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MANAGEMENT CONSULTANT SERVICES

CONCEPT STUDY FOR THE PIMA FREEWAY CROSSING THE ARIZONA CANAL

September 1989

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REMARKS

CONCEPT STUDY FOR THE PIMA FREEWAY CROSSING THE ARIZONA CANAL

September 1989

Revised:
November 1989

Registered Professional Engineer (Civil)
CERTIFICATE NO.
19427
STANLEY D.
WOLASIK
Date Signed 11/10/89
ARIZONA, U.S.A.

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INTRODUCTION

The purpose of this study is to investigate various alternatives for constructing a portion of Pima Freeway that crosses over the Arizona Canal (Exhibit 1). The canal is a large irrigation channel operated by Salt River Project (SRP). The Pima Freeway crosses the Arizona Canal approximately 1/2 mile east of Pima Road. The raised banks of the canal define the southern limit of a large drainage area composed mostly of an undeveloped tract (approximately 16.6 square miles) on the Salt River Indian Reservation and a commercial/urban area (approximately 2.9 square miles) within the City of Scottsdale. Storm runoff from this area is conveyed via the Arizona Canal and adjacent floodplain westerly through Scottsdale Ranch to the U.S. Corps of Engineers (Corps) Indian Bend Wash project.

EXISTING SITE CONDITIONS

As noted above, the drainage area primarily consists of undeveloped desert land. A 300 to 400 foot wide strip north of and abutting the Arizona Canal is covered with a dense growth of bushes and trees. The vegetation is probably due to floodwater retention in this area, leakage from the nearby Arizona Canal or a combination of these two causes (See Photo 1). Storm runoff ponds north of the Arizona Canal and flows over the bank and into the canal at several canal inlet locations. (See Photos 2 and 3). To avoid any potential water contamination from the Pima Freeway onsite drainage system, SRP has stated that a direct storm drain connection to the canal is unacceptable.

The south bank of the canal is elevated 4 to 6 feet above the north bank (See Photo 4 & 5). Thus, before flood runoff can overtop the south bank, a wide floodplain is formed north of the canal (See Exhibit 2). While the south bank contains the 100-year flow of 8000 cfs, greater rainfall events may result in overtopping near an existing bar screen structure just east of Pima Road (See Photo 6). The bar screen structure presents a significant obstacle to passage of large storm flows and might be a major cause for overtopping of the canal. In the past, the canal has failed near this bar screen.

During major storm events, SRP empties irrigation water from the Arizona Canal at the Evergreen Wasteway via diversion gates when significant runoff is anticipated. Therefore, full capacity of the Arizona Canal (approximately 5500 cfs) is available to convey flood flows. The remaining runoff (2500 cfs) ponds north of the canal. Canal flow is conveyed through a bar screen structure and under the Pima Road bridges. The Corps constructed a side flow weir diversion along the north side of the Arizona Canal west of Pima Road which allows runoff to spill into a floodway presently being developed as a joint use golf course and housing development known as Scottsdale Lakes Golf Club (SLGC) - (See Photo 7). The Corps established a 5500 cfs design flow for this unlined floodway. At present the majority of floodway flow enters the floodway from the canal side wier. An existing 10' x 4' box culvert under Pima Road allows a portion of ponded water north of the canal to drain west into the SLGC floodway (See Photo 8). Hydraulic analyses for the existing flood plain north of the Arizona Canal are contained in Appendix A.

HYDROLOGY

Detailed hydrologic analysis of the drainage area, including simulations of the hydrographs for the concentrated flow along the east side of the Pima Freeway, was presented in a drainage report submitted to DCCO in April 1989 by Simons, Li and Associates (SLA). The limits of the SLA watershed are used in this Study and are shown herein as Exhibit 1. The contributing drainage area at the Arizona Canal crossing encompasses approximately 19.5 square miles. As noted previously, the raised embankment of the Arizona Canal marks the southern boundary of the watershed.

The northern boundary is defined by existing developments along Shea Boulevard where several large detention basin systems have been constructed. Drainage north of Shea is intercepted or drained by Camelback Walk Channel. The eastern boundary is defined by the Evergreen Wasteway where Salt River Project (SRP) can manipulate flood gates to empty irrigation water from the Arizona Canal into an historical floodway which empties into the Salt River. The Pima Freeway Interceptor Channel comprises the west drainage boundary.

The SLA report estimated peak runoff at Pima Road and the Arizona Canal to exceed 9300 cfs for a 100 year storm of 24-hour duration. The identical area was studied by the Corps in the late 1970's and the Corps estimated the 100-year peak runoff to be 8000 cfs. The Corps estimate was based on a 7-hour synthetic rainfall model developed from an observed historical event in Arizona. A detailed discussion of the methodology differences between those two studies was presented in a DCCO interoffice memorandum dated August 21, 1989 (see Reference 3).

This study considers both runoff estimates. The SLA estimate of 9326 cfs will be used to assure that no significant flooding occurs to the area upstream of the Pima Freeway/Arizona Canal crossing. However, to be compatible with accepted 100-year storm values, a peak runoff of 8000 cfs will be used for review of all channelization and culvert designs near Pima Road. This study determined that the Pima Freeway will not divert any floodwater that has not historically collected east of Pima Road and north of the Arizona Canal.

DESCRIPTION OF ALTERNATIVES

Under all alternatives studied, it is necessary to construct a 140 foot span crossing for the Pima Freeway at the Arizona Canal. This span will allow SRP to continue to operate and maintain the Arizona Canal.

Proposed alternatives to accommodate the flood flows that collect north of the Arizona Canal are as follows:

1. Intercept and convey flood runoff to flow south via freeway box culverts and concrete channel, thence under the Arizona Canal to merge with flow directly to the Salt River.

2. Span the flood plain with a roadway bridge structure so as not to disturb the Arizona Canal, the flood plain or Pima Road drainage.

3. Channelize all runoff to flow west between Pima Freeway and the Pima Road to the SLGC Floodway. Span the east-west channel with a freeway bridge and increase flow capacity under Pima Road by constructing additional box culverts at Pima Road.

Alternative 1 - Interceptor Channel to Salt River

This alternative requires a wide concrete lined channel to convey all runoff in a single channel to the Salt River. Additional ROW will be required to widen interceptor channel along the Pima Freeway from the Arizona Canal to the Salt River. Also, a large multiple box culvert or canal bridge structure will be needed to convey runoff under the Arizona Canal. Since an additional flow of 8000 cfs will complicate design of the channel south of the Arizona Canal and increase channel widths by an additional 125' to 150' feet with corresponding additional ROW, this alternative was rejected.

Alternative 2 - Span the Flood Plain

This alternative is to cross the existing flood plain with a multiple-span bridge. Because the flood depths are shallow and have low velocity, encroachment into the flood plain is possible without a "significant increase" in the flood depth of the upstream areas. For design purposes, a "significant increase" is defined by FEMA (Federal Emergency Management Agency) as a rise in water surface of more than 0.10 foot.

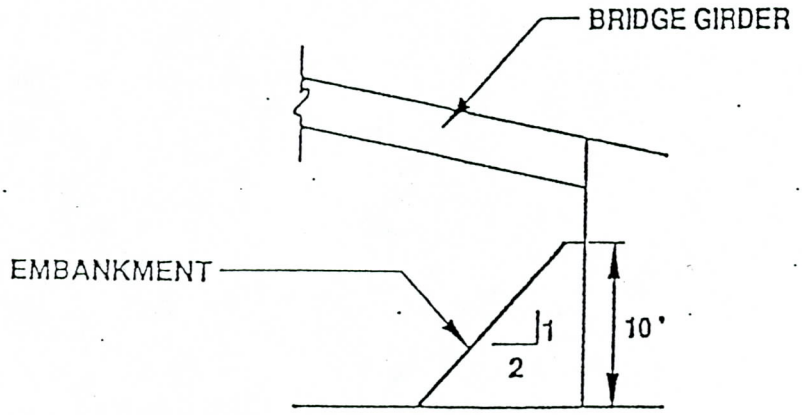
Various span lengths were studied and resulted in different backwater depths. Table 1 tabulates results in terms of typical girder lengths to bridge the floodplain north of Arizona Canal. Calculated depths show that, to cause no more than a .10 foot rise in runoff depth for a 100 year storm, three-130 foot spans will be required to bridge the existing flood plain. A HEC-2 hydraulic analysis was performed using Manning's coefficient of "n" = 0.025 for the existing floodplain within the ROW limits. This value assumes that the ROW area will be rough graded and maintained to prevent growth of dense vegetation.

To prevent pollution of Arizona Canal water, SRP will not permit roadway drainage to enter directly into the canal. Therefore, termination of the Pima Freeway Interceptor Channel at the Arizona Canal will be complex. Unless an 80 acre (approximately) detention pond is constructed the only alternative available, without acquiring additional ROW, or to widen the Interceptor Channel sufficiently to accommodate spread sheet/flow, is to terminate the Freeway Interceptor Channel with an ell-shaped headwall. A nominal flow outlet pipe (100 cfs) will convey initial roadway runoff south under the Arizona Canal and will merge with the Interceptor Channel south of the Arizona Canal approximately 500 feet north of Chapparal Road. As the storm continues, additional runoff will pond north of the canal, overtop the canal banks, flow west in the Arizona Canal and adjacent flood plain to pass under Pima Road and into the SLGC floodway. After the flow event is over, the Interceptor Channel will continue to drain and empty the flood plain via the outlet pipe under the Arizona Canal (See Exhibits 3 and 4).

TABLE 1
CALCULATED INCREASE IN FLOOD PLAIN ELEVATION DUE TO PIMA FREEWAY STRUCTURE (IN FEET)

FLOOD PLAIN SPAN LENGTH [FT]	SPAN NUMBER OVER FLOOD PLAIN		
	2	3	4
100	0.43	0.25	0.16
120	0.32	0.19 (0.21)	0.11
130	0.24	0.09 (0.10)	0.08
140	0.22	0.08	0.06

NOTE: This Table Assumes Vertical Abutments. Values in Parenthesies Assume a 2:1 Slope for a 10 Foot High Embankment at the Abutment.



Total construction cost for Alternative 2 is $4.6 million (See Table 2 - Cost Estimate). No additional ROW is needed for Alternative 2.

Alternative 3 - Channelization East of Pima Road

This alternative will require construction of a wide concrete lined channel north of the Arizona Canal to direct runoff west to Pima Road (See Exhibit 5). A new seven barrel - 10' x 7' box culvert under Pima Road will allow runoff to discharge into the proposed SLGC floodway. (See Exhibits 6 and 7).

The SLGC floodway can convey 5500 cfs of runoff from the new Pima Road box culvert west to the Indian Bend Wash outfall. Additional runoff can flow over Arizona Canal inlets and thence west under Pima Road. Rough grading for the SLGC development is complete and will accept overflow drainage from the Arizona Canal side flow weir. A new multiple box (10' x 7') culvert under Pima Road will convey the major flow and decrease or eliminate runoff from the Arizona Canal side weir. Potential damage to the golf club can be reduced by constructing minor channel improvements.

Two options to Alternative 3 exist for the north conveyance channel. Each option results in differing effects on the flood plain, the Arizona Canal and construction requirements at Pima Road. Under Alternative 3a, the channel would be designed to intercept and convey the entire 100-year flood flow, freeway runoff and Pima Roadway drainage. A total flow of 8000 cfs would be conveyed directly to the SLGC floodway, which was not designed to convey more than 5500 cfs. The Corps anticipated that the remaining 100-year storm runoff of 2500 cfs would flow within the Arizona Canal. Alternative 3a was rejected because of the SLGC floodway cannot accept additional flood flows without major renovation.

Alternative 3b would require construction of a concrete lined channel to carry excess runoff for 100-year storm that presently ponds north of the Arizona Canal levees. Refined analysis of the Arizona Canal full-flow capacity indicates a maximum flow volume of 3700 cfs. The remaining discharge of 4300 cfs can be conveyed in a hard lined channel whose bottom width varies from 90 feet at the downstream end to 200 feet at the east upstream end (See Exhibit 8). A seven barrel 10' x 7' box culvert will be needed to carry flow under Pima Road. The depth of channel will provide 1 foot of freeboard and will reduce the floodplain width to 200 feet between Pima Road and the Pima Freeway.

The proposed channel will require an estimated 200 feet long spillway at its upstream end to intercept 1100 cfs of overland runoff from the east flowing next to the Arizona Canal. All drainage improvements for this spillway will be contained in the 400 foot ROW. The Pima Freeway will bridge the channel with a multi-span bridge.

The concrete channel will increase the floodplain conveyance and reduce allowable backwater thereby resulting in a shorter overall bridge length. The SLGC floodway would need to be regraded at the fifth green to allow more stormwater to enter the floodway lake system from the east via the new multiple box culvert (See Exhibit 7). Storm flows (greater than the 100-year event) will continue to enter side inlets of the Arizona Canal. This option would require minor adjustment in the grading plan of the SLGC floodway.

Construction cost for Alternative 3b is $5.0 million (See Table 2 - Cost Estimate). An additional 8.1 acres of ROW would be needed along the north side of the Arizona Canal to construct the channel. No ROW costs are included but land cost will significantly impact the construction estimate unless ROW is donated so ADOT can construct the channel.

RECOMMENDATION

Costs for Alternatives 2 and 3 are summarized on Table 2 and are approximately equal. However, Alternative 3 will require extensive coordination and review by the developer, City of Scottsdale, SRP, the Corps and the BIA.

Since coordination is less for Alternative 2 for design and construction, DeLeuw, Cather recommends ADOT use a four span bridge structure with three - 130 foot and one - 140 foot spans to bridge the Arizona Canal and existing ponding area north of the Canal. Feasibility of a low flow pipe to drain initial highway drainage runoff south to the Salt River should be investigated during design.

TABLE 2
ARIZONA CANAL CROSSING
SUMMARY
COST ESTIMATE
(In Millions)

Item	Quantity	Unit Cost	Altern. 2 Span Flood	Altern. 3b Channelization
Bridge Structure				
146' wide x (140'-120'-120')	55,480 SF	30		1.664
146' wide x (140'-130'-130'-130')	77,380 SF	30	2.321	
Channel @ Pima Freeway				
Excavation	52,640 CY	2	0.105	0.105
Lining	35,500 SY	19	0.674	0.674
Channel @ Arizona Canal				
Excavation	77,600 CY	2		0.155
Lining	41,244 SY	19		0.784
Spillway 12" grouted riprap	2,450 SY	70		0.170
Box Culvert W/Headwels				
Concrete	692 CY	150		0.104
Steel	123,570 LB	0.40		0.050
Structural Excavation	3,148 CY	5		0.016
Structural Backfill	910 CY	12		0.011
Remove Exist. CBC	55 CY	200		0.071
Pavement Replacement	198 SY	30		0.059
Low Flow Pipe	6,800 LF	70	0.476	___
Subtotal			3.576	3.863
Other Costs 15%			0.536	0.579
			4.112	4.442
Engineering & Contingencies (12%)			0.493	0.533
	TOTAL COST		$4.605	$4.975
Additional ROW				337,100 SF

References:

1. Final Hydrology Report, Outer Loop Highway, Camelback Walk Channel to the Arizona Canal, Simon, Li and Associates, Inc., May 1989.

2. Gila River Basin, Arizona, Indian Bend Wash Design Memorandum No. 4. Future Design for Interceptor Channel, U.S. Army Corps of Engineers, January 1980.

3. DCCO Interoffice Correspondence from Stan Polasik to Ray Jordan, August 21, 1989.

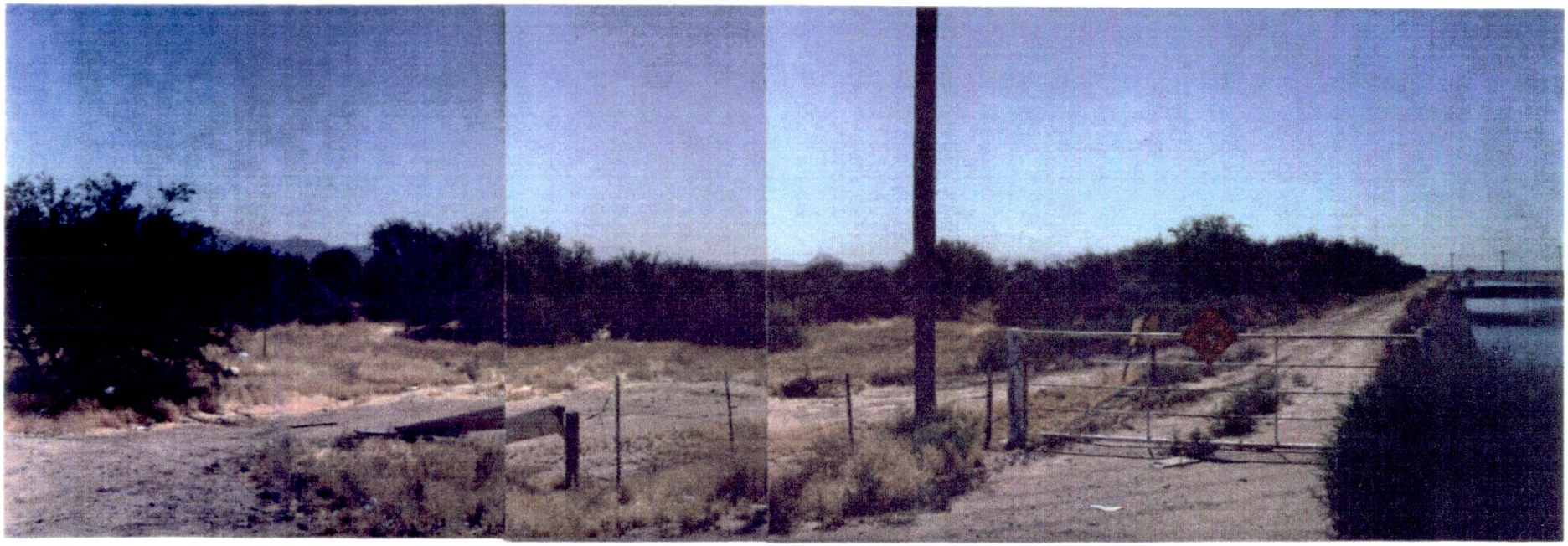


PHOTO 1: Looking northeast from northeast corner of Pima Road bridge of Arizona Canal.

PHOTO 2: Looking south at spillway into Arizona Canal located 1/4 mile (+/-) east of OLH alignment.

PHOTO 3: Looking east at same spillway.

PHOTO 4: Looking west along Arizona Canal from OLH alignment. (Note: Utility pole on northside of canal)

PHOTO 5: Looking east from OLH alignment along north bank of canal.

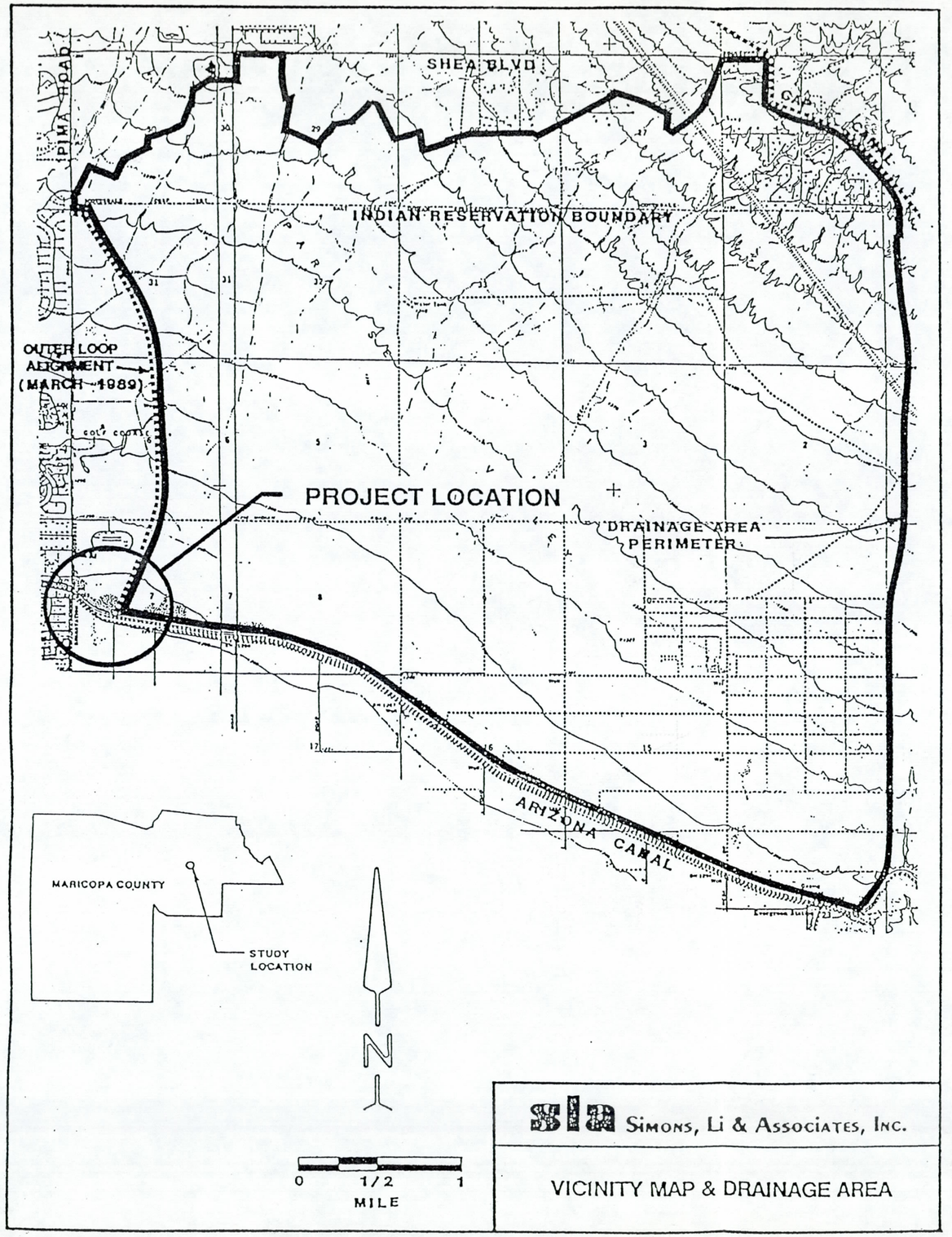
PHOTO 6: Looking southwest at debris rack and bridge structure of Arizona Canal just east of Pima Road.

PHOTO 7: Looking west along drainage channel that extends west from the culvert under Pima Road, (See photos 10 and 12).

PHOTO 8: Looking east at culvert under Pima Road approximately 100' north of Arizona Canal.

PHOTO 9: Looking east at Pima Road bridge.

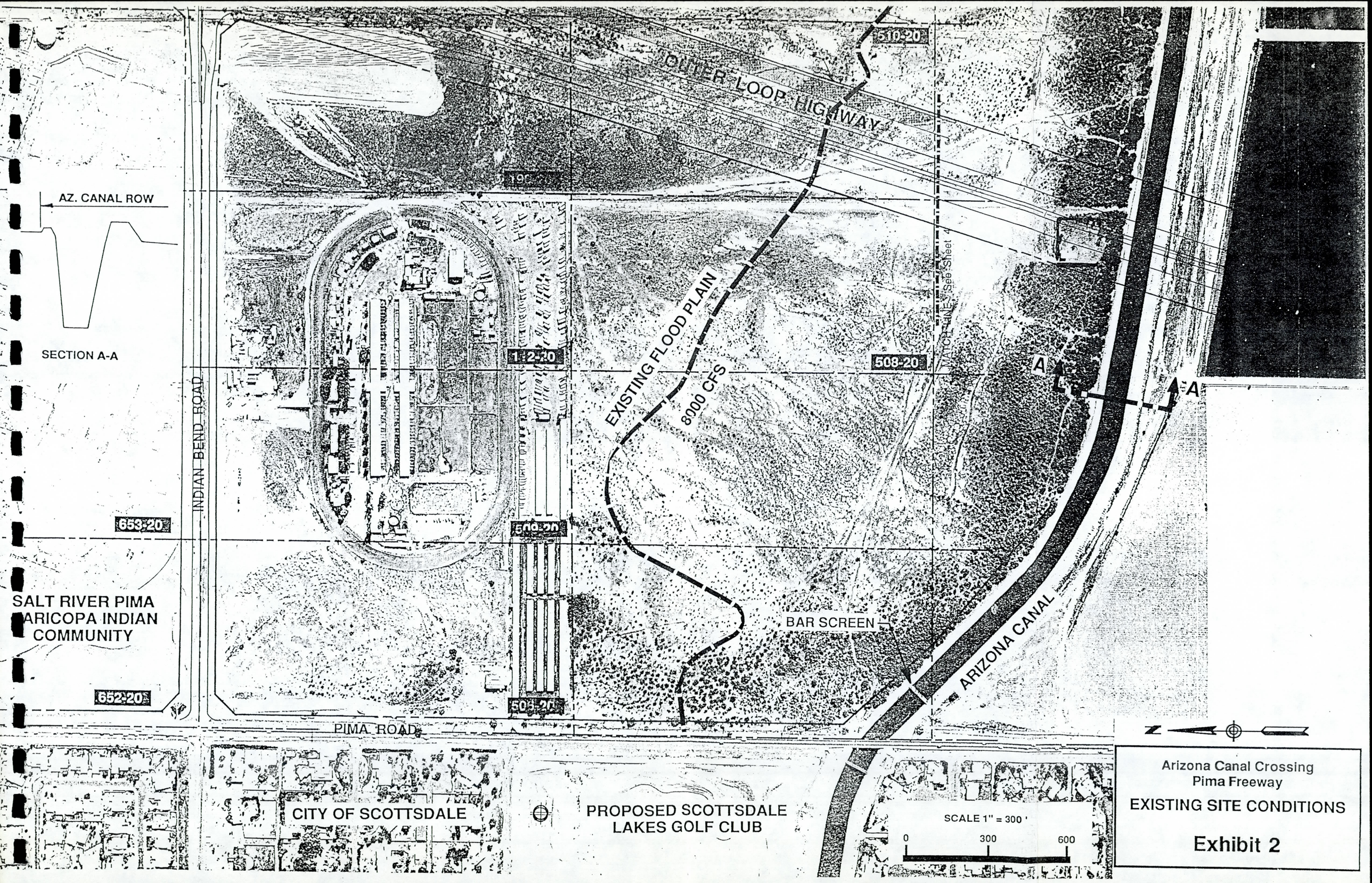
PHOTO 10: Looking northwest at debris rack and bridge structure. Note 41 inches thick bridge deck.



Arizona Canal Crossing
Pima Freeway

DRAINAGE AREA

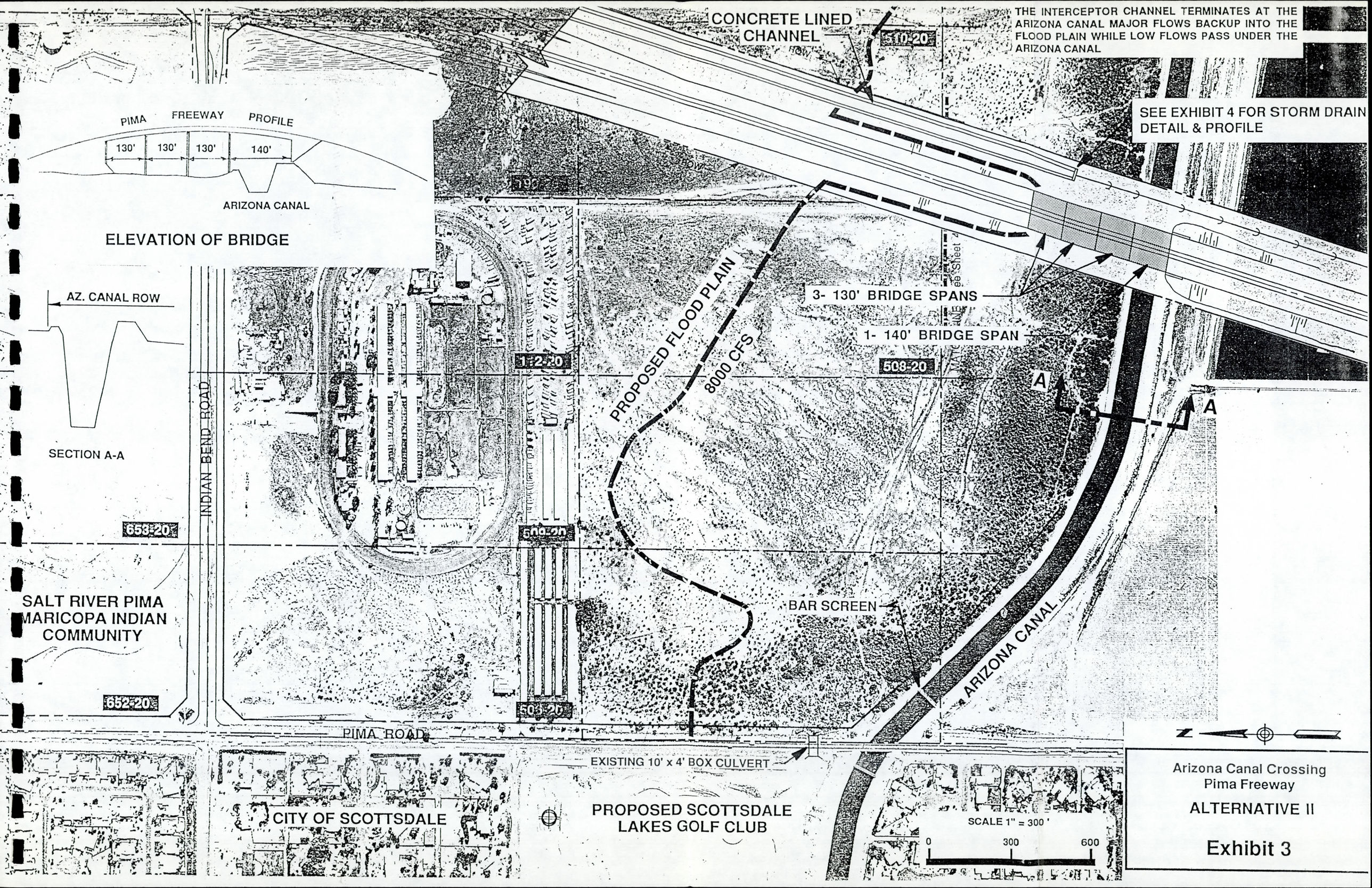
Exhibit 1



Arizona Canal Crossing
Pima Freeway

EXISTING SITE CONDITIONS

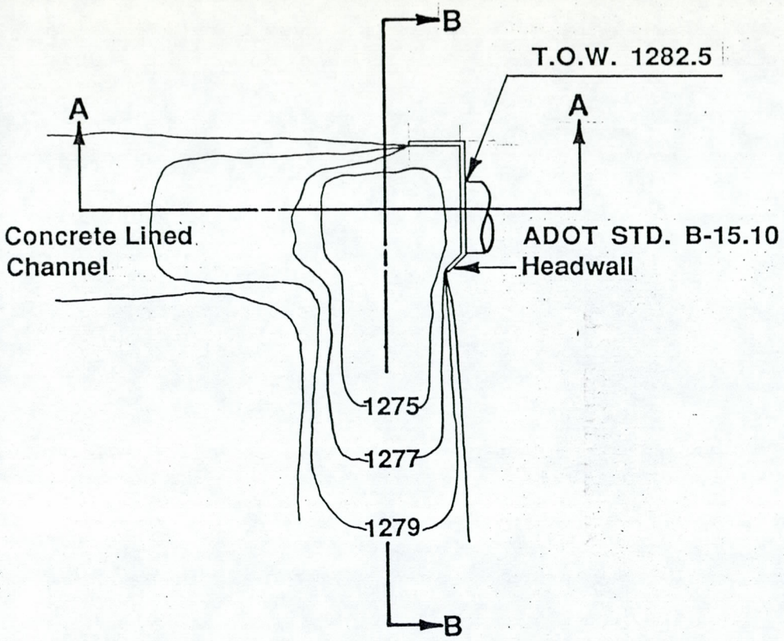
Exhibit 2



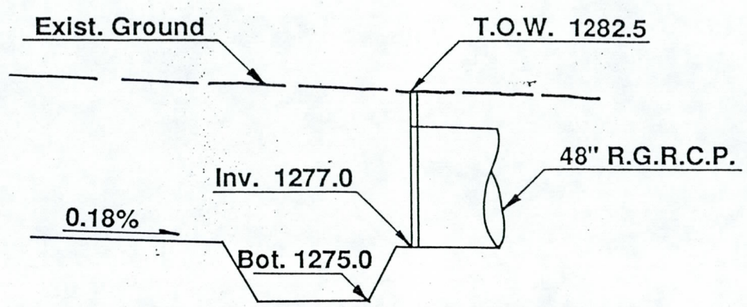
Arizona Canal Crossing
Pima Freeway

ALTERNATIVE II

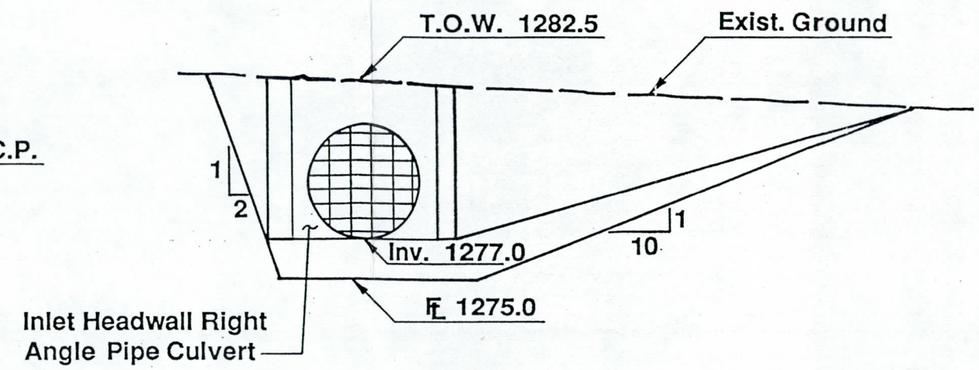
Exhibit 3



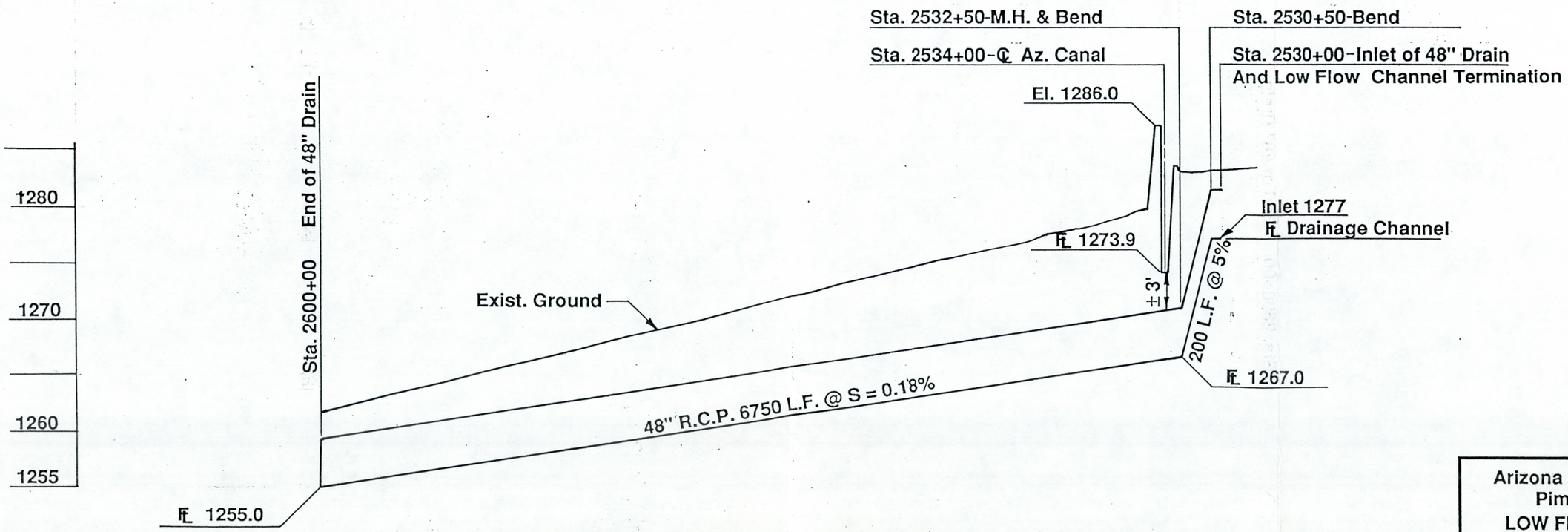
LOW FLOW DRAIN INLET



SECTION A-A

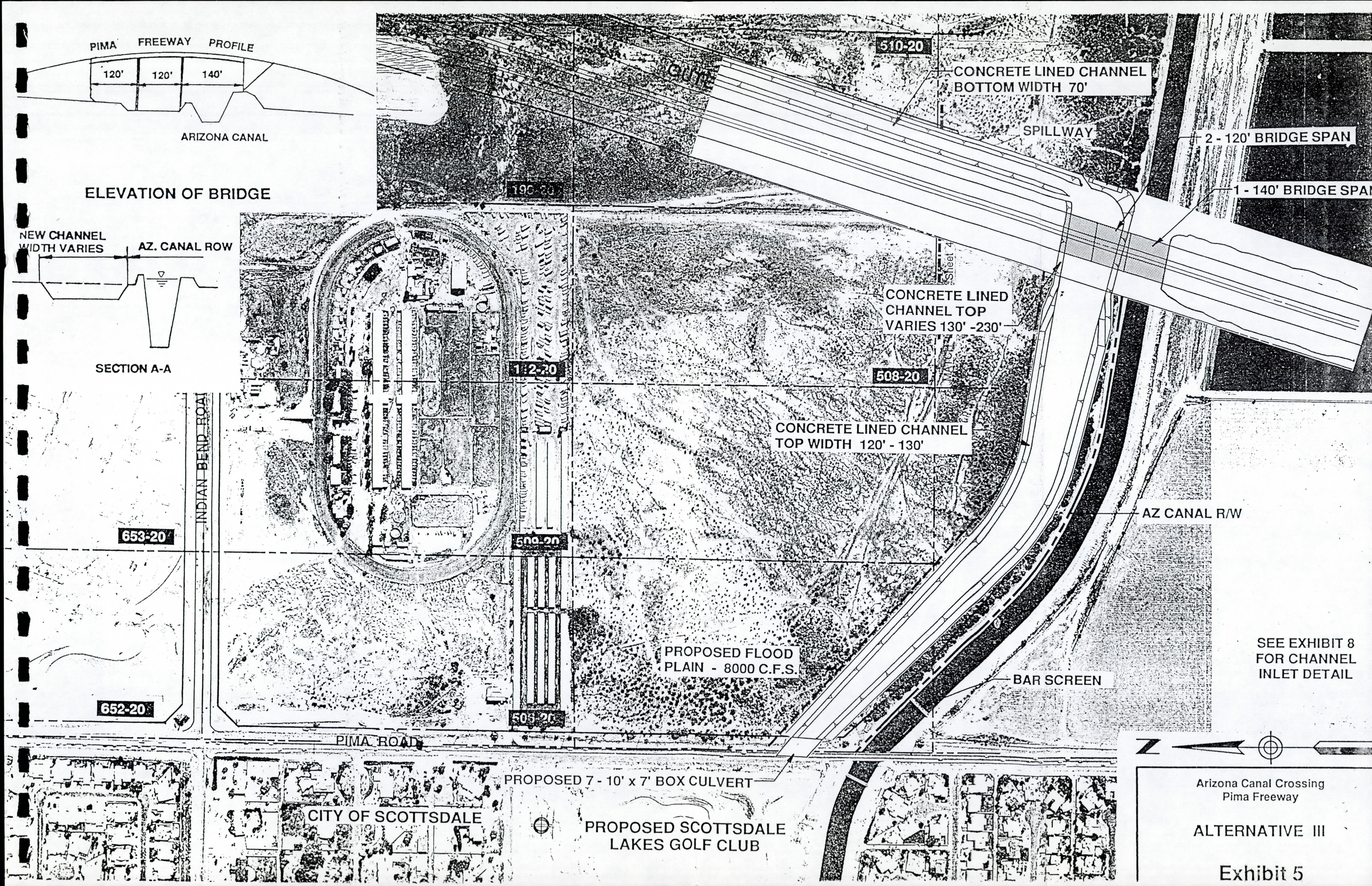


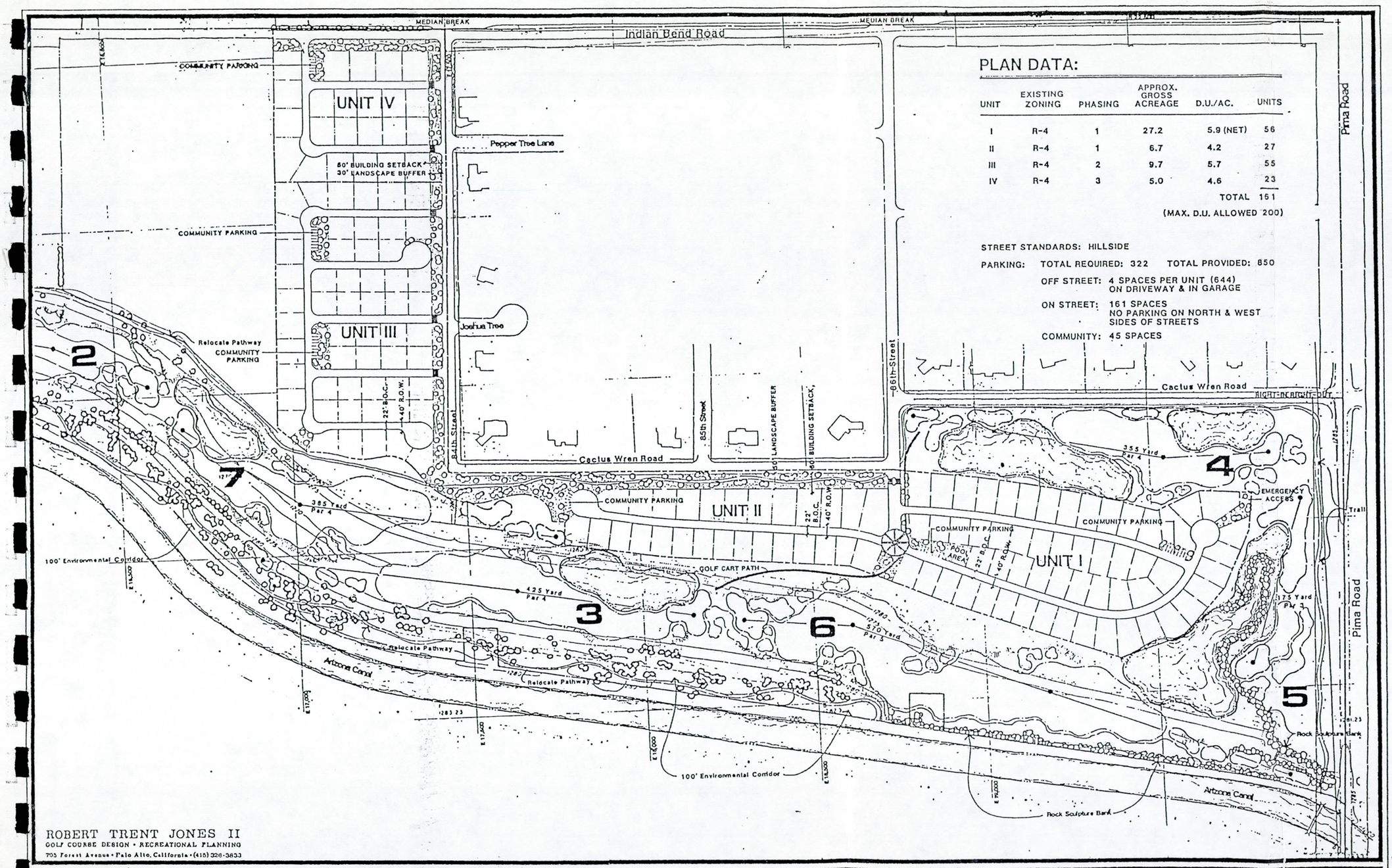
SECTION B-B



48" STORM DRAIN UNDER ARIZONA CANAL PROFILE

Arizona Canal Crossing
Pima Freeway
LOW FLOW OUTLET
FOR ALTERNATIVE II
Exhibit 4


PIMA FREEWAY PROFILE
120'
120'
140'
ARIZONA CANAL
ELEVATION OF BRIDGE
NEW CHANNEL WIDTH VARIES
AZ. CANAL ROW
SECTION A-A
510-20
CONCRETE LINED CHANNEL BOTTOM WIDTH 70'
SPILLWAY
2 - 120' BRIDGE SPAN
1 - 140' BRIDGE SPAN
190-20
Sheet 4
CONCRETE LINED CHANNEL TOP VARIES 130' -230'
MATCH
1:2-20
508-20
CONCRETE LINED CHANNEL TOP WIDTH 120' - 130'
INDIAN BEND R
653-20
506-20
AZ CANAL R/W
PROPOSED FLOOD PLAIN - 8000 C.F.S.
SEE EXHIBIT 8 FOR CHANNEL INLET DETAIL
BAR SCREEN
652-20
505-20
PIMA ROAD
PROPOSED 7 - 10' x 7' BOX CULVERT
CITY OF SCOTTSDALE
PROPOSED SCOTTSDALE LAKES GOLF CLUB
N
Arizona Canal Crossing
Pima Freeway
ALTERNATIVE III
Exhibit 5



PLAN DATA:

UNIT	EXISTING ZONING	PHASING	APPROX. GROSS ACREAGE	D.U./AC.	UNITS
I	R-4	1	27.2	5.9 (NET)	56
II	R-4	1	6.7	4.2	27
III	R-4	2	9.7	5.7	55
IV	R-4	3	5.0	4.6	23
				TOTAL	161

(MAX. D.U. ALLOWED 200)

STREET STANDARDS: HILLSIDE

PARKING: TOTAL REQUIRED: 322 TOTAL PROVIDED: 850

OFF STREET: 4 SPACES PER UNIT (644) ON DRIVEWAY & IN GARAGE

ON STREET: 161 SPACES NO PARKING ON NORTH & WEST SIDES OF STREETS

COMMUNITY: 45 SPACES

ROBERT TRENT JONES II
GOLF COURSE DESIGN • RECREATIONAL PLANNING
705 Forest Avenue • Palo Alto, California • (415) 326-3833

G. WILLIAM LARSON ASSOC., INC.
(602) 837-0837
12222 N. MOUNTAIN TRAIL, FOUNTAIN HILLS, ARIZONA 85268

PROPOSED DEVELOPMENT PLAN FOR:

SCOTTSDALE LAKES GOLF CLUB PROPERTIES

SCOTTSDALE, ARIZONA

UNITS I, II, III & IV

100' 200' 0'
SCALE: 1"=100'

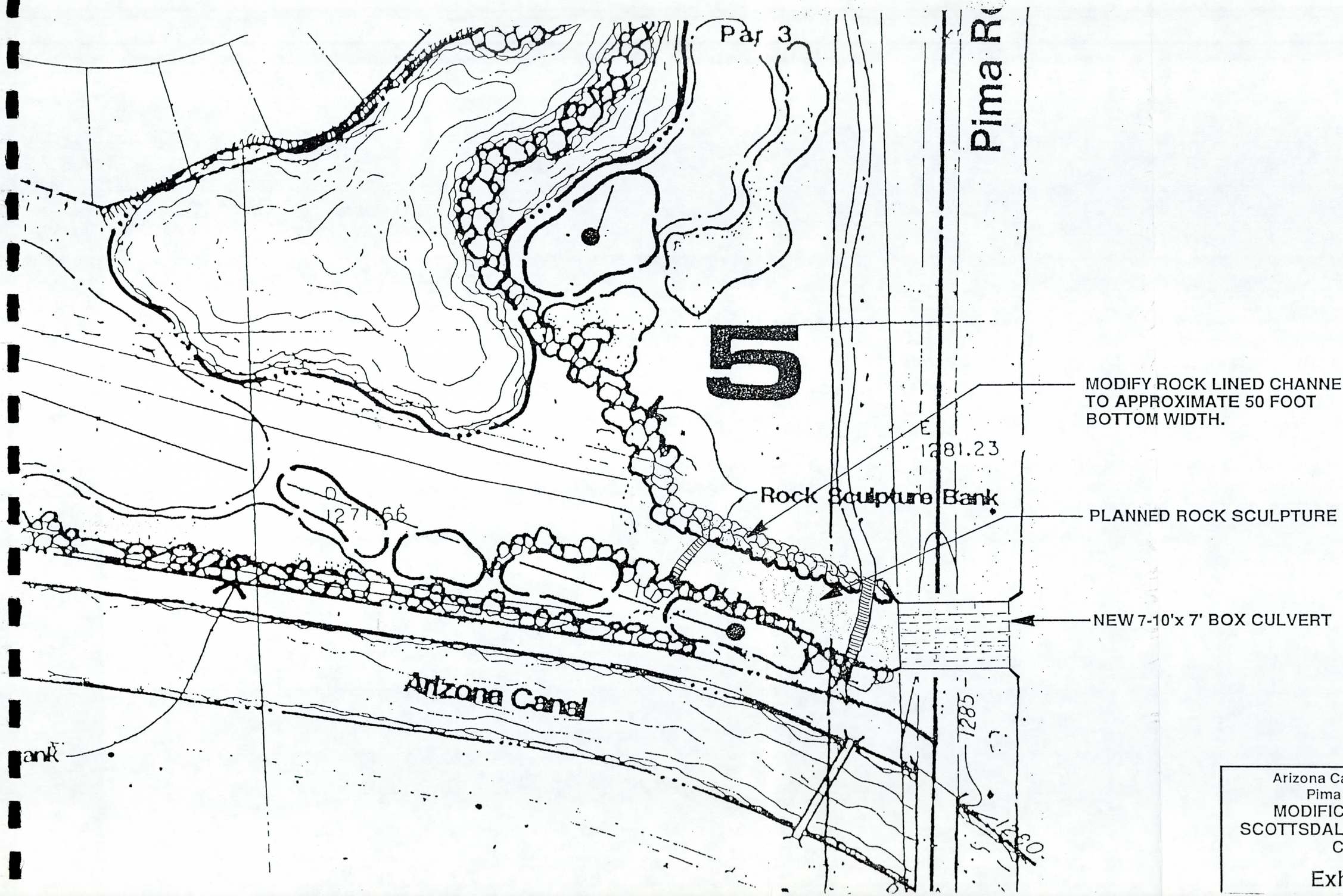
NORTH

DATE 8-30-86
JOB NO 8828
DRAWN BJV
REVISED 9-23-86 2-12-88 2-15-88 2-15-88 2-15-88 2-15-88

Arizona Canal Crossing
Pima Freeway

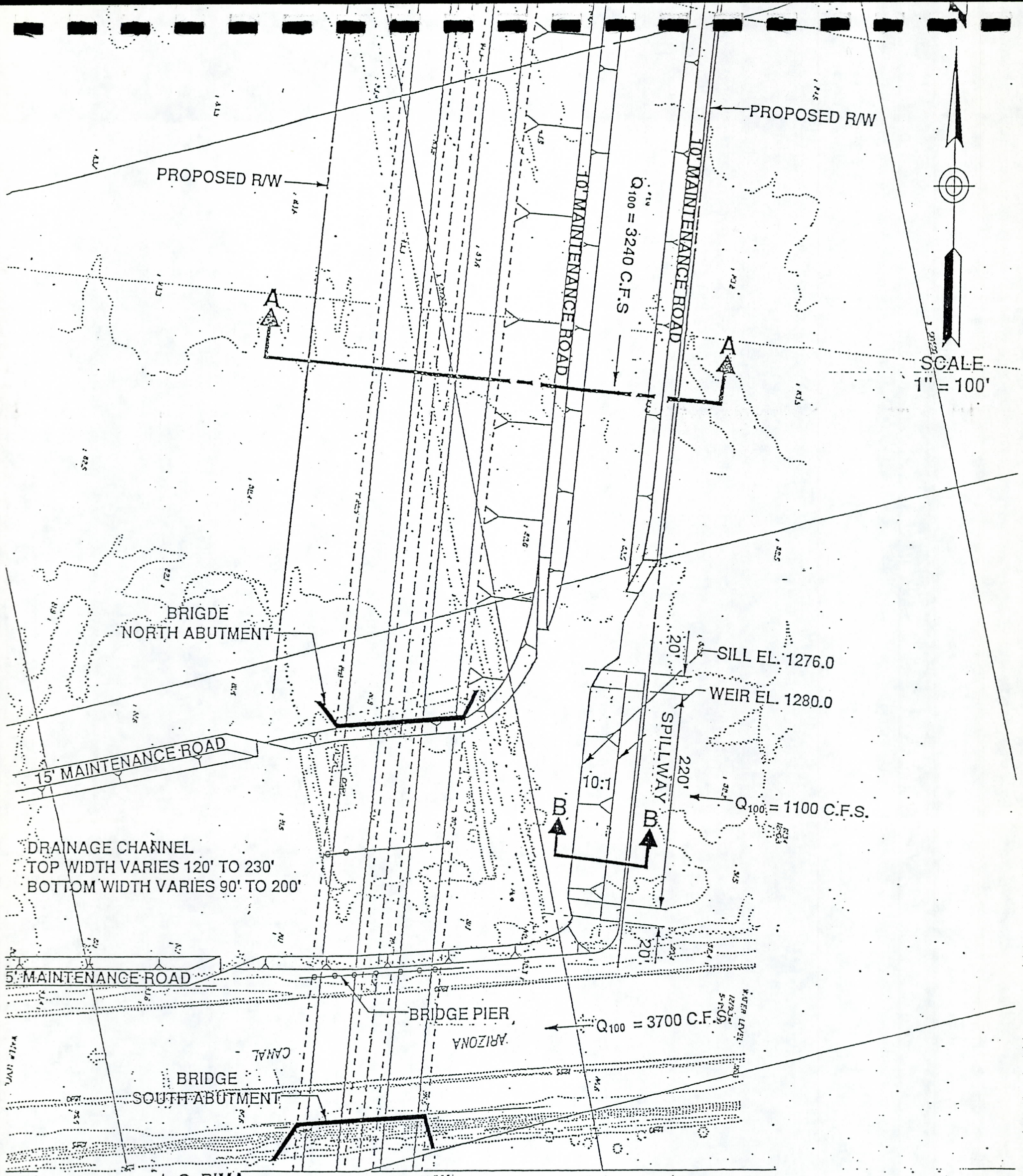
SCOTTSDALE LAKES GOLF CLUB PLAN

Exhibit 6



Arizona Canal Crossing
Pima Freeway
MODIFICATIONS TO
SCOTTSDALE LAKES GOLF
CLUB

Exhibit 7



SECTION A-A
NOT TO SCALE

SECTION B-B
SPILLWAY DETAIL
NOT TO SCALE

Arizona Canal Crossing
Pima Freeway

DRAINAGE CHANNEL

Exhibit 8

APPENDIX A - HYDRAULIC ANALYSIS:

Flood plain mapping and the hydraulic effects of the proposed structure over the Arizona Canal are based on cross sections which were drawn from current topographic maps obtained from an ADOT aerial survey on July 9, 1989.

The Arizona Canal slopes westerly at 0.0005 ft/ft. The existing invert of the Canal east of Pima Road was not surveyed. Computer cross-sections between the overflow spillway west of Pima Road and bar screen are spaced a maximum 100 feet apart except at Pima Road bridge. East of the bar screen, cross-section spacing is 200 to 400 feet. A denser cross-section spacing is used to model the Pima Freeway crossing.

