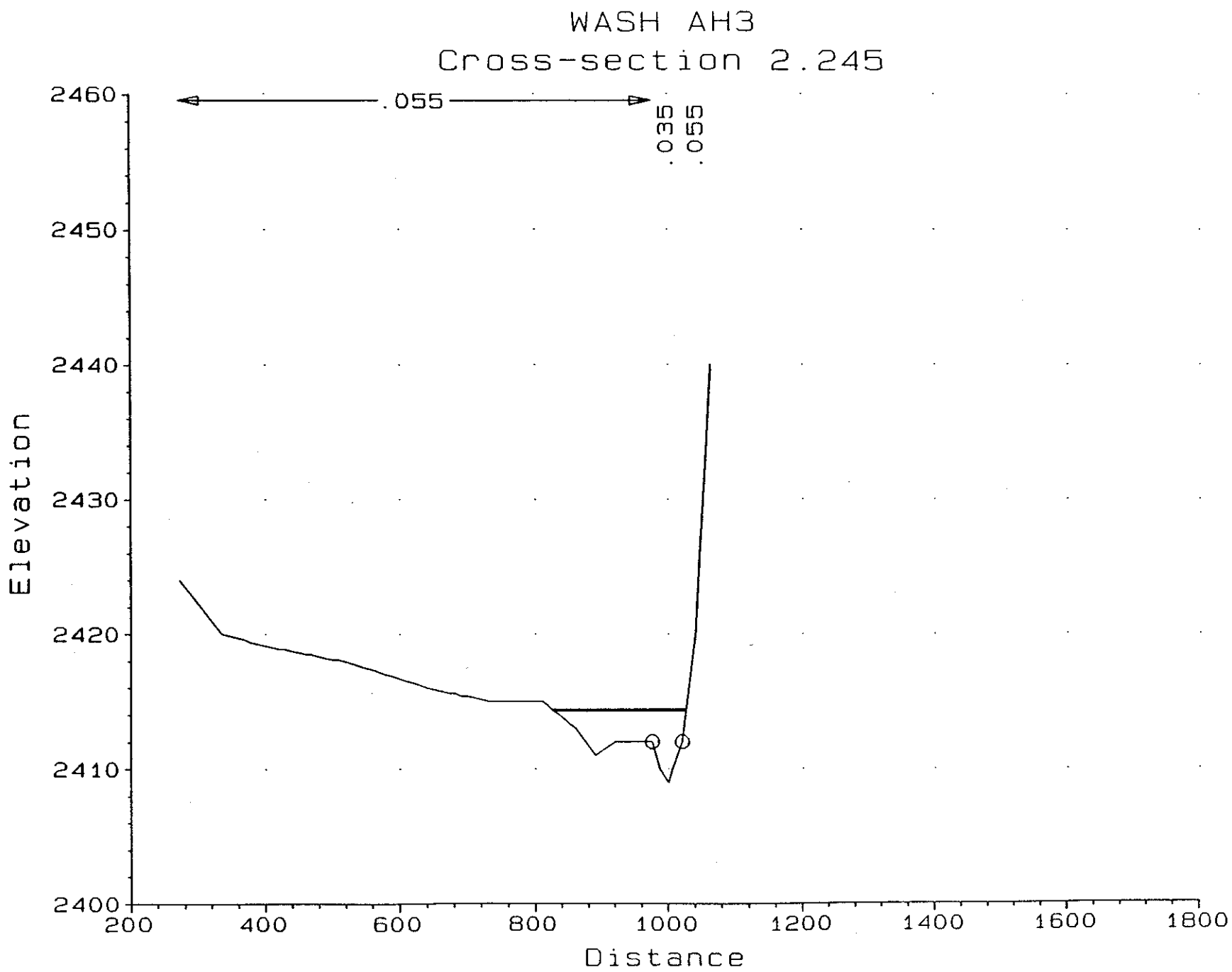
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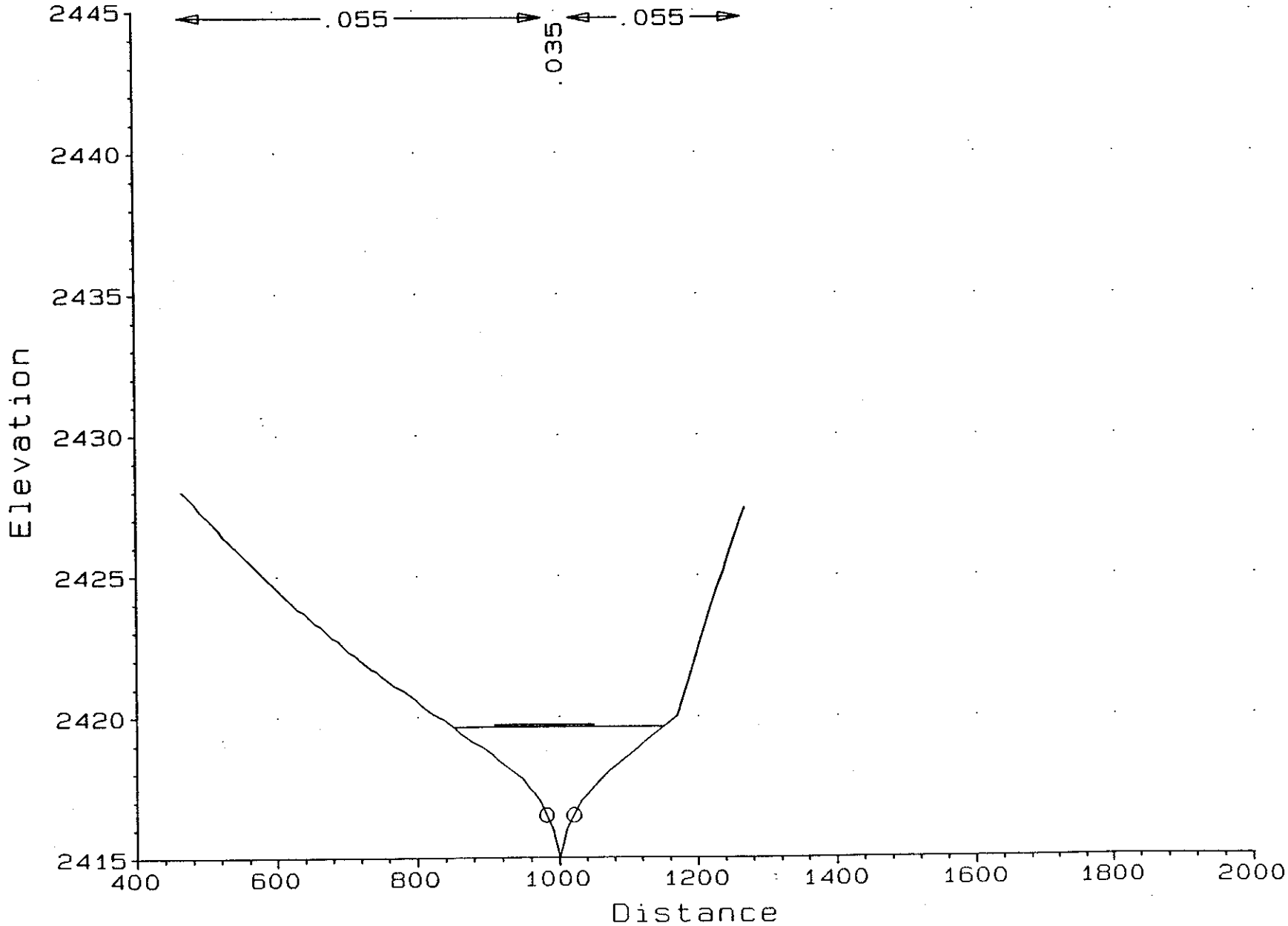
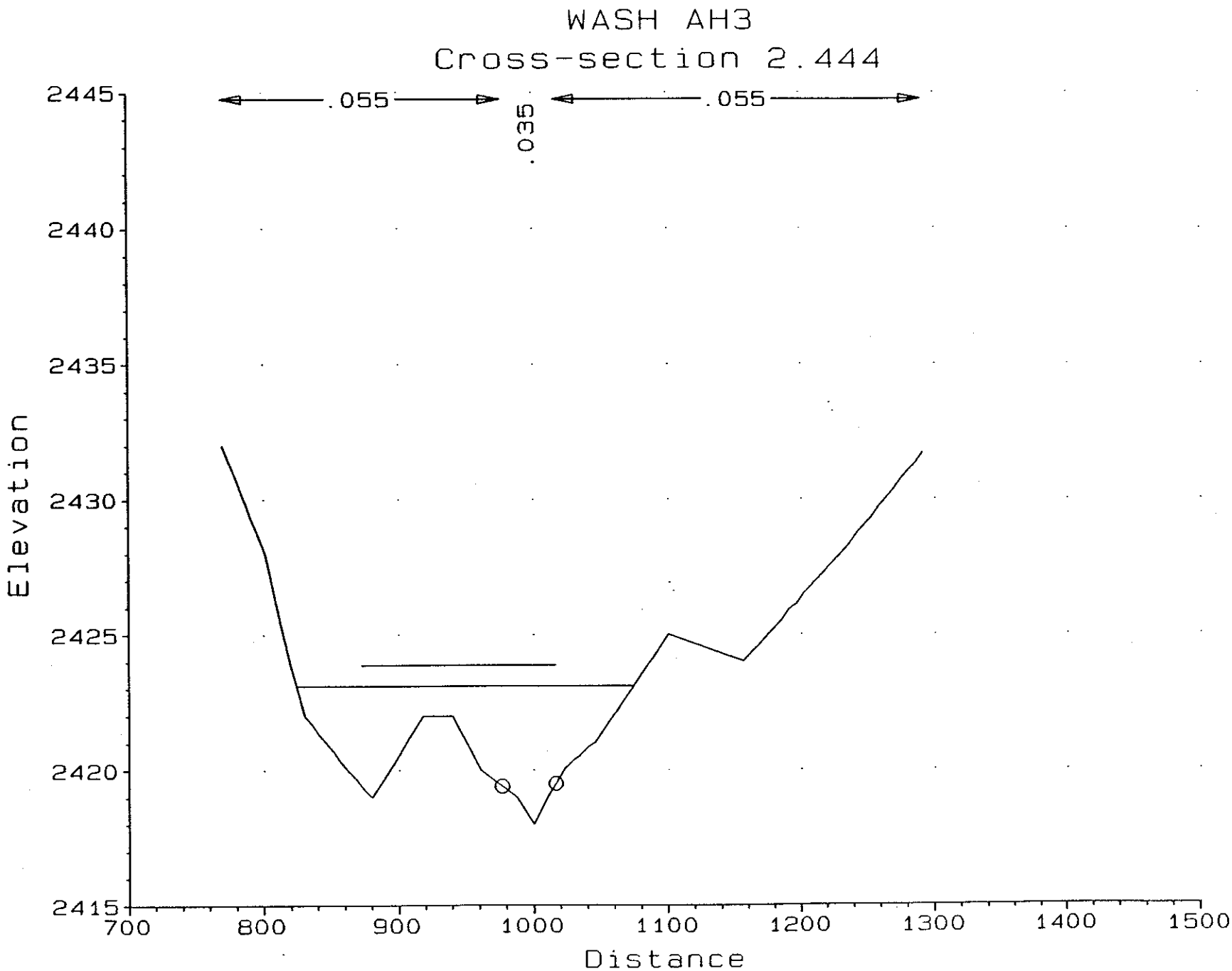
WASH AH3