The following Manning's coefficient values were used to characterize friction losses across the drainage sections:

	"n"
Concrete lined channel and Arizona Canal limits	0.018
Graded Arizona Canal embankments and uncultivated desert land covered with grass.	0.030
Desert land covered with dense vegetation within 200-400 feet wide strip of land along north bank of Arizona Canal.	0.060
ADOT cleared and maintained ROW under the Pima Freeway without regrading	0.025

The study contains input data and summary listing of the following files: A180.SOU, A193.SOU, B21303.FUL, DCAN.FUL, DCHA.FUL and DCHA1.FUL. The full computer output and input data are on a floppy disk.

HEC-2 Model Reference No.	Description
A180.IN A180.SOU A180.T95	Existing 100 year flood plain for 8000 cfs (CORPS)
A193.IN A193.SOU	Existing 100 year flood plain for 9326 cfs (SLA)
B11203.IN B11203.SOU	Water surface profile for 3 span, 120' ea., bridge over flood plain and 8000 cfs flow
B11303.IN B11303.SOU	Water surface profile for 3 span, 130' ea., bridge over flood plain and 9326 cfs flow

HEC-2 Model Reference No.	Description
B11304.IN B11304.SOU	Water surface profile for 4 span, 130' ea., bridge over flood plain and 9326 cfs flow
B21303.IN B21303.FUL	Water surface profile for 3 span, 130' ea., bridge over flood plain and 8000 cfs flow
DCHA.IN DCHA.FUL DCHA.T95	Water surface profile for 2 span, 120' ea., bridge 7 - 10' x 7' box culverts 110' to 260' wide channel carrying 4300 cfs flow
DCAN.IN DCAN.FUL DCAN.T95	Water surface profile for 3700 cfs flow in Arizona Canal
DCHA1.IN DCHA1.FUL DCHA1.T95	Water surface profile for 2 span, 120' ea., bridge 7 - 10' x 7' box culverts 110' to 260' wide channel carrying 5626 cfs flow

EXISTING FLOOD PLAIN FOR
8000 C.F.S.

EXISTING FLOOD PLAIN FOR
8000 C.F.S.

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1*************************************************
 *  WATER SURFACE PROFILES                       *
 *  VERSION OF SEPTEMBER 1988                    *
 *                                               *
 *                                               *
 *  RUN DATE    11/ 9/89   TIME   10:20:25       *
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*  U.S. ARMY CORPS OF ENGINEERS
*  THE HYDROLOGIC ENGINEERING CENTER
*  609 SECOND STREET. SUITE D
*  DAVIS. CALIFORNIA 95616
*  (916) 756-1104
*********************************
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X     X  XXXXXXX   XXXXX            XXXXX
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XXXXXXX  XXXX     X         XXXXX   XXXXX
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X     X  X       X     X          X
X     X  XXXXXXX   XXXXX           XXXXXXX
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END OF BANNER

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  HEC2 RELEASE DATED SEPT 88

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T1     OUTER LOOP AND ARIZONA CANAL CROSSING
T2     PIMA ROAD BRIDGE AND CULVERT
T3      ARIZONA CANAL CROSSING
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J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	2			1			8000	1276	

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

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

150

NC	.030	.030	.018	.1	.3					
	USCE SPILLWAY D/S END									
X1	2	15	527	633						
GR	1283	527	1280	540	1272.15	550	1272.15	615	1280	625
GR	1283	633	1280	672	1278	735	1275	862	1273	898
GR	1270	925	1269.4	945	1273	987	1275	1050	1285	1230
	USCE WEIR CREST D/S END									
X1	5	38	543	651	150	150	150			
GR	1283.2	543	1280	559	1272.2	570	1272.2	635	1280	646
GR	1280.5	651	1280	657	1279	717	1278	731	1277	741
GR	1276	756	1276	766	1276	777	1276	779	1276	861
GR	1275	873	1274	882	1273	901	1272	913	1271	919
GR	1270	926	1269.40	960	1271	980	1272	993	1273	996
GR	1274	1001	1275	1005	1276	1008	1277	1012	1278	1017
GR	1279	1021	1280	1027	1281	1031	1282	1038	1283	1061
GR	1284	1072	1285	1079	1290	1101				
X1	8	52	580	693	220	220	220			
GR	1283.7	580	1280	597	1272.29	607	1272.29	672	1280	683
GR	1280.6	693	1280	703	1279	715	1278	722	1278	723
GR	1278	732	1277	734	1276	747	1276	785	1277	801
GR	1278	806	1279	811	1279	822	1278	830	1277	836
GR	1276	840	1275	845	1274	852	1273	857	1272	863
GR	1272	876	1273	910	1278	924	1272	926	1271	929
GR	1269.5	934	1270	936	1270	949	1270	953	1271	966
GR	1272	970	1273	975	1274	979	1275	982	1276	986
GR	1277	991	1278	995	1279	999	1280	1004	1281	1012
GR	1282	1020	1283	1030	1284	1033	1285	1036	1285	1068
GR	1285	1071	1290	1096						

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X1	11	41	620	733	220	220	220			
GR	1284.1	620	1280	636	1272.40	646	1272.40	711	1280	722
GR	1280.7	733	1280	744	1279	754	1278	759	1277	764
GR	1276	776	1276	785	1277	793	1277	802	1276	820
GR	1275	830	1274	842	1273	846	1272	854	1271	863
GR	1269.6	872	1270	926	1271	931	1272	936	1271	941
GR	1274	945	1274	971	1273	975	1272	978	1271	981
GR	1270	986	1271	1020	1273	1033	1274	1038	1275	1041
GR	1278	1054	1280	1063	1281	1067	1283	1076	1285	1084
GR	1290	1104								
X1	14	31	663	774	220	220	220			
GR	1284.6	663	1280	677	1272.51	687	1272.51	752	1280	762
GR	1280.8	774	1280	785	1279	794	1278	808	1277	814
GR	1276	819	1275	824	1274	827	1273	830	1272	832
GR	1271	845	1272	882	1270	901	1270	946	1270	994
GR	1269.7	1011	1269.70	1041	1270	1052	1270	1065	1272	1080
GR	1274	1088	1275	1092	1278	1103	1282	1114	1285	1124
GR	1290	1147								

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X1      17      35     701     815     220     220     220
GR    1285     701    1280     717  1272.62     727  1272.62     792    1280     801
GR  1280.9     815    1280     828    1279     833    1278     836    1277     840
GR    1276     843    1274     854    1273     858    1272     862    1271     883
GR    1272     903    1271     911    1270     932    1270     942    1270     975
GR  1269.8    1003  1269.80    1010    1270    1082    1270    1144    1270    1185
GR    1270    1218    1270    1247    1270    1268    1270    1327    1271    1341
GR    1273    1355    1276    1382    1279    1410    1281    1482    1285    1530

        USCE WEIR CREST U/S END
X1      40      34     746     863     220     220     220
GR    1284     720    1284     746    1280     750  1272.70     760  1272.70     820
GR    1281     830    1281     840    1281     863    1283     868    1284     871
GR    1284     895    1282     900    1280     905    1278     910    1278     920
GR    1280     925    1282     935    1284     945    1283     969    1282    1055
GR    1284    1062    1286    1070    1288    1075    1290    1084    1287    1127
GR    1284    1134    1280    1174    1277    1238    1278    1260    1280    1310
GR    1276    1360    1272    1528    1276    1630    1280    1658

        USCE SPILLWAY U/S END
X1      45      18     719     819     180     170     180
GR    1285     719    1284     723    1280     729  1272.78     737  1272.78     807
GR    1280     815    1284     819    1284     866    1283     885    1283     895
GR  1279.2     897  1279.2     908    1283     910    1282     950    1281    1080
GR  1280.6    1210    1281    1480    1282    1945

X1      49      22     722     820      15      15      15
GR  1285.2     716  1285.3     722    1280     726  1272.79     734  1272.79     807
GR    1281     816  1285.3     820    1285     845    1285     880    1284     895
GR  1279.4     907  1279.4     917    1284    1010  1283.2    1140  1283.1    1246
GR  1283.0    1320  1282.9    1360    1283    1410  1283.2    1466  1283.5    1558
GR    1284    1673    1285    1970
1
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        PIMA ROAD CULVERT D/S FACE
X1      50      32     722     820       1       1       1
X4       7    1284     723  1284.0     819  1285.4     821  1285.1     896  1285.0
X4     906  1284.9     907  1284.9     919
BT       8     721  1285.4  1285.4     723  1285.4  1284.0     819  1285.4  1284.0
BT     820  1285.4  1285.4     906  1284.9  1284.9     907  1284.9  1283.4     917
BT  1284.9  1283.4     919  1284.9  1284.9
GR  1285.2     716  1285.3     720  1285.4     721  1285.3     722  1280.0     726
GR  1272.8     734  1272.8     759    1284     759    1284     761  1272.8     761
GR  1272.8     783    1284     783    1284     785  1272.8     785  1272.8     807
GR    1281     816  1285.4     820  1285.4     845  1285.2     880  1285.1     895
GR  1279.4     907  1279.4     917    1284    1010  1283.2    1140  1283.1    1246
GR    1283    1320  1282.9    1360    1283    1410  1283.2    1466  1283.5    1558
GR    1284    1673    1285    1970

        PIMA ROAD CULVERT U/S FACE
X1      51                              35      35      35

X1      52      22     722     820       1       1       1
GR  1285.2     716  1285.3     722    1280     726  1272.80     734  1272.80     807
GR    1281     816  1285.3     820    1285     845    1285     880    1284     895
GR  1279.4     907  1279.4     917    1284    1010  1283.2    1140  1283.1    1246
GR  1283.0    1320  1282.9    1360    1283    1410  1283.2    1466  1283.5    1558
GR    1284    1673    1285    1970

X1      53      30     700     796      30      30      30
GR    1280     646    1282     667    1284     696  1285.4     700    1280     705
GR    1278     707  1272.82     712  1272.82     779    1280     786    1284     796
GR    1283     805    1282     810    1282     840    1280     925    1281     942
GR    1280     964  1282.2    1030  1281.8    1165  1281.9    1257    1282    1300
GR    1282    1400  1282.1    1445    1283    1540    1283    1600  1283.5    1660
GR    1284    1765    1283    1860    1283    1920    1284    2050    1285    2150
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NH      4      .018      768      .030      840      .060      1971      .030      2152
X1     60        38      681       787       70       100        70
X4      3      1280      768      1281      840      1281      1100
GR   1285       657     1285       681     1280       687   1272.85       694   1272.85       763
GR   1280       770     1285       777     1285       778      1284       787      1284       801
GR   1285       804     1285       808     1284       810      1283       812      1282       818
GR   1281       821     1281       853     1281       905      1281      1139      1282      1351
GR   1282      1367     1281      1368     1280      1370      1280      1372      1281      1374
GR   1282      1377     1283      1619     1283      1657      1283      1663      1284      1851
GR   1284      1901     1284      1963     1285      1971      1286      1980      1286      2007
GR   1286      2105     1286      2133     1286      2152

NH      4      .018      743      .030      760      .060      1260      .030      2106
X1     80        34      644       743       70       140        70
X4      2      1283      760      1282     1260
GR   1283       577     1282       582     1281       585      1280       590      1280       604
GR   1281       606     1282       608     1283       611      1284       615      1285       632
GR   1285       644     1280       649   1272.9       656    1272.9       729      1280       736
GR   1285       741     1285       743     1284       753      1283       766      1283       768
GR   1283       775   1282.1       795     1281       819      1281       832      1281       860
1
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GR   1281       935     1282      1255     1282      1265      1282      1278      1282      1287
GR   1283      1370     1284      1518     1285      1940      1286      2106

NH      4      .018      700      .030      761      .060      1280      .030      2094
        DEBRIS BRIDGE SPECIAL D/S FACE
X1     90        28      594       700       95        95        95
X4      3    1285.2      580      1282     1260    1282.4      1280
GR   1284       561     1285       572     1285       594    1284.4       596      1280       602
GR   1279       603   1272.93       609   1272.93       680      1280       687    1284.4       692
GR   1284       700     1283       710     1282       730      1281       761      1281       787
GR   1281       802     1281       831     1281       930      1281       940      1282      1221
GR   1282      1253     1282      1264     1283      1360      1283      1426      1283      1432
GR   1284      1496     1285      1877     1286      2094

NH      4      .018      700      .030      761      .060      1280      .030      2094
SB     .9      1.35      2.7                92       1.5       736         1    1272.9    1272.9
        DEBRIS BRIDGE SPECIAL U/S FACE
X1     92        28      594       700       12        12        12
X2                         1    1280.9    1284.4                        1.33
X4      3    1285.2      580      1282     1260    1282.4      1280
BT      4       596    1284.4    1284.4      609    1284.4    1280.9       680    1284.4    1280.9
BT    692    1284.4    1284.4
GR   1284       561     1285       572     1285       594    1284.4       596      1280       602
GR   1279       603   1272.94       609   1272.94       680      1280       687    1284.4       692
GR   1284       700     1283       710     1282       730      1281       761      1281       787
GR   1281       802     1281       831     1281       930      1281       940      1282      1221
GR   1282      1253     1282      1264     1283      1360      1283      1426      1283      1432
GR   1284      1496     1285      1877     1286      2094

NH      4      .018      654      .030      670      .060      1180      .030      2115
X1    100        30      523       654       90       130        90
X4      2    1285.6      540      1283     670
GR   1279       422     1279       448     1279       465      1279       473      1278       478
GR   1278       483     1279       487     1280       493      1281       501      1282       505
GR   1283       506     1284       513     1285       523      1285       547      1280       552
GR   1279       553   1273.0       560   1273.0       631      1280       638      1284       654
GR   1283       665     1282       678     1281       726      1281       760      1281       820
GR   1282      1180     1283      1452     1284      1795      1285      1970      1286      2115
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NH	4	.018	556	.030	570	.060	820	.030	2300	
X1	120	32	449	556	200	220	200			
X4	2	1285.6	450	1282	820					
GR	1279	291	1280	375	1280	381	1280	386	1281	388
GR	1281	390	1280	392	1280	393	1281	395	1282	397
GR	1283	398	1284	400	1285	402	1285	449	1280	454
GR	1279	455	1273.08	461	1273.08	532	1280	539	1284	556
GR	1283	565	1283	570	1283	572	1282	574	1281	576
GR	1281	615	1282	964	1283	1370	1284	1695	1285	1975
GR	1286	2186	1286.9	2300						

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NH	4	.018	455	.030	485	.060	660	.030	2160	
X1	140	31	354	455	200	210	200			
X4	3	1286.5	335	1282	485	1281	660			
GR	1280	225	1281	280	1281	281	1280	284	1280	287
GR	1279	290	1280	299	1281	301	1283	310	1285	313
GR	1286	317	1286	354	1285	359	1280	364	1273.19	371
GR	1273	400	1273.19	443	1280	450	1285	455	1285	456
GR	1284	472	1284	479	1282	484	1281	531	1281	554
GR	1282	880	1283	1310	1284	1635	1285	1990	1286	2126
GR	1286.4	2160								

NH	5	.018	375	.030	400	.060	760	.030	2100	.060
NH	2230									
X1	160	33	277	375	460	340	440			
X4	4	1285.9	260	1282	400	1282	760	1286.2	2100	
GR	1280	210	1280	215	1279	218	1279	220	1280	221
GR	1281	227	1282	229	1283	231	1284	232	1285	242
GR	1285	277	1280	282	1273.40	289	1273.40	361	1280	368
GR	1283	370	1284	375	1284	378	1283	384	1282	396
GR	1281	414	1281	431	1281	457	1281	507	1281	601
GR	1281	629	1281	643	1282	912	1283	1210	1284	1455
GR	1285	1793	1286	2061	1286.7	2230				

NH	5	.018	368	.030	453	.060	960	.030	1880	.060
NH	2160									
X1	180	33	267	368	320	310	320			
X4	4	1285.9	250	1281	360	1282	960	1285.4	1880	
GR	1280	200	1281	206	1281	210	1281	215	1282	217
GR	1283	218	1284	220	1285	225	1285	267	1280	272
GR	1276	276	1273.56	279	1273.56	350	1280	357	1283	361
GR	1283	368	1282	378	1281	382	1281	398	1281	453
GR	1281	460	1281	480	1281	616	1282	957	1283	1144
GR	1284	1440	1285	1725	1285	1750	1285	1775	1285	1790
GR	1285	1800	1286	1966	1286.9	2160				

NH	5	.018	407	.030	446	.060	860	.030	1437	.060
NH	2160									
X1	200	28	304	407	300	300	300			
X4	3	1286.5	285	1281	420	1282	860			
GR	1280	241	1283	259	1284	261	1285	263	1286	277
GR	1286	304	1285	305	1280	310	1273.70	317	1273.70	386
GR	1280	393	1283	396	1283	407	1282	413	1281	421
GR	1281	429	1281	446	1281	543	1281	606	1281	611
GR	1282	916	1283	1107	1284	1437	1285	1686	1285	1690
GR	1285.4	1750	1286	1946	1286.7	2160				

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NH      6      .030      346      .018      438      .030      475      .060      820      .030
NH   1880      .060     2135
X1    210        21      346      446      220      240      220
X4      1    1286.6      330
GR   1280       282     1283      300     1285      306     1286      314     1286      346
GR   1280       352   1273.8      358   1273.8      430     1280      436     1283      438
GR   1283       446     1282      458   1281.5      475     1282      820     1283     1055
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GR   1284      1375     1285     1600     1286     1830   1286.4     1880     1287     1960
GR   1288      2135

NH      6      .030      365      .018      471      .030      503      .060      700      .030
NH   1710      .030     2165
        OLH CROSSING D/S FACE
X1    220        23      365      487       90       90       90
X4      3    1286.5      350   1281.9      700   1285.2     1710
GR   1280       315     1283      325     1285      330     1286      345     1286      365
GR   1285       382     1280      386   1273.85      392   1273.85      465     1280      471
GR   1282       487     1282      503     1281.2      565     1282      575     1282      690
GR   1282       820     1283     1010     1284     1415     1285     1620   1285.5     1695
GR   1286      1810     1287     1900     1288     2165

NH      6      .030      382      .018      475      .030      499      .060      840      .030
NH   1585      .060     1920
        OLH CROSSING U/S FACE
X1    230        22      382      565      120      120      120
X4      1    1286.5      370
GR   1280       320     1283      340     1285      346     1286      355     1286      382
GR   1285       385     1280      388   1273.9      394   1273.9      466     1280      472
GR   1282       475     1282      485   1282.1      499     1282      565     1282      800
GR   1282       840     1283     1045     1284     1390     1285     1570   1285.2     1585
GR   1286      1800     1287     1920

NH      5      .018      505      .030      520      .060      840      .030     1540      .060
NH   1950
X1    240        19      405      505      180      180      180
X4      4    1286.6      395     1282      520     1282      840   1284.7     1540
GR   1284       363     1285      365     1286      373     1286      403     1285      405
GR   1280       410   1274.00      417   1274.00      484     1280      491     1282      495
GR   1282       505     1281      521     1281      528     1282      576     1283     1031
GR   1284      1325     1285     1495     1286     1790     1287     1950

NH      6      .030      417      .018      510      .030      530      .060      895      .030
NH   1544      .060     2150
X1    245        27      417      520       60       60       60
X4      1    1286.6      405
GR   1280       356     1283      375     1285      380     1286      391     1286      417
GR   1285       420     1280      425   1274.03      431   1274.03      500     1280      506
GR   1282       510     1282      520     1281      530     1281      550     1282      595
GR  1282.5       895     1283     1000     1283     1120     1283     1145     1284     1340
GR   1285      1500   1285.2     1544     1286     1720   1286.3     1820     1287     1930
GR  1287.2      2040   1287.7     2150

NH      4      .018      531      .030      550      .060      800      .030     1957
X1    250        23      427      531       90       90       90
X4      4    1286.3      415     1281      550     1282      800     1285     1486
GR   1284       388     1285      390     1286      408     1286      427     1285      431
GR   1280       435   1274.08      442   1274.08      509     1280      516     1282      519
GR   1282       531     1281      543     1281      559     1282      654     1283      945
GR   1283      1041     1283     1091     1284     1340     1285     1503     1286     1625
GR   1286      1646     1286     1782     1287     1957
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NH	5	.018	556	.030	570	.060	847	.030	1630	.060
NH	1948									
X1	260	19	452	556	150	150	150			
X4	4	1286.4	425	1282	570	1282	880	1285.3	1630	
GR	1282	402	1285	413	1286	418	1286	450	1285	452
GR	1280	457	1274.15	463	1274.15	535	1280	541	1282	543
GR	1282	556	1282	572	1282	594	1282	847	1283	1010
GR	1284	1172	1285	1493	1286	1724	1287	1948		
NH	5	.018	567	.030	590	.060	900	.030	1680	.060
NH	2110									
X1	270	22	473	567	150	150	150			
X4	5	1286.4	460	1283	590	1282	850	1282.3	900	1285.8
X4	1680									
GR	1284	436	1285	442	1286	453	1286	473	1285	475
GR	1280	478	1274.22	484	1274.22	559	1280	565	1281	567
GR	1281	568	1282	585	1283	595	1283	608	1282	654
GR	1282	850	1283	1107	1284	1304	1285	1504	1286	1715
GR	1287	1990	1287.8	2110						
NH	5	.018	597	.030	620	.060	940	.030	1900	.060
NH	2160									
X1	280	19	465	597	150	150	150			
X4	5	1286.5	485	1282	620	1282	890	1282.4	940	1286.7
X4	1900									
GR	1283	458	1285	465	1286	474	1286	497	1285	498
GR	1280	503	1274.30	509	1274.30	582	1280	588	1282	597
GR	1282	622	1282	645	1282	837	1283	1161	1284	1400
GR	1285	1555	1286	1773	1287	2085	1287	2160		
NH	5	.030	568	.018	658	.030	680	.060	940	.030
NH	1960									
X1	300	17	540	652	400	400	400			
X4	2	1286.5	558	1282	940					
GR	1285	534	1286	540	1286	566	1285	568	1280	573
GR	1274.5	579	1274.5	652	1285	658	1283	663	1282	673
GR	1282	680	1281.2	820	1282	856	1283	1190	1284	1420
GR	1285	1690	1286	1960						
NH	5	.030	630	.018	722	.030	749	.060	1150	.030
NH	1940									
X1	320	17	627	735	380	380	380			
X4	1	1282.5	1150							
GR	1285	590	1286	600	1286	627	1285	630	1280	634
GR	1274.7	640	1274.7	714	1280	720	1285	722	1285	726
GR	1283	735	1282	749	1282	830	1283	1205	1284	1475
GR	1285	1715	1286	1940						

1

SECND	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*PROF 1

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CCHV=     .100 CEHV=     .300
*SECNO 2.000

3265 DIVIDED FLOW

3720 CRITICAL DEPTH ASSUMED
        USCE SPILLWAY D/S END
     2.00     6.30  1275.70  1275.70  1276.00  1277.25     1.55      .00      .00  1283.00
    8000.       0.    3059.    4941.       0.     247.     606.       0.       0.   1283.00
      .00      .00    12.39     8.16     .000     .018     .030     .000  1269.40   545.48
  .004721       0.       0.       0        0       11        0      .00   304.36  1062.62
0
*SECNO 5.000

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

        USCE WEIR CREST D/S END
     5.00     7.52  1276.92      .00      .00  1277.73      .82      .41      .07  1283.20
    8000.       0.    3018.    4982.       0.     338.     831.       3.       1.   1280.50
      .01      .00     8.94     5.99     .000     .018     .030     .000  1269.40   563.36
  .001758     150.     150.     150.        3        0        0      .00   347.60  1011.64
0
*SECNO 8.000

3265 DIVIDED FLOW

     8.00     7.74  1277.24      .00      .00  1278.16      .92      .40      .03  1283.70
    8000.       0.    3374.    4626.       0.     355.     764.       9.       3.   1280.60
      .01      .00     9.50     6.05     .000     .018     .030     .000  1269.50   600.58
  .001869     220.     220.     220.        3        0        0      .00   302.18   991.96
0
1
   11/ 9/89      10:20:26                                                                    PAGE    9


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


*SECNO 11.000

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

    11.00     8.53  1278.13      .00      .00  1278.41      .28      .19      .06  1284.10
    8000.       0.    2230.    5770.       0.     418.    1532.      17.       4.   1280.70
      .03      .00     5.33     3.77     .000     .018     .030     .000  1269.60   638.45
  .000495     220.     220.     220.        2        0        0      .00   377.13  1054.61
0
*SECNO 14.000

3265 DIVIDED FLOW


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

    14.00     8.64  1278.34      .00      .00  1278.50      .16      .07      .01  1284.60
    8000.       0.    1611.    6389.       0.     425.    2119.      28.       6.   1280.80
      .05      .00     3.79     3.02     .000     .018     .030     .000  1269.70   679.21
  .000245     220.     220.     220.        2        0        0      .00   381.33  1103.94
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v
 *SECNO 17.000

 3265 DIVIDED FLOW


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

     17.00     8.69  1278.49      .00      .00  1278.54      .04      .03      .01  1285.00
     8000.       0.     866.    7134.       0.     426.    4309.      47.       9.  1280.90
       .08      .00     2.03     1.68     .000     .018     .030     .000  1269.80   719.04
   .000070     220.     220.     220.        2        0        0      .00   650.88  1405.28
0
1
    11/ 9/89      10:20:26                                                                          PAGE   10


    SECNO    DEPTH    QWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO 40.000

 3265 DIVIDED FLOW


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

          USCE WEIR CREST U/S END
     40.00     6.20  1278.20      .00      .00  1278.72      .53      .04      .14  1284.00
     8000.       0.    2914.    5086.       0.     369.    1215.      63.      12.  1281.00
       .09      .00     7.90     4.19     .000     .018     .030     .000  1272.00   752.46
   .001151     220.     220.     220.        2        0        0      .00   450.71  1645.40
0
 *SECNO 45.000

 3265 DIVIDED FLOW


 3301 HV CHANGED MORE THAN HVINS

 3685 20 TRIALS ATTEMPTED WSEL.CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
          USCE SPILLWAY U/S END
     45.00     7.19  1279.97  1279.97      .00  1283.11     3.14      .30      .78  1285.00
     8000.       0.    7982.      18.       0.     561.       9.      67.      13.  1284.00
       .10      .00    14.23     2.10     .000     .018     .030     .000  1272.78   729.03
   .002649     180.     180.     170.       20        8        0      .00    97.75   908.41
0
 *SECNO 49.000

 3265 DIVIDED FLOW


 3301 HV CHANGED MORE THAN HVINS


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

     49.00     8.58  1281.37      .00      .00  1283.26     1.89      .03      .12  1285.30
     8000.       0.    7868.     134.       0.     707.      64.      67.      13.  1285.30
       .10      .00    11.12     2.08     .000     .018     .030     .000  1272.79   724.96
   .001304      15.      15.      15.        6        0        0      .00   146.40   956.87
^
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v
1
   11/ 9/89      10:20:26                                                                                    PAGE   11

   SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      ARDB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

*SECND 50.000

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

3370 NORMAL BRIDGE. NRD=   8 MIN ELTRD=  1284.90 MAX ELLC=  1285.40

        PIMA ROAD CULVERT D/S FACE
    50.00     8.21  1281.01      .00      .00  1283.42     2.41      .00      .16  1285.30
    8000.      0.    7995.       5.       0.     641.       3.      67.      13.   1285.40
      .10      .00    12.47     1.75     .000     .018     .030     .000  1272.80   725.24
  .002607      1.       1.       1.        2        0        0      .00    90.60   917.59
0
*SECND 51.000

3265 DIVIDED FLOW

        PIMA ROAD CULVERT U/S FACE
    51.00     8.48  1281.28      .00      .00  1283.53     2.24      .09      .02  1285.30
    8000.      0.    7992.       8.       0.     665.       4.      68.      13.   1285.40
      .10      .00    12.02     1.84     .000     .018     .030     .000  1272.80   725.03
  .002352     35.      35.      35.        2        0        0      .00    91.72   917.69
0
*SECND 52.000

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

    52.00     9.25  1282.05      .00      .00  1283.80     1.55      .00      .07  1285.30
    8000.      0.    7773.     227.       0.     768.     106.      68.      13.   1285.30
      .10      .00    10.12     2.14     .000     .018     .030     .000  1272.80   724.46
  .000990      1.       1.       1.        3        0        0      .00   162.81   970.41
0
1
   11/ 9/89      10:20:26                                                                                    PAGE   12

   SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      ARDB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
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*SECNO 53.000

3265 DIVIDED FLOW

3280 CROSS SECTION     53.00 EXTENDED      2.08 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   53.00     9.26  1282.08  1282.08      .00  1283.74     1.66      .03      .03  1285.40
   8000.      37.    7524.     439.      23.     707.     269.      68.      13.   1284.00
     .10     1.65    10.64     1.63     .030     .018     .030     .000  1272.82   646.00
  .001152     30.      30.      30.        2        5        0      .00   691.13  1435.22
0
 1490 NH CARD USED
 *SECNO 60.000
 1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

 3265 DIVIDED FLOW

   60.00     9.73  1282.58  1280.22      .00  1283.85     1.27      .08      .04  1285.00
   8000.       0.    7217.     783.       0.     759.     804.      71.      15.   1284.00
     .10      .00     9.51      .97     .000     .019     .057     .000  1272.85   683.90
  .000956     70.      70.     100.       8       17        0      .00   792.84  1517.64
0
 1490 NH CARD USED
 *SECNO 80.000

 3265 DIVIDED FLOW

   80.00    10.05  1282.95      .00      .00  1283.94      .99      .06      .03  1285.00
   8000.     263.    7051.     686.      70.     834.     804.      75.      17.   1285.00
     .11     3.78     8.45      .85     .018     .018     .057     .000  1272.90   577.21
  .000631     70.      70.     140.       2        0        0      .00   717.09  1366.46
0
 1490 NH CARD USED
 *SECNO 90.000

 3265 DIVIDED FLOW

         DEBRIS BRIDGE SPECIAL D/S FACE
1
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   SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
   Q        DLOB     DCH      DROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


   90.00    10.01  1282.94  1279.99      .00  1284.03     1.09      .06      .03  1285.00
   8000.       0.    7181.     819.       0.     812.     877.      78.      19.   1284.00
     .11      .00     8.84      .93     .000     .018     .057     .000  1272.93   597.99
  .000706     95.      95.      95.        4       15        0      .00   733.18  1352.02
0
 1490 NH CARD USED

 SPECIAL BRIDGE

 SB  XK        XNOR      COFQ      FDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
       .90      1.35      2.70       .00    92.00      1.50    736.00      1.00   1272.90   1272.90

 *SECNO 92.000

 3265 DIVIDED FLOW

 3280 CROSS SECTION     92.00 EXTENDED       .98 FEET
```

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QFR	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
1285.42	1284.05	.04	219.	7798.	736.	788.	1280.90	1284.40	96.

DEBRIS BRIDGE SPECIAL U/S FACE

92.00	12.04	1284.98	.00	.00	1285.29	.31	1.26	.00	1285.00
8000.	4.	5461.	2536.	5.	1012.	2642.	79.	19.	1284.00
.11	.74	5.40	.96	.018	.018	.050	.000	1272.94	561.00
.000235	12.	12.	12.	2	0	2	.00	1287.44	1870.67

0

1490 NH CARD USED

*SECND 100.000

3265 DIVIDED FLOW

1

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SECND	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3280 CROSS SECTION 100.00 EXTENDED 6.19 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

100.00	12.19	1285.19	.00	.00	1285.33	.14	.02	.02	1285.00
8000.	1446.	4015.	2539.	520.	1062.	3389.	91.	23.	1284.00
.12	2.78	3.78	.75	.018	.018	.045	.000	1273.00	422.00
.000118	90.	90.	130.	2	0	0	.00	1559.68	1997.97

0

1490 NH CARD USED

*SECND 120.000

3265 DIVIDED FLOW

3280 CROSS SECTION 120.00 EXTENDED 6.23 FEET

120.00	12.15	1285.23	.00	.00	1285.35	.12	.02	.00	1285.00
8000.	1492.	3827.	2681.	607.	1049.	3317.	115.	31.	1284.00
.14	2.46	3.65	.81	.018	.018	.036	.000	1273.02	291.00
.000102	200.	200.	220.	0	0	0	.00	1731.31	2023.19

0

1490 NH CARD USED

*SECND 140.000

3265 DIVIDED FLOW

3280 CROSS SECTION 140.00 EXTENDED 5.25 FEET

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   140.00    12.25  1285.25      .00      .00  1285.37      .12      .02      .00  1286.00
    8000.     927.    3876.    3197.     408.    1024.    3610.     139.      40.   1285.00
      .17     2.27     3.78      .89     .018     .018     .034     .000  1273.00   225.00
  .000103     200.     200.     210.        0        0        0      .00  1755.94  2024.65
0
 1490 NH CARD USED
 *SECNO 160.000

 3265 DIVIDED FLOW

1
   11/ 9/89      10:20:26                                                                    PAGE   15


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


 3280 CROSS SECTION    160.00 EXTENDED      5.26 FEET

   160.00    11.86  1285.26      .00      .00  1285.44      .18      .05      .02  1285.00
    8000.     274.    4426.    3301.     114.    1004.    3548.     180.      53.   1284.00
      .21     2.39     4.41      .93     .018     .018     .040     .000  1273.40   210.00
  .000144     460.     440.     340.        2        0        0      .00  1628.69  1863.47
0
 1490 NH CARD USED
 *SECNO 180.000

 3265 DIVIDED FLOW

 3280 CROSS SECTION    180.00 EXTENDED      5.30 FEET

   180.00    11.75  1285.31      .00      .00  1285.49      .18      .05      .00  1285.00
    8000.     191.    4470.    3339.      88.     999.    3668.     214.      65.   1283.00
      .23     2.17     4.47      .91     .018     .018     .044     .000  1273.56   200.00
  .000153     320.     320.     310.        0        0        0      .00  1632.49  1860.40
0
 1490 NH CARD USED
 *SECNO 200.000

 3265 DIVIDED FLOW

 3280 CROSS SECTION    200.00 EXTENDED      5.35 FEET

   200.00    11.64  1285.34      .00      .00  1285.54      .20      .05      .00  1286.00
    8000.     162.    4527.    3311.      76.     975.    3399.     245.      76.   1283.00
      .26     2.15     4.64      .97     .018     .018     .043     .000  1273.70   241.00
  .000174     300.     300.     300.        0        0        0      .00  1464.84  1742.58
0
 1490 NH CARD USED
 *SECNO 210.000

 3265 DIVIDED FLOW

 3280 CROSS SECTION    210.00 EXTENDED      5.34 FEET

   210.00    11.54  1285.34      .00      .00  1285.60      .27      .04      .02  1286.00
    8000.     106.    5044.    2849.      77.     972.    2786.     268.      83.   1283.00
      .28     1.37     5.19     1.02     .030     .018     .041     .000  1273.80   282.00
  .000202     220.     220.     240.        2        0        0      .00  1357.14  1677.13
0
1
   11/ 9/89      10:20:26                                                                    PAGE   16
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   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 220.000

3265 DIVIDED FLOW

3280 CROSS SECTION    220.00 EXTENDED      5.39 FEET

        OLH CROSSING D/S FACE
   220.00    11.54  1285.39      .00      .00  1285.63      .23      .02      .00  1286.00
    8000.      55.    4962.    2983.      47.    1028.    2681.     276.      86.  1282.00
      .29     1.16     4.83     1.11     .030     .018     .036     .000  1273.85   315.00
  .000192      90.      90.      90.        2        0        0      .00  1358.90  1734.34
0
1490 NH CARD USED
*SECNO 230.000

3265 DIVIDED FLOW

3280 CROSS SECTION    230.00 EXTENDED      5.46 FEET

        OLH CROSSING U/S FACE
   230.00    11.56  1285.46      .00      .00  1285.65      .19      .02      .00  1286.00
    8000.     126.    5363.    2511.      89.    1265.    2423.     286.      90.  1282.00
      .30     1.41     4.24     1.04     .030     .018     .039     .000  1273.90   320.00
  .000201     120.     120.     120.        2        0        0      .00  1301.74  1655.20
0
1490 NH CARD USED
*SECNO 240.000

3265 DIVIDED FLOW

3280 CROSS SECTION    240.00 EXTENDED      1.42 FEET

   240.00    11.42  1285.42      .00      .00  1285.73      .31      .04      .04  1285.00
    8000.       2.    5223.    2775.       3.     949.    2527.     301.      95.  1282.00
      .31      .69     5.50     1.10     .018     .018     .041     .000  1274.00   363.00
  .000242     180.     180.     180.        2        0        0      .00  1278.96  1677.79
0
1490 NH CARD USED
1
   11/ 9/89      10:20:26                                                                    PAGE   17


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


*SECNO 245.000

3265 DIVIDED FLOW

3280 CROSS SECTION    245.00 EXTENDED      5.43 FEET

   245.00    11.40  1285.43      .00      .00  1285.75      .32      .01      .00  1286.00
    8000.     127.    5276.    2557.      83.     954.    2437.     306.      97.  1282.00
      .31     1.53     5.53     1.07     .030     .018     .042     .000  1274.03   356.00
  .000241      60.      60.      60.        0        0        0      .00  1294.50  1594.49
0
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1490 NH CARD USED
*SECNO 250.000

3265 DIVIDED FLOW

3280 CROSS SECTION    250.00 EXTENDED      1.48 FEET

   250.00    11.40  1285.48      .00      .00  1285.77      .29      .02      .00  1286.00
    8000.       3.    5101.    2897.'      4.     949.    2454.     313.      99.   1282.00
      .32      .65     5.37     1.18     .018     .018     .039     .000  1274.08   388.00
  .000237      90.      90.      90.        2        0        0      .00  1142.55  1561.08
0
1490 NH CARD USED
*SECNO 260.000

3265 DIVIDED FLOW

3280 CROSS SECTION    260.00 EXTENDED      3.48 FEET

   260.00    11.33  1285.48      .00      .00  1285.82      .34      .04      .01  1285.00
    8000.      37.    5511.    2452.      23.     986.    2198.     324.     103.   1282.00
      .33     1.64     5.59     1.12     .018     .018     .041     .000  1274.15   402.00
  .000251     150.     150.     150.        2        0        0      .00  1216.54  1654.18
0
1490 NH CARD USED
*SECNO 270.000

3265 DIVIDED FLOW

1
   11/ 9/89      10:20:26                                                                    PAGE   18


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


3280 CROSS SECTION    270.00 EXTENDED      1.52 FEET

   270.00    11.30  1285.52      .00      .00  1285.86      .34      .04      .00  1286.00
    8000.       7.    5429.    2564.       8.     967.    2353.     336.     107.   1281.00
      .34      .96     5.61     1.09     .018     .018     .040     .000  1274.22   436.00
  .000227     150.     150.     150.        0        0        0      .00  1155.39  1617.67
0
1490 NH CARD USED
*SECNO 280.000

3265 DIVIDED FLOW

3280 CROSS SECTION    280.00 EXTENDED      2.62 FEET

   280.00    11.32  1285.62      .00      .00  1285.90      .28      .03      .01  1285.00
    8000.      15.    5127.    2858.      11.     987.    2600.     347.     111.   1282.00
      .35     1.34     5.19     1.10     .018     .018     .040     .000  1274.30   458.00
  .000218     150.     150.     150.        2        0        0      .00  1205.61  1690.40
0
1490 NH CARD USED
*SECNO 300.000

3265 DIVIDED FLOW

3280 CROSS SECTION    300.00 EXTENDED       .71 FEET
```

```
   300.00    11.20  1285.70      .00      .00  1285.98      .28      .08      .00  1286.00
    8000.       0.    4797.    3202.       2.     886.    2843.     381.     123.   1274.50
      .38      .31     5.42     1.13     .030     .018     .038     .000  1274.50   534.00
  .000199     400.     400.     400.        0        0        0      .00  1319.40  1881.72
0
 1490 NH CARD USED
 *SECNO 320.000

 3265 DIVIDED FLOW

 3280 CROSS SECTION    320.00 EXTENDED       .76 FEET

   320.00    11.06  1285.76      .00      .00  1286.08      .32      .08      .01  1286.00
    8000.       1.    5287.    2712.       3.     958.    2613.     413.     134.   1283.00
      .41      .37     5.52     1.04     .030     .017     .044     .000  1274.70   590.00
  .000239     380.     380.     380.        2        0        0      .00  1285.16  1885.32
0
1
   11/ 9/89      10:20:26                                                                    PAGE   19


                                                                    THIS RUN EXECUTED 11/ 9/89    10:21:31
 ************************************************
   HEC2 RELEASE DATED SEPT 88


 ************************************************


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


 ARIZONA CANAL CROSSING

 SUMMARY PRINTOUT TABLE  150

      SECNO     XLCH     ELTRD     ELLC     ELMIN      Q      CWSEL    CRIWS     EG      10*KS     VCH     AREA     .01K

 *    2.000      .00       .00      .00   1269.40  8000.00  1275.70  1275.70  1277.25    47.21    12.39    852.68  1164.3

 *    5.000   150.00       .00      .00   1269.40  8000.00  1276.92      .00  1277.73    17.58     8.94   1168.72  1908.2

      8.000   220.00       .00      .00   1269.50  8000.00  1277.24      .00  1278.16    18.69     9.50   1119.46  1850.8

 *   11.000   220.00       .00      .00   1269.60  8000.00  1278.13      .00  1278.41     4.95     5.33   1949.78  3595.6

 *   14.000   220.00       .00      .00   1269.70  8000.00  1278.34      .00  1278.50     2.45     3.79   2543.64  5108.4

 *   17.000   220.00       .00      .00   1269.80  8000.00  1278.49      .00  1278.54      .70     2.03   4735.67  9592.2

 *   40.000   220.00       .00      .00   1272.00  8000.00  1278.20      .00  1278.72    11.51     7.90   1583.80  2357.8

 *   45.000   180.00       .00      .00   1272.78  8000.00  1279.97  1279.97  1283.11    26.49    14.23    569.59  1554.4

 *   49.000    15.00       .00      .00   1272.79  8000.00  1281.37      .00  1283.26    13.04    11.12    771.50  2215.6

     50.000     1.00   1284.90  1285.40   1272.80  8000.00  1281.01      .00  1283.42    26.07    12.47    644.42  1566.9

     51.000    35.00       .00      .00   1272.80  8000.00  1281.28      .00  1283.53    23.52    12.02    669.30  1649.5

 *   52.000     1.00       .00      .00   1272.80  8000.00  1282.05      .00  1283.60     9.90    10.12    874.18  2542.3

 *   53.000    30.00       .00      .00   1272.82  8000.00  1282.08  1282.08  1283.74    11.52    10.64    998.70  2357.1
```

	60.000	70.00	.00	.00	1272.85	8000.00	1282.58	1280.22	1283.85	9.56	9.51	1563.41	2587.1
	80.000	70.00	.00	.00	1272.90	8000.00	1282.95	.00	1283.94	6.31	8.45	1707.64	3185.4
	90.000	95.00	.00	.00	1272.93	8000.00	1282.94	1279.99	1284.03	7.06	8.84	1689.34	3011.8
*	92.000	12.00	1284.40	1280.90	1272.94	8000.00	1284.98	.00	1285.29	2.35	5.40	3658.83	5214.2

1

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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01
*	100.000	90.00	.00	.00	1273.00	8000.00	1285.19	.00	1285.33	1.18	3.78	4970.88	7359.0
	120.000	200.00	.00	.00	1273.08	8000.00	1285.23	.00	1285.35	1.02	3.65	4972.59	7901.8
	140.000	200.00	.00	.00	1273.00	8000.00	1285.25	.00	1285.37	1.03	3.78	5042.47	7872.3
	160.000	440.00	.00	.00	1273.40	8000.00	1285.26	.00	1285.44	1.44	4.41	4666.54	6667.0
	180.000	320.00	.00	.00	1273.56	8000.00	1285.31	.00	1285.49	1.53	4.47	4754.70	6464.4
	200.000	300.00	.00	.00	1273.70	8000.00	1285.34	.00	1285.54	1.74	4.64	4449.22	6065.3
	210.000	220.00	.00	.00	1273.80	8000.00	1285.34	.00	1285.60	2.02	5.19	3836.25	5626.1
	220.000	90.00	.00	.00	1273.85	8000.00	1285.39	.00	1285.63	1.92	4.83	3756.14	5771.4
	230.000	120.00	.00	.00	1273.90	8000.00	1285.46	.00	1285.65	2.01	4.24	3776.65	5640.4
	240.000	180.00	.00	.00	1274.00	8000.00	1285.42	.00	1285.73	2.42	5.50	3479.05	5143.8
	245.000	60.00	.00	.00	1274.03	8000.00	1285.43	.00	1285.75	2.41	5.53	3474.68	5157.6
	250.000	90.00	.00	.00	1274.08	8000.00	1285.48	.00	1285.77	2.37	5.37	3407.21	5192.1
	260.000	150.00	.00	.00	1274.15	8000.00	1285.48	.00	1285.82	2.51	5.59	3206.07	5046.5
	270.000	150.00	.00	.00	1274.22	8000.00	1285.52	.00	1285.86	2.27	5.61	3328.04	5313.1
	280.000	150.00	.00	.00	1274.30	8000.00	1285.62	.00	1285.90	2.18	5.19	3598.91	5415.7
	300.000	400.00	.00	.00	1274.50	8000.00	1285.70	.00	1285.98	1.99	5.42	3730.20	5669.8
	320.000	380.00	.00	.00	1274.70	8000.00	1285.76	.00	1286.08	2.39	5.52	3574.24	5174.1

1

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ARIZONA CANAL CROSSING

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	2.000	8000.00	1275.70	.00	.00	-.30	304.36	.00
*	5.000	8000.00	1276.92	.00	1.21	.00	347.60	150.00
	8.000	8000.00	1277.24	.00	.33	.00	302.18	220.00

*	11.000	8000.00	1278.13	.00	.89	.00	377.13	220.00
*	14.000	8000.00	1278.34	.00	.21	.00	381.33	220.00
*	17.000	8000.00	1278.49	.00	.15	.00	650.88	220.00
*	40.000	8000.00	1278.20	.00	-.30	.00	450.71	220.00
*	45.000	8000.00	1279.97	.00	1.78	.00	97.75	180.00
*	49.000	8000.00	1281.37	.00	1.40	.00	146.40	15.00
	50.000	8000.00	1281.01	.00	-.36	.00	90.60	1.00
	51.000	8000.00	1281.28	.00	.27	.00	91.72	35.00
*	52.000	8000.00	1282.05	.00	.76	.00	162.81	1.00
*	53.000	8000.00	1282.08	.00	.03	.00	691.13	30.00
	60.000	8000.00	1282.58	.00	.50	.00	792.84	70.00
	80.000	8000.00	1282.95	.00	.37	.00	717.09	70.00
	90.000	8000.00	1282.94	.00	-.01	.00	733.18	95.00
*	92.000	8000.00	1284.98	.00	2.04	.00	1287.44	12.00
*	100.000	8000.00	1285.19	.00	.21	.00	1559.68	90.00
	120.000	8000.00	1285.23	.00	.04	.00	1731.31	200.00
	140.000	8000.00	1285.25	.00	.02	.00	1755.94	200.00
	160.000	8000.00	1285.26	.00	.01	.00	1628.69	440.00
	180.000	8000.00	1285.31	.00	.04	.00	1632.49	320.00
	200.000	8000.00	1285.34	.00	.04	.00	1464.84	300.00
	210.000	8000.00	1285.34	.00	-.01	.00	1357.14	220.00

1

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
220.000	8000.00	1285.39	.00	.06	.00	1358.90	90.00
230.000	8000.00	1285.46	.00	.07	.00	1301.74	120.00
240.000	8000.00	1285.42	.00	-.04	.00	1278.96	180.00
245.000	8000.00	1285.43	.00	.01	.00	1204.50	60.00
250.000	8000.00	1285.48	.00	.05	.00	1142.55	90.00
260.000	8000.00	1285.48	.00	.00	.00	1216.54	150.00
270.000	8000.00	1285.52	.00	.04	.00	1155.39	150.00
280.000	8000.00	1285.62	.00	.10	.00	1205.61	150.00
300.000	8000.00	1285.70	.00	.08	.00	1319.40	400.00
320.000	8000.00	1285.76	.00	.06	.00	1265.16	380.00

SUMMARY OF ERRORS AND SPECIAL NOTES

```
CAUTION SECNO=     2.000  PROFILE=  1  CRITICAL DEPTH ASSUMED

WARNING SECNO=     5.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=    11.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=    14.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=    17.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=    40.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=    45.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    45.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=    45.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

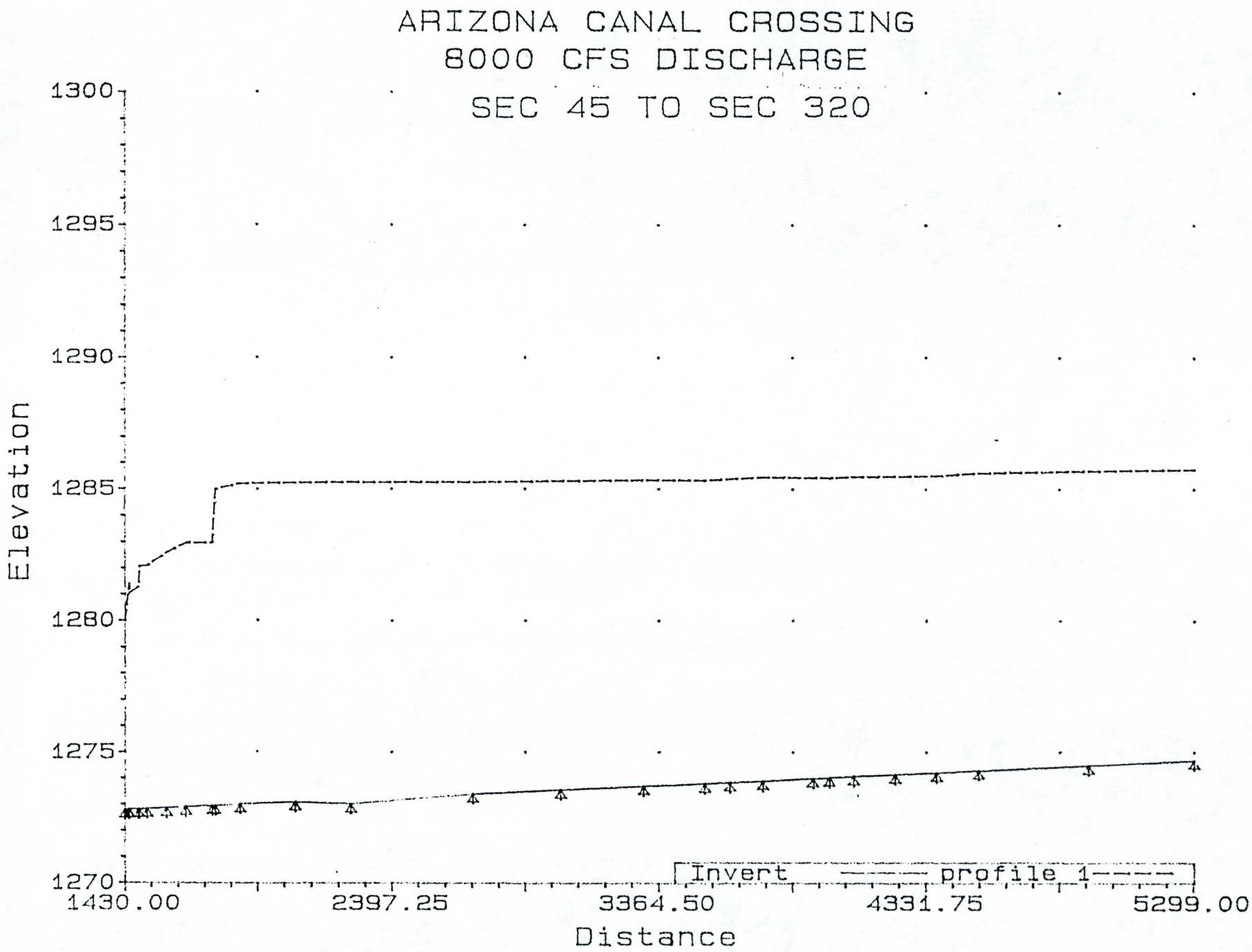
WARNING SECNO=    49.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

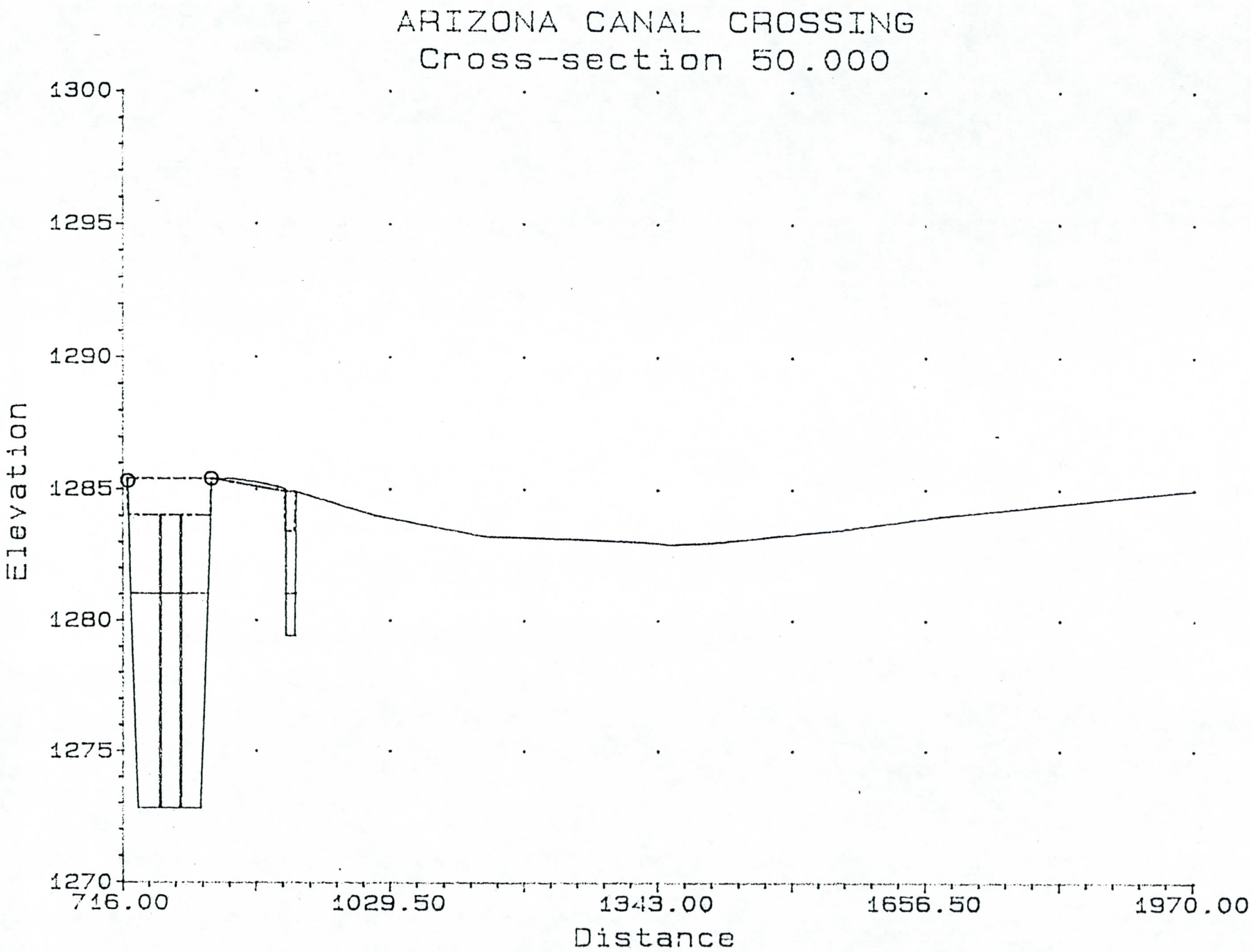
WARNING SECNO=    52.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

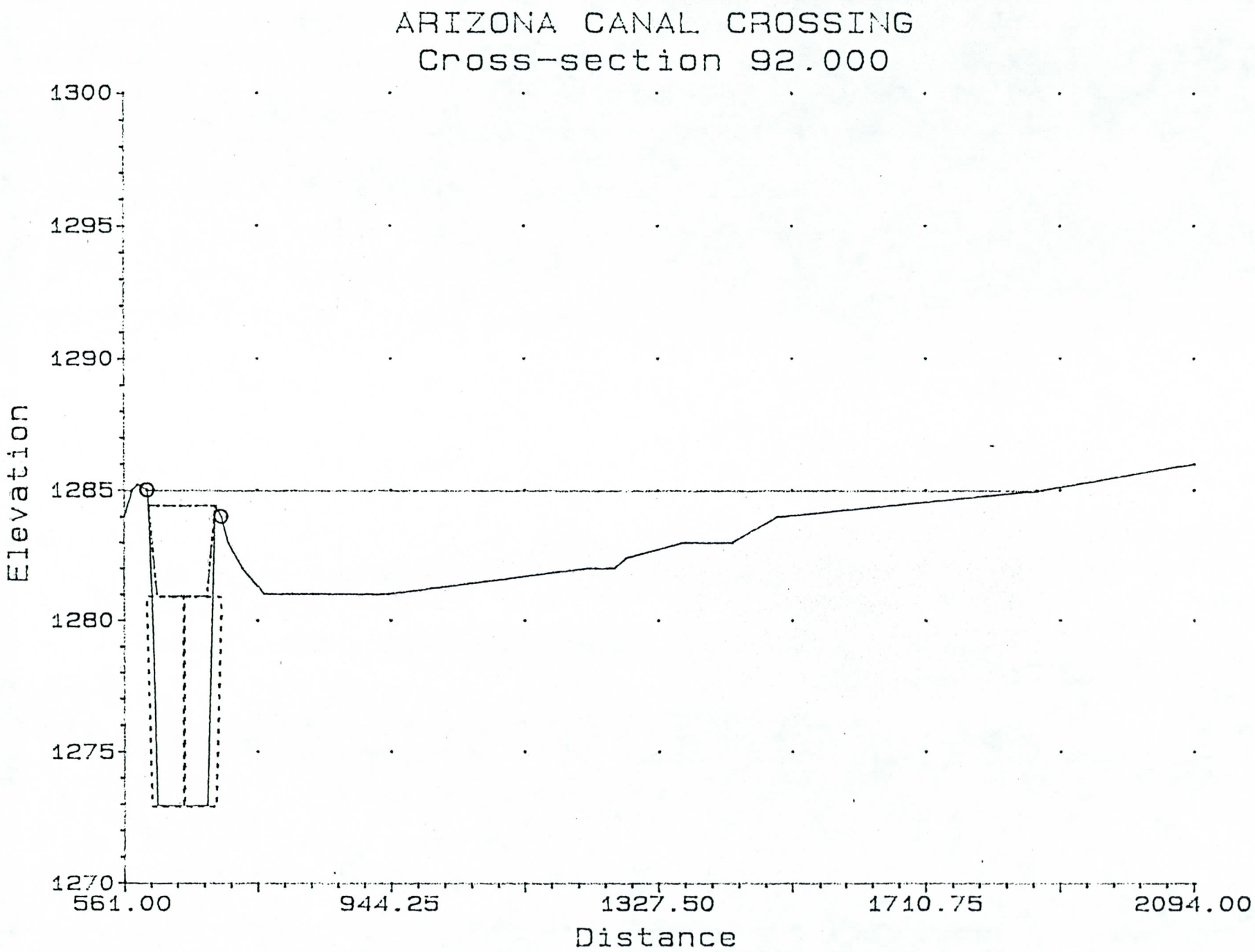
CAUTION SECNO=    53.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    53.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=    92.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   100.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
```


ARIZONA CANAL CROSSING
8000 CFS DISCHARGE
SEC 45 TO SEC 320
1300
1295
1290
1285
1280
1275
1270
Elevation
1430.00
2397.25
3364.50
4331.75
5299.00
Distance
Invert
profile 1


ARIZONA CANAL CROSSING
Cross-section 50.000
1300
1295
1290
1285
1280
1275
1270
Elevation
716.00
1029.50
1343.00
1656.50
1970.00
Distance


ARIZONA CANAL CROSSING
Cross-section 92.000
1300
1295
1290
1285
1280
1275
1270
Elevation
561.00
944.25
1327.50
1710.75
2094.00
Distance

EXISTING FOOD PLAIN FOR
9326 C.F.S.