Cross-section 2.344

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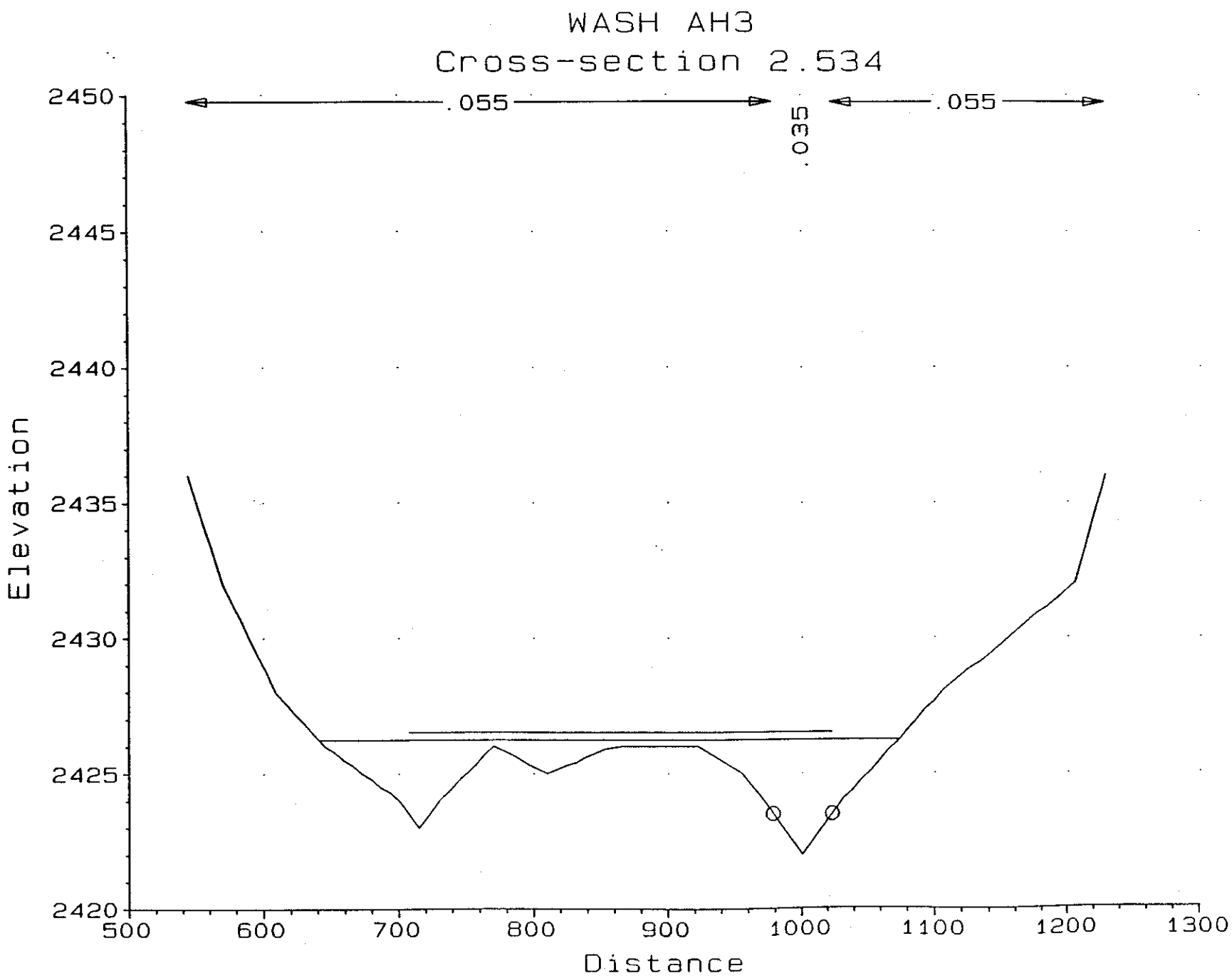
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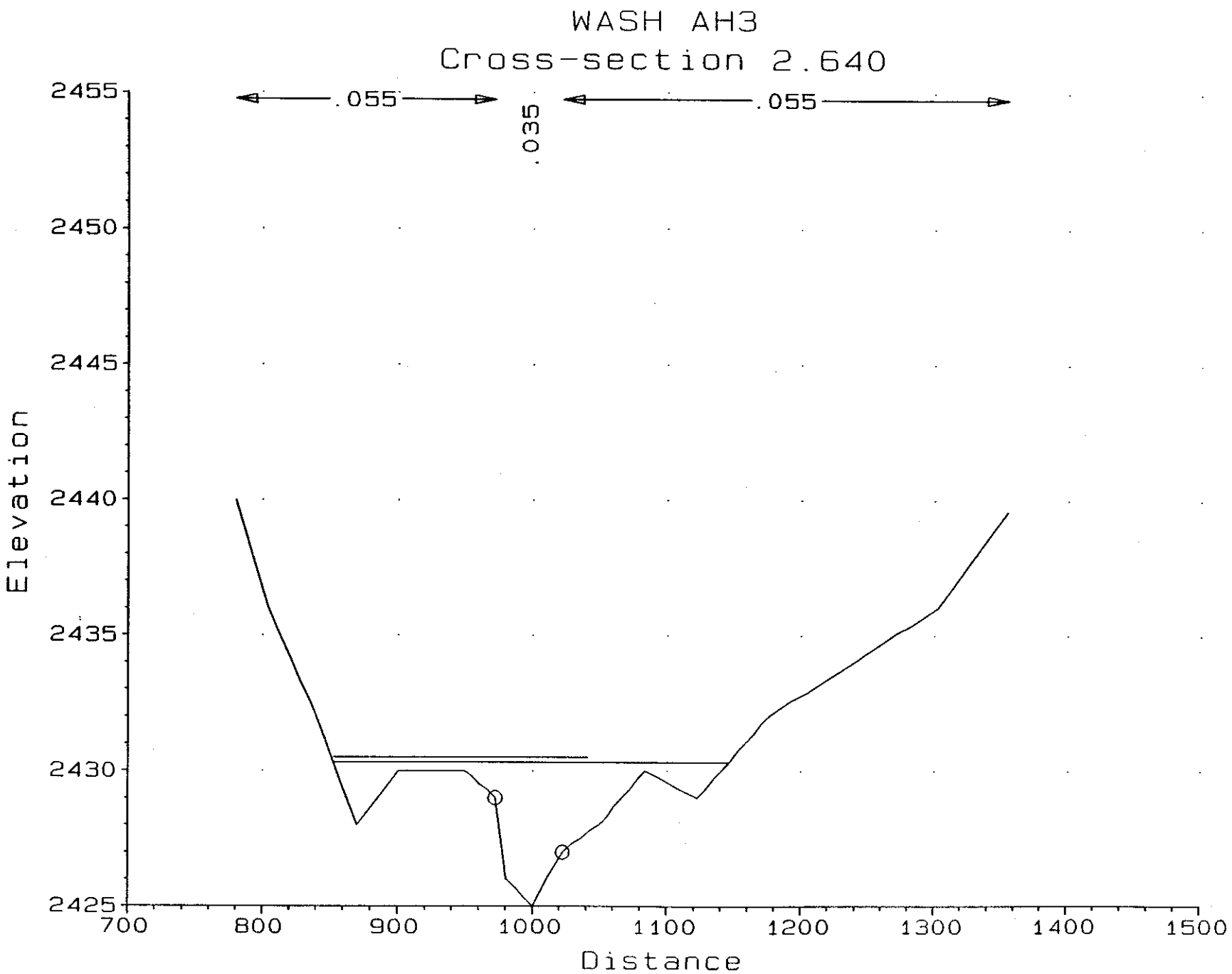
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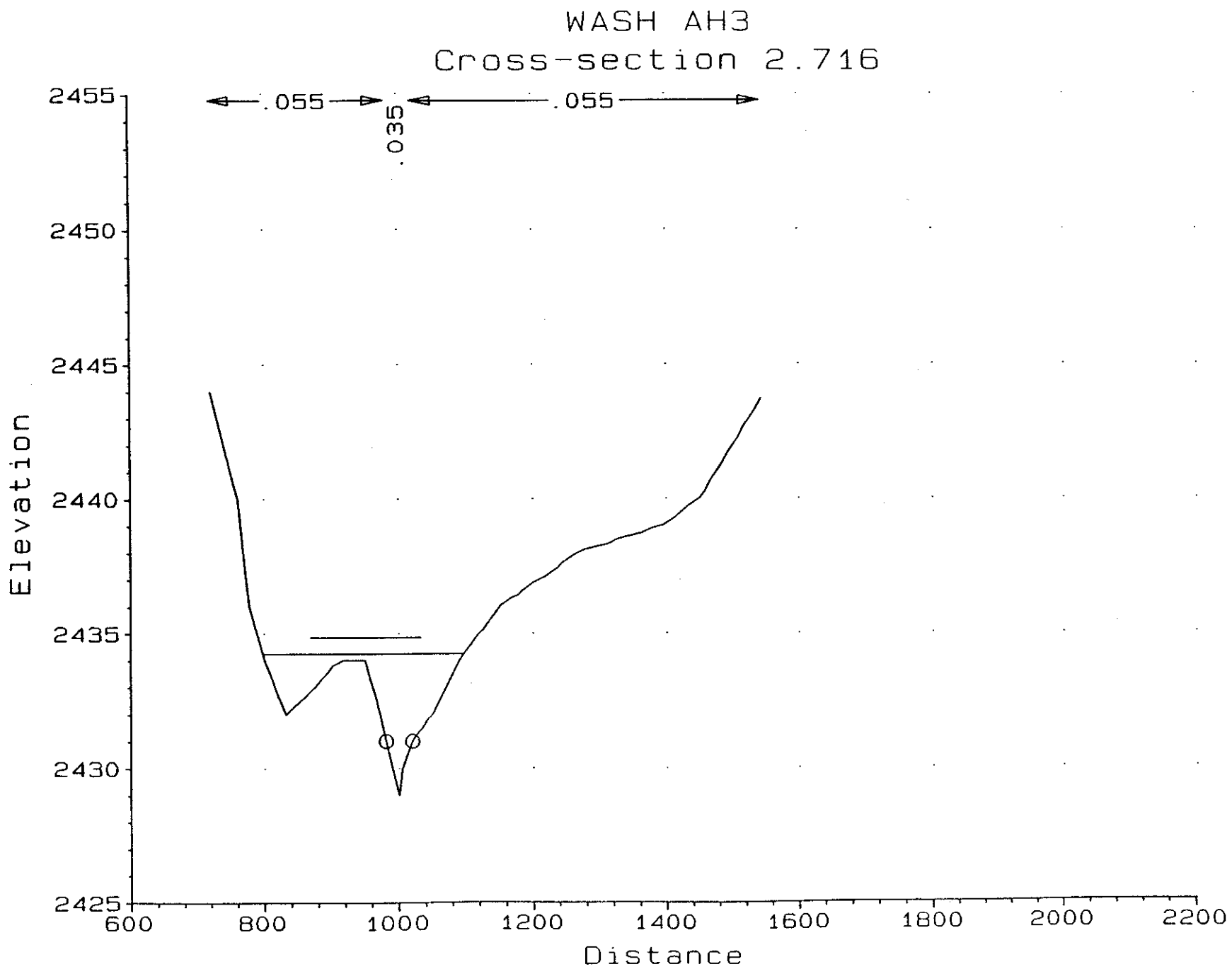
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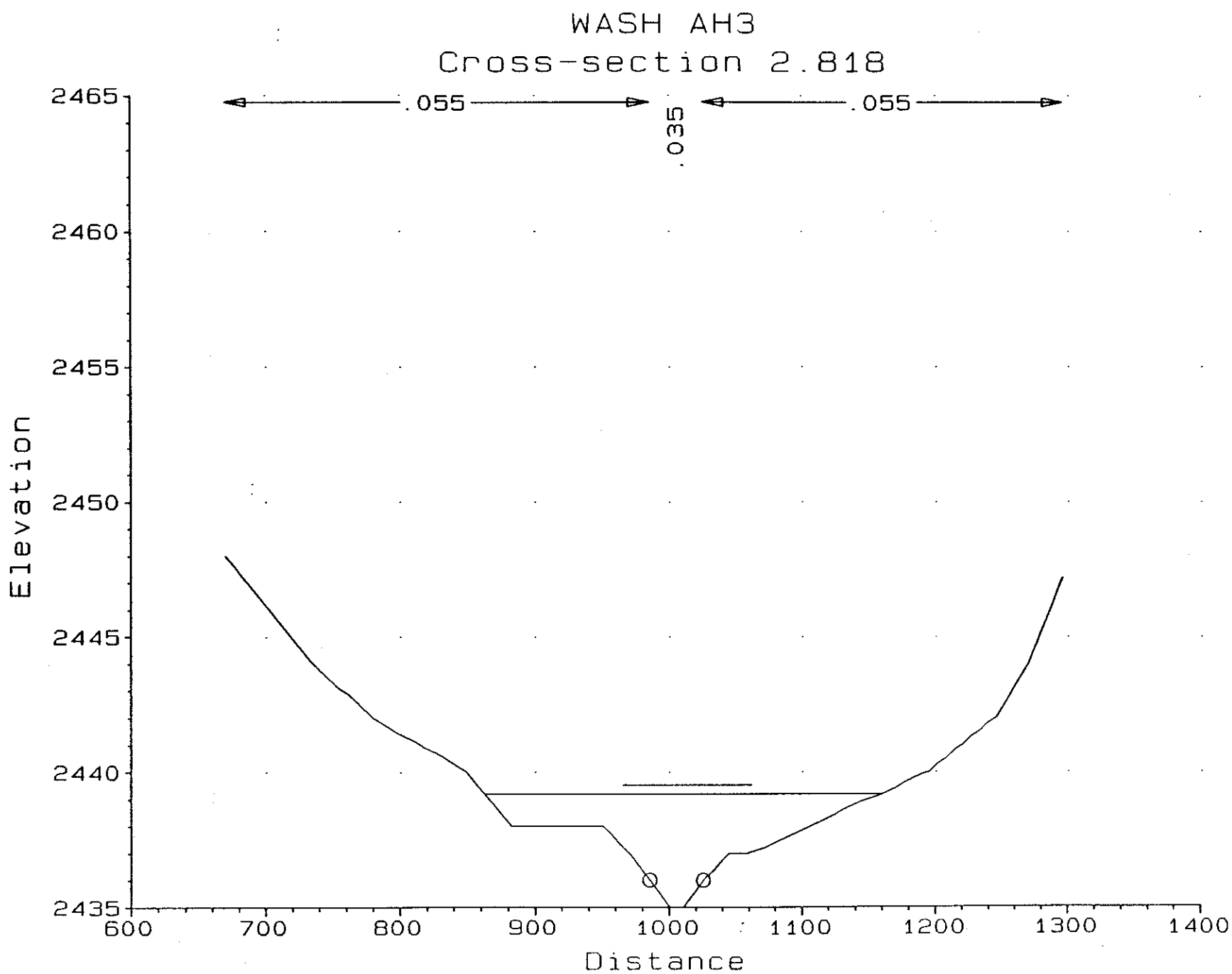
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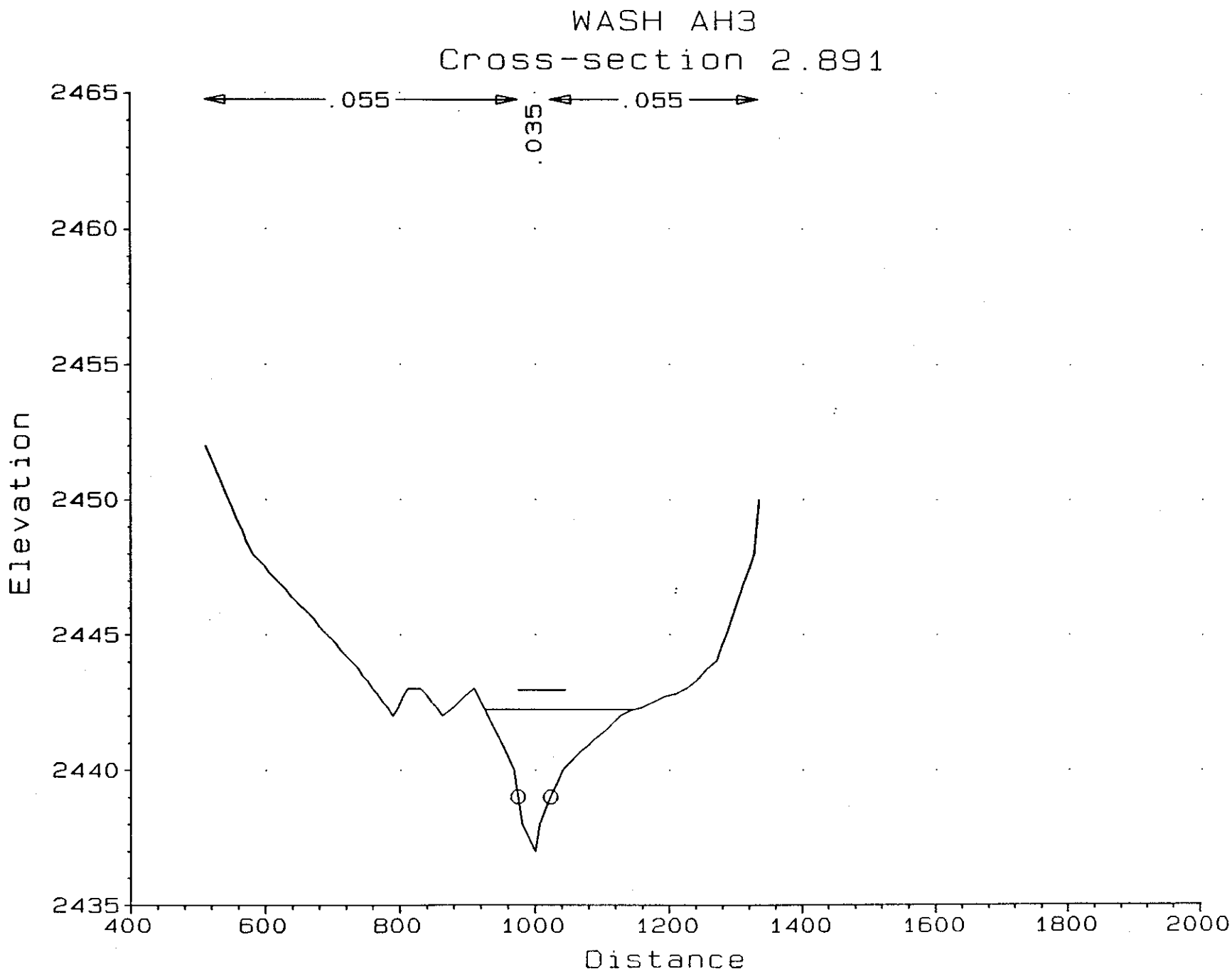
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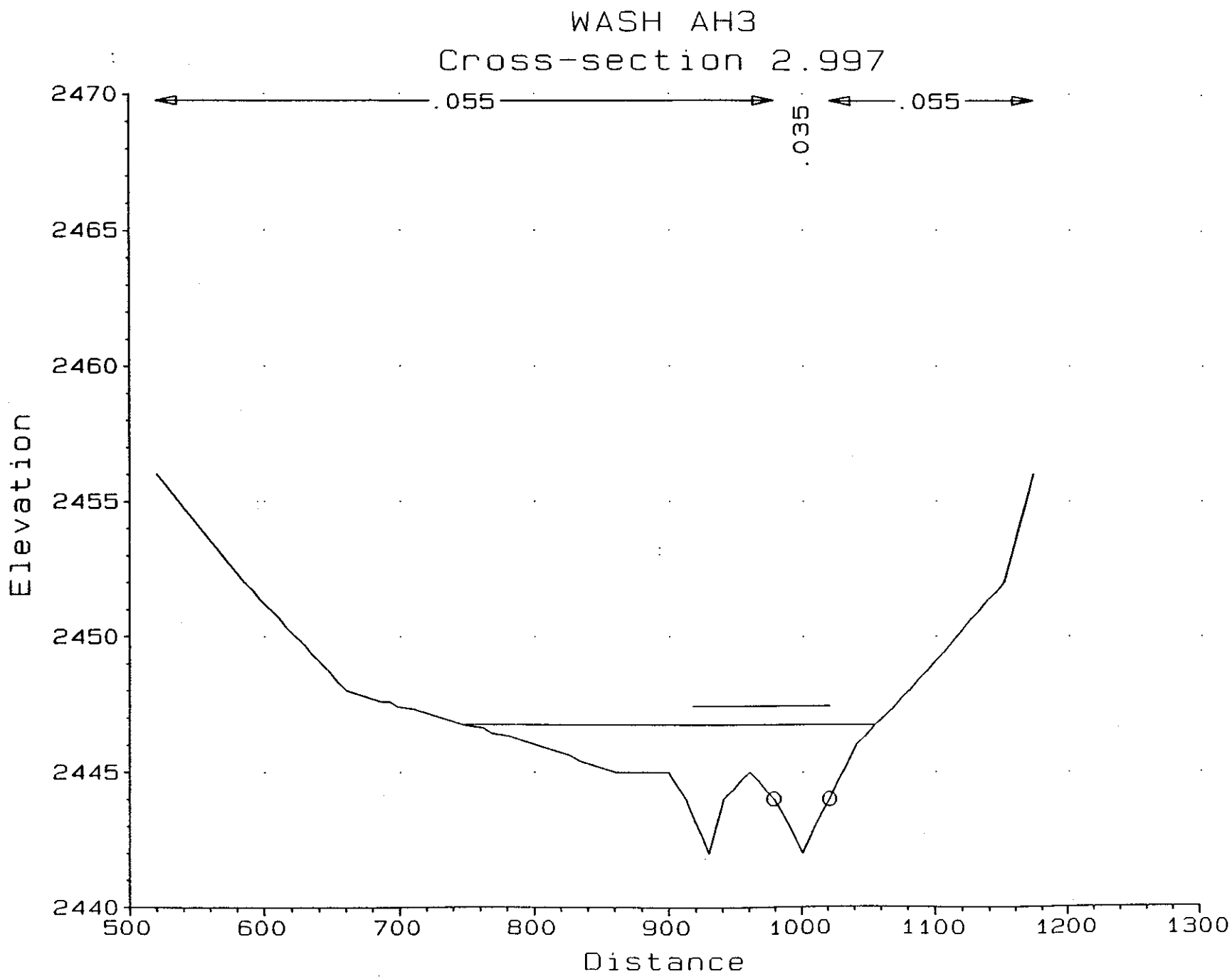
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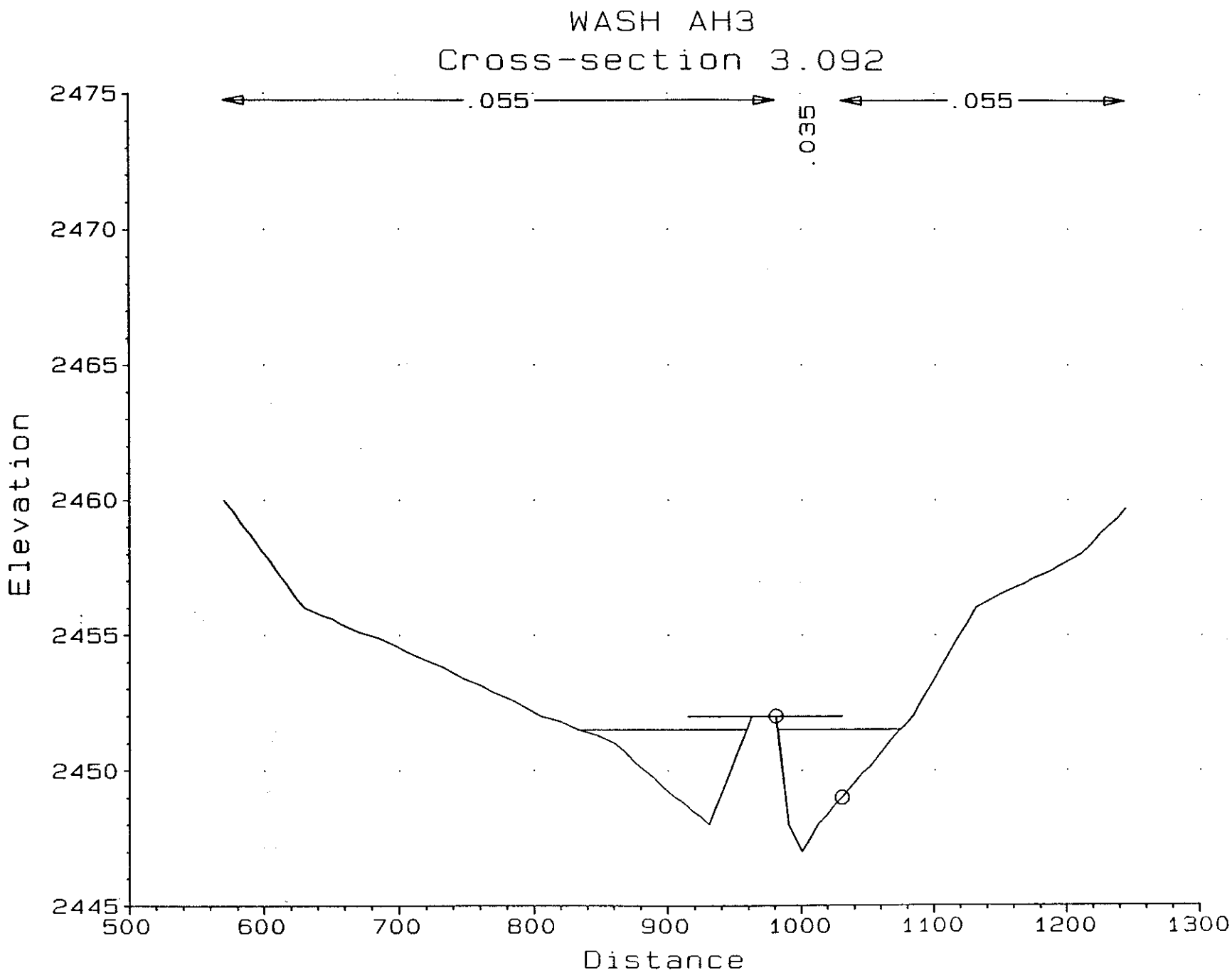
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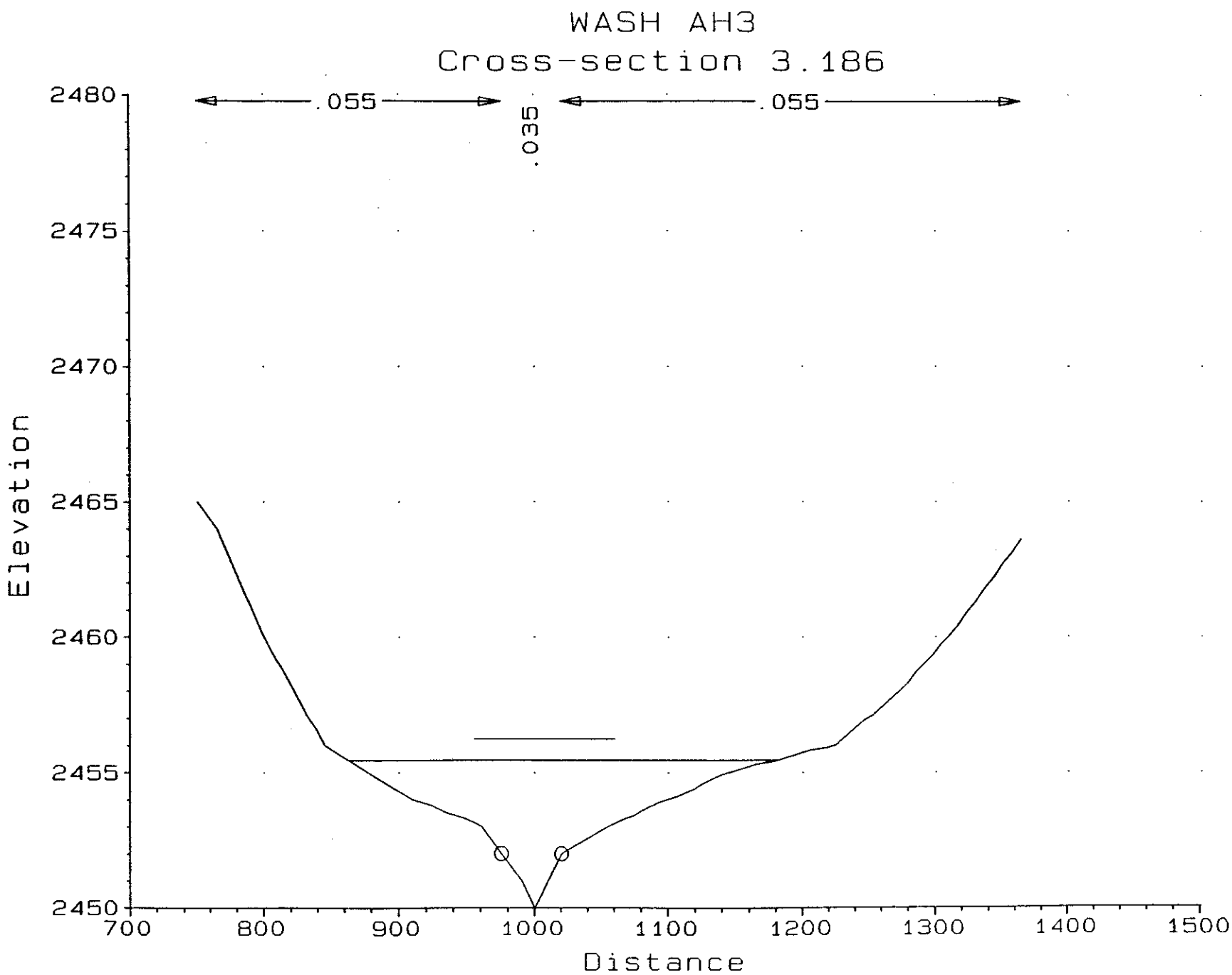
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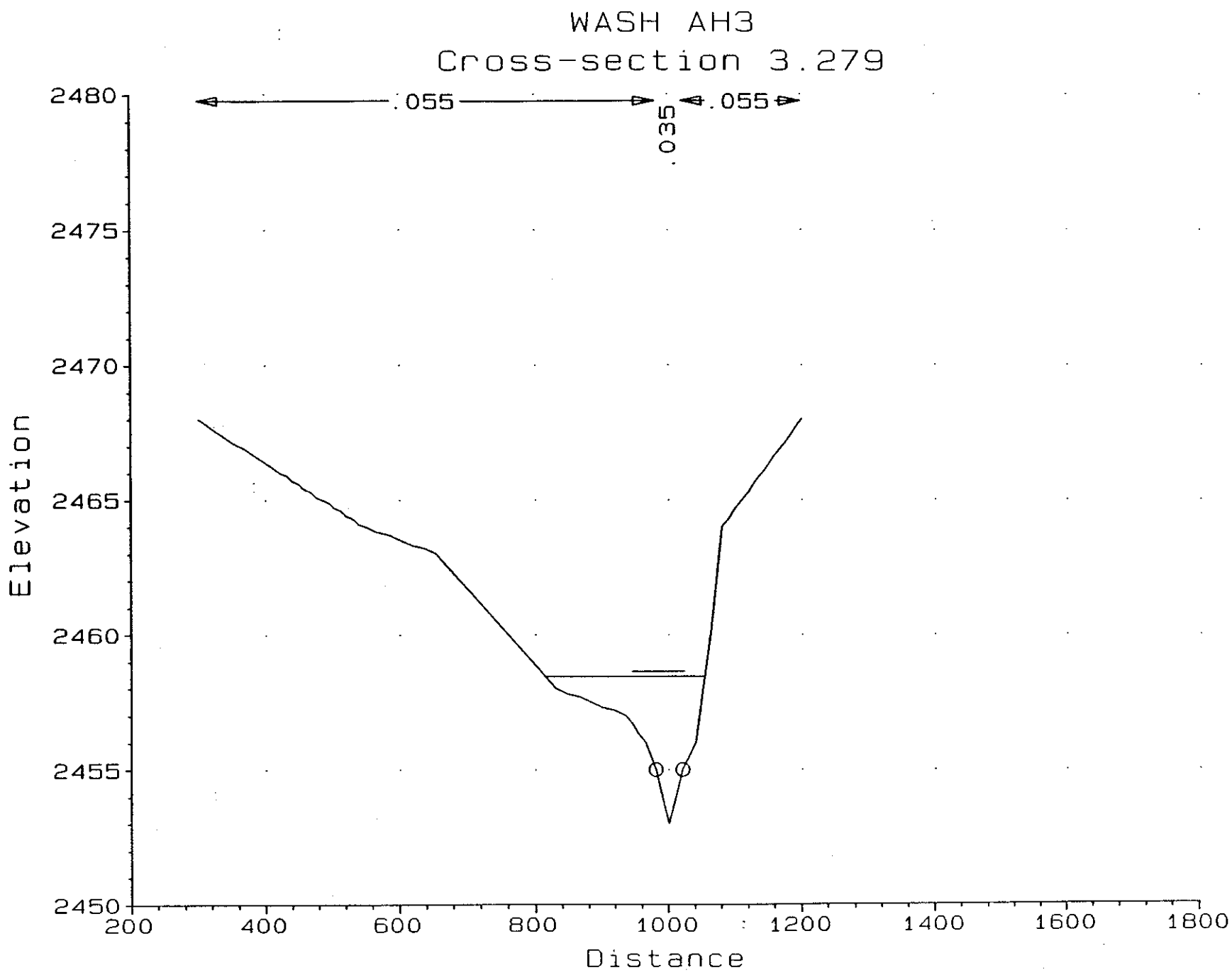
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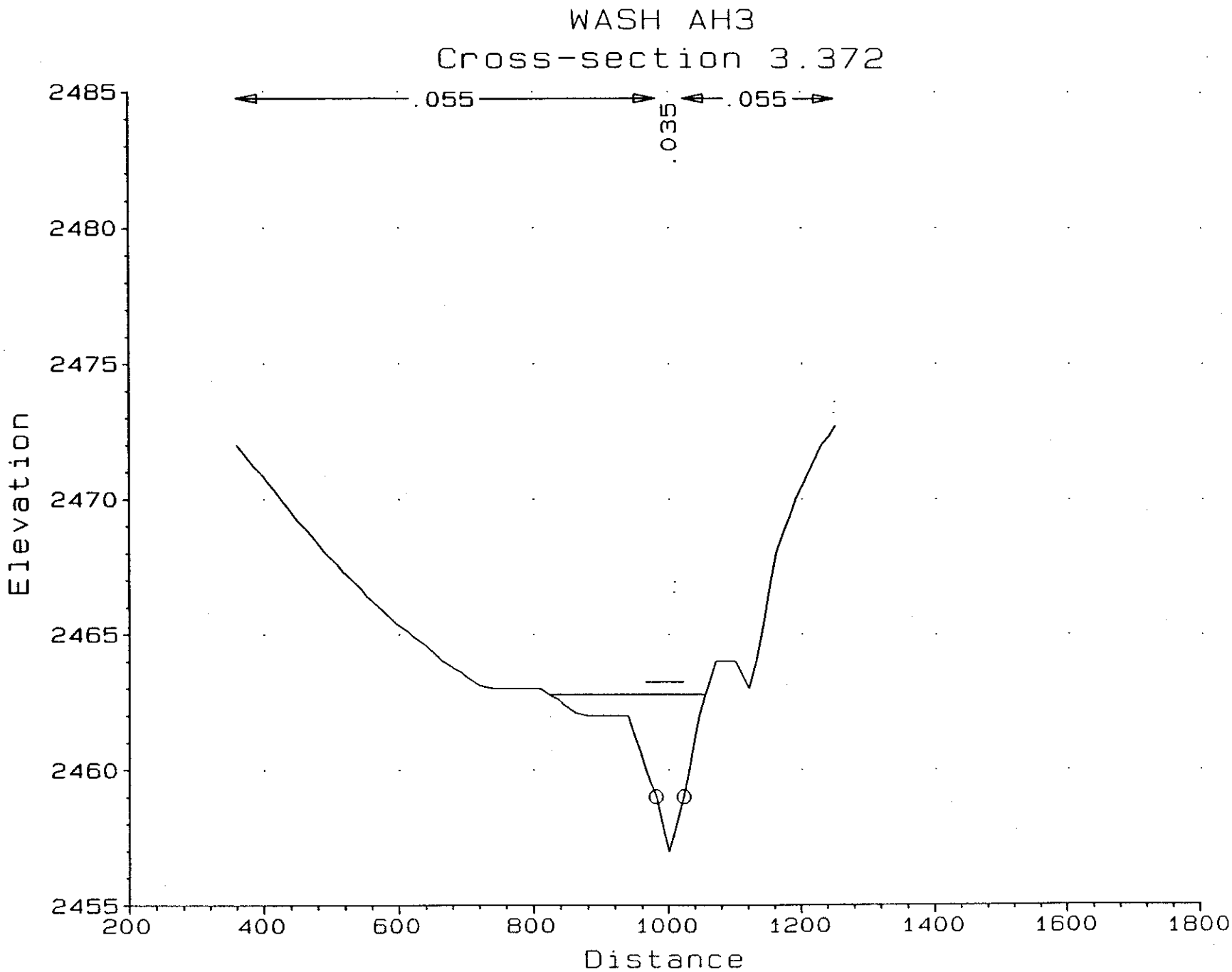
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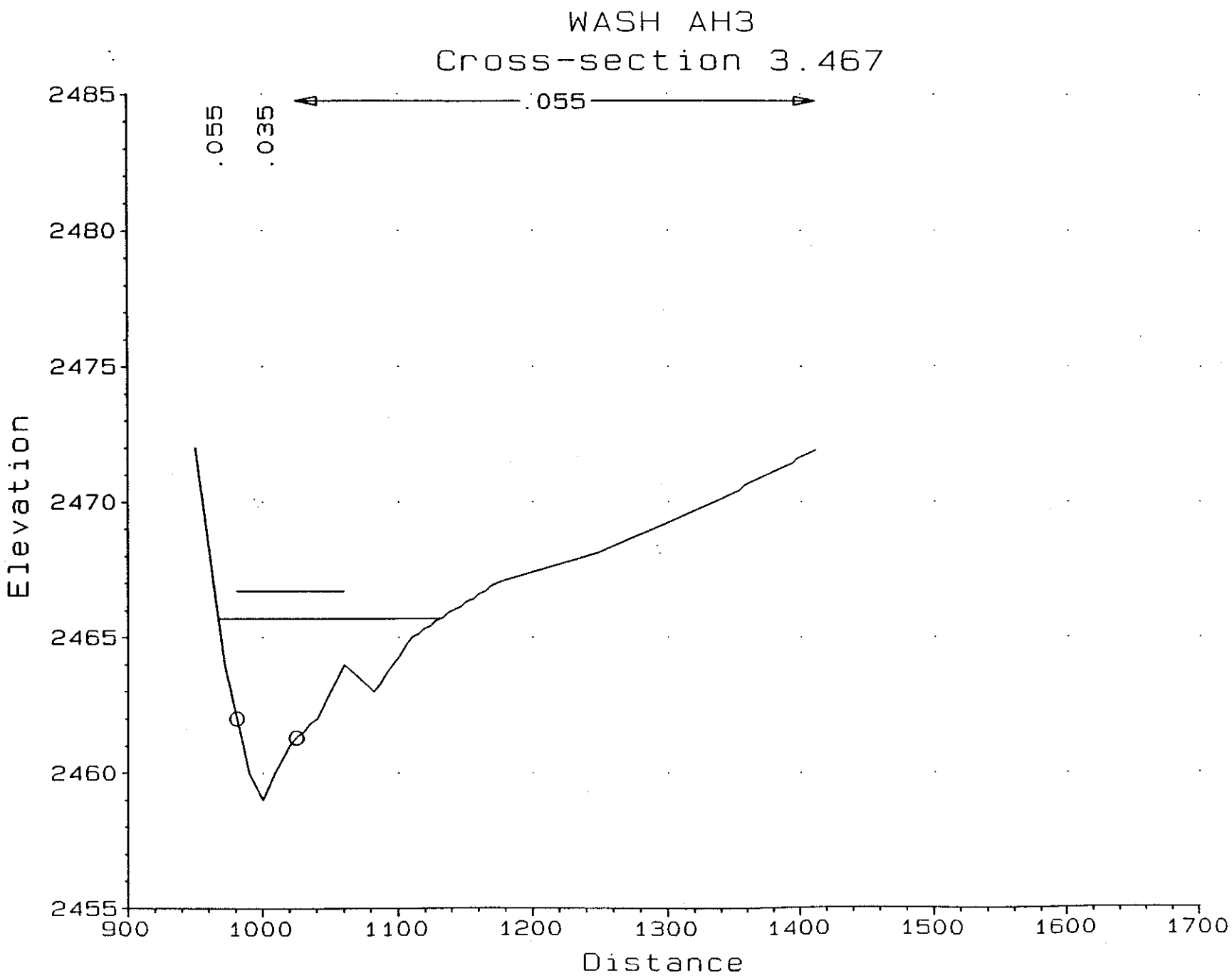
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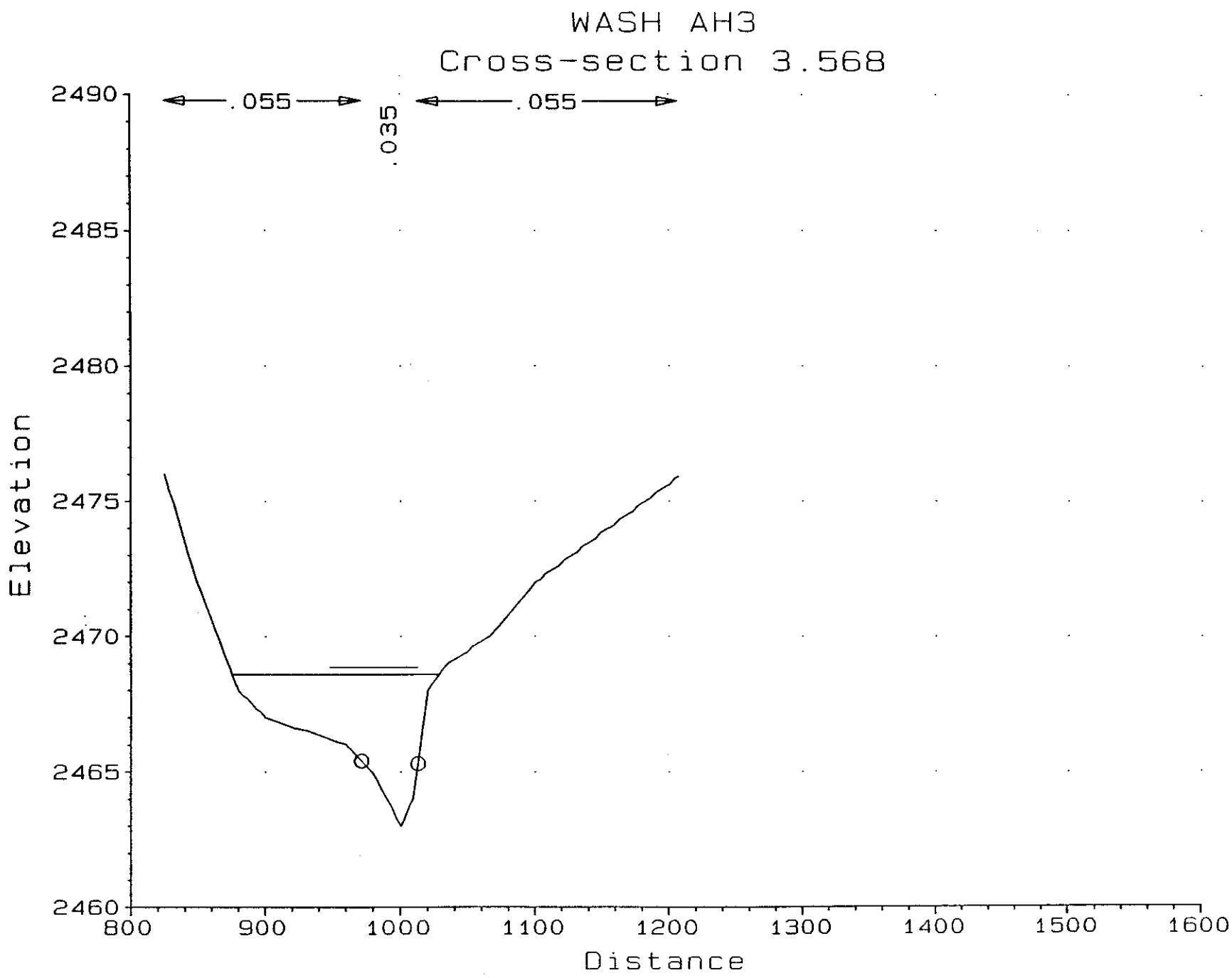
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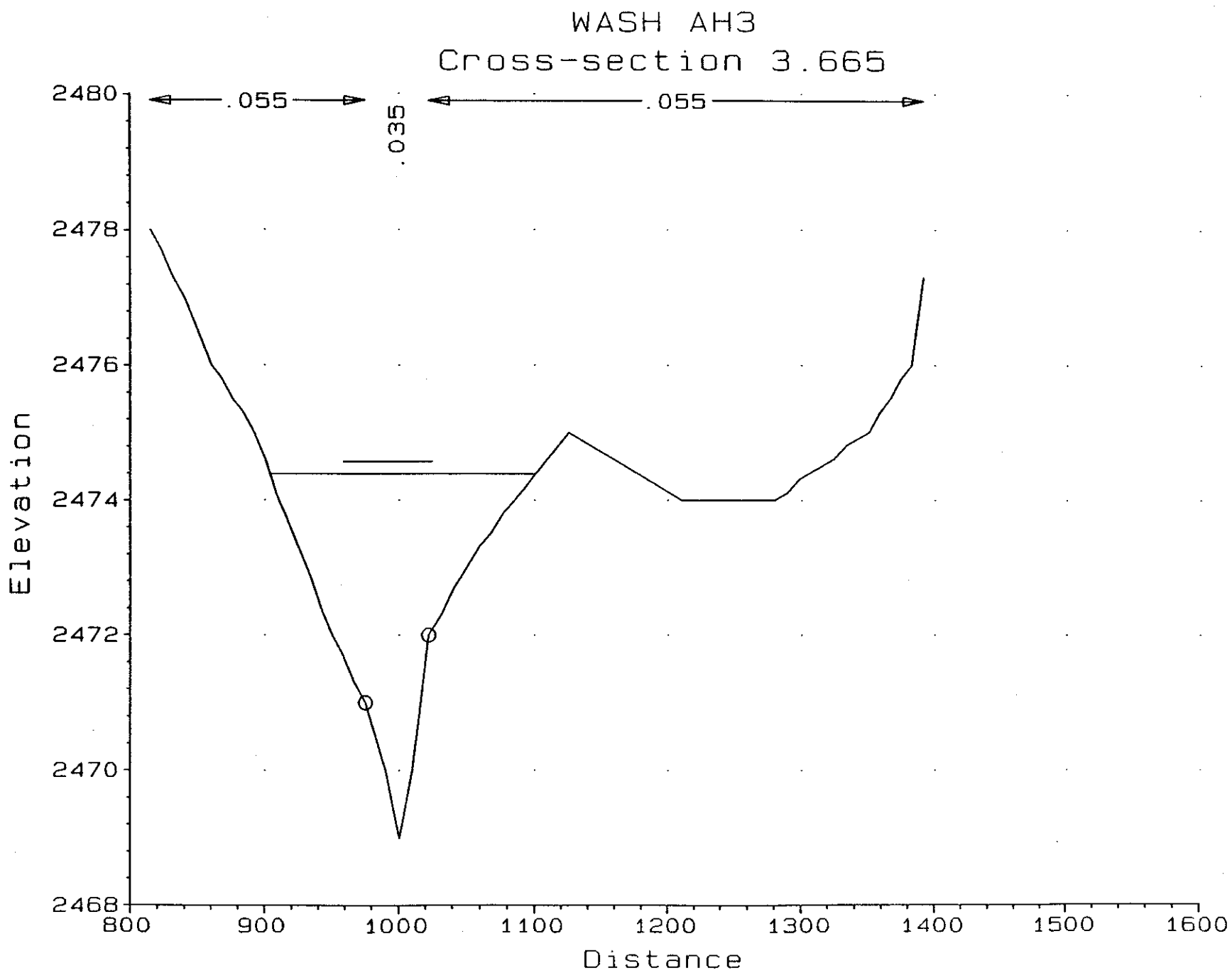
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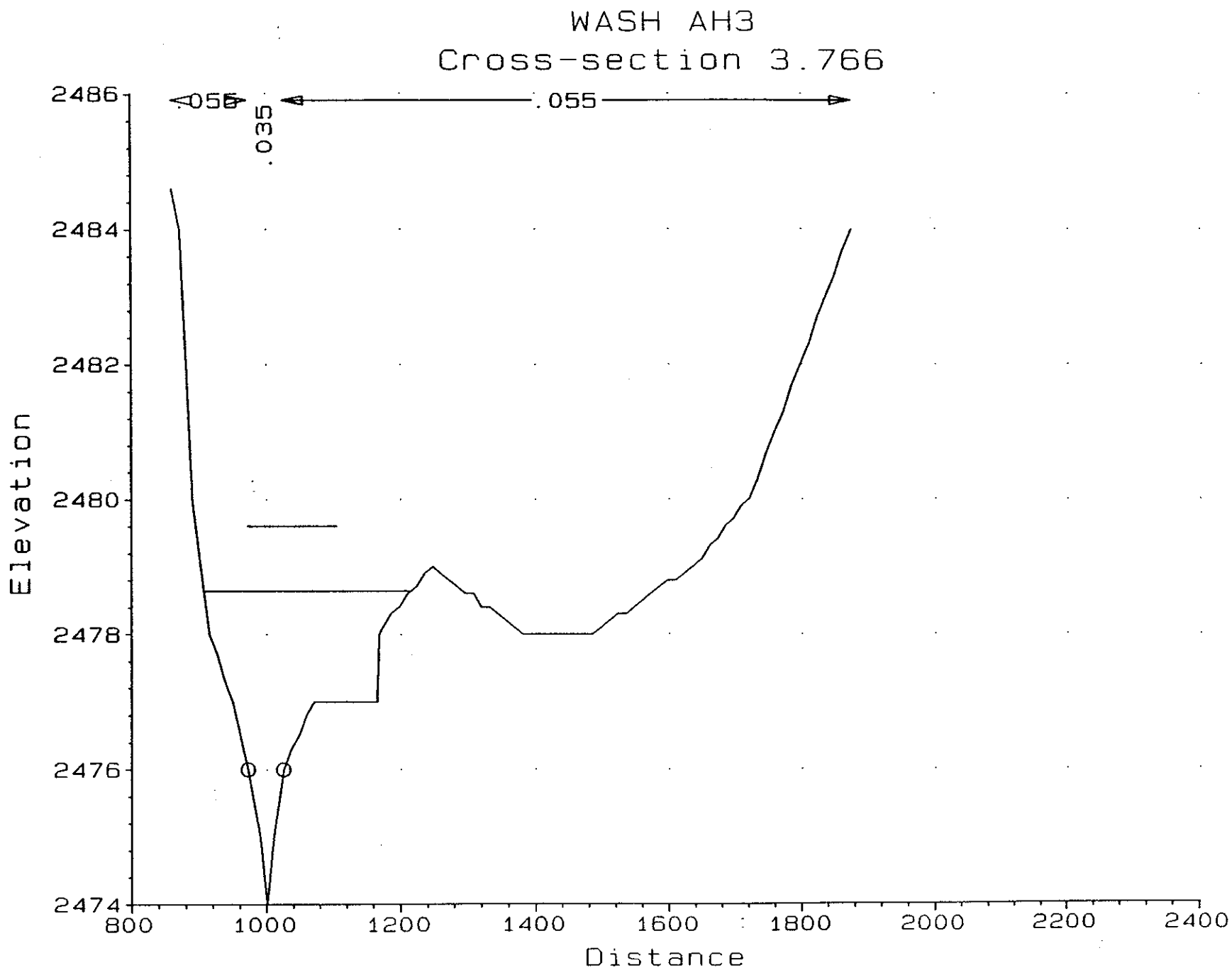
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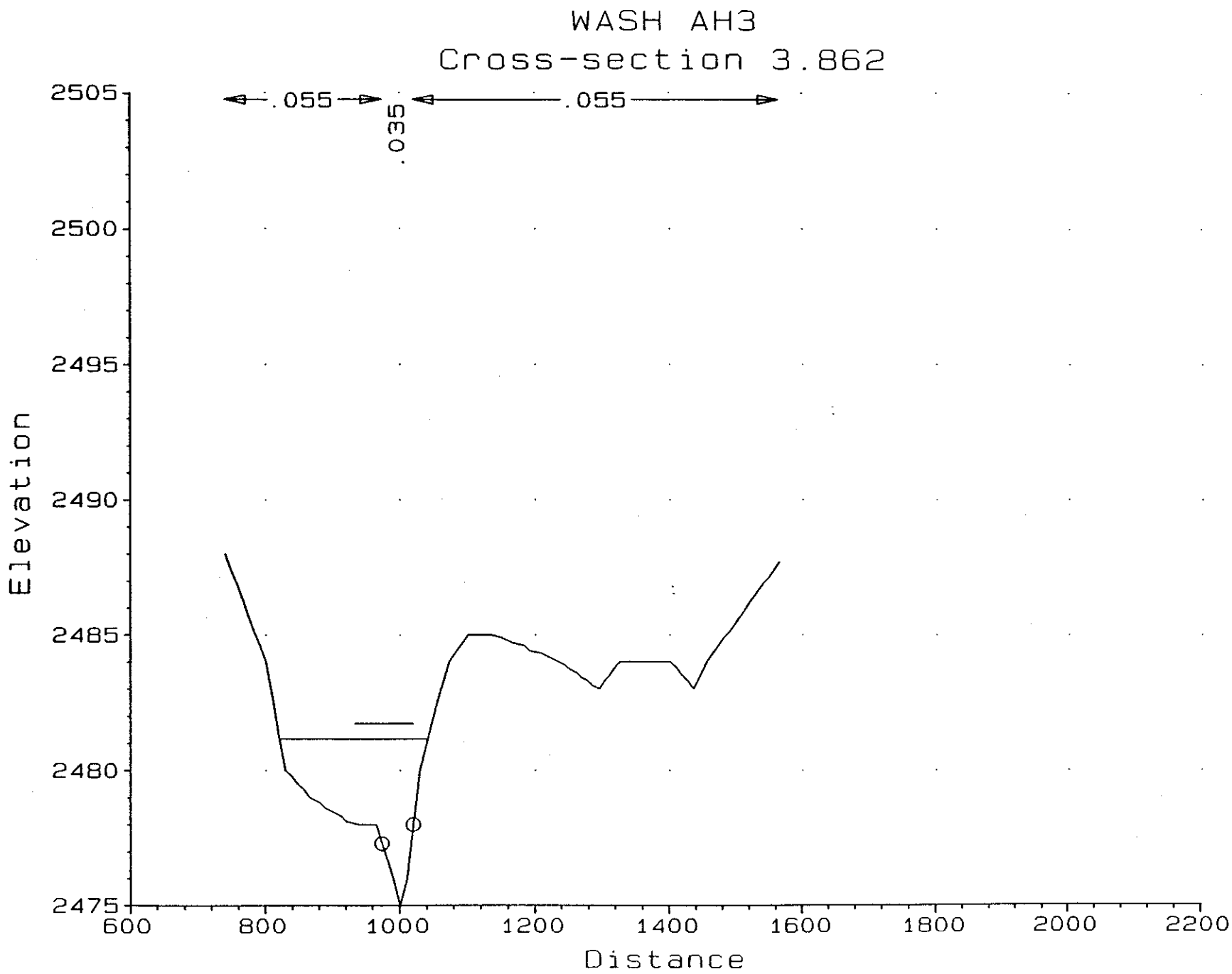