EXISTING FOOD PLAIN FOR
9326 C.F.S.

```
1*****************************************************
 *  WATER SURFACE PROFILES                           *
 *  VERSION OF SEPTEMBER 1988                        *
 *                                                   *
 *                                                   *
 *  RUN DATE    11/ 9/89   TIME   10:22:12           *
*****************************************************
```

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

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

END OF BANNER

1

11/ 9/89 10:22:13 PAGE 1

THIS RUN EXECUTED 11/ 9/89 10:22:13

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*********************************************
  HEC2 RELEASE DATED SEPT 88

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T1 OUTER LOOP AND ARIZONA CANAL CROSSING
T2 PIMA ROAD BRIDGE AND CULVERT
T3 ARIZONA CANAL CROSSING

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	2			1			9326	1276	

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

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

150

NC	.030	.030	.018	.1	.3					
	USCE SPILLWAY D/S END									
X1	2	15	527	633						
GR	1283	527	1280	540	1272.15	550	1272.15	615	1280	625
GR	1283	633	1280	672	1278	735	1275	862	1273	898
GR	1270	925	1269.4	945	1273	987	1275	1050	1285	1230
	USCE WEIR CREST D/S END									
X1	5	38	543	651	150	150	150			
GR	1283.2	543	1280	559	1272.2	570	1272.2	635	1280	646
GR	1280.5	651	1280	657	1279	717	1278	731	1277	741
GR	1276	756	1276	766	1276	777	1276	779	1276	861
GR	1275	873	1274	882	1273	901	1272	913	1271	919
GR	1270	926	1269.40	960	1271	980	1272	993	1273	996
GR	1274	1001	1275	1005	1276	1008	1277	1012	1278	1017
GR	1279	1021	1280	1027	1281	1031	1282	1038	1283	1061
GR	1284	1072	1285	1079	1290	1101				
X1	8	52	580	693	220	220	220			
GR	1283.7	580	1280	597	1272.29	607	1272.29	672	1280	683
GR	1280.6	693	1280	703	1279	715	1278	722	1278	725
GR	1278	732	1277	734	1276	747	1276	785	1277	801
GR	1278	806	1279	811	1279	822	1278	830	1277	836
GR	1276	840	1275	845	1274	852	1273	857	1272	863
GR	1272	876	1273	910	1278	924	1272	926	1271	929
GR	1269.5	934	1270	936	1270	949	1270	953	1271	966
GR	1272	970	1273	975	1274	979	1275	982	1276	986
GR	1277	991	1278	995	1279	999	1280	1004	1281	1012
GR	1282	1020	1283	1030	1284	1033	1285	1036	1285	1068
GR	1285	1071	1290	1096						

1

X1	11	41	620	733	220	220	220			
GR	1284.1	620	1280	636	1272.40	646	1272.40	711	1280	722
GR	1280.7	733	1280	744	1279	754	1278	759	1277	764
GR	1276	776	1276	785	1277	793	1277	802	1276	820
GR	1275	830	1274	842	1273	846	1272	854	1271	863
GR	1269.6	872	1270	926	1271	931	1272	936	1271	941
GR	1274	945	1274	971	1273	975	1272	978	1271	981
GR	1270	986	1271	1020	1273	1033	1274	1038	1275	1041
GR	1278	1054	1280	1063	1281	1067	1283	1076	1285	1084
GR	1290	1104								
X1	14	31	663	774	220	220	220			
GR	1284.6	663	1280	677	1272.51	687	1272.51	752	1280	762
GR	1280.8	774	1280	785	1279	794	1278	808	1277	814
GR	1276	819	1275	824	1274	827	1273	830	1272	832
GR	1271	845	1272	882	1270	901	1270	946	1270	994
GR	1269.7	1011	1269.70	1041	1270	1052	1270	1065	1272	1080
GR	1274	1088	1275	1092	1278	1103	1282	1114	1285	1124
GR	1290	1147								
X1	17	35	701	815	220	220	220			
GR	1285	701	1280	717	1272.62	727	1272.62	792	1280	801
GR	1280.9	815	1280	828	1279	833	1278	836	1277	840
GR	1276	843	1274	854	1273	858	1272	862	1271	883
GR	1272	903	1271	911	1270	932	1270	942	1270	975
GR	1269.8	1003	1269.80	1010	1270	1082	1270	1144	1270	1185
GR	1270	1218	1270	1247	1270	1268	1270	1327	1271	1341
GR	1273	1355	1276	1382	1279	1410	1281	1482	1285	1530

USCE WEIR CREST U/S END

X1	40	34	746	863	220	220	220			
GR	1284	720	1284	746	1280	750	1272.70	760	1272.70	820
GR	1281	830	1281	840	1281	863	1283	868	1284	871
GR	1284	895	1282	900	1280	905	1278	910	1278	920
GR	1280	925	1282	935	1284	945	1283	969	1282	1055
GR	1284	1062	1286	1070	1288	1075	1290	1084	1287	1127
GR	1284	1134	1280	1174	1277	1238	1278	1260	1280	1310
GR	1276	1360	1272	1528	1276	1630	1280	1658		

USCE SPILLWAY U/S END

X1	45	18	719	819	180	170	180			
GR	1285	719	1284	723	1280	729	1272.78	737	1272.78	807
GR	1280	815	1284	819	1284	866	1283	885	1283	895
GR	1279.2	897	1279.2	908	1283	910	1282	950	1281	1080
GR	1280.6	1210	1281	1460	1282	1945				

X1	49	22	722	820	15	15	15			
GR	1285.2	716	1285.3	722	1280	726	1272.79	734	1272.79	807
GR	1281	816	1285.3	820	1285	845	1285	880	1284	895
GR	1279.4	907	1279.4	917	1284	1010	1283.2	1140	1283.1	1246
GR	1283.0	1320	1282.9	1360	1283	1410	1283.2	1466	1283.5	1558
GR	1284	1673	1285	1970						

1

PIMA ROAD CULVERT D/S FACE

X1	50	32	722	820	1	1	1			
X4	7	1284	723	1284.0	819	1285.4	821	1285.1	896	1285.0
X4	906	1284.9	907	1284.9	919					
BT	8	721	1285.4	1285.4	723	1285.4	1284.0	819	1285.4	1284.0
BT	820	1285.4	1285.4	906	1284.9	1284.9	907	1284.9	1283.4	917
BT	1284.9	1283.4	919	1284.9	1284.9					
GR	1285.2	716	1285.3	720	1285.4	721	1285.3	722	1280.0	726
GR	1272.8	734	1272.8	759	1284	759	1284	761	1272.8	761
GR	1272.8	783	1284	783	1284	785	1272.8	785	1272.8	807
GR	1281	816	1285.4	820	1285.4	845	1285.2	880	1285.1	895
GR	1279.4	907	1279.4	917	1284	1010	1283.2	1140	1283.1	1246
GR	1283	1320	1282.9	1360	1283	1410	1283.2	1466	1283.5	1558
GR	1284	1673	1285	1970						

PIMA ROAD CULVERT U/S FACE

X1	51				35	35	35			
X1	52	22	722	820	1	1	1			
GR	1285.2	716	1285.3	722	1280	726	1272.80	734	1272.80	807
GR	1281	816	1285.3	820	1285	845	1285	880	1284	895
GR	1279.4	907	1279.4	917	1284	1010	1283.2	1140	1283.1	1246
GR	1283.0	1320	1282.9	1360	1283	1410	1283.2	1466	1283.5	1558
GR	1284	1673	1285	1970						
X1	53	30	700	796	30	30	30			
GR	1280	646	1282	667	1284	696	1285.4	700	1280	705
GR	1278	707	1272.82	712	1272.82	779	1280	786	1284	796
GR	1283	805	1282	810	1282	840	1280	925	1281	942
GR	1280	964	1282.2	1030	1281.8	1165	1281.9	1257	1282	1300
GR	1282	1400	1282.1	1445	1283	1540	1283	1600	1283.5	1660
GR	1284	1785	1283	1860	1283	1920	1284	2050	1285	2150

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NH      4     .018     768     .030     840     .060    1971     .030    2152
X1     60       38     681     787      70     100      70
X4      3     1280     768    1281     840    1281    1100
GR   1285      657    1285     681    1280     687 1272.85     694 1272.85     763
GR   1280      770    1285     777    1285     778    1284     787    1284     801
GR   1285      804    1285     808    1284     810    1283     812    1282     818
GR   1281      821    1281     853    1281     905    1281    1139    1282    1351
GR   1282     1367    1281    1368    1280    1370    1280    1372    1281    1374
GR   1282     1377    1283    1619    1283    1657    1283    1663    1284    1851
GR   1284     1901    1284    1963    1285    1971    1286    1980    1286    2007
GR   1286     2105    1286    2133    1286    2152

NH      4     .018     743     .030     760     .060    1260     .030    2106
X1     80       34     644     743      70     140      70
X4      2     1283     760    1282    1260
GR   1283      577    1282     582    1281     585    1280     590    1280     604
GR   1281      606    1282     608    1283     611    1284     615    1285     632
GR   1285      644    1280     649  1272.9     656  1272.9     729    1280     736
GR   1285      741    1285     743    1284     753    1283     766    1283     768
GR   1283      775  1282.1     795    1281     819    1281     832    1281     860
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GR   1281      935    1282    1255    1282    1265    1282    1278    1282    1287
GR   1283     1370    1284    1518    1285    1940    1286    2106

NH      4     .018     700     .030     761     .060    1280     .030    2094
        DEBRIS BRIDGE SPECIAL D/S FACE
X1     90       28     594     700      95      95      95
X4      3   1285.2     580    1282    1260  1282.4    1280
GR   1284      561    1285     572    1285     594  1284.4     596    1280     602
GR   1279      603  1272.93     609  1272.93     680    1280     687  1284.4     692
GR   1284      700    1283     710    1282     730    1281     761    1281     787
GR   1281      802    1281     831    1281     930    1281     940    1282    1221
GR   1282     1253    1282    1264    1283    1360    1283    1426    1283    1432
GR   1284     1496    1285    1877    1286    2094

NH      4     .018     700     .030     761     .060    1280     .030    2094
SB     .9     1.35     2.7              92     1.5     736       1  1272.9  1272.9
        DEBRIS BRIDGE SPECIAL U/S FACE
X1     92       28     594     700      12      12      12
X2                       1  1280.9  1284.4                      1.33
X4      3   1285.2     580    1282    1260  1282.4    1280
BT      4      596  1284.4  1284.4     609  1284.4  1280.9     680  1284.4  1280.9
BT    692  1284.4  1284.4
GR   1284      561    1285     572    1285     594  1284.4     596    1280     602
GR   1279      603  1272.94     609  1272.94     680    1280     687  1284.4     692
GR   1284      700    1283     710    1282     730    1281     761    1281     787
GR   1281      802    1281     831    1281     930    1281     940    1282    1221
GR   1282     1253    1282    1264    1283    1360    1283    1426    1283    1432
GR   1284     1496    1285    1877    1286    2094

NH      4     .018     654     .030     670     .060    1180     .030    2115
X1    100       30     523     654      90     130      90
X4      2   1285.6     540    1283     670
GR   1279      422    1279     448    1279     465    1279     473    1278     478
GR   1278      483    1279     487    1280     493    1281     501    1282     505
GR   1283      506    1284     513    1285     523    1285     547    1280     552
GR   1279      553  1273.0     560  1273.0     631    1280     638    1284     654
GR   1283      665    1282     678    1281     726    1281     760    1281     820
GR   1282     1180    1283    1452    1284    1795    1285    1970    1286    2115
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NH	4	.018	556	.030	570	.060	820	.030	2300	
X1	120	32	449	556	200	220	200			
X4	2	1285.6	450	1282	820					
GR	1279	291	1280	375	1280	381	1280	386	1281	388
GR	1281	390	1280	392	1280	393	1281	395	1282	397
GR	1283	398	1284	400	1285	402	1285	449	1280	454
GR	1279	455	1273.08	461	1273.08	532	1280	539	1284	556
GR	1283	565	1283	570	1283	572	1282	574	1281	576
GR	1281	615	1282	964	1283	1370	1284	1695	1285	1975
GR	1286	2186	1286.9	2300						

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NH	4	.018	455	.030	485	.060	660	.030	2160	
X1	140	31	354	455	200	210	200			
X4	3	1286.5	335	1282	485	1281	660			
GR	1280	225	1281	280	1281	281	1280	284	1280	287
GR	1279	290	1280	299	1281	301	1283	310	1285	313
GR	1286	317	1286	354	1285	359	1280	364	1273.19	371
GR	1273	400	1273.19	443	1280	450	1285	455	1285	456
GR	1284	472	1284	479	1282	484	1281	531	1281	554
GR	1282	880	1283	1310	1284	1635	1285	1990	1286	2126
GR	1286.4	2160								
NH	5	.018	375	.030	400	.060	760	.030	2100	.060
NH	2230									
X1	160	33	277	375	460	340	440			
X4	4	1285.9	260	1282	400	1282	760	1286.2	2100	
GR	1280	210	1280	215	1279	218	1279	220	1280	221
GR	1281	227	1282	229	1283	231	1284	232	1285	242
GR	1285	277	1280	282	1273.40	289	1273.40	361	1280	368
GR	1283	370	1284	375	1284	378	1283	384	1282	396
GR	1281	414	1281	431	1281	457	1281	507	1281	601
GR	1281	629	1281	643	1282	912	1283	1210	1284	1455
GR	1285	1793	1286	2061	1286.7	2230				
NH	5	.018	368	.030	453	.060	960	.030	1880	.060
NH	2160									
X1	180	33	267	368	320	310	320			
X4	4	1285.9	250	1281	380	1282	960	1285.4	1880	
GR	1280	200	1281	206	1281	210	1281	215	1282	217
GR	1283	218	1284	220	1285	225	1285	267	1280	272
GR	1276	276	1273.56	279	1273.56	350	1280	357	1283	361
GR	1283	368	1282	378	1281	382	1281	398	1281	453
GR	1281	460	1281	480	1281	618	1282	957	1283	1144
GR	1284	1440	1285	1725	1285	1750	1285	1775	1285	1790
GR	1285	1800	1286	1966	1286.9	2160				
NH	5	.018	407	.030	446	.060	860	.030	1437	.060
NH	2160									
X1	200	28	304	407	300	300	300			
X4	3	1286.5	285	1281	420	1282	860			
GR	1280	241	1283	259	1284	261	1285	263	1286	277
GR	1286	304	1285	305	1280	310	1273.70	317	1273.70	386
GR	1280	393	1283	396	1283	407	1282	413	1281	421
GR	1281	429	1281	446	1281	543	1281	606	1281	611
GR	1282	916	1283	1107	1284	1437	1285	1686	1285	1690
GR	1285.4	1750	1286	1946	1286.7	2160				
NH	6	.030	346	.018	438	.030	475	.060	820	.030
NH	1880	.060	2135							
X1	210	21	346	446	220	240	220			
X4	1	1286.6	330							
GR	1280	282	1283	300	1285	306	1286	314	1286	346
GR	1280	352	1273.8	358	1273.8	430	1280	436	1283	438
GR	1283	446	1282	458	1281.5	475	1282	820	1283	1055

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GR    1284      1375      1285      1600      1286      1830      1286.4    1880      1287      1960
GR    1288      2135

NH       6      .030       365      .018       471      .030       503      .060       700      .030
NH    1710      .030      2165
          OLH CROSSING D/S FACE
X1     220        23       365       487        90        90        90
X4       3    1286.5       350    1281.9       700    1285.2      1710
GR    1280       315      1283       325      1285       330      1286       345      1286       365
GR    1285       382      1280       386   1273.85       392   1273.85       465      1280       471
GR    1282       487      1282       503    1281.2       565      1282       575      1282       690
GR    1282       820      1283      1010      1284      1415      1285      1620    1285.5      1695
GR    1286      1810      1287      1900      1288      2165

NH       6      .030       382      .018       475      .030       499      .060       840      .030
NH    1585      .060      1920
          OLH CROSSING U/S FACE
X1     230        22       382       565       120       120       120
X4       1    1286.5       370
GR    1280       320      1283       340      1285       346      1286       355      1286       382
GR    1285       385      1280       388    1273.9       394    1273.9       466      1280       472
GR    1282       475      1282       485    1282.1       499      1282       565      1282       800
GR    1282       840      1283      1045      1284      1390      1285      1570    1285.2      1585
GR    1286      1800      1287      1920

NH       5      .018       505      .030       520      .060       840      .030      1540      .060
NH    1950
X1     240        19       405       505       180       180       180
X4       4    1286.6       395      1282       520      1282       840    1284.7      1540
GR    1284       363      1285       365      1286       373      1286       403      1285       405
GR    1280       410   1274.00       417   1274.00       484      1280       491      1282       495
GR    1282       505      1281       521      1281       528      1282       576      1283      1031
GR    1284      1325      1285      1495      1286      1790      1287      1950

NH       6      .030       417      .018       510      .030       530      .060       895      .030
NH    1544      .060      2150
X1     245        27       417       520        60        60        60
X4       1    1286.6       405
GR    1280       356      1283       375      1285       380      1286       391      1286       417
GR    1285       420      1280       425   1274.03       431   1274.03       500      1280       506
GR    1282       510      1282       520      1281       530      1281       550      1282       595
GR  1282.5       895      1283      1000      1283      1120      1283      1145      1284      1340
GR    1285      1500    1285.2      1544      1286      1720    1286.3      1820      1287      1930
GR  1287.2      2040    1287.7      2150

NH       4      .018       531      .030       550      .060       800      .030      1957
X1     250        23       427       531        90        90        90
X4       4    1286.3       415      1281       550      1282       800      1285      1466
GR    1284       388      1285       390      1286       408      1286       427      1285       431
GR    1280       435   1274.08       442   1274.08       509      1280       516      1282       519
GR    1282       531      1281       543      1281       559      1282       654      1283       945
GR    1283      1041      1283      1091      1284      1340      1285      1503      1286      1625
GR    1286      1646      1286      1782      1287      1957
1
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NH       5      .018       556      .030       570      .060       847      .030      1630      .060
NH    1948
X1     260        19       452       556       150       150       150
X4       4    1286.4       425      1282       570      1282       880    1285.3      1630
GR    1282       402      1285       413      1286       418      1286       450      1285       452
GR    1280       457   1274.15       463   1274.15       535      1280       541      1282       543
GR    1282       556      1282       572      1282       594      1282       847      1283      1010
GR    1284      1172      1285      1493      1286      1724      1287      1948
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NH      5     .018     567     .030     590     .060     900     .030    1680     .060
NH   2110
X1    270       22     473     567     150     150     150
X4      5   1286.4     460    1283     590    1282     850  1282.3     900   1285.8
X4   1680
GR   1284      436    1285     442    1286     453    1286     473    1285     475
GR   1280      478 1274.22     484 1274.22     559    1280     565    1281     567
GR   1281      568    1282     585    1283     595    1283     608    1282     654
GR   1282      850    1283    1107    1284    1304    1285    1504    1286    1715
GR   1287     1990  1287.8    2110

NH      5     .018     597     .030     620     .060     940     .030    1900     .060
NH   2160
X1    280       19     465     597     150     150     150
X4      5   1286.5     485    1282     620    1282     890  1282.4     940   1286.7
X4   1900
GR   1283      458    1285     465    1286     474    1286     497    1285     498
GR   1280      503 1274.30     509 1274.30     582    1280     588    1282     597
GR   1282      622    1282     645    1282     837    1283    1161    1284    1400
GR   1285     1555    1286    1773    1287    2085    1287    2160

NH      5     .030     568     .018     658     .030     680     .060     940     .030
NH   1960
X1    300       17     540     652     400     400     400
X4      2   1286.5     558    1282     940
GR   1285      534    1286     540    1286     566    1285     568    1280     573
GR 1274.5      579  1274.5     652    1285     658    1283     663    1282     673
GR   1282      680  1281.2     820    1282     856    1283    1190    1284    1420
GR   1285     1690    1286    1960

NH      5     .030     630     .018     722     .030     749     .060    1150     .030
NH   1940
X1    320       17     627     735     380     380     380
X4      1   1282.5    1150
GR   1285      590    1286     600    1286     627    1285     630    1280     634
GR 1274.7      640  1274.7     714    1280     720    1285     722    1285     726
GR   1283      735    1282     749    1282     830    1283    1205    1284    1475
GR   1285     1715    1286    1940
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SECNO   DEPTH   CWSEL   CRIWS   WSELK   EG      HV      HL      OLOSS   BANK ELEV
Q       QLOB    QCH     QROB    ALOB    ACH     AROB    VOL     TWA   LEFT/RIGHT
TIME    VLOB    VCH     VROB    XML     XNCH    XNR     WTN     ELMIN     SSTA
SLOPE   XLOBL   XLCH    XLOBR   ITRIAL  IDC     ICONT   CORAR   TOPWID    ENDST

*PROF 1

CCHV=     .100 CEHV=     .300
*SECNO 2.000

3265 DIVIDED FLOW

3720 CRITICAL DEPTH ASSUMED
        USCE SPILLWAY D/S END
    2.00     6.72 1276.12 1276.12 1276.00 1277.73    1.60     .00     .00 1283.00
   9326.       0.   3558.   5768.      0.    278.    709.      0.      0.  1283.00
     .00     .00    12.78    8.14    .000    .018    .030    .000 1269.40   544.94
  .004379      0.      0.      0.       0       5       0     .00  330.98  1070.24
0
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*SECNO 5.000

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

         USCE WEIR CREST D/S END
     5.00     7.89  1277.29      .00      .00  1278.20      .91      .40      .07  1283.20
    9326.       0.    3507.    5819.       0.     367.     934.       4.       1.  1280.50
      .01      .00     9.55     6.23     .000     .018     .030     .000  1269.40   562.82
  .001827     150.     150.     150.        3        0        0      .00   354.71  1013.45
0
*SECNO 8.000

3265 DIVIDED FLOW

     8.00     8.12  1277.62      .00      .00  1278.66     1.04      .42      .04  1283.70
    9326.       0.    3913.    5413.       0.     385.     651.      10.       3.  1280.60
      .01      .00    10.16     6.36     .000     .018     .030     .000  1269.50   600.09
  .001958     220.     220.     220.        3        0        0      .00   310.85   993.48
0
1
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   SECNO     DEPTH     CWSEL     CRINS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CDRAR     TOPWID      ENDST


*SECNO 11.000

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

    11.00     9.01  1278.61      .00      .00  1278.93      .32      .20      .07  1284.10
    9326.       0.    2619.    6707.       0.     457.    1673.      19.       5.  1280.70
      .03      .00     5.73     4.01     .000     .018     .030     .000  1269.60   637.83
  .000522     220.     220.     220.        2        0        0      .00   382.94  1056.74
0
*SECNO 14.000

3265 DIVIDED FLOW

    14.00     9.14  1278.84      .00      .00  1279.02      .19      .08      .01  1284.60
    9326.       0.    1927.    7399.       0.     465.    2269.      31.       7.  1280.80
      .04      .00     4.15     3.26     .000     .018     .030     .000  1269.70   678.55
  .000267     220.     220.     220.        2        0        0      .00   390.89  1105.30
0
*SECNO 17.000

3265 DIVIDED FLOW


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

    17.00     9.21  1279.01      .00      .00  1279.06      .05      .03      .01  1285.00
    9326.       0.    1043.    8283.       0.     468.    4606.      51.       9.  1280.90
      .08      .00     2.23     1.80     .000     .018     .030     .000  1269.80   718.34
  .000076     220.     220.     220.        2        0        0      .00   658.87  1410.37
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0
 *SECNO 40.000

 3265 DIVIDED FLOW

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    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    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

          USCE WEIR CREST U/S END
    40.00     6.72  1278.72      .00      .00  1279.25      .53      .04      .14  1284.00
    9326.       0.    3269.    6057.       0.     408.    1420.     68.      12.   1281.00
      .09      .00     8.02     4.27     .000     .018     .030    .000  1272.00   751.75
  .001068     220.     220.     220.        2        0        0     .00   488.81  1649.04
0
 *SECNO 45.000

 3265 DIVIDED FLOW

 3280 CROSS SECTION     45.00 EXTENDED       .34 FEET


 3301 HV CHANGED MORE THAN HVINS

 3685 20 TRIALS ATTEMPTED WSEL.CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
          USCE SPILLWAY U/S END
    45.00     9.56  1282.34  1282.34      .00  1283.47     1.13      .17      .18  1285.00
    9326.       0.    7362.    1964.       0.     771.    1159.     76.      15.   1284.00
      .09      .00     9.54     1.69     .000     .018     .030    .000  1272.78   725.49
  .000866     180.     180.     170.       20       15        0     .00  1114.80  1945.00
0
 *SECNO 49.000

 3265 DIVIDED FLOW


 3301 HV CHANGED MORE THAN HVINS


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

    49.00     8.54  1281.33  1280.65      .00  1283.93     2.60      .02      .44  1285.30
    9326.       0.    9175.     151.       0.     704.      62.     76.      15.   1285.30
      .10      .00    13.03     2.42     .000     .018     .030    .000  1272.79   724.99
  .001800      15.      15.      15.        6       12        0     .00   145.50   956.13
0
1
    11/ 9/89      10:22:13                                                                                    PAGE   11


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
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*SECNO 50.000

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS


3370 NORMAL BRIDGE. NRD=   8 MIN ELTRD=  1284.90 MAX ELLC=  1285.40

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
        PIMA ROAD CULVERT D/S FACE
    50.00     7.91  1280.71  1280.71      .00  1284.28     3.57      .00      .29  1285.30
    9326.       0.    9322.       4.       0.     615.       2.      76.      15.   1285.40
      .10      .00    15.17     1.88     .000     .018     .030     .000  1272.80   725.47
  .003994       1.       1.       1.        4       19        0      .00    89.30   917.48
0
*SECNO 51.000

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS

        PIMA ROAD CULVERT U/S FACE
    51.00     9.06  1281.86  1280.71      .00  1284.49     2.62      .11      .09  1285.30
    9326.       0.    9309.      17.       0.     716.       7.      77.      16.   1285.40
      .10      .00    13.00     2.31     .000     .018     .030     .000  1272.80   724.60
  .002597      35.      35.      35.       14        5        0      .00    94.10   917.90
0
*SECNO 52.000

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

1
   11/ 9/89      10:22:13                                                                    PAGE   12


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


    52.00    10.21  1283.01      .00      .00  1284.59     1.58      .00      .10  1285.30
    9326.       0.    8870.     456.       0.     858.     189.      77.      16.   1285.30
      .10      .00    10.34     2.42     .000     .018     .030     .000  1272.80   723.73
  .000922       1.       1.       1.        3        0        0      .00   279.61  1410.89
0
*SECNO 53.000

3265 DIVIDED FLOW

3280 CROSS SECTION     53.00 EXTENDED      4.37 FEET


3301 HV CHANGED MORE THAN HVINS
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3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

    53.00    11.55  1284.37      .00      .00  1284.73      .36      .01      .12  1285.40
    9326.     161.    5596.    3569.     110.     917.    2400.      78.      16.   1284.00
      .10     1.46     6.10     1.49     .030     .018     .030     .000  1272.82   646.00
  .000299      30.      30.      30.        6        0        0      .00  1436.66  2086.57
0
 1490 NH CARD USED
 *SECNO 60.000
 1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

 3265 DIVIDED FLOW

    60.00    11.36  1284.21      .00      .00  1284.84      .63      .03      .08  1285.00
    9326.       0.    6777.    2549.       0.     909.    2313.      85.      19.   1284.00
      .10      .00     7.46     1.10     .000     .019     .058     .000  1272.85   681.95
  .000538      70.      70.     100.        2        0        0      .00  1265.58  1964.68
0
 1490 NH CARD USED
 *SECNO 80.000

 3265 DIVIDED FLOW

 3280 CROSS SECTION     80.00 EXTENDED      1.24 FEET

1
   11/ 9/89      10:22:13                                                                    PAGE   13


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


    80.00    11.33  1284.23      .00      .00  1284.89      .66      .04      .01  1285.00
    9326.     446.    7062.    1818.     117.     955.    1713.      93.      23.   1285.00
      .11     3.82     7.40     1.06     .018     .018     .053     .000  1272.90   577.00
  .000422      70.      70.     140.        1        0        0      .00  1006.24  1619.28
0
 1490 NH CARD USED
 *SECNO 90.000

 3265 DIVIDED FLOW

 3280 CROSS SECTION     90.00 EXTENDED       .27 FEET

         DEBRIS BRIDGE SPECIAL D/S FACE
    90.00    11.33  1284.26      .00      .00  1284.94      .68      .04      .01  1285.00
    9326.       0.    7077.    2249.       0.     938.    1904.      99.      25.   1284.00
      .11      .45     7.55     1.18     .018     .018     .052     .000  1272.93   561.00
  .000480      95.      95.      95.        1        0        0      .00  1002.92  1598.88
0
 1490 NH CARD USED

 SPECIAL BRIDGE

 SB  XK       XKOR     COFQ     RDLEN    BWC      BWP      BAREA    SS       ELCHU    ELCHD
      .90     1.35     2.70       .00    92.00     1.50   736.00     1.00   1272.90  1272.90

 *SECNO 92.000
 3280 CROSS SECTION     92.00 EXTENDED      2.79 FEET


 3301 HV CHANGED MORE THAN HVINS
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3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
1287.63	1284.95	.02	1039.	8296.	736.	788.	1280.90	1284.40	96.

DEBRIS BRIDGE SPECIAL U/S FACE

1

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
92.00	13.85	1286.79	.00	.00	1286.92	.13	1.99	.00	1285.00
9326.	75.	4788.	4463.	62.	1203.	5051.	101.	25.	1284.00
.11	1.21	3.98	.88	.018	.018	.045	.000	1272.94	561.00
.000102	12.	12.	12.	2	0	2	.00	1533.00	2094.00

0

1490 NH CARD USED
*SECNO 100.000
3280 CROSS SECTION 100.00 EXTENDED 7.88 FEET

100.00	13.88	1286.88	.00	.00	1286.94	.06	.01	.01	1285.00
9326.	1552.	3534.	4240.	690.	1279.	5803.	120.	30.	1284.00
.13	2.25	2.76	.73	.018	.018	.042	.000	1273.00	422.00
.000058	90.	90.	130.	2	0	0	.00	1693.00	2115.00

0

1490 NH CARD USED
*SECNO 120.000
3280 CROSS SECTION 120.00 EXTENDED 7.89 FEET

120.00	13.82	1286.90	.00	.00	1286.95	.05	.01	.00	1285.00
9326.	1611.	3305.	4410.	870.	1227.	6020.	159.	39.	1284.00
.16	1.85	2.69	.73	.018	.018	.035	.000	1273.08	291.00
.000046	200.	200.	220.	0	0	0	.00	2008.24	2299.24

0

1490 NH CARD USED
*SECNO 140.000
3280 CROSS SECTION 140.00 EXTENDED 6.91 FEET

140.00	13.91	1286.91	.00	.00	1286.96	.05	.01	.00	1286.00
9326.	1028.	3267.	5031.	583.	1190.	6360.	198.	48.	1285.00
.20	1.76	2.75	.79	.018	.018	.033	.000	1273.00	225.00
.000047	200.	200.	210.	0	0	0	.00	1935.00	2160.00

0

1490 NH CARD USED
*SECNO 160.000
3280 CROSS SECTION 160.00 EXTENDED 6.92 FEET

160.00	13.51	1286.91	.00	.00	1286.99	.07	.02	.01	1285.00
9326.	354.	3769.	5203.	217.	1167.	6365.	264.	64.	1284.00
.26	1.63	3.23	.82	.018	.018	.038	.000	1273.40	210.00
.000063	460.	440.	340.	1	0	0	.00	2020.00	2230.00

0

```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   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 180.000
3280 CROSS SECTION    180.00 EXTENDED      6.93 FEET

   180.00    13.37  1286.93     .00      .00  1287.01     .08     .02     .00  1285.00
    9326.     286.   3913.    5127.     189.    1164.   6331.    319.     79.  1283.00
      .31     1.52    3.36     .81     .018     .018    .041    .000  1273.56   200.00
  .000071     320.    320.    310.        0        0       0     .00  1960.00  2160.00
0
1490 NH CARD USED
*SECNO 200.000
3280 CROSS SECTION    200.00 EXTENDED      6.95 FEET

   200.00    13.24  1286.94     .00      .00  1287.04     .09     .02     .00  1286.00
    9326.     234.   4088.    5005.     149.    1139.   5922.    371.     92.  1283.00
      .35     1.57    3.59     .85     .018     .018    .042    .000  1273.70   241.00
  .000085     300.    300.    300.        0        0       0     .00  1919.00  2160.00
0
1490 NH CARD USED
*SECNO 210.000
3280 CROSS SECTION    210.00 EXTENDED      6.96 FEET

   210.00    13.15  1286.95     .00      .00  1287.07     .12     .02     .01  1286.00
    9326.     149.   4386.    4791.     149.    1134.   5036.    407.    102.  1283.00
      .37     1.00    3.87     .95     .030     .018    .038    .000  1273.80   282.00
  .000095     220.    220.    240.        1        0       0     .00  1672.08  1954.08
0
1490 NH CARD USED
*SECNO 220.000
3280 CROSS SECTION    220.00 EXTENDED      6.98 FEET

        OLH CROSSING D/S FACE
   220.00    13.13  1286.98     .00      .00  1287.08     .10     .01     .00  1286.00
    9326.      90.   4263.    4973.     107.    1218.   4799.    420.    105.  1282.00
      .38      .84    3.50    1.04     .030     .018    .034    .000  1273.85   315.00
  .000093      90.     90.     90.        2        0       0     .00  1583.25  1898.25
0
1490 NH CARD USED
1
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST

*SECNO 230.000
3280 CROSS SECTION    230.00 EXTENDED      6.99 FEET

        OLH CROSSING U/S FACE
   230.00    13.10  1287.00     .00      .00  1287.09     .09     .01     .00  1286.00
    9326.     176.   4933.    4218.     161.    1544.   4333.    437.    110.  1282.00
      .40     1.09    3.19     .97     .030     .019    .038    .000  1273.90   320.00
  .000104     120.    120.    120.        0        0       0     .00  1598.99  1918.99
0
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 1490 NH CARD USED
 *SECNO 240.000
 3280 CROSS SECTION    240.00 EXTENDED      2.98 FEET

    240.00    12.98  1286.98      .00      .00  1287.13      .15      .02      .02  1285.00
     9326.      35.    4704.    4586.      40.    1105.    4575.     461.     116.   1282.00
       .42      .88     4.26     1.00     .018     .018     .040     .000  1274.00   363.00
   .000118     180.     180.     180.        2        0        0      .00  1583.23  1946.23
0
 1490 NH CARD USED
 *SECNO 245.000
 3280 CROSS SECTION    245.00 EXTENDED      6.98 FEET

    245.00    12.95  1286.98      .00      .00  1287.13      .15      .01      .00  1286.00
     9326.     179.    4769.    4378.     153.    1114.    4386.     469.     118.   1282.00
       .43     1.17     4.28     1.00     .030     .018     .040     .000  1274.03   356.00
   .000123      60.      60.      60.        0        0        0      .00  1571.37  1927.37
0
 1490 NH CARD USED
 *SECNO 250.000
 3280 CROSS SECTION    250.00 EXTENDED      3.00 FEET

    250.00    12.93  1287.01      .00      .00  1287.15      .14      .01      .00  1286.00
     9326.      49.    4578.    4699.      48.    1107.    4348.     480.     122.   1282.00
       .44     1.02     4.14     1.08     .018     .018     .037     .000  1274.08   388.00
   .000118      90.      90.      90.        1        0        0      .00  1568.87  1956.87
0
 1490 NH CARD USED
 *SECNO 260.000
1
    11/ 9/89      10:22:13                                                                  PAGE   17


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


 3280 CROSS SECTION    260.00 EXTENDED      5.02 FEET

    260.00    12.86  1287.01      .00      .00  1287.17      .17      .02      .01  1285.00
     9326.      97.    4993.    4236.      75.    1145.    4090.     499.     127.   1282.00
       .45     1.28     4.36     1.04     .018     .018     .038     .000  1274.15   402.00
   .000125     150.     150.     150.        1        0        0      .00  1546.00  1948.00
0
 1490 NH CARD USED
 *SECNO 270.000
 3280 CROSS SECTION    270.00 EXTENDED      3.03 FEET

    270.00    12.80  1287.02      .00      .00  1287.19      .17      .02      .00  1286.00
     9326.      53.    4935.    4338.      48.    1109.    4207.     517.     132.   1281.00
       .46     1.08     4.45     1.03     .018     .018     .038     .000  1274.22   436.00
   .000121     150.     150.     150.        0        0        0      .00  1557.77  1993.77
0
 1490 NH CARD USED
 *SECNO 280.000
 3280 CROSS SECTION    280.00 EXTENDED      4.10 FEET

    280.00    12.80  1287.10      .00      .00  1287.22      .12      .02      .01  1285.00
     9326.      31.    4461.    4834.      22.    1167.    4470.     536.     138.   1282.00
       .48     1.42     3.82     1.08     .018     .018     .038     .000  1274.30   458.00
   .000126     150.     150.     150.        2        0        0      .00  1702.00  2160.00
0
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1490 NH CARD USED
*SECNO 300.000
3280 CROSS SECTION    300.00 EXTENDED      2.14 FEET

   300.00    12.63  1287.13      .00      .00  1287.27      .14      .05      .01  1286.00
    9326.       6.    4333.    4987.      10.    1032.    4701.     589.     152.   1274.50
      .53      .57     4.20     1.06     .030     .016     .036     .000  1274.50   534.00
  .000106     400.     400.     400.        1        0        0      .00  1426.00  1960.00
0
1490 NH CARD USED
*SECNO 320.000
1
   11/ 9/89      10:22:13                                                                          PAGE   18


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


1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED
3280 CROSS SECTION    320.00 EXTENDED      2.18 FEET

   320.00    12.48  1287.18      .00      .00  1287.32      .13      .05      .00  1286.00
    9326.      34.    4525.    4767.      48.    1111.    4315.     638.     164.   1283.00
      .57      .70     4.07     1.10     .030     .020     .041     .000  1274.70   590.00
  .000149     380.     380.     380.        0        0        0      .00  1350.00  1940.00
0
1
   11/ 9/89      10:22:13                                                                          PAGE   19


                                                                          THIS RUN EXECUTED 11/ 9/89    10:23:18

*************************************************
  HEC2 RELEASE DATED SEPT 88


*************************************************


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


ARIZONA CANAL CROSSING

SUMMARY PRINTOUT TABLE  150


      SECNO     XLCH     ELTRD     ELLC     ELMIN      Q      CWSEL    CRIWS     EG      10*KS     VCH      AREA     .01K

*     2.000      .00       .00      .00   1269.40  9326.00  1276.12  1276.12  1277.73   43.79    12.78    987.16  1409.3

*     5.000   150.00       .00      .00   1269.40  9326.00  1277.29      .00  1278.20   18.27     9.55   1301.82  2181.5

      8.000   220.00       .00      .00   1269.50  9326.00  1277.62      .00  1278.66   19.58    10.16   1235.75  2107.7

*    11.000   220.00       .00      .00   1269.60  9326.00  1278.61      .00  1278.93    5.22     5.73   2129.91  4082.9

     14.000   220.00       .00      .00   1269.70  9326.00  1278.84      .00  1279.02    2.67     4.15   2733.63  5710.6

*    17.000   220.00       .00      .00   1269.80  9326.00  1279.01      .00  1279.06     .76     2.23   5673.75 10695.3

*    40.000   220.00       .00      .00   1272.00  9326.00  1278.72      .00  1279.25   10.68     8.02   1827.63  2853.7

*    45.000   180.00       .00      .00   1272.78  9326.00  1282.34  1282.34  1283.47    8.66     9.54   1930.14  3168.5
```

*	49.000	15.00	.00	.00	1272.79	9326.00	1281.33	1280.65	1283.93	18.00	13.03	766.17	2198.4
*	50.000	1.00	1284.90	1285.40	1272.80	9326.00	1280.71	1280.71	1284.28	39.94	15.17	616.69	1475.7
	51.000	35.00	.00	.00	1272.80	9326.00	1281.86	1280.71	1284.49	25.97	13.00	723.21	1830.1
*	52.000	1.00	.00	.00	1272.80	9326.00	1283.01	.00	1284.59	9.22	10.34	1046.85	3071.0
*	53.000	30.00	.00	.00	1272.82	9326.00	1284.37	.00	1284.73	2.99	6.10	3428.13	5395.6
	60.000	70.00	.00	.00	1272.85	9326.00	1284.21	.00	1284.84	5.38	7.46	3221.50	4021.2
	80.000	70.00	.00	.00	1272.90	9326.00	1284.23	.00	1284.89	4.22	7.40	2784.30	4537.6
	90.000	95.00	.00	.00	1272.93	9326.00	1284.26	.00	1284.94	4.80	7.55	2841.92	4258.9
*	92.000	12.00	1284.40	1280.90	1272.94	9326.00	1286.79	.00	1286.92	1.02	3.98	6316.86	9253.9

1

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SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
100.000	90.00	.00	.00	1273.00	9326.00	1286.88	.00	1286.94	.58	2.76	7772.72	12232.6
120.000	200.00	.00	.00	1273.08	9326.00	1286.90	.00	1286.95	.46	2.69	8116.64	13758.7
140.000	200.00	.00	.00	1273.00	9326.00	1286.91	.00	1286.96	.47	2.75	8133.13	13655.6
160.000	440.00	.00	.00	1273.40	9326.00	1286.91	.00	1286.99	.63	3.23	7749.45	11720.1
180.000	320.00	.00	.00	1273.56	9326.00	1286.93	.00	1287.01	.71	3.36	7683.98	11101.7
200.000	300.00	.00	.00	1273.70	9326.00	1286.94	.00	1287.04	.85	3.59	7210.05	10100.5
210.000	220.00	.00	.00	1273.80	9326.00	1286.95	.00	1287.07	.95	3.87	6319.07	9565.7
220.000	90.00	.00	.00	1273.85	9326.00	1286.98	.00	1287.08	.93	3.50	6123.41	9671.0
230.000	120.00	.00	.00	1273.90	9326.00	1287.00	.00	1287.09	1.04	3.19	6038.58	9152.5
240.000	180.00	.00	.00	1274.00	9326.00	1286.98	.00	1287.13	1.18	4.26	5720.41	8579.4
245.000	60.00	.00	.00	1274.03	9326.00	1286.98	.00	1287.13	1.23	4.28	5653.40	8419.0
250.000	90.00	.00	.00	1274.08	9326.00	1287.01	.00	1287.15	1.18	4.14	5503.08	8601.5
260.000	150.00	.00	.00	1274.15	9326.00	1287.01	.00	1287.17	1.25	4.36	5310.53	8339.5
270.000	150.00	.00	.00	1274.22	9326.00	1287.02	.00	1287.19	1.21	4.45	5364.35	8494.3
280.000	150.00	.00	.00	1274.30	9326.00	1287.10	.00	1287.22	1.26	3.82	5658.90	8307.7
300.000	400.00	.00	.00	1274.50	9326.00	1287.13	.00	1287.27	1.06	4.20	5742.87	9072.5
320.000	380.00	.00	.00	1274.70	9326.00	1287.18	.00	1287.32	1.49	4.07	5475.40	7634.0

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ARIZONA CANAL CROSSING

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	2.000	9326.00	1276.12	.00	.00	.12	330.98	.00
*	5.000	9326.00	1277.29	.00	1.17	.00	354.71	150.00
	8.000	9326.00	1277.62	.00	.33	.00	310.85	220.00
*	11.000	9326.00	1278.61	.00	.99	.00	382.94	220.00
	14.000	9326.00	1278.84	.00	.23	.00	390.89	220.00
*	17.000	9326.00	1279.01	.00	.17	.00	658.87	220.00
*	40.000	9326.00	1278.72	.00	-.29	.00	488.81	220.00
*	45.000	9326.00	1282.34	.00	3.63	.00	1114.80	180.00
*	49.000	9326.00	1281.33	.00	-1.01	.00	145.50	15.00
*	50.000	9326.00	1280.71	.00	-.62	.00	89.30	1.00
	51.000	9326.00	1281.86	.00	1.16	.00	94.10	35.00
*	52.000	9326.00	1283.01	.00	1.14	.00	279.61	1.00
*	53.000	9326.00	1284.37	.00	1.36	.00	1436.66	30.00
	60.000	9326.00	1284.21	.00	-.16	.00	1265.58	70.00
	80.000	9326.00	1284.23	.00	.02	.00	1006.24	70.00
	90.000	9326.00	1284.26	.00	.03	.00	1002.92	95.00
*	92.000	9326.00	1286.79	.00	2.53	.00	1533.00	12.00
	100.000	9326.00	1286.88	.00	.09	.00	1693.00	90.00
	120.000	9326.00	1286.90	.00	.02	.00	2008.24	200.00
	140.000	9326.00	1286.91	.00	.01	.00	1935.00	200.00
	160.000	9326.00	1286.91	.00	.01	.00	2020.00	440.00
	180.000	9326.00	1286.93	.00	.02	.00	1960.00	320.00
	200.000	9326.00	1286.94	.00	.01	.00	1919.00	300.00
	210.000	9326.00	1286.95	.00	.01	.00	1672.08	220.00

1

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SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
220.000	9326.00	1286.98	.00	.03	.00	1583.25	90.00
230.000	9326.00	1287.00	.00	.02	.00	1598.99	120.00

240.000	9326.00	1286.98	.00	-.02	.00	1583.23	180.00
245.000	9326.00	1286.98	.00	.00	.00	1571.37	60.00
250.000	9326.00	1287.01	.00	.03	.00	1568.87	90.00
260.000	9326.00	1287.01	.00	.00	.00	1546.00	150.00
270.000	9326.00	1287.02	.00	.02	.00	1557.77	150.00
280.000	9326.00	1287.10	.00	.08	.00	1702.00	150.00
300.000	9326.00	1287.13	.00	.03	.00	1426.00	400.00
320.000	9326.00	1287.18	.00	.05	.00	1350.00	380.00

SUMMARY OF ERRORS AND SPECIAL NOTES

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CAUTION SECNO=     2.000  PROFILE=  1  CRITICAL DEPTH ASSUMED

WARNING SECNO=     5.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=    11.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=    17.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=    40.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=    45.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    45.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=    45.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO=    49.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=    50.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    50.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=    52.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=    53.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=    92.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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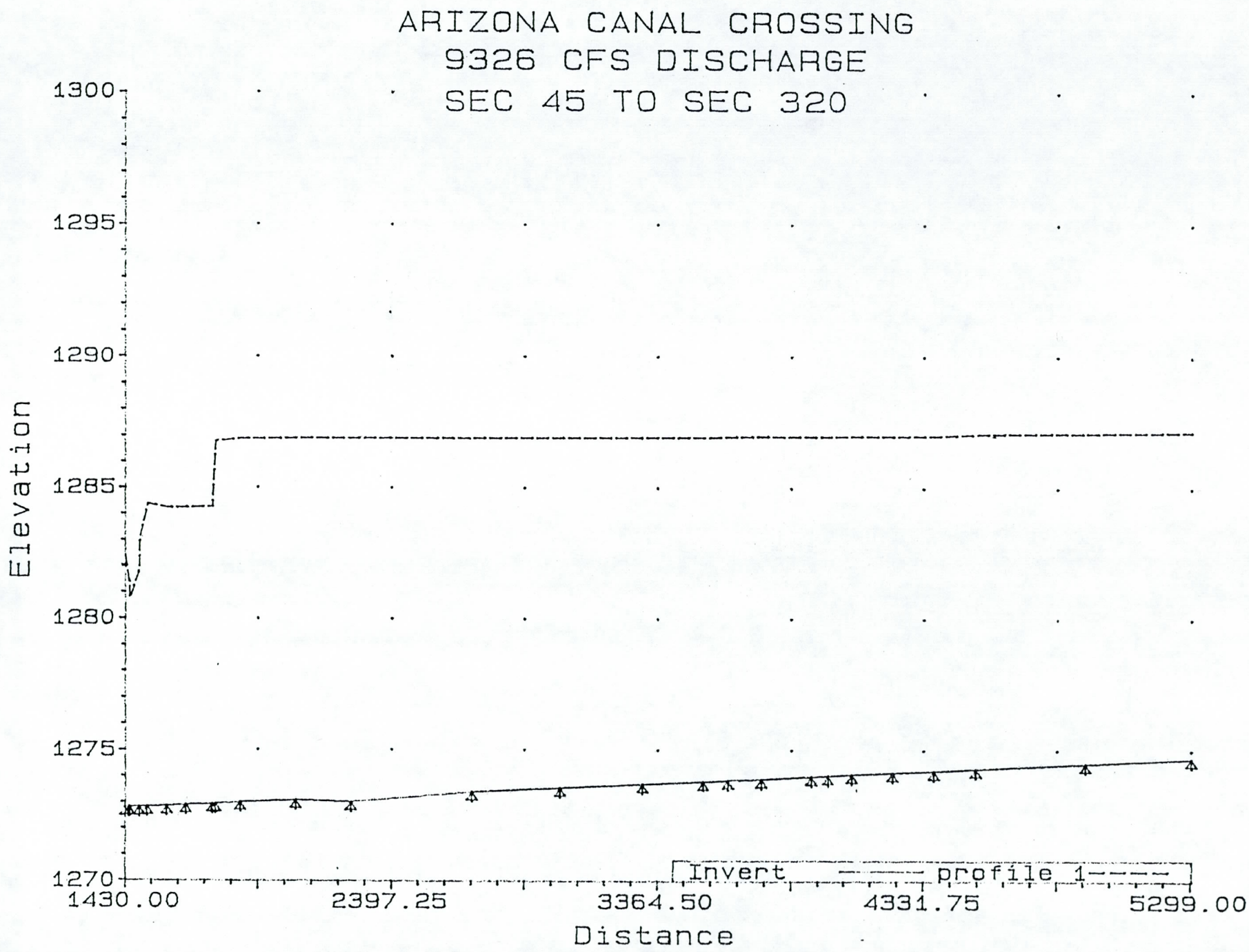
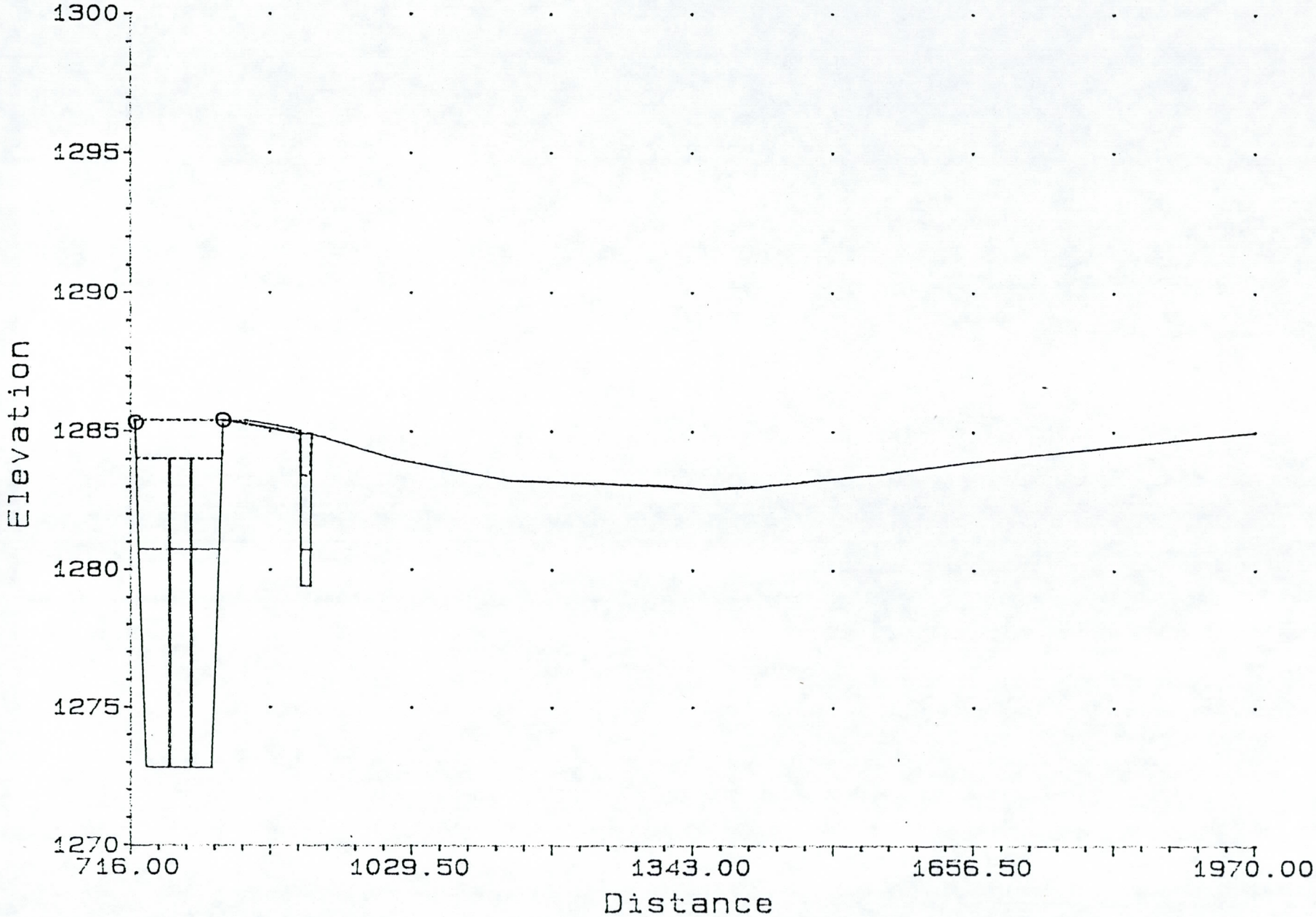
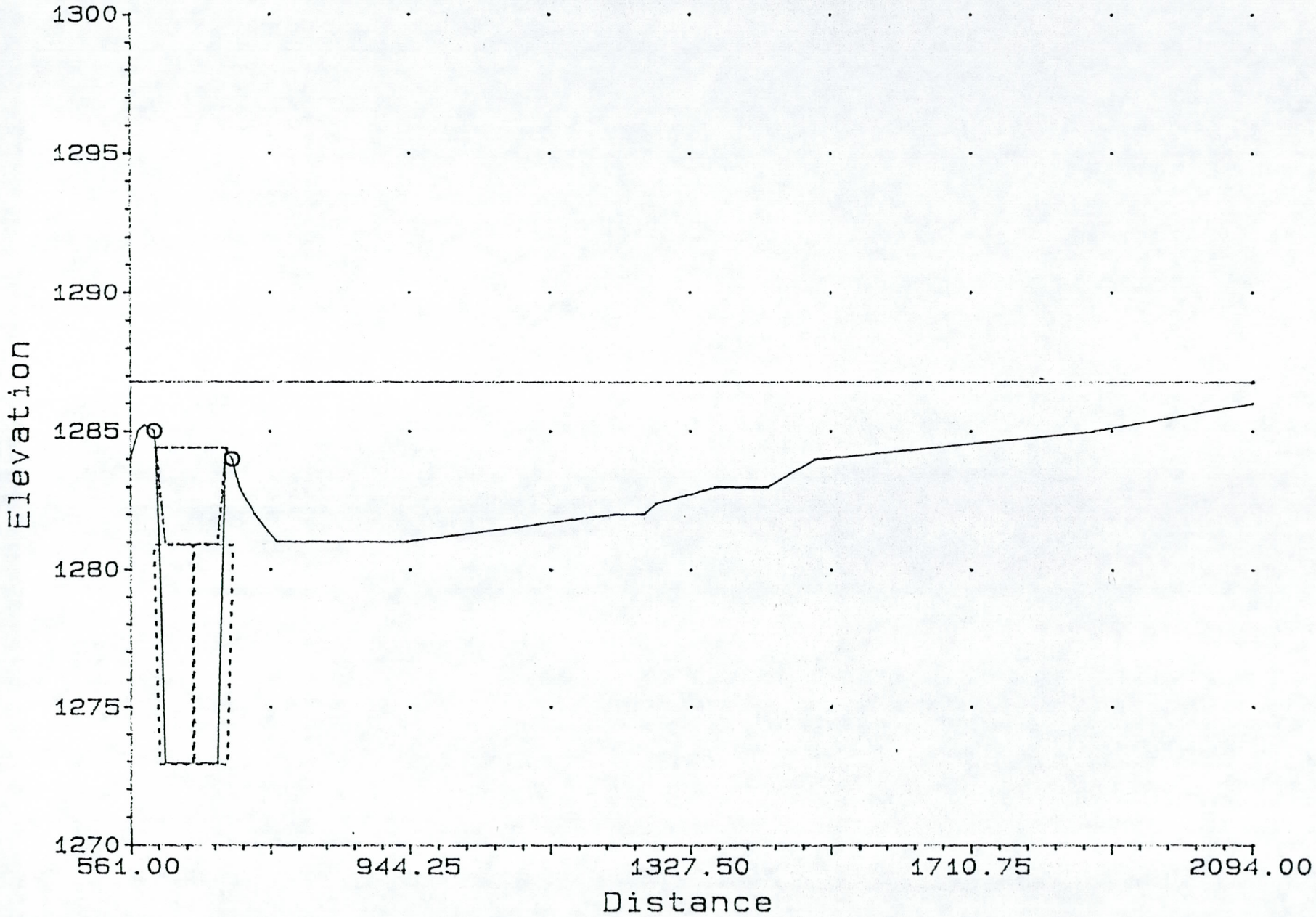

ARIZONA CANAL CROSSING
9326 CFS DISCHARGE
SEC 45 TO SEC 320
1300
1295
1290
1285
1280
1275
1270
Elevation
1430.00
2397.25
3364.50
4331.75
5299.00
Distance
Invert
profile 1

ARIZONA CANAL CROSSING
9326 CFS DISCHARGE
Cross-section 50.000



ARIZONA CANAL CROSSING
9326 CFS DISCHARGE
Cross-section 92.000



ALTERNATIVE 2

PROPOSED 8000 C.F.S. FLOW
3 SPAN, 130' EACH BRIDGE
FLOW DISTRIBUTION FOR
EACH CROSS SECTION.