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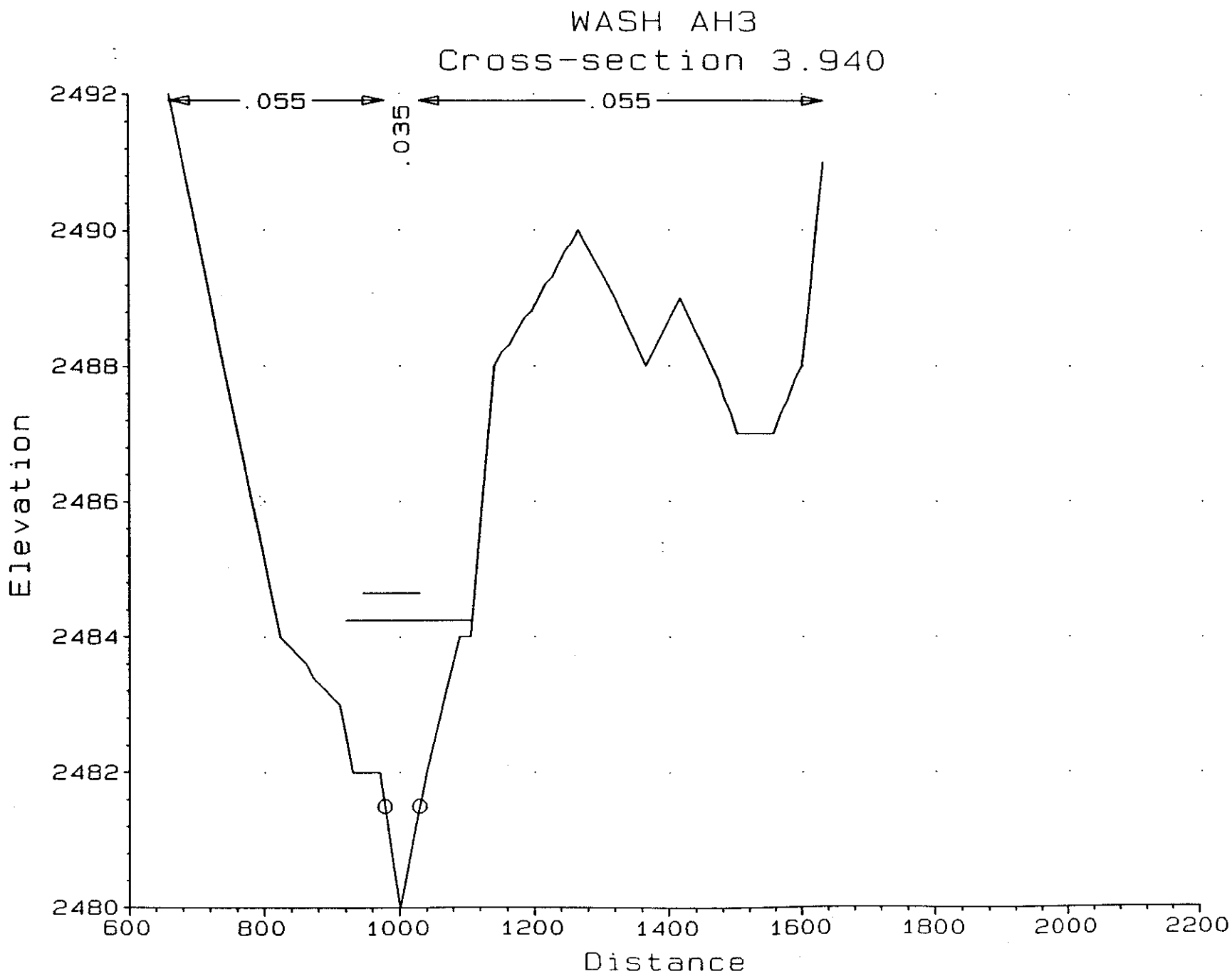
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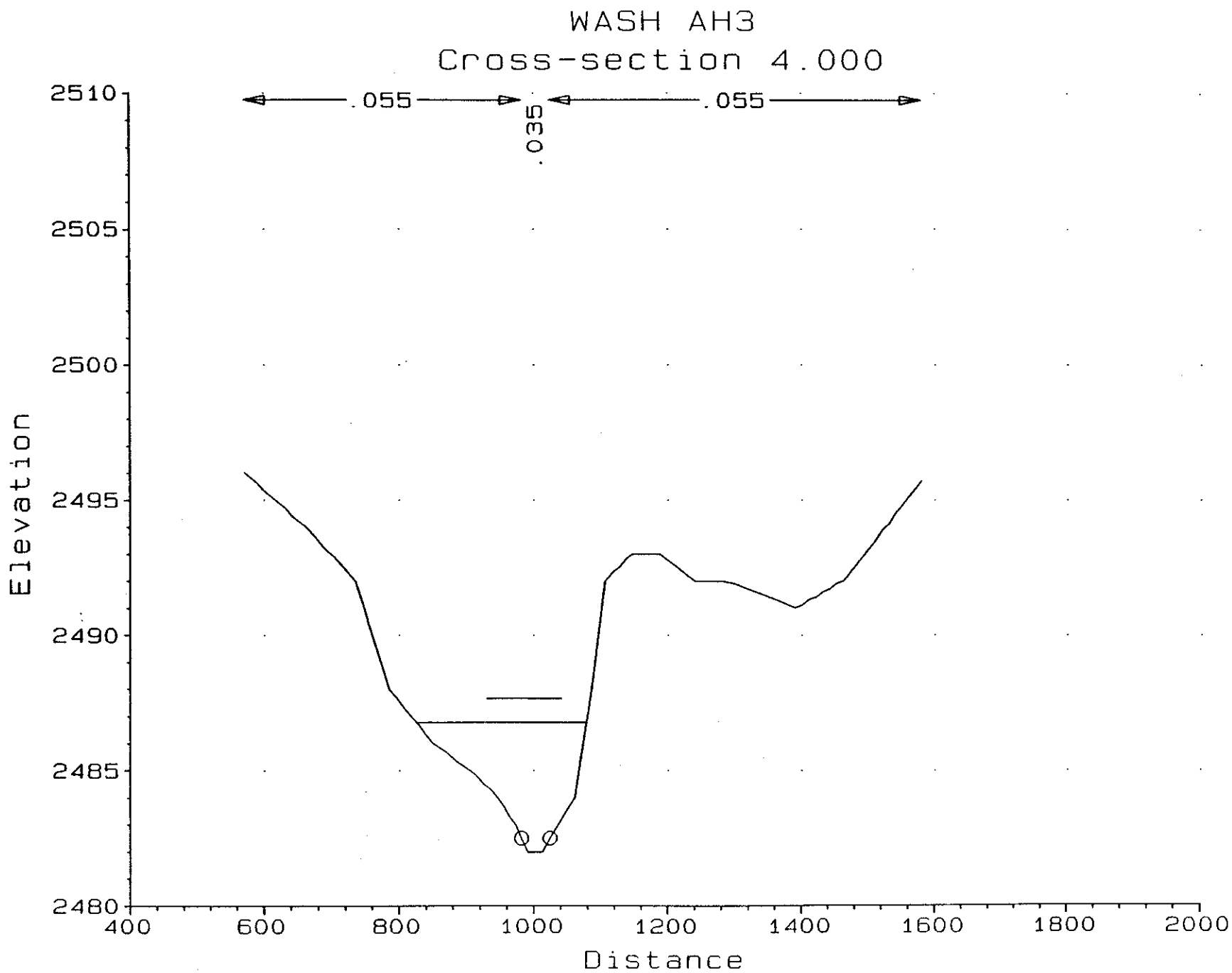
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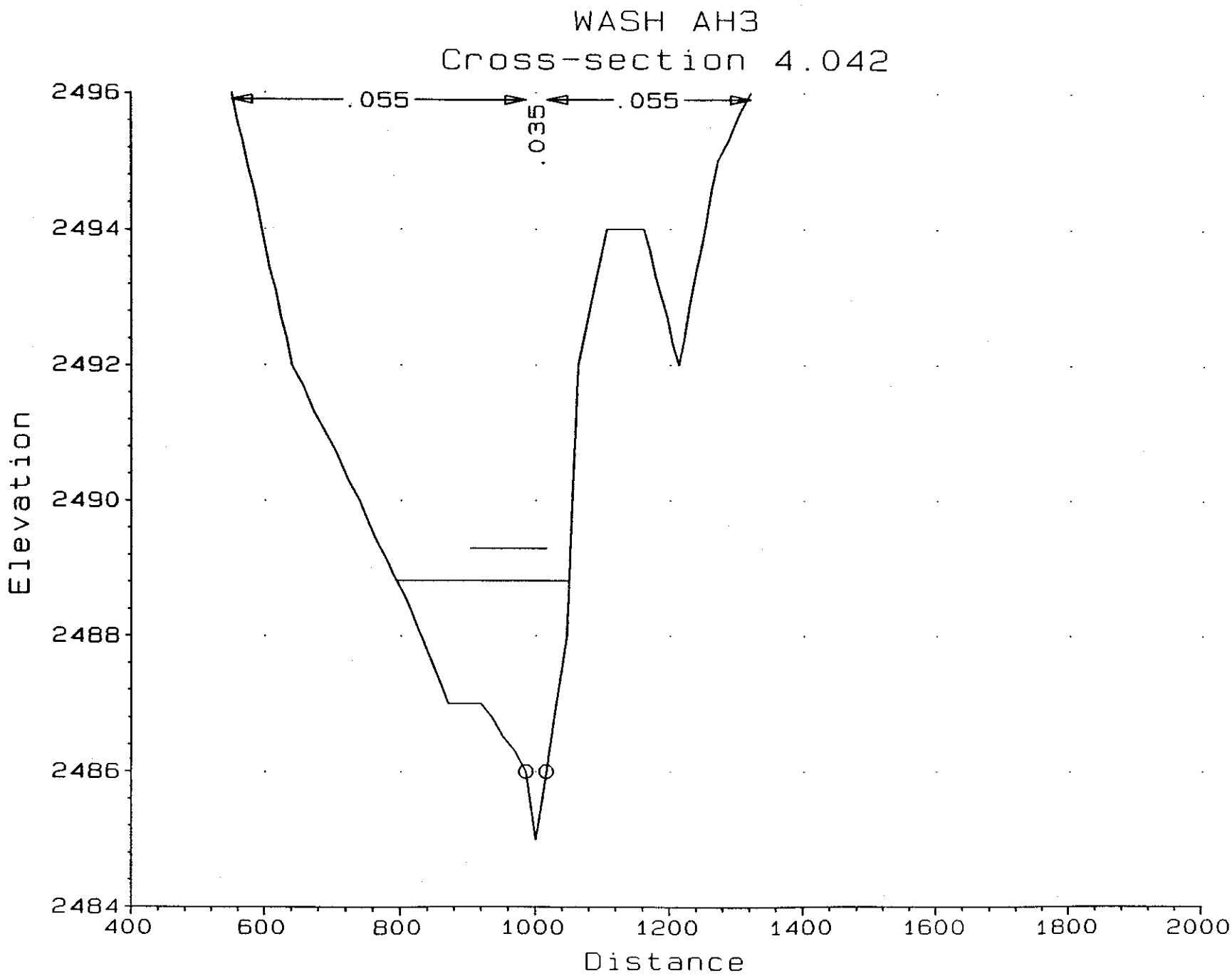
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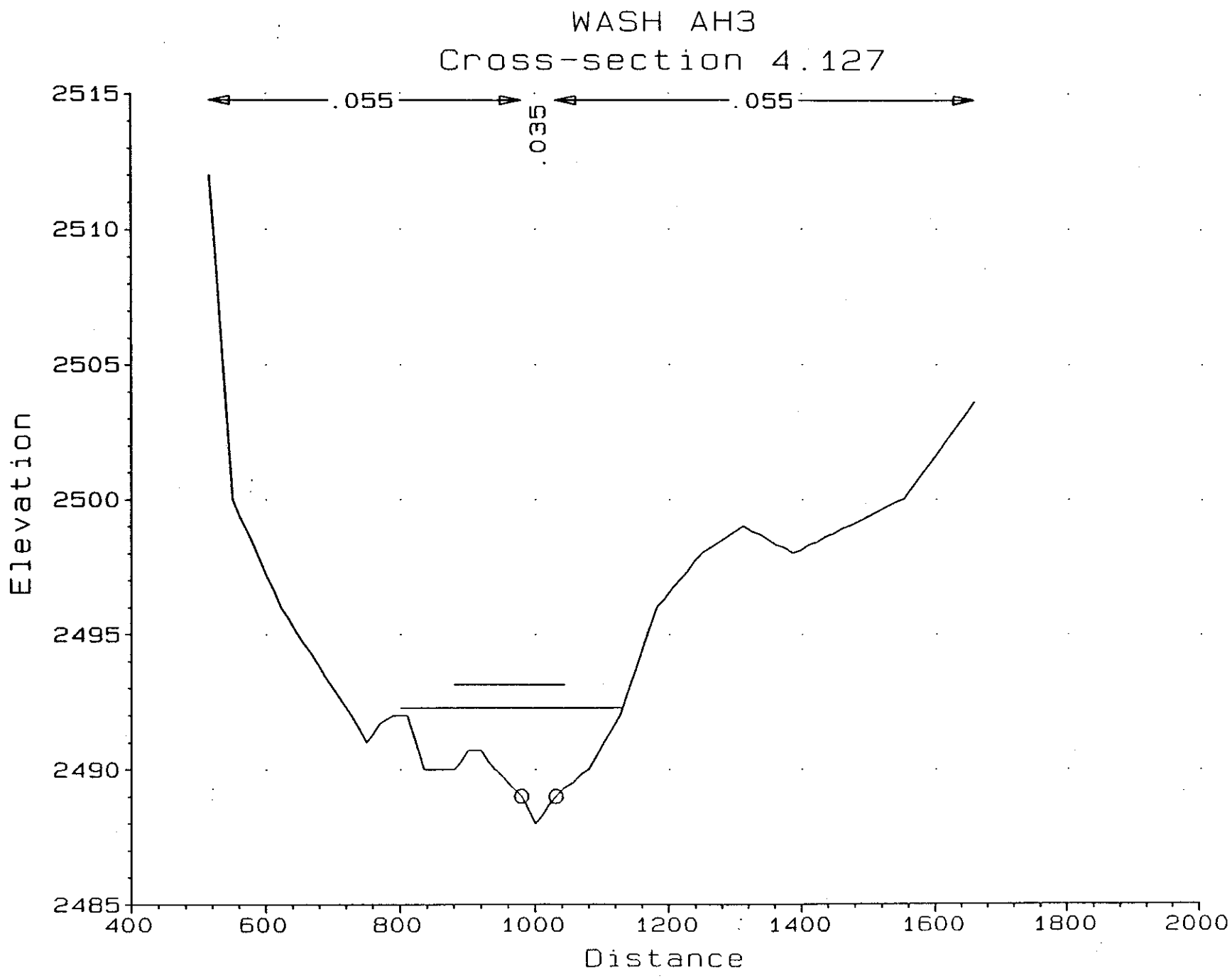
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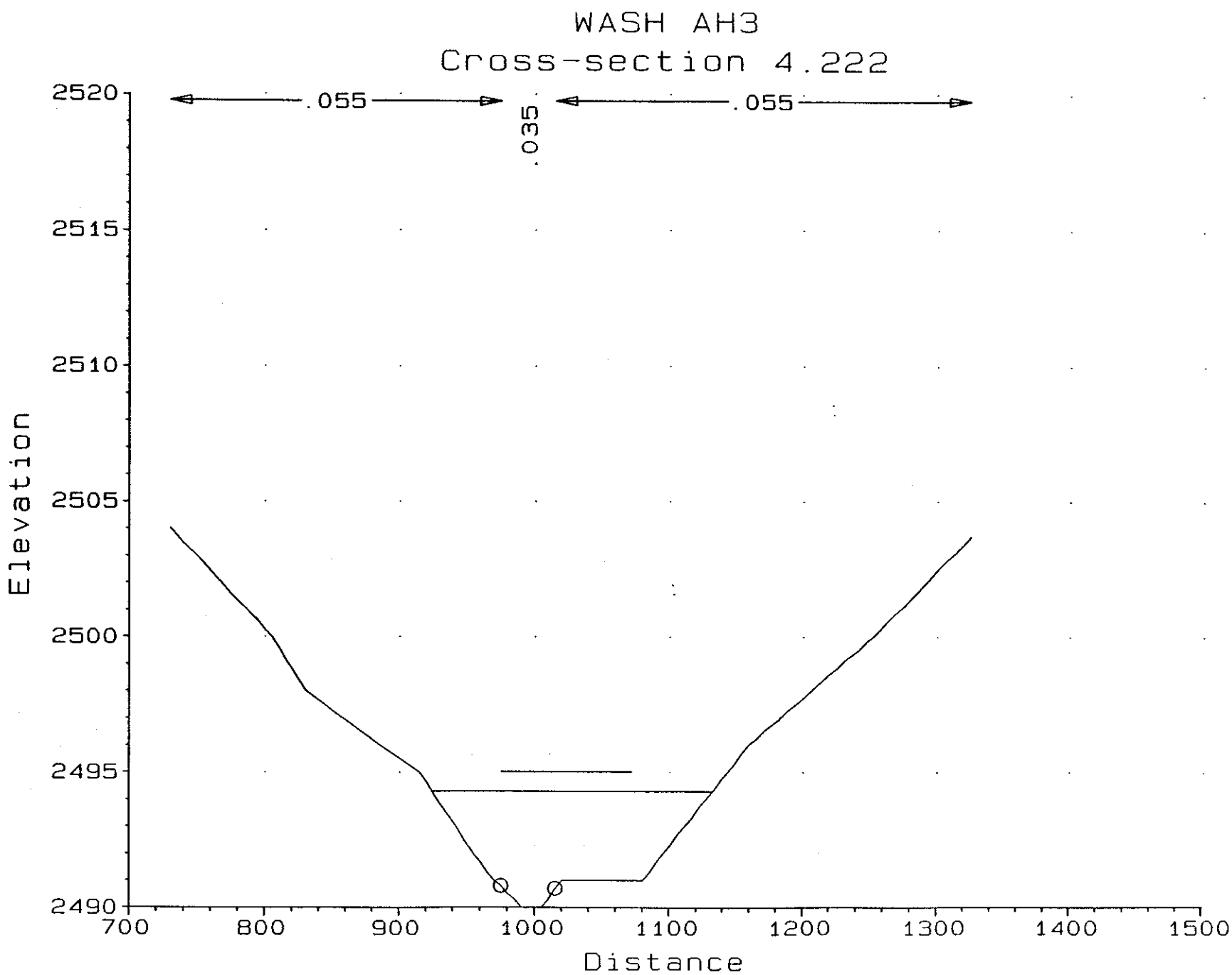
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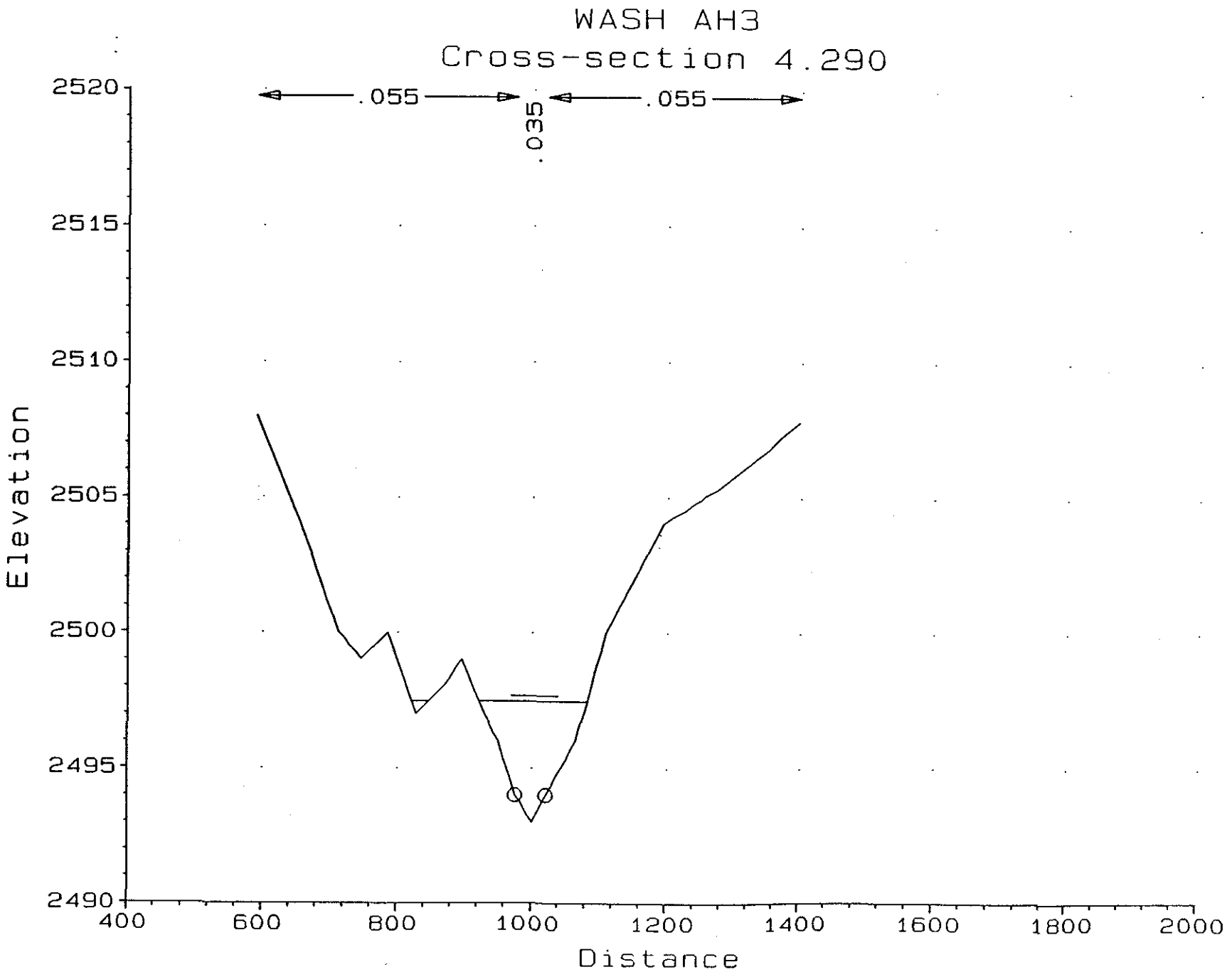
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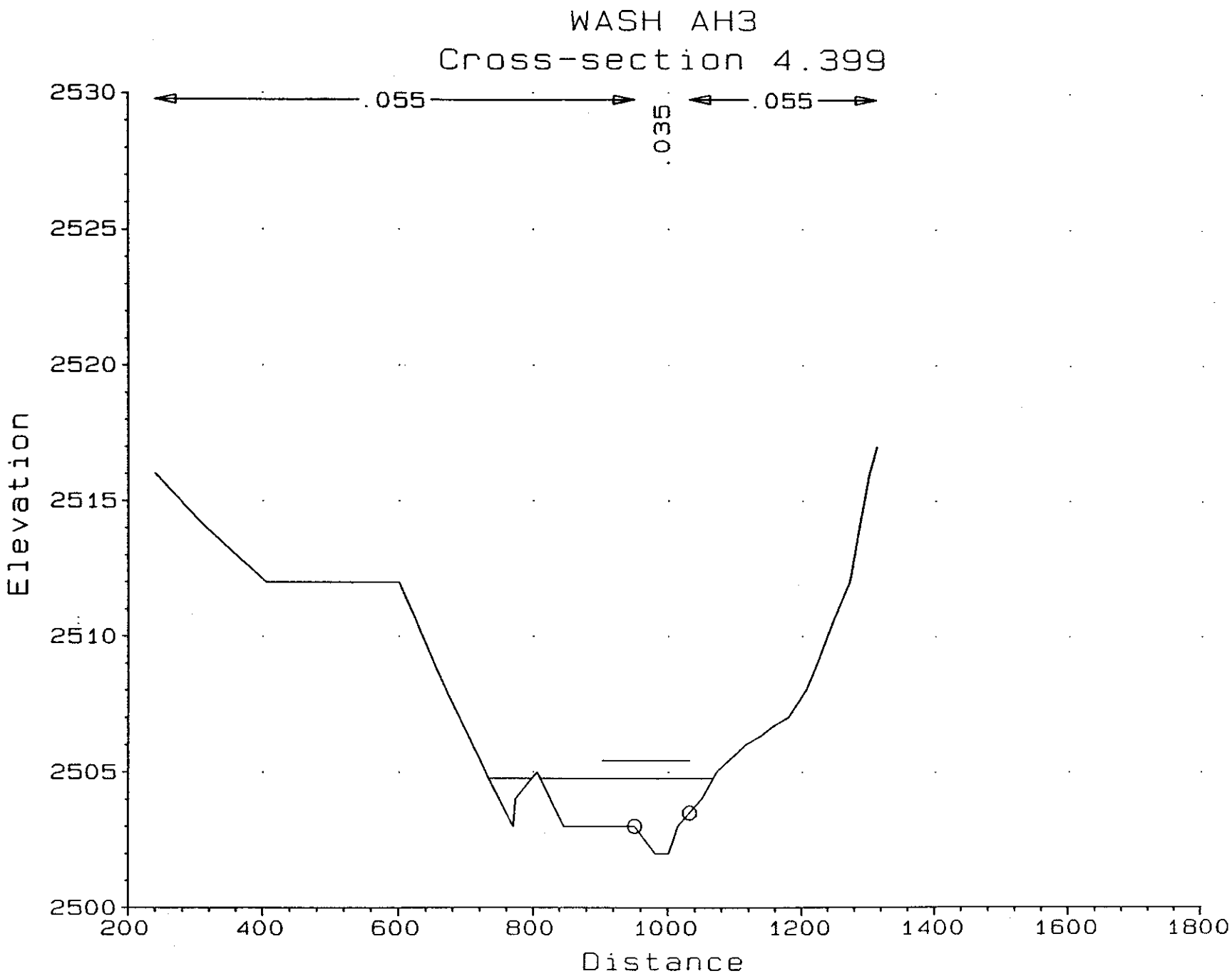
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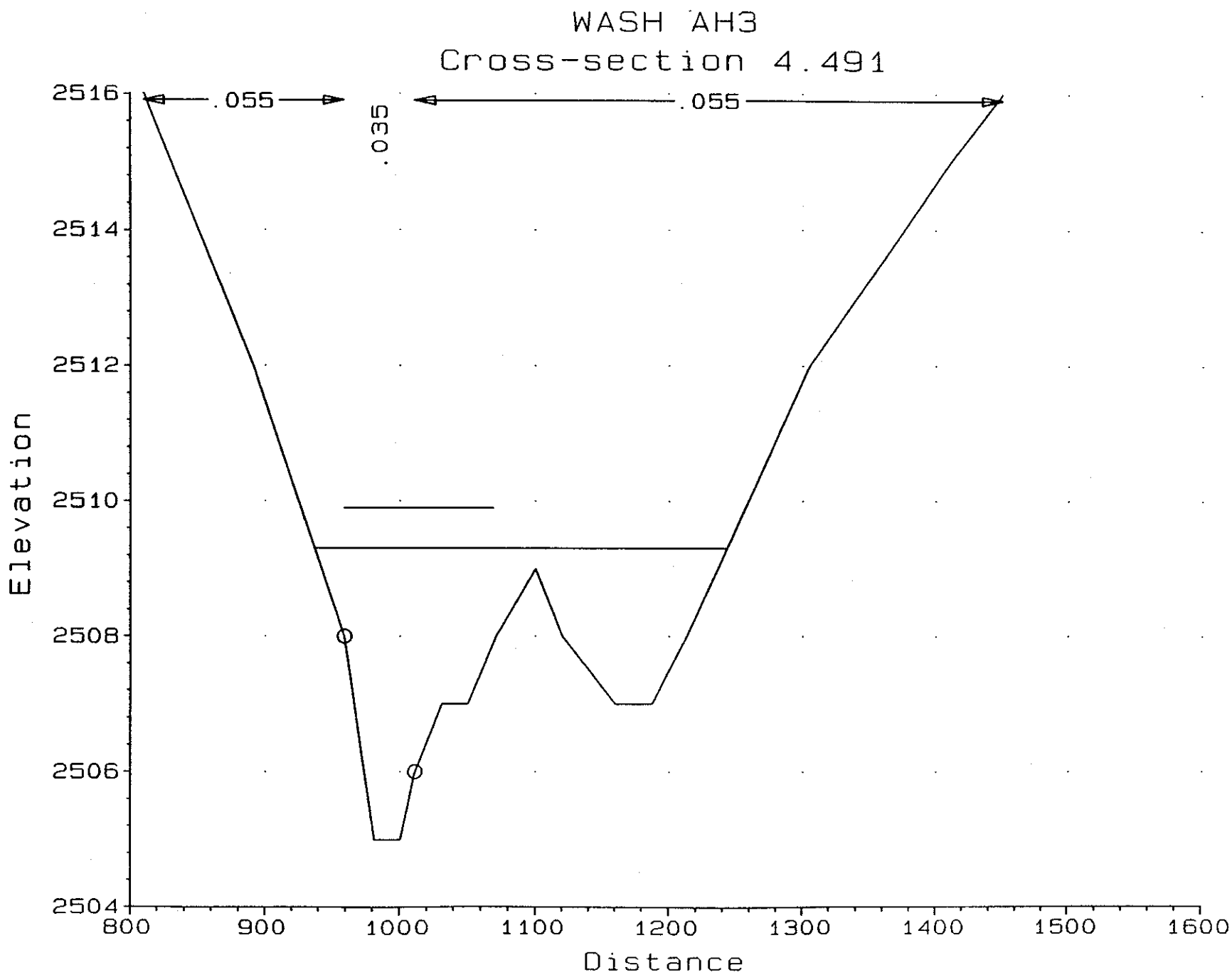
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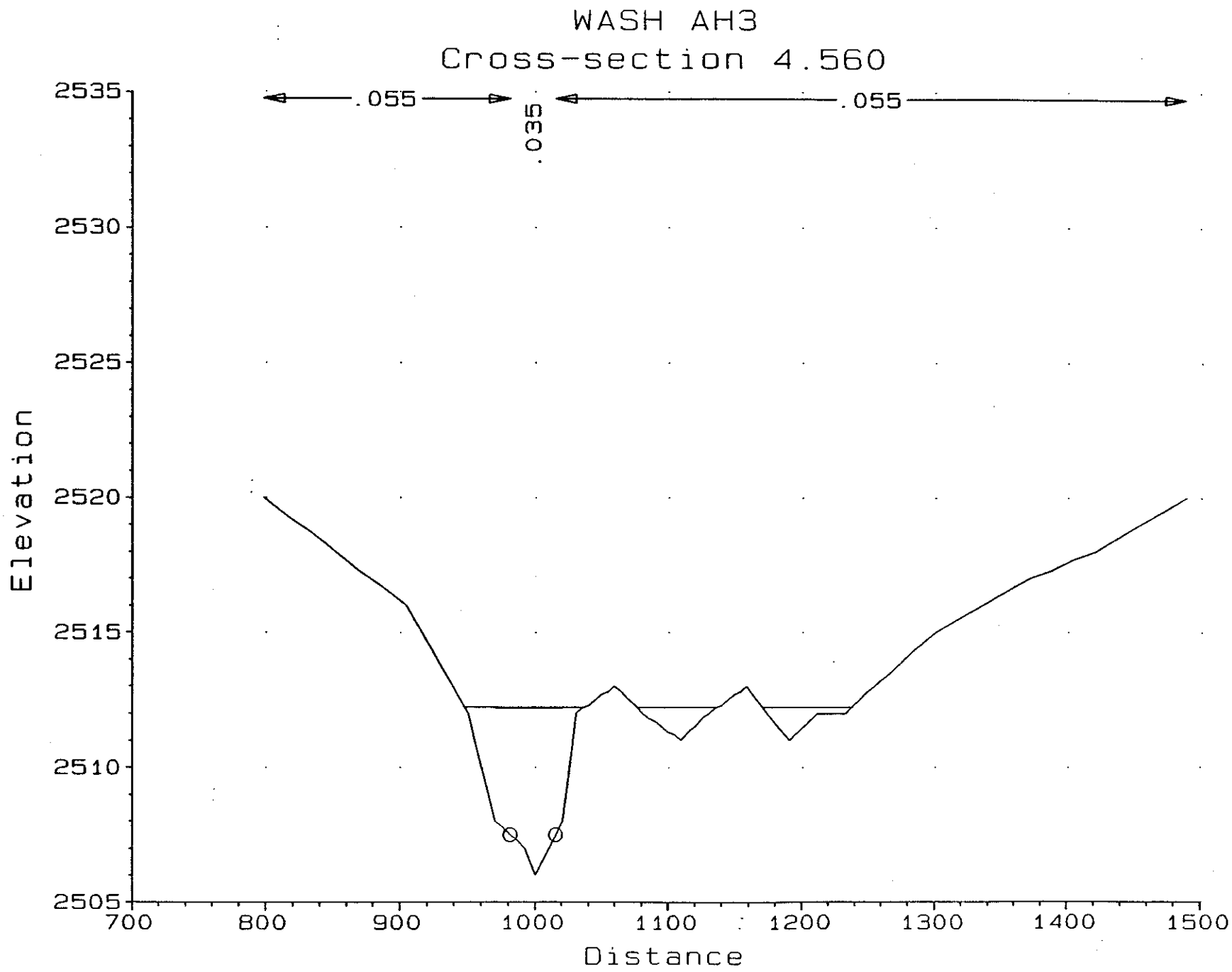
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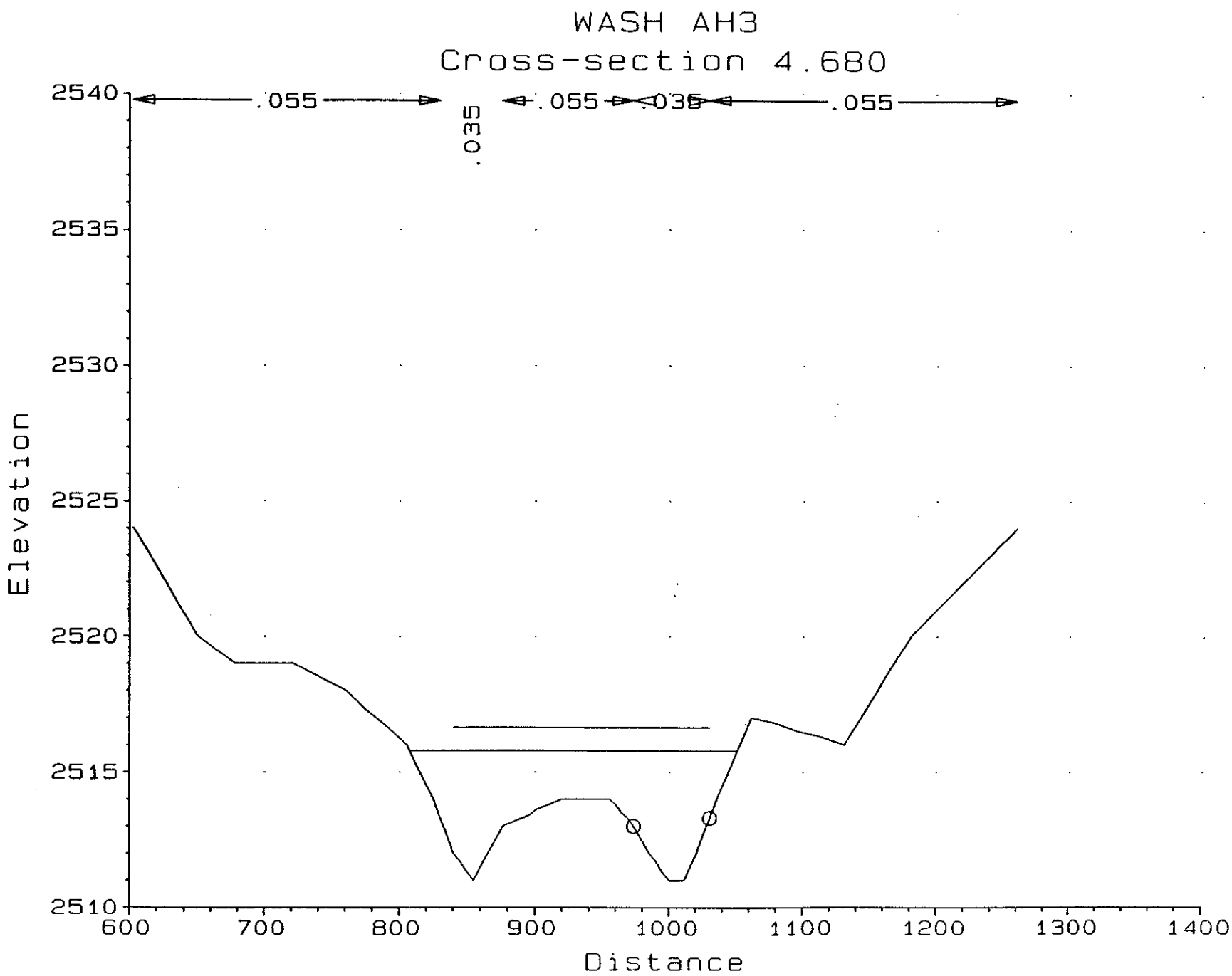
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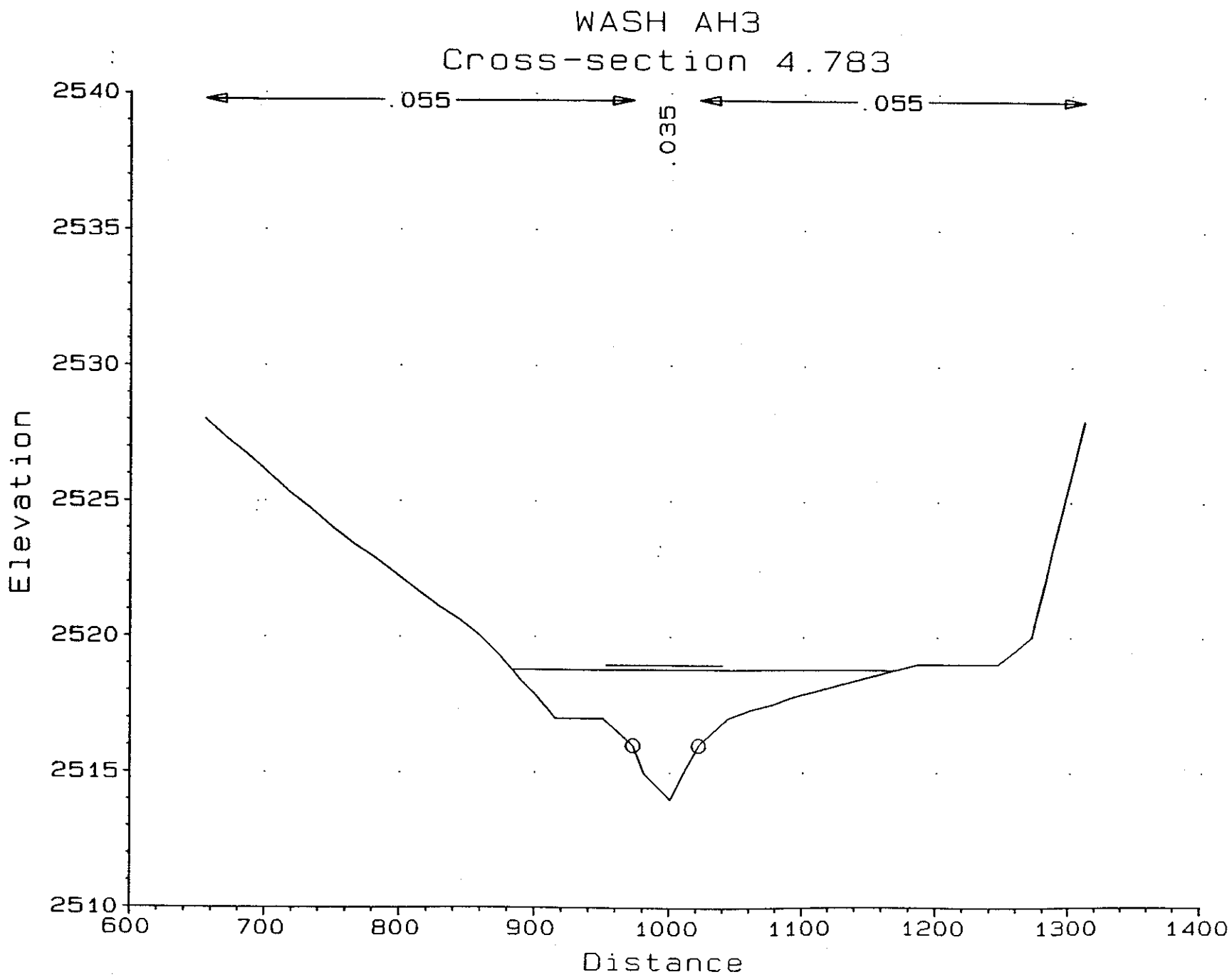
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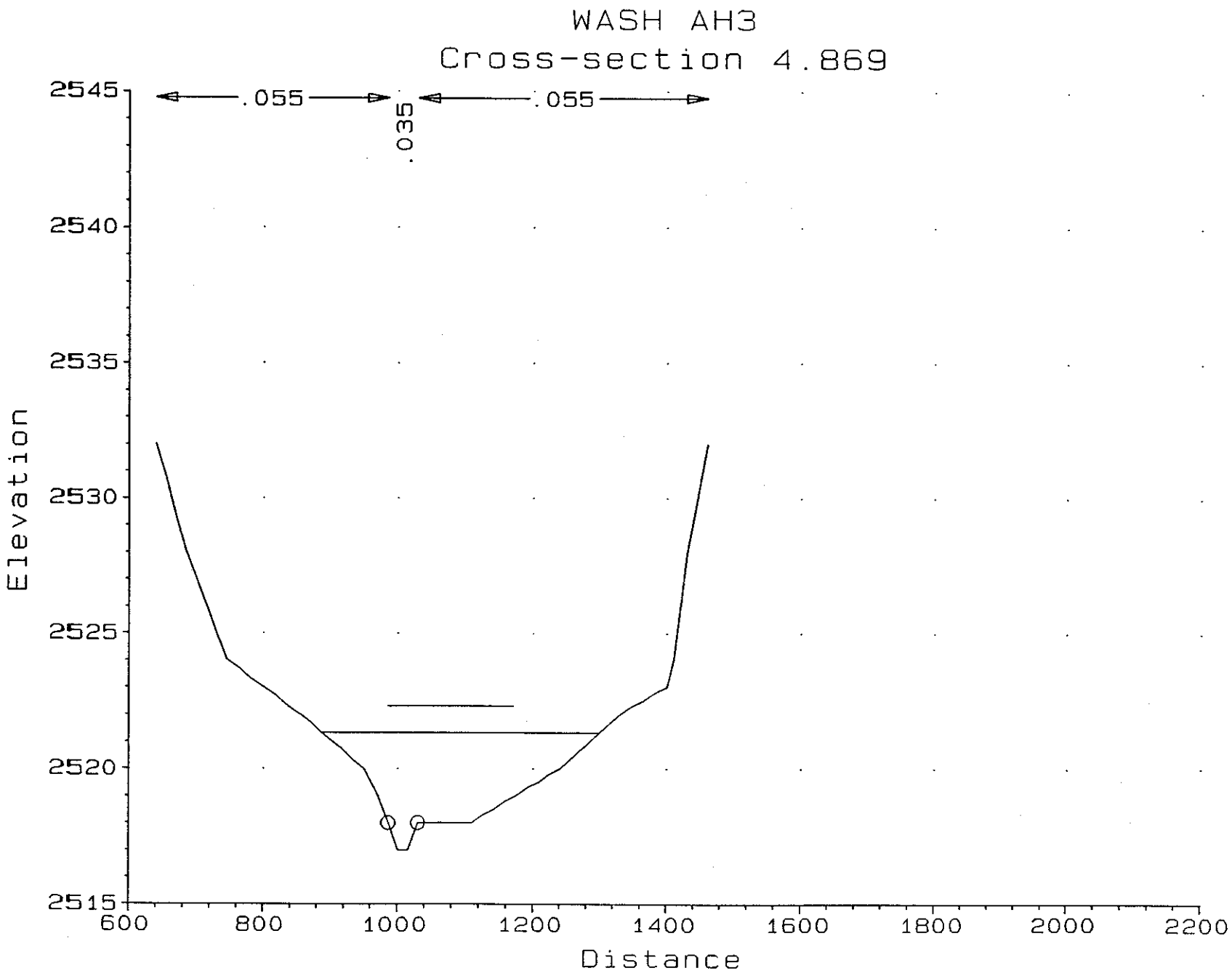
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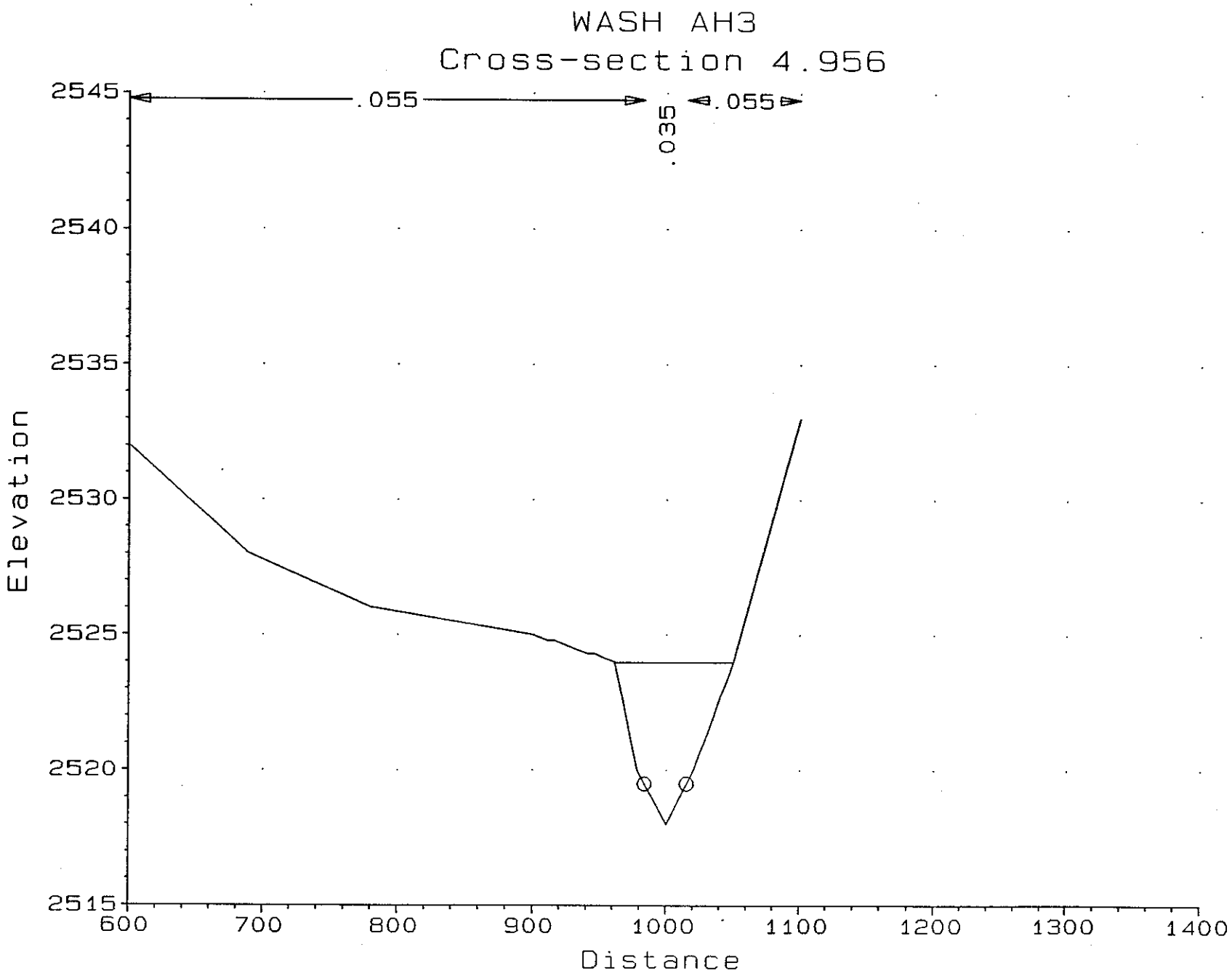
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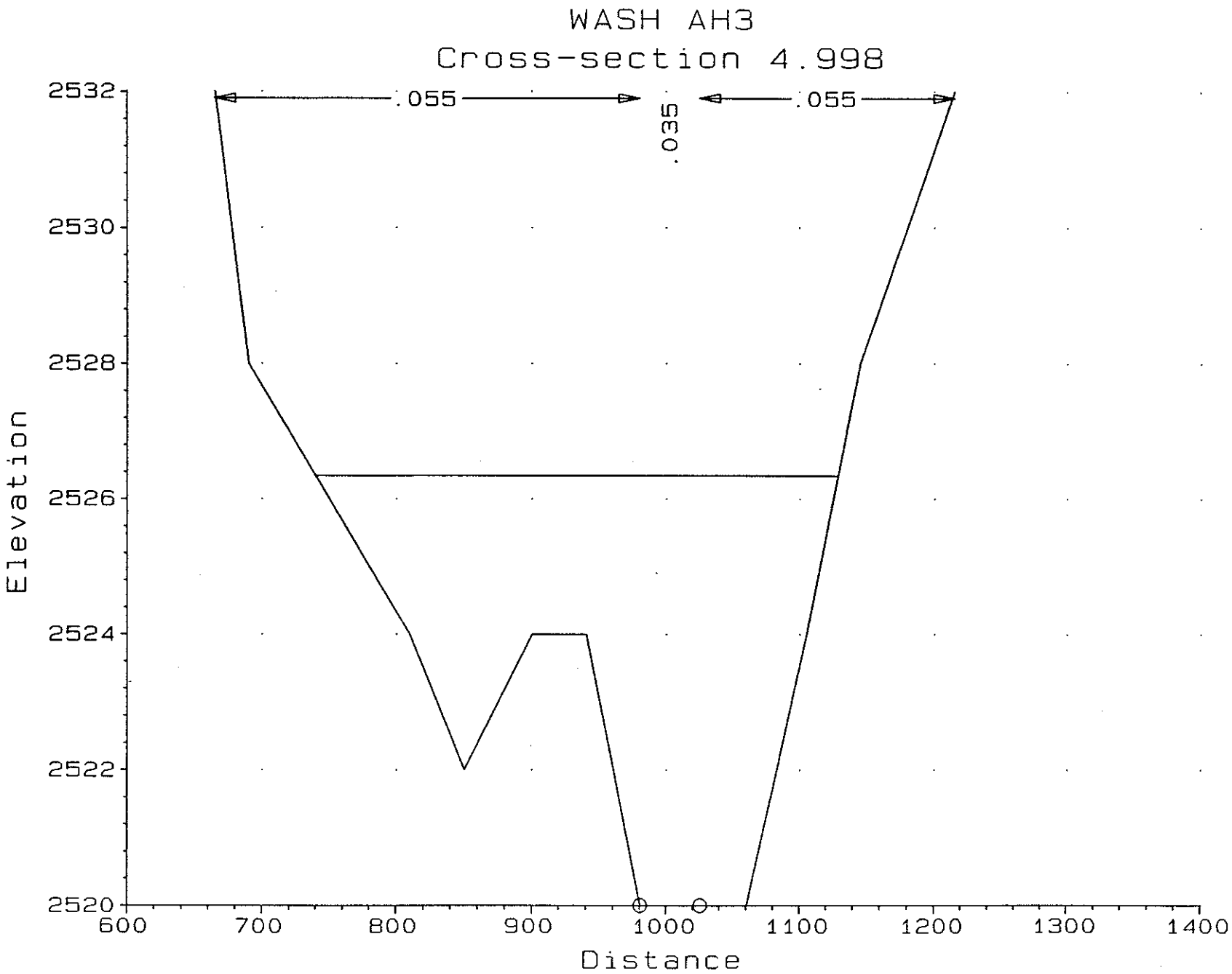
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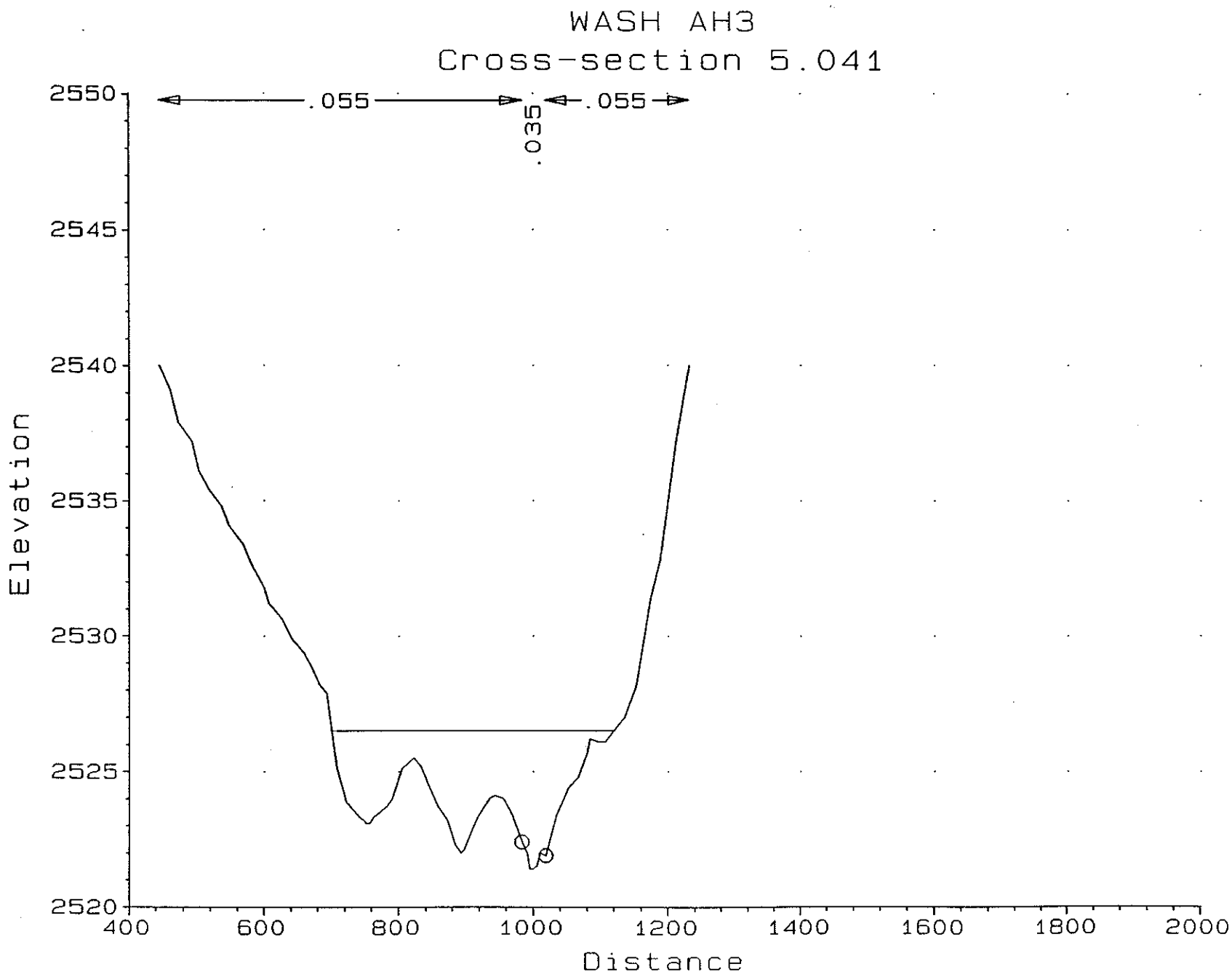
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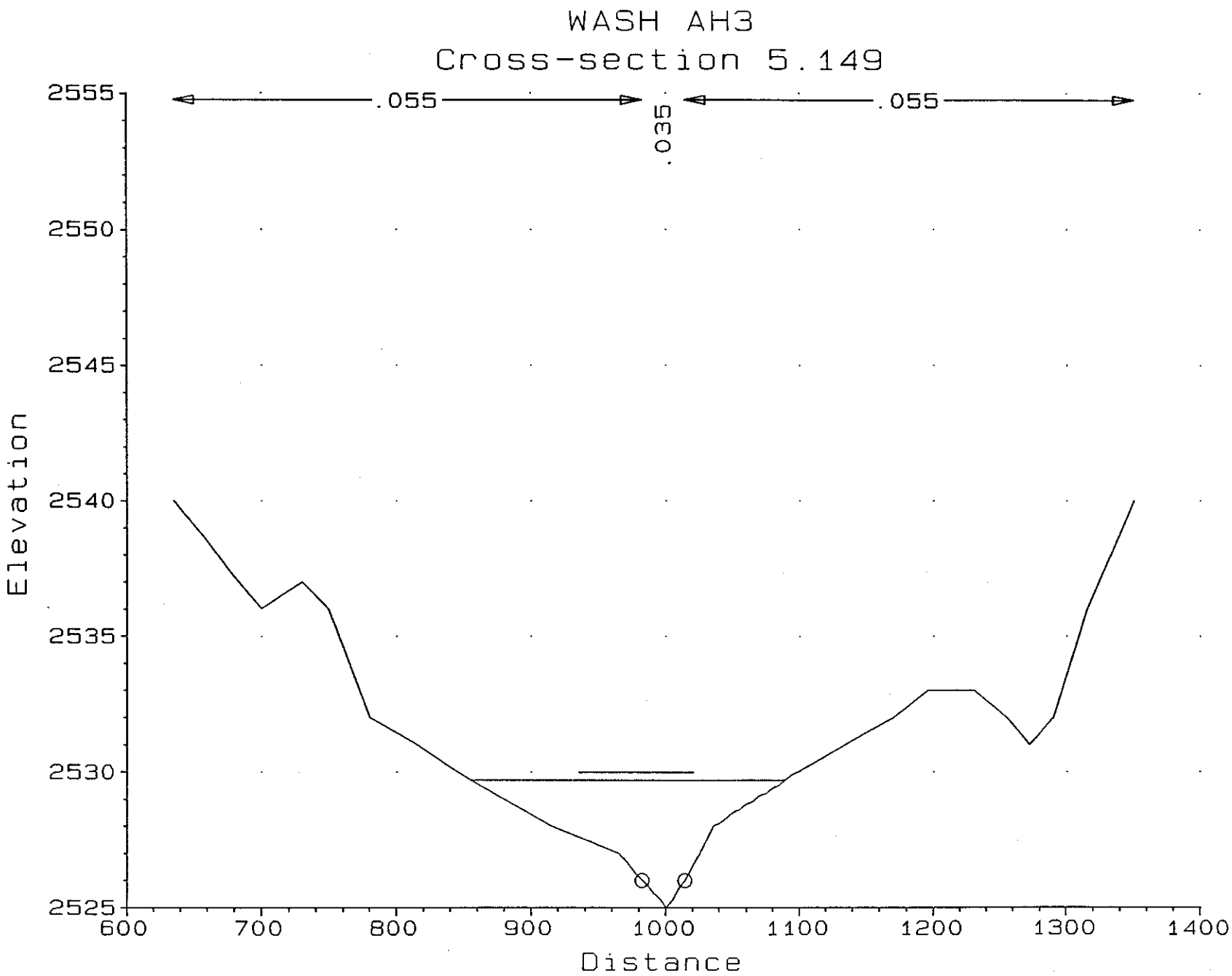