PROPOSED 8000 C.F.S. FLOW
3 SPAN, 130' EA. BRIDGE.
FLOW DISTRIBUTION FOR
EACH X-SECTION

```
1*****************************************************
 * WATER SURFACE PROFILES                            *
 * VERSION OF SEPTEMBER 1988                         *
 *                                                   *
 *                                                   *
 * RUN DATE    11/ 9/89   TIME   10:24:52            *
 *****************************************************
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*************************************
* U.S. ARMY CORPS OF ENGINEERS
* THE HYDROLOGIC ENGINEERING CENTER
* 609 SECOND STREET, SUITE D
* DAVIS, CALIFORNIA 95616
* (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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END OF BANNER

1

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THIS RUN EXECUTED 11/ 9/89 10:24:53

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*****************************************
 HEC2 RELEASE DATED SEPT 88

*****************************************
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T1 OUTER LOOP AND ARIZONA CANAL CROSSING
T2 PIMA ROAD BRIDGE AND CULVERT
T3 ARIZONA CANAL CROSSING

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	3			1			8000	1276	

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

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

150

NC	.030	.030	.018	.1	.3					
	USCE SPILLWAY D/S END									
X1	2	15	527	633						
GR	1283	527	1280	540	1272.15	550	1272.15	615	1280	625
GR	1283	633	1280	672	1278	735	1275	862	1273	898
GR	1270	925	1269.4	945	1273	987	1275	1050	1285	1230
	USCE WEIR CREST D/S END									
X1	5	38	543	651	150	150	150			
GR	1283.2	543	1280	559	1272.2	570	1272.2	635	1280	646
GR	1280.5	651	1280	657	1279	717	1278	731	1277	741
GR	1276	756	1276	766	1276	777	1276	779	1276	861
GR	1275	873	1274	882	1273	901	1272	913	1271	919
GR	1270	926	1269.40	960	1271	980	1272	993	1273	996
GR	1274	1001	1275	1005	1276	1008	1277	1012	1278	1017
GR	1279	1021	1280	1027	1281	1031	1282	1038	1283	1061
GR	1284	1072	1285	1079	1290	1101				
X1	8	52	580	693	220	220	220			
GR	1283.7	580	1280	597	1272.29	607	1272.29	672	1280	683
GR	1280.6	693	1280	703	1279	715	1278	722	1278	725
GR	1278	732	1277	734	1276	747	1276	785	1277	801
GR	1278	806	1279	811	1279	822	1278	830	1277	836
GR	1276	840	1275	845	1274	852	1273	857	1272	863
GR	1272	876	1273	910	1278	924	1272	926	1271	929
GR	1269.5	934	1270	936	1270	949	1270	953	1271	966
GR	1272	970	1273	975	1274	979	1275	982	1276	986
GR	1277	991	1278	995	1279	999	1280	1004	1281	1012
GR	1282	1020	1283	1030	1284	1033	1285	1036	1285	1068
GR	1285	1071	1290	1096						

1

X1	11	41	620	733	220	220	220			
GR	1284.1	620	1280	636	1272.40	646	1272.40	711	1280	722
GR	1280.7	733	1280	744	1279	754	1278	759	1277	764
GR	1276	776	1276	785	1277	793	1277	802	1276	820
GR	1275	830	1274	842	1273	846	1272	854	1271	863
GR	1269.6	872	1270	926	1271	931	1272	936	1271	941
GR	1274	945	1274	971	1273	975	1272	978	1271	981
GR	1270	986	1271	1020	1273	1033	1274	1038	1275	1041
GR	1278	1054	1280	1063	1281	1067	1283	1076	1285	1084
GR	1290	1104								
X1	14	31	663	774	220	220	220			
GR	1284.6	663	1280	677	1272.51	687	1272.51	752	1280	762
GR	1280.8	774	1280	785	1279	794	1278	808	1277	814
GR	1276	819	1275	824	1274	827	1273	830	1272	832
GR	1271	845	1272	882	1270	901	1270	946	1270	994
GR	1269.7	1011	1269.70	1041	1270	1052	1270	1065	1272	1080
GR	1274	1088	1275	1092	1278	1103	1282	1114	1285	1124
GR	1290	1147								
X1	17	35	701	815	220	220	220			
GR	1285	701	1280	717	1272.62	727	1272.62	792	1280	801
GR	1280.9	815	1280	828	1279	833	1278	836	1277	840
GR	1276	843	1274	854	1273	858	1272	862	1271	883
GR	1272	903	1271	911	1270	932	1270	942	1270	975
GR	1269.8	1003	1269.80	1010	1270	1082	1270	1144	1270	1185
GR	1270	1218	1270	1247	1270	1268	1270	1327	1271	1341
GR	1273	1355	1276	1382	1279	1410	1281	1482	1285	1530

USCE WEIR CREST U/S END

X1	40	34	746	863	220	220	220			
GR	1284	720	1284	746	1280	750	1272.70	760	1272.70	820
GR	1281	830	1281	840	1281	863	1283	868	1284	871
GR	1284	895	1282	900	1280	905	1278	910	1278	920
GR	1280	925	1282	935	1284	945	1283	969	1282	1055
GR	1284	1062	1286	1070	1288	1075	1290	1084	1287	1127
GR	1284	1134	1280	1174	1277	1238	1278	1260	1280	1310
GR	1276	1360	1272	1528	1276	1630	1280	1658		

USCE SPILLWAY U/S END

X1	45	18	719	819	180	170	180			
GR	1285	719	1284	723	1280	729	1272.78	737	1272.78	807
GR	1280	815	1284	819	1284	866	1283	885	1283	895
GR	1279.2	897	1279.2	908	1283	910	1282	950	1281	1080
GR	1280.6	1210	1281	1460	1282	1945				

X1	49	22	722	820	15	15	15			
GR	1285.2	716	1285.3	722	1280	726	1272.79	734	1272.79	807
GR	1281	816	1285.3	820	1285	845	1285	880	1284	895
GR	1279.4	907	1279.4	917	1284	1010	1283.2	1140	1283.1	1246
GR	1283.0	1320	1282.9	1360	1283	1410	1283.2	1466	1283.5	1558
GR	1284	1673	1285	1970						

1

PIMA ROAD CULVERT D/S FACE

X1	50	32	722	820	1	1	1			
X4	7	1284	723	1284.0	819	1285.4	821	1285.1	896	1285.0
X4	906	1284.9	907	1284.9	919					
BT	8	721	1285.4	1285.4	723	1285.4	1284.0	819	1285.4	1284.0
BT	820	1285.4	1285.4	906	1284.9	1284.9	907	1284.9	1283.4	917
BT	1284.9	1283.4	919	1284.9	1284.9					
GR	1285.2	716	1285.3	720	1285.4	721	1285.3	722	1280.0	726
GR	1272.8	734	1272.8	759	1284	759	1284	761	1272.8	761
GR	1272.8	783	1284	783	1284	785	1272.8	785	1272.8	807
GR	1281	816	1285.4	820	1285.4	845	1285.2	880	1285.1	895
GR	1279.4	907	1279.4	917	1284	1010	1283.2	1140	1283.1	1246
GR	1283	1320	1282.9	1360	1283	1410	1283.2	1466	1283.5	1558
GR	1284	1673	1285	1970						

PIMA ROAD CULVERT U/S FACE

X1	51				35	35	35			

X1	52	22	722	820	1	1	1			
GR	1285.2	716	1285.3	722	1280	726	1272.80	734	1272.80	807
GR	1281	816	1285.3	820	1285	845	1285	880	1284	895
GR	1279.4	907	1279.4	917	1284	1010	1283.2	1140	1283.1	1246
GR	1283.0	1320	1282.9	1360	1283	1410	1283.2	1466	1283.5	1558
GR	1284	1673	1285	1970						

X1	53	30	700	796	30	30	30			
GR	1280	646	1282	667	1284	696	1285.4	700	1280	705
GR	1278	707	1272.82	712	1272.82	779	1280	786	1284	796
GR	1283	805	1282	810	1282	840	1280	925	1281	942
GR	1280	964	1282.2	1030	1281.8	1165	1281.9	1257	1282	1300
GR	1282	1400	1282.1	1445	1283	1540	1283	1600	1283.5	1660
GR	1284	1785	1283	1860	1283	1920	1284	2050	1285	2150

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NH      4      .018      768      .030      840      .060     1971      .030     2152
X1     60        38      681       787       70       100       70
X4      3      1280      768      1281      840      1281     1100
GR   1285       657     1285       681     1280       687  1272.85       694  1272.85       763
GR   1280       770     1285       777     1285       778     1284       787     1284       801
GR   1285       804     1285       808     1284       810     1283       812     1282       818
GR   1281       821     1281       853     1281       905     1281      1139     1282      1351
GR   1282      1367     1281      1368     1280      1370     1280      1372     1281      1374
GR   1282      1377     1283      1619     1283      1657     1283      1663     1284      1851
GR   1284      1901     1284      1963     1285      1971     1286      1980     1286      2007
GR   1286      2105     1286      2133     1286      2152

NH      4      .018      743      .030      760      .060     1260      .030     2106
X1     80        34      644       743       70       140       70
X4      2      1283      760      1282     1260
GR   1283       577     1282       582     1281       585     1280       590     1280       604
GR   1281       606     1282       608     1283       611     1284       615     1285       632
GR   1285       644     1280       649   1272.9       656   1272.9       729     1280       736
GR   1285       741     1285       743     1284       753     1283       766     1283       768
GR   1283       775   1282.1       795     1281       819     1281       832     1281       860
1
   11/ 9/89     10:24:53                                                                    PAGE    4

GR   1281       935     1282      1255     1282      1265     1282      1278     1282      1287
GR   1283      1370     1284      1518     1285      1940     1286      2106

NH      4      .018      700      .030      761      .060     1280      .030     2094
        DEBRIS BRIDGE SPECIAL D/S FACE
X1     90        28      594       700       95        95       95
X4      3    1285.2      580      1282     1260    1282.4     1280
GR   1284       561     1285       572     1285       594   1284.4       596     1280       602
GR   1279       603  1272.93       609  1272.93       680     1280       687   1284.4       692
GR   1284       700     1283       710     1282       730     1281       761     1281       787
GR   1281       802     1281       831     1281       930     1281       940     1282      1221
GR   1282      1253     1282      1264     1283      1360     1283      1426     1283      1432
GR   1284      1496     1285      1877     1286      2094

NH      4      .018      700      .030      761      .060     1280      .030     2094
SB     .9      1.35      2.7                92       1.5      736         1   1272.9    1272.9
        DEBRIS BRIDGE SPECIAL U/S FACE
X1     92        28      594       700       12        12       12
X2                        1    1280.9    1284.4                      1.33
X4      3    1285.2      580      1282     1260    1282.4     1280
BT      4       596   1284.4    1284.4      609    1284.4   1280.9       680   1284.4    1280.9
BT    692    1284.4   1284.4
GR   1284       561     1285       572     1285       594   1284.4       596     1280       602
GR   1279       603  1272.94       609  1272.94       680     1280       687   1284.4       692
GR   1284       700     1283       710     1282       730     1281       761     1281       787
GR   1281       802     1281       831     1281       930     1281       940     1282      1221
GR   1282      1253     1282      1264     1283      1360     1283      1426     1283      1432
GR   1284      1496     1285      1877     1286      2094

NH      4      .018      654      .030      670      .060     1180      .030     2115
X1    100        30      523       654       90       130       90
X4      2    1285.6      540      1283     670
GR   1279       422     1279       448     1279       465     1279       473     1278       478
GR   1278       483     1279       487     1280       493     1281       501     1282       505
GR   1283       506     1284       513     1285       523     1285       547     1280       552
GR   1279       553  1273.0       560  1273.0       631     1280       638     1284       654
GR   1283       665     1282       678     1281       726     1281       760     1281       820
GR   1282      1180     1283      1452     1284      1795     1285      1970     1286      2115
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NH      4     .018      556     .030      570     .060      820     .030     2300
X1    120       32      449      556      200      220      200
X4      2   1285.6      450     1282      820
GR   1279      291     1280      375     1280      381     1280      386     1281      388
GR   1281      390     1280      392     1280      393     1281      395     1282      397
GR   1283      398     1284      400     1285      402     1285      449     1280      454
GR   1279      455  1273.08      461  1273.08      532     1280      539     1284      556
GR   1283      565     1283      570     1283      572     1282      574     1281      576
GR   1281      615     1282      964     1283     1370     1284     1695     1285     1975
GR   1286     2186   1286.9     2300
1
   11/ 9/89     10:24:53                                                                PAGE    5


NH      4     .018      455     .030      485     .060      660     .030     2160
X1    140       31      354      455      200      210      200
X4      3   1286.5      335     1282      485     1281      660
GR   1280      225     1281      280     1281      281     1280      284     1280      287
GR   1279      290     1280      299     1281      301     1283      310     1285      313
GR   1286      317     1286      354     1285      359     1280      364  1273.19      371
GR   1273      400  1273.19      443     1280      450     1285      455     1285      456
GR   1284      472     1284      479     1282      484     1281      531     1281      554
GR   1282      880     1283     1310     1284     1635     1285     1990     1286     2126
GR  1286.4     2160

NH      5     .018      375     .030      400     .060      760     .030     2100     .060
NH   2230
X1    160       33      277      375      460      340      440
X4      4   1285.9      260     1282      400     1282      760   1286.2     2100
GR   1280      210     1280      215     1279      218     1279      220     1280      221
GR   1281      227     1282      229     1283      231     1284      232     1285      242
GR   1285      277     1280      282  1273.40      289  1273.40      361     1280      368
GR   1283      370     1284      375     1284      378     1283      384     1282      396
GR   1281      414     1281      431     1281      457     1281      507     1281      601
GR   1281      629     1281      643     1282      912     1283     1210     1284     1455
GR   1285     1793     1286     2061   1286.7     2230

NH      5     .018      368     .030      453     .060      960     .030     1880     .060
NH   2160
X1    180       33      267      368      320      310      320
X4      4   1285.9      250     1281      380     1282      960   1285.4     1880
GR   1280      200     1281      206     1281      210     1281      215     1282      217
GR   1283      218     1284      220     1285      225     1285      267     1280      272
GR   1276      276  1273.56      279  1273.56      350     1280      357     1283      361
GR   1283      368     1282      378     1281      382     1281      398     1281      453
GR   1281      460     1281      480     1281      618     1282      957     1283     1144
GR   1284     1440     1285     1725     1285     1750     1285     1775     1285     1790
GR   1285     1800     1286     1966   1286.9     2160

NH      5     .018      407     .030      446     .060      860     .030     1437     .060
NH   2160
X1    200       28      304      407      300      300      300
X4      3   1286.5      285     1281      420     1282      860
GR   1280      241     1283      259     1284      261     1285      263     1286      277
GR   1286      304     1285      305     1280      310  1273.70      317  1273.70      386
GR   1280      393     1283      396     1283      407     1282      413     1281      421
GR   1281      429     1281      446     1281      543     1281      606     1281      611
GR   1282      916     1283     1107     1284     1437     1285     1686     1285     1690
GR  1285.4     1750     1286     1946   1286.7     2160

NH      6     .030      346     .018      438     .030      475     .060      820     .030
NH   1820     .060     2135
X1    210       21      346      446      220      240      220
X4      1   1286.6      330
GR   1280      282     1283      300     1285      306     1286      314     1286      346
GR   1280      352  1273.8      358  1273.8      430     1280      436     1283      438
GR   1283      446     1282      458   1281.5      475     1282      820     1283     1055
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GR    1284      1375      1285      1600      1286      1830      1286.4    1880      1287      1980
GR    1288      2135

NH       6      .030       365      .018       471      .025       503      .025       700      .030
NH    1710      .030      2165
ET                          9.1                                                          340       870
        OLH CROSSING D/S FACE
X1     220        23       365       487        90        90        90
X4       3    1286.5       350    1281.9       700    1285.2      1710
GR    1280       315      1283       325      1285       330      1286       345      1286       365
GR    1285       382      1280       386    1273.85       392   1273.85       465      1280       471
GR    1282       487      1282       503    1281.2       565      1282       575      1282       690
GR    1282       820      1283      1010      1284      1415      1285      1620    1285.5      1695
GR    1286      1810      1287      1900      1288      2165

NH       6      .030       382      .018       475      .025       499      .025       840      .030
NH    1585      .060      1920
ET                          9.1                                                          360       890
        OLH CROSSING U/S FACE
X1     230        22       382       565       120       120       120
X4       1    1286.5       370
GR    1280       320      1283       340      1285       346      1286       355      1286       382
GR    1285       385      1280       388    1273.9       394    1273.9       466      1280       472
GR    1282       475      1282       485    1282.1       499      1282       565      1282       800
GR    1282       840      1283      1045      1284      1390      1285      1570    1285.2      1585
GR    1286      1800      1287      1920

NH       5      .018       505      .030       520      .030       840      .030      1540      .030
NH    1950
X1     240        19       405       505       180       180       180
X4       4    1286.6       395      1282       520      1282       840    1284.7      1540
GR    1284       363      1285       365      1286       373      1286       403      1285       405
GR    1280       410   1274.00       417   1274.00       484      1280       491      1282       495
GR    1282       505      1281       521      1281       528      1282       576      1283      1031
GR    1284      1325      1285      1495      1286      1790      1287      1950

NH       6      .030       417      .018       510      .030       530      .060       895      .030
NH    1544      .060      2150
X1     245        27       417       520        60        60        60
X4       1    1286.6       405
GR    1280       356      1283       375      1285       380      1286       391      1286       417
GR    1285       420      1280       425   1274.03       431   1274.03       500      1280       506
GR    1282       510      1282       520      1281       530      1281       550      1282       595
GR  1282.5       895      1283      1000      1283      1120      1283      1145      1284      1340
GR    1285      1500    1285.2      1544      1286      1720    1286.3      1820      1287      1930
GR  1287.2      2040    1287.7      2150

NH       4      .018       531      .030       550      .060       800      .030      1957
X1     250        23       427       531        90        90        90
X4       4    1286.3       415      1281       550      1282       800      1285      1486
GR    1284       388      1285       390      1286       408      1286       427      1285       431
GR    1280       435   1274.08       442   1274.08       509      1280       516      1282       519
GR    1282       531      1281       543      1281       559      1282       654      1283       945
GR    1283      1041      1283      1091      1284      1340      1285      1503      1286      1625
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GR    1286      1646      1286      1782      1287      1957

NH       5      .018       556      .030       570      .060       847      .030      1630      .060
NH    1948
X1     260        19       452       556       150       150       150
X4       4    1286.4       425      1282       570      1282       880    1285.3      1630
GR    1282       402      1285       413      1286       418      1286       450      1285       452
GR    1280       457   1274.15       463   1274.15       535      1280       541      1282       543
GR    1282       556      1282       572      1282       594      1282       847      1283      1010
GR    1284      1172      1285      1493      1286      1724      1287      1948
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NH      5     .018      567     .030      590     .060      900     .030     1680     .060
NH   2110
X1    270       22      473      567      150      150      150
X4      5   1286.4      460     1283      590     1282      850   1282.3      900   1285.8
X4   1680
GR   1284      436     1285      442     1286      453     1286      473     1285      475
GR   1280      478  1274.22      484  1274.22      559     1280      565     1281      567
GR   1281      568     1282      585     1283      595     1283      608     1282      654
GR   1282      850     1283     1107     1284     1304     1285     1504     1286     1715
GR   1287     1990   1287.8     2110

NH      5     .018      597     .030      620     .060      940     .030     1900     .060
NH   2160
X1    280       19      465      597      150      150      150
X4      5   1286.5      485     1282      620     1282      890   1282.4      940   1286.7
X4   1900
GR   1283      458     1285      465     1286      474     1286      497     1285      498
GR   1280      503  1274.30      509  1274.30      582     1280      588     1282      597
GR   1282      622     1282      645     1282      837     1283     1161     1284     1400
GR   1285     1555     1286     1773     1287     2085     1287     2160

NH      5     .030      568     .018      658     .030      680     .060      940     .030
NH   1960
X1    300       17      540      652      400      400      400
X4      2   1286.5      558     1282      940
GR   1285      534     1286      540     1286      566     1285      568     1280      573
GR  1274.5      579  1274.5      652     1285      658     1283      663     1282      673
GR   1282      680   1281.2      820     1282      856     1283     1190     1284     1420
GR   1285     1690     1286     1960

NH      5     .030      630     .018      722     .030      749     .060     1150     .030
NH   1940
X1    320       17      627      735      380      380      380
X4      1   1282.5     1150
GR   1285      590     1286      600     1286      627     1285      630     1280      634
GR  1274.7      640  1274.7      714     1280      720     1285      722     1285      726
GR   1283      735     1282      749     1282      830     1283     1205     1284     1475
GR   1285     1715     1286     1940


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


*PROF 1

CCHV=     .100 CEHV=     .300
*SECNO 2.000

3265 DIVIDED FLOW

3720 CRITICAL DEPTH ASSUMED
        USCE SPILLWAY D/S END
     2.00     6.30  1275.70  1275.70  1276.00  1277.25     1.55      .00      .00  1283.00
    8000.       0.     3059.     4941.       0.     247.     606.       0.       0.  1283.00
      .00      .00    12.39     8.16     .000     .018     .030     .000  1269.40   545.48
  .004721       0.       0.       0.        0       11        0      .00   304.36  1062.62
0
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FLOW DISTRIBUTION FOR SECNO=      2.00          CWSEL=   1275.70

STA=     545.     633.     862.     898.     925.     945.     987.    1050.    1063.
  PER Q=    38.2       .2      3.7     12.5     16.9     21.9      6.5       .1
   AREA=   246.9     10.4     61.2    113.4    120.0    189.1    107.2      4.4
    VEL=    12.4      1.7      4.8      8.8     11.2      9.3      4.8      1.7
  DEPTH=     3.3       .0      1.7      4.2      6.0      4.5      1.7       .4

*SECNO 5.000

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

        USCE WEIR CREST D/S END
     5.00     7.52  1276.92      .00      .00  1277.73      .82      .41      .07  1283.20
    8000.       0.    3018.    4982.       0.     338.     831.       3.       1.   1280.50
      .01      .00     8.94     5.99     .000     .018     .030     .000  1269.40   563.36
  .001758     150.     150.     150.        3        0        0      .00   347.60  1011.64
0
FLOW DISTRIBUTION FOR SECNO=      5.00          CWSEL=   1276.92

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


STA=     563.     651.     882.     901.     913.     926.     960.     980.     993.    1012.
  PER Q=    37.7      4.0      3.8      3.7      6.6     23.8     12.4      5.6      2.5
   AREA=   337.5    140.5     64.8     52.9     77.3    245.2    134.2     70.3     45.8
    VEL=     8.9      2.3      4.7      5.6      6.8      7.8      7.4      6.4      4.3
  DEPTH=     4.3       .6      3.4      4.4      5.9      7.2      6.7      5.4      2.5

*SECNO 8.000

3265 DIVIDED FLOW

     8.00     7.74  1277.24      .00      .00  1278.16      .92      .40      .03  1283.70
    8000.       0.    3374.    4626.       0.     355.     764.       9.       3.   1280.60
      .01      .00     9.50     6.05     .000     .018     .030     .000  1269.50   600.58
  .001869     220.     220.     220.        3        0        0      .00   302.18   991.96
0
FLOW DISTRIBUTION FOR SECNO=      8.00          CWSEL=   1277.24

STA=     601.     693.     852.     863.     876.     910.     934.     949.     966.     975.     992.
  PER Q=    42.2      3.3      3.3      5.5     12.2      5.9     10.9     11.3      3.7      1.7
   AREA=   355.1     99.7     47.1     68.1    161.2     81.9    109.1    116.6     46.7     34.0
    VEL=     9.5      2.7      5.6      6.5      6.0      5.8      8.0      7.7      6.3      4.0
  DEPTH=     4.5       .6      4.3      5.2      4.7      3.4      7.3      6.9      5.2      2.0

*SECNO 11.000
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3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

11.00	8.53	1278.13	.00	.00	1278.41	.28	.19	.06	1284.10
8000.	0.	2230.	5770.	0.	418.	1532.	17.	4.	1280.70
.03	.00	5.33	3.77	.000	.018	.030	.000	1269.60	638.45
.000495	220.	220.	220.	2	0	0	.00	377.13	1054.61

0
1

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

FLOW DISTRIBUTION FOR SECNO= 11.00 CWSEL= 1278.13

STA=	638.	733.	842.	863.	872.	926.	936.	971.	986.	1020.	1033.	1055.
PER Q=	27.9	3.9	5.5	3.8	25.5	3.6	6.3	4.4	13.9	3.7	1.6	
AREA=	418.2	164.7	123.3	70.5	450.1	71.4	163.2	93.5	259.6	79.8	55.4	
VEL=	5.3	1.9	3.6	4.3	4.5	4.0	3.1	3.7	4.3	3.7	2.3	
DEPTH=	5.2	1.5	5.9	7.8	8.3	7.1	4.7	6.2	7.6	6.1	2.6	

*SECNO 14.000

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

14.00	8.64	1278.34	.00	.00	1278.50	.16	.07	.01	1284.60
8000.	0.	1611.	6389.	0.	425.	2119.	28.	6.	1280.80
.05	.00	3.79	3.02	.000	.018	.030	.000	1269.70	679.21
.000245	220.	220.	220.	2	0	0	.00	381.33	1103.94

0
FLOW DISTRIBUTION FOR SECNO= 14.00 CWSEL= 1278.34

STA=	679.	774.	845.	882.	901.	946.	994.	1011.	1041.	1052.	1065.	1080.	1104.
PER Q=	20.1	4.6	8.8	5.1	15.0	16.0	5.8	10.6	3.8	4.3	4.0	1.9	
AREA=	424.6	156.0	253.2	139.5	375.5	400.5	144.4	259.3	93.4	108.5	110.2	78.6	
VEL=	3.8	2.3	2.8	2.9	3.2	3.2	3.2	3.3	3.2	3.2	2.9	1.9	
DEPTH=	5.3	2.2	6.8	7.3	8.3	8.3	8.5	8.6	8.5	8.3	7.3	3.3	

*SECNO 17.000

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

17.00	8.69	1278.49	.00	.00	1278.54	.04	.03	.01	1285.00
8000.	0.	866.	7134.	0.	426.	4309.	47.	9.	1280.90
.08	.00	2.03	1.66	.000	.018	.030	.000	1269.80	719.04
.000070	220.	220.	220.	2	0	0	.00	650.88	1405.28

0
1

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


FLOW DISTRIBUTION FOR SECNO=     17.00         CWSEL=   1278.49

STA=     719.     815.     883.     911.     932.     975.    1003.    1082.    1144.    1185.    1218.    1247.    1268.
  PER Q=    10.8      4.0      3.7,     3.5      7.9      5.2     14.7     11.3      7.5      6.0      5.3      3.8
   AREA=   426.2    239.6    195.8    167.9    365.2    240.6    679.6    526.6    348.2    280.3    246.3    178.4
    VEL=     2.0      1.3      1.5      1.7      1.7      1.7      1.7      1.7      1.7      1.7      1.7      1.7
  DEPTH=     5.3      3.5      7.0      8.0      8.5      8.6      8.6      8.5      8.5      8.5      8.5      8.5

STA=    1268.    1327.    1355.    1405.
  PER Q=    10.8      3.9      1.6
   AREA=   501.1    202.8    136.9
    VEL=     1.7      1.6       .9
  DEPTH=     8.5      7.2      2.7

*SECNO 40.000

3265 DIVIDED FLOW


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

        USCE WEIR CREST U/S END
    40.00     6.20  1278.20      .00      .00  1278.72      .53      .04      .14  1284.00
    8000.       0.    2914.    5086.       0.     369.    1215.      63.      12.  1281.00
      .09      .00     7.90     4.19     .000     .018     .030     .000  1272.00   752.46
  .001151     220.     220.     220.        2        0        0      .00   450.71  1645.40
0
FLOW DISTRIBUTION FOR SECNO=     40.00         CWSEL=   1278.20

STA=     752.     863.     920.    1238.    1260.    1360.    1528.    1630.    1645.
  PER Q=    36.4       .0       .2       .3       .7     38.6     23.4       .4
   AREA=   369.0      2.0     15.4     15.4     30.8    705.7    428.5     17.0
    VEL=     7.9       .6      1.2      1.3      1.8      4.4      4.4      1.8
  DEPTH=     5.0       .0       .0       .7       .3      4.2      4.2      1.1

*SECNO 45.000

3265 DIVIDED FLOW

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   11/ 9/89      10:24:53                                                                                    PAGE   12


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


3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL.CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
        USCE SPILLWAY U/S END
    45.00     7.19  1279.97  1279.97      .00  1283.11     3.14      .30      .78  1285.00
    8000.       0.    7982.      18.       0.     561.       9.      67.      13.  1284.00
      .10      .00    14.23     2.10     .000     .018     .030     .000  1272.78   329.63
  .002649     160.     160.     170.       20        8        0      .00    97.75   908.41
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0
 FLOW DISTRIBUTION FOR SECNO=     45.00          CWSEL=   1279.97

 STA=     729.     819.     908.     908.
   PER Q=     99.8       .2       .0
    AREA=    560.8      8.7       .2
     VEL=     14.2      2.1       .8
   DEPTH=      6.5       .1       .4

 *SECND 49.000

 3265 DIVIDED FLOW


 3301 HV CHANGED MORE THAN HVINS


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

     49.00     8.58  1281.37      .00      .00  1283.26     1.89      .03      .12  1285.30
     8000.       0.    7866.     134.       0.     707.      64.      67.      13.  1285.30
       .10      .00    11.12     2.08     .000     .018     .030     .000  1272.79   724.96
   .001304      15.      15.      15.        6        0        0      .00   146.40   956.87
0
 FLOW DISTRIBUTION FOR SECNO=     49.00          CWSEL=   1281.37

 STA=     725.     820.     907.     917.     957.
   PER Q=     98.3       .1       .7       .9
    AREA=    707.4      5.1     19.7     39.3
     VEL=     11.1      1.7      2.8      1.8
   DEPTH=      7.7       .1      2.0      1.0

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    11/ 9/89      10:24:53                                                                                                PAGE   13


    SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XWL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECND 50.000

 3265 DIVIDED FLOW


 3301 HV CHANGED MORE THAN HVINS


 3370 NORMAL BRIDGE. NRD=   8 MIN ELTRD=  1284.90 MAX ELLC=  1285.40

          PIMA ROAD CULVERT D/S FACE
     50.00     8.21  1281.01      .00      .00  1283.42     2.41      .00      .16  1285.30
     8000.       0.    7995.       5.       0.     641.       3.      67.      13.  1285.40
       .10      .00    12.47     1.75     .000     .018     .030     .000  1272.80   725.24
   .002607       1.       1.       1.        2        0        0      .00    90.60   917.59
0
 FLOW DISTRIBUTION FOR SECNO=     50.00          CWSEL=   1281.01

 STA=     725.     820.     917.     918.
   PER Q=     99.9       .1       .0
    AREA=    641.3      2.6       .5
     VEL=     12.5      1.9      1.1
   DEPTH=      7.4       .0       .8
```

```
*SECNO 51.000

3265 DIVIDED FLOW

          PIMA ROAD CULVERT U/S FACE
    51.00     8.48  1281.28      .00      .00  1283.53     2.24      .09      .02  1285.30
    8000.       0.    7992.       8.       0.     665.       4.      68.      13.   1285.40
      .10      .00    12.02     1.84     .000     .018     .030     .000  1272.80   725.03
  .002352      35.      35.      35.        2        0        0      .00    91.72   917.69
0
 FLOW DISTRIBUTION FOR SECNO=     51.00          CWSEL=   1281.28

 STA=     725.     820.     917.     918.
   PER Q=     99.9       .1       .0
    AREA=    665.1      3.6       .6
     VEL=     12.0      2.0      1.1
   DEPTH=      7.6       .0       .9

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   11/ 9/89      10:24:53                                                                    PAGE   14

   SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*SECND 52.000

3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

    52.00     9.25  1282.05      .00      .00  1283.60     1.55      .00      .07  1285.30
    8000.       0.    7773.     227.       0.     768.     106.      68.      13.   1285.30
      .10      .00    10.12     2.14     .000     .018     .030     .000  1272.80   724.46
  .000990       1.       1.       1.        3        0        0      .00   162.81   970.41
0
 FLOW DISTRIBUTION FOR SECNO=     52.00          CWSEL=   1282.05

 STA=     724.     820.     907.     917.     970.
   PER Q=     97.2       .2      1.0      1.7
    AREA=    768.1      9.1     26.4     70.5
     VEL=     10.1      1.8      3.0      1.9
   DEPTH=      8.3       .1      2.6      1.3

*SECNO 53.000

3265 DIVIDED FLOW

3280 CROSS SECTION     53.00 EXTENDED      2.08 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    53.00     9.26  1282.08  1282.08      .00  1283.74     1.66      .03      .03  1285.40
    8000.      37.    7524.     439.      23.     707.     269.      68.      13.   1284.00
      .10     1.65    10.64     1.63     .030     .018     .030     .000  1272.82   646.00
  .001152      30.      30.      30.        2        5        0      .00   691.13  1435.22
0
 FLOW DISTRIBUTION FOR SECNO=     53.00          CWSEL=   1282.08

 STA=     646.     668.     796.     964.    1435.
   PER Q=       .5     94.0      3.8      1.7
    AREA=     22.7    706.9    155.6    113.6
     VEL=      1.7     10.6      1.9      1.2
   DEPTH=      1.0      8.0       .9       .2
```

```
SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS    BANK ELEV
Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
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 60.000
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3265 DIVIDED FLOW

   60.00     9.73  1282.58  1280.22      .00  1283.85     1.27      .08      .04  1285.00
   8000.       0.    7217.     783.       0.     759.     804.      71.      15.   1284.00
     .10      .00     9.51      .97     .000     .019     .057     .000  1272.85   683.90
 .000956      70.      70.     100.        8       17        0      .00   792.84  1517.64
0
FLOW DISTRIBUTION FOR SECNO=     60.00          CWSEL=   1282.58

STA=     684.     777.    1100.    1351.    1518.
  PER Q=     90.2      6.2      3.1       .5
   AREA=   759.2    445.4    290.9     68.0
    VEL=     9.5      1.1       .9       .6
  DEPTH=     8.5      1.4      1.2       .4

1490 NH CARD USED
*SECNO 80.000

3265 DIVIDED FLOW

   80.00    10.05  1282.95      .00      .00  1283.94      .99      .06      .03  1285.00
   8000.     263.    7051.     686.      70.     834.     804.      75.      17.   1285.00
     .11     3.78     8.45      .95     .018     .018     .057     .000  1272.90   577.21
 .000631      70.      70.     140.        2        0        0      .00   717.09  1366.46
0
FLOW DISTRIBUTION FOR SECNO=     80.00          CWSEL=   1282.95

STA=     577.     606.     611.     741.     935.    1255.    1366.
  PER Q=      3.2       .1     88.1      3.1      4.7       .8
   AREA=     65.3      4.3    834.0    269.0    466.4     68.7
    VEL=      3.9      2.1      8.5       .9       .8       .9
  DEPTH=      2.3       .9      9.0      1.4      1.5       .6

1490 NH CARD USED
```


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

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*SECNO 90.000

3265 DIVIDED FLOW

        DEBRIS BRIDGE SPECIAL D/S FACE
    90.00    10.01  1282.94  1279.99      .00  1284.03     1.09      .06      .03  1285.00
    8000.       0.    7181.     819.       0.     812.     877.      78.      19.  1284.00
      .11      .00     8.84      .93     .000     .018     .057     .000  1272.93   597.99
  .000706      95.      95.      95.        4       15        0      .00   733.18  1352.02
0
 FLOW DISTRIBUTION FOR SECNO=     90.00          CWSEL=   1282.94

 STA=     598.     692.     930.    1221.    1352.
   PER Q=     89.8      5.2      4.5       .5
    AREA=    812.1    381.4    424.1     71.7
     VEL=      8.8      1.1       .8       .6
   DEPTH=      8.8      1.6      1.5       .5

 1490 NH CARD USED

 SPECIAL BRIDGE

 SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
      .90      1.35      2.70       .00     92.00      1.50    736.00      1.00   1272.90   1272.90

 *SECNO 92.000

 3265 DIVIDED FLOW

 3280 CROSS SECTION     92.00 EXTENDED       .98 FEET


 3301 HV CHANGED MORE THAN HVINS


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

 PRESSURE AND WEIR FLOW

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


  EGPRS      EGLWC      HS       QWEIR      QPR       BAREA   TRAPEZOID      ELLC     ELTRD     WEIRLN
                                                                 AREA
    1285.42   1284.05      .04      219.     7798.      736.     768.     1280.90   1284.40       96.


        DEBRIS BRIDGE SPECIAL U/S FACE
    92.00    12.04  1284.98      .00      .00  1285.29      .31     1.26      .00  1285.00
    8000.       4.    5461.    2536.       5.    1012.    2642.      79.      19.  1284.00
      .11      .74     5.40      .96     .018     .018     .050     .000  1272.94   561.00
  .000235      12.      12.      12.        2        0        2      .00  1287.44  1870.67
0
 FLOW DISTRIBUTION FOR SECNO=     92.00          CWSEL=   1284.98

 STA=     561.     572.     700.     761.     831.     930.    1221.    1360.    1496.    1871.
   PER Q=       .0     68.3      3.4      3.3      4.7     11.2      4.7      3.3      1.1
    AREA=      5.3   1011.7    172.5    278.8    394.4   1018.7    355.5    237.7    184.2
     VEL=       .7      5.4      1.6      1.0      1.0       .9      1.1      1.1       .5
   DEPTH=       .5      9.5      2.8      4.0      4.0      3.5      2.6      1.7       .5
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1490 NH CARD USED
*SECNO 100.000

3265 DIVIDED FLOW

3280 CROSS SECTION    100.00 EXTENDED      6.19 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

   100.00    12.19  1285.19      .00      .00  1285.33      .14      .02      .02  1285.00
    8000.    1446.    4015.    2539.     520.    1062.    3389.      91.      23.   1284.00
      .12     2.78     3.78      .75     .018     .018     .045     .000  1273.00   422.00
  .000118      90.      90.     130.        2        0        0      .00  1559.68  1997.97
0
 FLOW DISTRIBUTION FOR SECNO=    100.00          CWSEL=   1285.19

 STA=     422.     448.     465.     478.     493.     523.     654.     760.    1180.    1452.    1795.    1998.
   PER Q=     5.3      4.0      3.2      3.8      1.9     50.2      3.1     12.9      9.5      5.6       .6
    AREA=   161.0    105.3     83.0     96.9     73.8   1061.9    370.9   1581.0    732.5    580.7    123.9
     VEL=     2.6      3.0      3.1      3.1      2.0      3.8       .7       .7      1.0       .8       .4
   DEPTH=     6.2      6.2      6.4      6.5      2.5      9.3      3.5      3.8      2.7      1.7       .6

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   11/ 9/89      10:24:53                                                                                    PAGE   18


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   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 120.000

3265 DIVIDED FLOW

3280 CROSS SECTION    120.00 EXTENDED      6.23 FEET

   120.00    12.15  1285.23      .00      .00  1285.35      .12      .02      .00  1285.00
    8000.    1492.    3827.    2681.     607.    1049.    3317.     115.      31.   1284.00
      .14     2.46     3.65      .81     .018     .018     .036     .000  1273.08   291.00
  .000102     200.     200.     220.        0        0        0      .00  1731.31  2023.19
0
 FLOW DISTRIBUTION FOR SECNO=    120.00          CWSEL=   1285.23

 STA=     291.     375.     397.     449.     556.     820.     964.    1370.    1695.    2023.
   PER Q=    15.3      3.2       .1     47.8      7.5      6.4     13.6      5.1      1.0
    AREA=   481.2    107.0     18.4   1048.9    973.3    464.9   1107.7    561.7    209.5
     VEL=     2.6      2.4       .6      3.6       .6      1.1      1.0       .7       .4
   DEPTH=     5.7      4.9       .4      9.9      3.7      3.2      2.7      1.7       .6

1490 NH CARD USED
*SECNO 140.000

3265 DIVIDED FLOW

3280 CROSS SECTION    140.00 EXTENDED      5.25 FEET

   140.00    12.25  1285.25      .00      .00  1285.37      .12      .02      .00  1286.00
    8000.     927.    3876.    3197.     408.    1024.    3610.     139.      40.   1285.00
      .17     2.27     3.78      .89     .013     .018     .034     .000  1273.00   225.00
  .000103     200.     200.     210.        0        0        0      .00  1755.94  2024.65
0
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FLOW DISTRIBUTION FOR SECNO=    140.00          CWSEL=   1285.25

STA=     225.     280.     299.     314.     455.     660.     880.    1310.    1635.    2025.
  PER Q=     7.3      3.3      1.0     48.5      6.1     12.6     14.6      5.2      1.4
   AREA=   261.5    103.3     42.7   1024.5    757.2    826.0   1184.5    570.3    272.4
    VEL=     2.2      2.6      1.8      3.8       .6      1.2      1.0       .7       .4
  DEPTH=     4.8      5.4      2.8     10.5      3.7      3.8      2.8      1.8       .7

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   11/ 9/89      10:24:53                                                                                    PAGE   19


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


1490 NH CARD USED
*SECNO 160.000

3265 DIVIDED FLOW

3280 CROSS SECTION    160.00 EXTENDED      5.26 FEET

   160.00    11.86  1285.26      .00      .00  1285.44      .18      .05      .02  1285.00
    8000.     274.    4426.    3301.     114.    1004.    3548.     180.      53.  1284.00
      .21     2.39     4.41      .93     .018     .018     .040     .000  1273.40   210.00
  .000144     460.     440.     340.        2        0        0      .00  1628.69  1863.47
0
FLOW DISTRIBUTION FOR SECNO=    160.00          CWSEL=   1285.26

STA=     210.     229.     277.     375.     457.     601.     760.     912.    1210.    1455.    1863.
  PER Q=     3.2       .2     55.3      3.1      6.0      5.7      8.1     12.0      4.7      1.6
   AREA=    98.0     16.3   1004.2    296.6    613.9    619.3    496.0    823.4    431.9    267.1
    VEL=     2.6      1.1      4.4       .8       .8       .7      1.3      1.2       .9       .5
  DEPTH=     5.2       .3     10.2      3.6      4.3      3.9      3.3      2.8      1.8       .7

1490 NH CARD USED
*SECNO 180.000

3265 DIVIDED FLOW

3280 CROSS SECTION    180.00 EXTENDED      5.30 FEET

   180.00    11.75  1285.31      .00      .00  1285.49      .18      .05      .00  1285.00
    8000.     191.    4470.    3339.      88.     999.    3668.     214.      65.  1283.00
      .23     2.17     4.47      .91     .018     .018     .044     .000  1273.56   200.00
  .000153     320.     320.     310.        0        0        0      .00  1632.49  1860.40
0
FLOW DISTRIBUTION FOR SECNO=    180.00          CWSEL=   1285.31

STA=     200.     267.     368.     453.     618.     957.    1144.    1440.    1860.
  PER Q=     2.4     55.9      6.9      7.2     12.0      7.9      6.1      1.6
   AREA=    87.7    999.4    349.7    709.8   1288.9    525.5    533.4    260.3
    VEL=     2.2      4.5      1.6       .8       .7      1.2       .9       .5
  DEPTH=     1.3      9.9      4.1      4.3      3.8      2.8      1.8       .6

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   11/ 9/89      10:24:53                                                                                    PAGE   20


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTH      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
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1490 NH CARD USED
*SECNO 200.000

3265 DIVIDED FLOW

3280 CROSS SECTION    200.00 EXTENDED      5.35 FEET

   200.00    11.64  1285.34      .00      .00  1285.54      .20      .05      .00  1286.00
    8000.      162.    4527.    3311.      76.     975.    3399.     245.      76.  1283.00
      .26     2.15     4.64      .97     .018     .018     .043     .000  1273.70   241.00
  .000174     300.     300.     300..       0        0        0      .00  1464.84  1742.58
0
 FLOW DISTRIBUTION FOR SECNO=    200.00          CWSEL=   1285.34

 STA=     241.     268.     407.     446.     543.     611.     860.     916.    1107.    1437.    1743.
   PER Q=      2.0     56.6      3.3      4.6      3.2      9.6      3.4      8.9      7.5       .8
    AREA=     75.6    974.6    157.2    422.0    295.8    958.8    187.6    544.5    610.7    222.4
     VEL=      2.1      4.6      1.7       .9       .9       .8      1.5      1.3      1.0       .3
   DEPTH=      2.8      9.5      4.0      4.4      4.4      3.9      3.4      2.9      1.9       .7

1490 NH CARD USED
*SECNO 210.000

3265 DIVIDED FLOW

3280 CROSS SECTION    210.00 EXTENDED      5.34 FEET

   210.00    11.54  1285.34      .00      .00  1285.60      .27      .04      .02  1286.00
    8000.      106.    5044.    2849.      77.     972.    2786.     268.      83.  1283.00
      .28     1.37     5.19     1.02     .030     .018     .041     .000  1273.80   282.00
  .000202     220.     220.     240.       2        0        0      .00  1357.14  1677.13
0
 FLOW DISTRIBUTION FOR SECNO=    210.00          CWSEL=   1285.34

 STA=     282.     309.     438.     446.     820.    1055.    1375.    1677.
   PER Q=      1.3     62.8       .3     14.6     11.8      7.8      1.5
    AREA=     77.5    953.7     18.7   1331.9    666.3    587.3    200.9
     VEL=      1.4      5.3      1.2       .9      1.4      1.1       .6
   DEPTH=      2.9     10.4      2.3      3.6      2.8      1.8       .7

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   11/ 9/89      10:24:53                                                                          PAGE   21


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   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 220.000

3470 ENCROACHMENT STATIONS=      340.0     870.0  TYPE=      1  TARGET=      530.000
        DLH CROSSING D/S FACE
   220.00    11.46  1285.31      .00      .00  1285.64      .33      .02      .02  1286.00
    8000.        0.    5518.    2482.       0.    1018.    1297.     274.      85.  1282.00
      .29      .00     5.42     1.91     .000     .018     .027     .000  1273.85   376.71
  .000238      90.      90.      90.       2        0        0      .00   493.29   870.00
0
 FLOW DISTRIBUTION FOR SECNO=    220.00          CWSEL=   1285.31

 STA=     377.     471.     487.     503.     565.     575.     690.     700.     820.     870.
   PER Q=     66.9      2.1      1.3      6.3      1.0      9.7       .9      8.6      3.2
    AREA=    949.4     69.0     53.0    230.1     37.1    380.8     33.6    403.3    159.0
     VEL=      5.6      2.4      2.0      2.2      2.2      2.0      2.1      1.7      1.6
   DEPTH=     10.1      4.3      3.3      3.7      3.7      3.3      3.4      3.4      3.2
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1490 NH CARD USED
*SECNO 230.000

3470 ENCROACHMENT STATIONS=      360.0     890.0  TYPE=      1  TARGET=      530.000
        DLH CROSSING U/S FACE
   230.00    11.51  1285.41      .00      .00  1285.68      .26      .03      .01  1286.00
    8000.       0.    5862.    2138.       0.    1256.    1104.     281.      87.  1282.00
      .29      .00     4.67     1.94     .000     .017     .026     .000  1273.90   383.76
  .000221     120.     120.     120.        2        0        0      .00   506.24   890.00
0
 FLOW DISTRIBUTION FOR SECNO=    230.00          CWSEL=   1285.41

 STA=     384.     475.     499.     565.     800.     840.     890.
   PER Q=     85.7      2.0      5.5     20.1      3.4      3.2
    AREA=    952.9     81.3    222.1    802.4    136.6    164.6
     VEL=      5.5      2.0      2.0      2.0      2.0      1.6
   DEPTH=     10.4      3.4      3.4      3.4      3.4      3.3