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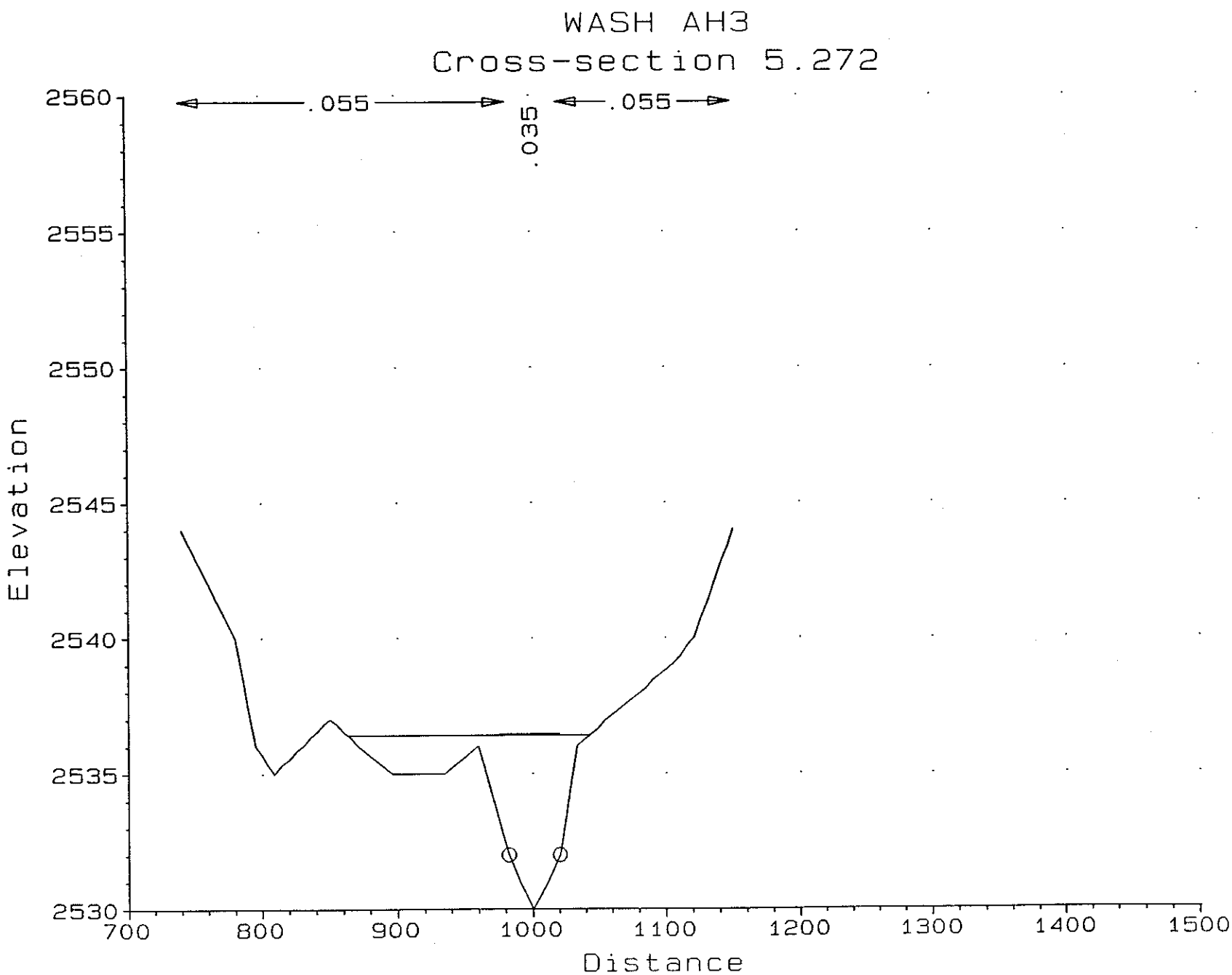
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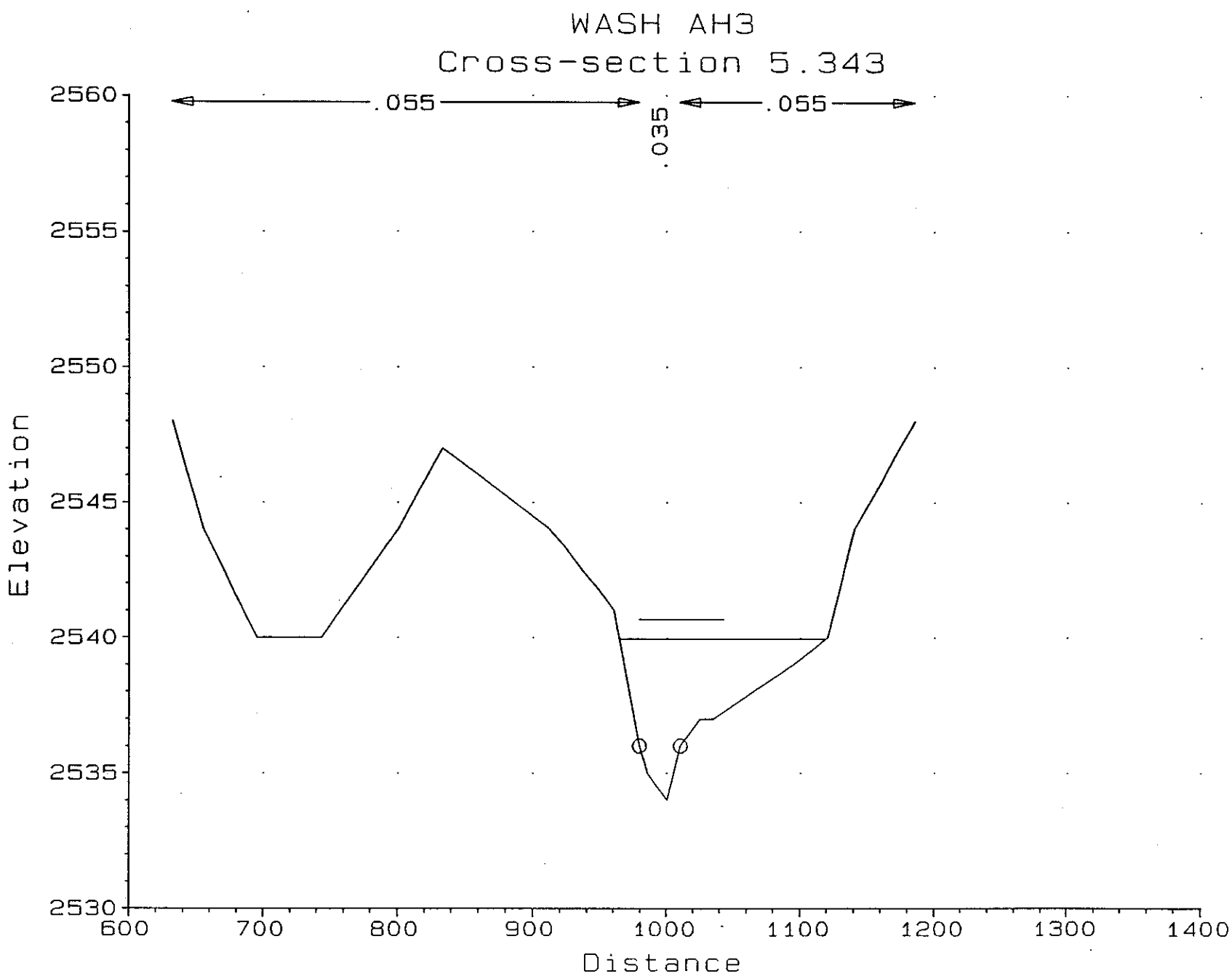
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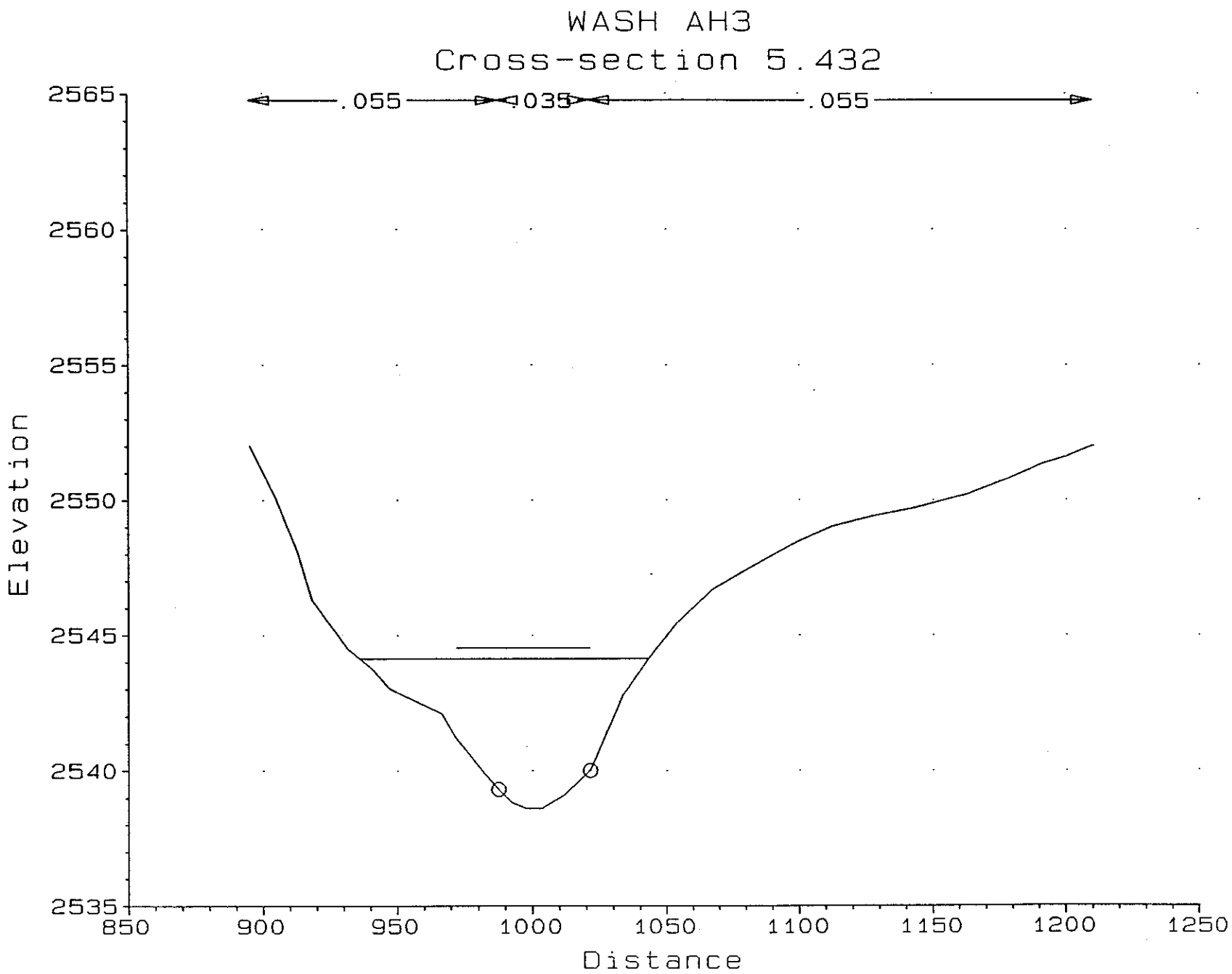
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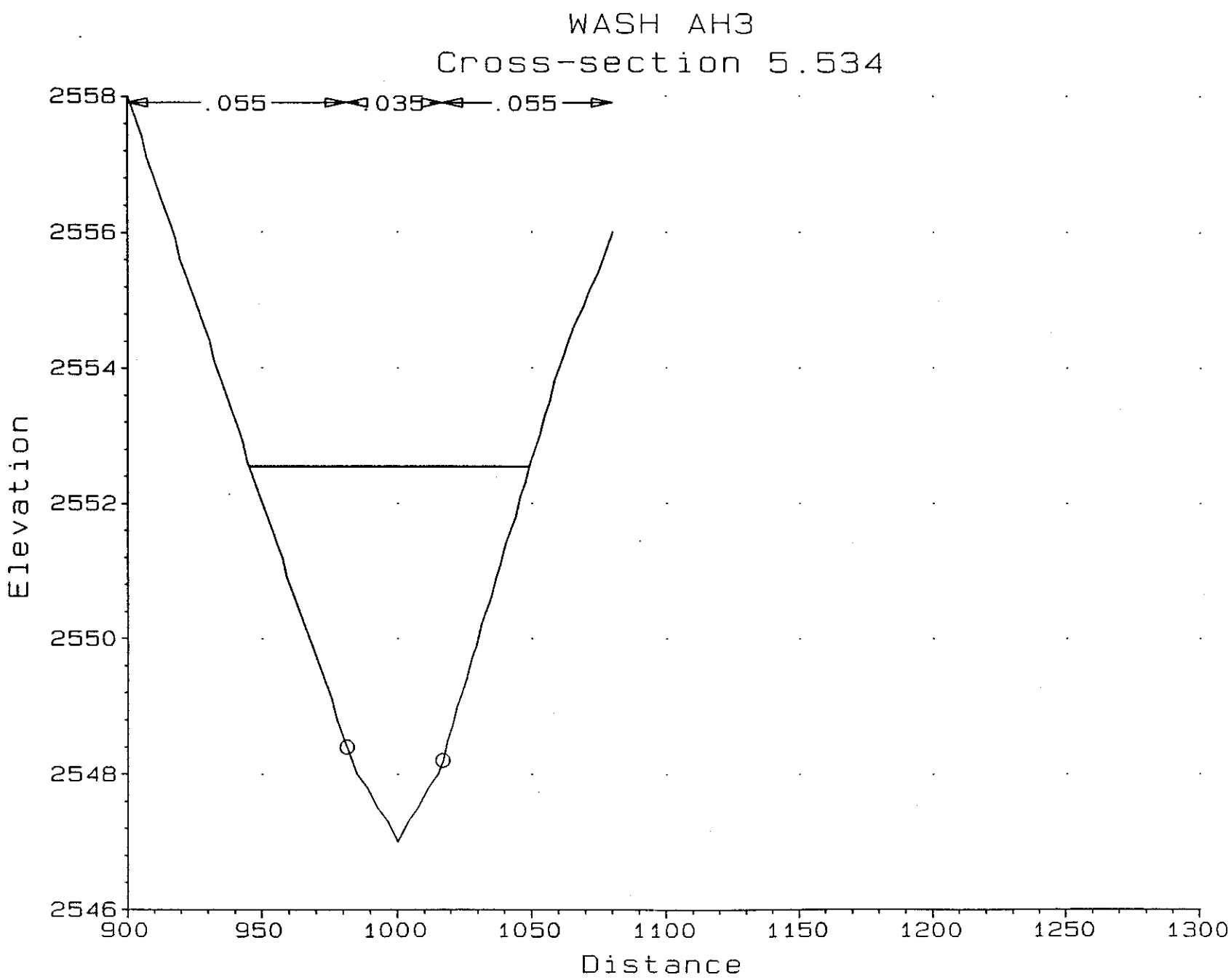
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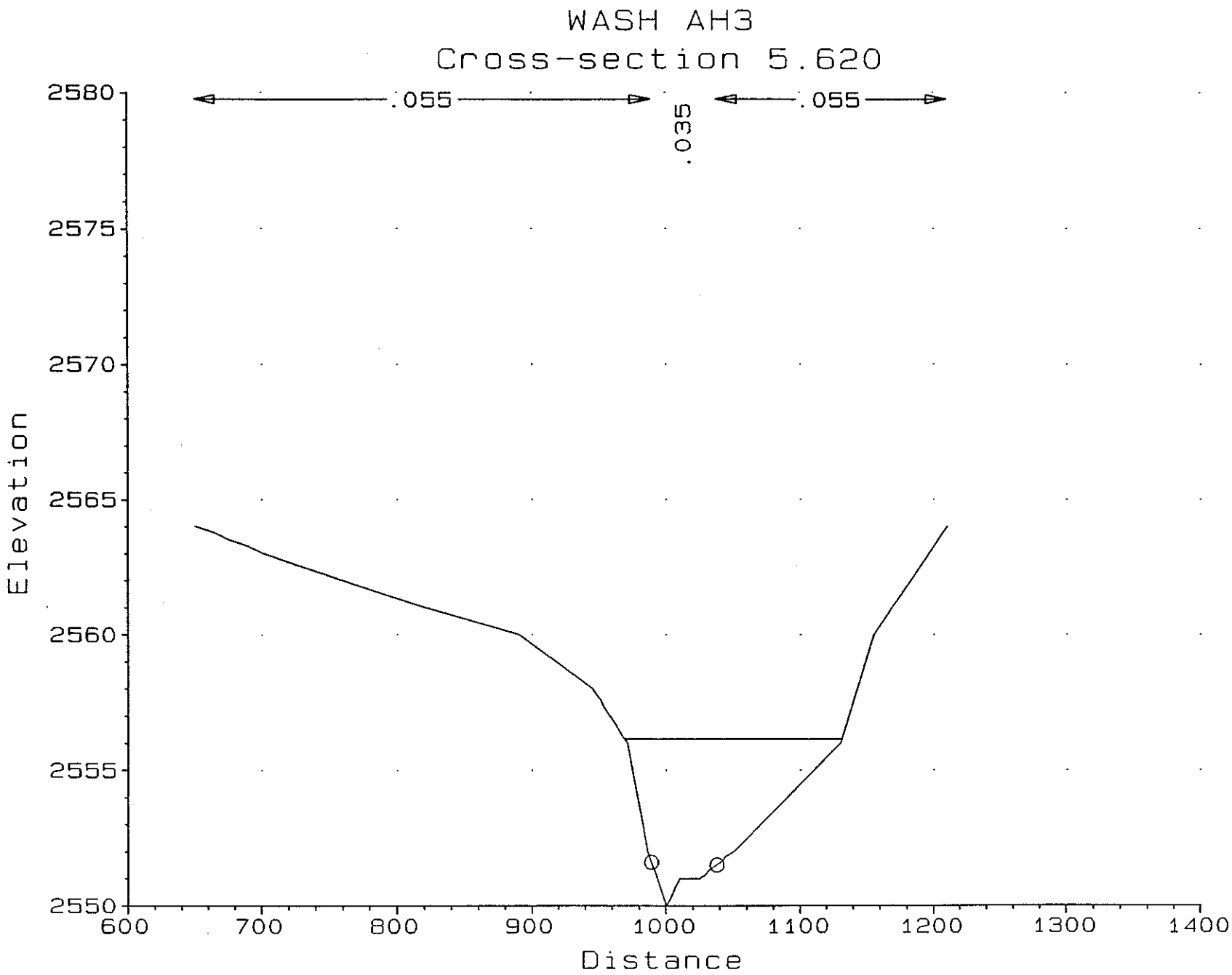
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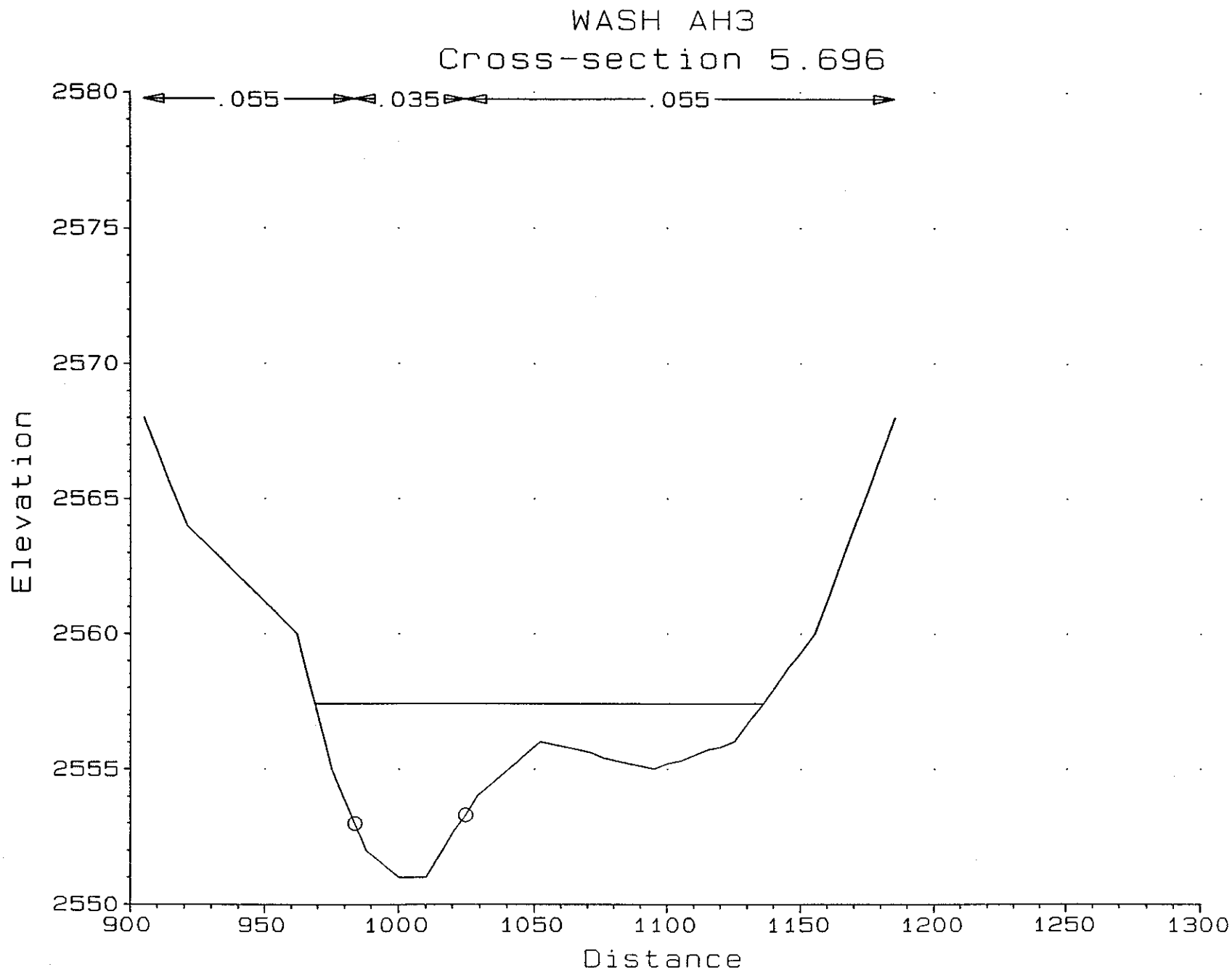
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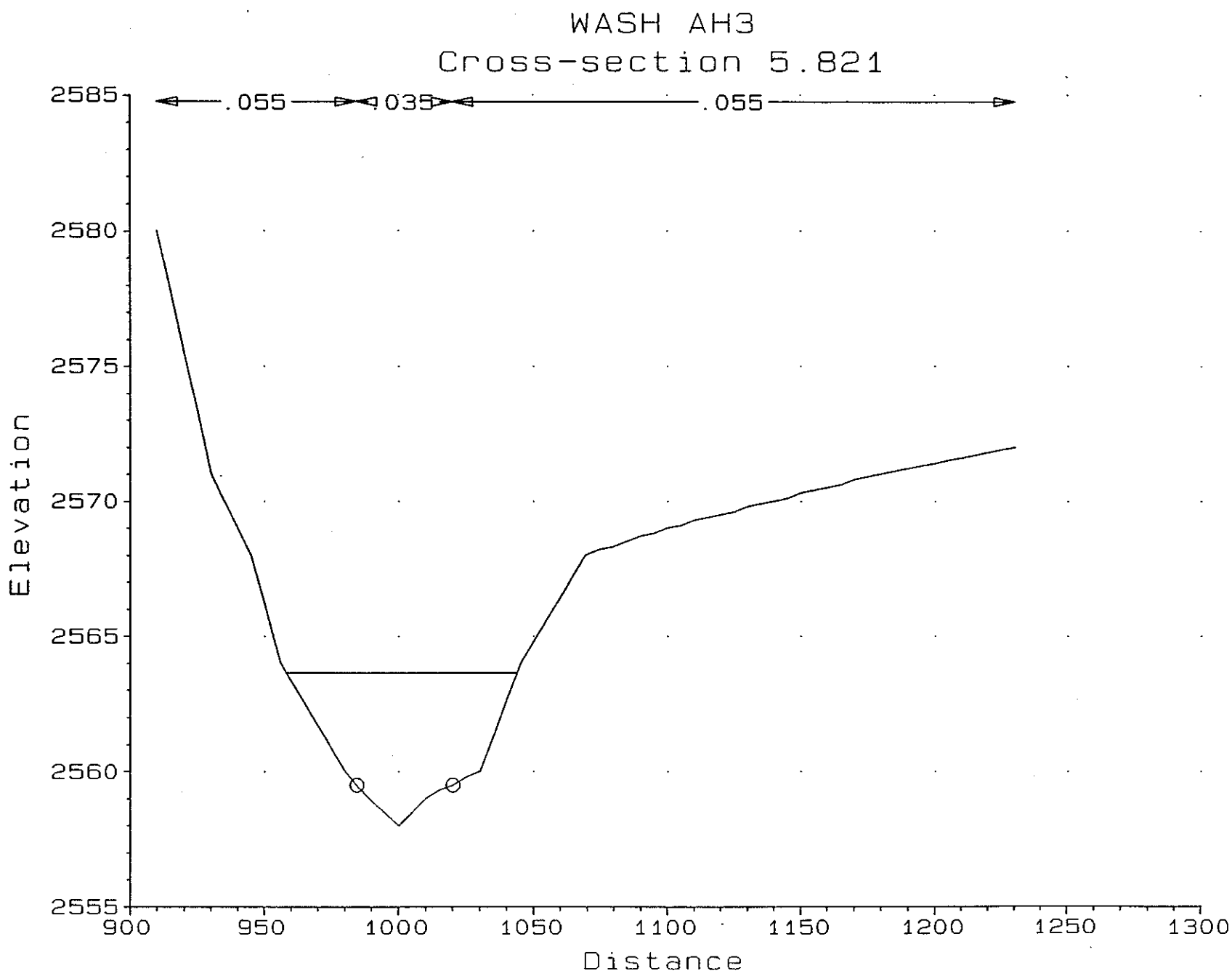
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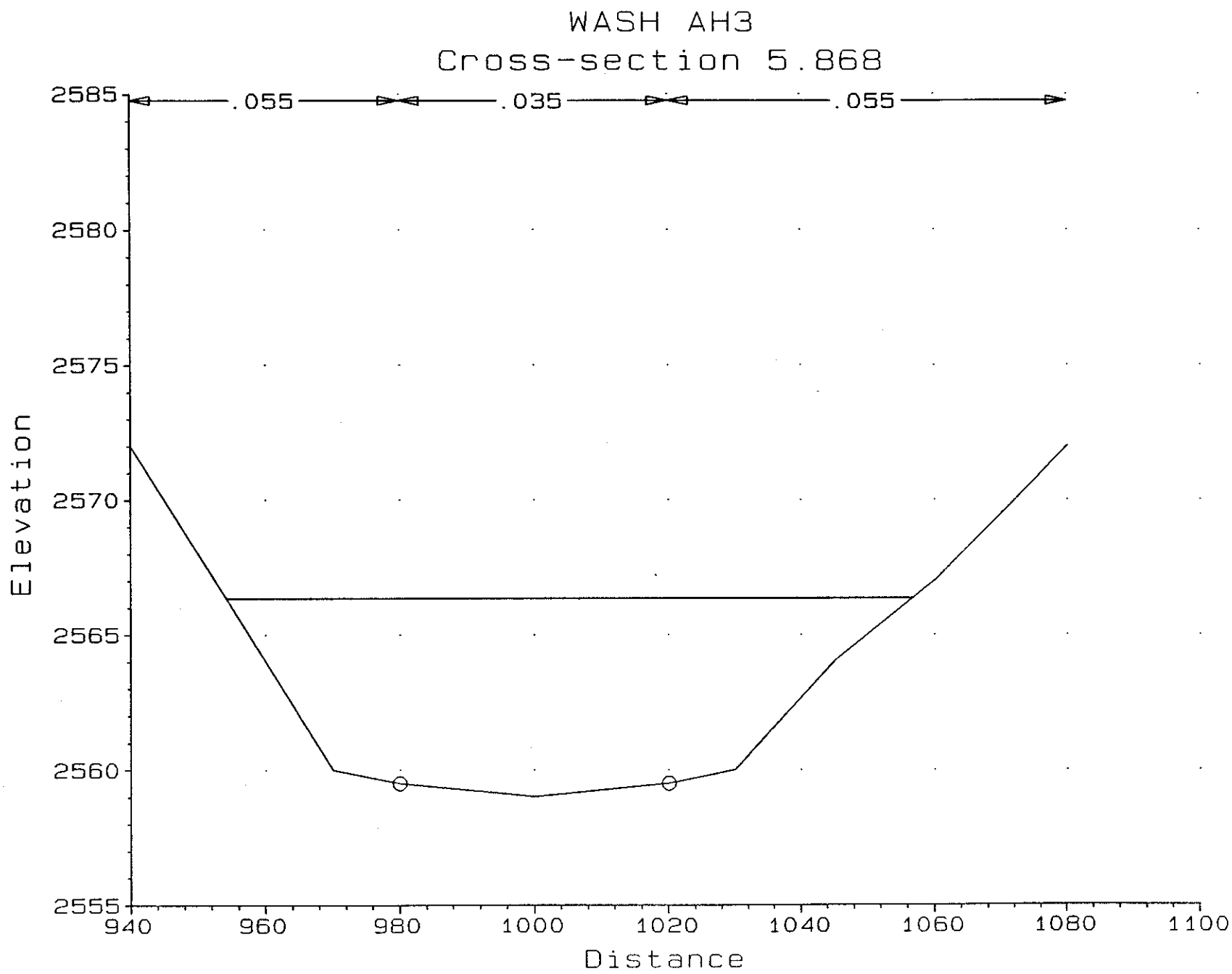
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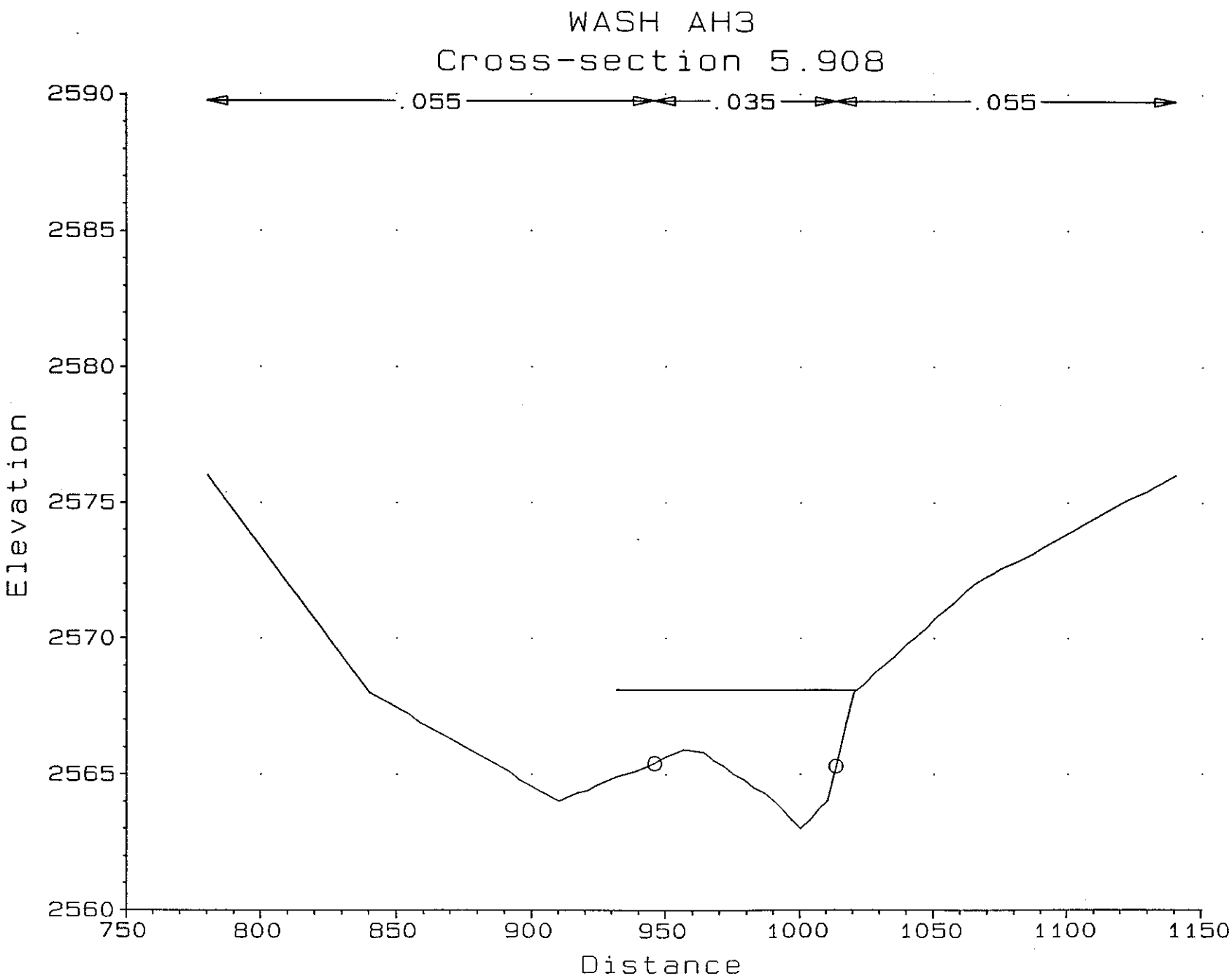
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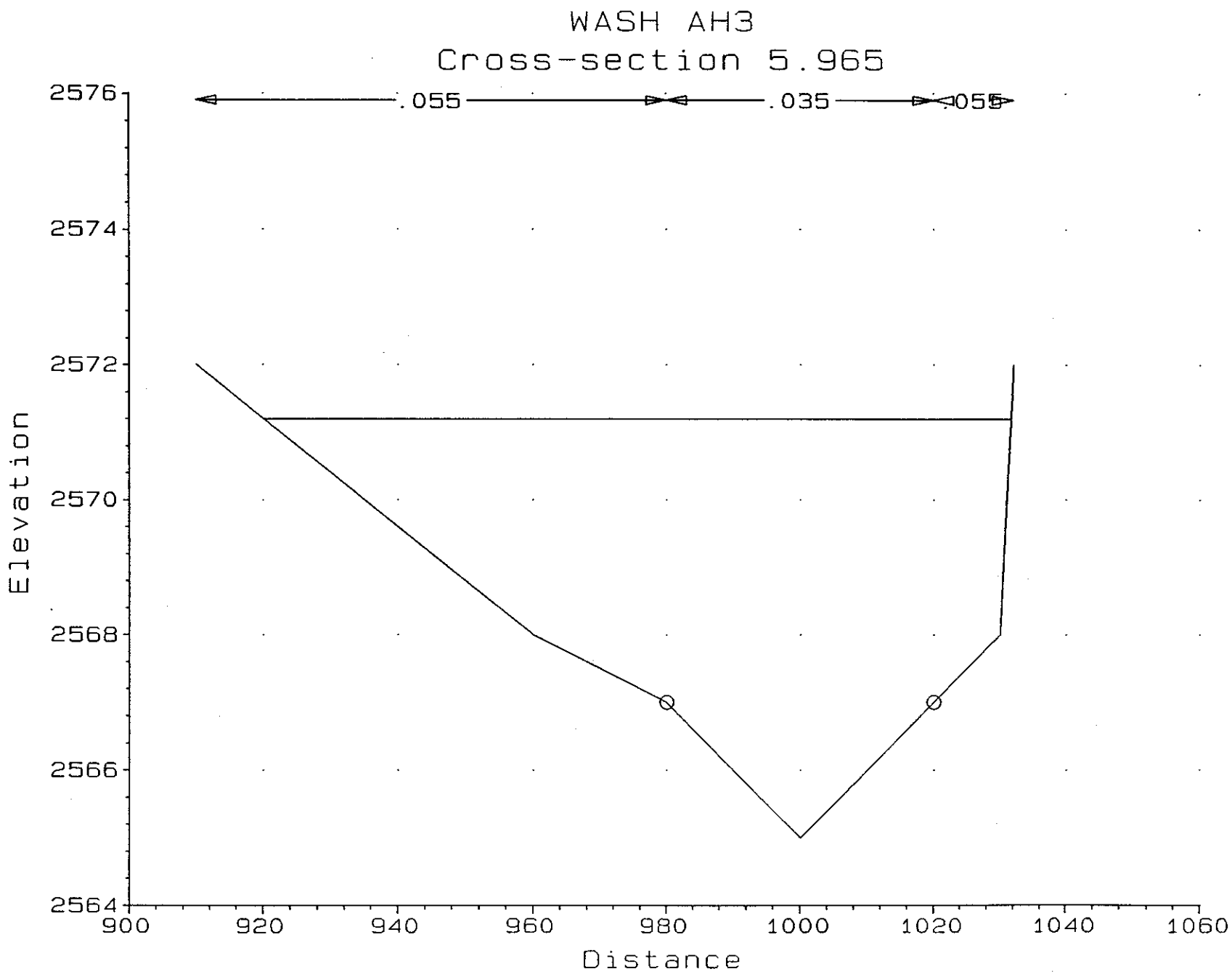
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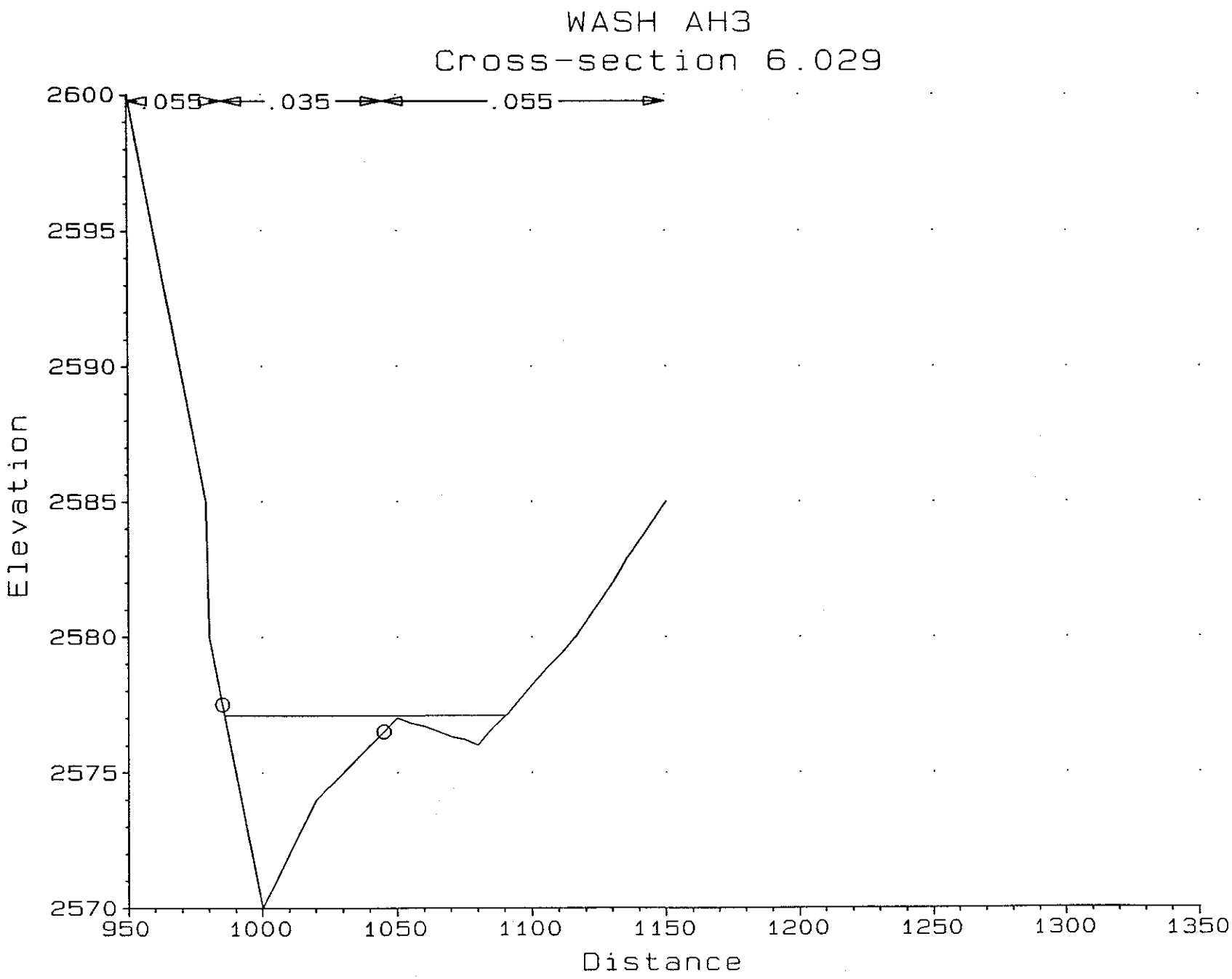
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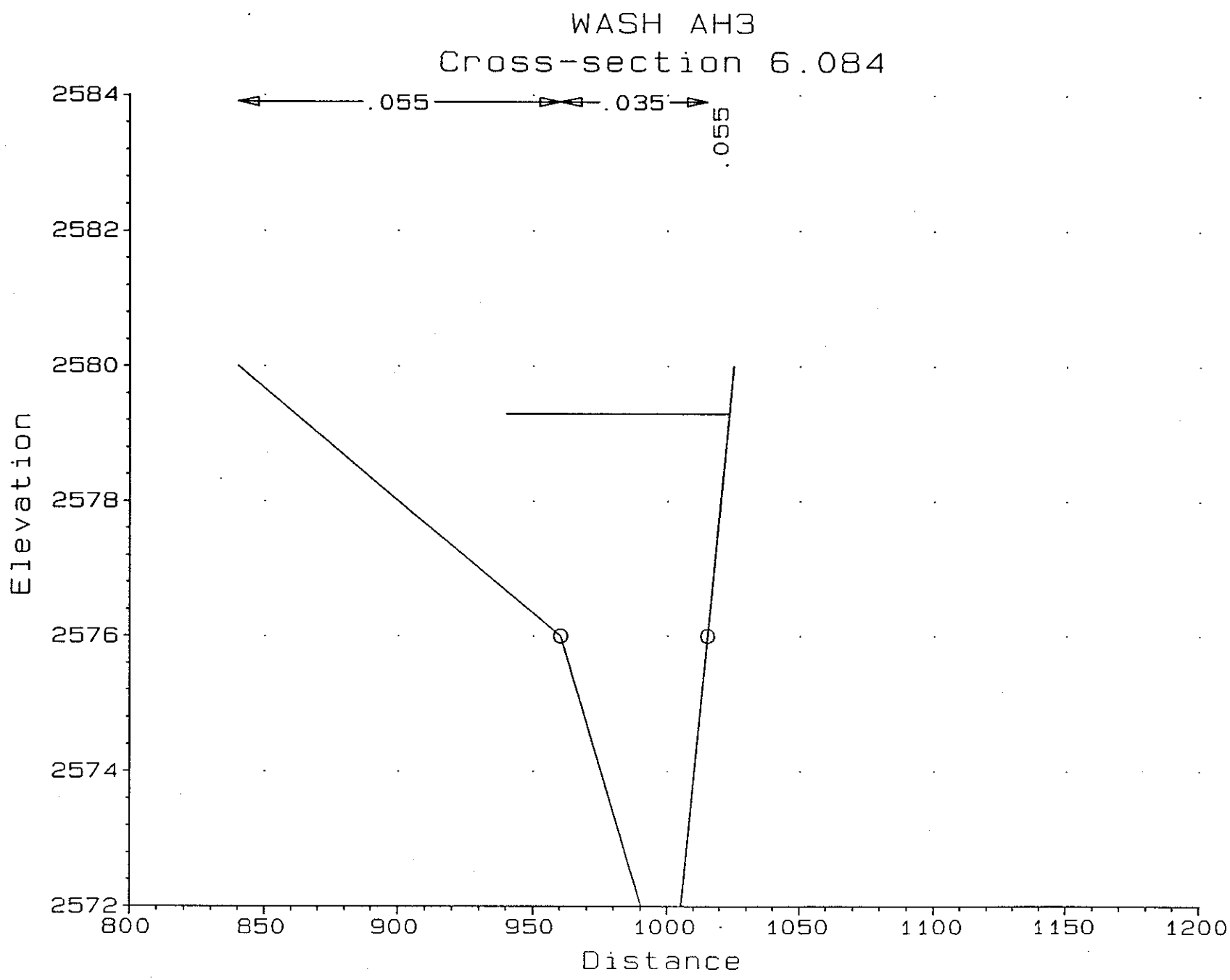
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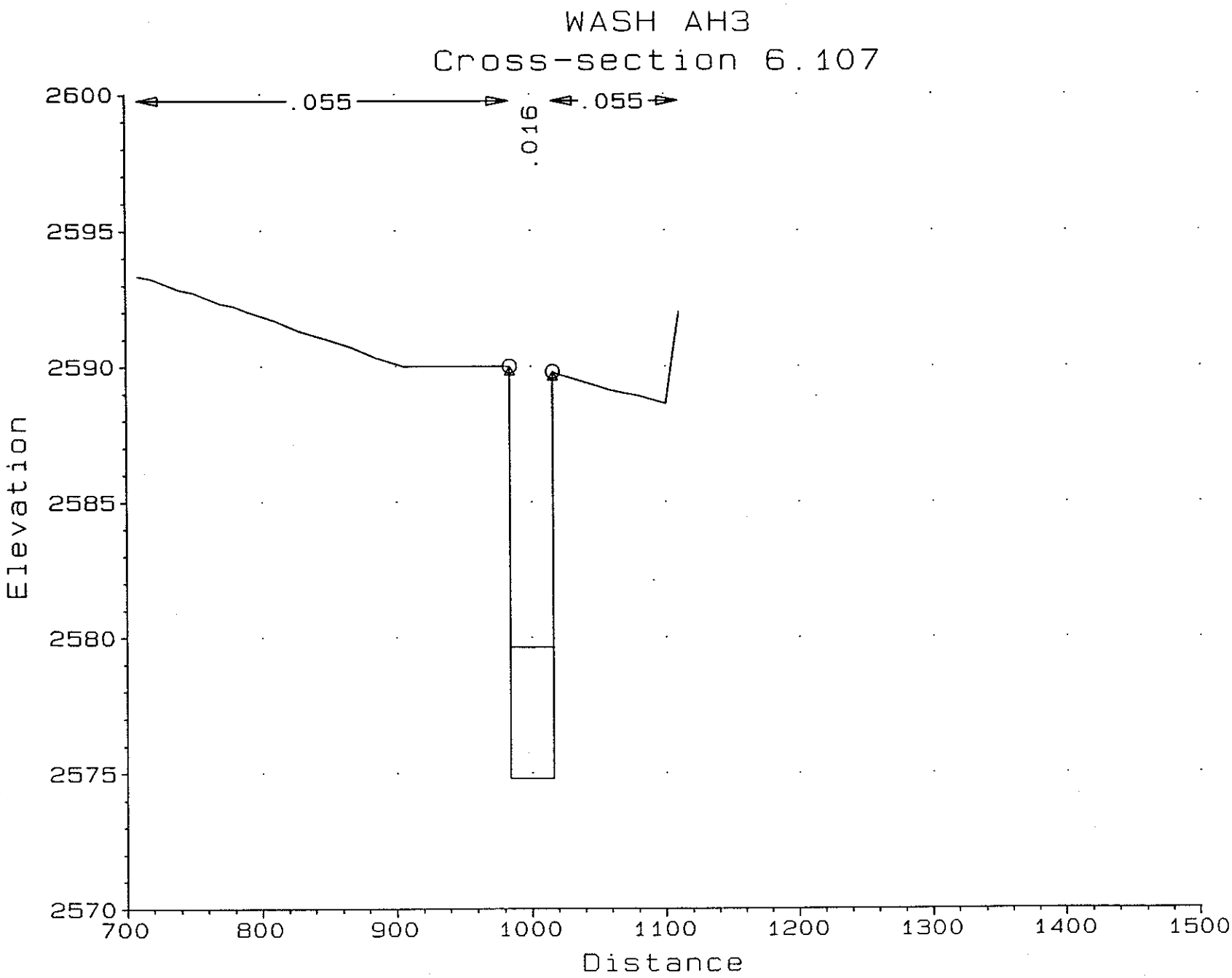
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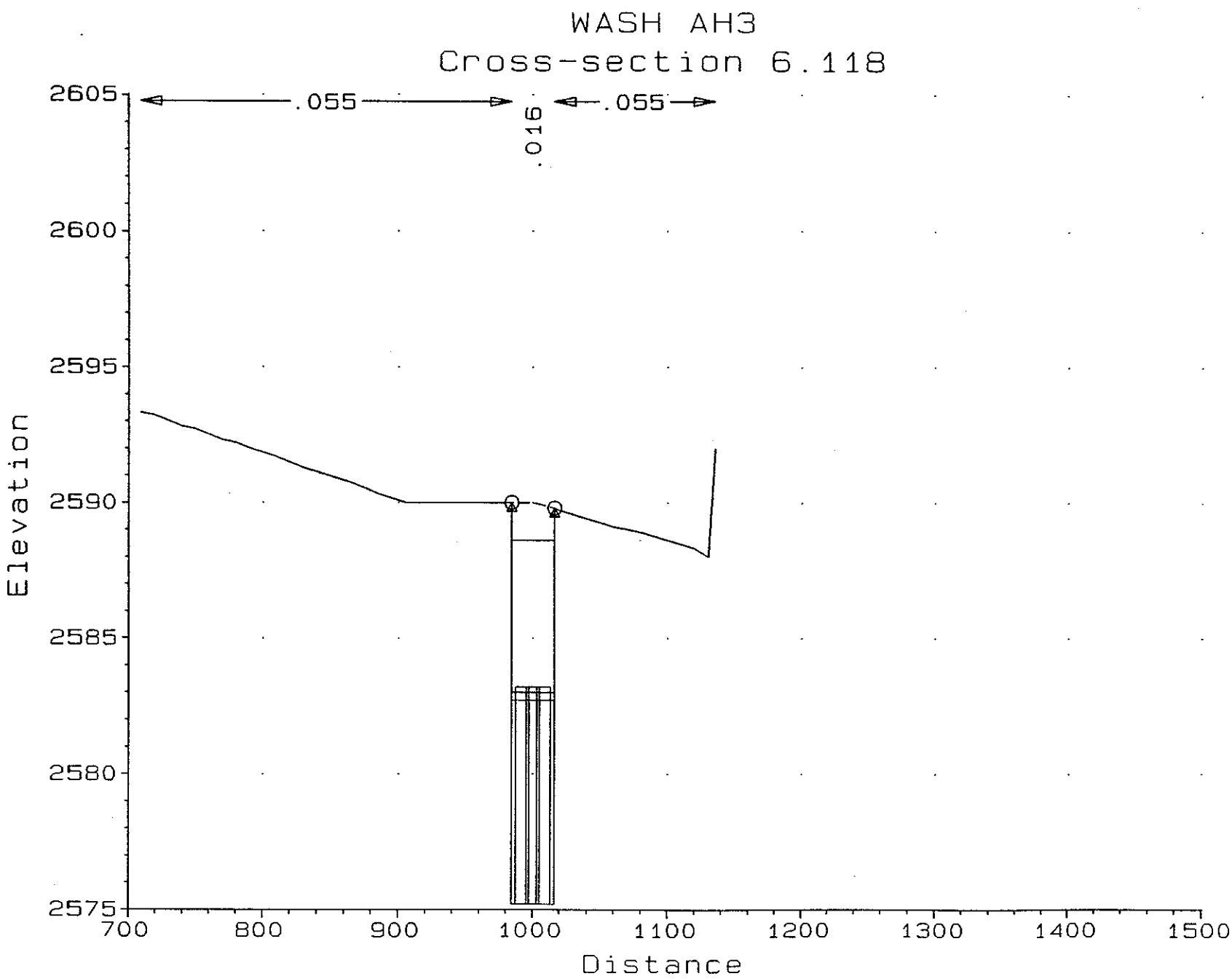
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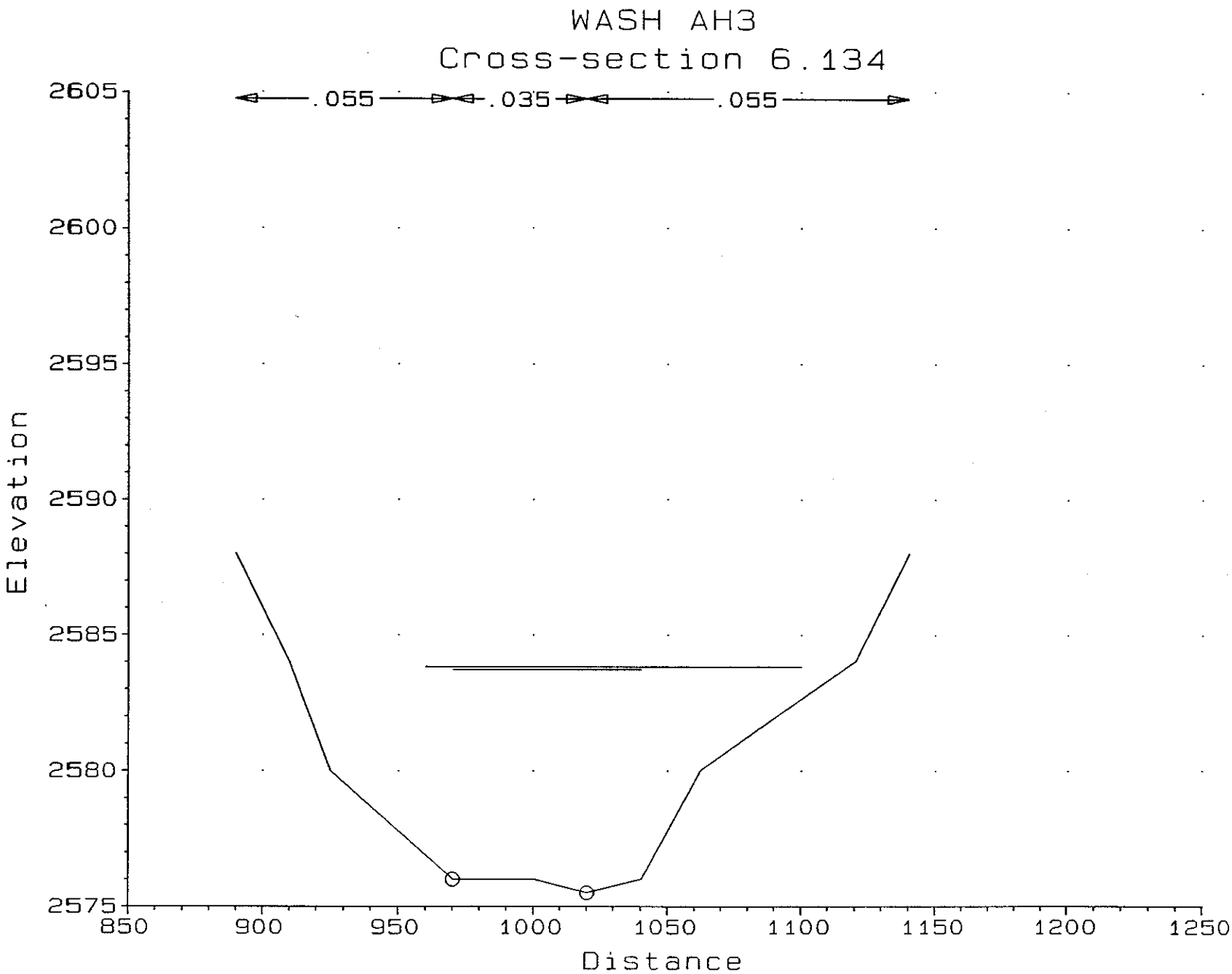