 1490 NH CARD USED
 *SECNO 240.000
1
    11/ 9/89      10:24:53                                                                                    PAGE   22


    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XML       XNCH      XNR       WTH       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST



 3265 DIVIDED FLOW

 3280 CROSS SECTION    240.00 EXTENDED      1.51 FEET

    240.00    11.51  1285.51      .00      .00  1285.72      .21      .04      .01  1285.00
    8000.       2.    4556.    3442.       3.     958.    2635.     293.      90.  1282.00
      .31      .61     4.75     1.31     .018     .018     .030     .000  1274.00   363.00
  .000178     180.     180.     180.        2        0        0      .00  1297.36  1695.28
0
 FLOW DISTRIBUTION FOR SECNO=    240.00          CWSEL=   1285.51

 STA=     363.     405.     505.     576.     840.    1031.    1325.    1695.
   PER Q=      .0     57.0      5.8     17.7      9.9      7.8      1.9
    AREA=      3.3    958.2    280.5    926.0    574.4    590.2    263.5
     VEL=      .6      4.8      1.7      1.5      1.4      1.1       .6
   DEPTH=      .1      9.6      4.0      3.5      3.0      2.0       .7

 1490 NH CARD USED
 *SECNO 245.000

 3265 DIVIDED FLOW

 3280 CROSS SECTION    245.00 EXTENDED      5.45 FEET

    245.00    11.42  1285.45      .00      .00  1285.76      .32      .01      .03  1286.00
    8000.     127.    5259.    2614.      83.     956.    2456.     298.      92.  1282.00
      .31     1.53     5.50     1.06     .030     .018     .042     .000  1274.03   356.00
  .000238      60.      60.      60.        2        0        0      .00  1208.64  1598.38
0
 FLOW DISTRIBUTION FOR SECNO=    245.00          CWSEL=   1285.45

 STA=     356.     385.     510.     520.     595.     895.    1000.    1120.    1340.    1598.
   PER Q=      1.6     65.0      .8      4.2      9.9      5.2      5.1      6.7      1.5
    AREA=     83.3    921.8     34.5    306.0    959.1    283.2    293.7    440.9    173.5
     VEL=      1.5      5.6      1.7      1.1       .8      1.5      1.4      1.2       .7
   DEPTH=      2.9     10.1      3.4      4.1      3.2      2.7      2.4      2.0       .7
```

```
SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
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 250.000

3265 DIVIDED FLOW

3280 CROSS SECTION    250.00 EXTENDED      1.50 FEET

   250.00    11.42  1285.50      .00      .00  1285.79      .29      .02      .00  1286.00
    8000.       3.    5082.    2915.       4.     951.    2475.     305.      94.   1282.00
      .32      .66     5.34     1.18     .018     .018     .039     .000  1274.08   388.00
  .000234      90.      90.      90.        2        0        0      .00  1145.51  1563.58
0
 FLOW DISTRIBUTION FOR SECNO=    250.00          CWSEL=   1285.50

 STA=     388.     399.     531.     654.     800.     945.    1041.    1340.    1564.
   PER Q=      .0     63.5      7.0      5.6      8.6      4.2      9.6      1.5
    AREA=     4.2    951.2    499.6    510.5    434.5    239.7    622.0    169.0
     VEL=      .7      5.3      1.1       .9      1.6      1.4      1.2       .7
   DEPTH=      .4      9.3      4.1      3.5      3.0      2.5      2.1       .8

 1490 NH CARD USED
 *SECNO 260.000

 3265 DIVIDED FLOW

 3280 CROSS SECTION    260.00 EXTENDED      3.50 FEET

   260.00    11.35  1285.50      .00      .00  1285.84      .34      .04      .01  1285.00
    8000.      38.    5492.    2471.      23.     988.    2220.     316.      99.   1282.00
      .33     1.64     5.56     1.11     .018     .018     .041     .000  1274.15   402.00
  .000248     150.     150.     150.        2        0        0      .00  1219.40  1656.90
0
 FLOW DISTRIBUTION FOR SECNO=    260.00          CWSEL=   1285.50

 STA=     402.     452.     556.     847.    1010.    1172.    1493.    1657.
   PER Q=      .5     68.6     12.0     10.5      5.0      3.1       .2
    AREA=    22.9    987.8   1018.6    505.6    324.1    321.1     50.7
     VEL=     1.6      5.6       .9      1.7      1.2       .8       .4
   DEPTH=      .5      9.5      3.5      3.1      2.0      1.0       .3
```


SECNO DEPTH CWSEL CRIWS WSELK EG HV HL OLOSS BANK ELEV
Q QLOB QCH QROB ALOB ACH AROB VOL TWA LEFT/RIGHT
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 270.000

3265 DIVIDED FLOW

3280 CROSS SECTION    270.00 EXTENDED      1.54 FEET

   270.00    11.32  1285.54      .00      .00  1285.87      .33      .04      .00  1286.00
    8000.       8.    5411.    2582.       8.     969.    2374.     328.     103.   1281.00
      .34      .96     5.58     1.09     .018     .018     .040     .000  1274.22   436.00
  .000224     150.     150.     150.        0        0        0      .00  1159.97  1622.00
0
 FLOW DISTRIBUTION FOR SECNO=    270.00          CWSEL=   1285.54

 STA=     436.     448.     567.     654.     850.    1107.    1304.    1622.
   PER Q=      .1     67.6      3.8      7.5     13.0      6.0      2.1
    AREA=     7.8    969.3    273.7    693.1    766.8    401.2    238.9
     VEL=     1.0      5.6      1.1       .9      1.4      1.2       .7
   DEPTH=      .7     10.4      3.1      3.5      3.0      2.0       .8

1490 NH CARD USED
*SECNO 280.000

3265 DIVIDED FLOW

3280 CROSS SECTION    280.00 EXTENDED      2.64 FEET

   280.00    11.34  1285.64      .00      .00  1285.91      .27      .03      .01  1285.00
    8000.      15.    5109.    2876.      11.     989.    2620.     340.     107.   1282.00
      .35     1.34     5.17     1.10     .018     .018     .040     .000  1274.30   458.00
  .000216     150.     150.     150.        2        0        0      .00  1209.78  1694.39
0
 FLOW DISTRIBUTION FOR SECNO=    280.00          CWSEL=   1285.64

 STA=     458.     465.     597.     837.     940.    1161.    1400.    1694.
   PER Q=      .2     63.9     10.3      3.9     12.1      7.7      1.9
    AREA=    11.5    989.1    873.5    364.9    649.6    511.3    221.2
     VEL=     1.3      5.2       .9       .8      1.5      1.2       .7
   DEPTH=     1.6      9.4      3.6      3.5      2.9      2.1       .8

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   11/ 9/89      10:24:53                                                                    PAGE   25


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        SLOSS     BANK ELEV
   Q         SLOB      SCH       SROB      ALOB      ACH       ARDB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CDAAR     TOPWID      ENDST


1490 NH CARD USED
*SECNO 300.000

3265 DIVIDED FLOW

3280 CROSS SECTION    300.00 EXTENDED       .73 FEET

   300.00    11.22  1285.72      .00      .00  1285.99      .28      .08      .00  1286.00
    8000.       1.    4782.    3217.       2.     887.    2864.     374.     118.   1274.50
      .38      .32     5.39     1.12     .030     .018     .038     .000  1274.50   534.00
  .000197     400.     400.     400.        0        0        0      .00  1324.12  1886.30
0
 FLOW DISTRIBUTION FOR SECNO=    300.00          CWSEL=   1285.72

 STA=     534.     538.     568.     652.     820.     940.    1190.    1420.    1890.    1886.
   PER Q=      .0       .0     59.8      8.8      4.9     15.3      7.6      3.3       .3
    AREA=     1.6       .5    886.6    680.6    461.6    806.8    512.2    331.3     71.4
     VEL=      .3       .3      5.4      1.0       .9      1.5      1.2       .8       .4
   DEPTH=      .4       .4     10.6      4.1      3.8      3.2      2.2      1.2       .4
```

1490 NH CARD USED
*SECNO 320.000

3265 DIVIDED FLOW

3280 CROSS SECTION 320.00 EXTENDED .77 FEET

320.00	11.07	1285.77	.00	.00	1286.09	.31	.08	.01	1286.00
8000.	1.	5272.	2726.	3.	960.	2632.	406.	130.	1283.00
.41	.38	5.49	1.04	.030	.017	.044	.000	1274.70	590.00
.000236	380.	380.	380.	2	0	0	.00	1268.99	1888.94

0
FLOW DISTRIBUTION FOR SECNO= 320.00 CWSEL= 1285.77

STA=	590.	598.	630.	722.	735.	830.	1150.	1205.	1475.	1715.	1889.
PER Q=	.0	.0	65.7	.2	4.5	12.4	3.3	10.1	3.4	.3	
AREA=	3.0	.9	940.1	19.0	351.4	1127.4	166.3	613.7	305.5	67.2	
VEL=	.4	.4	5.6	1.0	1.0	.9	1.6	1.3	.9	.4	
DEPTH=	.4	.4	10.2	1.5	3.7	3.5	3.0	2.3	1.3	.4	

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THIS RUN EXECUTED 11/ 9/89 10:26: 7

****
HEC2 RELEASE DATED SEPT 88

****

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

ARIZONA CANAL CROSSING

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01
*	2.000	.00	.00	.00	1269.40	8000.00	1275.70	1275.70	1277.25	47.21	12.39	852.68	1164.3
*	5.000	150.00	.00	.00	1269.40	8000.00	1276.92	.00	1277.73	17.58	8.94	1168.72	1908.2
	8.000	220.00	.00	.00	1269.50	8000.00	1277.24	.00	1278.16	18.69	9.50	1117.46	1850.6
*	11.000	220.00	.00	.00	1269.60	8000.00	1278.13	.00	1278.41	4.95	5.33	1949.78	3595.0
*	14.000	220.00	.00	.00	1269.70	8000.00	1278.34	.00	1278.50	2.45	3.79	2543.64	5108.4
*	17.000	220.00	.00	.00	1269.80	8000.00	1278.49	.00	1278.54	.70	2.03	4735.67	9592.2
*	40.000	220.00	.00	.00	1272.00	8000.00	1276.20	.00	1278.72	11.51	7.90	1583.80	2357.8
*	45.000	180.00	.00	.00	1272.78	8000.00	1279.97	1279.97	1283.11	26.49	14.23	569.59	1554.4
*	49.000	15.00	.00	.00	1272.79	8000.00	1281.37	.00	1283.26	13.04	11.12	771.50	2215.6
	50.000	1.00	1284.90	1285.40	1272.80	8000.00	1281.01	.00	1283.42	26.07	12.47	644.42	1566.9
	51.000	35.00	.00	.00	1272.80	8000.00	1281.28	.00	1283.53	23.52	12.02	669.30	1649.5

*	52.000	1.00	.00	.00	1272.80	8000.00	1282.05	.00	1283.60	9.90	10.12	874.18	2542.3
*	53.000	30.00	.00	.00	1272.82	8000.00	1282.08	1282.08	1283.74	11.52	10.64	998.70	2357.1
	60.000	70.00	.00	.00	1272.85	8000.00	1282.58	1280.22	1283.85	9.56	9.51	1563.41	2587.7
	80.000	70.00	.00	.00	1272.90	8000.00	1282.95	.00	1283.94	6.31	8.45	1707.64	3185.4
	90.000	95.00	.00	.00	1272.93	8000.00	1282.94	1279.99	1284.03	7.06	8.84	1689.34	3011.8
*	92.000	12.00	1284.40	1280.90	1272.94	8000.00	1284.98	.00	1285.29	2.35	5.40	3658.83	5214.2

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	SECNO	XLCH	ELTRB	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	100.000	90.00	.00	.00	1273.00	8000.00	1285.19	.00	1285.33	1.18	3.78	4970.88	7359.0
	120.000	200.00	.00	.00	1273.08	8000.00	1285.23	.00	1285.35	1.02	3.65	4972.59	7901.8
	140.000	200.00	.00	.00	1273.00	8000.00	1285.25	.00	1285.37	1.03	3.78	5042.47	7872.5
	160.000	440.00	.00	.00	1273.40	8000.00	1285.26	.00	1285.44	1.44	4.41	4666.54	6667.0
	180.000	320.00	.00	.00	1273.56	8000.00	1285.31	.00	1285.49	1.53	4.47	4754.70	6464.9
	200.000	300.00	.00	.00	1273.70	8000.00	1285.34	.00	1285.54	1.74	4.64	4449.22	6065.3
	210.000	220.00	.00	.00	1273.80	8000.00	1285.34	.00	1285.60	2.02	5.19	3836.25	5626.1
	220.000	90.00	.00	.00	1273.85	8000.00	1285.31	.00	1285.64	2.38	5.42	2315.24	5189.0
	230.000	120.00	.00	.00	1273.90	8000.00	1285.41	.00	1285.68	2.21	4.67	2359.87	5383.5
	240.000	180.00	.00	.00	1274.00	8000.00	1285.51	.00	1285.72	1.78	4.75	3596.20	5991.0
	245.000	60.00	.00	.00	1274.03	8000.00	1285.45	.00	1285.76	2.38	5.50	3496.04	5186.9
	250.000	90.00	.00	.00	1274.08	8000.00	1285.50	.00	1285.79	2.34	5.34	3430.67	5227.9
	260.000	150.00	.00	.00	1274.15	8000.00	1285.50	.00	1285.84	2.48	5.56	3230.75	5081.8
	270.000	150.00	.00	.00	1274.22	8000.00	1285.54	.00	1285.87	2.24	5.58	-3350.79	5346.1
	280.000	150.00	.00	.00	1274.30	8000.00	1285.64	.00	1285.91	2.16	5.17	3621.03	5446.1
	300.000	400.00	.00	.00	1274.50	8000.00	1285.72	.00	1285.99	1.97	5.39	3752.63	5703.0
	320.000	380.00	.00	.00	1274.70	8000.00	1285.77	.00	1286.09	2.36	5.49	3594.66	5202.6

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ARIZONA CANAL CROSSING

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	2.000	8000.00	1275.70	.00	.00	-.30	304.36	.00
*	5.000	8000.00	1276.92	.00	1.21	.00	347.60	150.00

	8.000	8000.00	1277.24	.00	.33	.00	302.18	220.00
*	11.000	8000.00	1278.13	.00	.89	.00	377.13	220.00
*	14.000	8000.00	1278.34	.00	.21	.00	381.33	220.00
*	17.000	8000.00	1278.49	.00	.15	.00	650.88	220.00
*	40.000	8000.00	1278.20	.00	-.30	.00	450.71	220.00
*	45.000	8000.00	1279.97	.00	1.78	.00	97.75	180.00
*	49.000	8000.00	1281.37	.00	1.40	.00	146.40	15.00
	50.000	8000.00	1281.01	.00	-.36	.00	90.60	1.00
	51.000	8000.00	1281.28	.00	.27	.00	91.72	35.00
*	52.000	8000.00	1282.05	.00	.76	.00	162.81	1.00
*	53.000	8000.00	1282.08	.00	.03	.00	691.13	30.00
	60.000	8000.00	1282.58	.00	.50	.00	792.84	70.00
	80.000	8000.00	1282.95	.00	.37	.00	717.09	70.00
	90.000	8000.00	1282.94	.00	-.01	.00	733.18	95.00
*	92.000	8000.00	1284.98	.00	2.04	.00	1287.44	12.00
*	100.000	8000.00	1285.19	.00	.21	.00	1559.68	90.00
	120.000	8000.00	1285.23	.00	.04	.00	1731.31	200.00
	140.000	8000.00	1285.25	.00	.02	.00	1755.94	200.00
	160.000	8000.00	1285.26	.00	.01	.00	1628.69	440.00
	180.000	8000.00	1285.31	.00	.04	.00	1632.49	320.00
	200.000	8000.00	1285.34	.00	.04	.00	1464.84	300.00
	210.000	8000.00	1285.34	.00	-.01	.00	1357.14	220.00

1

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
220.000	8000.00	1285.31	.00	-.02	.00	493.29	90.00
230.000	8000.00	1285.41	.00	.10	.00	506.24	120.00
240.000	8000.00	1285.51	.00	.09	.00	1297.36	180.00
245.000	8000.00	1285.45	.00	-.06	.00	1208.64	60.00
250.000	8000.00	1285.50	.00	.05	.00	1145.51	90.00

260.000	8000.00	1285.50	.00	.00	.00	1219.40	150.00
270.000	8000.00	1285.54	.00	.04	.00	1159.97	150.00
280.000	8000.00	1285.64	.00	.10	.00	1209.78	150.00
300.000	8000.00	1285.72	.00	.08	.00	1324.12	400.00
320.000	8000.00	1285.77	.00	.06	.00	1268.99	380.00

SUMMARY OF ERRORS AND SPECIAL NOTES

```
CAUTION SECNO=     2.000  PROFILE=  1  CRITICAL DEPTH ASSUMED

WARNING SECNO=     5.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=    11.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=    14.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=    17.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=    40.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=    45.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    45.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=    45.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

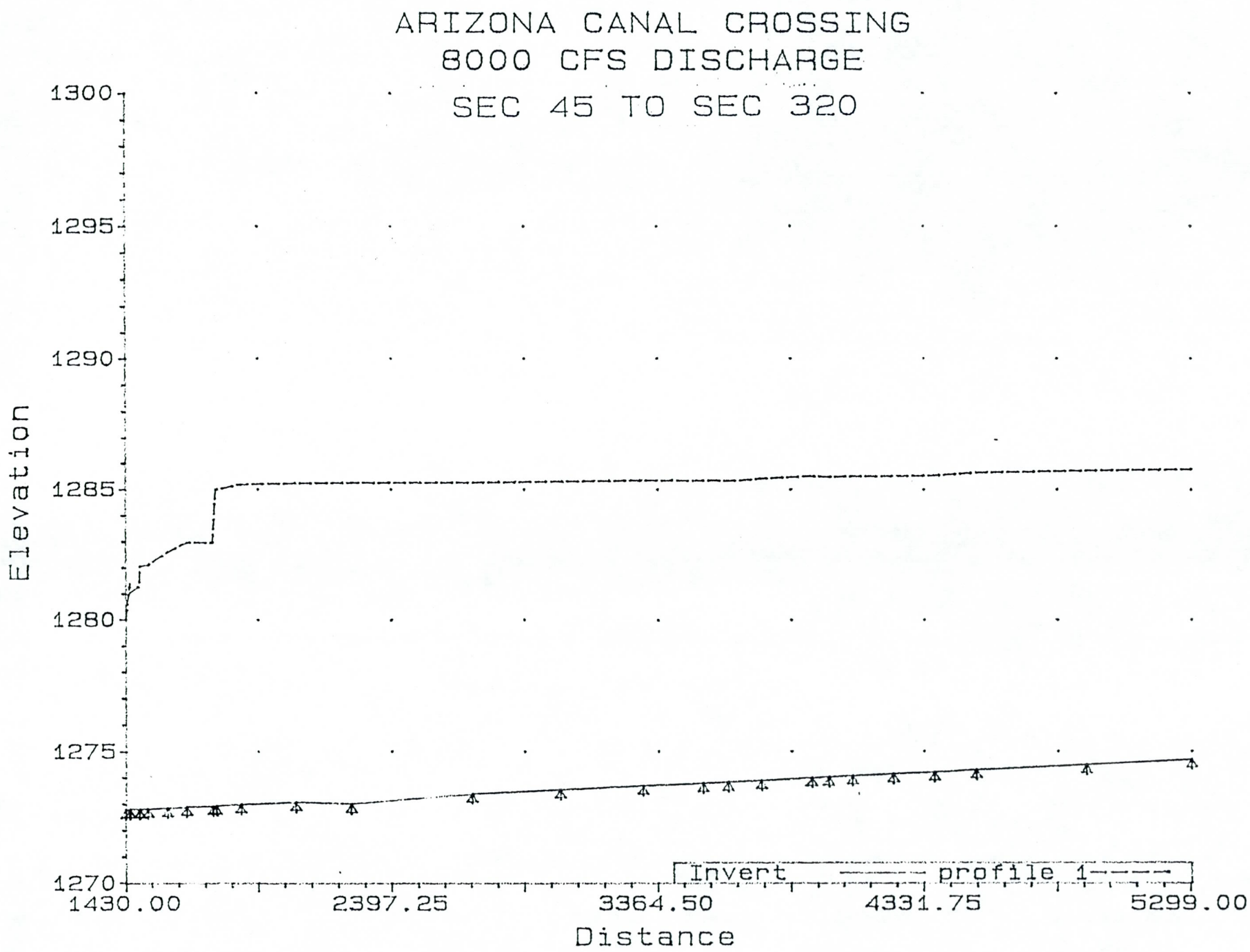
WARNING SECNO=    49.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=    52.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

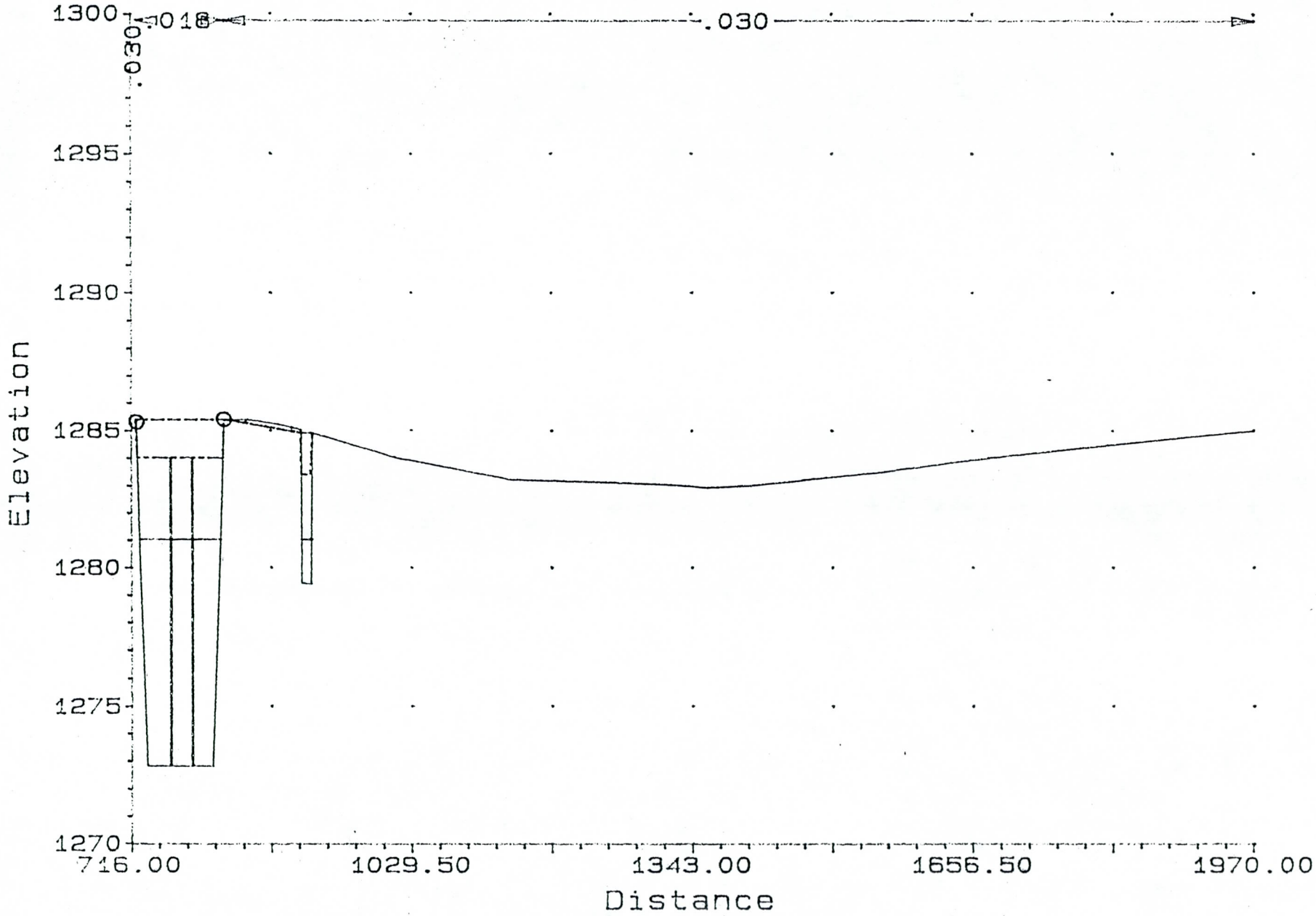
CAUTION SECNO=    53.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    53.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=    92.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

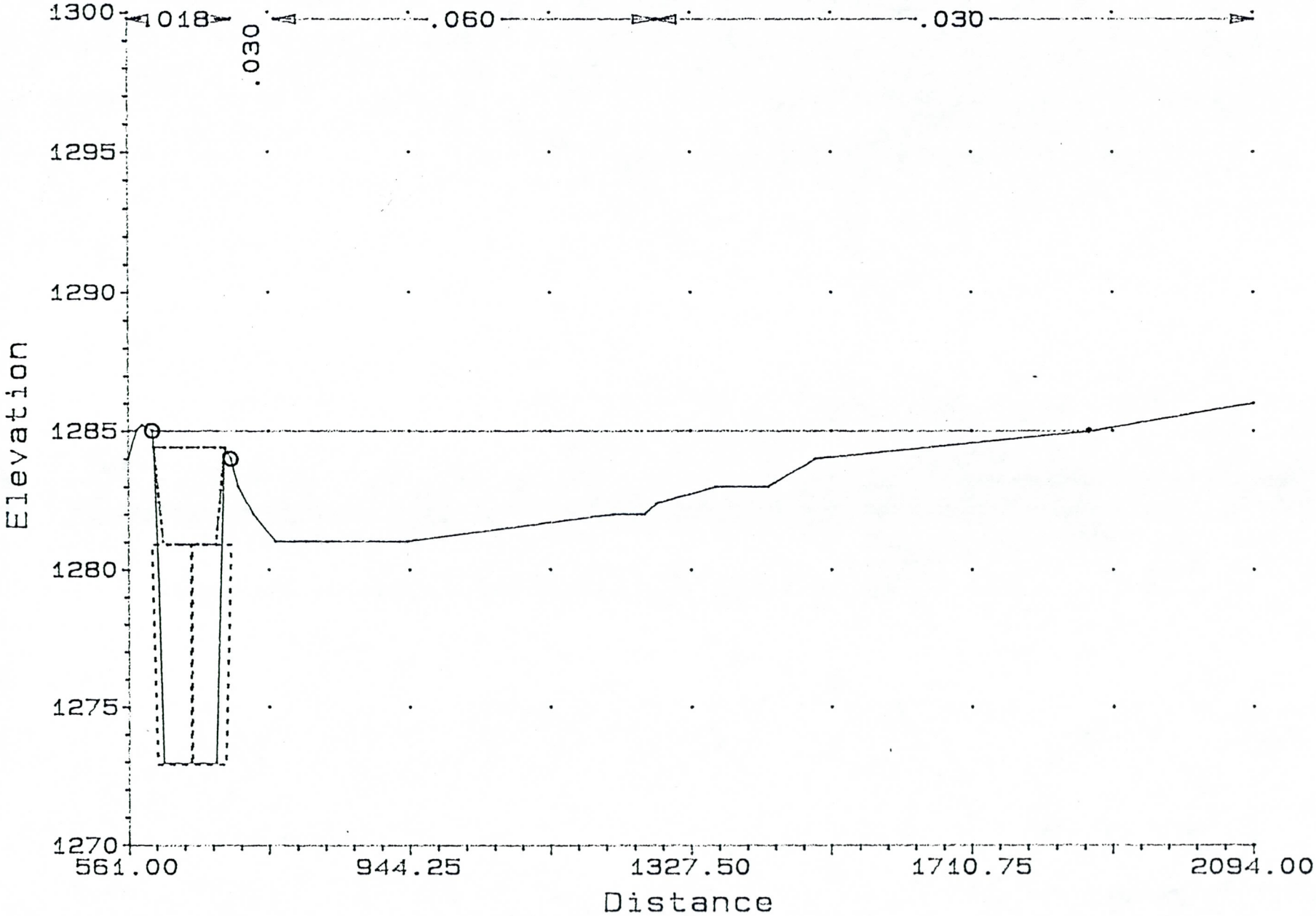
WARNING SECNO=   100.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
```


ARIZONA CANAL CROSSING
8000 CFS DISCHARGE
SEC 45 TO SEC 320
1300
1295
1290
1285
1280
1275
1270
Elevation
1430.00
2397.25
3364.50
4331.75
5299.00
Distance
Invert
profile 1

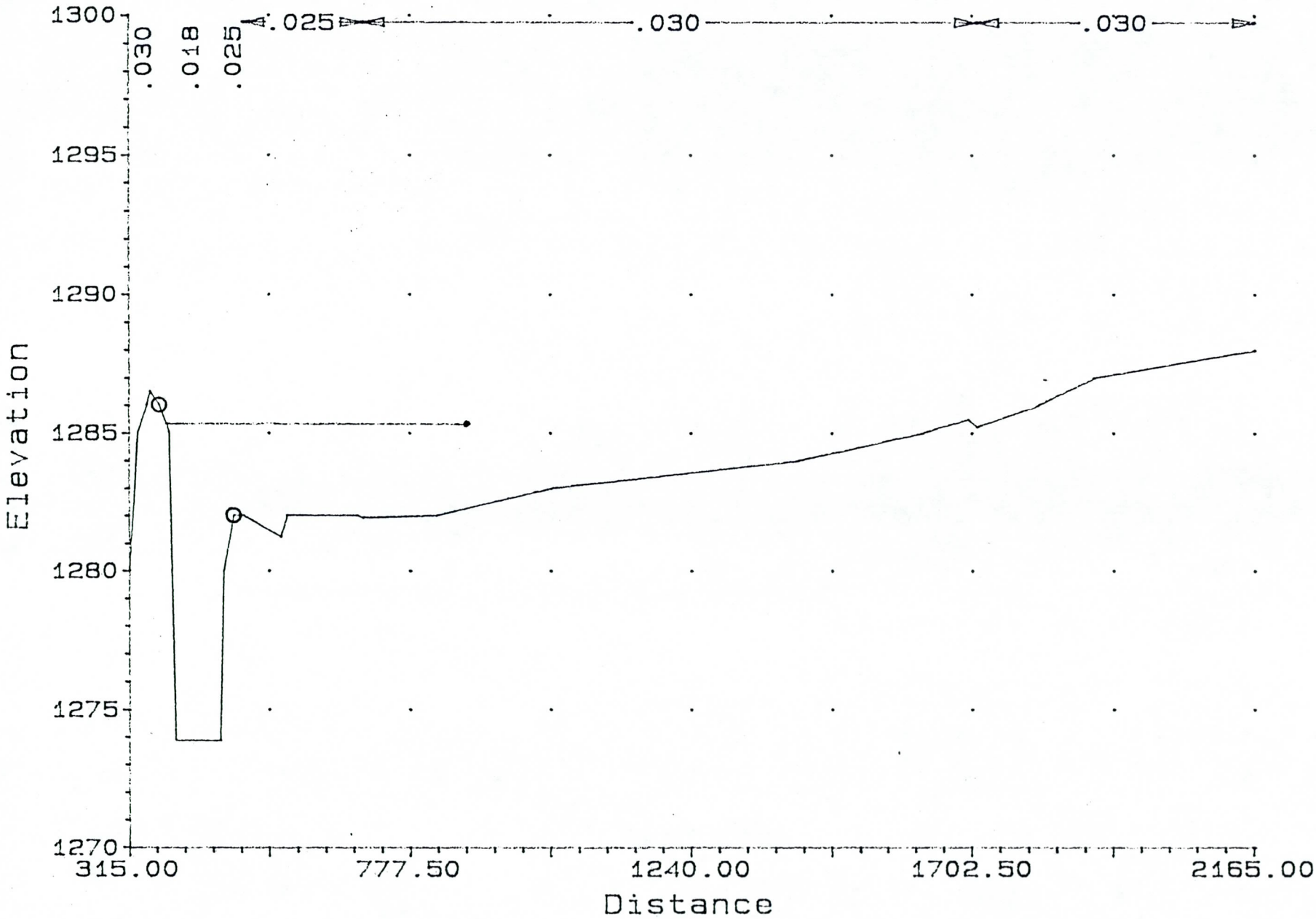
ARIZONA CANAL CROSSING
PIMA FREEWAY ENCROACHMEN
Cross-section 50.000



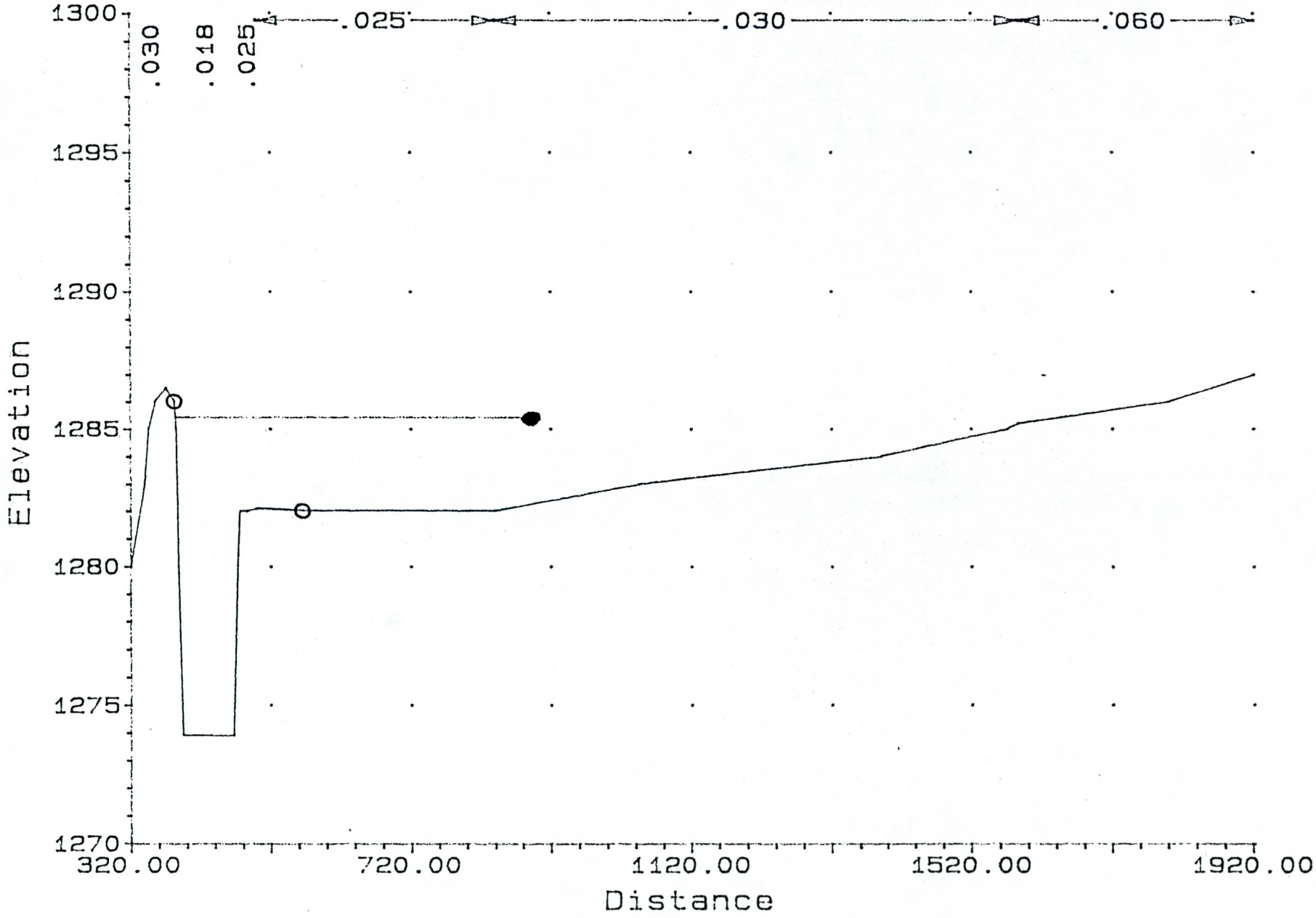
ARIZONA CANAL CROSSING
PIMA FREEWAY ENCROACHMEN
Cross-section 92.000



ARIZONA CANAL CROSSING
PIMA FREEWAY ENCROACHMEN
Cross-section 220.000



ARIZONA CANAL CROSSING
PIMA FREEWAY ENCROACHMEN
Cross-section 230.000



ALTERNATIVE 3B - PART 1

PROPOSED 8000 C.F.S. FLOW WITH 3700 C.F.S. FLOWING WITHIN THE ARIZONA CANAL.

PROPOSED 8000 C.F.S. FLOW WITH
3700 C.F.S. FLOWING WITHIN THE
ARIZONA CANAL.

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1*************************************************
 *  WATER SURFACE PROFILES                       *
 *  VERSION OF SEPTEMBER 1988                    *
 *                                               *
 *                                               *
 *  RUN DATE    11/ 8/89   TIME   12:56: 3       *
 *************************************************
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*********************************
* U.S. ARMY CORPS OF ENGINEERS
*  THE HYDROLOGIC ENGINEERING CENTER
*  609 SECOND STREET, SUITE D
*  DAVIS, CALIFORNIA 95616
*  (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
```

END OF BANNER

1

11/ 8/89 12:56: 4 PAGE 1

THIS RUN EXECUTED 11/ 8/89 12:56: 4

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*********************************************
  HEC2 RELEASE DATED SEPT 88

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T1 OUTER LOOP AND ARIZONA CANAL CROSSING
T2 PIMA ROAD BRIDGE AND CULVERT
T3 ARIZONA CANAL CROSSING

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	2			1			3700	1281	

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

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

150

NC	.030	.030	.018	.1	.3					
X1	11	41	620	733						
X3						733	1280.7			
GR	1284.1	620	1280	636	1272.40	646	1272.40	711	1280	722
GR	1280.7	733	1280	744	1279	754	1278	759	1277	764
GR	1276	776	1276	785	1277	793	1277	802	1276	820
GR	1275	830	1274	842	1273	846	1272	854	1271	863
GR	1269.6	872	1270	926	1271	931	1272	936	1271	941
GR	1274	945	1274	971	1273	975	1272	978	1271	981
GR	1270	986	1271	1020	1273	1033	1274	1038	1275	1041
GR	1278	1054	1280	1063	1281	1067	1283	1076	1285	1084
GR	1290	1104								
X1	14	31	663	774	220	220	220			
X3						774	1280.8			
GR	1284.6	663	1280	677	1272.51	687	1272.51	752	1280	762
GR	1280.8	774	1280	785	1279	794	1278	808	1277	814
GR	1276	819	1275	824	1274	827	1273	830	1272	832
GR	1271	845	1272	882	1270	901	1270	946	1270	994
GR	1269.7	1011	1269.70	1041	1270	1052	1270	1065	1272	1080
GR	1274	1088	1275	1092	1278	1103	1282	1114	1285	1124
GR	1290	1147								
X1	17	35	701	815	220	220	220			
X3						815	1280.9			
GR	1285	701	1280	717	1272.62	727	1272.62	792	1280	801
GR	1280.9	815	1280	828	1279	833	1278	836	1277	840
GR	1276	843	1274	854	1273	858	1272	862	1271	883
GR	1272	903	1271	911	1270	932	1270	942	1270	975
GR	1269.8	1003	1269.80	1010	1270	1082	1270	1144	1270	1185

1

GR	1270	1218	1270	1247	1270	1268	1270	1327	1271	1341
GR	1273	1355	1276	1382	1279	1410	1281	1482	1285	1530
	USCE WEIR CREST U/S END									
X1	40	34	746	863	220	220	220			
X3						863	1281.0			
GR	1284	720	1284	746	1280	750	1272.70	760	1272.70	820
GR	1281	830	1281	840	1281	863	1283	868	1284	871
GR	1284	895	1282	900	1280	905	1278	910	1278	920
GR	1280	925	1282	935	1284	945	1283	969	1282	1055
GR	1284	1062	1286	1070	1288	1075	1290	1084	1287	1127
GR	1284	1134	1280	1174	1277	1238	1278	1260	1280	1310
GR	1276	1360	1272	1528	1276	1630	1280	1658		
	USCE SPILLWAY U/S END									
X1	45	18	719	819	180	170	180			
GR	1285	719	1284	723	1280	729	1272.78	737	1272.78	807
GR	1280	815	1284	819	1284	866	1283	885	1283	895
GR	1279.2	897	1279.2	908	1283	910	1282	950	1281	1030
GR	1280.6	1210	1281	1480	1282	1945				
X1	49	22	722	820	15	15	15			
GR	1285.2	716	1285.3	722	1280	726	1272.79	734	1272.79	807
GR	1281	816	1285.3	820	1285	845	1285	880	1284	895
GR	1279.4	907	1279.4	917	1284	1010	1283.2	1140	1283.1	1246
GR	1283.0	1320	1282.9	1360	1283	1410	1283.2	1466	1283.5	1558
GR	1284	1673	1285	1970						

PIMA ROAD CULVERT D/S FACE

X1	50	32	722	820	1	1	1			
X4	7	1284	723	1284.0	819	1285.4	821	1285.1	896	1285.0
X4	906	1284.9	907	1284.9	919					
BT	8	721	1285.4	1285.4	723	1285.4	1284.0	819	1285.4	1284.0
BT	820	1285.4	1285.4	906	1284.9	1284.9	907	1284.9	1283.4	917
BT	1284.9	1283.4	919	1284.9	1284.9					
GR	1285.2	716	1285.3	720	1285.4	721	1285.3	722	1280.0	726
GR	1272.8	734	1272.8	759	1284	759	1284	761	1272.8	761
GR	1272.8	783	1284	783	1284	785	1272.8	785	1272.8	807
GR	1281	816	1285.4	820	1285.4	845	1285.2	880	1285.1	895
GR	1279.4	907	1279.4	917	1284	1010	1283.2	1140	1283.1	1246
GR	1283	1320	1282.9	1360	1283	1410	1283.2	1466	1283.5	1558
GR	1284	1673	1285	1970						

PIMA ROAD CULVERT U/S FACE

X1	51				35	35	35			
X1	52	22	722	820	1	1	1			
GR	1285.2	716	1285.3	722	1280	726	1272.80	734	1272.80	807
GR	1281	816	1285.3	820	1285	845	1285	880	1284	895
GR	1279.4	907	1279.4	917	1284	1010	1283.2	1140	1283.1	1246
GR	1283.0	1320	1282.9	1360	1283	1410	1283.2	1466	1283.5	1558
GR	1284	1673	1285	1970						

1

X1	53	30	700	796	30	30	30			
GR	1280	646	1282	667	1284	696	1285.4	700	1280	705
GR	1278	707	1272.82	712	1272.82	779	1280	786	1284	796
GR	1283	805	1282	810	1282	840	1280	925	1281	942
GR	1280	964	1282.2	1030	1281.8	1165	1281.9	1257	1282	1300
GR	1282	1400	1282.1	1445	1283	1540	1283	1600	1283.5	1660
GR	1284	1785	1283	1860	1283	1920	1284	2050	1285	2150
NH	4	.018	768	.030	840	.060	1971	.030	2152	
X1	60	38	681	787	70	100	70			
X4	3	1280	768	1281	840	1281	1100			
GR	1285	657	1285	681	1280	687	1272.85	694	1272.85	763
GR	1280	770	1285	777	1285	778	1284	787	1284	801
GR	1285	804	1285	808	1284	810	1283	812	1282	818
GR	1281	821	1281	853	1281	905	1281	1139	1282	1351
GR	1282	1367	1281	1368	1280	1370	1280	1372	1281	1374
GR	1282	1377	1283	1619	1283	1657	1283	1663	1284	1851
GR	1284	1901	1284	1963	1285	1971	1286	1980	1286	2007
GR	1286	2105	1286	2133	1286	2152				
NH	4	.018	743	.030	760	.060	1260	.030	2106	
X1	80	34	644	743	70	140	70			
X4	2	1283	760	1282	1260					
GR	1283	577	1282	582	1281	585	1280	590	1280	604
GR	1281	606	1282	608	1283	611	1284	615	1285	632
GR	1285	644	1280	649	1272.9	656	1272.9	729	1280	736
GR	1285	741	1285	743	1284	753	1283	766	1283	768
GR	1283	775	1282.1	795	1281	819	1281	832	1281	860
GR	1281	935	1282	1255	1282	1265	1282	1278	1282	1287
GR	1283	1370	1284	1518	1285	1940	1286	2106		
NH	4	.018	700	.030	761	.060	1280	.030	2094	

DEBRIS BRIDGE SPECIAL D/S FACE

X1	90	28	594	700	95	95	95			
X4	3	1285.2	580	1282	1260	1282.4	1280			
GR	1284	561	1285	572	1285	594	1284.4	596	1280	602
GR	1279	603	1272.93	609	1272.93	680	1280	687	1284.4	692
GR	1284	700	1283	710	1282	730	1281	761	1281	787
GR	1281	802	1281	831	1281	930	1281	940	1282	1221
GR	1282	1253	1282	1264	1283	1360	1283	1426	1283	1432
GR	1284	1496	1285	1877	1286	2094				

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NH      4     .018     700     .030     761     .060    1280     .030    2094
SB     .9     1.35     2.7              92      1.5     736        1   1272.9   1272.9
        DEBRIS BRIDGE SPECIAL U/S FACE
X1     92       28     594     700      12       12      12
X2                       1  1280.9  1284.4                      1.33
X4      3   1285.2     580    1282    1260   1282.4    1280
BT      4      596  1284.4  1284.4     609   1284.4  1280.9     680  1284.4  1280.9
BT    692   1284.4  1284.4
GR   1284      561    1285     572    1285     594  1284.4     596    1280     602
GR   1279      603  1272.94     609  1272.94     680    1280     687  1284.4     692
GR   1284      700    1283     710    1282     730    1281     761    1281     787
1
   11/ 8/89     12:56: 4                                                          PAGE    4

GR   1281      802    1281     831    1281     930    1281     940    1282    1221
GR   1282     1253    1282    1264    1283    1360    1283    1426    1283    1432
GR   1284     1496    1285    1877    1286    2094

NH      4     .018     654     .030     670     .060    1180     .030    2115
X1    100       20     523     654      90     130      90
X4      2   1285.6     540    1283     670
GR   1283      506    1284     513    1285     523    1285     547    1280     552
GR   1279      553  1273.0     560  1273.0     631    1280     638    1284     654
GR   1283      665    1282     678    1281     726    1281     760    1281     820
GR   1282     1180    1283    1452    1284    1795    1285    1970    1286    2115

NH      4     .018     556     .030     570     .060     820     .030    2300
X1    120       22     449     556     200     220     200
X4      2   1285.6     450    1282     820
GR   1283      398    1284     400    1285     402    1285     449    1280     454
GR   1279      455  1273.08     461  1273.08     532    1280     539    1284     556
GR   1283      565    1283     570    1283     572    1282     574    1281     576
GR   1281      615    1282     964    1283    1370    1284    1695    1285    1975
GR   1286     2186  1286.9    2300

NH      4     .018     455     .030     485     .060     660     .030    2160
X1    140       26     354     455     200     210     200
X4      3   1286.5     335    1282     485    1281     660
GR   1279      290    1280     299    1281     301    1283     310    1285     313
GR   1286      317    1286     354    1285     359    1280     364  1273.19     371
GR   1273      400  1273.19     443    1280     450    1285     455    1285     456
GR   1284      472    1284     479    1282     484    1281     531    1281     554
GR   1282      880    1283    1310    1284    1635    1285    1990    1286    2126
GR  1286.4    2160

NH      5     .018     375     .030     400     .060     760     .030    2100     .060
NH   2230
X1    160       28     277     375     460     340     440
X4      4   1285.9     260    1282     400    1282     760  1286.2    2100
GR   1281      227    1282     229    1283     231    1284     232    1285     242
GR   1285      277    1280     282  1273.40     289  1273.40     361    1280     368
GR   1283      370    1284     375    1284     378    1283     384    1282     396
GR   1281      414    1281     431    1281     457    1281     507    1281     601
GR   1281      629    1281     643    1282     912    1283    1210    1284    1455
GR   1285     1793    1286    2061  1286.7    2230

NH      5     .018     368     .030     453     .060     960     .030    1880     .060
NH   2160
X1    180       28     267     368     320     310     320
X4      4   1285.9     250    1281     380    1282     960  1285.4    1880
GR   1283      218    1284     220    1285     225    1285     267    1280     272
GR   1276      276  1273.56     279  1273.56     350    1280     357    1283     361
GR   1283      368    1282     378    1281     382    1281     398    1281     453
GR   1281      460    1281     480    1281     618    1282     957    1283    1144
GR   1284     1440    1285    1725    1285    1750    1285    1775    1285    1790
GR   1285     1800    1286    1966  1286.9    2160
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NH      5      .018      407      .030      446      .060      860      .030      1437      .060
NH   2160
X1    200        28      304       407      300       300      300
X4      3    1286.5      285      1281      420      1282      860
GR   1280       241     1283       259     1284       261     1285       263     1286       277
GR   1286       304     1285       305     1280       310  1273.70       317  1273.70       386
GR   1280       393     1283       396     1283       407     1282       413     1281       421
GR   1281       429     1281       446     1281       543     1281       606     1281       611
GR   1282       916     1283      1107     1284      1437     1285      1686     1285      1690
GR  1285.4     1750     1286      1946   1286.7      2160

NH      6      .030      346      .018      438      .030      475      .060      820      .030
NH   1880      .060     2135
X1    210        21      346       446      220       240      220
X4      1    1286.6      330
GR   1280       282     1283       300     1285       306     1286       314     1286       346
GR   1280       352   1273.8       358   1273.8       430     1280       436     1283       438
GR   1283       446     1282       458   1281.5       475     1282       820     1283      1055
GR   1284      1375     1285      1600     1286      1830   1286.4      1880     1287      1960
GR   1288      2135

NH      6      .030      365      .018      471      .030      503      .060      700      .030
NH   1710      .030     2165
        OLH CROSSING D/S FACE
X1    220        23      365       487       90        90       90
X4      3    1286.5      350    1281.9      700    1285.2     1710
GR   1280       315     1283       325     1285       330     1286       345     1286       365
GR   1285       382     1280       386  1273.85       392  1273.85       465     1280       471
GR   1282       487     1282       503   1281.2       565     1282       575     1282       690
GR   1282       820     1283      1010     1284      1415     1285      1620   1285.5      1695
GR   1286      1810     1287      1900     1288      2165

NH      6      .030      382      .018      475      .030      499      .060      840      .030
NH   1585      .060     1920
        OLH CROSSING U/S FACE
X1    230        22      382       565      120       120      120
X4      1    1286.5      370
GR   1280       320     1283       340     1285       346     1286       355     1286       382
GR   1285       385     1280       388   1273.9       394   1273.9       466     1280       472
GR   1282       475     1282       485   1282.1       499     1282       565     1282       800
GR   1282       840     1283      1045     1284      1390     1285      1570   1285.2      1585
GR   1286      1800     1287      1920

NH      5      .018      505      .030      520      .060      840      ,030      1540      .060
NH   1950
X1    240        19      405       505      180       180      180
X4      4    1286.6      395      1282      520      1282      840    1284.7      1540
GR   1284       363     1285       365     1286       373     1286       403     1285       405
GR   1280       410  1274.00       417  1274.00       484     1280       491     1282       495
GR   1282       505     1281       521     1281       528     1282       576     1283      1031
GR   1284      1325     1285      1495     1286      1790     1287      1950
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NH	6	.030	417	.018	510	.030	530	.060	895	.030
NH	1544	.060	2150							
X1	245	27	417	520	60	60	60			
X4	1	1286.6	405							
GR	1280	356	1283	375	1285	380	1286	391	1286	417
GR	1285	420	1280	425	1274.03	431	1274.03	500	1280	506
GR	1282	510	1282	520	1281	530	1281	550	1282	595
GR	1282.5	895	1283	1000	1283	1120	1283	1145	1284	1340
GR	1285	1500	1285.2	1544	1286	1720	1286.3	1820	1287	1930
GR	1287.2	2040	1287.7	2150						
NH	4	.018	531	.030	550	.060	800	.030	1957	
X1	250	23	427	531	90	90	90			
X4	4	1286.3	415	1281	550	1282	800	1285	1486	
GR	1284	388	1285	390	1286	408	1286	427	1285	431
GR	1280	435	1274.08	442	1274.08	509	1280	516	1282	519
GR	1282	531	1281	543	1281	559	1282	654	1283	945
GR	1283	1041	1283	1091	1284	1340	1285	1503	1286	1625
GR	1286	1646	1286	1782	1287	1957				
NH	5	.018	556	.030	570	.060	847	.030	1630	.060
NH	1948									
X1	260	19	452	556	150	150	150			
X4	4	1286.4	425	1282	570	1282	880	1285.3	1630	
GR	1282	402	1285	413	1286	418	1286	450	1285	452
GR	1280	457	1274.15	463	1274.15	535	1280	541	1282	543
GR	1282	556	1282	572	1282	594	1282	847	1283	1010
GR	1284	1172	1285	1493	1286	1724	1287	1948		
NH	5	.018	567	.030	590	.060	900	.030	1680	.060
NH	2110									
X1	270	22	473	567	150	150	150			
X4	5	1286.4	460	1283	590	1282	850	1282.3	900	1285.8
X4	1680									
GR	1284	436	1285	442	1286	453	1286	473	1285	475
GR	1280	478	1274.22	484	1274.22	559	1280	565	1281	567
GR	1281	568	1282	585	1283	595	1283	608	1282	654
GR	1282	850	1283	1107	1284	1304	1285	1504	1286	1715
GR	1287	1990	1287.8	2110						
NH	5	.018	597	.030	620	.060	940	.030	1900	.060
NH	2160									
X1	280	19	465	597	150	150	150			
X4	5	1286.5	485	1282	620	1282	890	1282.4	940	1286.7
X4	1900									
GR	1283	458	1285	465	1286	474	1286	497	1285	498
GR	1280	503	1274.30	509	1274.30	582	1280	588	1282	597
GR	1282	622	1282	645	1282	837	1283	1161	1284	1400
GR	1285	1555	1286	1773	1287	2085	1287	2160		

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NH	5	.030	568	.018	658	.030	680	.060	940	.030
NH	1960									
X1	300	17	540	652	400	400	400			
X4	2	1286.5	558	1282	940					
GR	1285	534	1286	540	1286	566	1285	568	1280	573
GR	1274.5	579	1274.5	652	1285	658	1283	663	1282	673
GR	1282	680	1281.2	820	1282	856	1283	1190	1284	1420
GR	1285	1690	1286	1960						

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NH       5      .030       630      .018       722      .030       749      .060      1150      .030
NH    1940
X1     320        17       627       735       380       380       380
X4       1    1282.5      1150
GR    1285       590      1286       600      1286       627      1285       630      1280       634
GR  1274.7       640    1274.7       714      1280       720      1285       722      1285       726
GR    1283       735      1282       749      1282       830      1283      1205      1284      1475
GR    1285      1715      1286      1940
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1


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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XWL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


*PROF 1

CCHV=     .100 CEHV=     .300
*SECNO 11.000
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=         .0     733.0  TYPE=      1  TARGET=      732.999
    11.00     4.48  1276.88  1276.88  1281.00  1278.97     2.09      .00      .00  1334.10
    3700.       0.    3700.       0.       0.     319.       0.       0.       0.  1280.70
      .00      .00    11.59      .00     .000     .018     .000     .000  1272.40   640.10
  .003131       0.       0.       0.        0       11        0      .00    77.39   717.49
0
FLOW DISTRIBUTION FOR SECNO=     11.00          CWSEL=   1276.88

STA=     640.     733.
  PER Q=    100.0
   AREA=    319.2
    VEL=     11.6
  DEPTH=      4.1

*SECNO 14.000

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE


3470 ENCROACHMENT STATIONS=         .0     774.0  TYPE=      1  TARGET=      773.999
    14.00     5.77  1278.28      .00      .00  1279.49     1.21      .43      .09  1334.60
    3700.       0.    3700.       0.       0.     419.       0.       2.       0.  1280.80
      .01      .00     8.84      .00     .000     .018     .000     .000  1272.51   679.31
  .001350     220.     220.     220.        3        0        0      .00    80.38   759.69
0
FLOW DISTRIBUTION FOR SECNO=     14.00          CWSEL=   1278.28

STA=     679.     774.
  PER Q=    100.0
   AREA=    418.7
    VEL=      8.8
  DEPTH=      5.2
```

1

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


*SECNO 17.000

3470 ENCROACHMENT STATIONS=        .0     815.0  TYPE=      1  TARGET=      814.999
    17.00     6.06  1278.68      .00      .00  1279.78     1.09      .27      .01  1335.00
    3700.       0.    3700.       0.       0.     442.       0.       4.       1.  1280.90
      .01      .00     8.38      .00     .000     .018     .000     .000  1272.62   718.78
  .001141     220.     220.     220.        2        0        0      .00    80.62   799.40
0
FLOW DISTRIBUTION FOR SECNO=     17.00          CWSEL=   1278.68

STA=     719.     815.
  PER Q=    100.0
   AREA=    441.6
    VEL=      8.4
  DEPTH=      5.5

*SECNO 40.000

3470 ENCROACHMENT STATIONS=        .0     863.0  TYPE=      1  TARGET=      862.999
        USCE WEIR CREST U/S END
    40.00     6.16  1278.86      .00      .00  1280.08     1.21      .26      .04  1284.00
    3700.       0.    3700.       0.       0.     419.       0.       6.       1.  1281.00
      .02      .00     8.84      .00     .000     .018     .000     .000  1272.70   751.56
  .001263     220.     220.     220.        2        0        0      .00    75.87   827.43
0
FLOW DISTRIBUTION FOR SECNO=     40.00          CWSEL=   1278.86

STA=     752.     863.
  PER Q=    100.0
   AREA=    418.7
    VEL=      8.8
  DEPTH=      5.5

*SECNO 45.000

3265 DIVIDED FLOW

        USCE SPILLWAY U/S END
    45.00     6.73  1279.51      .00      .00  1280.29      .78      .17      .04  1285.00
    3700.       0.    3698.       2.       0.     521.       3.       8.       2.  1284.00
      .03      .00     7.09      .60     .000     .018     .030     .000  1272.78   729.54
  .000710     180.     180.     170.        2        0        0      .00    96.25   908.16
0
1
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XHL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=     45.00          CWSEL=   1279.51

STA=     730.     819.     908.
  PER Q=     99.9       .1
   AREA=    521.5      3.4
    VEL=      7.1       .6
  DEPTH=      6.1       .0
```

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*SECNO 49.000

3265 DIVIDED FLOW

    49.00     6.81  1279.60      .00      .00  1280.30      .71      .01      .01  1285.30
    3700.       0.    3699.       1.       0.     548.       2.       8.       2.  1285.30
      .03      .00     6.75      .39     .000     .018     .030     .000  1272.79   726.45
  .000631      15.      15.      15.        2        0        0      .00   102.48   920.96
0
 FLOW DISTRIBUTION FOR SECNO=     49.00          CWSEL=   1279.60

 STA=     726.     820.     917.     921.
   PER Q=    100.0       .0       .0
    AREA=    547.9     2.0       .4
     VEL=      6.8       .4       .3
   DEPTH=      6.2       .0       .1

 *SECNO 50.000

 3265 DIVIDED FLOW


 3370 NORMAL BRIDGE, NRD=   8 MIN ELTRD=  1284.90 MAX ELLC=  1285.40

          PIMA ROAD CULVERT D/S FACE
    50.00     6.73  1279.53      .00      .00  1280.33      .80      .00      .03  1285.30
    3700.       0.    3700.       0.       0.     514.       0.       8.       2.  1285.40
      .03      .00     7.19      .02     .000     .018     .030     .000  1272.80   726.52
  .001042       1.       1.       1.        2        0        0      .00    84.17   917.05
0
1
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    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 FLOW DISTRIBUTION FOR SECNO=     50.00          CWSEL=   1279.53

 STA=     727.     820.
   PER Q=    100.0
    AREA=    514.3
     VEL=      7.2
   DEPTH=      6.1

 *SECNO 51.000

 3265 DIVIDED FLOW

          PIMA ROAD CULVERT U/S FACE
    51.00     6.78  1279.58      .00      .00  1280.37      .79      .04      .00  1285.30
    3700.       0.    3700.       0.       0.     517.       0.       9.       2.  1285.40
      .03      .00     7.15      .02     .000     .018     .030     .000  1272.80   726.48
  .001024      35.      35.      35.        1        0        0      .00    84.34   917.06
0
 FLOW DISTRIBUTION FOR SECNO=     51.00          CWSEL=   1279.58

 STA=     726.     820.
   PER Q=    100.0
    AREA=    517.4
     VEL=      7.2
   DEPTH=      6.2
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*SECNO 52.000

3265 DIVIDED FLOW

    52.00     6.89  1279.69      .00      .00  1280.38      .69      .00      .01  1285.30
    3700.       0.    3698.       2.       0.     556.       4.       9.       2.  1285.30
      .03      .00     6.65      .49     .000     .018     .030     .000  1272.80   726.34
  .000604       1.       1.       1.        2        0        0      .00   104.95   922.95
0
 FLOW DISTRIBUTION FOR SECNO=     52.00          CWSEL=   1279.69

 STA=     726.     820.     917.     923.
   PER Q=     99.9       .0       .0
    AREA=    555.8      3.1       .9
     VEL=      6.7       .5       .3
   DEPTH=      6.3       .0       .1

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


 *SECNO 53.000
    53.00     6.78  1279.60      .00      .00  1280.45      .85      .02      .05  1285.40
    3700.       0.    3700.       0.       0.     499.       0.       9.       2.  1284.00
      .03      .00     7.42      .00     .000     .018     .000     .000  1272.82   705.40
  .000774      30.      30.      30.        2        0        0      .00    80.21   785.61
0
 FLOW DISTRIBUTION FOR SECNO=     53.00          CWSEL=   1279.60

 STA=     705.     796.
   PER Q=    100.0
    AREA=    498.7
     VEL=      7.4
   DEPTH=      6.2

 1490 NH CARD USED
 *SECNO 60.000
    60.00     6.85  1279.70      .00      .00  1280.51      .81      .05      .00  1285.00
    3700.       0.    3700.       0.       0.     512.       0.      10.       2.  1284.00
      .03      .00     7.23      .00     .000     .018     .000     .000  1272.85   687.30
  .000721      70.      70.     100.        2        0        0      .00    80.49   767.79
0
 FLOW DISTRIBUTION FOR SECNO=     60.00          CWSEL=   1279.70

 STA=     687.     768.
   PER Q=    100.0
    AREA=    511.8
     VEL=      7.2
   DEPTH=      6.4

 1490 NH CARD USED
 *SECNO 80.000
    80.00     6.98  1279.88      .00      .00  1280.57      .68      .05      .01  1285.00
    3700.       0.    3700.       0.       0.     558.       0.      11.       2.  1285.00
      .04      .00     6.63      .00     .000     .018     .000     .000  1272.90   649.11
  .000589      70.      70.     140.        2        0        0      .00    86.77   735.89
0
 FLOW DISTRIBUTION FOR SECNO=     80.00          CWSEL=   1279.88

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


STA=     649.     736.
  PER Q=    100.0
   AREA=    558.0
    VEL=      6.6
  DEPTH=      6.4

1490 NH CARD USED
*SECND 90.000
        DEBRIS BRIDGE SPECIAL D/S FACE
    90.00     6.99  1279.92      .00      .00  1280.63      .72      .06      .01  1285.00
    3700.       0.    3700.       0.       0.     544.       0.      12.       2.  1284.00
      .04      .00     6.80      .00     .000     .018     .000     .000  1272.93   602.08
  .000621      95.      95.      95.        2        0        0      .00    84.84   686.92
0
FLOW DISTRIBUTION FOR SECND=     90.00          CWSEL=   1279.92

STA=     602.     687.
  PER Q=    100.0
   AREA=    544.4
    VEL=      6.8
  DEPTH=      6.4

1490 NH CARD USED

SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     .90      1.35      2.70       .00     92.00      1.50    736.00      1.00   1272.90   1272.90

*SECND 92.000
CLASS A LOW FLOW

3420 BRIDGE W.S.=    1279.90 BRIDGE VELOCITY=       5.42     CALCULATED CHANNEL AREA=       683.

 EGPRS     EGLWC      H3       QWEIR     QLOW      BAREA   TRAPEZOID      ELLC      ELTRD     WEIRLN
                                                            AREA
      .00  1280.66      .03        0.    3700.      736.     788.     1280.90   1284.40        0.


        DEBRIS BRIDGE SPECIAL U/S FACE
    92.00     7.00  1279.94      .00      .00  1280.66      .71      .02      .00  1285.00
    3700.       0.    3700.       0.       0.     546.       0.      12.       2.  1284.00
      .04      .00     6.78      .00     .000     .018     .000     .000  1272.94   602.06
  .000616      12.      12.      12.        0        0        0      .00    84.89   686.94
0
1
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST
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FLOW DISTRIBUTION FOR SECNO=     92.00          CWSEL=   1279.94

STA=     602.     687.
  PER Q=    100.0
   AREA=    545.8
    VEL=      6.8
  DEPTH=      6.4

1490 NH CARD USED
*SECNO 100.000
   100.00     7.01  1280.01      .00      .00  1280.71      .70      .05      .00  1285.00
    3700.       0.    3700.       0.       0.     551.       0.      13.       2.  1284.00
      .05      .00     6.72      .00     .000     .018     .000     .000  1273.00   551.99
  .000606      90.      90.     130.        0        0        0      .00    86.04   638.03
0
FLOW DISTRIBUTION FOR SECNO=    100.00          CWSEL=   1280.01

STA=     552.     654.
  PER Q=    100.0
   AREA=    550.6
    VEL=      6.7
  DEPTH=      6.4

1490 NH CARD USED
*SECNO 120.000
   120.00     7.06  1280.14      .00      .00  1280.83      .70      .12      .00  1285.00
    3700.       0.    3700.       0.       0.     552.       0.      16.       3.  1284.00
      .05      .00     6.71      .00     .000     .018     .000     .000  1273.08   453.90
  .000601     200.     200.     220.        0        0        0      .00    85.69   539.59
0
FLOW DISTRIBUTION FOR SECNO=    120.00          CWSEL=   1280.14

STA=     454.     556.
  PER Q=    100.0
   AREA=    551.6
    VEL=      6.7
  DEPTH=      6.4

1
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   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 140.000

3265 DIVIDED FLOW

3280 CROSS SECTION    140.00 EXTENDED      1.31 FEET

   140.00     7.31  1280.31      .00      .00  1280.95      .65      .11      .01  1286.00
    3700.      11.    3689.       0.       7.     571.       0.      18.       3.  1285.00
      .06     1.49     6.46      .00     .018     .018     .000     .000  1273.00   290.00
  .000539     200.     200.     210.        2        0        0      .00    96.23   450.31
0
FLOW DISTRIBUTION FOR SECNO=    140.00          CWSEL=   1280.31

STA=     290.     299.     455.
  PER Q=      .3     99.7
   AREA=     7.3    571.4
    VEL=     1.5      6.5
  DEPTH=      .8      6.6
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1490 NH CARD USED
*SECNO 160.000
   160.00     7.14  1280.54      .00      .00  1281.20      .66      .24      .00  1285.00
    3700.       0.    3700.       0.       0.     568.       0.      24.       4.   1284.00
      .08      .00     6.51      .00     .000     .018     .000     .000  1273.40   281.46
  .000554     460.     440.     340.        0        0        0      .00    86.91   368.36
0
FLOW DISTRIBUTION FOR SECNO=    160.00          CWSEL=   1280.54

STA=     281.     370.
  PER Q=    100.0
   AREA=    568.4
    VEL=      6.5
  DEPTH=      6.5

1490 NH CARD USED
*SECNO 180.000
   180.00     7.15  1280.71      .00      .00  1281.38      .67      .18      .00  1285.00
    3700.       0.    3700.       0.       0.     565.       0.      28.       5.   1283.00
      .09      .00     6.55      .00     .000     .018     .000     .000  1273.56   271.29
  .000563     320.     320.     310.        0        0        0      .00    86.66   357.95
0
1
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=    180.00          CWSEL=   1280.71

STA=     271.     361.
  PER Q=    100.0
   AREA=    564.6
    VEL=      6.6
  DEPTH=      6.5

1490 NH CARD USED
*SECNO 200.000

3265 DIVIDED FLOW

3280 CROSS SECTION    200.00 EXTENDED       .87 FEET

   200.00     7.16  1280.86      .00      .00  1281.56      .70      .17      .01  1286.00
    3700.       2.    3698.       0.       2.     552.       0.      32.       5.   1283.00
      .11     1.03     6.70      .00     .018     .018     .000     .000  1273.70   241.00
  .000589     300.     300.     300.        1        0        0      .00    89.97   393.87
0
FLOW DISTRIBUTION FOR SECNO=    200.00          CWSEL=   1280.86

STA=     241.     246.     396.
  PER Q=      .1     99.9
   AREA=     2.3    551.9
    VEL=     1.0      6.7
  DEPTH=      .4      6.5

1490 NH CARD USED
*SECNO 210.000

3265 DIVIDED FLOW

3280 CROSS SECTION    210.00 EXTENDED      1.04 FEET

   210.00     7.24  1281.04      .00      .00  1281.69      .65      .12      .00  1286.00
    3700.       2.    3698.       0.       3.     572.       0.      35.       6.   1283.00
      .12      .66     6.47      .00     .030     .018     .000     .000  1273.80   282.00
  .000537     220.     220.     240.        2        0        0      .00    91.97   436.69
0
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SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

FLOW DISTRIBUTION FOR SECNO=    210.00          CWSEL=   1281.04

STA=     282.     288.     438.
  PER Q=       .1     99.9
   AREA=      3.2    571.8
    VEL=       .7      6.5
  DEPTH=       .5      6.7

1490 NH CARD USED
*SECNO 220.000

3265 DIVIDED FLOW

3280 CROSS SECTION    220.00 EXTENDED      1.12 FEET

        OLH CROSSING D/S FACE
   220.00     7.27  1281.12      .00      .00  1281.74      .62      .05      .00  1286.00
    3700.       1.    3699.       0.       2.     587.       0.      36.       6.  1282.00
      .12      .62     6.30      .00     .030     .017     .000     .000  1273.85   315.00
  .000503      90.      90.      90.        2        0        0      .00    98.61   479.98
0
FLOW DISTRIBUTION FOR SECNO=    220.00          CWSEL=   1281.12

STA=     315.     319.     471.     487.
  PER Q=       .0     99.9       .1
   AREA=      2.1    581.7      5.0
    VEL=       .6      6.4       .8
  DEPTH=       .6      6.8       .6

1490 NH CARD USED
*SECNO 230.000

3265 DIVIDED FLOW

3280 CROSS SECTION    230.00 EXTENDED      1.18 FEET

        OLH CROSSING U/S FACE
   230.00     7.27  1281.17      .00      .00  1281.81      .64      .06      .01  1286.00
    3700.       3.    3697.       0.       5.     576.       0.      38.       6.  1282.00
      .13      .72     6.42      .00     .030     .018     .000     .000  1273.90   320.00
  .000528     120.     120.     120.        1        0        0      .00    94.31   473.76
0
1
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SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

FLOW DISTRIBUTION FOR SECNO=    230.00          CWSEL=   1281.17

STA=     320.     328.     475.
  PER Q=       .1     99.9
   AREA=      4.6    576.1
    VEL=       .7      6.4
  DEPTH=       .6      6.7
```

```
1490 NH CARD USED
*SECND 240.000

3265 DIVIDED FLOW

   240.00     7.22  1281.22      .00      .00  1281.93      .72      .10      .02  1285.00
   3700.        0.    3700.       0.       0.     545.       3.      40.       7.  1282.00
     .13      .00     6.79      .18     .000     .018     .060     .000  1274.00   408.78
  .000612     180.     180.     180.        2        0        0      .00   102.24   538.37
0
 FLOW DISTRIBUTION FOR SECND=    240.00          CWSEL=   1281.22

STA=     409.     495.     538.
  PER Q=    100.0       .0
   AREA=    544.7      2.6
    VEL=      6.8       .2
  DEPTH=      6.4       .1

1490 NH CARD USED
*SECND 245.000

3265 DIVIDED FLOW

3280 CROSS SECTION    245.00 EXTENDED      1.28 FEET

   245.00     7.25  1281.28      .00      .00  1281.97      .69      .04      .00  1286.00
   3700.        4.    3694.       2.       5.     554.       8.      41.       7.  1282.00
     .14      .80     6.67      .24     .030     .018     .058     .000  1274.03   356.00
  .000583      60.      60.      60.        2        0        0      .00   128.48   562.69
0
1
   11/ 8/89      12:56: 4                                                                    PAGE   19


   SECND     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        DLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECND=    245.00          CWSEL=   1281.28

 STA=     356.     364.     510.     550.     563.
   PER Q=      .1     99.8       .0       .0
    AREA=     5.2    554.1      6.0      1.8
     VEL=      .8      6.7       .3       .2
   DEPTH=      .6      6.5       .2       .1

 1490 NH CARD USED
 *SECND 250.000

 3265 DIVIDED FLOW

   250.00     7.24  1281.32      .00      .00  1282.03      .71      .05      .01  1286.00
   3700.        0.    3697.       3.       0.     548.      11.      42.       7.  1282.00
     .14      .00     6.75      .30     .000     .018     .046     .000  1274.08   433.94
  .000596      90.      90.      90.        1        0        0      .00   135.32   590.31
0
 FLOW DISTRIBUTION FOR SECND=    250.00          CWSEL=   1281.32

 STA=     434.     519.     550.     559.     590.
   PER Q=     99.9       .0       .0       .0
    AREA=    547.8      3.0      3.0      5.2
     VEL=      6.7       .5       .3       .2
   DEPTH=      6.5       .1       .3       .2
```

```
1490 NH CARD USED
*SECND 260.000
   260.00     7.35  1281.50      .00      .00  1282.12      .62      .08      .01  1285.00
   3700.        0.    3700.       0.       0.     584.       0.      44.       8.  1282.00
     .15       .00     6.33      .00     .000     .018     .000     .000  1274.15   455.50
  .000507     150.     150.     150.        2        0        0      .00    87.00   542.50
0
 FLOW DISTRIBUTION FOR SECNO=    260.00          CWSEL=   1281.50

 STA=     456.     543.
   PER Q=    100.0
    AREA=    584.3
     VEL=      6.3
   DEPTH=      6.7

1
   11/ 8/89      12:56: 4                                                                  PAGE   20


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


 1490 NH CARD USED
 *SECND 270.000
   270.00     7.41  1281.63      .00      .00  1282.20      .56      .07      .01  1286.00
   3700.        0.    3698.      2.       0.     613.       4.      46.       8.  1281.00
     .15       .00     6.03      .53     .000     .018     .030     .000  1274.22   477.02
  .000449     150.     150.     150.        2        0        0      .00   101.74   578.76
0
 FLOW DISTRIBUTION FOR SECNO=    270.00          CWSEL=   1281.83

 STA=     477.     567.     568.     579.
   PER Q=     99.9       .0       .0
    AREA=    613.3       .6      3.4
     VEL=      6.0       .8       .5
   DEPTH=      6.8       .6       .3

 1490 NH CARD USED
 *SECND 280.000
   280.00     7.39  1281.69      .00      .00  1282.27      .59      .07      .01  1285.00
   3700.        0.    3700.       0.       0.     603.       0.      48.       8.  1282.00
     .16       .00     6.14      .00     .000     .018     .000     .000  1274.30   501.30
  .000503     150.     150.     150.        1        0        0      .00    94.34   595.64
0
 FLOW DISTRIBUTION FOR SECNO=    280.00          CWSEL=   1281.69

 STA=     501.     597.
   PER Q=    100.0
    AREA=    602.5
     VEL=      6.1
   DEPTH=      6.4

 1490 NH CARD USED
 *SECND 300.000

 3265 DIVIDED FLOW

   300.00     7.35  1281.85      .00      .00  1282.49      .64      .20      .02  1286.00
   3700.        0.    3647.     53.       0.     566.      62.      54.      10.  1274.50
     .19       .00     6.44      .86     .000     .018     .027     .000  1274.50   571.15
  .000477     400.     400.     400.        2        0        0      .00   228.02   849.24
0
1
   11/ 8/89      12:56: 4                                                                  PAGE   21
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```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=    300.00          CWSEL=   1281.85

STA=     571.     652.     656.     820.     849.
  PER Q=     98.6      1.1       .3       .1
   AREA=   565.8     15.4     37.0      9.5
    VEL=     6.4      2.7       .3       .3
  DEPTH=     7.0      3.7       .2       .3

1490 NH CARD USED
*SECNO 320.000

3265 DIVIDED FLOW

   320.00     7.39  1282.09      .00      .00  1282.67      .58      .18      .01  1286.00
    3700.       0.    3699.       1.       0.     607.      10.      59.      12.  1283.00
      .19      .00     6.10      .10     .000     .018     .060     .000  1274.70   632.33
  .000460     380.     380.     380.        2        0        0      .00   230.19   889.38
0
 FLOW DISTRIBUTION FOR SECNO=    320.00          CWSEL=   1282.09

STA=     632.     722.     830.     889.
  PER Q=    100.0       .0       .0
   AREA=   606.6      7.5      2.8
    VEL=     6.1       .1       .1
  DEPTH=     6.9       .1       .0

1
   11/ 8/89      12:56: 4                                                                PAGE   22


                                                                        THIS RUN EXECUTED 11/ 8/89    12:56:49
*************************************************
  HEC2 RELEASE DATED SEPT 88


*************************************************


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


ARIZONA CANAL CROSSING

SUMMARY PRINTOUT TABLE  150

     SECNO     XLCH     ELTRD     ELLC     ELMIN       Q      CWSEL     CRIWS      EG      10*KS      VCH      AREA     .01H

*    11.000      .00       .00      .00   1272.40   3700.00   1276.88   1276.88   1278.97     31.31    11.59    319.16   661.1

*    14.000   220.00       .00      .00   1272.51   3700.00   1278.28       .00   1279.49     13.50     8.84    418.69  1006.5

     17.000   220.00       .00      .00   1272.62   3700.00   1278.68       .00   1279.78     11.41     8.38    441.60  1095.5
```

40.000	220.00	.00	.00	1272.70	3700.00	1278.86	.00	1280.08	12.63	8.84	419.73	1041.2
45.000	180.00	.00	.00	1272.78	3700.00	1279.51	.00	1280.29	7.10	7.09	524.97	1388.7
49.000	15.00	.00	.00	1272.79	3700.00	1279.60	.00	1280.30	6.31	6.75	550.30	1473.1
50.000	1.00	1284.90	1285.40	1272.80	3700.00	1279.53	.00	1280.33	10.42	7.19	514.30	1146.1
51.000	35.00	.00	.00	1272.80	3700.00	1279.58	.00	1280.37	10.24	7.15	517.43	1155.9
52.000	1.00	.00	.00	1272.80	3700.00	1279.69	.00	1280.38	6.04	6.65	559.72	1506.0
53.000	30.00	.00	.00	1272.82	3700.00	1279.60	.00	1280.45	7.74	7.42	498.70	1329.7
60.000	70.00	.00	.00	1272.85	3700.00	1279.70	.00	1280.51	7.21	7.23	511.78	1377.5
80.000	70.00	.00	.00	1272.90	3700.00	1279.88	.00	1280.57	5.89	6.63	557.96	1525.1
90.000	95.00	.00	.00	1272.93	3700.00	1279.92	.00	1280.63	6.21	6.80	544.39	1484.8
92.000	12.00	1284.40	1280.90	1272.94	3700.00	1279.94	.00	1280.66	6.16	6.78	545.83	1490.7
100.000	90.00	.00	.00	1273.00	3700.00	1280.01	.00	1280.71	6.06	6.72	550.62	1503.1
120.000	200.00	.00	.00	1273.08	3700.00	1280.14	.00	1280.83	6.01	6.71	551.59	1508.8
140.000	200.00	.00	.00	1273.00	3700.00	1280.31	.00	1280.95	5.39	6.46	578.75	1593.9

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
160.000	440.00	.00	.00	1273.40	3700.00	1280.54	.00	1281.20	5.54	6.51	568.37	1572.3
180.000	320.00	.00	.00	1273.56	3700.00	1280.71	.00	1281.38	5.63	6.55	564.56	1559.7
200.000	300.00	.00	.00	1273.70	3700.00	1280.86	.00	1281.56	5.89	6.70	554.19	1524.2
210.000	220.00	.00	.00	1273.80	3700.00	1281.04	.00	1281.69	5.37	6.47	575.08	1597.2
220.000	90.00	.00	.00	1273.85	3700.00	1281.12	.00	1281.74	5.03	6.30	588.85	1649.0
230.000	120.00	.00	.00	1273.90	3700.00	1281.17	.00	1281.81	5.28	6.42	580.69	1610.1
240.000	180.00	.00	.00	1274.00	3700.00	1281.22	.00	1281.93	6.12	6.79	547.38	1495.1
245.000	60.00	.00	.00	1274.03	3700.00	1281.28	.00	1281.97	5.83	6.67	567.10	1532.1
250.000	90.00	.00	.00	1274.08	3700.00	1281.32	.00	1282.03	5.96	6.75	558.90	1515.4
260.000	150.00	.00	.00	1274.15	3700.00	1281.50	.00	1282.12	5.07	6.33	584.35	1642.7
270.000	150.00	.00	.00	1274.22	3700.00	1281.63	.00	1282.20	4.49	6.03	617.38	1746.9
280.000	150.00	.00	.00	1274.30	3700.00	1281.69	.00	1282.27	5.03	6.14	602.51	1649.5
300.000	400.00	.00	.00	1274.50	3700.00	1281.85	.00	1282.49	4.77	6.44	627.74	1694.0
320.000	380.00	.00	.00	1274.70	3700.00	1282.09	.00	1282.67	4.60	6.10	616.94	1724.8

ARIZONA CANAL CROSSING

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	11.000	3700.00	1276.88	.00	.00	-4.12	77.39	.00
*	14.000	3700.00	1278.28	.00	1.39	.00	80.38	220.00
	17.000	3700.00	1278.68	.00	.41	.00	80.62	220.00
	40.000	3700.00	1278.86	.00	.18	.00	75.87	220.00
	45.000	3700.00	1279.51	.00	.64	.00	96.25	180.00
	49.000	3700.00	1279.60	.00	.09	.00	102.48	15.00
	50.000	3700.00	1279.53	.00	-.07	.00	84.17	1.00
	51.000	3700.00	1279.58	.00	.05	.00	84.34	35.00
	52.000	3700.00	1279.69	.00	.12	.00	104.95	1.00
	53.000	3700.00	1279.60	.00	-.10	.00	80.21	30.00
	60.000	3700.00	1279.70	.00	.10	.00	80.49	70.00
	80.000	3700.00	1279.88	.00	.19	.00	86.77	70.00
	90.000	3700.00	1279.92	.00	.03	.00	84.84	95.00
	92.000	3700.00	1279.94	.00	.03	.00	84.89	12.00
	100.000	3700.00	1280.01	.00	.07	.00	86.04	90.00
	120.000	3700.00	1280.14	.00	.12	.00	85.69	200.00
	140.000	3700.00	1280.31	.00	.17	.00	96.23	200.00
	160.000	3700.00	1280.54	.00	.23	.00	86.91	440.00
	180.000	3700.00	1280.71	.00	.17	.00	86.66	320.00
	200.000	3700.00	1280.86	.00	.15	.00	89.97	300.00
	210.000	3700.00	1281.04	.00	.18	.00	91.97	220.00
	220.000	3700.00	1281.12	.00	.08	.00	98.61	90.00
	230.000	3700.00	1281.17	.00	.05	.00	94.31	120.00
	240.000	3700.00	1281.22	.00	.05	.00	102.24	180.00

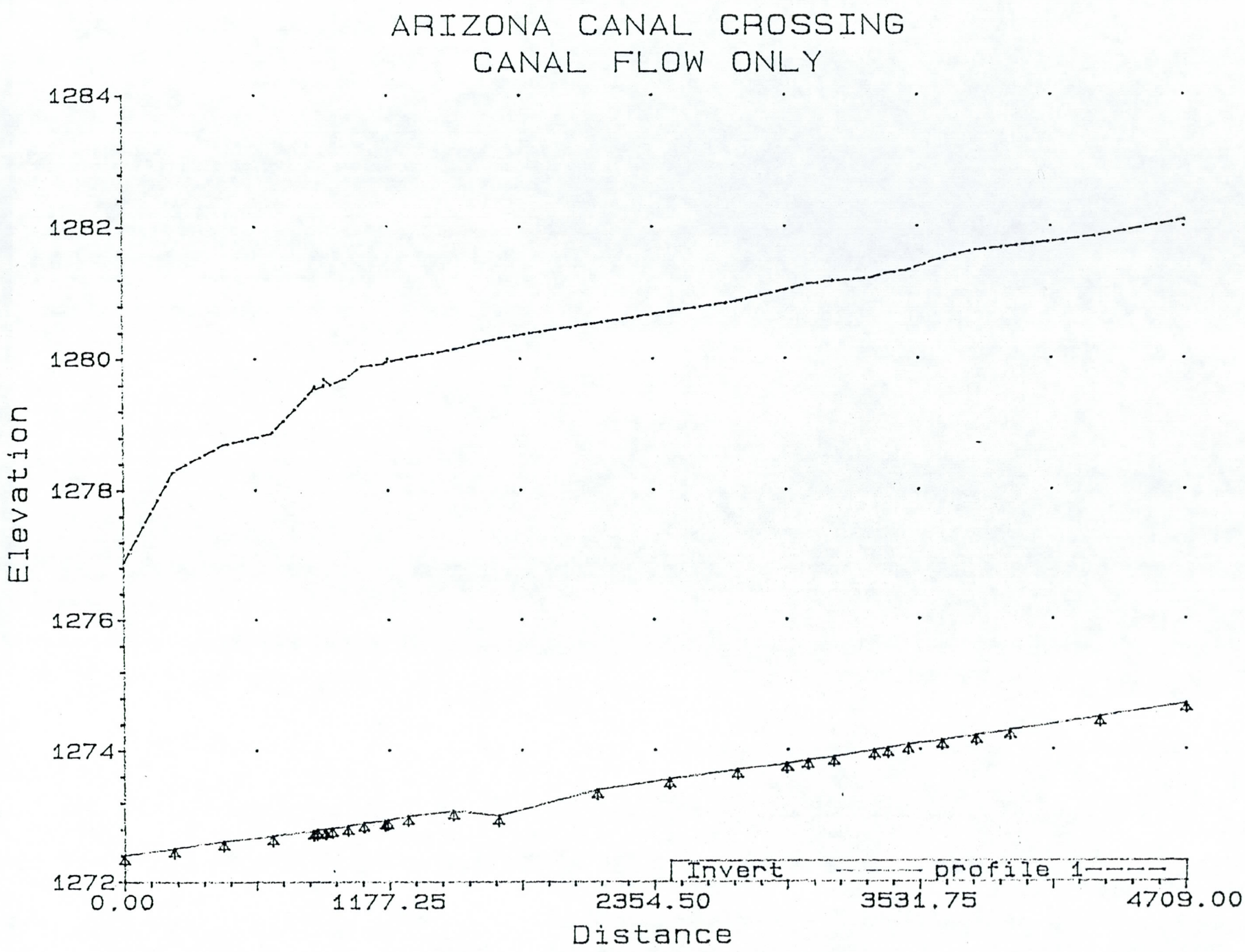
SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
245.000	3700.00	1281.28	.00	.07	.00	128.48	60.00
250.000	3700.00	1281.32	.00	.04	.00	135.32	90.00
260.000	3700.00	1281.50	.00	.17	.00	87.00	150.00
270.000	3700.00	1281.63	.00	.14	.00	101.74	150.00
280.000	3700.00	1281.69	.00	.06	.00	94.34	150.00
300.000	3700.00	1281.85	.00	.16	.00	228.02	400.00
320.000	3700.00	1282.09	.00	.24	.00	230.19	380.00

1

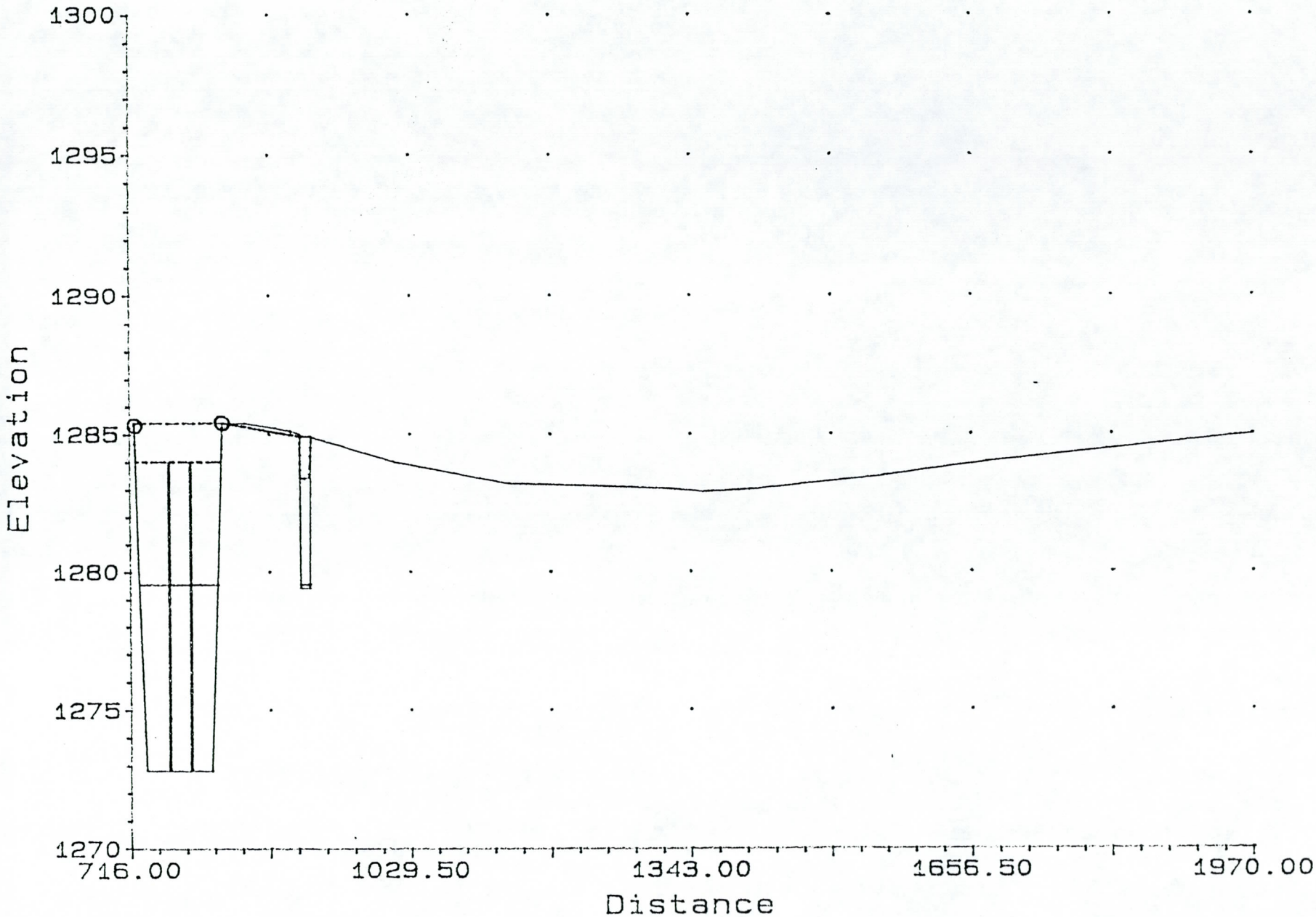
SUMMARY OF ERRORS AND SPECIAL NOTES

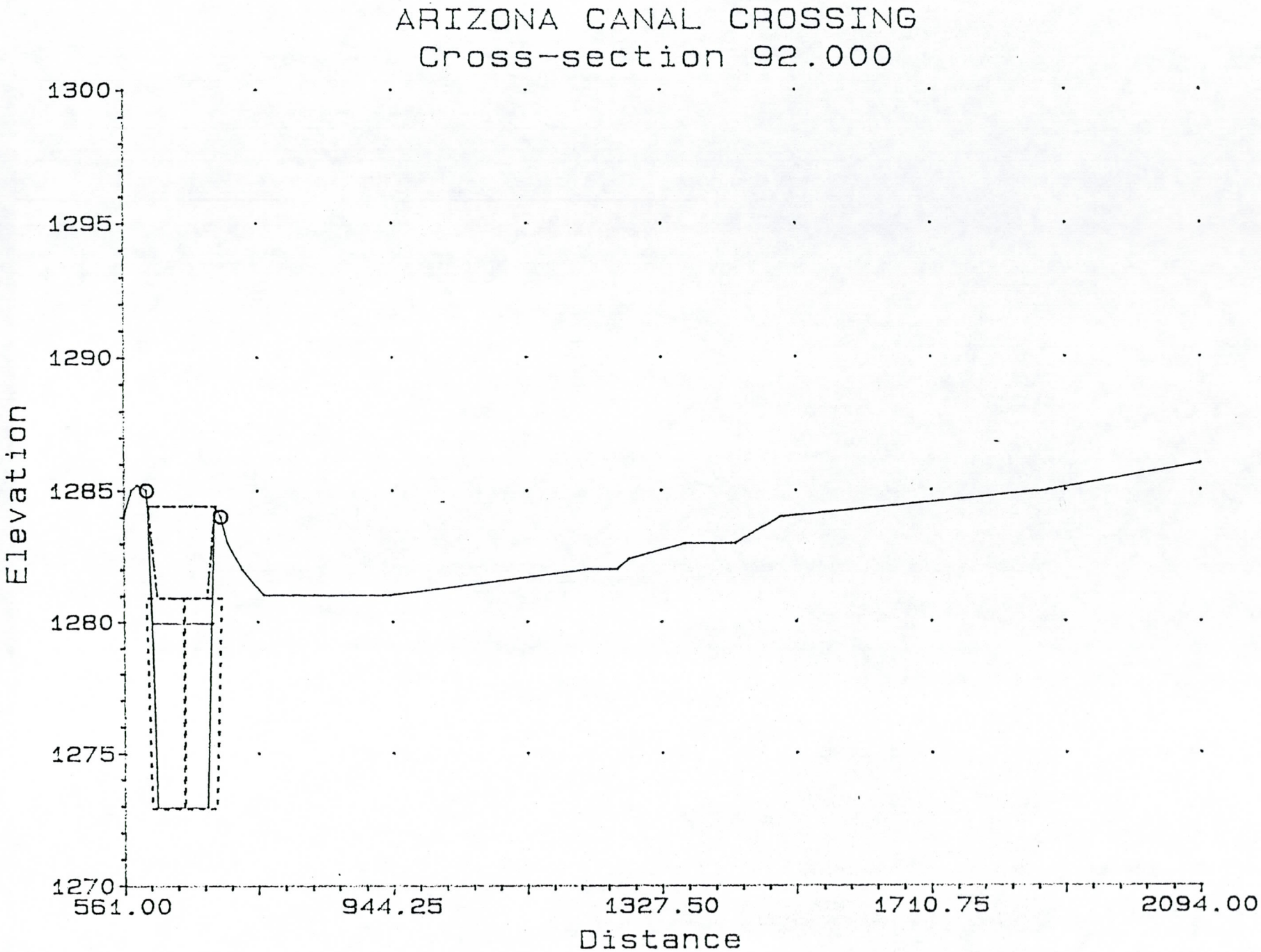
CAUTION SECNO= 11.000 PROFILE= 1 CRITICAL DEPTH ASSUMED

WARNING SECNO= 14.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE


ARIZONA CANAL CROSSING
CANAL FLOW ONLY
1284
1282
1280
1278
1276
1274
1272
Elevation
0.00
1177.25
2354.50
3531.75
4709.00
Distance
Invert
profile 1

ARIZONA CANAL CROSSING
Cross-section 50.000




ARIZONA CANAL CROSSING
Cross-section 92.000
1300
1295
1290
1285
1280
1275
1270
Elevation
561.00
944.25
1327.50
1710.75
2094.00
Distance

ALTERNATIVE 3B - PART 2

PROPOSED 8000 C.F.S. FLOW WITH
4300 C.F.S. FLOWING WITHIN THE
CONCRETE LINED DRAINAGE CHANNEL.

PROPOSED 8000 C.F.S. FLOW WITH
4300 C.F.S. FLOWING WITHIN THE
CONCRETE LINED DRAINAGE CHANNEL.

```
1*************************************************
 *  WATER SURFACE PROFILES                       *
 *  VERSION OF SEPTEMBER 1988                    *
 *                                               *
 *                                               *
 *  RUN DATE    11/ 8/89   TIME   18:39:48       *
*************************************************
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```
*********************************
* U.S. ARMY CORPS OF ENGINEERS
* THE HYDROLOGIC ENGINEERING CENTER
* 609 SECOND STREET, SUITE D
* DAVIS, CALIFORNIA 95616
* (916) 756-1104
*********************************
```

```
X     X  XXXXXXX   XXXXX             XXXXX
X     X  X       X     X           X     X
X     X  X       X                       X
XXXXXXX  XXXX     X         XXXXX    XXXXX
X     X  X       X                 X
X     X  X       X     X           X
X     X  XXXXXXX   XXXXX            XXXXXXX
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END OF BANNER

1

11/ 8/89 18:39:48 PAGE 1

THIS RUN EXECUTED 11/ 9/89 18:39:48

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*********************************************
  HEC2 RELEASE DATED SEPT 88

*********************************************
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T1 OUTER LOOP AND ARIZONA CANAL CROSSING
T2 PIMA ROAD BRIDGE AND CULVERT
T3 ARIZONA CANAL CROSSING

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	2			1			4300	1274	

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	-1		-1					6		15

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

	150	120								
NC	.030	.030	.018	.1	.3					
X1	11	41	620	1067						
GR	1284.1	620	1280	636	1284.00	646	1283.00	711	1280	722
GR	1280.7	733	1280	744	1279	754	1278	759	1277	764
GR	1276	776	1276	785	1277	793	1277	802	1276	820
GR	1275	830	1274	842	1273	846	1272	854	1271	863
GR	1269.6	872	1270	926	1271	931	1272	936	1271	941
GR	1274	945	1274	971	1273	975	1272	978	1271	981
GR	1270	986	1271	1020	1273	1033	1274	1038	1275	1041
GR	1278	1054	1280	1063	1281	1067	1283	1076	1285	1084
GR	1290	1104								
X1	14	31	663	1114	220	220	220			
GR	1284.6	663	1280	677	1284.00	687	1283.00	752	1280	762
GR	1280.8	774	1280	785	1279	794	1278	808	1277	814
GR	1276	819	1275	824	1274	827	1273	830	1272	832
GR	1271	845	1272	882	1270	901	1270	946	1270	994
GR	1269.7	1011	1269.70	1041	1270	1052	1270	1065	1272	1080
GR	1274	1088	1275	1092	1278	1103	1282	1114	1285	1124
GR	1290	1147								
X1	17	35	701	1482	220	220	220			
GR	1285	701	1280	717	1285.00	727	1284.00	792	1280	801
GR	1280.9	815	1280	828	1279	833	1278	836	1277	840
GR	1276	843	1274	854	1273	858	1272	862	1271	883
GR	1272	903	1271	911	1270	932	1270	942	1270	975
GR	1269.8	1003	1269.80	1010	1270	1082	1270	1144	1270	1185
GR	1270	1218	1270	1247	1270	1268	1270	1327	1271	1341
GR	1273	1355	1276	1382	1279	1410	1281	1482	1285	1530

1

USCE WEIR CREST U/S END

X1	40	34	746	1658	220	220	220			
GR	1284	720	1284	746	1280	750	1284.00	760	1284.00	820
GR	1281	830	1281	840	1281	863	1283	868	1284	871
GR	1284	895	1282	900	1280	905	1278	910	1278	920
GR	1280	925	1282	935	1284	945	1283	989	1282	1055
GR	1284	1062	1286	1070	1288	1075	1290	1084	1287	1127
GR	1284	1134	1280	1174	1277	1238	1278	1260	1280	1310
GR	1276	1360	1272	1528	1276	1630	1280	1658		
NC	.03	.035	.03	.5	.8					

USCE SPILLWAY U/S END

X1	45	18	866	1480	180	170	180			
GR	1285	719	1284	723	1284	729	1285.00	737	1284.00	807
GR	1284	815	1284	819	1284	866	1283	865	1283	895
GR	1272.3	897	1272.3	908	1272	910	1272	950	1281	1080
GR	1280.6	1210	1281	1480	1282	1945				
X1	49	22	880	1010	15	15	15			
X4	2	1272.4	900	1272.4	980					
GR	1285.2	716	1285.3	722	1284	726	1284.00	734	1284.00	807
GR	1284	816	1285.3	820	1285	845	1285	880	1284	895
GR	1272.4	907	1272.4	917	1284	1010	1283.2	1140	1283.1	1246
GR	1283.0	1320	1282.9	1360	1283	1410	1283.2	1466	1283.5	1558
GR	1284	1673	1285	1970						

```
        PIMA ROAD CULVERT D/S FACE
X1      50        22        906       983       1         1         1
X3      10
X4      6       1284.9      906     1272.5      912     1272.5      917     1272.5      919     1272.5
X4      982     1284.9      983
GR    1285.2      716     1285.3      722      1284      726     1284.00      734     1284.00      807
GR     1284       816     1285.3      820      1285      845      1285       880     1284.9      895
GR    1272.5      907     1272.5      937     1283.8    1010     1283.6     1140     1283.3     1246
GR    1283.0     1320     1282.9     1360      1283     1410     1283.2     1466     1283.5     1558
GR     1284      1673      1285      1970

SB     1.25      1.88       2.5                 70        5       455                1272.5
        PIMA ROAD CULVERT U/S FACE
X1      51                                      35       35        35
X2                          1      1279.5     1284.9
X3      10
BT      4        906     1284.9    1284.9      907     1284.9    1279.5      983     1284.9     1279.5
BT     985     1284.9    1284.9

NC     .03       .018      .03       .1        .3
X1      52        22       882       995        1         1         1
CI     938     1272.5      .018       2         2        80
X4      2      1272.5      945     1284.7      995
GR    1285.2      716     1285.3      722      1284      726     1284.00      734     1284.00      807
GR     1284       816     1285.3      820      1285      845      1285       870      1284      882
GR    1272.5      907     1272.5      984      1284     1010     1283.2     1140     1283.1     1246
GR    1283.0     1320     1282.9     1360      1283     1410     1283.2     1466     1283.5     1558
1
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GR     1284      1673      1285      1970

X1      53        30       840       964        30        30        30
CI     900      .0016                 2         2        90
GR     1280      646      1282      667      1284      696     1285.4      700      1284      705
GR     1284      707     1283.82    712     1283.82    779      1284      786      1284      796
GR     1283      805      1282      810      1282      840      1280      925      1281      942
GR     1280      964     1282.2    1030     1281.8    1165     1281.9     1257     1282     1300
GR     1282     1400     1282.1    1445      1283     1540      1283     1600     1283.5    1660
GR     1284     1785      1283     1860      1283     1920      1284     2050      1285     2150

NC     .04       .045     .018      .1        .3
X1      60        38       830       910       70       100        70
CI     870      .0016
X4      3      1280       830      1281      910      1281      1100
GR     1285      657      1285      681      1284      687     1283.85     694     1283.85     763
GR     1284      770      1285      777      1285      778      1284      787      1284      801
GR     1285      804      1285      808      1284      810      1283      812      1282      816
GR     1281      821      1281      853      1281      905      1281     1139      1282     1351
GR     1282     1367      1281     1368      1280     1370      1280     1372      1281     1374
GR     1282     1377      1283     1619      1283     1657      1283     1663      1284     1651
GR     1284     1901      1284     1963      1285     1971      1286     1980      1286     2007
GR     1286     2105      1286     2133      1286     2152

X1      80        34       790       870       70       140        70
CI     840      .0016
X4      2      1282       790      1281      870
GR     1283      577      1282      582      1281      585      1280      590      1280      604
GR     1281      606      1282      608      1283      611      1284      615      1285      632
GR     1285      644      1284      649     1283.9     656     1283.9     729      1284      736
GR     1285      741      1285      743      1284      753      1283      766      1283      768
GR     1283      775     1282.1     795      1281      819      1281      832      1281      860
GR     1281      935      1282     1255      1282     1265      1282     1278      1282     1287
GR     1283     1370      1284     1518      1285     1940      1286     2106
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DEBRIS BRIDGE SPECIAL D/S FACE

X1	90	28	740	820	95	95	95			
CI	790	.0016								
X4	3	1285.2	580	1282	1260	1282.4	1280			
GR	1284	561	1285	572	1285	594	1284.4	596	1284	602
GR	1284	603	1283.93	609	1283.93	680	1284	687	1284.4	692
GR	1284	700	1283	710	1282	740	1281	761	1281	787
GR	1281	802	1281	820	1281	930	1281	940	1282	1221
GR	1282	1253	1282	1264	1283	1360	1283	1426	1283	1432
GR	1284	1496	1285	1877	1286	2094				

DEBRIS BRIDGE SPECIAL U/S FACE

X1	92	28	740	820	12	12	12			
CI	790	.0016								
X4	3	1285.2	580	1282	1260	1282.4	1280			
GR	1284	561	1285	572	1285	594	1284.4	596	1284	602
GR	1284	603	1283.94	609	1283.94	680	1284	687	1284.4	692
GR	1284	700	1283	710	1282	740	1281	761	1281	787
GR	1281	802	1281	820	1281	930	1281	940	1282	1221

1

GR	1282	1253	1282	1264	1283	1360	1283	1426	1283	1432
GR	1284	1496	1285	1877	1286	2094				
X1	100	20	690	770	90	130	90			
CI	730	.0016								
X4	2	1285.6	540	1282	690					
GR	1283	506	1284	513	1285	523	1285	547	1284	552
GR	1284	553	1283.0	560	1283.0	631	1284	638	1284	654
GR	1283	665	1282	678	1281	726	1281	770	1281	820
GR	1282	1180	1283	1452	1284	1795	1285	1970	1286	2115
X1	120	22	590	670	200	220	200			
CI	730	.0016								
X4	2	1285.6	450	1282	820					
GR	1283	398	1284	400	1285	402	1285	449	1284	454
GR	1284	455	1283.08	461	1283.08	532	1284	539	1284	556
GR	1283	565	1283	570	1283	572	1282	574	1281	590
GR	1281	670	1282	964	1283	1370	1284	1695	1285	1975
GR	1286	2186	1286.9	2300						
X1	140	26	480	580	200	210	200			
CI	530	.0016								
X4	3	1286.5	335	1282	485	1281	660			
GR	1279	290	1280	299	1281	301	1283	310	1285	313
GR	1286	317	1286	354	1285	359	1285	364	1275.19	371
GR	1284	400	1274.19	443	1284	450	1285	455	1285	456
GR	1284	472	1284	479	1282	480	1281	531	1281	580
GR	1282	880	1283	1310	1284	1635	1285	1990	1286	2126
GR	1286.4	2160								
X1	160	28	420	520	460	340	440			
CI	470	.0016								
X4	4	1285.9	260	1282	400	1282	760	1286.2	2100	
GR	1281	227	1282	229	1283	231	1284	232	1285	242
GR	1285	277	1284	282	1284.40	289	1284.40	361	1284	368
GR	1283	370	1284	375	1284	378	1283	384	1282	396
GR	1281	420	1281	431	1281	457	1281	520	1281	601
GR	1281	629	1281	643	1282	912	1283	1210	1284	1455
GR	1285	1793	1286	2061	1286.7	2230				
X1	180	28	420	520	320	310	320			
CI	470	.0016								
X4	4	1285.9	250	1281	380	1282	960	1285.4	1880	
GR	1283	218	1284	220	1285	225	1285	267	1284	272
GR	1284	276	1284.56	279	1284.56	350	1284	357	1284	361
GR	1283	368	1282	378	1281	382	1281	398	1281	420
GR	1281	460	1281	520	1281	618	1282	957	1283	1144
GR	1284	1440	1285	1725	1285	1750	1285	1775	1285	1790
GR	1285	1800	1286	1966	1286.9	2160				

1

X1	200	28	430	550	300	300	300			
CI	490	.0010				100				
X4	3	1286.5	285	1281	420	1282	860			
GR	1280	241	1283	259	1284	261	1285	263	1286	277
GR	1286	304	1285	305	1284	310	1284.70	317	1284.70	386
GR	1284	393	1283	396	1283	407	1282	413	1281	421
GR	1281	429	1281	430	1281	550	1281	606	1281	611
GR	1282	916	1283	1107	1284	1437	1285	1686	1285	1690
GR	1285.4	1750	1286	1946	1286.7	2160				
X1	210	21	480	640	220	240	220			
CI	560	.0010				160				
X4	1	1286.6	330							
GR	1280	282	1283	300	1285	306	1286	314	1286	346
GR	1284	352	1284.8	358	1284.8	430	1284	436	1283	438
GR	1283	446	1282	458	1281.5	480	1282	640	1283	1055
GR	1284	1375	1285	1600	1286	1830	1286.4	1880	1287	1960
GR	1288	2135								

OLH CROSSING D/S FACE

X1	220	23	480	680	90	90	90			
CI	580	.0010				200				
X4	3	1286.5	350	1281.9	700	1285.2	1710			
GR	1280	315	1283	325	1285	330	1286	345	1286	365
GR	1285	382	1284	386	1284.85	392	1284.85	465	1284	471
GR	1282	480	1282	503	1281.2	530	1282	575	1282	680
GR	1282	750	1283	1010	1284	1415	1285	1620	1285.5	1695
GR	1286	1810	1287	1900	1288	2165				

OLH CROSSING U/S FACE

X1	230	22	480	700	120	120	120			
CI	590	.0010				200				
X4	1	1286.5	370							
GR	1280	320	1283	340	1285	346	1286	355	1286	382
GR	1285	385	1284	388	1284.9	394	1284.9	466	1284	472
GR	1282	475	1282	480	1282.1	485	1282	565	1282	700
GR	1282	840	1283	1045	1284	1390	1285	1570	1285.2	1585
GR	1286	1800	1287	1920						

U/S END OF THE DRAINAGE CHANNEL

X1	240	19	500	760	180	180	180			
CI	630	.0010				200				
X4	4	1286.6	395	1282	520	1282	840	1284.7	1540	
GR	1284	363	1285	365	1286	373	1286	403	1285	405
GR	1284	410	1284.00	417	1284.00	484	1284	491	1282	495
GR	1282	500	1281	521	1281	528	1282	760	1283	1031
GR	1284	1325	1285	1495	1286	1790	1287	1950		

1

X1	245	27	417	520	60	60	60			
CI						.01				
X4	1	1286.6	405							
GR	1280	356	1283	375	1285	380	1286	391	1286	417
GR	1285	420	1284	425	1284.03	431	1284.03	500	1284	506
GR	1282	510	1282	520	1281	530	1281	550	1282	595
GR	1282.5	895	1283	1000	1283	1120	1283	1145	1284	1340
GR	1285	1500	1285.2	1544	1286	1720	1286.3	1820	1287	1930
GR	1287.2	2040	1287.7	2150						

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NH      4     .018      531     .030      550     .060      800     .030     1957
X1    250       23      427      531       90       90       90
X4      4   1286.3      415     1281      550     1282      800     1285     1486
GR   1284      388     1285      390     1286      408     1286      427     1285      431
GR   1284      435  1284.08      442  1284.08      509     1284      516     1282      519
GR   1282      531     1281      543     1281      559     1282      654     1283      945
GR   1283     1041     1283     1091     1284     1340     1285     1503     1286     1625
GR   1286     1646     1286     1782     1287     1957

NH      5     .018      556     .030      570     .060      847     .030     1630     .060
NH   1948
X1    260       19      452      556      150      150      150
X4      4   1286.4      425     1282      570     1282      880  1285.3     1630
GR   1282      402     1285      413     1286      418     1286      450     1285      452
GR   1284      457  1284.15      463  1284.15      535     1284      541     1282      543
GR   1282      556     1282      572     1282      594     1282      847     1283     1010
GR   1284     1172     1285     1493     1286     1724     1287     1948
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1

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SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS    BANK ELEV
Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA      LEFT/RIGHT
TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN    SSTA
SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID   ENDST

*PROF 1

CCHV=     .100 CEHV=     .300
*SECND 11.000

3265 DIVIDED FLOW

3720 CRITICAL DEPTH ASSUMED
    11.00     3.94  1273.54  1273.54  1274.00  1274.97     1.44      .00      .00  1284.10
    4300.       0.    4300.       0.       0.     447.       0.       0.       0.  1281.00
      .00      .00     9.61      .00     .000     .018     .000     .000  1269.60   843.84
  .003604       0.       0.       0.        0        8        0      .00   163.39  1035.69
0
FLOW DISTRIBUTION FOR SECND=     11.00          CWSEL=   1273.54

STA=     844.    1067.
  PER Q=    100.0
   AREA=    447.2
    VEL=      9.6
  DEPTH=      2.7

*SECND 14.000

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

    14.00     5.34  1275.04      .00      .00  1275.24      .20      .15      .12  1284.60
    4300.       0.    4300.       0.       0.    1184.       0.       4.       1.  1282.00
      .02      .00     3.63      .00     .000     .018     .000     .000  1269.70   823.80
  .000269     220.     220.     220.        2        0        0      .00   268.35  1092.15
0
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```
FLOW DISTRIBUTION FOR SECNO=     14.00          CWSEL=   1275.04

STA=     824.    1114.
  PER Q=    100.0
   AREA=   1184.0
    VEL=      3.6
  DEPTH=      4.4

1
   11/ 8/89      18:39:48                                                                                    PAGE    8

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


*SECNO 17.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

    17.00     5.44  1275.24      .00      .00  1275.28      .05      .02      .02  1285.00
    4300.       0.    4300.       0.       0.    2519.       0.      13.       3.  1281.00
      .05      .00     1.71      .00     .000     .018     .000     .000  1269.80   847.20
  .000053     220.     220.     220.        2        0        0      .00   527.93  1375.13
0
FLOW DISTRIBUTION FOR SECNO=     17.00          CWSEL=   1275.24

STA=     847.    1482.
  PER Q=    100.0
   AREA=   2518.6
    VEL=      1.7
  DEPTH=      4.8

*SECNO 40.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL.CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
        USCE WEIR CREST U/S END
    40.00     3.96  1275.96  1275.96      .00  1276.98     1.02      .04      .29  1284.00
    4300.       0.    4300.       0.       0.     530.       0.      21.       5.  1280.00
      .06      .00     8.12      .00     .000     .018     .000     .000  1272.00  1361.59
  .003886     220.     220.     220.       20       19        0      .00   267.45  1629.04
0
FLOW DISTRIBUTION FOR SECNO=     40.00          CWSEL=   1275.96

STA=    1362.    1658.
  PER Q=    100.0
   AREA=    529.8
    VEL=      8.1
  DEPTH=      2.0

1
   11/ 8/89      18:39:48                                                                                    PAGE    9

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
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CCHV=     .500 CEHV=     .800
*SECND 45.000

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

         USCE SPILLWAY U/S END
    45.00     4.84  1276.84      .00      .00  1278.44     1.60      .99      .46  1284.00
    4300.       0.    4300.       0.'      0.     424.       0.      23.       6.  1281.00
      .07      .00    10.14      .00     .000     .030     .000     .000  1272.00   896.15
  .008450     180.     180.     170.        2        0        0      .00   123.78  1019.94
0
 FLOW DISTRIBUTION FOR SECND=     45.00          CWSEL=   1276.84

 STA=     896.    1480.
   PER Q=    100.0
    AREA=    424.2
     VEL=     10.1
   DEPTH=      3.4

 *SECND 49.000
    49.00     4.51  1276.91      .00      .00  1278.78     1.88      .12      .23  1285.00
    4300.       0.    4300.       0.       0.     391.       0.      23.       6.  1284.00
      .07      .00    10.99      .00     .000     .030     .000     .000  1272.40   898.06
  .007719      15.      15.      15.        2        0        0      .00    93.60   991.65
0
 FLOW DISTRIBUTION FOR SECND=     49.00          CWSEL=   1276.91

 STA=     898.    1010.
   PER Q=    100.0
    AREA=    391.1
     VEL=     11.0
   DEPTH=      4.2

 *SECND 50.000
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
1
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    SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE. ELLEA=     1284.90 ELREA=     1284.90

         PIMA ROAD CULVERT D/S FACE
    50.00     4.65  1277.15  1277.15      .00  1279.49     2.34      .01      .37  1284.90
    4300.       0.    4300.       0.       0.     350.       0.      23.       6.  1284.90
      .07      .00    12.28      .00     .000     .030     .000     .000  1272.50   906.63
  .009197       1.       1.       1.        2        8        0      .00    75.75   982.37
0
 FLOW DISTRIBUTION FOR SECND=     50.00          CWSEL=   1277.15

 STA=     907.     983.
   PER Q=    100.0
    AREA=    350.3
     VEL=     12.3
   DEPTH=      4.6
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SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.25      1.88      2.50       .00     70.00      5.00    455.00       .00   1272.50       .00

*SECNO 51.000

3301 HV CHANGED MORE THAN HVINS

PRESSURE FLOW

 EGPRS     EGLWC      H3       QWEIR     QPR       BAREA   TRAPEZOID      ELLC     ELTRD     WEIRLN
                                                            AREA
  1279.75  1279.51     .28       0.     4300.      455.     455.     1279.50   1284.90       0.