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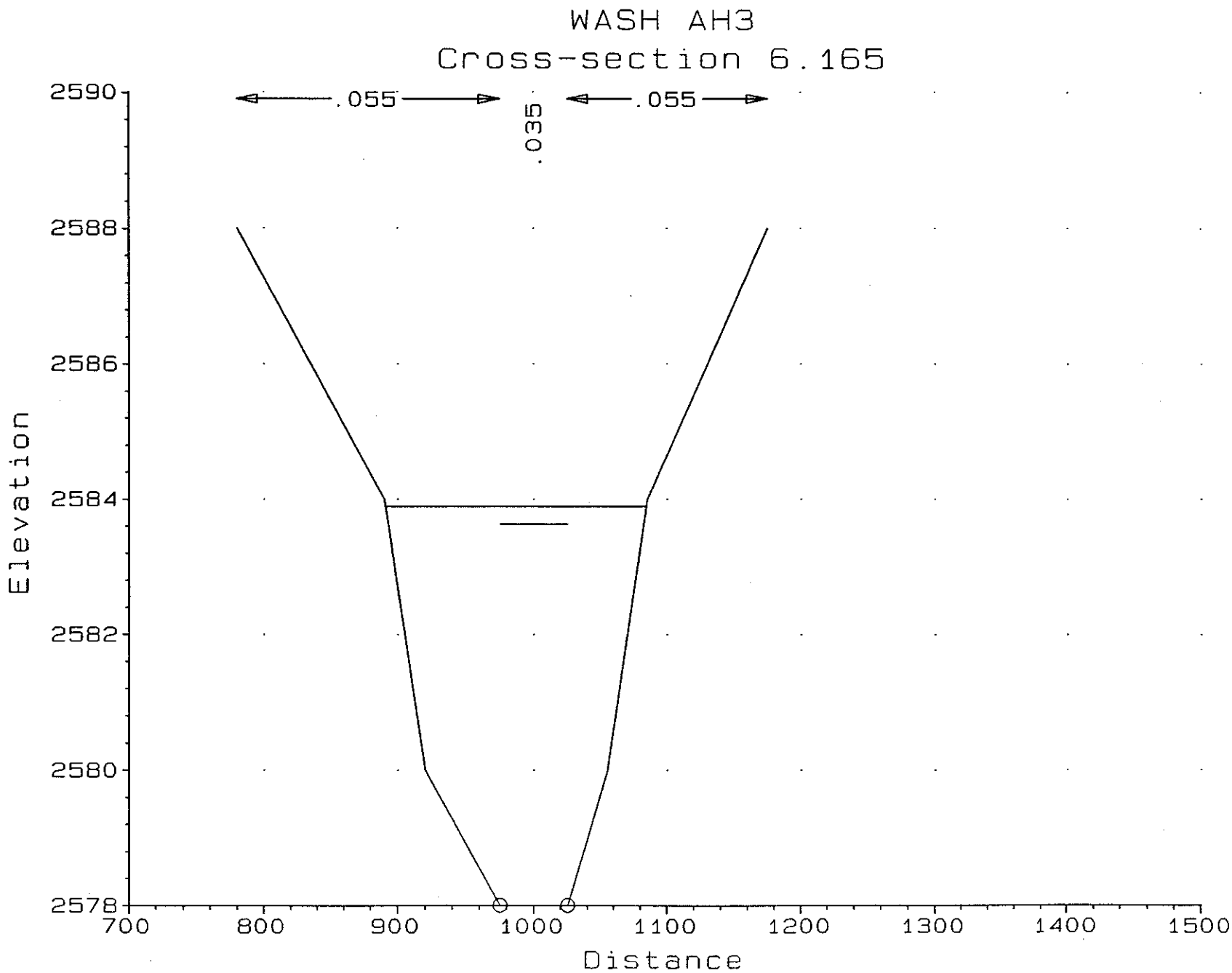
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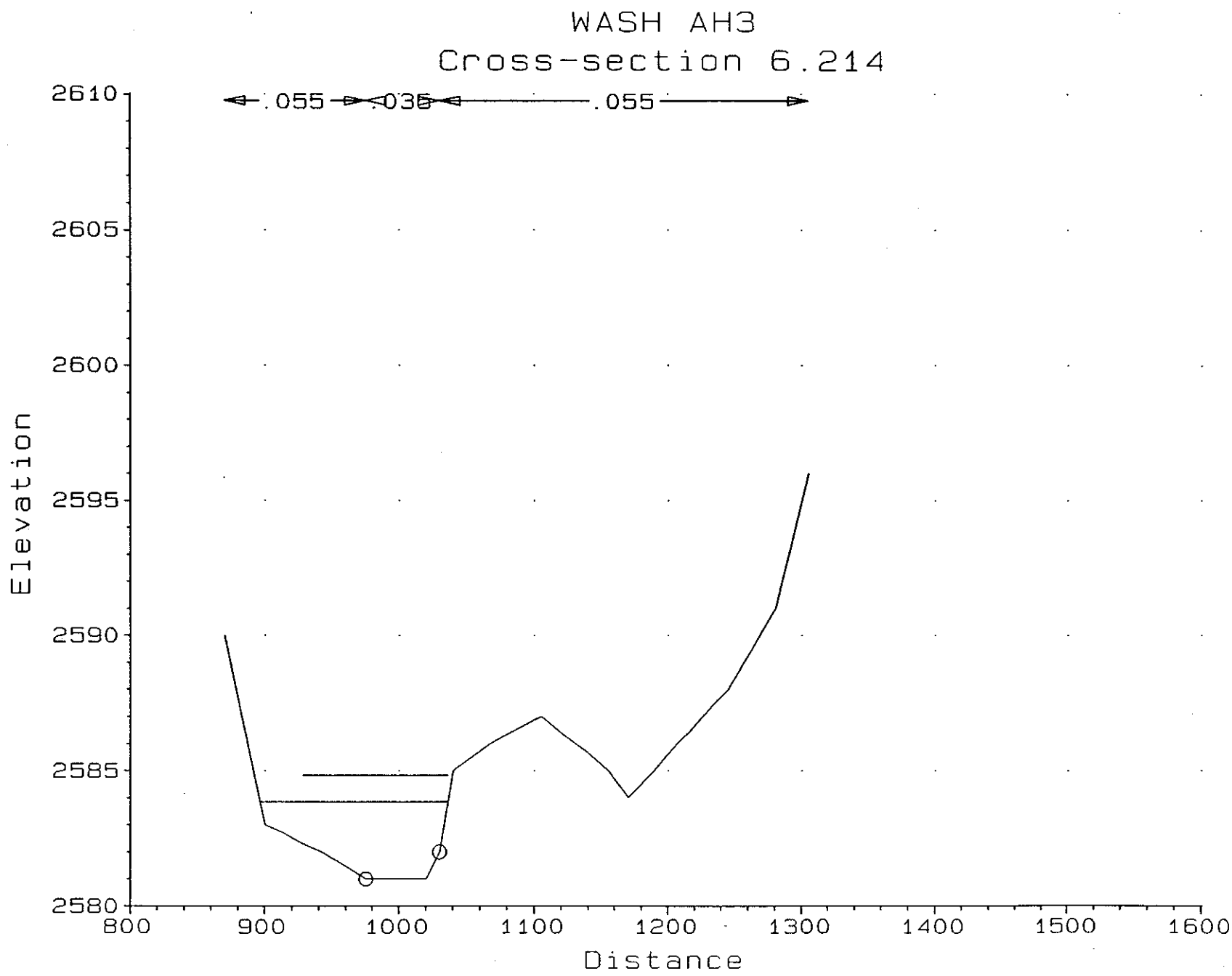
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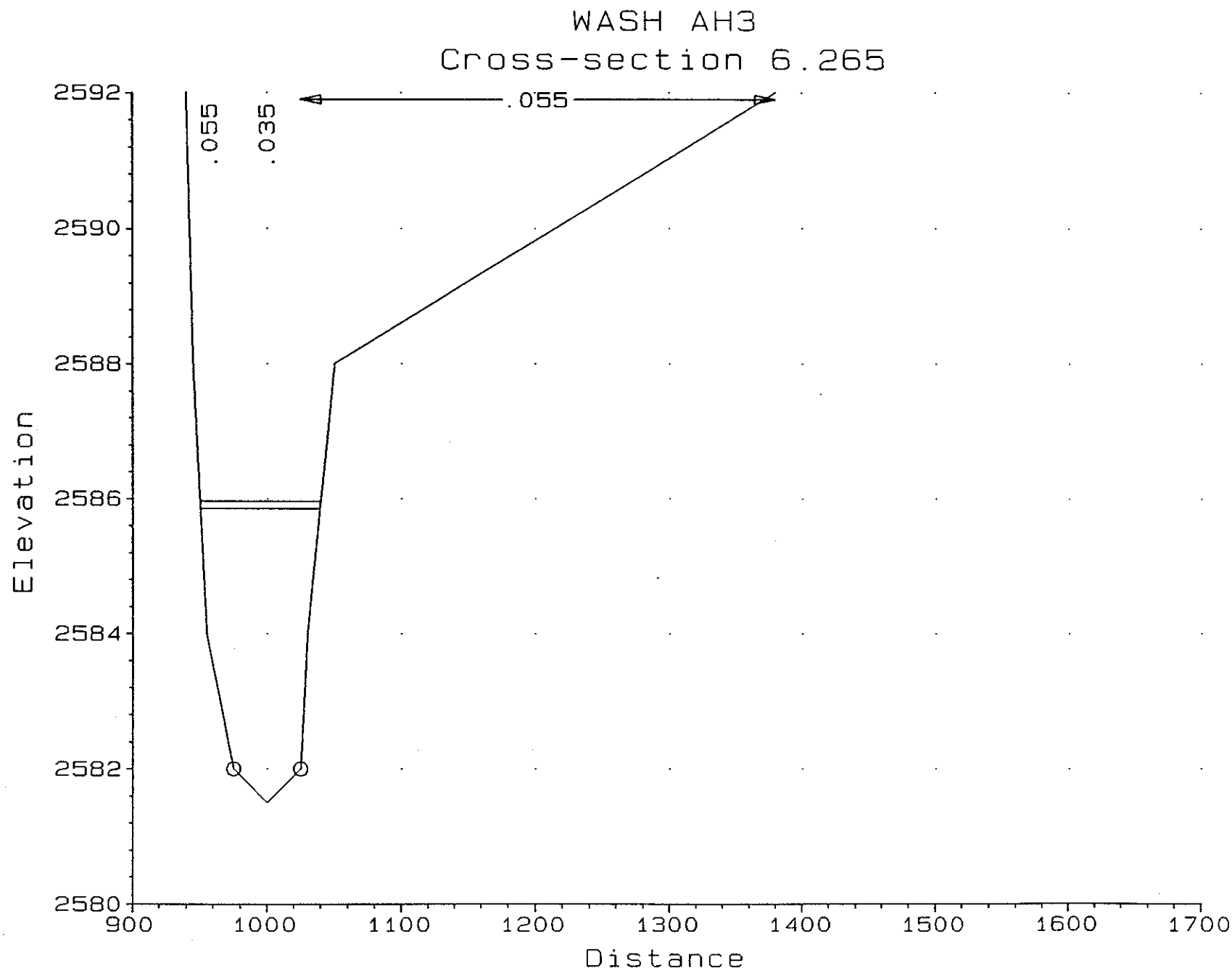
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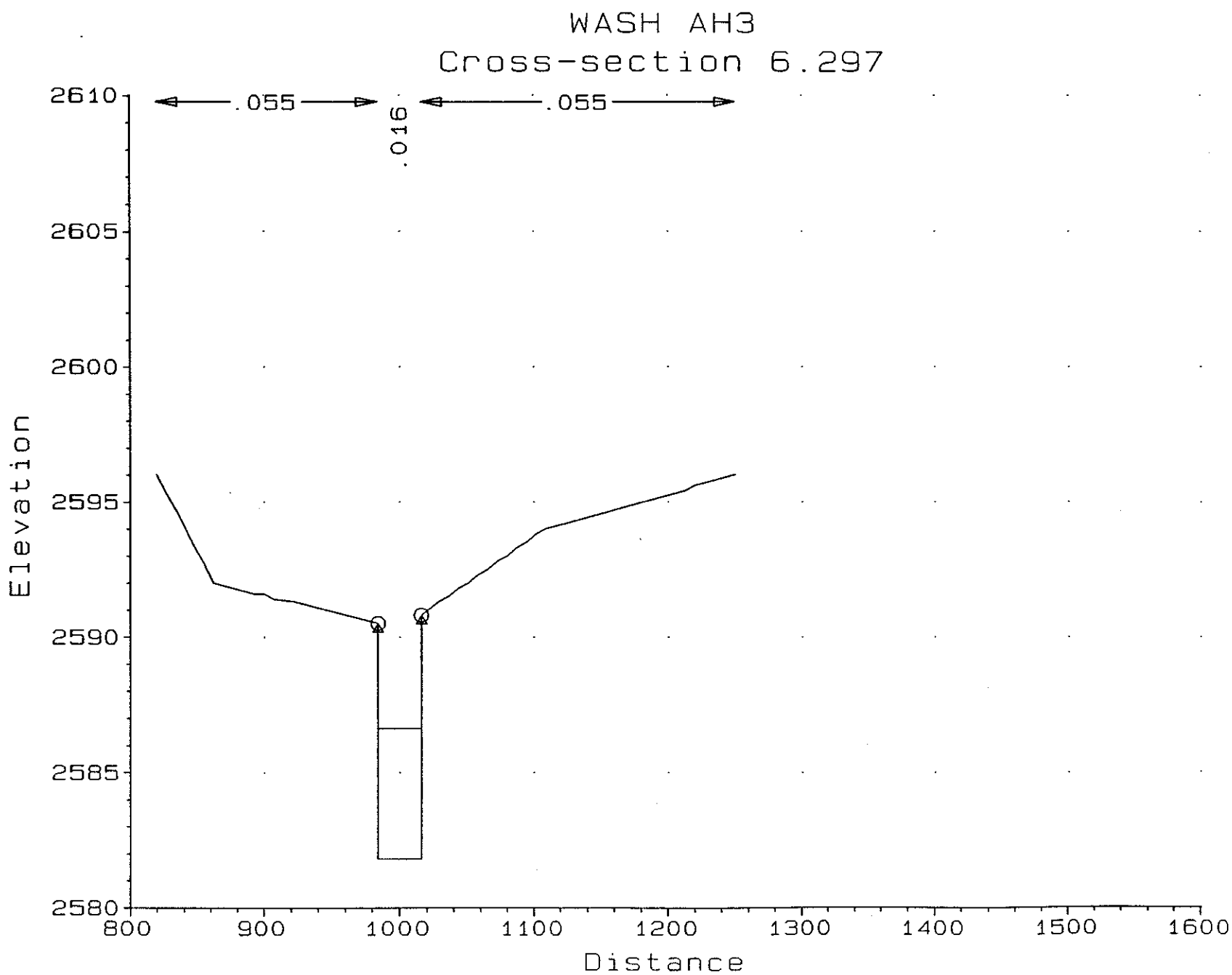
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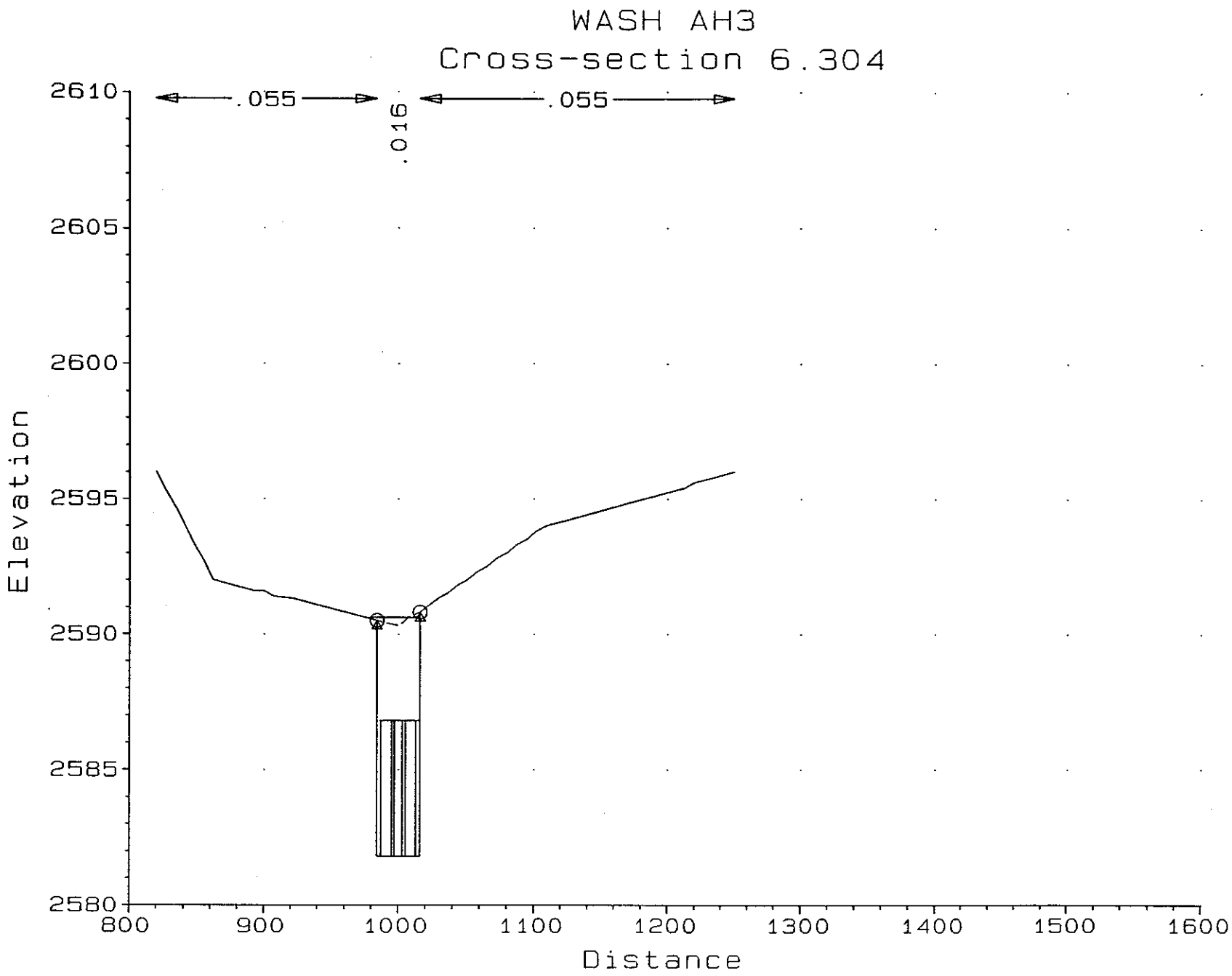
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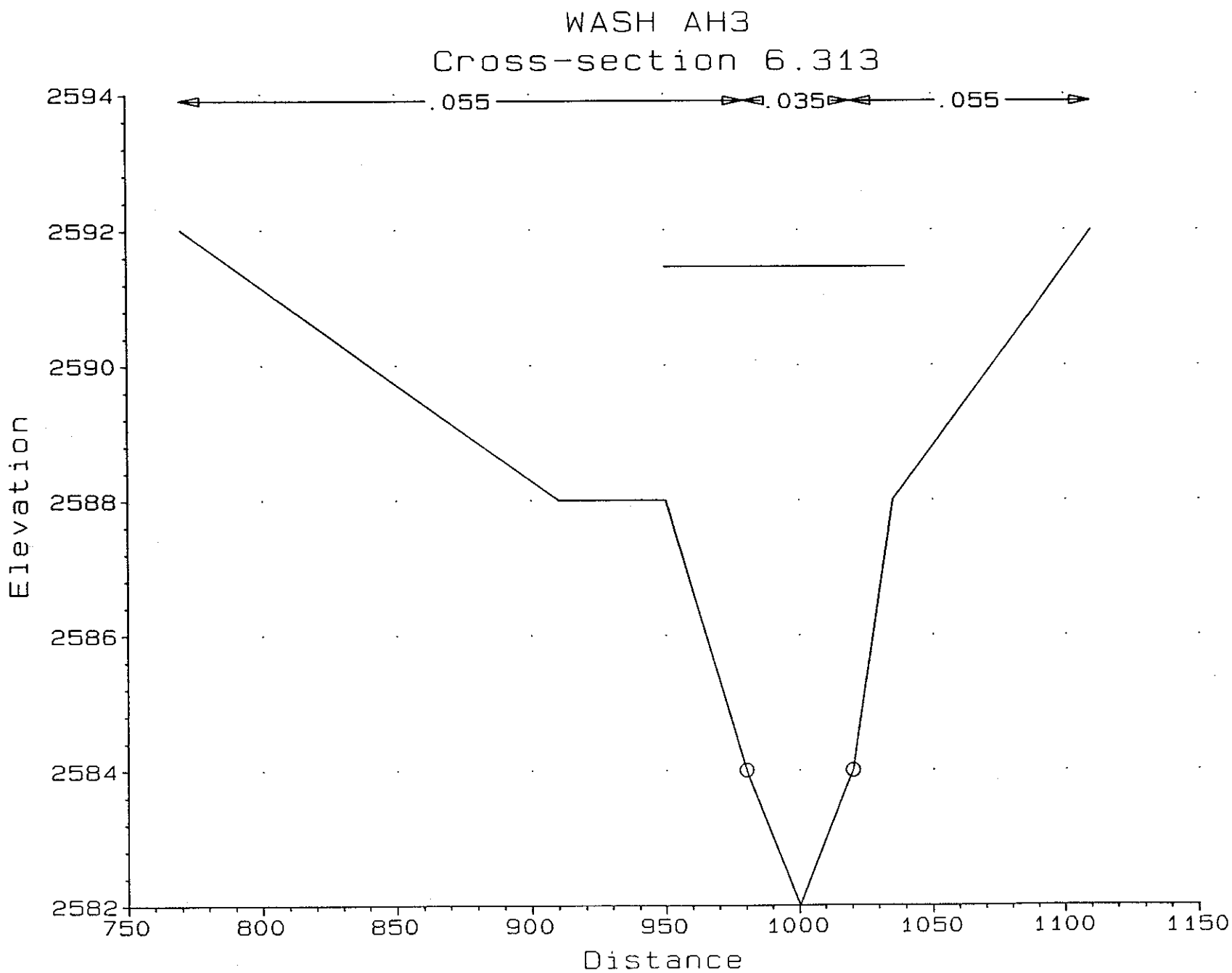
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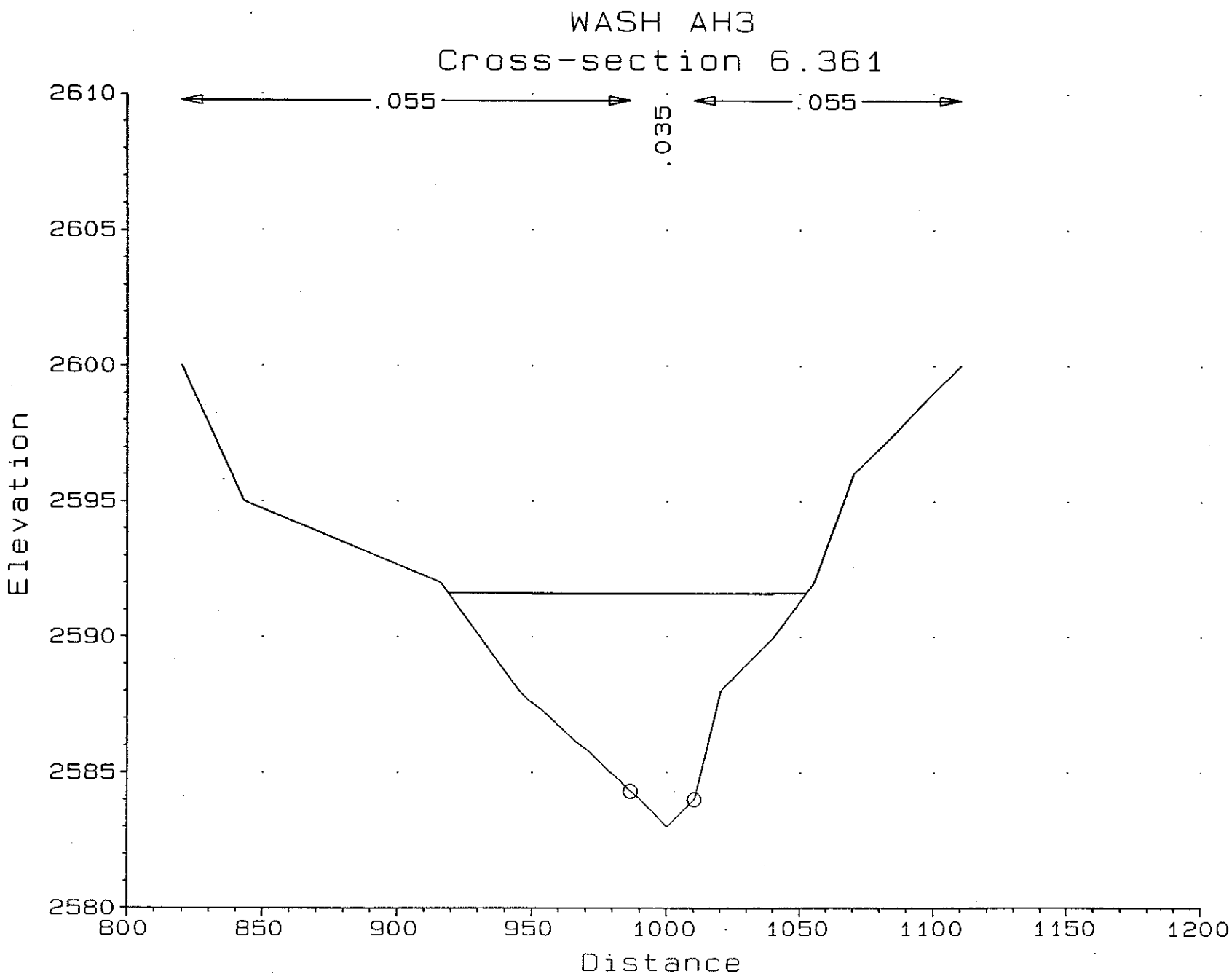
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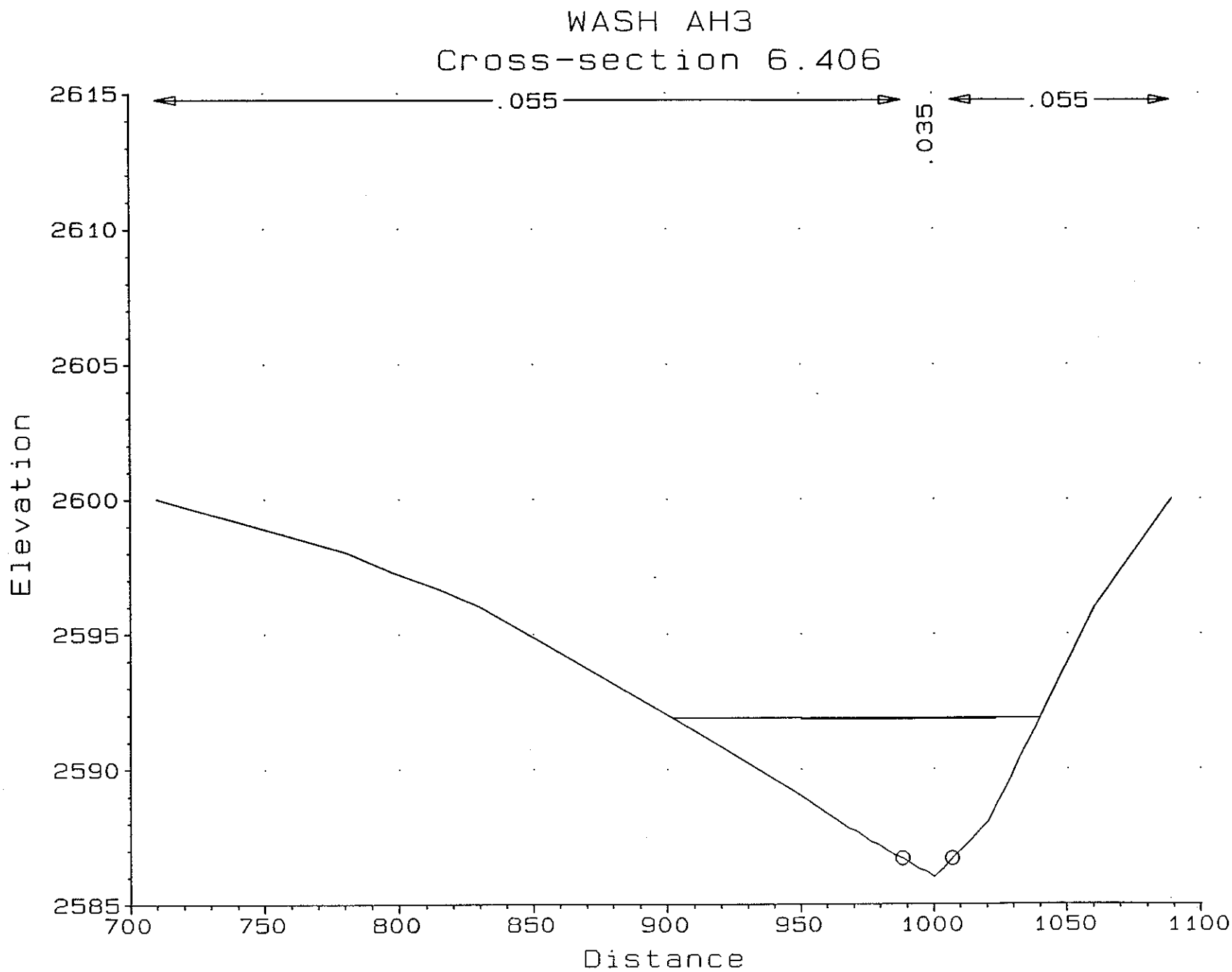
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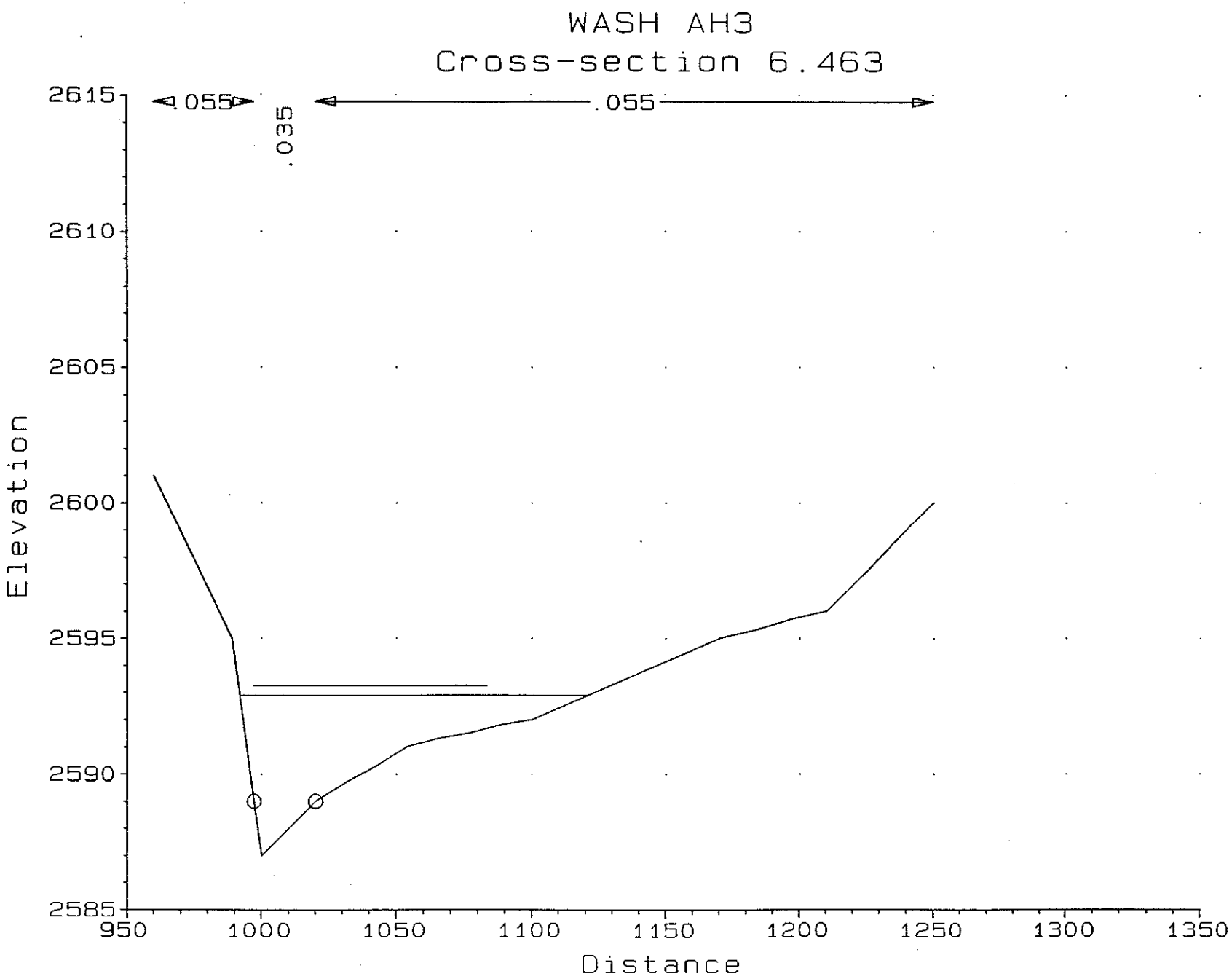
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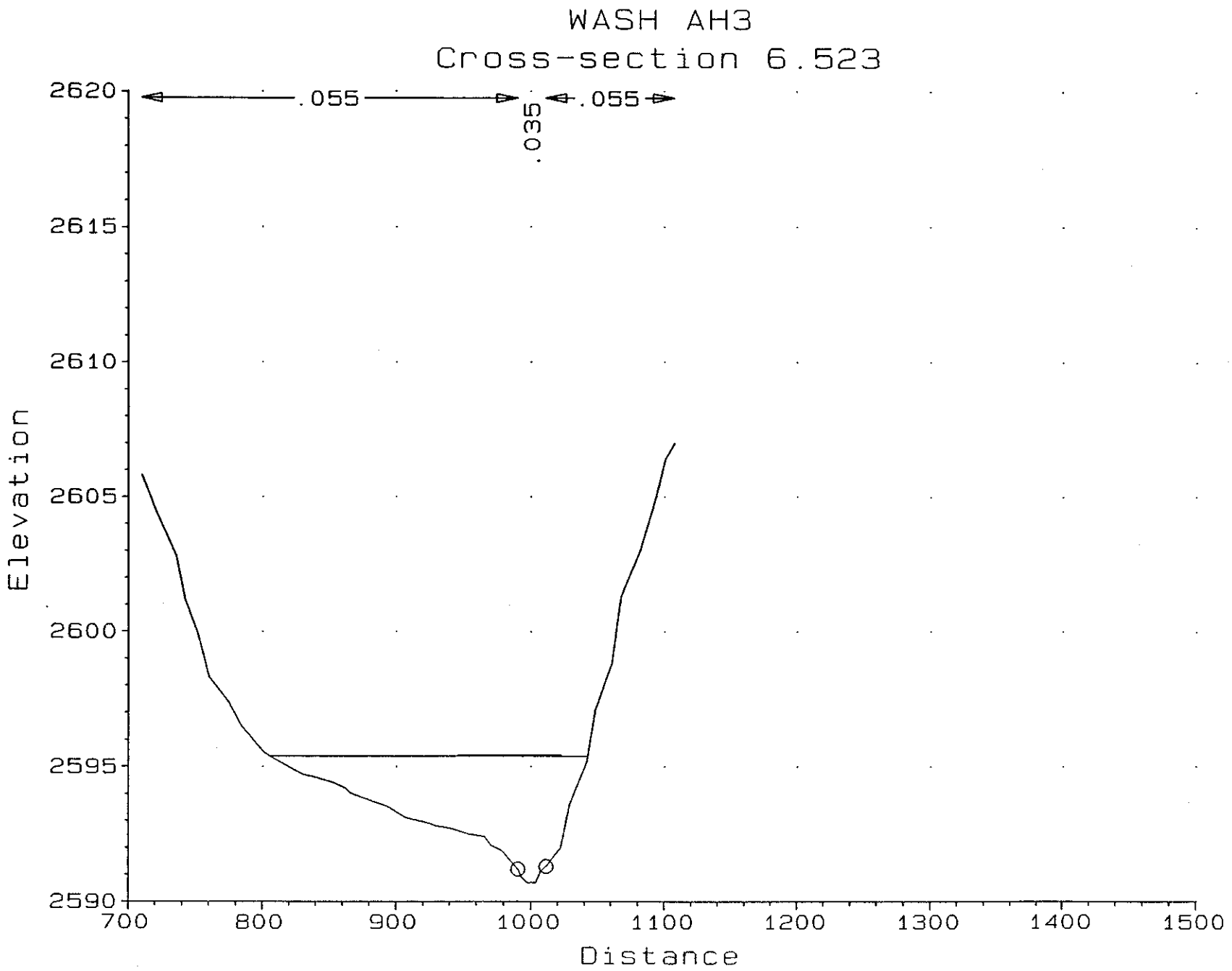
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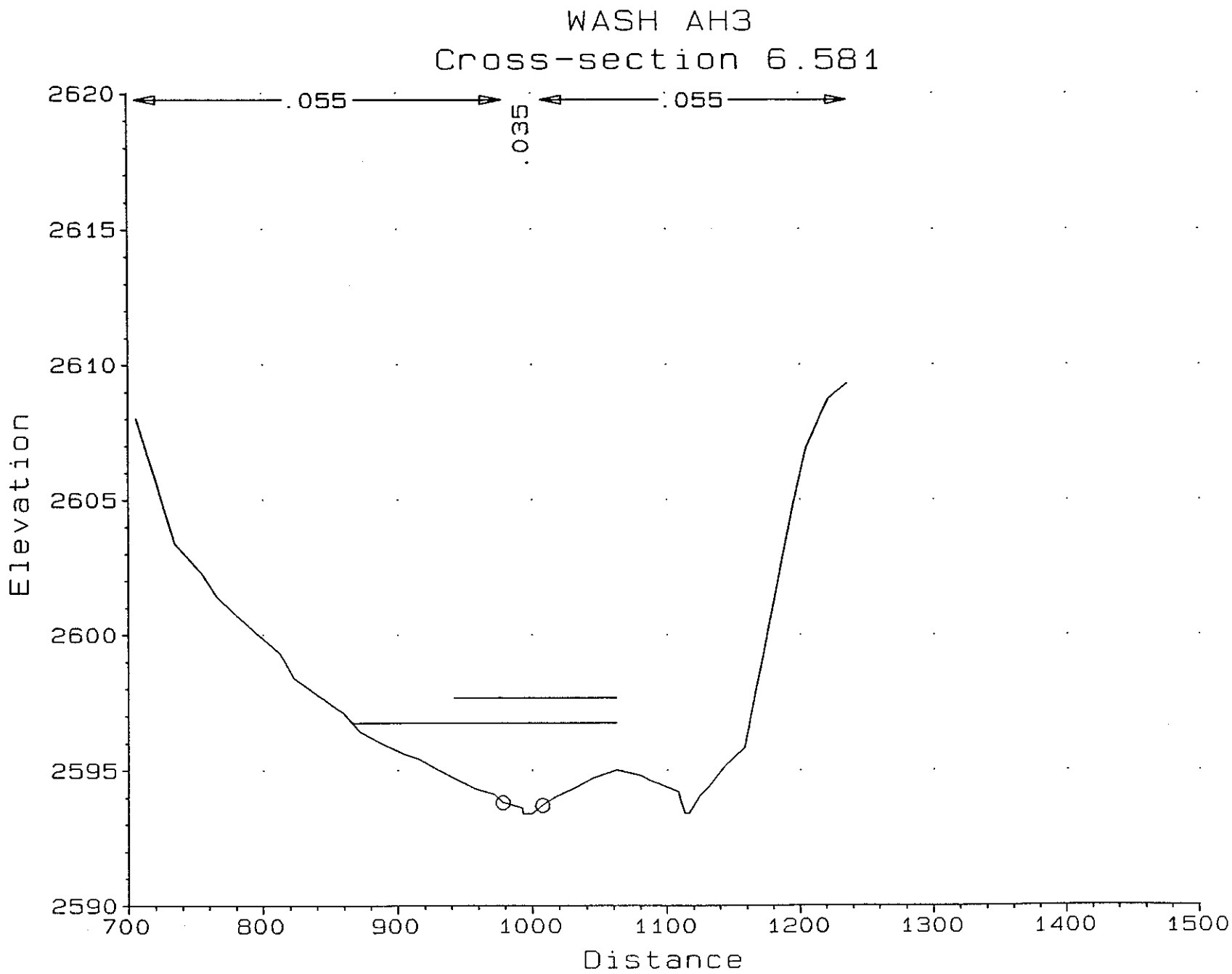
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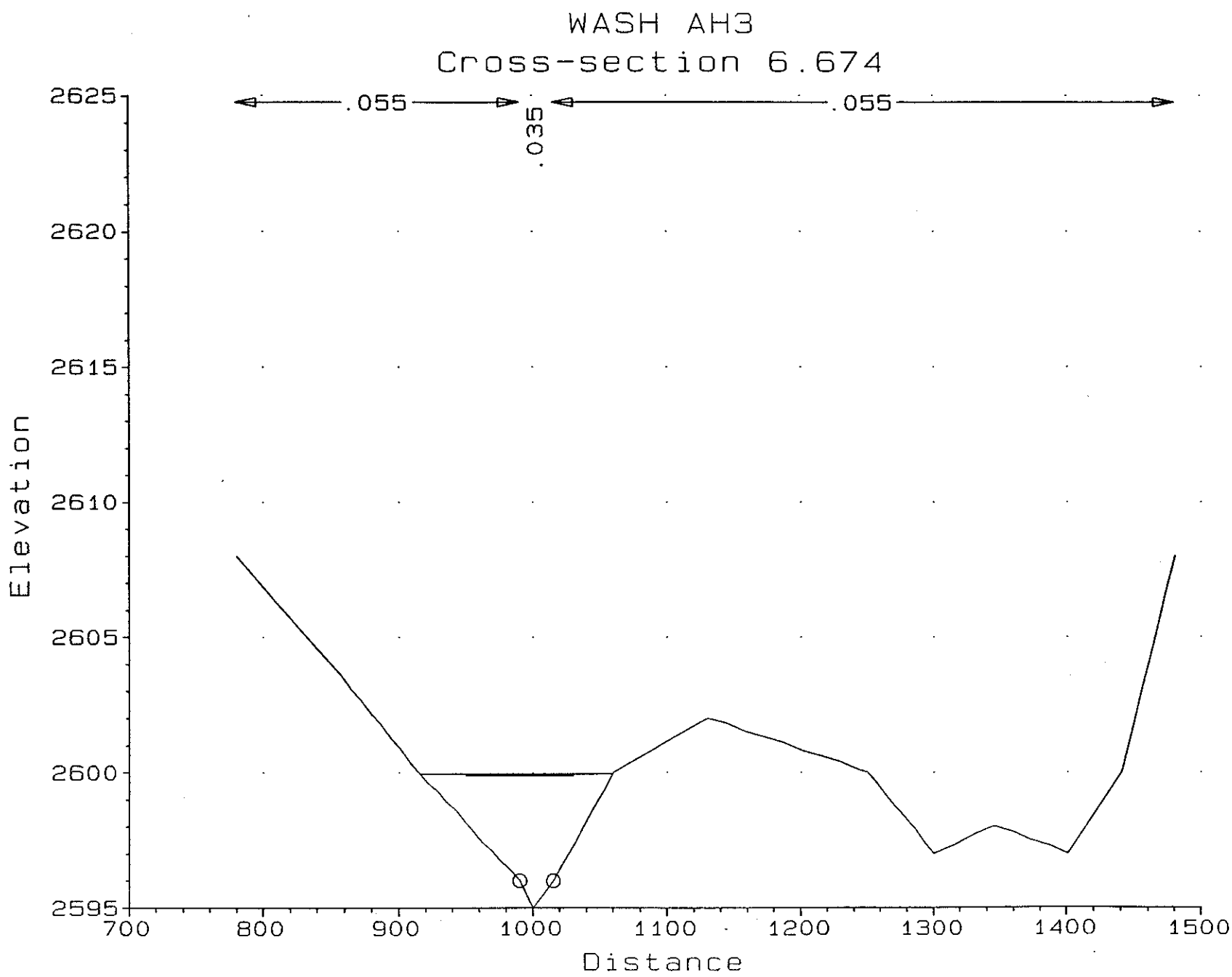
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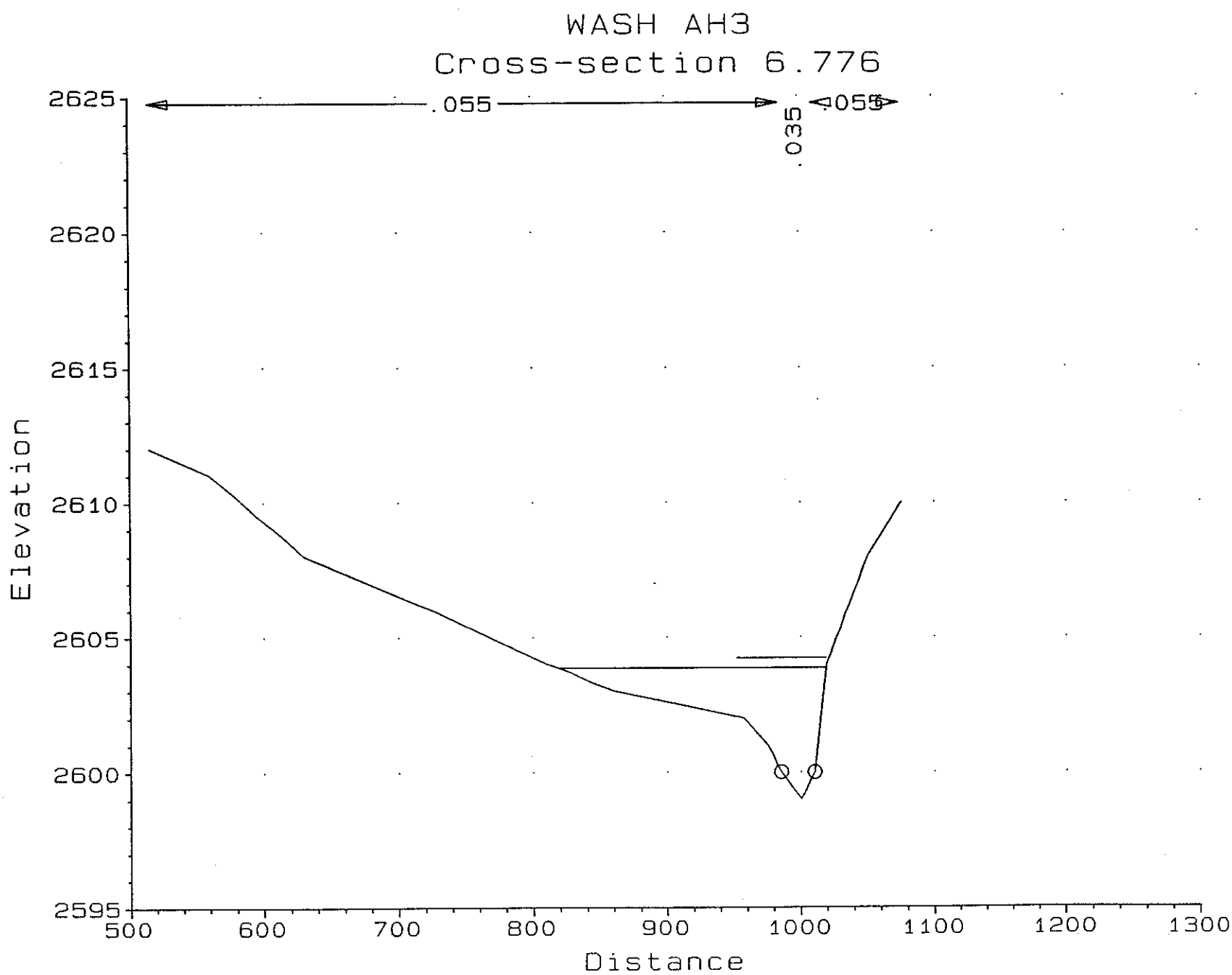
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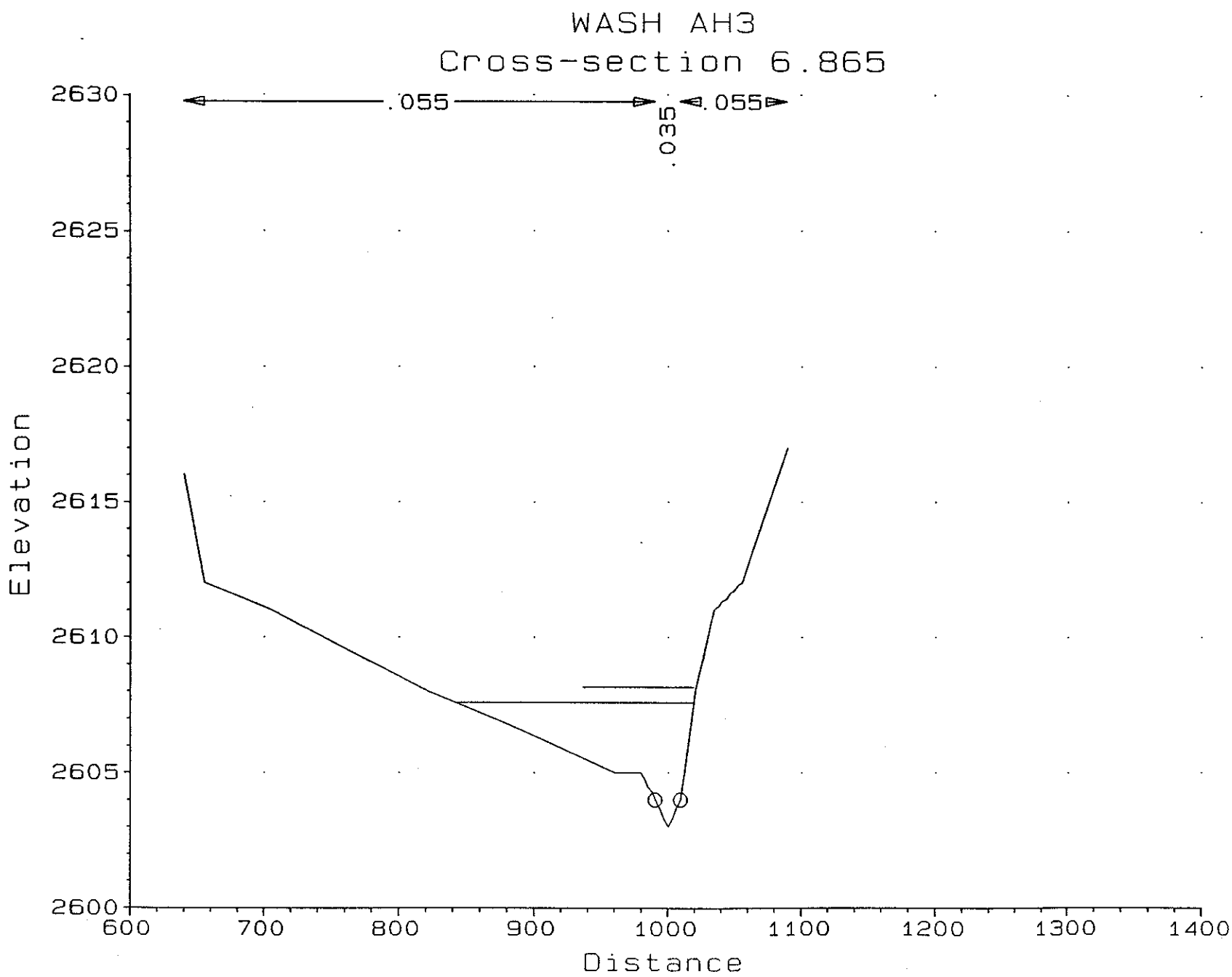
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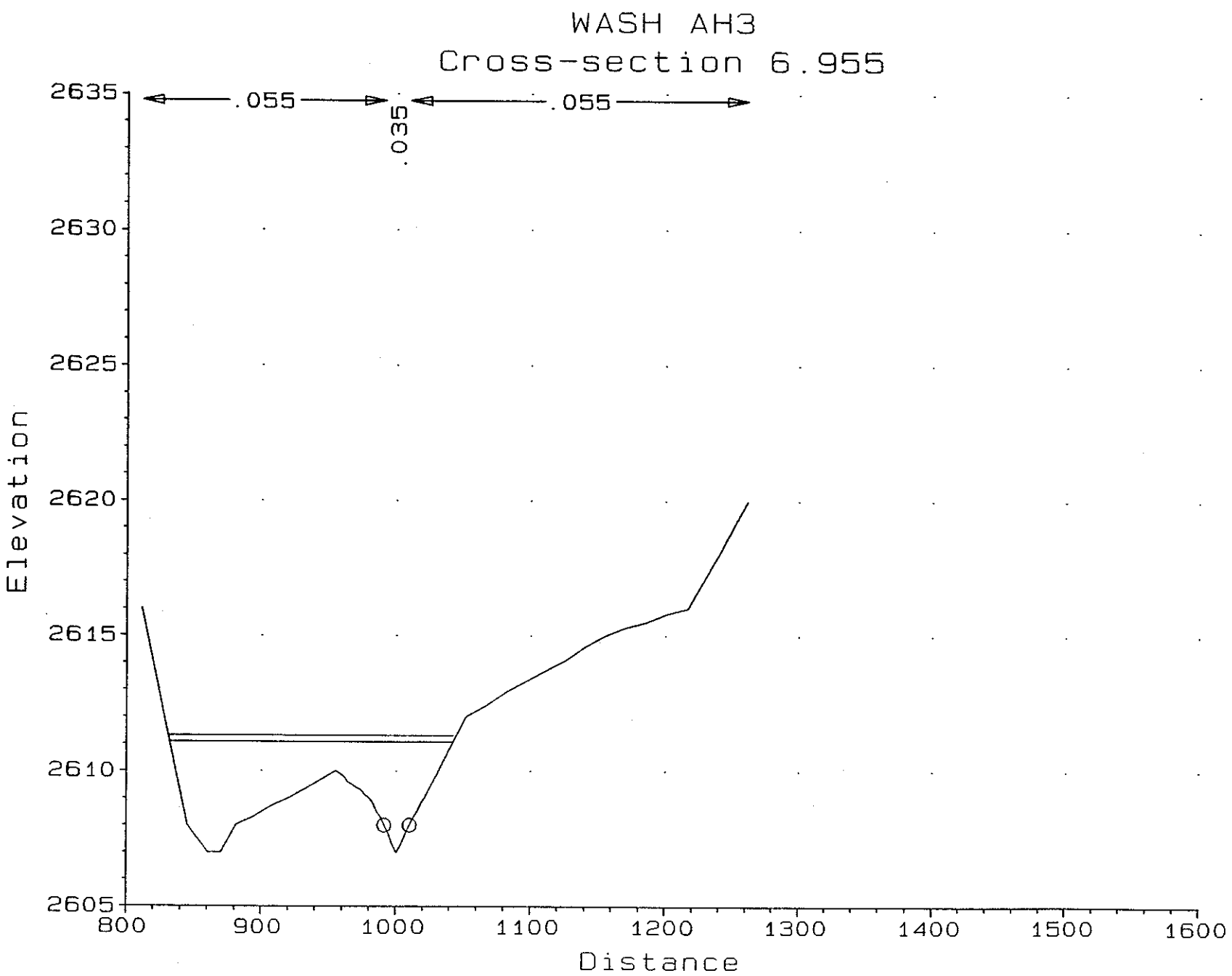
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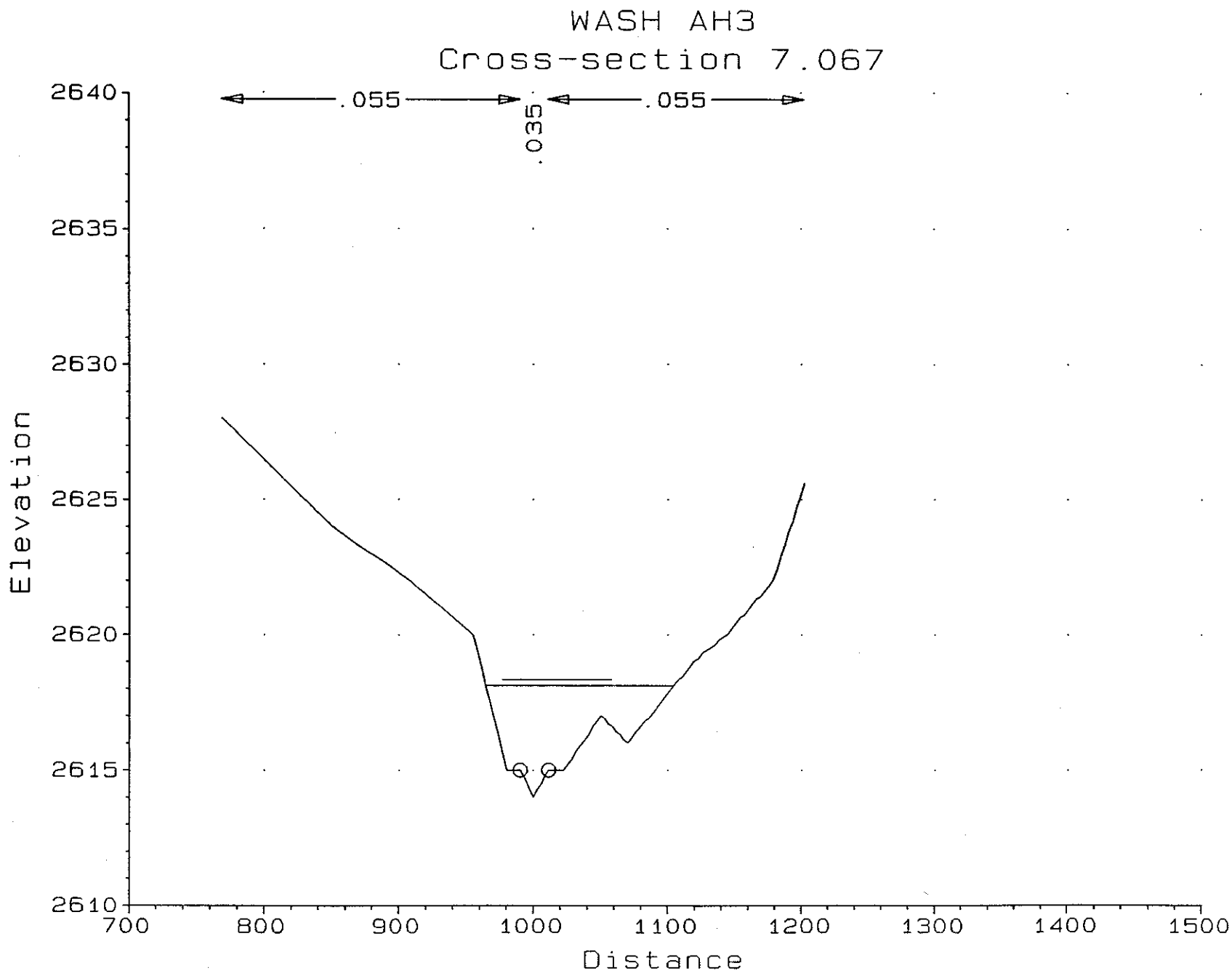