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=     1284.90 ELREA=     1284.90

        PIMA ROAD CULVERT U/S FACE
    51.00     5.71  1278.21      .00      .00  1279.75     1.55      .27      .00  1284.90
    4300.       0.    4300.       0.       0.     431.       0.      24.       6.   1284.90
      .07      .00     9.98      .00     .000     .030     .000     .000  1272.50   906.54
  .004773      35.      35.      35.        4        0        0      .00    75.92   982.46
0
1
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


FLOW DISTRIBUTION FOR SECNO=     51.00          CWSEL=   1278.21

STA=     907.     983.
  PER Q=    100.0
   AREA=    430.7
    VEL=     10.0
  DEPTH=      5.7

CCHV=     .100 CEHV=     .300
*SECNO 52.000
CHIMP CLSTA=     938.00 CELCH=    1272.50 BW=      80.00 STCHL=     873.60 STCHR=    1001.77
EXCAVATION DATA
AEX=     118.2SQ-FT     VEXR=        .0K*CU-YD     VEXT=        .0K*CU-YD


3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

    52.00     6.62  1279.12      .00      .00  1279.84      .71      .00      .08  1284.70
    4300.       0.    4300.       0.       0.     634.       0.      24.       6.   1284.38
      .07      .00     6.79      .00     .000     .018     .000     .000  1272.50   884.76
  .000660       1.       1.       1.        3        0        0      .00   106.48   991.24
0
FLOW DISTRIBUTION FOR SECNO=     52.00          CWSEL=   1279.12

STA=     885.    1002.
  PER Q=    100.0
   AREA=    633.7
    VEL=      6.8
  DEPTH=      6.0
```

```
*SECNO 53.000
CHIMP CLSTA=     900.00 CELCH=    1272.55 BW=      90.00 STCHL=     836.10 STCHR=     964.00
EXCAVATION DATA
AEX=     889.7SQ-FT     VEXR=        .6K*CU-YD     VEXT=        .6K*CU-YD

    53.00     6.73  1279.28      .00      .00  1279.87      .59      .02      .01  1282.00
    4300.       0.    4300.       0.       0.    696.       0.      24.       6.  1280.00
      .07      .00     6.18      .00 ,   .000     .018     .000     .000  1272.55   841.54
  .000537      30.      30.      30.        2        0        0      .00   116.92   958.46
0
1
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=     53.00          CWSEL=   1279.28

STA=     842.     964.
  PER Q=    100.0
   AREA=    696.2
    VEL=      6.2
  DEPTH=      6.0

CCHV=     .100 CEHV=     .300
*SECNO 60.000
CHIMP CLSTA=     870.00 CELCH=    1272.66 BW=      90.00 STCHL=     801.79 STCHR=     931.68
EXCAVATION DATA
AEX=     909.6SQ-FT     VEXR=       2.3K*CU-YD     VEXT=       2.9K*CU-YD

    60.00     6.64  1279.30      .00      .00  1279.91      .61      .04      .01  1284.26
    4300.       0.    4300.       0.       0.    686.       0.      25.       6.  1281.00
      .07      .00     6.27      .00     .000     .018     .000     .000  1272.66   811.71
  .000562      70.      70.     100.        2        0        0      .00   116.57   928.29
0
FLOW DISTRIBUTION FOR SECNO=     60.00          CWSEL=   1279.30

STA=     812.     932.
  PER Q=    100.0
   AREA=    686.2
    VEL=      6.3
  DEPTH=      5.9

*SECNO 80.000
CHIMP CLSTA=     840.00 CELCH=    1272.77 BW=      90.00 STCHL=     774.54 STCHR=     901.46
EXCAVATION DATA
AEX=     913.8SQ-FT     VEXR=       2.4K*CU-YD     VEXT=       5.3K*CU-YD

    80.00     6.56  1279.33      .00      .00  1279.96      .63      .04      .01  1283.00
    4300.       0.    4300.       0.       0.    676.       0.      26.       6.  1281.00
      .07      .00     6.36      .00     .000     .018     .000     .000  1272.77   781.88
  .000587      70.      70.     140.        2        0        0      .00   116.24   898.12
0
FLOW DISTRIBUTION FOR SECNO=     80.00          CWSEL=   1279.33

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


STA=     782.     901.
  PER Q=    100.0
   AREA=    676.3
    VEL=      6.4
  DEPTH=      5.8

*SECNO 90.000
CHIMP CLSTA=     790.00 CELCH=    1272.92 BW=      90.00 STCHL=     725.91 STCHR=     851.15
EXCAVATION DATA
AEX=     883.0SQ-FT     VEXR=       3.2K*CU-YD     VEXT=       8.4K*CU-YD

        DEBRIS BRIDGE SPECIAL D/S FACE
    90.00     6.45  1279.37      .00      .00  1280.02      .65      .06      .01  1282.47
    4300.       0.    4300.       0.       0.     664.       0.      28.       7.  1281.00
      .08      .00     6.47      .00     .000     .018     .000     .000  1272.92   732.09
  .000620      95.      95.      95.        1        0        0      .00   115.82   847.91
0
FLOW DISTRIBUTION FOR SECNO=     90.00         CWSEL=   1279.37

STA=     732.     851.
  PER Q=    100.0
   AREA=    664.3
    VEL=      6.5
  DEPTH=      5.7

*SECNO 92.000
CHIMP CLSTA=     790.00 CELCH=    1272.94 BW=      90.00 STCHL=     725.95 STCHR=     851.11
EXCAVATION DATA
AEX=     880.6SQ-FT     VEXR=        .4K*CU-YD     VEXT=       8.8K*CU-YD

        DEBRIS BRIDGE SPECIAL U/S FACE
    92.00     6.43  1279.38      .00      .00  1280.03      .65      .01      .00  1282.47
    4300.       0.    4300.       0.       0.     662.       0.      28.       7.  1281.00
      .08      .00     6.49      .00     .000     .018     .000     .000  1272.94   732.13
  .000626      12.      12.      12.        0        0        0      .00   115.74   847.87
0
FLOW DISTRIBUTION FOR SECNO=     92.00         CWSEL=   1279.38

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


STA=     732.     851.
  PER Q=    100.0
   AREA=    662.1
    VEL=      6.5
  DEPTH=      5.7

*SECNO 100.000
CHIMP CLSTA=     730.00 CELCH=    1273.09 BW=      90.00 STCHL=     665.21 STCHR=     790.83
EXCAVATION DATA
AEX=     882.5SQ-FT     VEXR=       2.9K*CU-YD     VEXT=      11.7K*CU-YD

   100.00     6.33  1279.42      .00      .00  1280.10      .68      .06      .01  1282.98
    4300.       0.    4300.       0.       0.     650.       0.      29.       7.  1281.00
      .08      .00     6.62      .00     .000     .018     .000     .000  1273.09   672.34
  .000663      90.      90.     130.        2        0        0      .00   115.32   787.66
```

```
0
 FLOW DISTRIBUTION FOR SECNO=    100.00          CWSEL=   1279.42

 STA=     672.     791.
   PER Q=    100.0
    AREA=    649.8
     VEL=      6.6
   DEPTH=      5.6

 *SECNO 120.000
 CHIMP CLSTA=     730.00 CELCH=    1273.41 BW=      90.00 STCHL=     590.00 STCHR=     791.81
 EXCAVATION DATA
 AEX=     847.4SQ-FT     VEXR=       6.4K*CU-YD     VEXT=       18.2K*CU-YD

    120.00     6.11  1279.52      .00      .00  1280.25      .74      .14      .02  1281.00
     4300.       0.    4300.       0.       0.     625.       0.      32.       8.   1281.81
       .09      .00     6.88      .00     .000     .018     .000     .000  1273.41   672.78
   .000747     200.     200.     220.        2        0        0      .00   114.45   787.22
0
 FLOW DISTRIBUTION FOR SECNO=    120.00          CWSEL=   1279.52

 STA=     673.     792.
   PER Q=    100.0
    AREA=    624.7
     VEL=      6.9
   DEPTH=      5.5

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


 *SECNO 140.000
 CHIMP CLSTA=     530.00 CELCH=    1273.73 BW=      90.00 STCHL=     463.38 STCHR=     589.55
 EXCAVATION DATA
 AEX=     827.0SQ-FT     VEXR=       6.2K*CU-YD     VEXT=       24.4K*CU-YD


 3265 DIVIDED FLOW

 3280 CROSS SECTION    140.00 EXTENDED       .75 FEET

    140.00     6.03  1279.75      .00      .00  1280.41      .65      .15      .01  1284.54
     4300.     213.    4087.       0.     123.     615.       0.      35.       8.   1281.00
       .10     1.73     6.64      .00     .040     .018     .000     .000  1273.73   290.00
   .000708     200.     200.     210.        2        0        0      .00   167.54   587.05
0
 FLOW DISTRIBUTION FOR SECNO=    140.00          CWSEL=   1279.75

 STA=     290.     297.     371.     386.     443.     447.     590.
   PER Q=       .0       .2      1.3      3.0       .3     95.1
    AREA=      2.6      7.4     34.3     67.9     11.0    615.1
     VEL=       .5      1.2      1.7      1.9      1.4      6.6
   DEPTH=       .4       .1      2.3      1.2      2.8      5.4
```

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*SECNO 160.000
CHIMP CLSTA=     470.00 CELCH=    1274.43 BW=      90.00 STCHL=     410.96 STCHR=     528.14
EXCAVATION DATA
AEX=     679.3SQ-FT     VEXR=      12.3K*CU-YD     VEXT=       36.6K*CU-YD

   160.00     5.51  1279.94      .00      .00  1280.87      .93      .38      .08  1281.45
    4300.       0.    4300.       0.       0.     557.       0.      42.      10.  1281.00
      .11      .00     7.72      .00     .000     .018     .000     .000  1274.43   413.98
  .001064     460.     440.     340.        2        0        0      .00   112.04   526.02
0
FLOW DISTRIBUTION FOR SECNO=    160.00          CWSEL=   1279.94

STA=     414.     528.
  PER Q=    100.0
   AREA=    556.7
    VEL=      7.7
  DEPTH=      5.0

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


*SECNO 180.000
CHIMP CLSTA=     470.00 CELCH=    1274.94 BW=      90.00 STCHL=     412.89 STCHR=     527.11
EXCAVATION DATA
AEX=     618.5SQ-FT     VEXR=       7.7K*CU-YD     VEXT=       44.3K*CU-YD

   180.00     5.30  1280.25      .00      .00  1281.26     1.01      .36      .02  1281.00
    4300.       0.    4300.       0.       0.     534.       0.      46.      10.  1281.00
      .13      .00     8.06      .00     .000     .018     .000     .000  1274.94   414.39
  .001212     320.     320.     310.        2        0        0      .00   111.22   525.61
0
FLOW DISTRIBUTION FOR SECNO=    180.00          CWSEL=   1280.25

STA=     414.     527.
  PER Q=    100.0
   AREA=    533.7
    VEL=      8.1
  DEPTH=      4.8

*SECNO 200.000
CHIMP CLSTA=     490.00 CELCH=    1275.24 BW=     100.00 STCHL=     428.49 STCHR=     551.51
EXCAVATION DATA
AEX=     642.0SQ-FT     VEXR=       7.0K*CU-YD     VEXT=       51.3K*CU-YD


3265 DIVIDED FLOW

3280 CROSS SECTION    200.00 EXTENDED       .84 FEET

   200.00     5.60  1280.84      .00      .00  1281.58      .74      .30      .03  1281.00
    4300.       1.    4299.       0.       2.     623.       0.      50.      11.  1281.00
      .14      .54     6.90      .00     .040     .018     .000     .000  1275.24   241.00
  .000822     300.     300.     300.        2        0        0      .00   127.46   551.20
0
FLOW DISTRIBUTION FOR SECNO=    200.00          CWSEL=   1280.84

STA=     241.     246.     552.
  PER Q=       .0    100.0
   AREA=      2.1    622.7
    VEL=       .5      6.9
  DEPTH=       .4      5.1
```

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


*SECNO 210.000
CHIMP CLSTA=     560.00 CELCH=    1275.46 BW=     160.00 STCHL=     467.35 STCHR=     653.14
EXCAVATION DATA
AEX=    1087.0SQ-FT     VEXR=       7.0K*CU-YD     VEXT=       58.4K*CU-YD


3265 DIVIDED FLOW

3280 CROSS SECTION    210.00 EXTENDED      1.45 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

   210.00     5.99  1281.45      .00      .00  1281.72      .27      .09      .05  1281.79
    4300.       3.    4297.       0.       6.    1030.       0.      54.      12.   1282.03
      .15      .44     4.17      .00     .040     .018     .000     .000  1275.46   282.00
  .000262     220.     220.     240.        2        0        0      .00   192.67   651.98
0
FLOW DISTRIBUTION FOR SECNO=    210.00          CWSEL=   1281.45

STA=     282.     291.     653.
  PER Q=       .1     99.9
   AREA=      6.3   1030.0
    VEL=       .4      4.2
  DEPTH=       .7      5.6

*SECNO 220.000
CHIMP CLSTA=     580.00 CELCH=    1275.55 BW=     200.00 STCHL=     461.41 STCHR=     692.77
EXCAVATION DATA
AEX=    1369.0SQ-FT     VEXR=       4.1K*CU-YD     VEXT=       62.5K*CU-YD


3265 DIVIDED FLOW

3280 CROSS SECTION    220.00 EXTENDED      1.57 FEET

         DLH CROSSING D/S FACE
   220.00     6.02  1281.57      .00      .00  1281.75      .18      .02      .01  1284.85
    4300.       1.    4299.       0.       4.    1276.       0.      56.      12.   1281.94
      .16      .34     3.37      .00     .040     .018     .000     .000  1275.55   315.00
  .000166      90.      90.      90.        2        0        0      .00   229.32   692.04
0
1
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


FLOW DISTRIBUTION FOR SECNO=    220.00          CWSEL=   1281.57

STA=     315.     320.     693.
  PER Q=       .0    100.0
   AREA=      4.1   1276.3
    VEL=       .3      3.4
  DEPTH=       .8      5.7
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*SECNO 230.000
CHIMP CLSTA=     590.00 CELCH=    1275.67 BW=     200.00 STCHL=     477.35 STCHR=     702.65
EXCAVATION DATA
AEX=    1349.75Q-FT     VEXR=       6.0K*CU-YD     VEXT=       68.5K*CU-YD


3265 DIVIDED FLOW

3280 CROSS SECTION    230.00 EXTENDED      1.60 FEET

        OLH CROSSING U/S FACE      '
   230.00     5.92  1281.59      .00      .00  1281.77      .18      .02      .00  1282.00
    4300.       3.    4297.       0.       9.    1255.       0.      60.      13.   1282.00
      .17      .38     3.42      .00     .040     .018     .000     .000  1275.67   320.00
  .000175     120.     120.     120.        0        0        0      .00   234.35   701.85
0
 FLOW DISTRIBUTION FOR SECNO=    230.00         CWSEL=   1281.59

 STA=     320.     331.     703.
   PER Q=       .1     99.9
    AREA=      8.5   1255.2
     VEL=       .4      3.4
   DEPTH=       .8      5.6

 *SECNO 240.000
 CHIMP CLSTA=     630.00 CELCH=    1275.85 BW=     200.00 STCHL=     500.00 STCHR=     760.00
 EXCAVATION DATA
 AEX=    1182.1SQ-FT     VEXR=       8.4K*CU-YD     VEXT=       76.9K*CU-YD

        U/S END OF THE DRAINAGE CHANNEL
   240.00     5.76  1281.61      .00      .00  1281.81      .19      .03      .00  1282.00
    4300.       0.    4300.       0.       0.    1220.       0.      65.      14.   1282.00
      .18      .00     3.53      .00     .000     .018     .000     .000  1275.85   518.47
  .000192     180.     180.     180.        0        0        0      .00   223.07   741.53
0
1
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTH      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 FLOW DISTRIBUTION FOR SECNO=    240.00         CWSEL=   1281.61

 STA=     518.     760.
   PER Q=    100.0
    AREA=   1219.8
     VEL=      3.5
   DEPTH=      5.5

 *SECNO 245.000

 3265 DIVIDED FLOW

 3280 CROSS SECTION    245.00 EXTENDED      3.53 FEET

 3685 20 TRIALS ATTEMPTED WSEL.CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
   245.00     3.53  1283.53  1283.53      .00  1284.10      .57      .04      .11  1286.00
    4300.     274.     234.    3791.      39.      18.     729.      66.      15.   1282.00
      .19     7.07    13.34     5.20     .040     .018     .045     .000  1280.00   356.00
  .018197      60.      60.      60.       20       14        0      .00   760.79  1247.43
```

0
FLOW DISTRIBUTION FOR SECNO= 245.00 CWSEL= 1283.53

STA=	356.	375.	376.	520.	530.	550.	595.	895.	1000.	1120.	1145.	1247.
PER Q=	6.4	.0	5.5	3.3	9.7	15.1	46.6	7.1	4.3	.9	1.1	
AREA=	38.5	.3	17.6	20.3	50.5	91.1	382.6	81.4	63.0	13.1	26.9	
VEL=	7.1	2.0	13.3	7.1	8.3	7.1	5.2	3.8	2.9	2.9	1.8	
DEPTH=	2.0	.3	1.3	2.0	2.5	2.0	1.3	.8	.5	.5	.3	

1490 NH CARD USED
*SECNO 250.000

3265 DIVIDED FLOW

3280 CROSS SECTION 250.00 EXTENDED .47 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	DLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
250.00	3.46	1284.46	.00	.00	1284.58	.12	.44	.05	1286.00
4300.	0.	199.	4101.	0.	66.	1489.	69.	17.	1282.00
.20	1.07	3.00	2.75	.018	.018	.041	.000	1281.00	388.00
.002239	90.	90.	90.	3	0	0	.00	975.93	1408.13

0
FLOW DISTRIBUTION FOR SECNO= 250.00 CWSEL= 1284.46

STA=	388.	389.	531.	543.	550.	654.	800.	945.	1041.	1091.	1340.	1408.
PER Q=	.0	4.6	4.0	3.0	17.8	17.9	24.4	9.9	5.2	12.8	.3	
AREA=	.2	66.3	35.6	24.3	313.0	360.1	285.2	140.8	73.3	240.7	15.9	
VEL=	1.1	3.0	4.8	5.4	2.4	2.1	3.7	3.0	3.0	2.3	.9	
DEPTH=	.2	.7	3.0	3.5	3.0	2.5	2.0	1.5	1.5	1.0	.2	

1490 NH CARD USED
*SECNO 260.000

3265 DIVIDED FLOW

3280 CROSS SECTION 260.00 EXTENDED 2.78 FEET

260.00	2.78	1284.78	.00	.00	1284.89	.11	.31	.00	1285.00
4300.	53.	320.	3927.	14.	95.	1500.	74.	20.	1282.00
.21	3.73	3.37	2.62	.018	.018	.042	.000	1282.00	402.00
.001684	150.	150.	150.	3	0	0	.00	978.80	1421.72

0
FLOW DISTRIBUTION FOR SECNO= 260.00 CWSEL= 1284.78

STA=	402.	412.	556.	570.	594.	847.	880.	1010.	1172.	1422.
PER Q=	1.2	7.4	3.8	3.3	34.7	9.1	25.6	12.2	2.6	
AREA=	14.1	94.8	38.9	66.7	702.8	91.7	296.1	207.0	97.1	
VEL=	3.7	3.4	4.2	2.1	2.1	4.2	3.7	2.5	1.1	
DEPTH=	1.4	.9	2.8	2.8	2.8	2.8	2.3	1.3	.4	

THIS RUN EXECUTED 11/ 8/89 18:40:41

****
HEC2 RELEASE DATED SEPT 88

****

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

ARIZONA CANAL CROSSING

SUMMARY PRINTOUT TABLE 120

	SECNO	CWSEL	EG	VCH	10*KS	DEPTH	TOPWID	CLSTA	BW	STCHL	XLBEL	STCHR	RBEL
*	11.000	1273.54	1274.97	9.61	36.04	3.94	163.39	.00	.01	620.00	1284.10	1067.00	1281.0
*	14.000	1275.04	1275.24	3.63	2.69	5.34	268.35	.00	.01	663.00	1284.60	1114.00	1282.0
*	17.000	1275.24	1275.28	1.71	.53	5.44	527.93	.00	.01	701.00	1285.00	1482.00	1281.0
*	40.000	1275.96	1276.98	8.12	38.86	3.96	267.45	.00	.01	746.00	1284.00	1658.00	1280.0
*	45.000	1276.84	1278.44	10.14	84.50	4.84	123.78	.00	.01	866.00	1284.00	1480.00	1281.0
	49.000	1276.91	1278.78	10.99	77.19	4.51	93.60	.00	.01	880.00	1285.00	1010.00	1284.0
*	50.000	1277.15	1279.49	12.28	91.97	4.65	75.75	.00	.01	906.00	1284.90	983.00	1284.9
	51.000	1278.21	1279.75	9.98	47.73	5.71	75.92	.00	.01	906.00	1284.90	983.00	1284.9
*	52.000	1279.12	1279.84	6.79	6.60	6.62	106.48	938.00	80.00	873.60	1284.70	1001.77	1284.3
	53.000	1279.28	1279.87	6.18	5.37	6.73	116.92	900.00	90.00	836.10	1282.00	964.00	1280.0
	60.000	1279.30	1279.91	6.27	5.62	6.64	116.57	870.00	90.00	801.79	1284.26	931.68	1281.0
	80.000	1279.33	1279.96	6.36	5.87	6.56	116.24	840.00	90.00	774.54	1283.00	901.46	1281.0
	90.000	1279.37	1280.02	6.47	6.20	6.45	115.82	790.00	90.00	725.91	1282.47	851.15	1281.0
	92.000	1279.38	1280.03	6.49	6.26	6.43	115.74	790.00	90.00	725.95	1282.47	851.11	1281.0
	100.000	1279.42	1280.10	6.62	6.63	6.33	115.32	730.00	90.00	665.21	1282.98	790.83	1281.0
	120.000	1279.52	1280.25	6.88	7.47	6.11	114.45	730.00	90.00	590.00	1281.00	791.81	1281.8
	140.000	1279.75	1280.41	6.64	7.08	6.03	167.54	530.00	90.00	463.38	1284.54	563.55	1281.0

	SECNO	CWSEL	EG	VCH	10*KS	DEPTH	TOPWID	CLSTA	BW	STCHL	XLBEL	STCHR	RBEL
	160.000	1279.94	1280.87	7.72	10.64	5.51	112.04	470.00	90.00	410.96	1281.45	528.14	1281.0
	180.000	1280.25	1281.26	8.06	12.12	5.30	111.22	470.00	90.00	412.89	1281.00	527.11	1281.0
	200.000	1280.84	1281.58	6.90	8.22	5.60	127.46	490.00	100.00	428.49	1281.00	551.51	1281.0
*	210.000	1281.45	1281.72	4.17	2.62	5.99	192.67	560.00	160.00	467.35	1281.79	653.14	1282.0
	220.000	1281.57	1281.75	3.37	1.66	6.02	229.32	580.00	200.00	461.41	1284.85	692.77	1281.9
	230.000	1281.59	1281.77	3.42	1.75	5.92	234.35	590.00	200.00	477.35	1282.00	702.65	1282.0
	240.000	1281.61	1281.81	3.53	1.92	5.76	223.07	630.00	200.00	500.00	1282.00	760.00	1282.0
*	245.000	1283.53	1284.10	13.34	181.97	3.53	760.79	.00	.01	417.00	1286.00	520.00	1282.0
*	250.000	1284.46	1284.58	3.00	22.39	3.46	975.93	.00	.01	427.00	1286.00	531.00	1282.0
	260.000	1284.78	1284.89	3.37	18.84	2.78	978.80	.00	.01	452.00	1285.00	556.00	1282.0

1

ARIZONA CANAL CROSSING

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	11.000	.00	.00	.00	1269.60	4300.00	1273.54	1273.54	1274.97	36.04	9.61	447.24	716.2
*	14.000	220.00	.00	.00	1269.70	4300.00	1275.04	.00	1275.24	2.69	3.63	1184.01	2621.5
*	17.000	220.00	.00	.00	1269.80	4300.00	1275.24	.00	1275.28	.53	1.71	2518.57	5886.7
*	40.000	220.00	.00	.00	1272.00	4300.00	1275.96	1275.96	1276.98	38.86	8.12	529.83	689.7
*	45.000	180.00	.00	.00	1272.00	4300.00	1276.84	.00	1278.44	84.50	10.14	424.24	467.7
	49.000	15.00	.00	.00	1272.40	4300.00	1276.91	.00	1278.78	77.19	10.99	391.10	489.4
*	50.000	1.00	.00	.00	1272.50	4300.00	1277.15	1277.15	1279.49	91.97	12.28	350.28	446.3
	51.000	35.00	1284.90	1279.50	1272.50	4300.00	1278.21	.00	1279.75	47.73	9.98	430.73	622.4
*	52.000	1.00	.00	.00	1272.50	4300.00	1279.12	.00	1279.84	6.60	6.79	633.74	1673.8
	53.000	30.00	.00	.00	1272.55	4300.00	1279.28	.00	1279.87	5.37	6.18	696.23	1854.9
	60.000	70.00	.00	.00	1272.66	4300.00	1279.30	.00	1279.91	5.62	6.27	686.15	1814.3
	80.000	70.00	.00	.00	1272.77	4300.00	1279.33	.00	1279.96	5.87	6.36	676.35	1775.0
	90.000	95.00	.00	.00	1272.92	4300.00	1279.37	.00	1280.02	6.20	6.47	664.29	1727.1
	92.000	12.00	.00	.00	1272.94	4300.00	1279.38	.00	1280.03	6.26	6.49	662.09	1718.4
	100.000	90.00	.00	.00	1273.09	4300.00	1279.42	.00	1280.10	6.63	6.62	649.79	1670.0
	120.000	200.00	.00	.00	1273.41	4300.00	1279.52	.00	1280.25	7.47	6.88	624.74	1572.7
	140.000	200.00	.00	.00	1273.73	4300.00	1279.75	.00	1280.41	7.08	6.84	738.30	1615.7
	160.000	440.00	.00	.00	1274.43	4300.00	1279.94	.00	1280.87	10.64	7.72	556.73	1318.0

	180.000	320.00	.00	.00	1274.94	4300.00	1280.25	.00	1281.26	12.12	8.06	533.67	1235.0
	200.000	300.00	.00	.00	1275.24	4300.00	1280.84	.00	1281.58	8.22	6.90	624.82	1499.5
*	210.000	220.00	.00	.00	1275.46	4300.00	1281.45	.00	1281.72	2.62	4.17	1036.33	2655.9
	220.000	90.00	.00	.00	1275.55	4300.00	1281.57	.00	1281.75	1.66	3.37	1280.44	3333.7
	230.000	120.00	.00	.00	1275.67	4300.00	1281.59	.00	1281.77	1.75	3.42	1263.74	3247.8
	240.000	180.00	.00	.00	1275.85	4300.00	1281.61	.00	1281.81	1.92	3.53	1219.80	3100.6

1

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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	245.000	60.00	.00	.00	1280.00	4300.00	1283.53	1283.53	1284.10	181.97	13.34	785.35	318.7
*	250.000	90.00	.00	.00	1281.00	4300.00	1284.46	.00	1284.58	22.39	3.00	1555.48	908.8
	260.000	150.00	.00	.00	1282.00	4300.00	1284.78	.00	1284.89	18.84	3.37	1609.33	990.6

1

11/ 8/89 18:39:48 PAGE 25

ARIZONA CANAL CROSSING

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	11.000	4300.00	1273.54	.00	.00	-.46	163.39	.00
*	14.000	4300.00	1275.04	.00	1.50	.00	268.35	220.00
*	17.000	4300.00	1275.24	.00	.20	.00	527.93	220.00
*	40.000	4300.00	1275.96	.00	.73	.00	267.45	220.00
*	45.000	4300.00	1276.84	.00	.88	.00	123.78	180.00
	49.000	4300.00	1276.91	.00	.06	.00	93.60	15.00
*	50.000	4300.00	1277.15	.00	.24	.00	75.75	1.00
	51.000	4300.00	1278.21	.00	1.06	.00	75.92	35.00
*	52.000	4300.00	1279.12	.00	.92	.00	106.48	1.00
	53.000	4300.00	1279.28	.00	.15	.00	116.92	30.00
	60.000	4300.00	1279.30	.00	.03	.00	116.57	70.00
	80.000	4300.00	1279.33	.00	.03	.00	116.24	70.00
	90.000	4300.00	1279.37	.00	.04	.00	115.82	95.00
	92.000	4300.00	1279.38	.00	.00	.00	115.74	12.00
	100.000	4300.00	1279.42	.00	.04	.00	115.32	90.00

	120.000	4300.00	1279.52	.00	.10	.00	114.45	200.00
	140.000	4300.00	1279.75	.00	.24	.00	167.54	200.00
	160.000	4300.00	1279.94	.00	.19	.00	112.04	440.00
	180.000	4300.00	1280.25	.00	.31	.00	111.22	320.00
	200.000	4300.00	1280.84	.00	.59	.00	127.46	300.00
*	210.000	4300.00	1281.45	.00	.61	.00	192.67	220.00
	220.000	4300.00	1281.57	.00	.12	.00	229.32	90.00
	230.000	4300.00	1281.59	.00	.02	.00	234.35	120.00
	240.000	4300.00	1281.61	.00	.03	.00	223.07	180.00

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	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	245.000	4300.00	1283.53	.00	1.91	.00	760.79	60.00
*	250.000	4300.00	1284.46	.00	.94	.00	975.93	90.00
	260.000	4300.00	1284.78	.00	.31	.00	978.80	150.00

1

SUMMARY OF ERRORS AND SPECIAL NOTES

```
CAUTION SECNO=     11.000  PROFILE=  1  CRITICAL DEPTH ASSUMED

WARNING SECNO=     14.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     17.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=     40.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     40.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=     40.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO=     45.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=     50.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     50.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=     52.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=    210.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=    245.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    245.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=    245.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO=    250.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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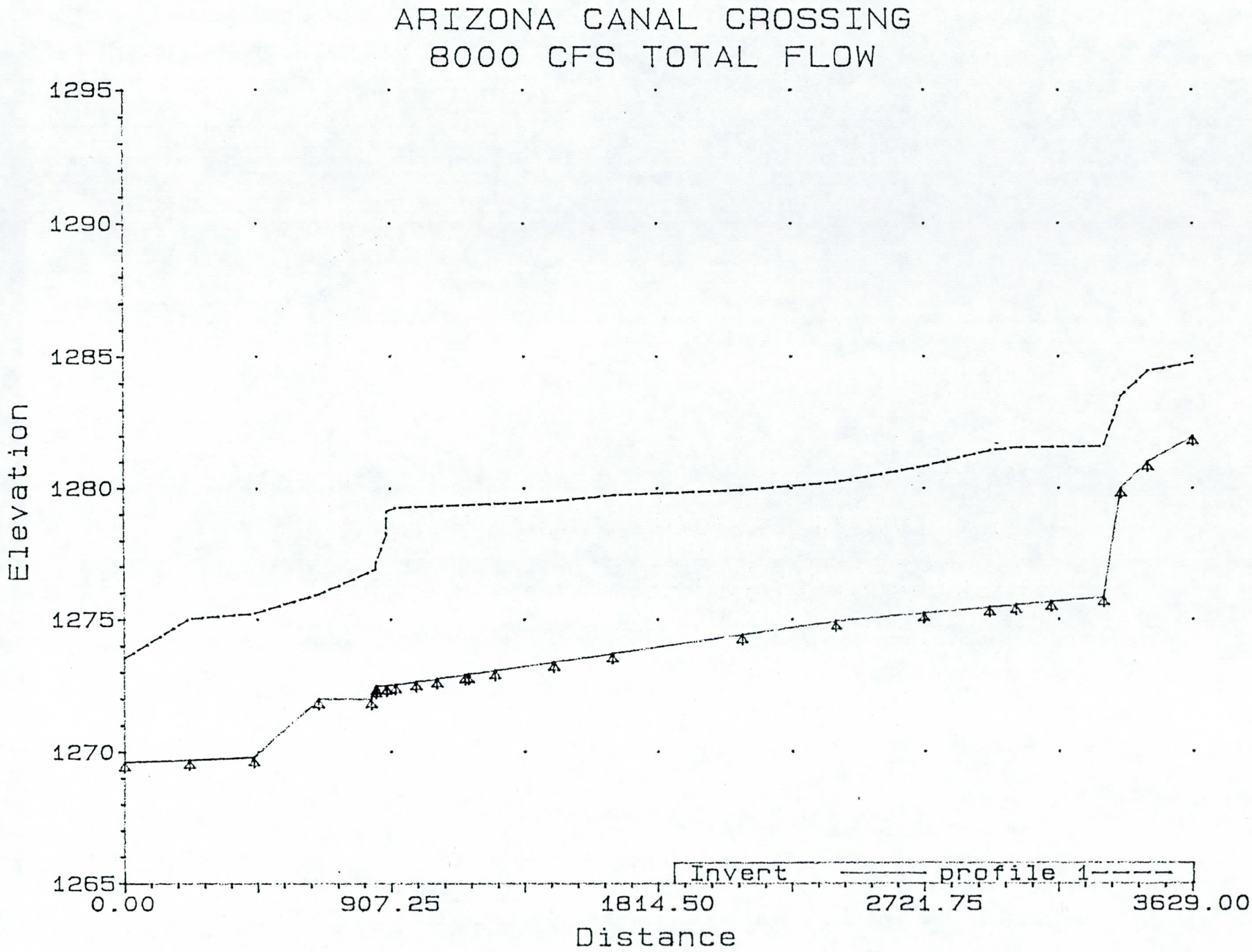
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8000 CFS TOTAL FLOW
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1290
1285
1280
1275
1270
1265
Elevation
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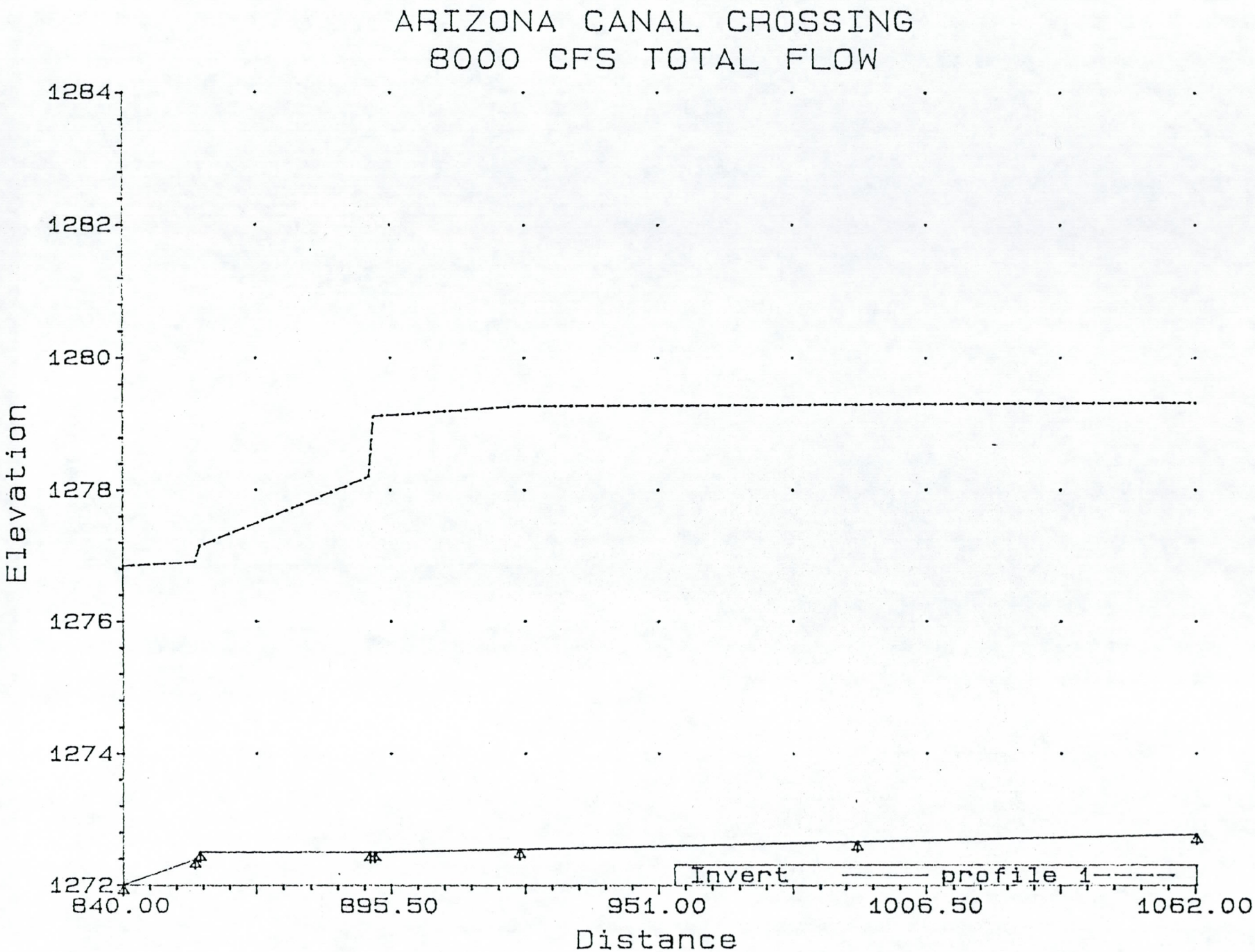
907.25
1814.50
2721.75
3629.00
Distance
Invert
profile 1


ARIZONA CANAL CROSSING
8000 CFS TOTAL FLOW
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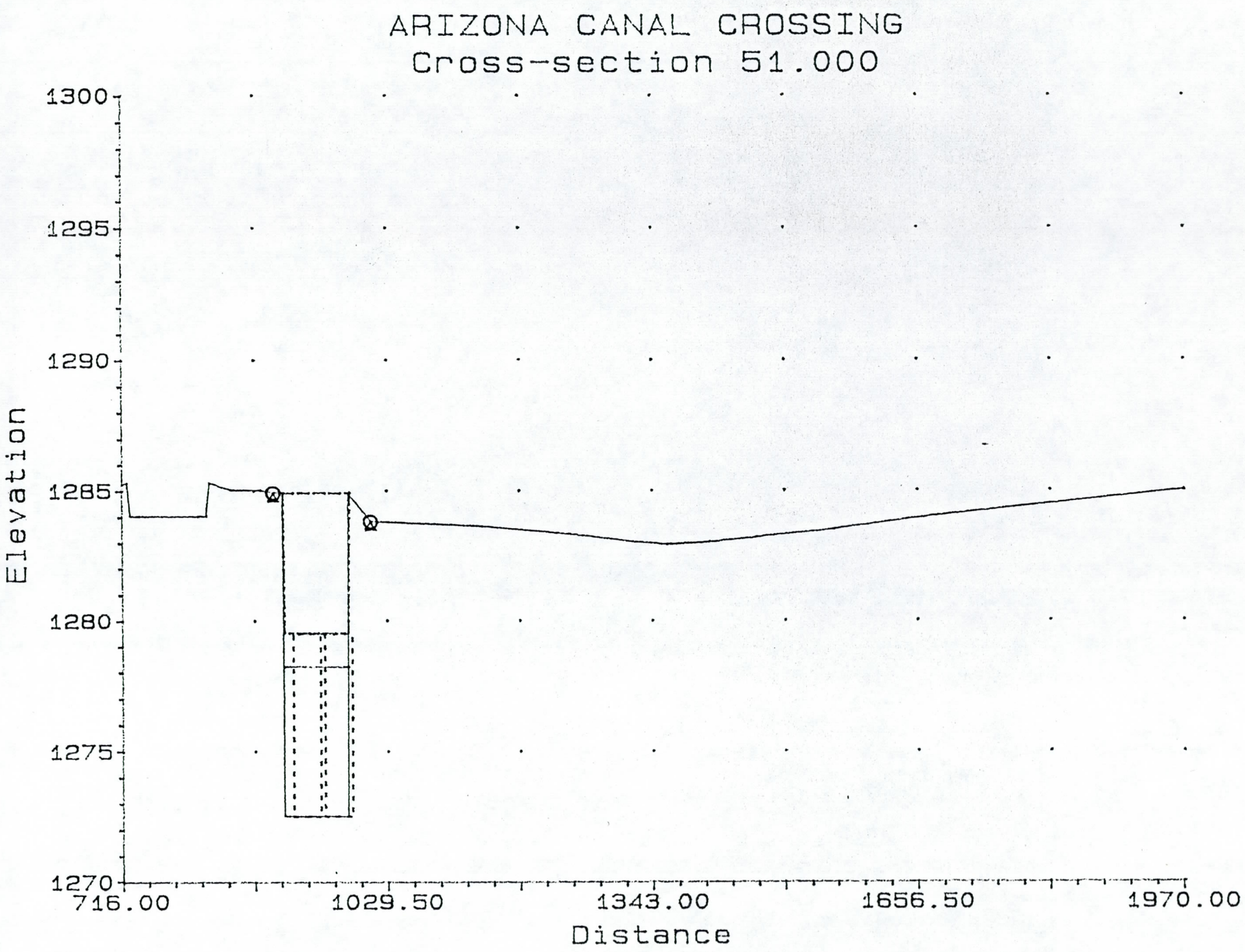
1282
1280
1278
1276
1274
1272
Elevation
840.00
895.50
951.00
1006.50
1062.00
Distance
Invert
profile 1


ARIZONA CANAL CROSSING
Cross-section 51.000
1300
1295
1290
1285
1280
1275
1270
Elevation
716.00
1029.50
1343.00
1656.50
1970.00
Distance

ALTERNATIVE 3B - PART 2

PROPOSED 9326 C.F.S. FLOW WITH
5626 C.F.S. FLOWING WITHIN THE
CONCRETE LINED DRAINAGE CHANNEL.