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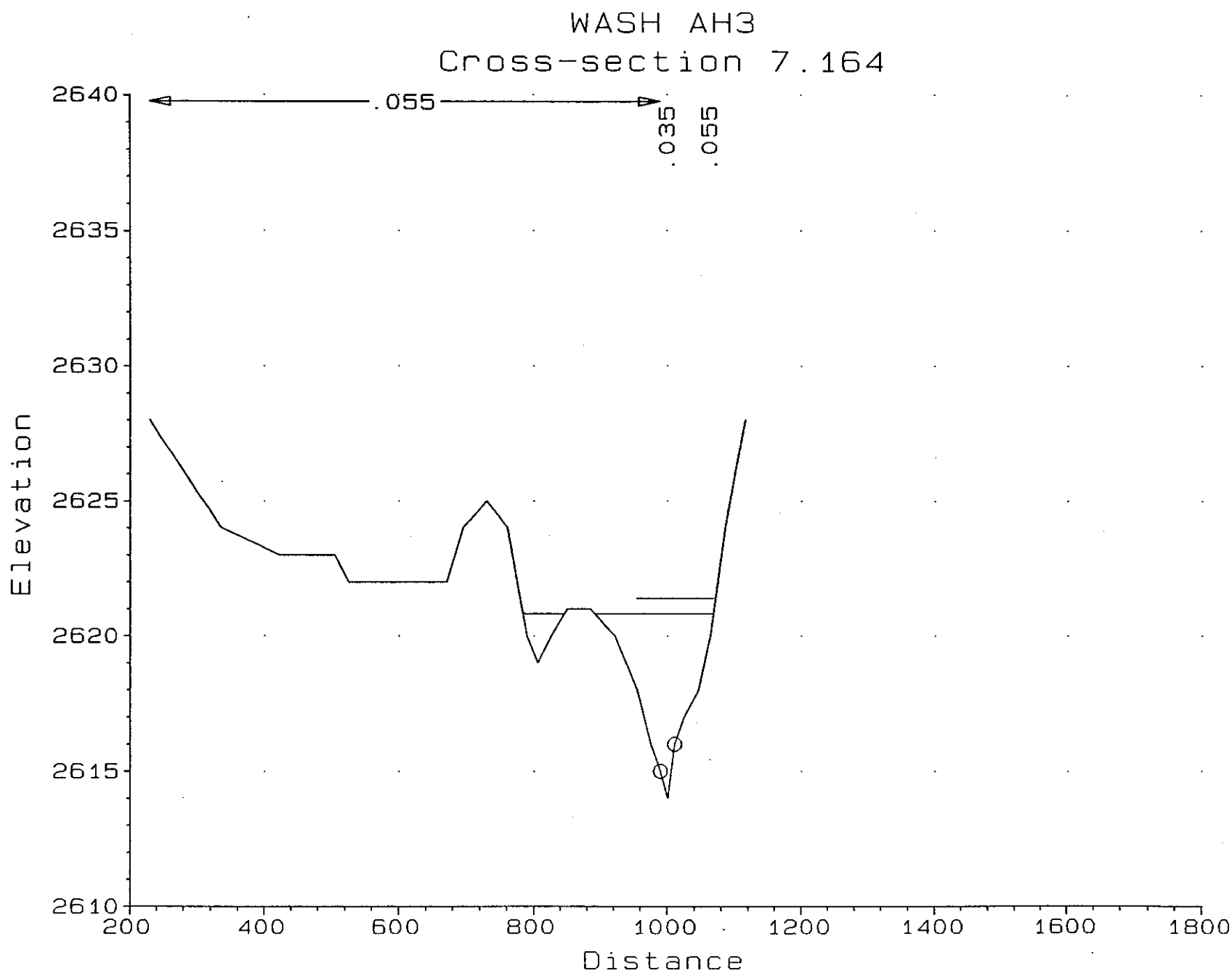
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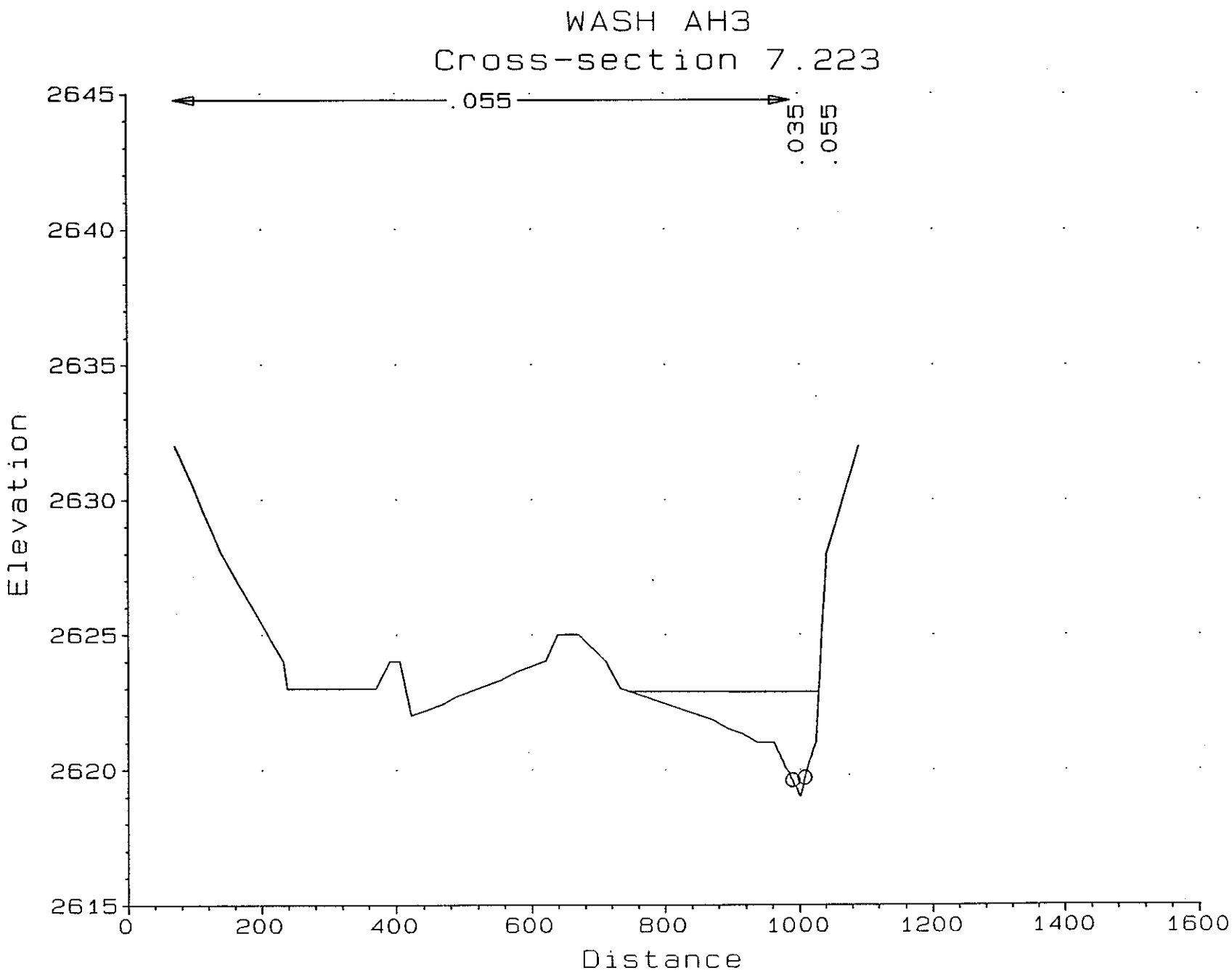
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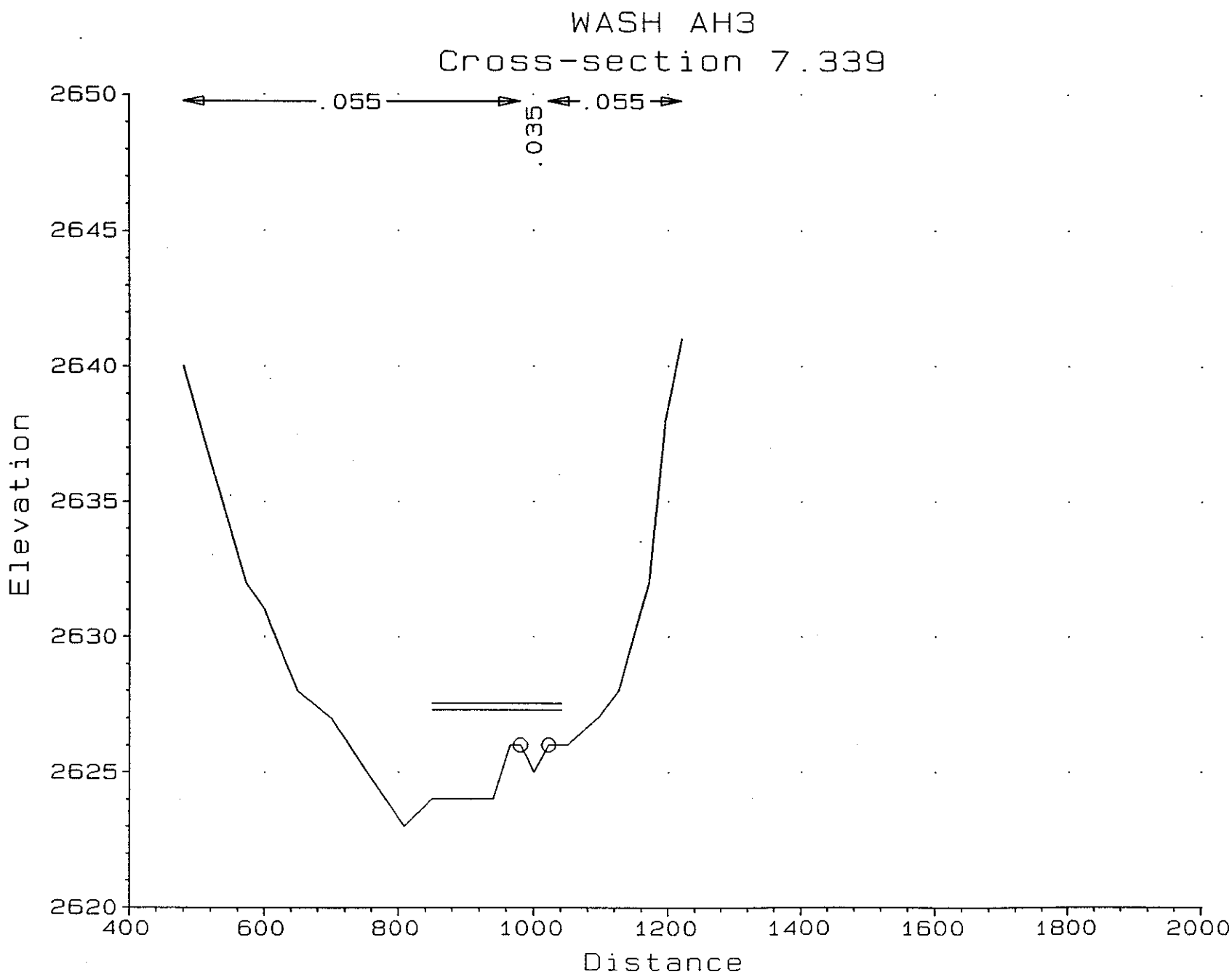
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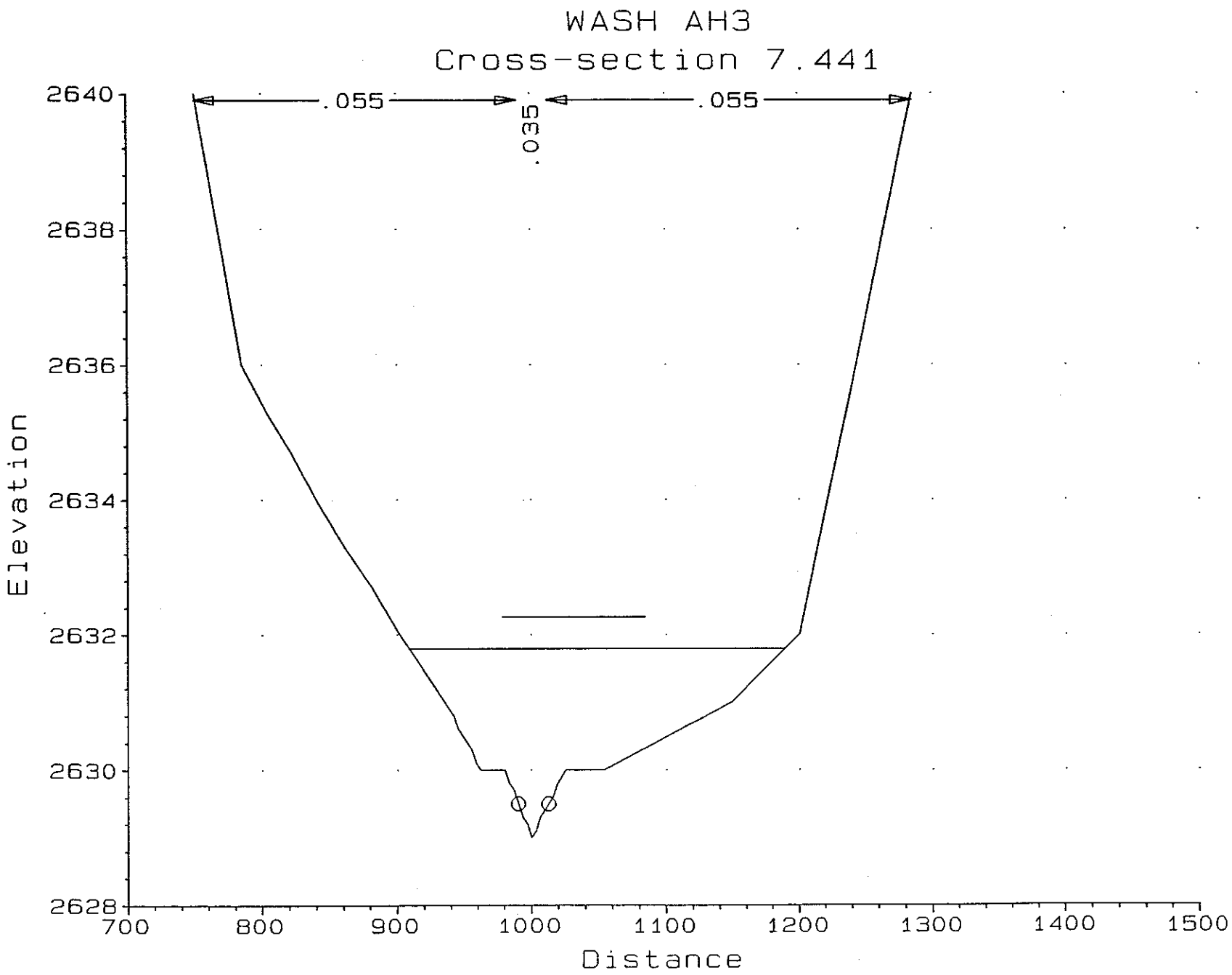
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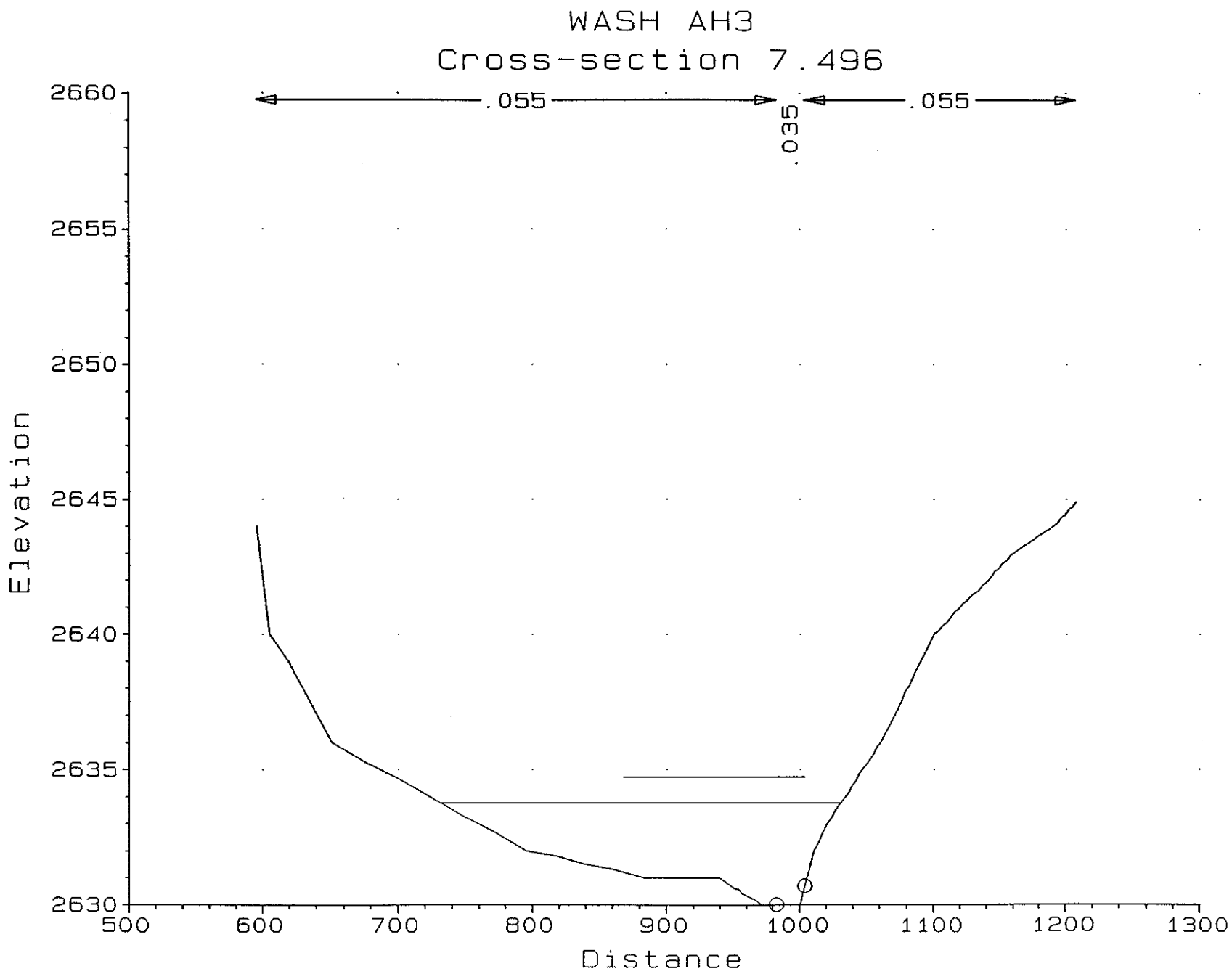
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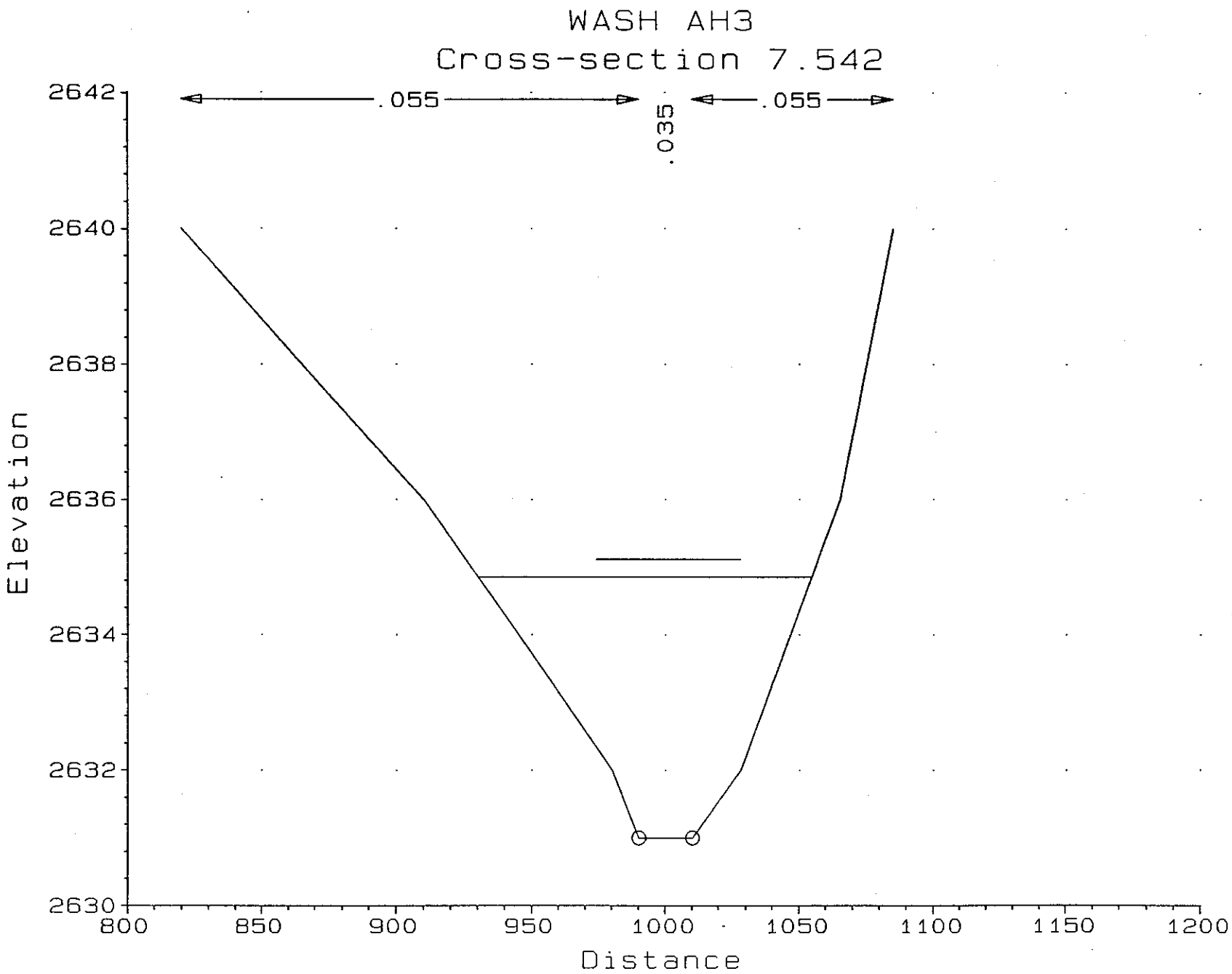
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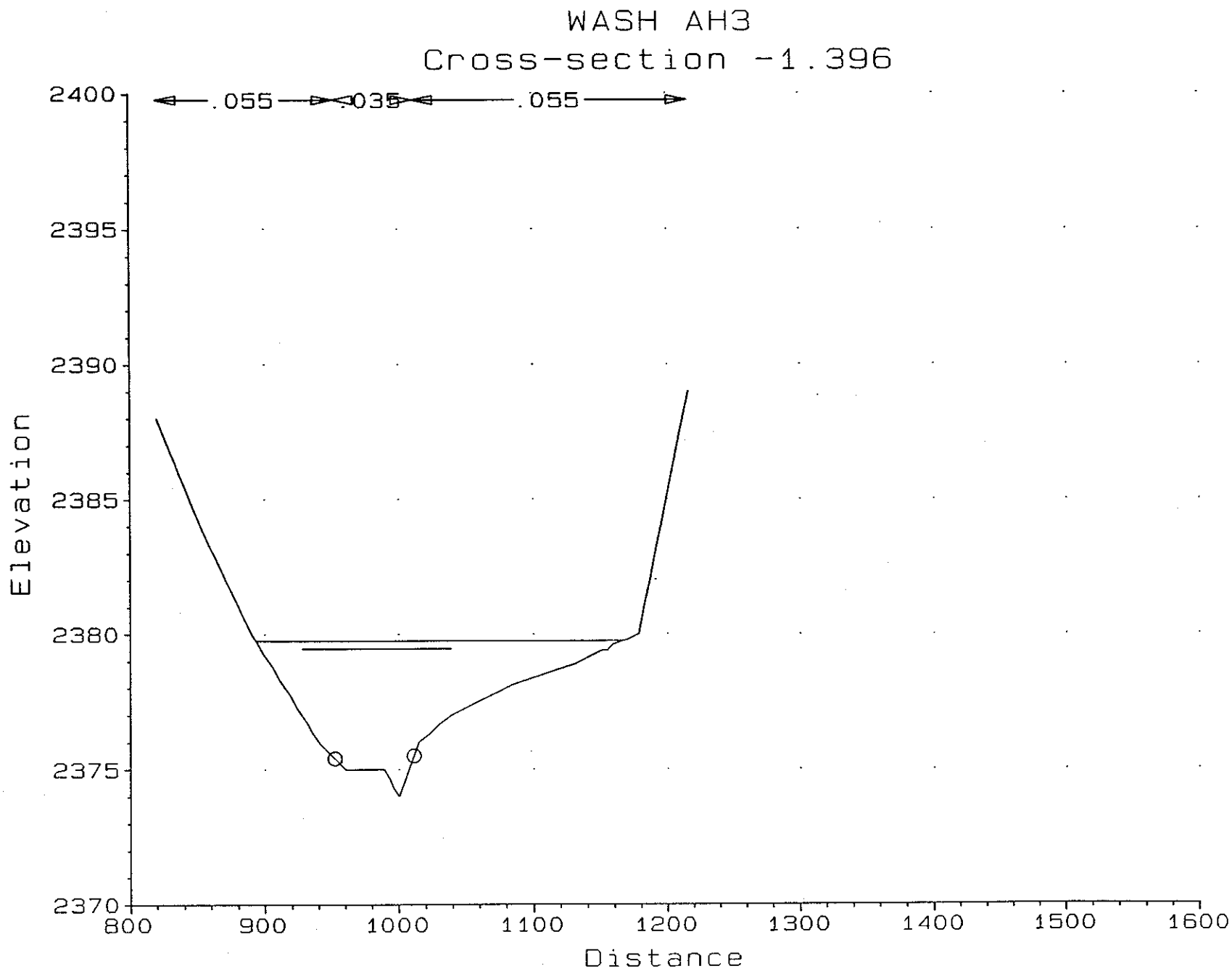
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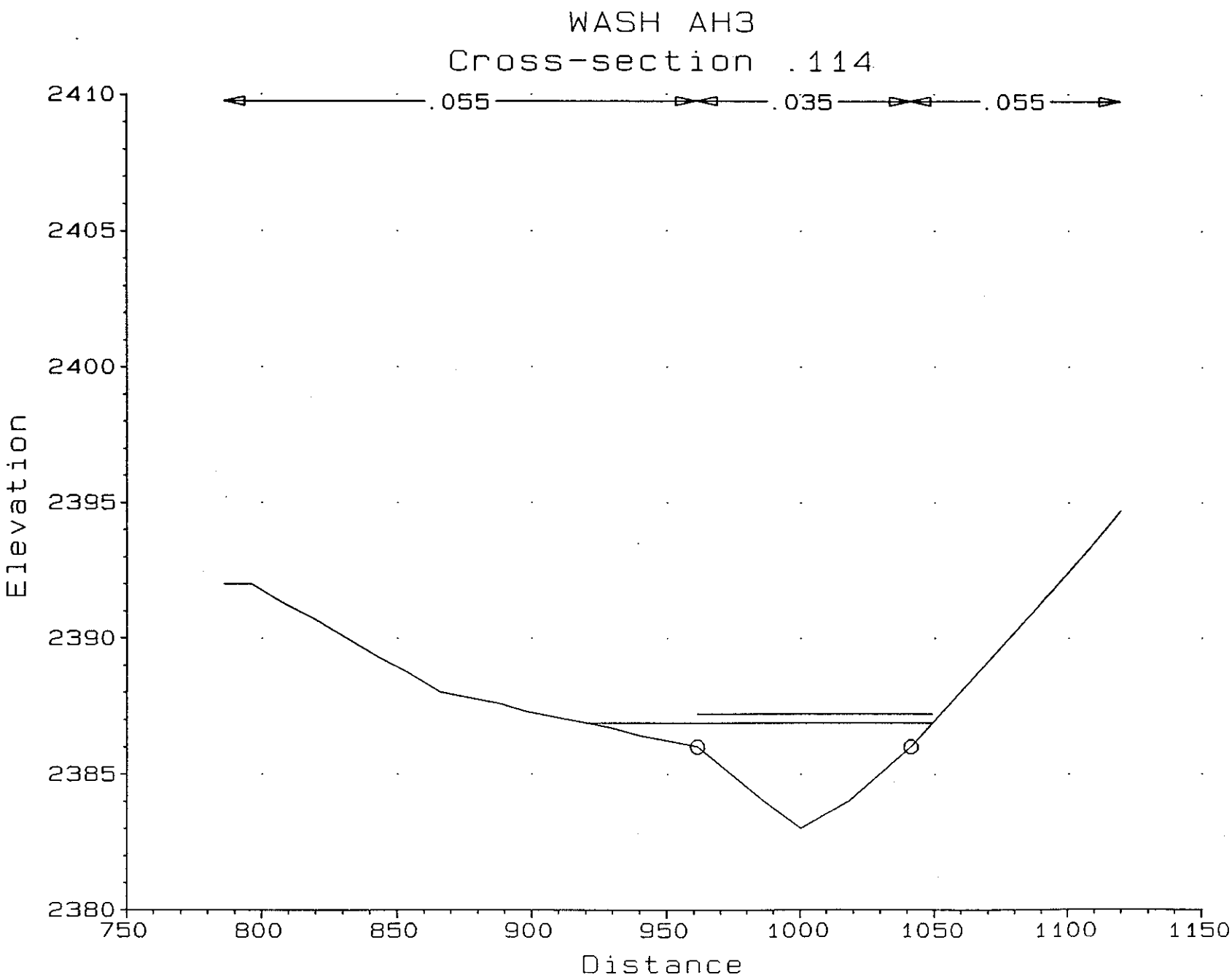
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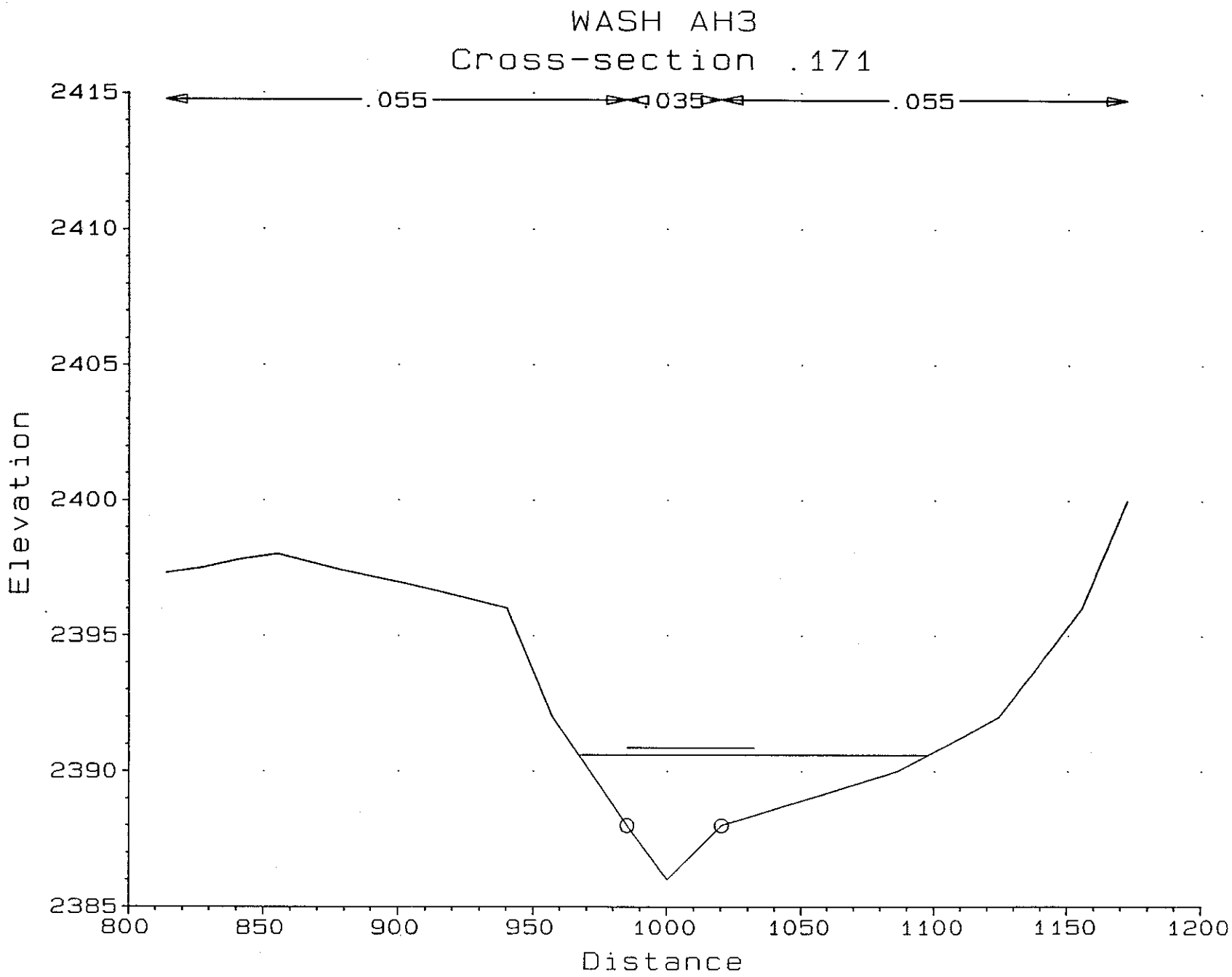
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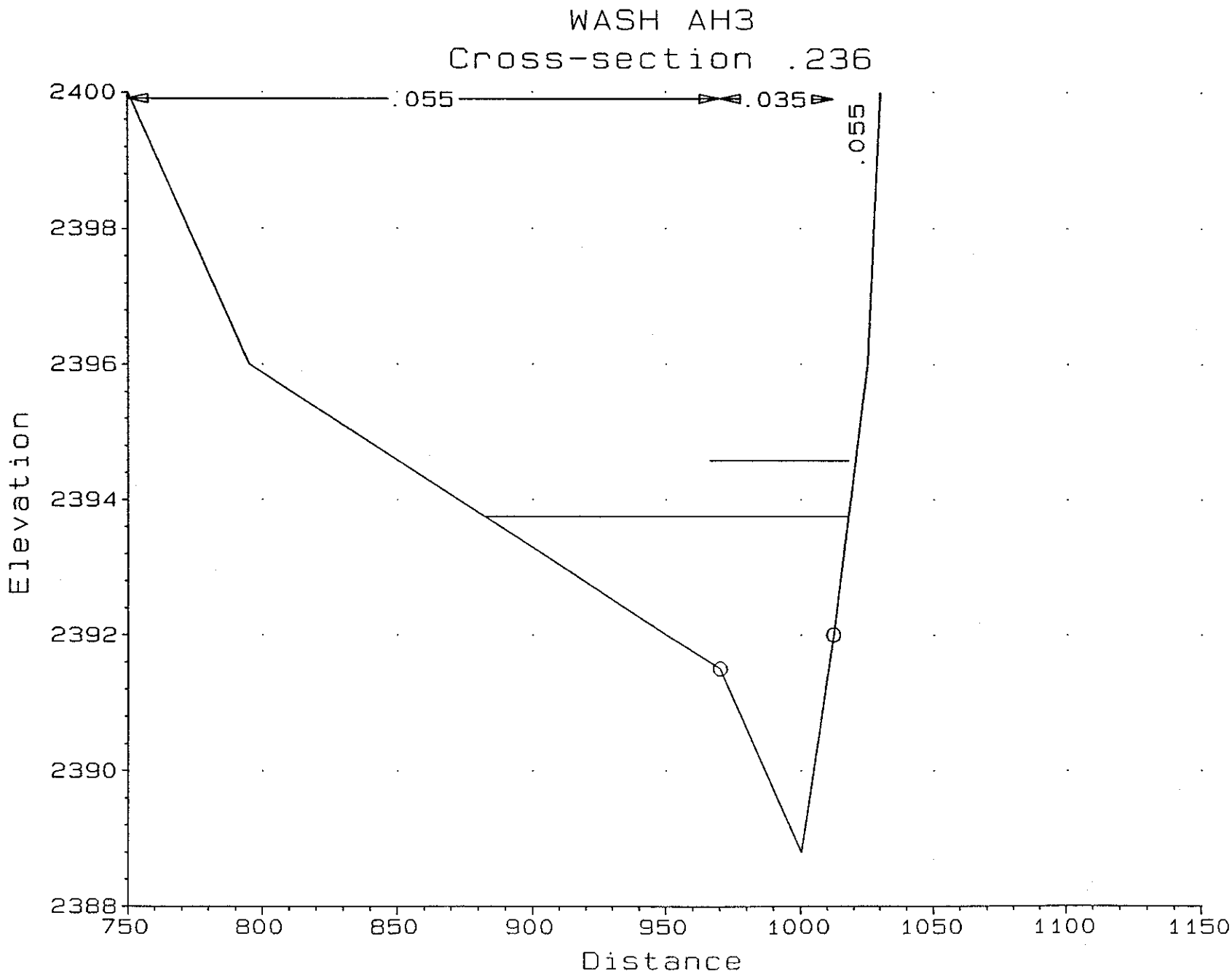
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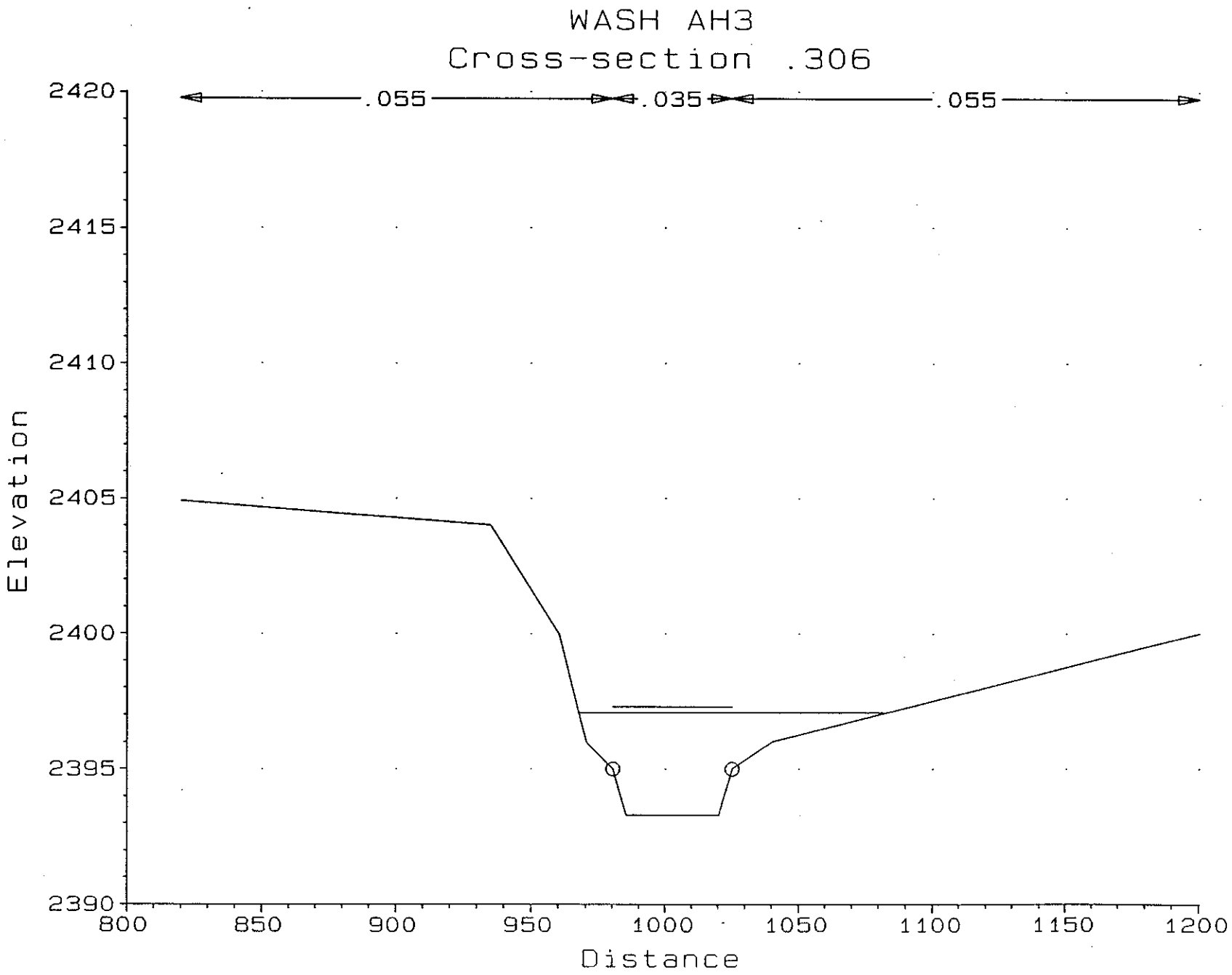
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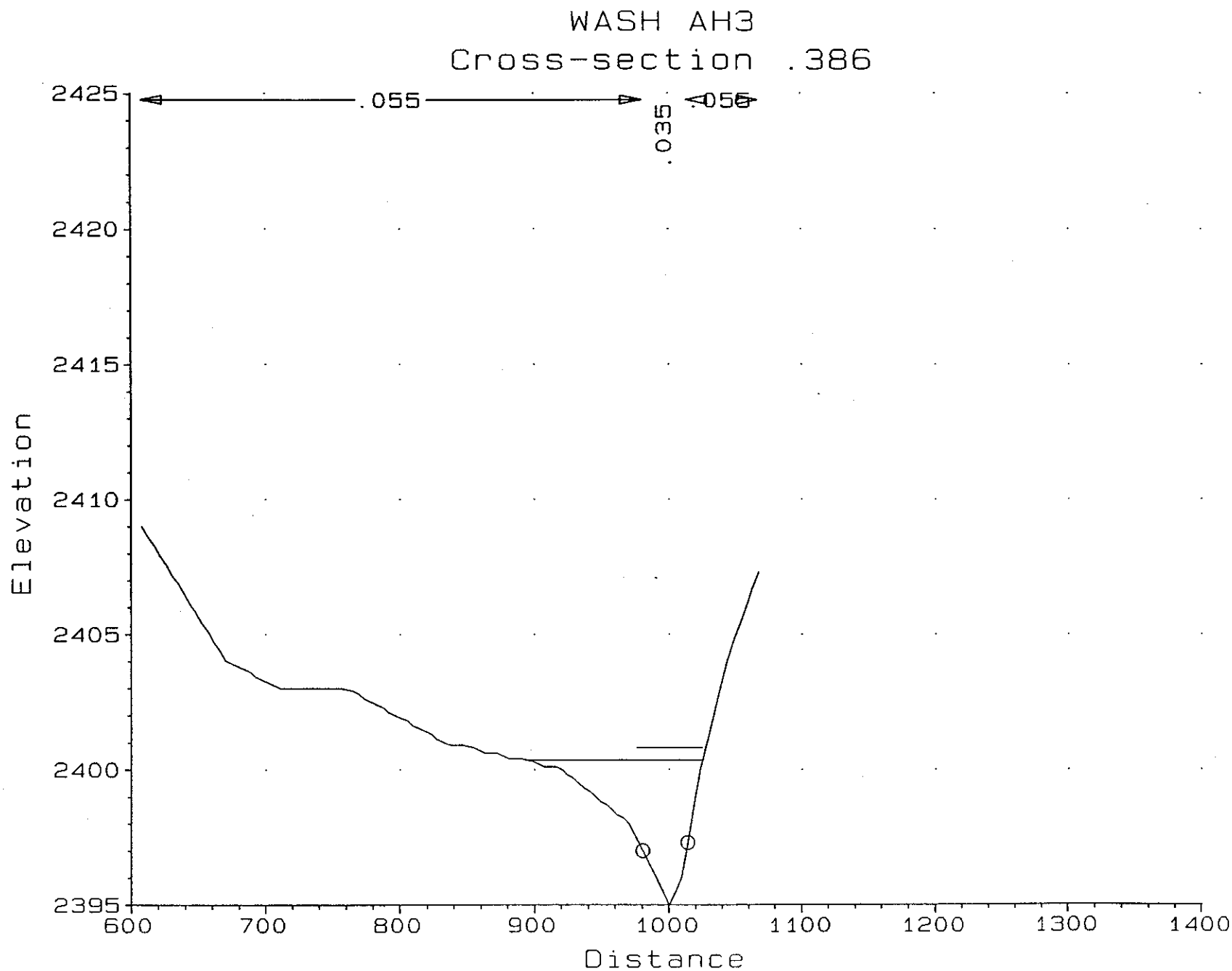
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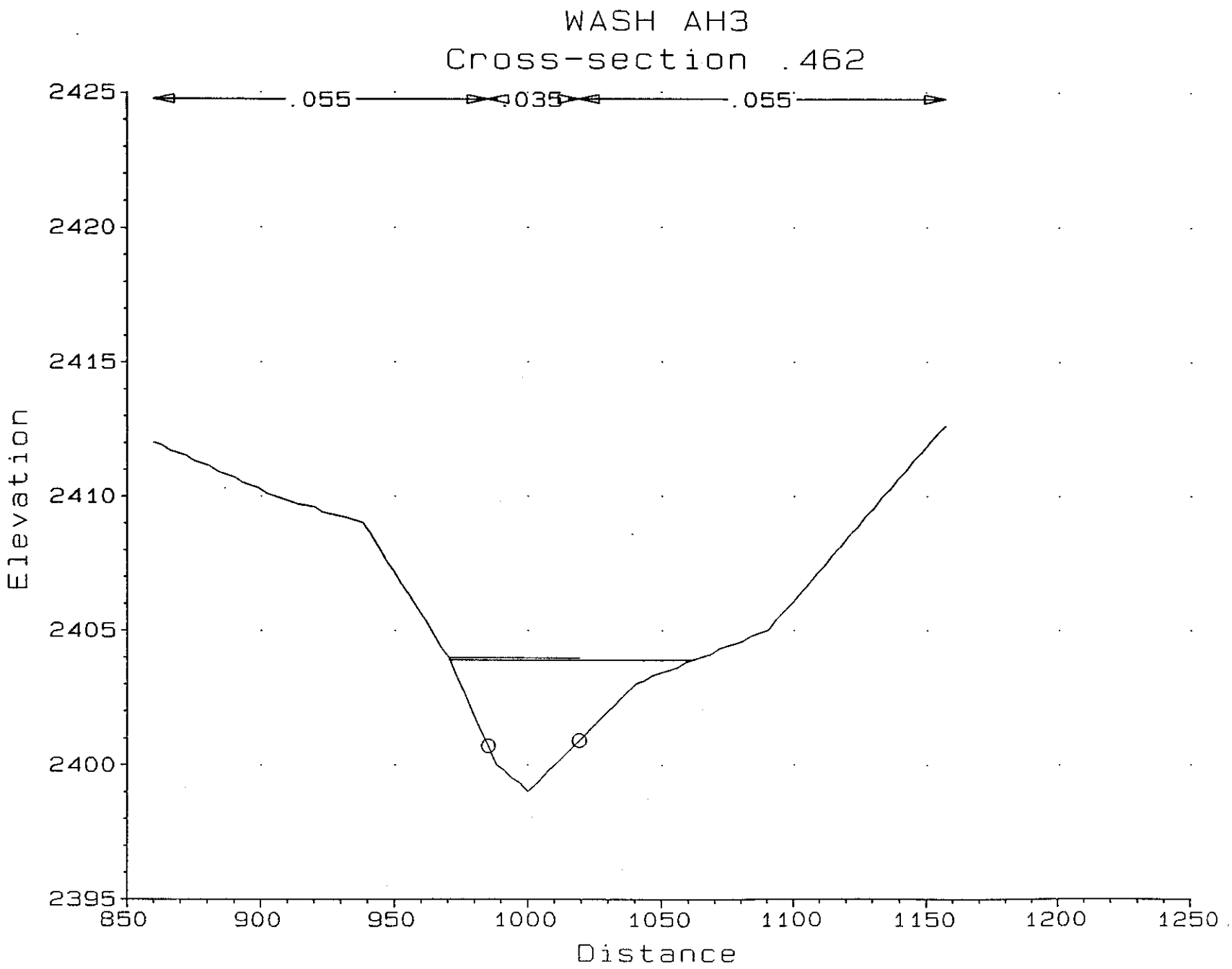
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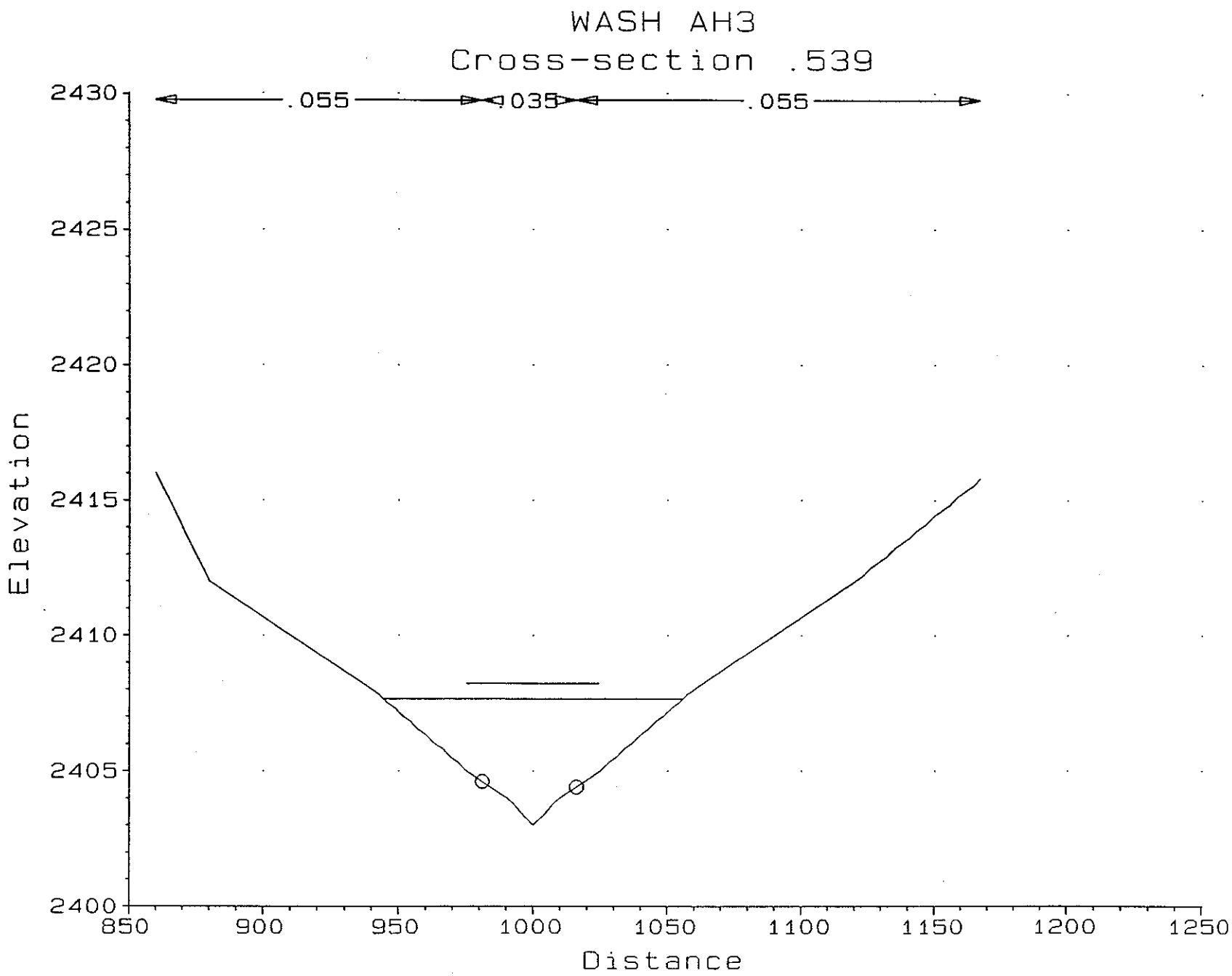
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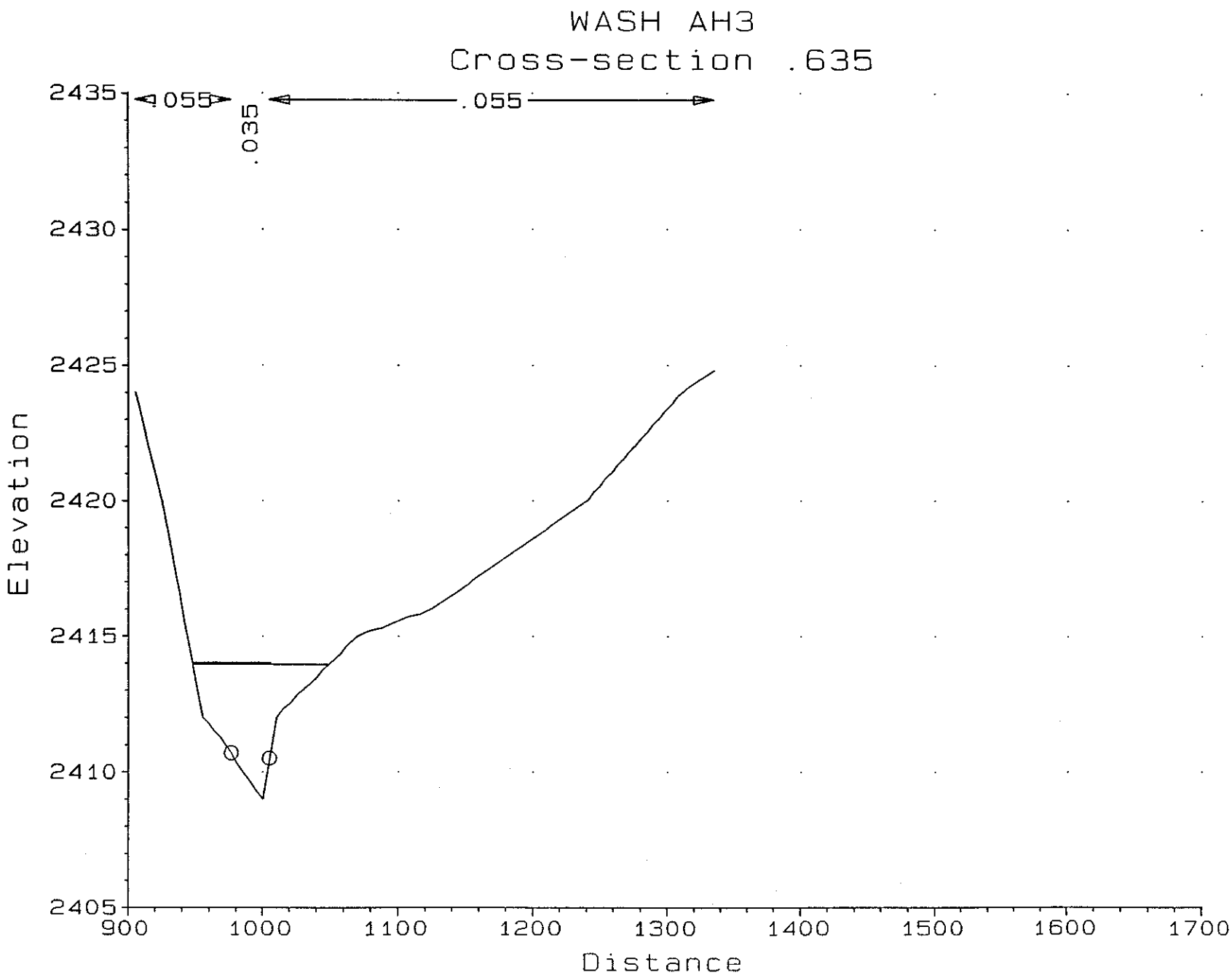
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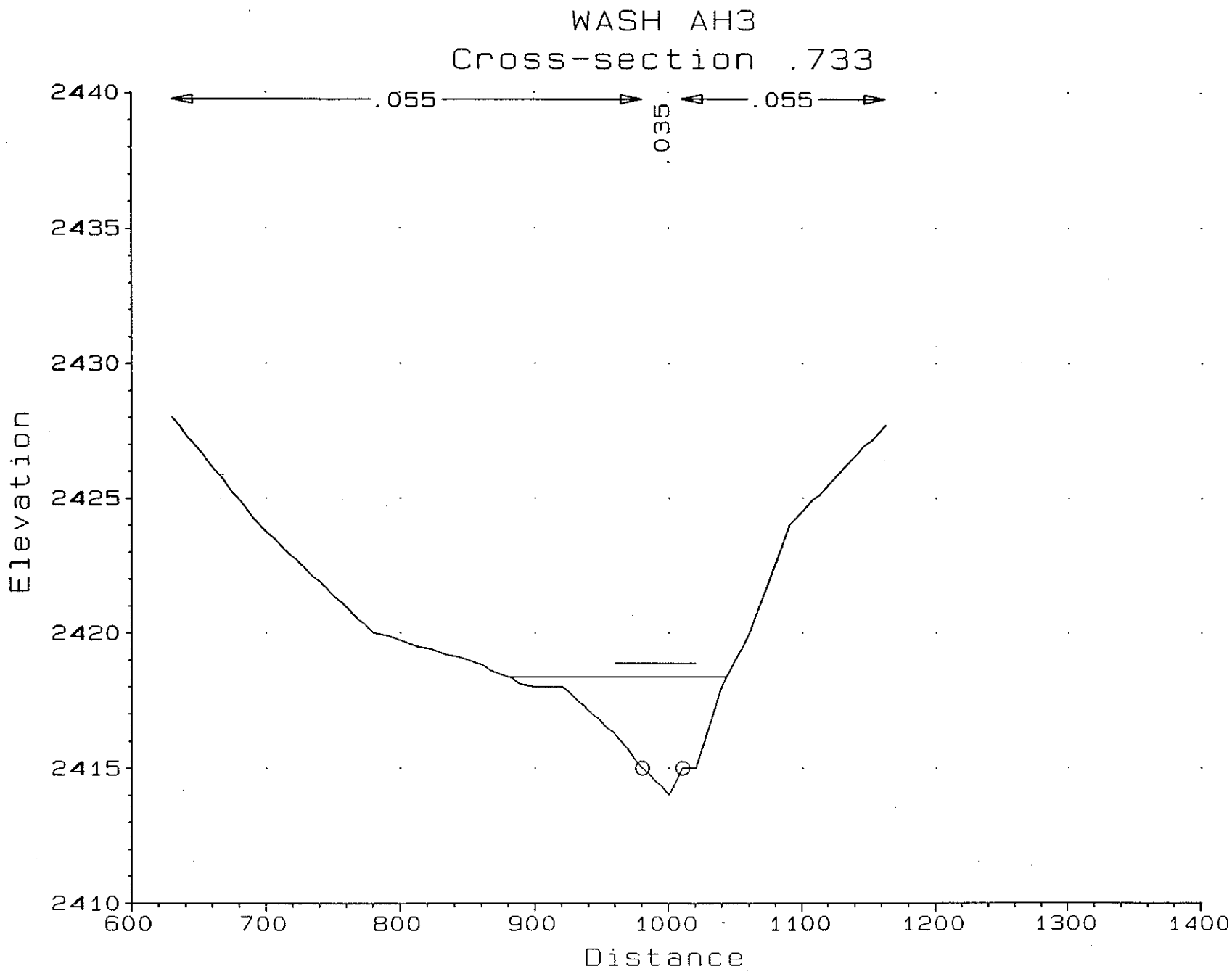
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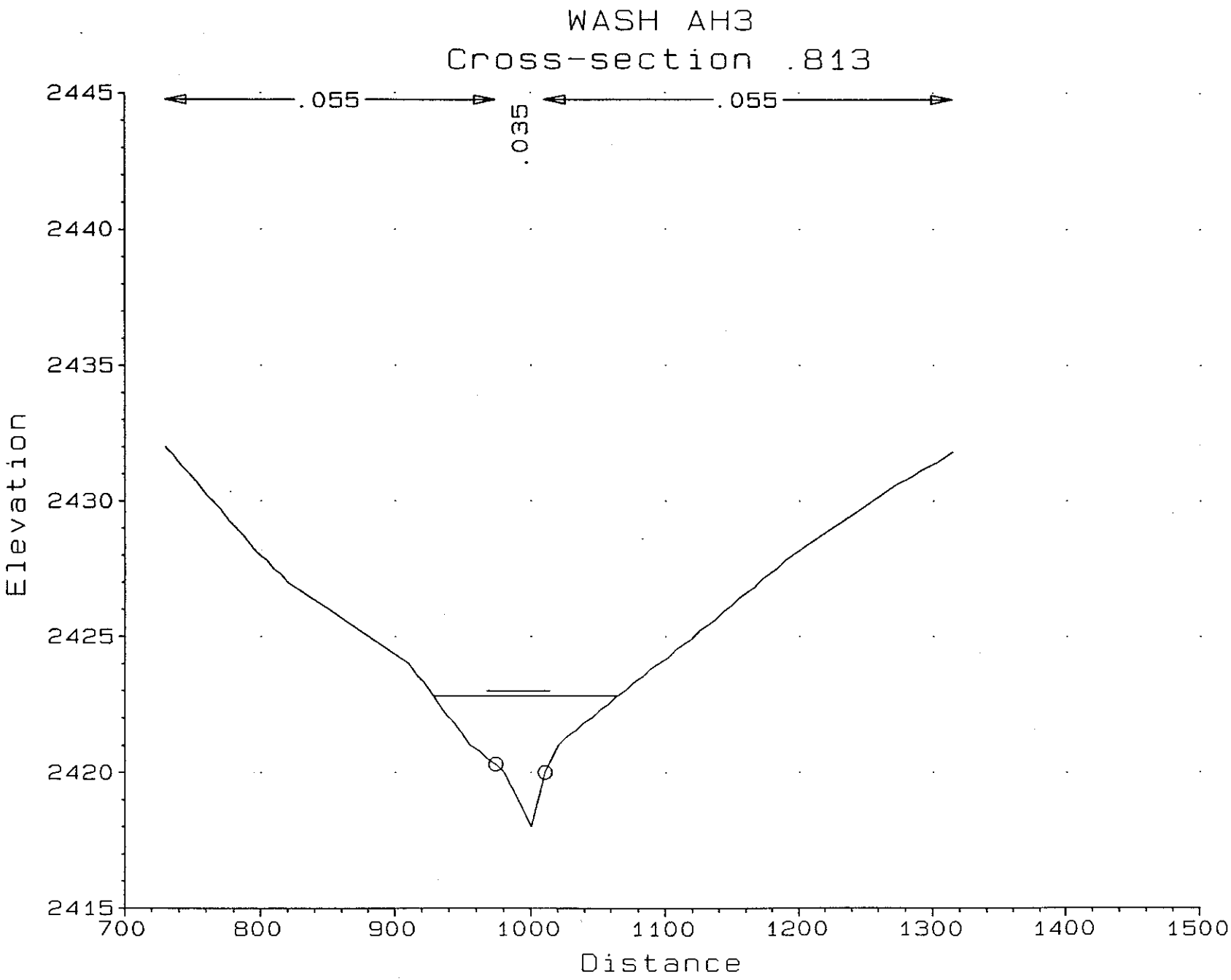
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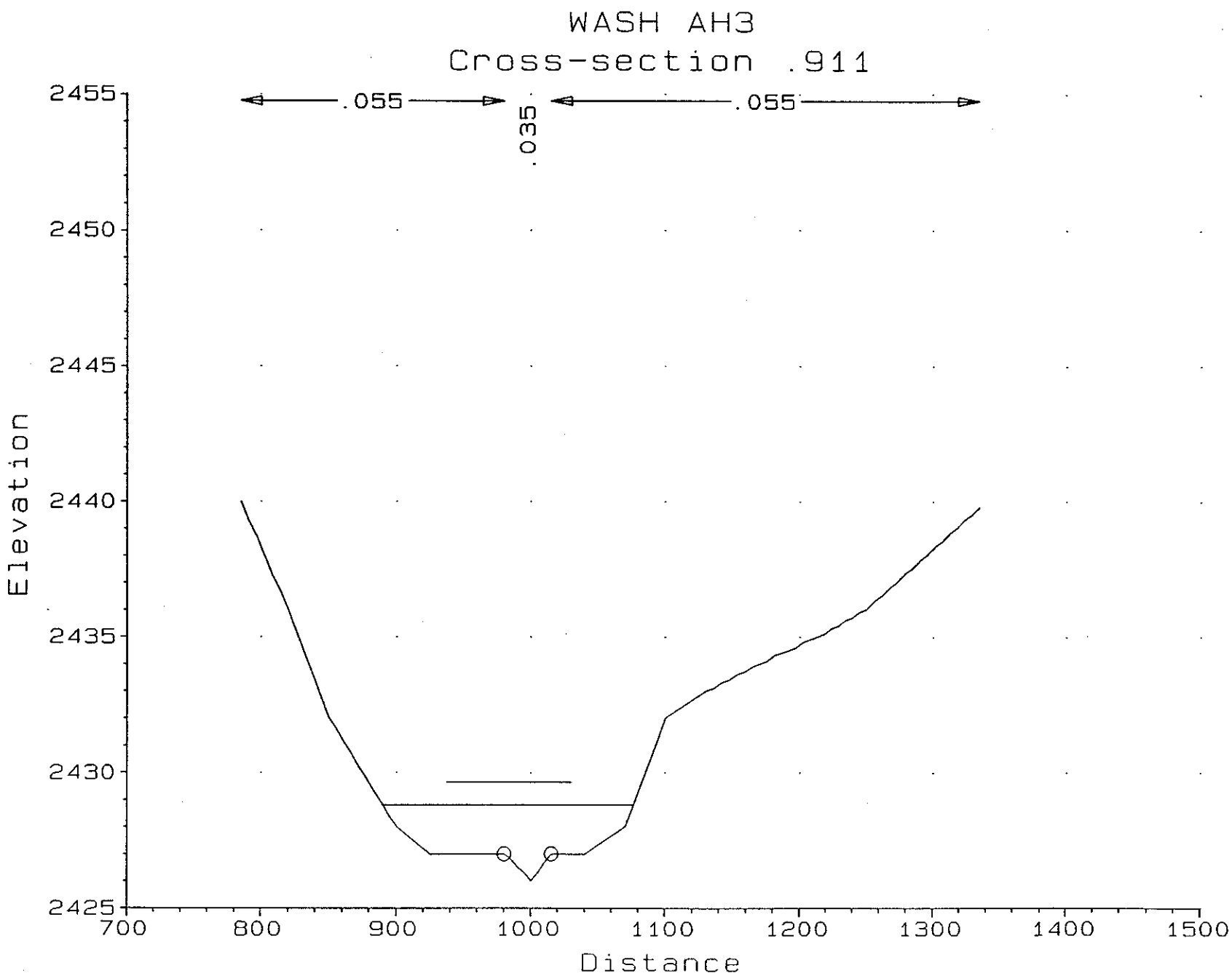
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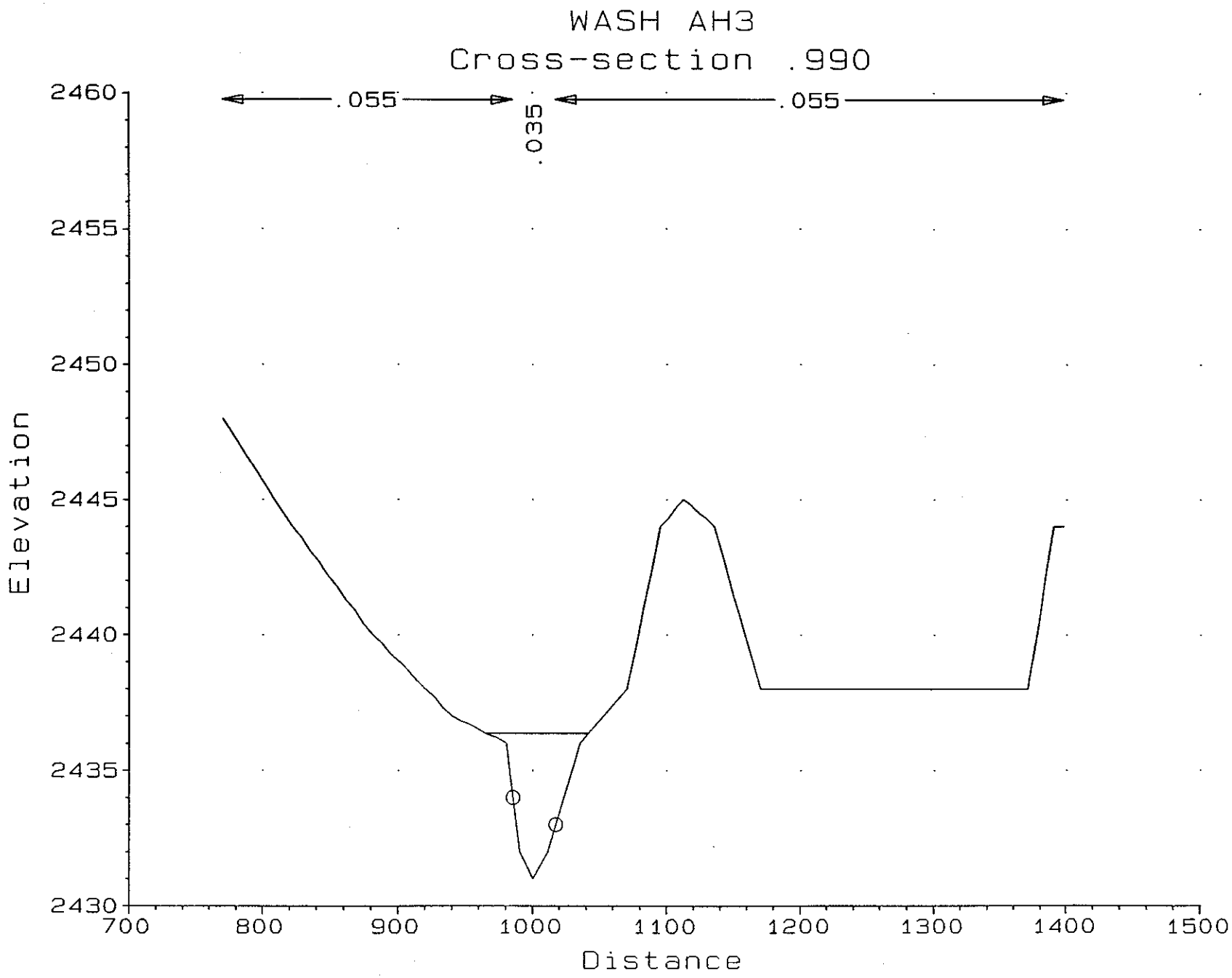
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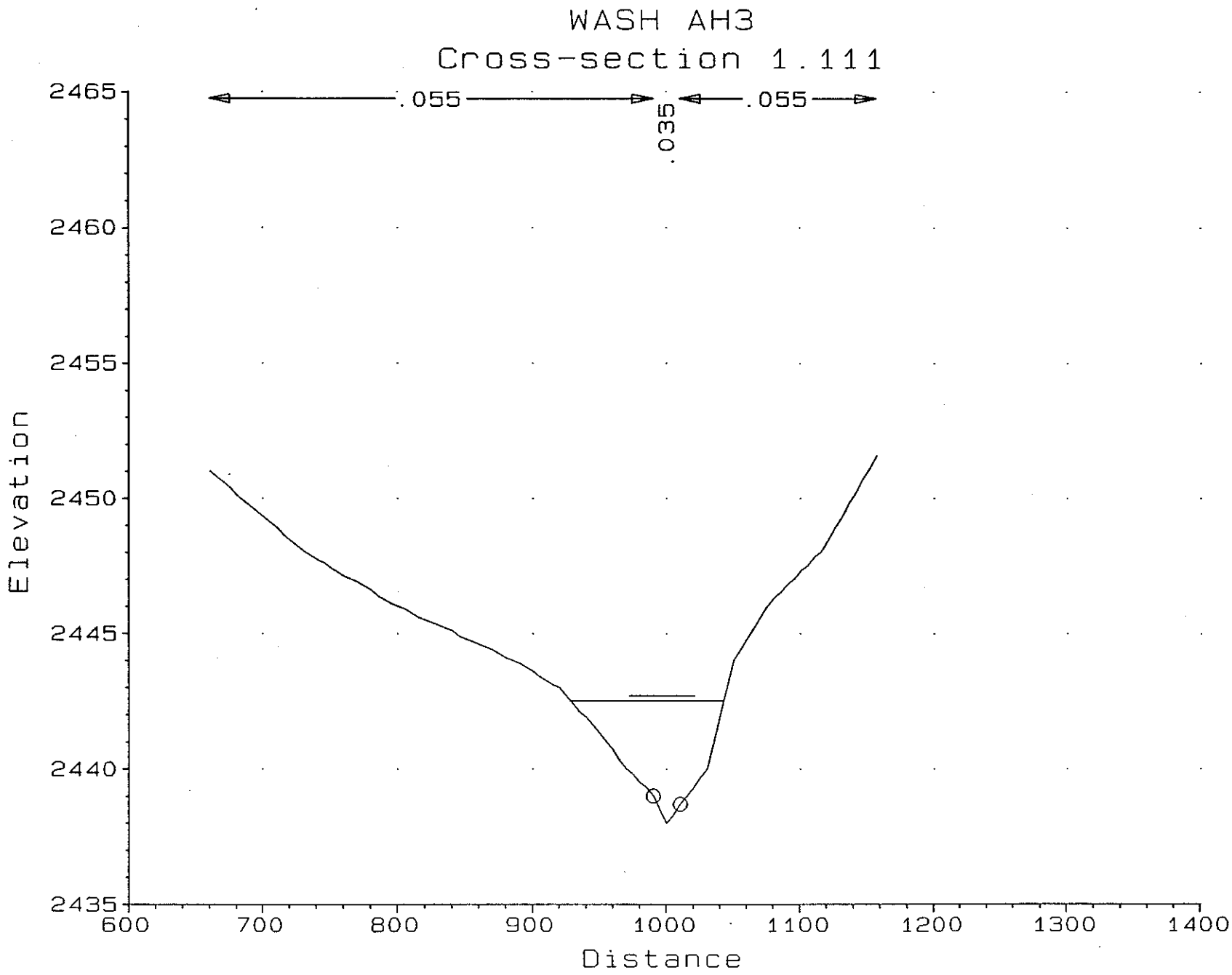
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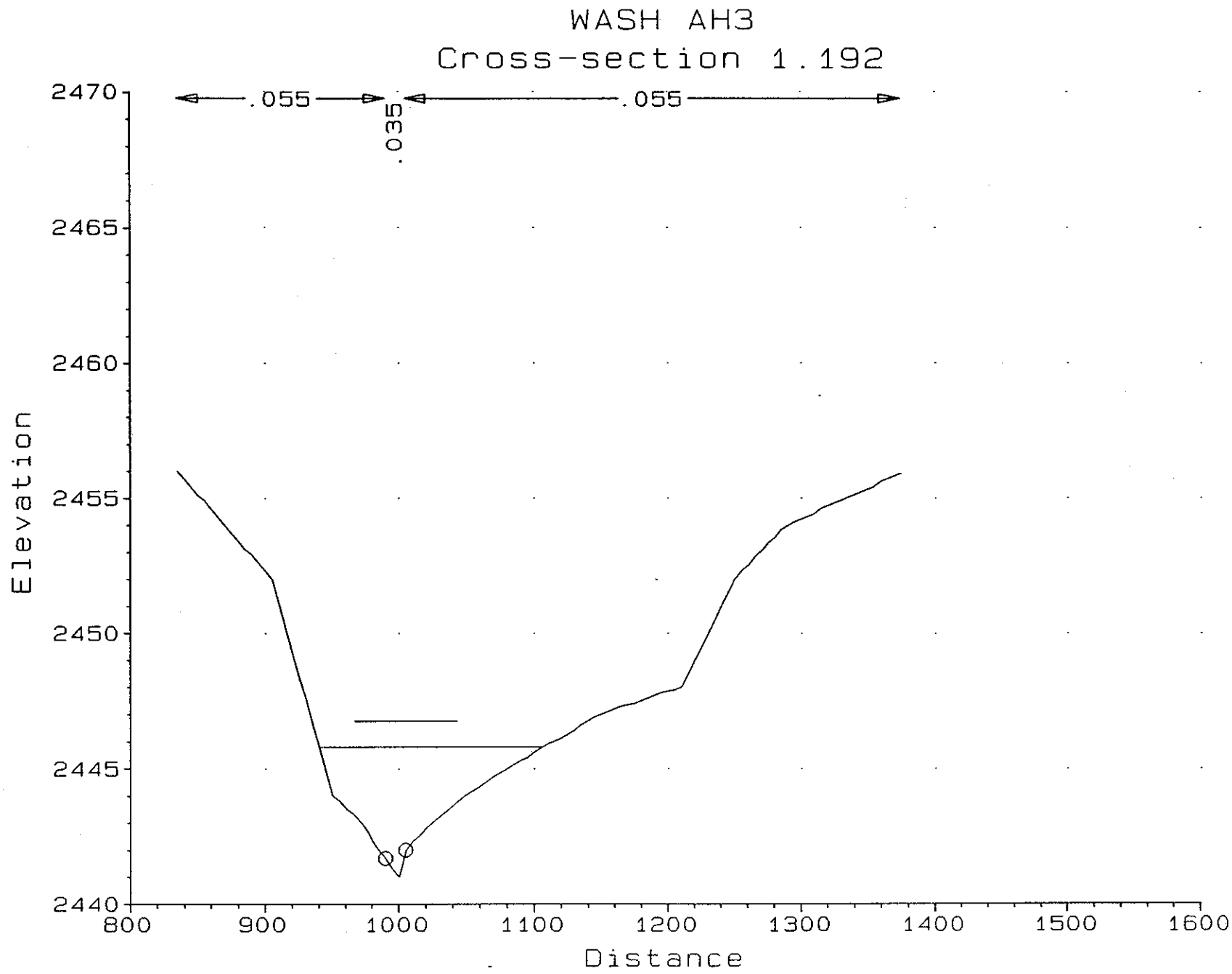
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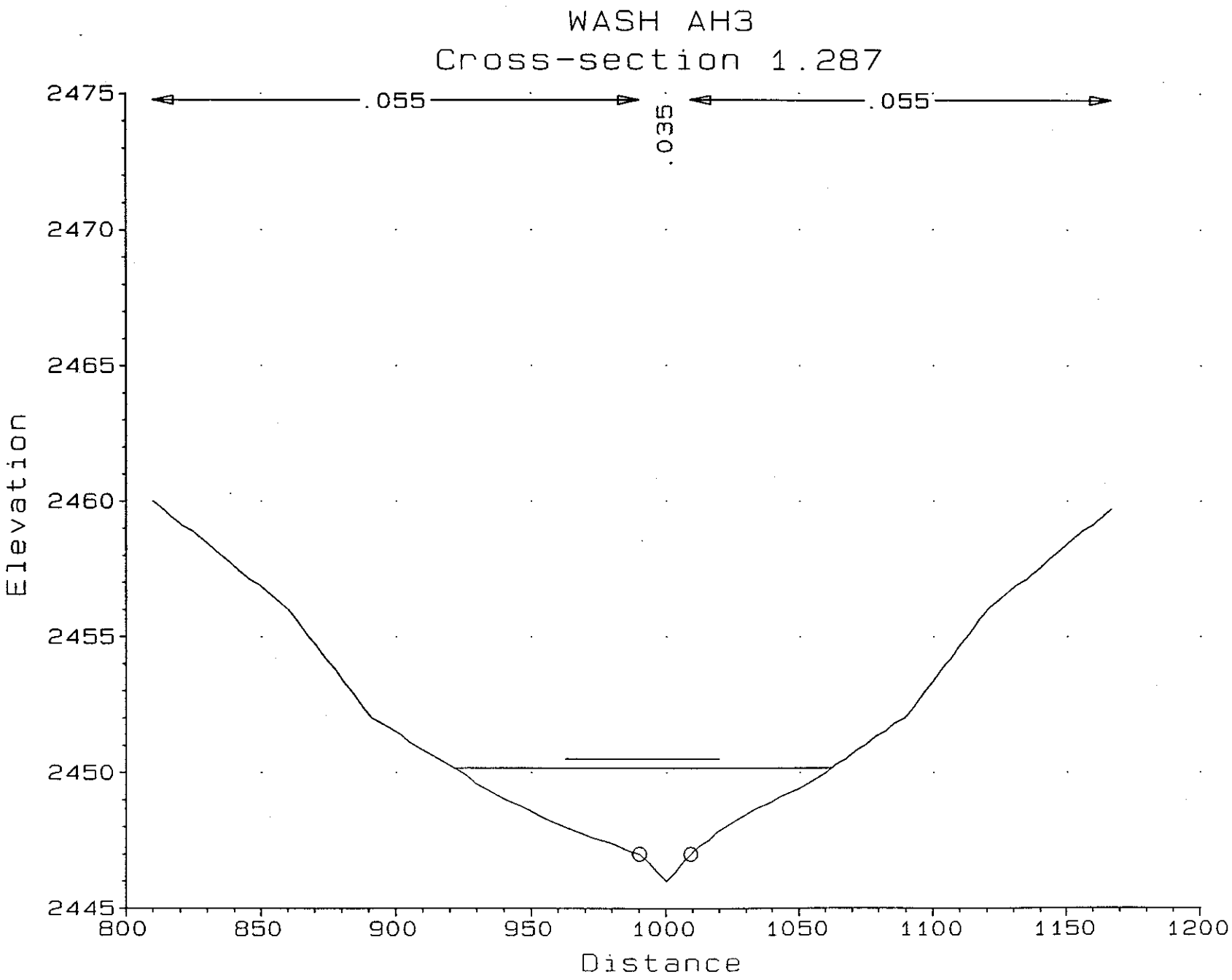
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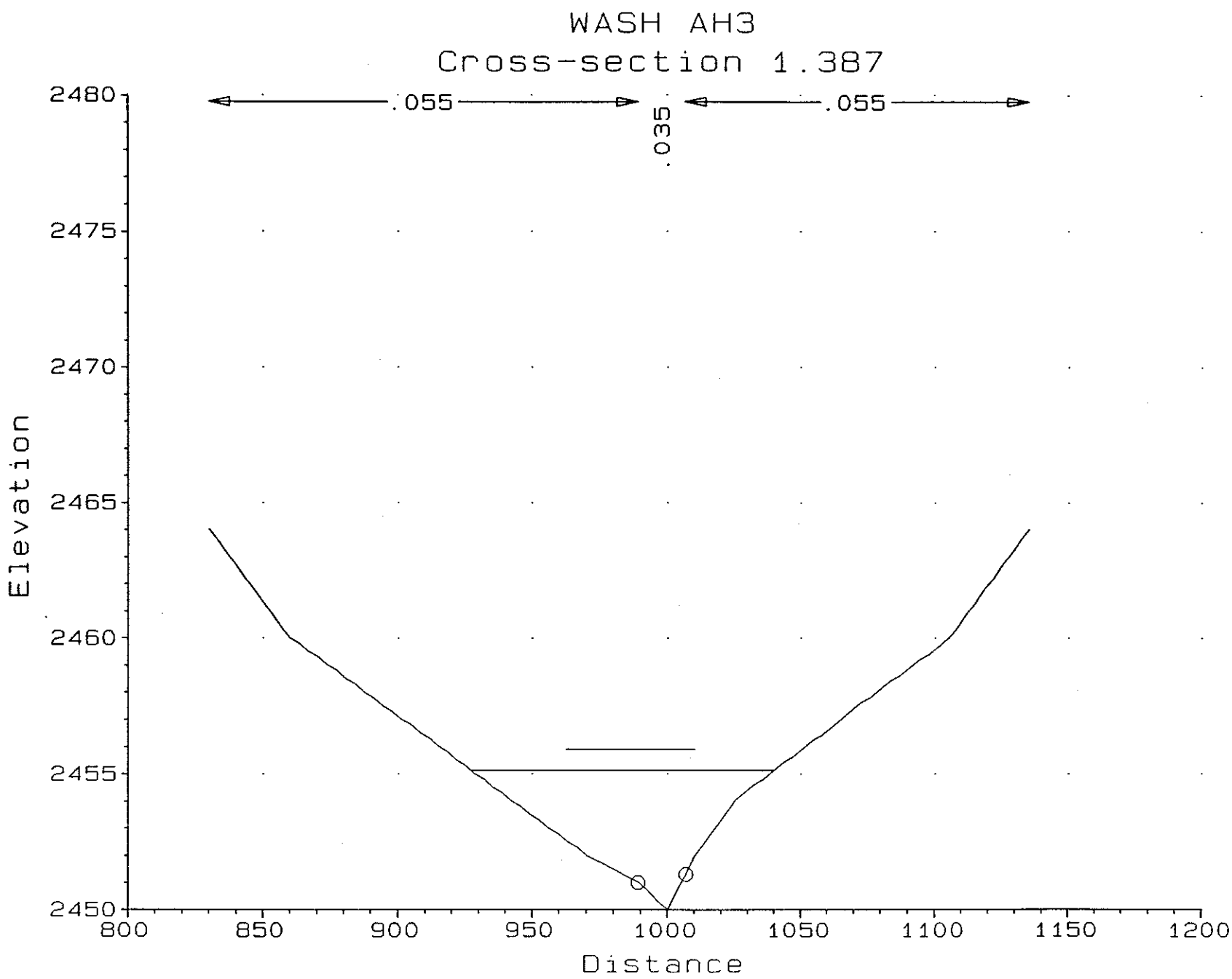
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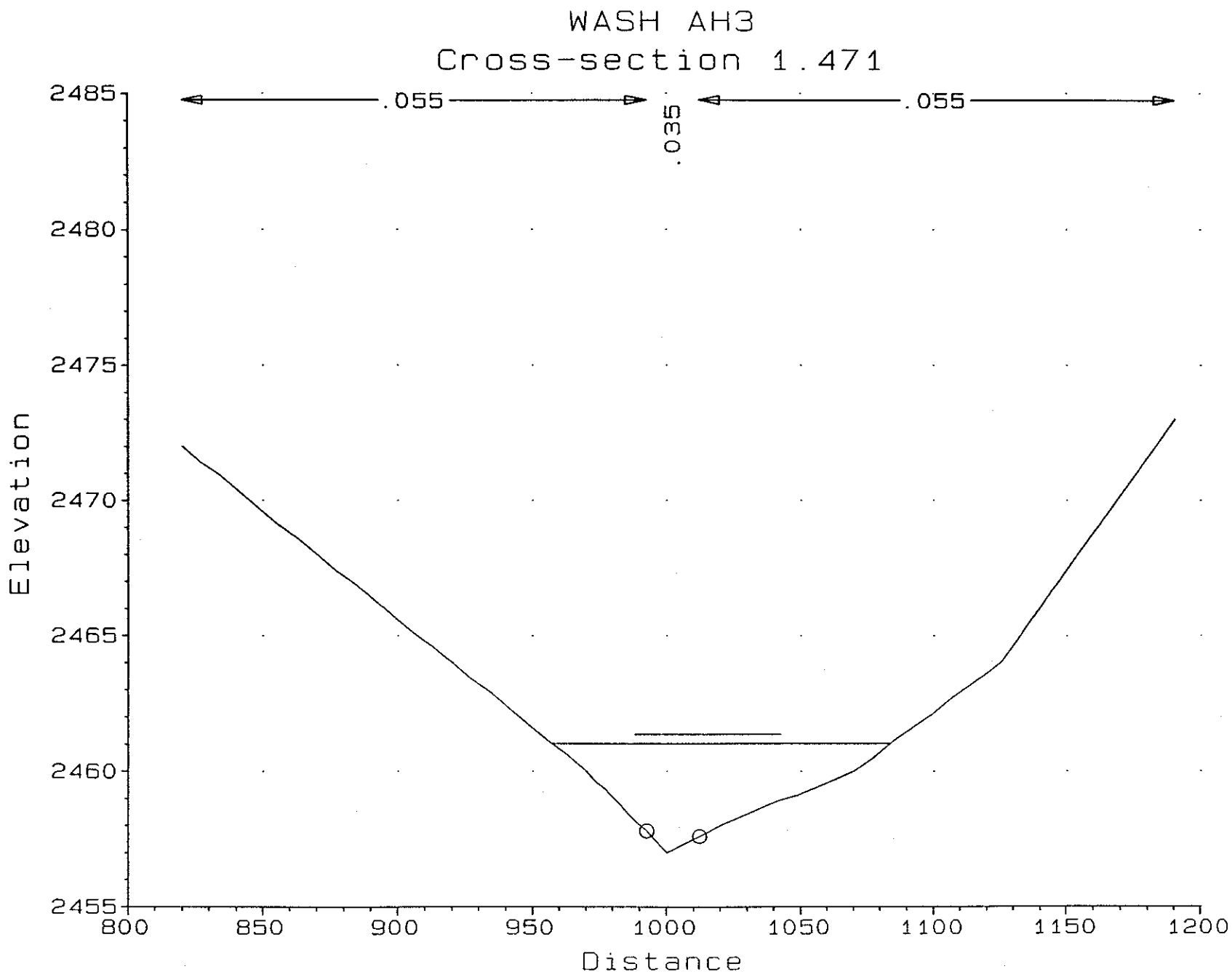
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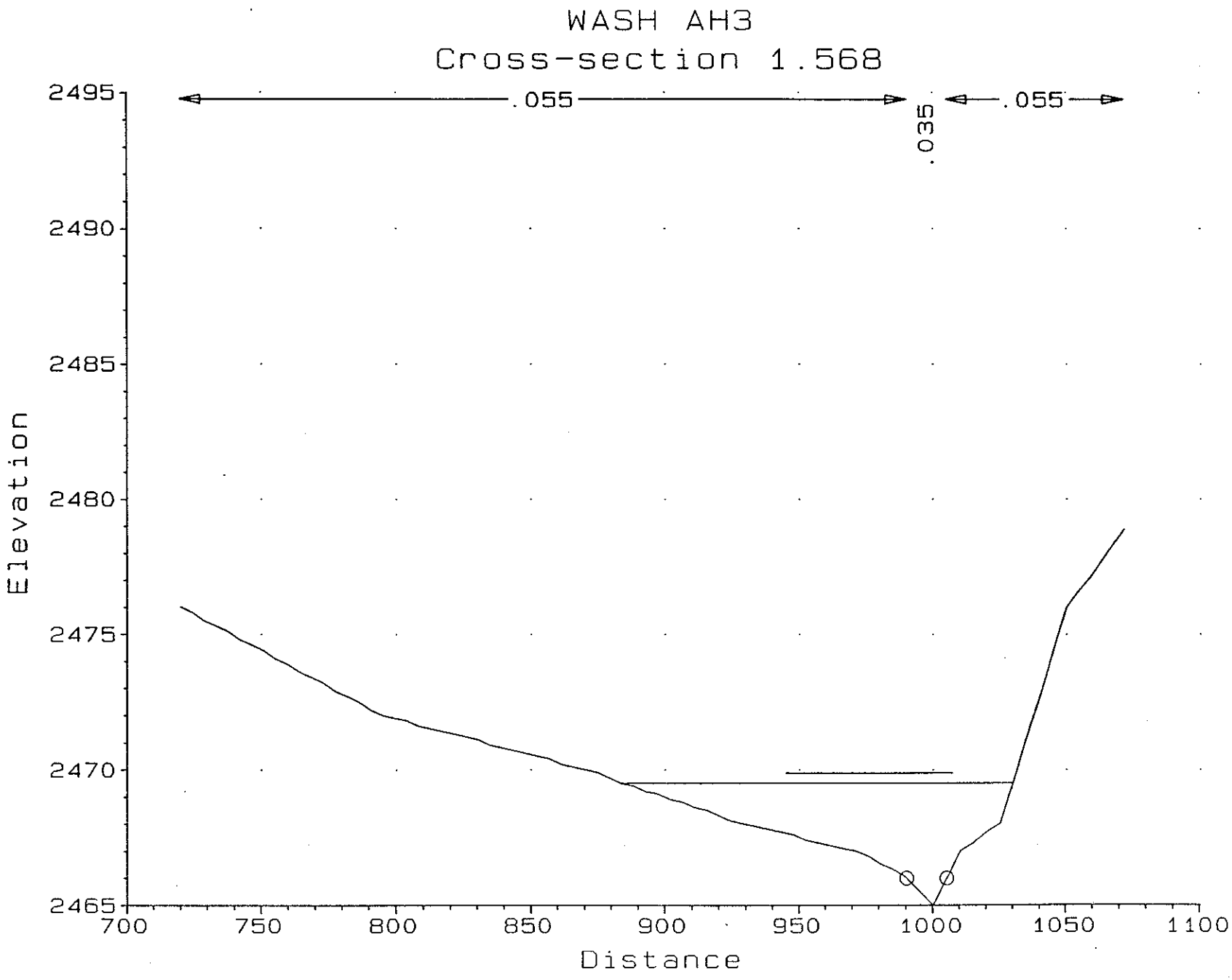
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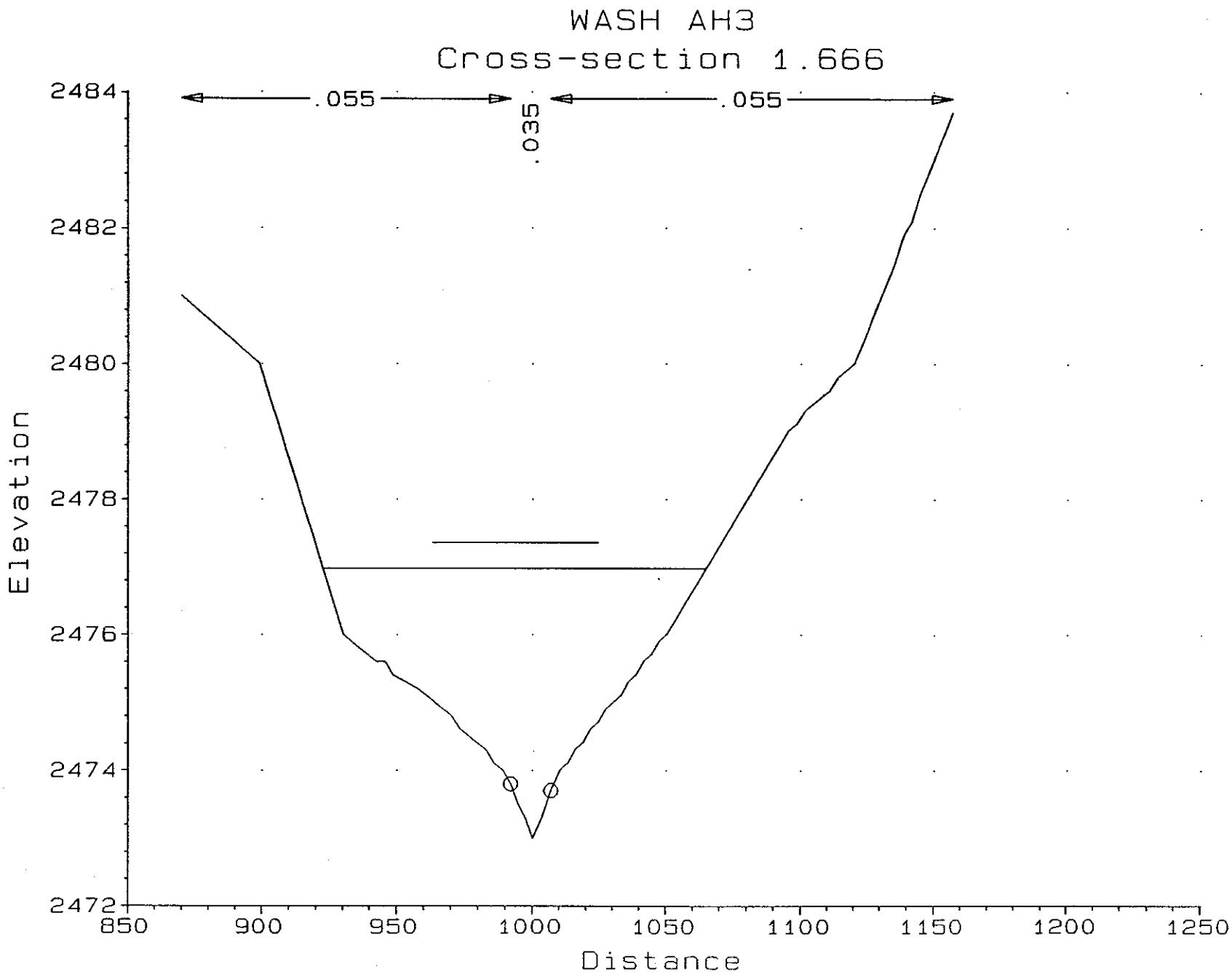
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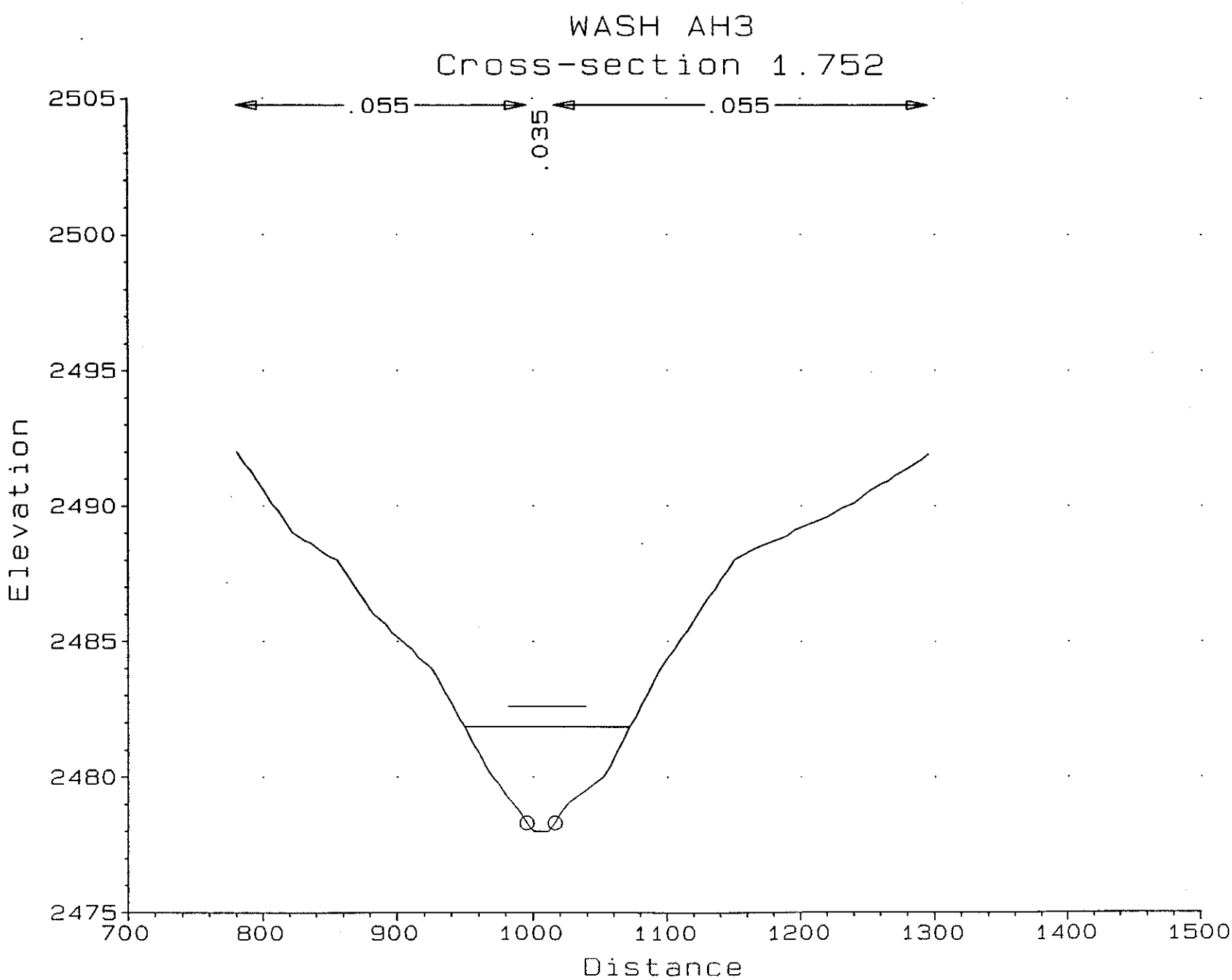
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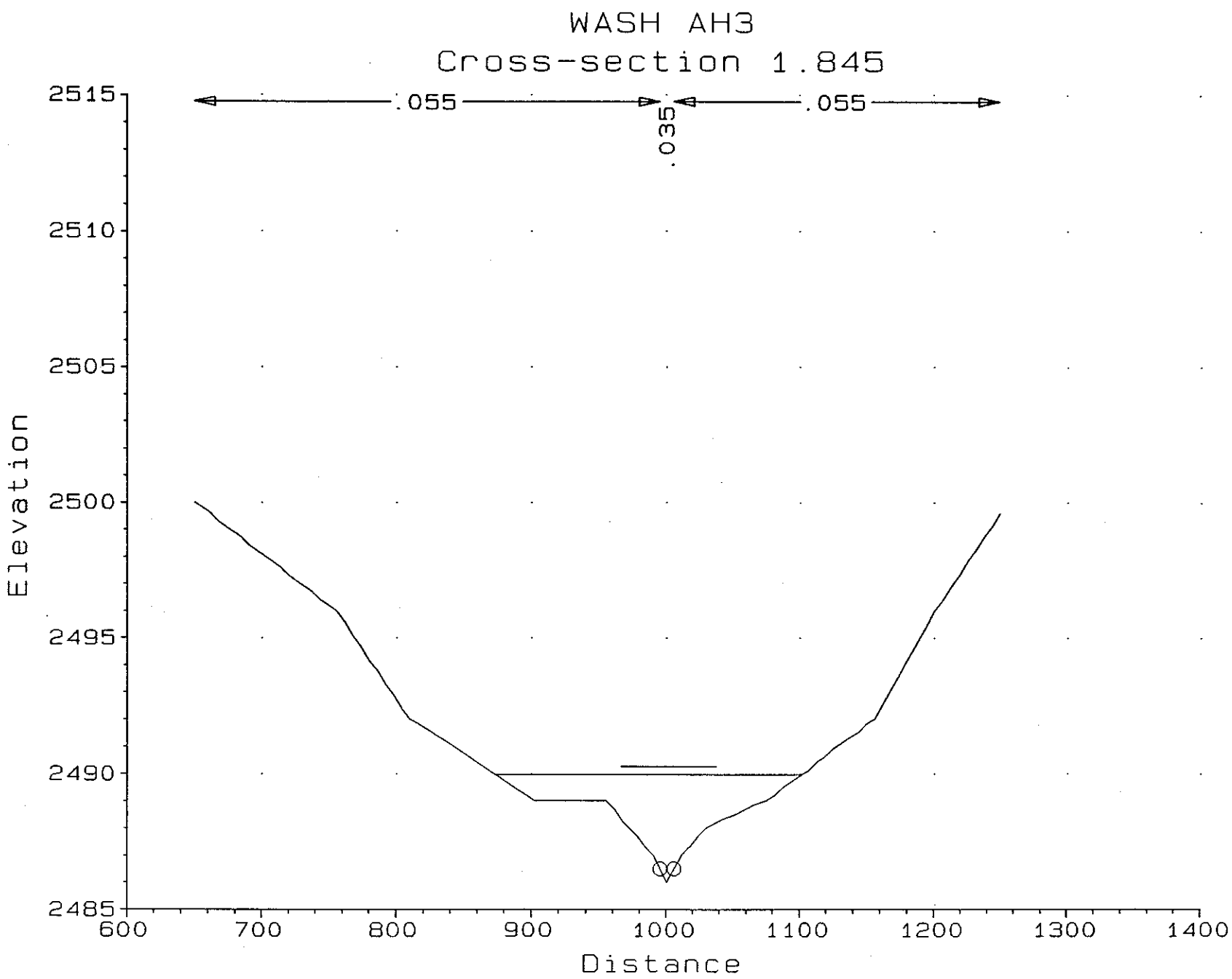
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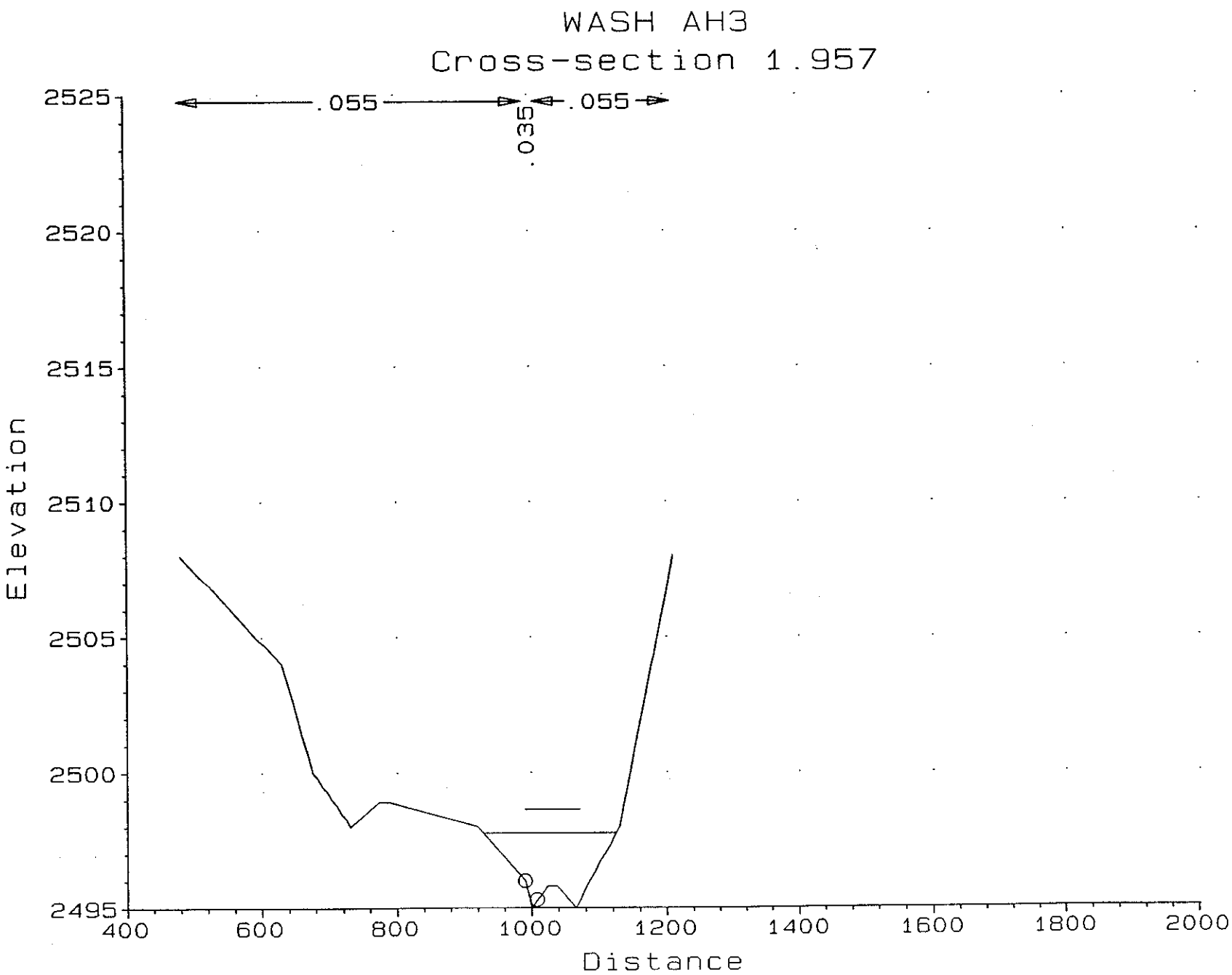
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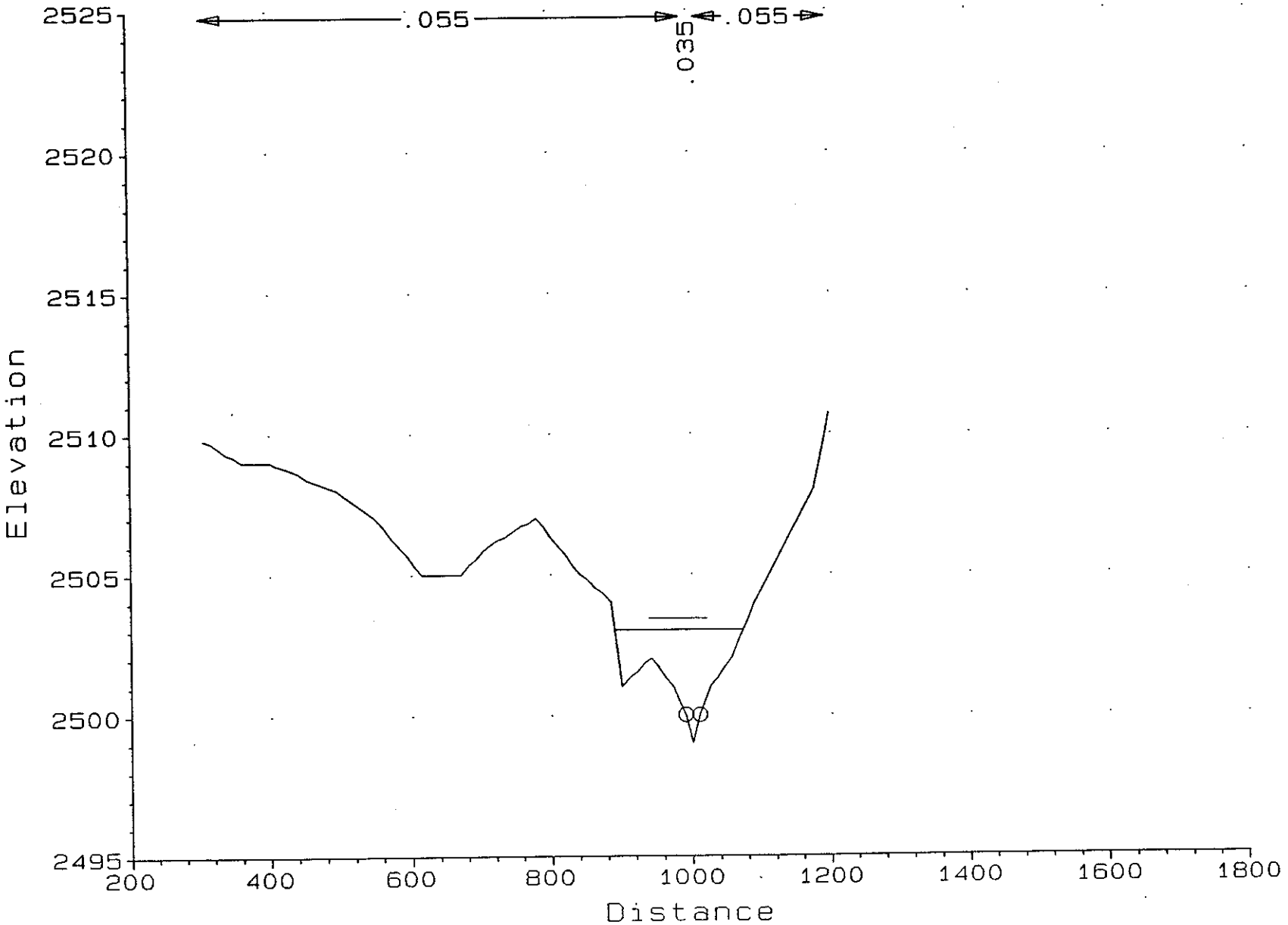
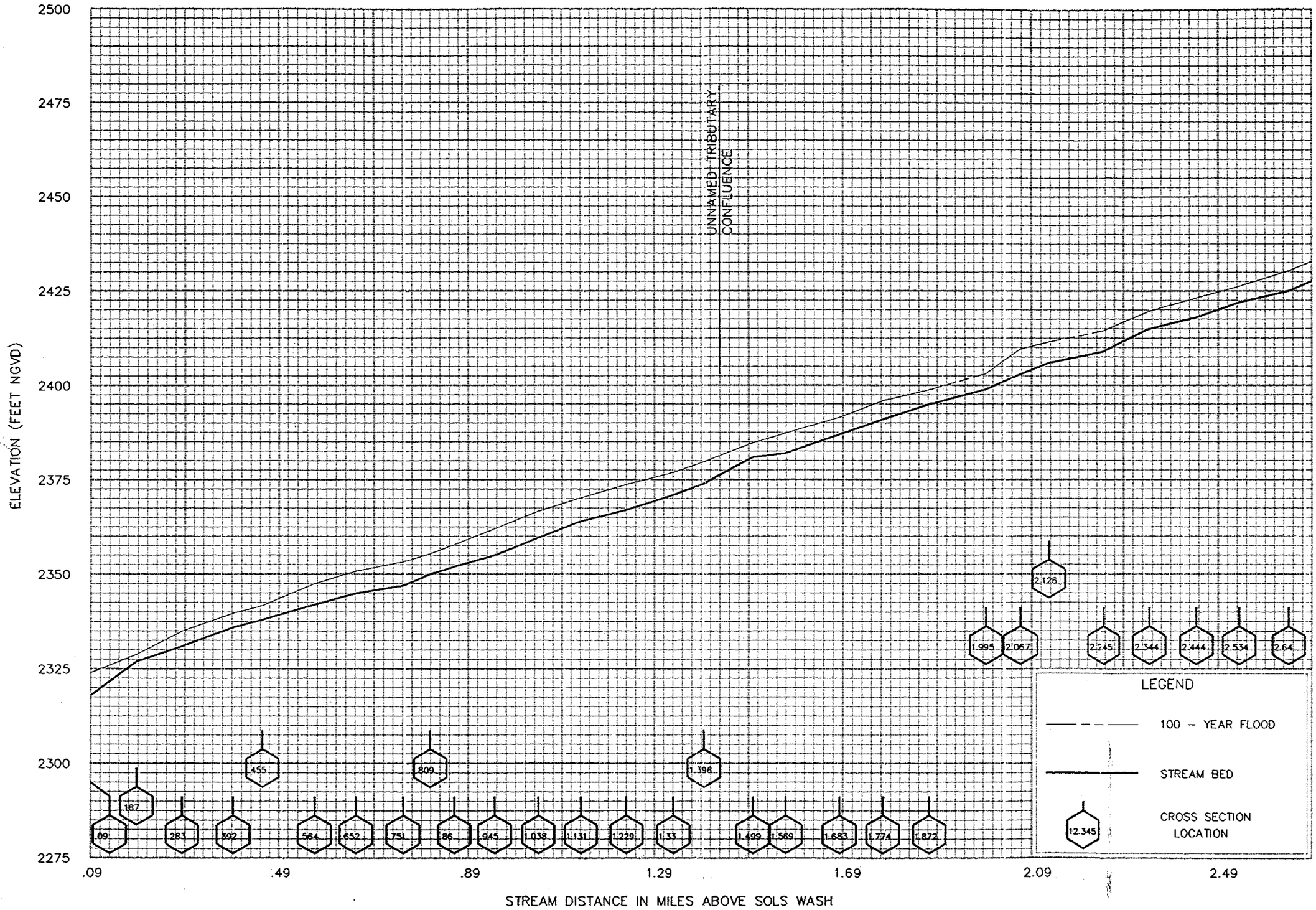
WASH AH3

Cross-section 2.041





FLOOD PROFILES

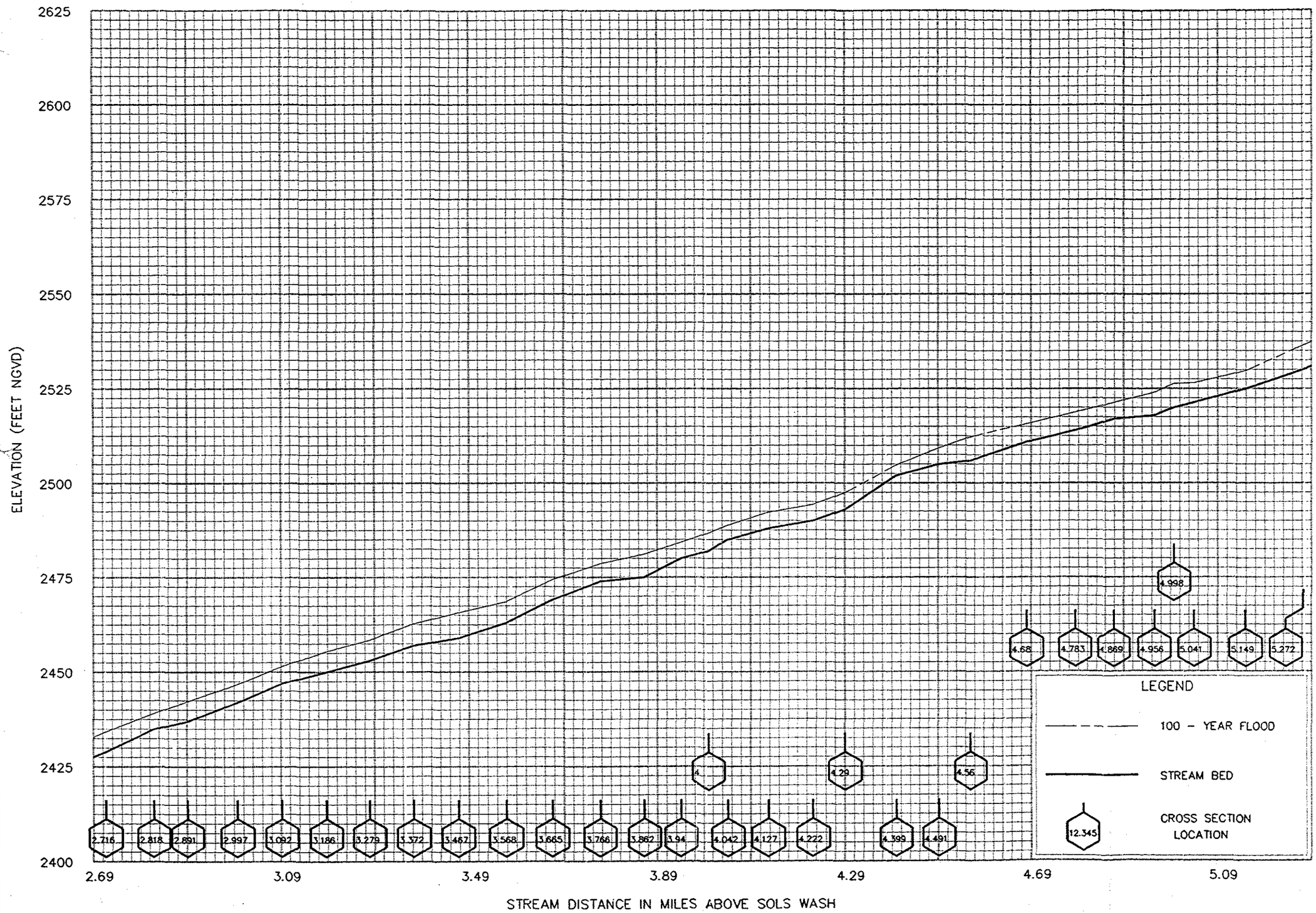
UNNAMED SOLS WASH TRIB (AH3)

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

PC FILE:AH3PROF.DWG

02/21/94 13:36:35 ACD-12_



PC FILE:AH3PROF.DWG

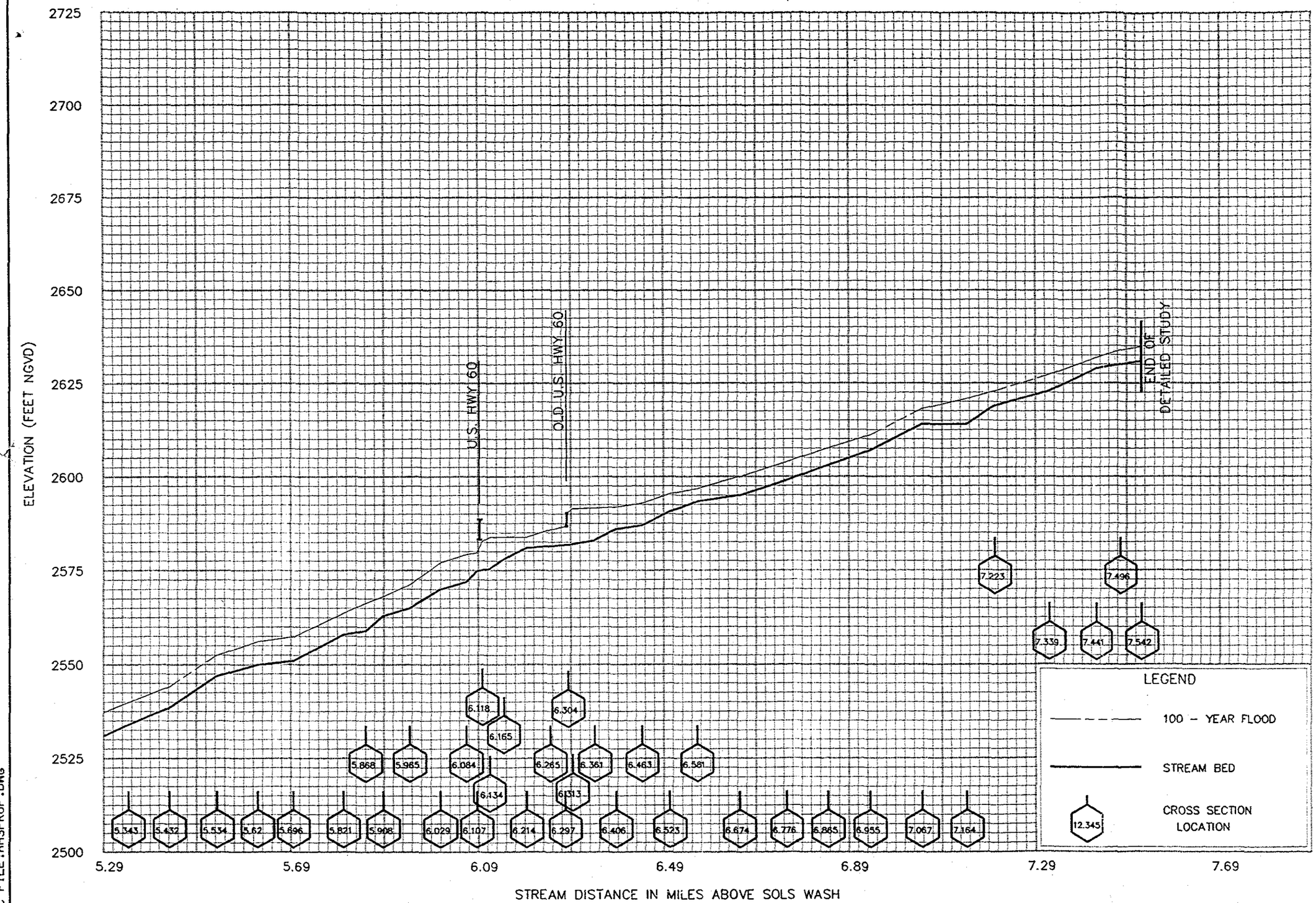
FLOOD PROFILES

UNNAMED SOLS WASH TRIB (AH3)

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ

AND INCORPORATED AREAS

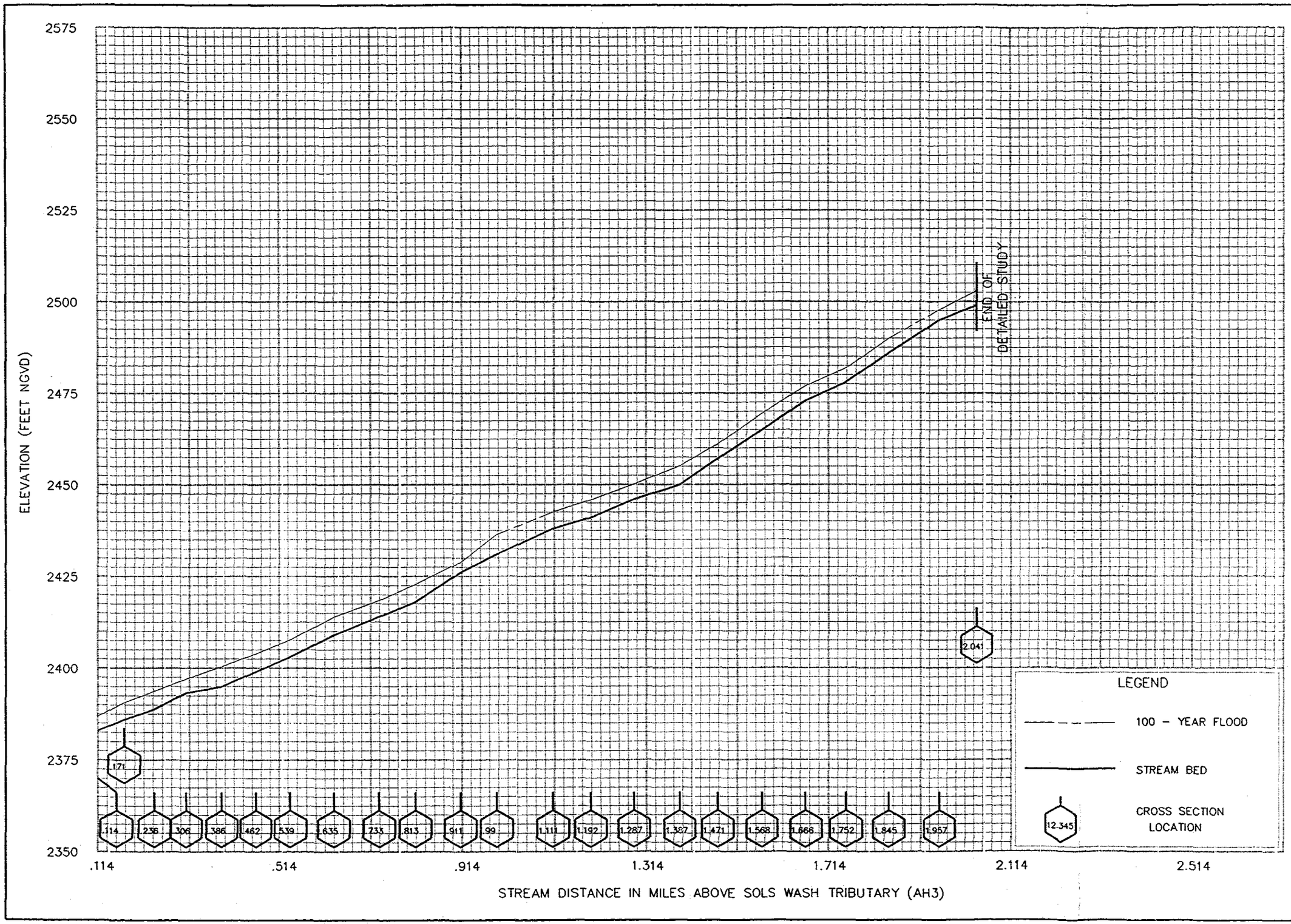


FLOOD PROFILES

UNNAMED SOLS WASH TRIB (AH3)

FEDERAL EMERGENCY MANAGEMENT AGENCY
MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

PC FILE:AH3PROF.DWG



FLOOD PROFILES

TRIBUTARY TO UNNAMED SOLS WASH TRIBUTARY (AH3)

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

02/21/94 13:32:15 ACD-12_

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