PROPOSED 9326 C.F.S. FLOW WITH
5626 C.F.S. FLOWING WITHIN THE
CONCRETE LINED DRAINAGE CHANNEL.

```
1*************************************************
 *  WATER SURFACE PROFILES                       *
 *  VERSION OF SEPTEMBER 1988                    *
 *                                               *
 *                                               *
 *  RUN DATE    11/ 8/89   TIME   18:49:55       *
 *************************************************
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*********************************
* U.S. ARMY CORPS OF ENGINEERS
* THE HYDROLOGIC ENGINEERING CENTER
* 609 SECOND STREET, SUITE D
* DAVIS, CALIFORNIA 95616
* (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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END OF BANNER

1

11/ 8/89 18:49:55 PAGE 1

THIS RUN EXECUTED 11/ 8/89 18:49:55

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*********************************************
  HEC2 RELEASE DATED SEPT 88

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T1 OUTER LOOP AND ARIZONA CANAL CROSSING
T2 PIMA ROAD BRIDGE AND CULVERT
T3 ARIZONA CANAL CROSSING

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	2			1			5626	1274	

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	-1		-1					6		15

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

150 120

```
NC     .030      .030      .018       .1        .3
X1       11        41       620     1067
GR   1284.1       620      1280      636   1284.00       646   1283.00       711      1280       722
GR   1280.7       733      1280      744      1279       754      1278       759      1277       764
GR     1276       776      1276      785      1277       793      1277       802      1276       820
GR     1275       830      1274      842      1273       846      1272       854      1271       863
GR   1269.6       872      1270      926      1271       931      1272       936      1271       941
GR     1274       945      1274      971      1273       975      1272       978      1271       981
GR     1270       986      1271     1020      1273      1033      1274      1038      1275      1041
GR     1278      1054      1280     1063      1281      1067      1283      1076      1285      1084
GR     1290      1104

X1       14        31       663     1114       220       220       220
GR   1284.6       663      1280      677   1284.00       687   1283.00       752      1280       762
GR   1280.8       774      1280      785      1279       794      1278       808      1277       814
GR     1276       819      1275      824      1274       827      1273       830      1272       832
GR     1271       845      1272      882      1270       901      1270       946      1270       994
GR   1269.7      1011   1269.70     1041      1270      1052      1270      1065      1272      1080
GR     1274      1088      1275     1092      1278      1103      1282      1114      1285      1124
GR     1290      1147

X1       17        35       701     1482       220       220       220
GR     1285       701      1280      717   1285.00       727   1284.00       792      1280       801
GR   1280.9       815      1280      828      1279       833      1278       836      1277       840
GR     1276       843      1274      854      1273       858      1272       862      1271       883
GR     1272       903      1271      911      1270       932      1270       942      1270       975
GR   1269.8      1003   1269.80     1010      1270      1082      1270      1144      1270      1185
GR     1270      1218      1270     1247      1270      1268      1270      1327      1271      1341
GR     1273      1355      1276     1382      1279      1410      1281      1482      1285      1530
1
   11/ 8/89     18:49:55                                                                    PAGE    2


          USCE WEIR CREST U/S END
X1       40        34       746     1658       220       220       220
GR     1284       720      1284      746      1280       750   1284.00       760   1284.00       820
GR     1281       830      1281      840      1281       863      1283       868      1284       871
GR     1284       895      1282      900      1280       905      1278       910      1278       920
GR     1280       925      1282      935      1284       945      1283       969      1282      1055
GR     1284      1062      1286     1070      1288      1075      1290      1084      1287      1127
GR     1284      1134      1280     1174      1277      1238      1278      1260      1280      1310
GR     1276      1360      1272     1528      1276      1630      1280      1658

NC      .03      .035       .03       .5        .8
          USCE SPILLWAY U/S END
X1       45        18       866     1480       180       170       180
GR     1285       719      1284      723      1284       729   1285.00       737   1284.00       807
GR     1284       815      1284      819      1284       866      1283       885      1283       895
GR   1272.3       897    1272.3      908      1272       910      1272       950      1281      1080
GR   1280.6      1210      1281     1480      1282      1945

X1       49        22       880     1010        15        15        15
X4        2    1272.4       900   1272.4       980
GR   1285.2       716    1285.3      722      1284       726   1284.00       734   1284.00       807
GR     1284       816    1285.3      820      1285       845      1285       880      1284       895
GR   1272.4       907    1272.4      917      1284      1010    1283.2      1140    1283.1      1246
GR   1283.0      1320    1282.9     1360      1283      1410    1283.2      1466    1283.5      1558
GR     1284      1673      1285     1970
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        PIMA ROAD CULVERT D/S FACE
X1      50        22        906       983       1         1         1
X3      10
X4      6       1284.9      906     1272.5      912     1272.5      917     1272.5      919     1272.5
X4      982     1284.9      983
GR    1285.2      716     1285.3      722      1284      726     1284.00      734     1284.00      807
GR     1284       816     1285.3      820      1285      845      1285        880      1284.9      895
GR    1272.5      907     1272.5      937     1283.8    1010     1283.6      1140     1283.3      1246
GR    1283.0     1320     1282.9     1360      1283     1410     1283.2      1466     1283.5      1558
GR     1284      1673      1285      1970

SB     1.25      1.88       2.5                 70        5        455                1272.5
        PIMA ROAD CULVERT U/S FACE
X1      51                                     35        35        35
X2                          1      1279.5     1284.9
X3      10
BT      4        906     1284.9    1284.9      907     1284.9    1279.5      983     1284.9     1279.5
BT     985     1284.9    1284.9

NC     .03       .018      .03       .1        .3
X1      52        22       882       995        1         1         1
CI     938     1272.5      .018       2         2        80
X4      2      1272.5      945     1284.7      995
GR    1285.2      716     1285.3      722      1284      726     1284.00      734     1284.00      807
GR     1284       816     1285.3      820      1285      845      1285        870      1284        892
GR    1272.5      907     1272.5      984      1284     1010     1283.2      1140     1283.1      1246
GR    1283.0     1320     1282.9     1360      1283     1410     1283.2      1466     1283.5      1558
1
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GR     1284      1673      1285      1970

X1      53        30       840       964        30        30        30
CI     900      .0016                2         2        90
GR     1280      646      1282      667      1284      696     1285.4      700      1284        705
GR     1284      707     1283.82    712     1283.82    779      1284       786      1284        796
GR     1283      805      1282      810      1282      840      1280       925      1281        942
GR     1280      964     1282.2    1030     1281.8    1165     1281.9      1257     1282       1300
GR     1282     1400     1282.1    1445      1283     1540      1283       1600     1283.5      1660
GR     1284     1785      1283     1860      1283     1920      1284       2050      1285       2150

NC     .04       .045     .018       .1        .3
X1      60        38       830       910        70       100        70
CI     870      .0016
X4      3      1280       830      1281      910      1281     1100
GR     1285      657      1285      681      1284      687     1283.85      694     1283.85      763
GR     1284      770      1285      777      1285      778      1284       787      1284        801
GR     1285      804      1285      808      1284      810      1283       812      1282        818
GR     1281      821      1281      853      1281      905      1281      1139      1282       1351
GR     1282     1367      1281     1368      1280     1370      1280      1372      1281       1374
GR     1282     1377      1283     1619      1283     1657      1283      1663      1284       1851
GR     1284     1901      1284     1963      1285     1971      1286      1980      1286       2007
GR     1286     2105      1286     2133      1286     2152

X1      80        34       790       870        70       140        70
CI     840      .0016
X4      2      1282       790      1281      870
GR     1283      577      1282      582      1281      585      1280       590      1280        604
GR     1281      606      1282      608      1283      611      1284       615      1285        632
GR     1285      644      1284      649     1283.9     656     1283.9      729      1284        736
GR     1285      741      1285      743      1284      753      1283       766      1283        768
GR     1283      775     1282.1     795      1281      819      1281       832      1281        840
GR     1281      935      1282     1255      1282     1265      1282      1278      1282       1287
GR     1283     1370      1284     1518      1285     1940      1286      2106
```

DEBRIS BRIDGE SPECIAL D/S FACE

X1	90	28	740	820	95	95	95			
CI	790	.0016								
X4	3	1285.2	580	1282	1260	1282.4	1280			
GR	1284	561	1285	572	1285	594	1284.4	596	1284	602
GR	1284	603	1283.93	609	1283.93	680	1284	687	1284.4	692
GR	1284	700	1283	710	1282	740	1281	761	1281	787
GR	1281	802	1281	820	1281	930	1281	940	1282	1221
GR	1282	1253	1282	1264	1283	1360	1283	1426	1283	1432
GR	1284	1496	1285	1877	1286	2094				

DEBRIS BRIDGE SPECIAL U/S FACE

X1	92	28	740	820	12	12	12			
CI	790	.0016								
X4	3	1285.2	580	1282	1260	1282.4	1280			
GR	1284	561	1285	572	1285	594	1284.4	596	1284	602
GR	1284	603	1283.94	609	1283.94	680	1284	687	1284.4	692
GR	1284	700	1283	710	1282	740	1281	761	1281	787
GR	1281	802	1281	820	1281	930	1281	940	1282	1221

1

GR	1282	1253	1282	1264	1283	1360	1283	1426	1283	1432
GR	1284	1496	1285	1877	1286	2094				
X1	100	20	690	770	90	130	90			
CI	730	.0016								
X4	2	1285.6	540	1282	690					
GR	1283	506	1284	513	1285	523	1285	547	1284	552
GR	1284	553	1283.0	560	1283.0	631	1284	638	1284	654
GR	1283	665	1282	678	1281	726	1281	770	1281	820
GR	1282	1180	1283	1452	1284	1795	1285	1970	1286	2115
X1	120	22	590	670	200	220	200			
CI	730	.0016								
X4	2	1285.6	450	1282	820					
GR	1283	398	1284	400	1285	402	1285	449	1284	454
GR	1284	455	1283.08	461	1283.08	532	1284	539	1284	556
GR	1283	565	1283	570	1283	572	1282	574	1281	590
GR	1281	670	1282	964	1283	1370	1284	1695	1285	1975
GR	1286	2186	1286.9	2300						
X1	140	26	480	580	200	210	200			
CI	530	.0016								
X4	3	1286.5	335	1282	485	1281	660			
GR	1279	290	1280	299	1281	301	1283	310	1285	313
GR	1286	317	1286	354	1285	359	1285	364	1275.19	371
GR	1284	400	1274.19	443	1284	450	1285	455	1285	456
GR	1284	472	1284	479	1282	480	1281	531	1281	580
GR	1282	880	1283	1310	1284	1635	1285	1990	1286	2126
GR	1286.4	2160								
X1	160	28	420	520	460	340	440			
CI	470	.0016								
X4	4	1285.9	260	1282	400	1282	760	1286.2	2100	
GR	1281	227	1282	229	1283	231	1284	232	1285	242
GR	1285	277	1284	282	1284.40	289	1284.40	361	1284	368
GR	1283	370	1284	375	1284	378	1283	384	1282	396
GR	1281	420	1281	431	1281	457	1281	520	1281	601
GR	1281	629	1281	643	1282	912	1283	1210	1284	1455
GR	1285	1793	1286	2061	1286.7	2230				

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X1      180        28       420       520       320       310       320
CI      470     .0016
X4        4    1285.9       250      1281       380      1282       960    1285.4      1880
GR     1283       218      1284       220      1285       225      1285       267      1284       272
GR     1284       276    1284.56      279    1284.56      350      1284       357      1284       361
GR     1283       368      1282       378      1281       382      1281       398      1281       420
GR     1281       460      1281       520      1281       618      1282       957      1283      1144
GR     1284      1440      1285      1725      1285      1750      1285      1775      1285      1790
GR     1285      1800      1286      1966    1286.9      2160
1
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X1      200        28       430       550       300       300       300
CI      490     .0010                                    100
X4        3    1286.5       285      1281       420      1282       860
GR     1280       241      1283       259      1284       261      1285       263      1286       277
GR     1286       304      1285       305      1284       310    1284.70      317    -1284.70     386
GR     1284       393      1283       396      1283       407      1282       413      1281       421
GR     1281       429      1281       430      1281       550      1281       606      1281       611
GR     1282       916      1283      1107      1284      1437      1285      1686      1285      1690
GR   1285.4      1750      1286      1946    1286.7      2160

X1      210        21       480       640       220       240       220
CI      560     .0010                                    160
X4        1    1286.6       330
GR     1280       282      1283       300      1285       306      1286       314      1286       346
GR     1284       352    1284.8       358    1284.8       430      1284       436      1283       438
GR     1283       446      1282       458    1281.5       480      1282       640      1283      1055
GR     1284      1375      1285      1600      1286      1830    1286.4      1880      1287      1960
GR     1288      2135

        OLH CROSSING D/S FACE
X1      220        23       480       680        90        90        90
CI      580     .0010                                    200
X4        3    1286.5       350    1281.9       700    1285.2      1710
GR     1280       315      1283       325      1285       330      1286       345      1286       365
GR     1285       382      1284       386    1284.85      392    1284.85      465      1284       471
GR     1282       480      1282       503    1281.2       530      1282       575      1282       680
GR     1282       750      1283      1010      1284      1415      1285      1620    1285.5      1695
GR     1286      1810      1287      1900      1288      2165

        OLH CROSSING U/S FACE
X1      230        22       480       700       120       120       120
CI      590     .0010                                    200
X4        1    1286.5       370
GR     1280       320      1283       340      1285       346      1286       355      1286       382
GR     1285       385      1284       388    1284.9       394    1284.9       466      1284       472
GR     1282       475      1282       480    1282.1       485      1282       565      1282       700
GR     1282       840      1283      1045      1284      1390      1285      1570    1285.2      1585
GR     1286      1800      1287      1920

        U/S END OF THE DRAINAGE CHANNEL
X1      240        19       500       760       180       180       180
CI      630     .0010                                    200
X4        4    1286.6       395      1282       520      1282       840    1284.7      1540
GR     1284       363      1285       365      1286       373      1286       403      1285       405
GR     1284       410    1284.00      417    1284.00      484      1284       491      1282       495
GR     1282       500      1281       521      1281       528      1282       760      1283      1031
GR     1284      1325      1285      1495      1286      1790      1287      1950
1
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X1      245        27       417       520        60        60        60
CI                                                           .01
X4        1    1286.6       405
GR     1280       356      1283       375      1285       380      1286       391      1286       417
GR     1285       420      1284       425   1284.03       431   1284.03       500      1284       506
GR     1282       510      1282       520      1281       530      1281       550      1282       595
GR   1282.5       895      1283      1000      1283      1120      1283      1145      1284      1340
GR     1285      1500    1285.2      1544      1286      1720    1286.3      1820      1287      1930
GR   1287.2      2040    1287.7      2150

NH        4      .018       531      .030       550      .060       800      .030      1957
X1      250        23       427       531        90        90        90
X4        4    1286.3       415      1281       550      1282       800      1285      1486
GR     1284       388      1285       390      1286       408      1286       427      1285       431
GR     1284       435   1284.08       442   1284.08       509      1284       516      1282       519
GR     1282       531      1281       543      1281       559      1282       654      1283       945
GR     1283      1041      1283      1091      1284      1340      1285      1503      1286      1625
GR     1286      1646      1286      1782      1287      1957

NH        5      .018       556      .030       570      .060       847      .030      1630      .060
NH     1948
X1      260        19       452       556       150       150       150
X4        4    1286.4       425      1282       570      1282       880    1285.3      1630
GR     1282       402      1285       413      1286       418      1286       450      1285       452
GR     1284       457   1284.15       463   1284.15       535      1284       541      1282       543
GR     1282       556      1282       572      1282       594      1282       847      1283      1010
GR     1284      1172      1285      1493      1286      1724      1287      1948
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SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       GLOSS    BANK ELEV
Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*PROF 1

CCHV=     .100 CEHV=     .300
*SECNO 11.000
3720 CRITICAL DEPTH ASSUMED
    11.00     4.67  1274.27  1274.27  1274.00  1275.74     1.48      .00      .00  1284.10
    5626.       0.    5626.       0.       0.     577.       0.       0.       0.  1281.00
      .00      .00     9.75      .00     .000     .018     .000     .000  1269.60   838.81
  .003457       0.       0.       0.        0        8        0      .00   199.99  1038.80
0
FLOW DISTRIBUTION FOR SECNO=     11.00          CWSEL=   1274.27

STA=     839.    1067.
  PER Q=    100.0
   AREA=    576.8
    VEL=      9.8
  DEPTH=      2.9
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*SECNO 14.000

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

    14.00     6.06  1275.76      .00      .00  1276.02      .26      .15      .12  1284.60
    5626.       0.    5626.       0.       0.    1380.       0.       5.       1.  1282.00
      .01      .00     4.08      .00     .000     .018     .000     .000  1269.70   820.18
  .000285     220.     220.     220.        2        0        0      .00   274.61  1094.80
0
 FLOW DISTRIBUTION FOR SECNO=     14.00          CWSEL=   1275.76

 STA=     820.    1114.
   PER Q=    100.0
    AREA=   1380.2
     VEL=      4.1
   DEPTH=      5.0

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


 *SECNO 17.000

 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

    17.00     6.20  1276.00      .00      .00  1276.06      .06      .02      .02  1285.00
    5626.       0.    5626.       0.       0.    2928.       0.      16.       3.  1281.00
      .05      .00     1.92      .00     .000     .018     .000     .000  1269.80   842.99
  .000057     220.     220.     220.        2        0        0      .00   539.04  1382.03
0
 FLOW DISTRIBUTION FOR SECNO=     17.00          CWSEL=   1276.00

 STA=     843.    1482.
   PER Q=    100.0
    AREA=   2927.8
     VEL=      1.9
   DEPTH=      5.4

 *SECNO 40.000

 3301 HV CHANGED MORE THAN HVINS

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
         USCE WEIR CREST U/S END
    40.00     4.37  1276.37  1276.37      .00  1277.57     1.20      .04      .34  1284.00
    5626.       0.    5626.       0.       0.     640.       0.      25.       5.  1280.00
      .05      .00     8.78      .00     .000     .018     .000     .000  1272.00  1355.41
  .003709     220.     220.     220.       20       19        0      .00   277.16  1632.57
0
 FLOW DISTRIBUTION FOR SECNO=     40.00          CWSEL=   1276.37

 STA=    1355.    1658.
   PER Q=    100.0
    AREA=    640.5
     VEL=      8.8
   DEPTH=      2.3
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


CCHV=     .500 CEHV=     .800
*SECNO 45.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
        USCE SPILLWAY U/S END
    45.00     5.47  1277.47  1277.47      .00  1279.40     1.93      .99      .59  1284.00
    5626.       0.    5626.       0.       0.     505.       0.      27.       6.  1281.00
      .06      .00    11.15      .00     .000     .030     .000     .000  1272.00   896.03
  .008940     180.     180.     170.        2       11        0      .00   132.96  1028.99
0
 FLOW DISTRIBUTION FOR SECNO=     45.00          CWSEL=   1277.47

 STA=     896.    1480.
   PER Q=    100.0
    AREA=    504.7
     VEL=     11.1
   DEPTH=      3.8

 *SECNO 49.000
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
    49.00     5.18  1277.58  1277.58      .00  1279.96     2.38      .13      .36  1285.00
    5626.       0.    5626.       0.       0.     455.       0.      27.       6.  1284.00
      .06      .00    12.37      .00     .000     .030     .000     .000  1272.40   897.77
  .008274      15.      15.      15.        2        8        0      .00    95.63   993.40
0
 FLOW DISTRIBUTION FOR SECNO=     49.00          CWSEL=   1277.58

 STA=     898.    1010.
   PER Q=    100.0
    AREA=    454.8
     VEL=     12.4
   DEPTH=      4.8

 *SECNO 50.000
 7185 MINIMUM SPECIFIC ENERGY
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 3720 CRITICAL DEPTH ASSUMED

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE. ELLEA=     1284.90 ELREA=     1284.90

         PIMA ROAD CULVERT D/S FACE
    50.00     5.56  1278.06  1278.06      .00  1280.85     2.79      .01      .33  1284.90
    5626.       0.    5626.       0.       0.     420.       0.      27.       6.  1284.90
      .06      .00    13.41      .00     .000     .030     .000     .000  1272.50   906.55
  .008877       1.       1.       1.        2        8        0      .00    75.90   982.45
0
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FLOW DISTRIBUTION FOR SECNO=     50.00          CWSEL=   1278.06

STA=     907.     983.
  PER Q=    100.0
   AREA=    419.6
    VEL=     13.4
  DEPTH=      5.5


SPECIAL BRIDGE                    '

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.25      1.88      2.50       .00    70.00      5.00    455.00       .00   1272.50       .00

*SECNO 51.000

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

PRESSURE FLOW


 EGPRS      EGLWC      H3       QWEIR      QPR       BAREA   TRAPEZOID      ELLC     ELTRD     WEIRLN
                                                             AREA
   1282.52   1280.88      .34        0.     5626.      455.      455.     1279.50   1284.90        0.


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE. ELLEA=     1284.90 ELREA=     1284.90

        PIMA ROAD CULVERT U/S FACE
1
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


    51.00     8.96  1281.46      .00      .00  1282.52     1.07     1.67      .00  1284.90
    5626.       0.    5626.       0.       0.     678.       0.      28.       6.  1284.90
      .06      .00     8.30      .00     .000     .030     .000     .000  1272.50   906.28
  .001982      35.      35.      35.        3        0        0      .00    76.44   982.72
0
FLOW DISTRIBUTION FOR SECNO=     51.00          CWSEL=   1281.46

STA=     906.     983.
  PER Q=    100.0
   AREA=    678.2
    VEL=      8.3
  DEPTH=      8.9

CCHV=     .100 CEHV=     .300
*SECNO 52.000
CHIMP CLSTA=     938.00 CELCH=    1272.50 BW=      80.00 STCHL=     873.60 STCHR=    1001.77
EXCAVATION DATA
AEX=     118.2SQ-FT     VEXR=        .0K*CU-YD     VEXT=        .0K*CU-YD


3301 HV CHANGED MORE THAN HVINS
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3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

52.00	9.55	1282.05	.00	.00	1282.58	.53	.00	.05	1284.70
5626.	0.	5626.	0.	0.	963.	0.	28.	6.	1284.39
.06	.00	5.84	.00	.000	.018	.000	.000	1272.50	878.89
.000325	1.	1.	1.	2	0	0	.00	118.22	997.11

0

FLOW DISTRIBUTION FOR SECNO= 52.00 CWSEL= 1282.05

STA=	879.	1002.
PER Q=	100.0	
AREA=	963.3	
VEL=	5.8	
DEPTH=	8.1	

1

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

*SECNO 53.000

CHIMP CLSTA= 900.00 CELCH= 1272.55 BW= 90.00 STCHL= 836.10 STCHR= 964.00

EXCAVATION DATA

AEX= 889.75Q-FT VEXR= .6K*CU-YD VEXT= .6K*CU-YD

3265 DIVIDED FLOW

3280 CROSS SECTION 53.00 EXTENDED 2.20 FEET

53.00	9.65	1282.20	.00	.00	1282.60	.40	.01	.01	1282.00
5626.	22.	5456.	148.	31.	1059.	169.	29.	7.	1280.00
.06	.71	5.15	.88	.030	.018	.018	.000	1272.55	646.00
.000243	30.	30.	30.	2	0	0	.00	670.03	1455.46

0

FLOW DISTRIBUTION FOR SECNO= 53.00 CWSEL= 1282.20

STA=	646.	667.	836.	964.	1030.	1165.	1257.	1300.	1400.	1445.	1455.
PER Q=	.4	.0	97.0	1.8	.2	.4	.1	.2	.0	.0	
AREA=	25.2	5.6	1058.7	72.5	26.9	32.1	10.7	19.9	6.7	.5	
VEL=	.8	.3	5.2	1.4	.4	.6	.5	.4	.4	.2	
DEPTH=	1.2	.0	8.3	1.1	.2	.3	.2	.2	.1	.0	

CCHV= .100 CEHV= .300

*SECNO 60.000

CHIMP CLSTA= 870.00 CELCH= 1272.66 BW= 90.00 STCHL= 801.79 STCHR= 931.68

EXCAVATION DATA

AEX= 909.65Q-FT VEXR= 2.3K*CU-YD VEXT= 2.9K*CU-YD

60.00	9.56	1282.22	.00	.00	1282.62	.40	.02	.00	1284.26
5626.	0.	5401.	225.	0.	1042.	430.	31.	8.	1281.00
.07	.00	5.18	.52	.000	.018	.045	.000	1272.66	805.87
.000246	70.	70.	100.	0	0	0	.00	625.01	1430.88

0

FLOW DISTRIBUTION FOR SECNO= 60.00 CWSEL= 1282.22

STA=	806.	932.	1100.	1139.	1351.	1367.	1370.	1372.	1374.	1377.	1431.
PER Q=	96.0	2.2	.5	1.1	.0	.0	.1	.0	.0	.0	
AREA=	1042.0	205.8	47.7	153.2	3.6	4.2	4.4	3.4	2.2	6.0	
VEL=	5.2	.6	.6	.4	.2	.6	.9	.7	.4	.1	
DEPTH=	8.3	1.2	1.2	.7	.2	1.4	2.2	1.7	.7	.1	

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


*SECNO 80.000
CHIMP CLSTA=     840.00 CELCH=    1272.77 BW=      90.00 STCHL=     774.54 STCHR=     901.46
EXCAVATION DATA
AEX=     913.8SQ-FT     VEXR=       2.4K*CU-YD     VEXT=        5.3K*CU-YD


3265 DIVIDED FLOW

    80.00     9.45  1282.22      .00      .00  1282.64      .43      .02      .01  1283.00
    5626.      43.    5458.     125.      47.    1027.     280.      34.      10.  1281.00
      .07      .93     5.31      .45     .040     .018     .045     .000  1272.77   580.91
  .000262      70.      70.     140.        2        0        0      .00   556.74  1305.11
0
FLOW DISTRIBUTION FOR SECNO=     80.00          CWSEL=   1282.22

STA=     581.     609.     901.    1305.
  PER Q=       .8     97.0      2.2
   AREA=     46.9   1027.1    279.6
    VEL=       .9      5.3       .4
  DEPTH=      1.7      8.2       .7

*SECND 90.000
CHIMP CLSTA=     790.00 CELCH=    1272.92 BW=      90.00 STCHL=     725.91 STCHR=     851.15
EXCAVATION DATA
AEX=     883.0SQ-FT     VEXR=       3.2K*CU-YD     VEXT=        8.4K*CU-YD

         DEBRIS BRIDGE SPECIAL D/S FACE
    90.00     9.31  1282.23      .00      .00  1282.67      .44      .03      .00  1282.47
    5626.       0.    5460.     166.       0.    1011.     331.      37.      11.  1281.00
      .07      .00     5.40      .50     .000     .01B     .045     .000  1272.92   726.36
  .000275      95.      95.      95.        0        0        0      .00   547.32  1273.69
0
FLOW DISTRIBUTION FOR SECNO=     90.00          CWSEL=   1282.23

STA=     726.     851.     930.     940.    1221.    1253.    1264.    1274.
  PER Q=     97.1      1.1       .1      1.7       .0       .0       .0
   AREA=   1010.7     97.9     12.4    208.6      7.B      2.7      1.2
    VEL=      5.4       .6       .6       .4       .2       .2       .1
  DEPTH=      8.1      1.2      1.2       .7       .2       .2       .1
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
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*SECNO 92.000
CHIMP CLSTA=     790.00 CELCH=    1272.94 BW=      90.00 STCHL=     725.95 STCHR=     851.11
EXCAVATION DATA
AEX=     880.6SQ-FT     VEXR=        .4K*CU-YD     VEXT=        8.8K*CU-YD

        DEBRIS BRIDGE SPECIAL U/S FACE
   92.00     9.29  1282.23      .00      .00  1282.68      .44      .00      .00  1282.47
   5626.       0.    5461.     165.       0.    1008.     328.      37.      11.  1281.00
     .07      .00     5.42      .50     .000     .018     .045     .000  1272.94   726.41
  .000278     12.      12.      12.        0        0        0      .00   547.04  1273.46
0
 FLOW DISTRIBUTION FOR SECNO=     92.00          CWSEL=   1282.23

 STA=     726.     851.     930.     940.    1221.    1253.    1273.
   PER Q=     97.1      1.1       .1      1.7       .0       .0
    AREA=   1007.6     97.5     12.4    206.9      7.6      3.7
     VEL=      5.4       .6       .6       .4       .2       .2
   DEPTH=      8.1      1.2      1.2       .7       .2       .2

 *SECNO 100.000
 CHIMP CLSTA=     730.00 CELCH=    1273.09 BW=      90.00 STCHL=     665.21 STCHR=     790.83
 EXCAVATION DATA
 AEX=     882.5SQ-FT     VEXR=       2.9K*CU-YD     VEXT=       11.7K*CU-YD

   100.00     9.16  1282.25      .00      .00  1282.71      .46      .03      .01  1282.98
   5626.       0.    5473.     153.       0.     992.     318.      40.      13.  1281.00
     .08      .00     5.52      .48     .000     .018     .045     .000  1273.09   666.66
  .000292     90.      90.     130.        1        0        0      .00   583.03  1249.69
0
 FLOW DISTRIBUTION FOR SECNO=    100.00          CWSEL=   1282.25

 STA=     667.     791.     820.    1180.    1250.
   PER Q=     97.3       .4      2.3       .0
    AREA=    991.8     36.6    272.2      8.9
     VEL=      5.5       .7       .5       .1
   DEPTH=      8.0      1.3       .8       .1

 *SECNO 120.000
 CHIMP CLSTA=     730.00 CELCH=    1273.41 BW=      90.00 STCHL=     590.00 STCHR=     791.81
1
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 EXCAVATION DATA
 AEX=     847.4SQ-FT     VEXR=       6.4K*CU-YD     VEXT=       18.2K*CU-YD

   120.00     8.96  1282.37      .00      .00  1282.78      .42      .07      .00  1281.00
   5626.      10.    5586.      30.      14.    1074.      93.      46.      15.  1281.81
     .09      .70     5.20      .32     .040     .018     .045     .000  1273.41   573.27
  .000438    200.     200.     220.        2        0        0      .00   539.61  1112.88
0
 FLOW DISTRIBUTION FOR SECNO=    120.00          CWSEL=   1282.37

 STA=     573.     590.     792.     820.     964.    1113.
   PER Q=       .2     99.3       .1       .3       .1
    AREA=     14.0   1073.8     13.0     52.8     27.3
     VEL=       .7      5.2       .4       .4       .2
   DEPTH=       .8      5.3       .5       .4       .2
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*SECNO 140.000
CHIMP CLSTA=     530.00 CELCH=    1273.73 BW=      90.00 STCHL=     463.38 STCHR=     589.55
EXCAVATION DATA
AEX=     827.05Q-FT     VEXR=       6.2K*CU-YD     VEXT=       24.4K*CU-YD


3265 DIVIDED FLOW

3280 CROSS SECTION    140.00 EXTENDED      3.47 FEET

   140.00     8.74  1282.47      .00      .00  1282.86      .39      .07      .00  1284.54
    5626.     445.    4981.     200.     316.     937.     362.      52.      18.  1281.00
      .10     1.41     5.32      .55     .040     .018     .045     .000  1273.73   290.00
  .000285     200.     200.     210.        2        0        0      .00   701.48  1080.09
0
 FLOW DISTRIBUTION FOR SECNO=    140.00          CWSEL=   1282.47

 STA=     290.     299.     301.     308.     371.     395.     443.     449.     590.     660.     880.    1080.
   PER Q=      .5       .1       .0       .3      2.2      4.2       .5     88.5      1.3      2.1       .2
    AREA=    26.7      3.9      4.8     18.9     87.1    150.1     24.4    937.0    103.2    212.4     46.6
     VEL=     1.0       .9       .5      1.0      1.4      1.6      1.1      5.3       .7       .5       .2
   DEPTH=     3.0      2.0       .7       .3      3.6      3.1      4.1      7.7      1.5      1.0       .2

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


*SECNO 160.000
CHIMP CLSTA=     470.00 CELCH=    1274.43 BW=      90.00 STCHL=     410.96 STCHR=     528.14
EXCAVATION DATA
AEX=     679.35Q-FT     VEXR=      12.3K*CU-YD     VEXT=       36.6K*CU-YD


3265 DIVIDED FLOW

3280 CROSS SECTION    160.00 EXTENDED      1.48 FEET

   160.00     8.05  1282.48      .00      .00  1283.07      .58      .15      .06  1281.45
    5626.       8.    5350.     268.      14.     851.     393.      66.      24.  1281.00
      .12      .55     6.29      .68     .040     .018     .045     .000  1274.43   227.00
  .000428     460.     440.     340.        2        0        0      .00   668.10  1055.36
0
 FLOW DISTRIBUTION FOR SECNO=    160.00          CWSEL=   1282.48

 STA=     227.     229.     400.     411.     528.     601.     629.     643.     760.     912.    1055.
   PER Q=      .0       .0       .1     95.1      1.7       .7       .3      1.4       .5       .2
    AREA=     2.0      3.5      8.3    850.8    107.9     41.5     20.7    114.8     73.1     34.5
     VEL=      .5       .4       .6      6.3       .9       .9       .9       .7       .4       .3
   DEPTH=     1.0       .0       .8      7.3      1.5      1.5      1.5      1.0       .5       .2
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*SECNO 180.000
CHIMP CLSTA=     470.00 CELCH=    1274.94 BW=      90.00 STCHL=     412.89 STCHR=     527.11
EXCAVATION DATA
AEX=     618.5SQ-FT     VEXR=       7.7K*CU-YD     VEXT=       44.3K*CU-YD

   180.00     7.70  1282.64      .00      .00  1283.21      .57      .14      .00  1281.00
    5626.      62.    5111.     453.      58.     806.     574.      76.      29.   1281.00
      .14     1.06     6.34      .79     .040     .018     .045     .000  1274.94   371.62
  .000451     320.     320.     310.        2        0        0      .00   705.83  1077.45
0
 FLOW DISTRIBUTION FOR SECNO=    180.00          CWSEL=   1282.64

 STA=     372.     378.     380.     382.     398.     413.     527.     618.     957.     960.    1077.
   PER Q=      .0       .0       .1       .5       .5     90.8      2.6      5.2       .0       .2
    AREA=     2.0      2.3      3.3     26.2     24.4    805.6    148.9    385.9      1.9     37.5
     VEL=      .4       .8      1.1      1.1      1.1      6.3      1.0       .8       .5       .3
   DEPTH=      .3      1.1      1.6      1.6      1.6      7.1      1.6      1.1       .6       .3

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


 *SECNO 200.000
 CHIMP CLSTA=     490.00 CELCH=    1275.24 BW=     100.00 STCHL=     428.49 STCHR=     551.51
 EXCAVATION DATA
 AEX=     642.0SQ-FT     VEXR=       7.0K*CU-YD     VEXT=       51.3K*CU-YD


 3265 DIVIDED FLOW

 3280 CROSS SECTION    200.00 EXTENDED      2.84 FEET

    200.00     7.59  1282.84      .00      .00  1283.34      .50      .13      .01  1281.00
     5626.      47.    5155.     424.      51.     868.     556.      86.      34.   1281.00
       .15      .91     5.94      .76     .040     .018     .045     .000  1275.24   241.00
   .000394     300.     300.     300.        2        0        0      .00   684.99  1075.94
0
 FLOW DISTRIBUTION FOR SECNO=    200.00          CWSEL=   1282.84

 STA=     241.     258.     413.     420.     421.     428.     552.     606.     611.     860.     916.    1076.
   PER Q=      .4       .0       .1       .0       .3     91.6      1.7       .2      4.7       .5       .4
    AREA=    24.2      2.1      9.4      1.8     13.8    868.0    100.1      9.2    333.0     46.9     67.0
     VEL=      .8       .4       .9      1.1      1.1      5.9      1.0      1.0       .8       .6       .4
   DEPTH=     1.4       .0      1.3      1.8      1.8      7.1      1.8      1.8      1.3       .8       .4

 *SECNO 210.000
 CHIMP CLSTA=     560.00 CELCH=    1275.46 BW=     160.00 STCHL=     467.35 STCHR=     653.14
 EXCAVATION DATA
 AEX=    1087.0SQ-FT     VEXR=       7.0K*CU-YD     VEXT=       58.4K*CU-YD


 3265 DIVIDED FLOW

 3280 CROSS SECTION    210.00 EXTENDED      3.17 FEET
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3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

   210.00     7.70  1283.17      .00      .00  1283.42      .25      .06      .02  1281.79
    5626.      29.     5510.      87.      51.    1348.     266.      94.      37.   1282.03
      .17      .56     4.09      .33     .040     .018     .045     .000  1275.46   282.00
  .000178     220.     220.     240.        2        0        0      .00   689.15  1108.32
0
1
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    ES       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=    210.00          CWSEL=   1283.17

STA=     282.     300.     458.     467.     653.    1055.    1108.
  PER Q=      .3       .1       .1     97.9      1.5       .0
   AREA=    30.0      9.3     11.9   1348.1    261.5      4.4
    VEL=      .6       .3       .6      4.1       .3       .1
  DEPTH=     1.7       .1      1.3      7.3       .7       .1

*SECNO 220.000
CHIMP CLSTA=     580.00 CELCH=    1275.55 BW=     200.00 STCHL=     461.41 STCHR=     692.77
EXCAVATION DATA
AEX=    1369.0SQ-FT     VEXR=       4.1K*CU-YD     VEXT=       62.5K*CU-YD


3265 DIVIDED FLOW

3280 CROSS SECTION    220.00 EXTENDED      3.27 FEET

         DLH CROSSING D/S FACE
   220.00     7.72  1283.27      .00      .00  1283.44      .17      .01      .01  1284.85
    5626.      8.     5523.      95.      18.    1662.     293.      98.      39.   1261.94
      .18      .47     3.32      .32     .040     .018     .045     .000  1275.55   315.00
  .000117     90.      90.      90.        2        0        0      .00   667.17  1121.04
0
FLOW DISTRIBUTION FOR SECNO=    220.00          CWSEL=   1283.27

STA=     315.     325.     693.     700.     750.    1010.    1121.
  PER Q=      .2     98.2       .1       .5      1.1       .0
   AREA=    17.7   1661.7      9.8     66.2    201.3     15.2
    VEL=      .5      3.3       .4       .4       .3       .1
  DEPTH=     1.8      7.3      1.4      1.3       .8       .1

*SECNO 230.000
CHIMP CLSTA=     590.00 CELCH=    1275.67 BW=     200.00 STCHL=     477.35 STCHR=     702.65
EXCAVATION DATA
AEX=    1349.7SQ-FT     VEXR=       6.0K*CU-YD     VEXT=       68.5K*CU-YD


3265 DIVIDED FLOW
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


3280 CROSS SECTION    230.00 EXTENDED      3.29 FEET

        OLH CROSSING U/S FACE
   230.00     7.61  1283.29      .00      .00  1283.46      .17      .01      .00  1282.00
    5626.      21.    5478.     127.      40.    1637.     354.     103.      41.  1282.00
      .19      .52     3.35      .36     .040     .018     .045     .000  1275.67   320.00
  .000119     120.     120.     120.        0        0        0      .00   693.51  1145.70
0
 FLOW DISTRIBUTION FOR SECNO=    230.00          CWSEL=   1283.29

 STA=     320.     340.     477.     703.     840.    1045.    1146.
   PER Q=      .3       .0     97.4      1.3       .9       .0
    AREA=    35.8      4.4   1636.5    177.4    162.3     14.7
     VEL=      .5       .4      3.3       .4       .3       .1
   DEPTH=     1.8       .0      7.3      1.3       .8       .1

 *SECNO 240.000
 CHIMP CLSTA=     630.00 CELCH=    1275.85 BW=     200.00 STCHL=     500.00 STCHR=     760.00
 EXCAVATION DATA
 AEX=    1182.1SQ-FT     VEXR=       8.4K*CU-YD     VEXT=       76.9K*CU-YD

        U/S END OF THE DRAINAGE CHANNEL
   240.00     7.46  1283.31      .00      .00  1283.48      .17      .02      .00  1282.00
    5626.       4.    5518.     104.       8.    1646.     273.     112.      43.  1282.00
      .20      .49     3.35      .38     .040     .018     .045     .000  1275.85   492.38
  .000143     180.     180.     180.        0        0        0      .00   629.45  1121.83
0
 FLOW DISTRIBUTION FOR SECNO=    240.00          CWSEL=   1283.31

 STA=     492.     500.     760.     840.    1031.    1122.
   PER Q=      .1     98.1       .9       .9       .0
    AREA=     8.3   1645.9    104.7    154.5     14.0
     VEL=      .5      3.4       .5       .3       .1
   DEPTH=     1.1      6.3      1.3       .8       .2

 *SECNO 245.000

 3265 DIVIDED FLOW
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


3280 CROSS SECTION    245.00 EXTENDED      3.71 FEET
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3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL.CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   245.00     3.71  1283.71  1283.71      .00  1284.40      .69      .03      .16  1286.00
    5626.     328.     297.     5001.     43.      20.     869.     114.      44.  1282.00
      .20     7.69    14.78     5.75     .040     .018     .045     .000  1280.00   356.00
  .019520      60.      60.      60.       20       12        0      .00   798.27  1284.06
0
 FLOW DISTRIBUTION FOR SECNO=    245.00          CWSEL=   1283.71

 STA=     356.     375.     377.     520.     530.     550.     595.     895.    1000.    1120.    1145.    1284.
   PER Q=     5.8       .0      5.3      3.1      8.7     13.9     46.4      8.1      5.6      1.2      2.0
    AREA=    42.0       .6     20.1     22.1     54.3     99.6    438.9    101.1     85.6     17.8     49.6
     VEL=     7.8      2.5     14.8      7.8      9.0      7.8      5.9      4.5      3.7      3.7      2.3
   DEPTH=     2.2       .4      1.5      2.2      2.7      2.2      1.5      1.0       .7       .7       .4

 1490 NH CARD USED
 *SECNO 250.000

 3265 DIVIDED FLOW

 3280 CROSS SECTION    250.00 EXTENDED       .76 FEET


 3301 HV CHANGED MORE THAN HVINS


 3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE

   250.00     3.76  1284.76      .00      .00  1284.90      .15      .45      .05  1286.00
    5626.       1.     360.     5266.       1.      95.     1753.     116.      46.  1282.00
      .21     1.48     3.77     3.00     .018     .018     .040     .000  1281.00   388.00
  .002220      90.      90.      90.        3        0        0      .00  1020.67  1451.10
0
1
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=    250.00          CWSEL=   1284.76

 STA=     388.     390.     531.     543.     559.     654.     800.     945.    1041.    1091.    1340.    1451.
   PER Q=      .0      6.4      3.6      4.3     14.1     16.5     23.4     10.2      5.3     15.2       .9
    AREA=      .6     95.3     39.1     60.2    309.8    403.1    327.8    169.1     88.0    314.0     42.3
     VEL=     1.5      3.8      5.1      4.1      2.6      2.3      4.0      3.4      3.4      2.7      1.2
   DEPTH=      .4      1.0      3.3      3.8      3.3      2.8      2.3      1.8      1.8      1.3       .4
```

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1490 NH CARD USED
*SECNO 260.000

3265 DIVIDED FLOW

3280 CROSS SECTION    260.00 EXTENDED      3.08 FEET

   260.00     3.08  1285.08      .00      .00  1285.22      .14      .31      .00  1285.00
    5626.      71.     516.    5039.      17.     126.    1773.     123.      50.  1282.00
      .23     4.09     4.10     2.84     .018     .018     .042     .000  1282.00   402.00
  .001939     150.     150.     150.        3        0        0      .00  1087.26  1527.72
0
FLOW DISTRIBUTION FOR SECNO=    260.00          CWSEL=   1285.08

STA=     402.     452.     556.     570.     594.     847.     880.    1010.    1172.    1493.    1528.
  PER Q=     1.3      9.2      3.5      3.0     31.9      8.3     24.4     13.4      5.0       .0
   AREA=    17.4    125.7     43.1     73.8    778.2    101.5    334.9    255.3    184.9      1.3
    VEL=     4.1      4.1      4.6      2.3      2.3      4.6      4.1      3.0      1.5       .2
  DEPTH=      .3      1.2      3.1      3.1      3.1      3.1      2.6      1.6       .6       .0

1
   11/ 8/89      18:49:55                                                                          PAGE   22


                                                                          THIS RUN EXECUTED 11/ 8/89    18:50:50

*************************************************
  HEC2 RELEASE DATED SEPT 88

*************************************************

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

ARIZONA CANAL CROSSING

SUMMARY PRINTOUT TABLE  120

      SECNO    CWSEL     EG      VCH    10*KS    DEPTH   TOPWID   CLSTA     BW    STCHL   XLBEL   STCHR   RBEL

*    11.000  1274.27  1275.74    9.75    34.57     4.67   199.99     .00     .01   620.00  1284.10  1067.00  1281.0

*    14.000  1275.76  1276.02    4.08     2.85     6.06   274.61     .00     .01   663.00  1284.60  1114.00  1282.0
```

*	17.000	1276.00	1276.06	1.92	.57	6.20	539.04	.00	.01	701.00	1285.00	1482.00	1281.(
*	40.000	1276.37	1277.57	8.78	37.09	4.37	277.16	.00	.01	746.00	1284.00	1658.00	1280.(
*	45.000	1277.47	1279.40	11.15	89.40	5.47	132.96	.00	.01	866.00	1284.00	1480.00	1281.(
*	49.000	1277.58	1279.96	12.37	82.74	5.18	95.63	.00	.01	880.00	1285.00	1010.00	1284.(
*	50.000	1278.06	1280.85	13.41	88.77	5.56	75.90	.00	.01	906.00	1284.90	983.00	1284.(
*	51.000	1281.46	1282.52	8.30	19.82	8.96	76.44	.00	.01	906.00	1284.90	983.00	1284.(
*	52.000	1282.05	1282.58	5.84	3.25	9.55	118.22	938.00	80.00	873.60	1284.70	1001.77	1284.(
	53.000	1282.20	1282.60	5.15	2.43	9.65	670.03	900.00	90.00	836.10	1282.00	964.00	1280.(
	60.000	1282.22	1282.62	5.18	2.46	9.56	625.01	870.00	90.00	801.79	1284.26	931.68	1281.(
	80.000	1282.22	1282.64	5.31	2.62	9.45	556.74	840.00	90.00	774.54	1283.00	901.46	1281.(
	90.000	1282.23	1282.67	5.40	2.75	9.31	547.32	790.00	90.00	725.91	1282.47	851.15	1281.(
	92.000	1282.23	1282.68	5.42	2.78	9.29	547.04	790.00	90.00	725.95	1282.47	851.11	1281.(
	100.000	1282.25	1282.71	5.52	2.92	9.16	583.03	730.00	90.00	665.21	1282.98	790.83	1281.(
	120.000	1282.37	1282.78	5.20	4.38	8.96	539.61	730.00	90.00	590.00	1281.00	791.81	1281.[
	140.000	1282.47	1282.86	5.32	2.85	8.74	701.48	530.00	90.00	463.38	1284.54	589.55	1281.(

1

	SECNO	CWSEL	EG	VCH	10*KS	DEPTH	TOPWID	CLSTA	BW	STCHL	XLBEL	STCHR	RBEL
	160.000	1282.48	1283.07	6.29	4.28	8.05	668.10	470.00	90.00	410.96	1281.45	528.14	1281.(
	180.000	1282.64	1283.21	6.34	4.51	7.70	705.83	470.00	90.00	412.89	1281.00	527.11	1281.(
	200.000	1282.84	1283.34	5.94	3.94	7.59	684.99	490.00	100.00	428.49	1281.00	551.51	1281.(
*	210.000	1283.17	1283.42	4.09	1.78	7.70	689.15	560.00	160.00	467.35	1281.79	653.14	1282.(
	220.000	1283.27	1283.44	3.32	1.17	7.72	667.17	580.00	200.00	461.41	1284.85	692.77	1281.(
	230.000	1283.29	1283.46	3.35	1.19	7.61	693.51	590.00	200.00	477.35	1282.00	702.65	1282.(
	240.000	1283.31	1283.48	3.35	1.43	7.46	629.45	630.00	200.00	500.00	1282.00	760.00	1282.(
*	245.000	1283.71	1284.40	14.78	195.20	3.71	798.27	.00	.01	417.00	1286.00	520.00	1282.(
*	250.000	1284.76	1284.90	3.77	22.20	3.76	1020.67	.00	.01	427.00	1286.00	531.00	1282.(
	260.000	1285.08	1285.22	4.10	19.39	3.08	1087.26	.00	.01	452.00	1285.00	556.00	1282.(

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ARIZONA CANAL CROSSING

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01
*	11.000	.00	.00	.00	1269.60	5626.00	1274.27	1274.27	1275.74	34.57	9.75	576.81	956.
*	14.000	220.00	.00	.00	1269.70	5626.00	1275.76	.00	1276.02	2.85	4.08	1380.23	3332.
*	17.000	220.00	.00	.00	1269.80	5626.00	1276.00	.00	1276.06	.57	1.92	2927.81	7460.
*	40.000	220.00	.00	.00	1272.00	5626.00	1276.37	1276.37	1277.57	37.09	8.78	640.46	923.
*	45.000	180.00	.00	.00	1272.00	5626.00	1277.47	1277.47	1279.40	89.40	11.15	504.70	595.
*	49.000	15.00	.00	.00	1272.40	5626.00	1277.58	1277.58	1279.96	82.74	12.37	454.84	618.
*	50.000	1.00	.00	.00	1272.50	5626.00	1278.06	1278.06	1280.85	88.77	13.41	419.57	597.
*	51.000	35.00	1284.90	1279.50	1272.50	5626.00	1281.46	.00	1282.52	19.82	8.30	678.19	1263.
*	52.000	1.00	.00	.00	1272.50	5626.00	1282.05	.00	1282.58	3.25	5.84	963.35	3122.
	53.000	30.00	.00	.00	1272.55	5626.00	1282.20	.00	1282.60	2.43	5.15	1258.82	3612.
	60.000	70.00	.00	.00	1272.66	5626.00	1282.22	.00	1282.62	2.46	5.18	1472.50	3588.
	80.000	70.00	.00	.00	1272.77	5626.00	1282.22	.00	1282.64	2.62	5.31	1353.60	3476.
	90.000	95.00	.00	.00	1272.92	5626.00	1282.23	.00	1282.67	2.75	5.40	1341.25	3393.
	92.000	12.00	.00	.00	1272.94	5626.00	1282.23	.00	1282.68	2.78	5.42	1335.72	3377.
	100.000	90.00	.00	.00	1273.09	5626.00	1282.25	.00	1282.71	2.92	5.52	1309.59	3292.
	120.000	200.00	.00	.00	1273.41	5626.00	1282.37	.00	1282.78	4.38	5.20	1180.89	2687.
	140.000	200.00	.00	.00	1273.73	5626.00	1282.47	.00	1282.86	2.85	5.32	1615.14	3332.
	160.000	440.00	.00	.00	1274.43	5626.00	1282.48	.00	1283.07	4.28	6.29	1257.14	2720.
	180.000	320.00	.00	.00	1274.94	5626.00	1282.64	.00	1283.21	4.51	6.34	1438.01	2648.
	200.000	300.00	.00	.00	1275.24	5626.00	1282.84	.00	1283.34	3.94	5.94	1475.40	2835.
*	210.000	220.00	.00	.00	1275.46	5626.00	1283.17	.00	1283.42	1.78	4.09	1665.32	4213.
	220.000	90.00	.00	.00	1275.55	5626.00	1283.27	.00	1283.44	1.17	3.32	1972.01	5199.
	230.000	120.00	.00	.00	1275.67	5626.00	1283.29	.00	1283.46	1.19	3.35	2031.22	5159.
	240.000	180.00	.00	.00	1275.85	5626.00	1283.31	.00	1283.48	1.43	3.35	1927.47	4706.

1

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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01
*	245.000	60.00	.00	.00	1280.00	5626.00	1283.71	1283.71	1284.40	195.20	14.78	931.80	402.
*	250.000	90.00	.00	.00	1281.00	5626.00	1284.76	.00	1284.90	22.20	3.77	1849.29	1194.
	260.000	150.00	.00	.00	1282.00	5626.00	1285.08	.00	1285.22	19.39	4.10	1916.14	1277.

ARIZONA CANAL CROSSING

SUMMARY PRINTOUT TABLE 150

	SECND	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	11.000	5626.00	1274.27	.00	.00	.27	199.99	.00
*	14.000	5626.00	1275.76	.00	1.49	.00	274.61	220.00
*	17.000	5626.00	1276.00	.00	.24	.00	539.04	220.00
*	40.000	5626.00	1276.37	.00	.36	.00	277.16	220.00
*	45.000	5626.00	1277.47	.00	1.10	.00	132.96	180.00
*	49.000	5626.00	1277.58	.00	.11	.00	95.63	15.00
*	50.000	5626.00	1278.06	.00	.48	.00	75.90	1.00
*	51.000	5626.00	1281.46	.00	3.39	.00	76.44	35.00
*	52.000	5626.00	1282.05	.00	.59	.00	118.22	1.00
	53.000	5626.00	1282.20	.00	.15	.00	670.03	30.00
	60.000	5626.00	1282.22	.00	.02	.00	625.01	70.00
	80.000	5626.00	1282.22	.00	.00	.00	556.74	70.00
	90.000	5626.00	1282.23	.00	.02	.00	547.32	95.00
	92.000	5626.00	1282.23	.00	.00	.00	547.04	12.00
	100.000	5626.00	1282.25	.00	.01	.00	583.03	90.00
	120.000	5626.00	1282.37	.00	.12	.00	539.61	200.00
	140.000	5626.00	1282.47	.00	.10	.00	701.48	200.00
	160.000	5626.00	1282.48	.00	.02	.00	668.10	440.00
	180.000	5626.00	1282.64	.00	.16	.00	705.83	320.00
	200.000	5626.00	1282.84	.00	.20	.00	684.99	300.00
*	210.000	5626.00	1283.17	.00	.33	.00	689.15	220.00
	220.000	5626.00	1283.27	.00	.11	.00	667.17	90.00
	230.000	5626.00	1283.29	.00	.01	.00	693.51	120.00
	240.000	5626.00	1283.31	.00	.02	.00	629.45	180.00

	SECND	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	245.000	5626.00	1283.71	.00	.40	.00	798.27	60.00
*	250.000	5626.00	1284.76	.00	1.05	.00	1020.67	90.00
	260.000	5626.00	1285.08	.00	.32	.00	1087.26	150.00

SUMMARY OF ERRORS AND SPECIAL NOTES

```
CAUTION SECNO=    11.000  PROFILE=  1  CRITICAL DEPTH ASSUMED

WARNING SECNO=    14.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=    17.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=    40.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    40.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=    40.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=    45.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    45.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=    49.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    49.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=    50.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    50.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=    51.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=    52.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   210.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=   245.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   245.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   245.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO=   250.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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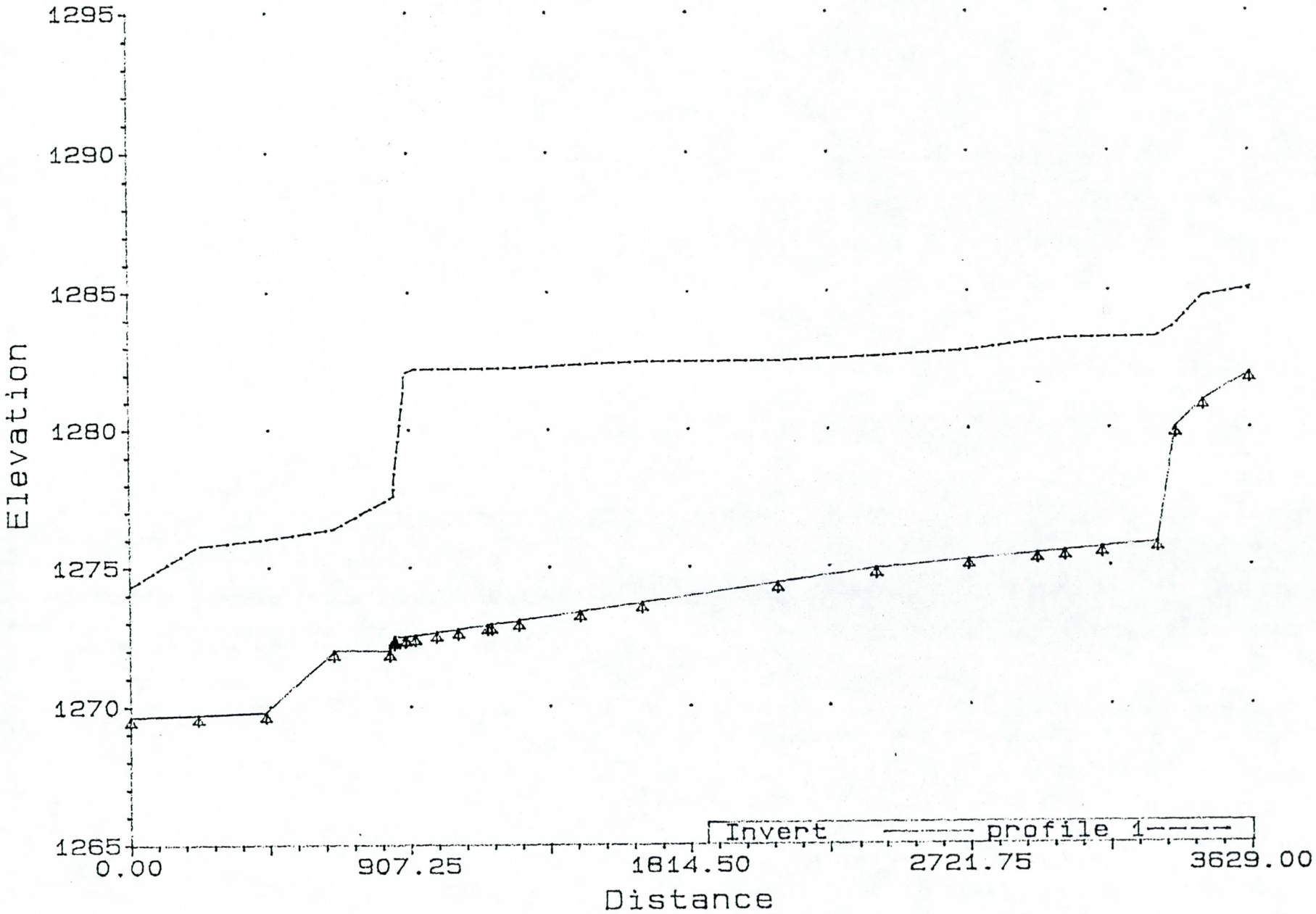
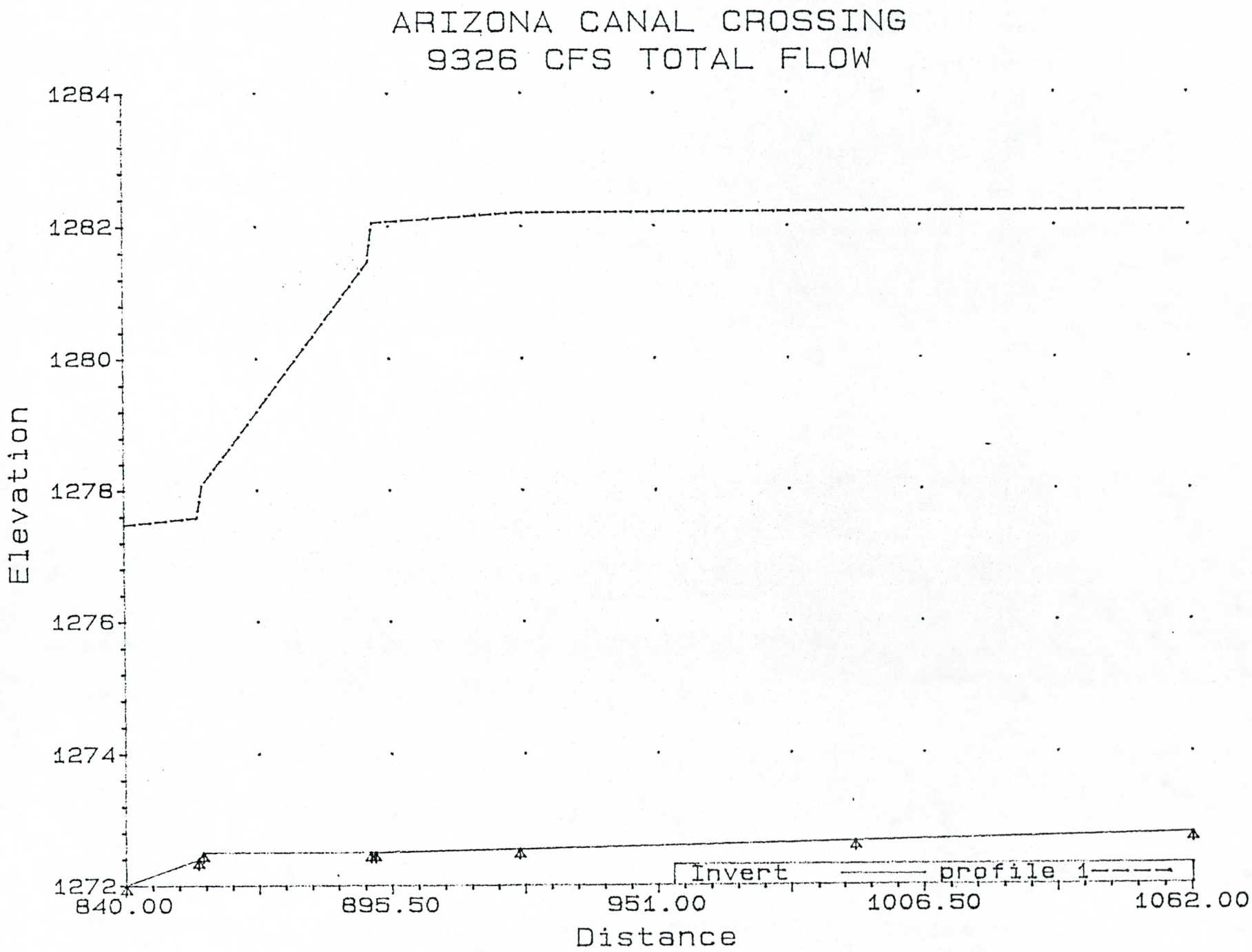
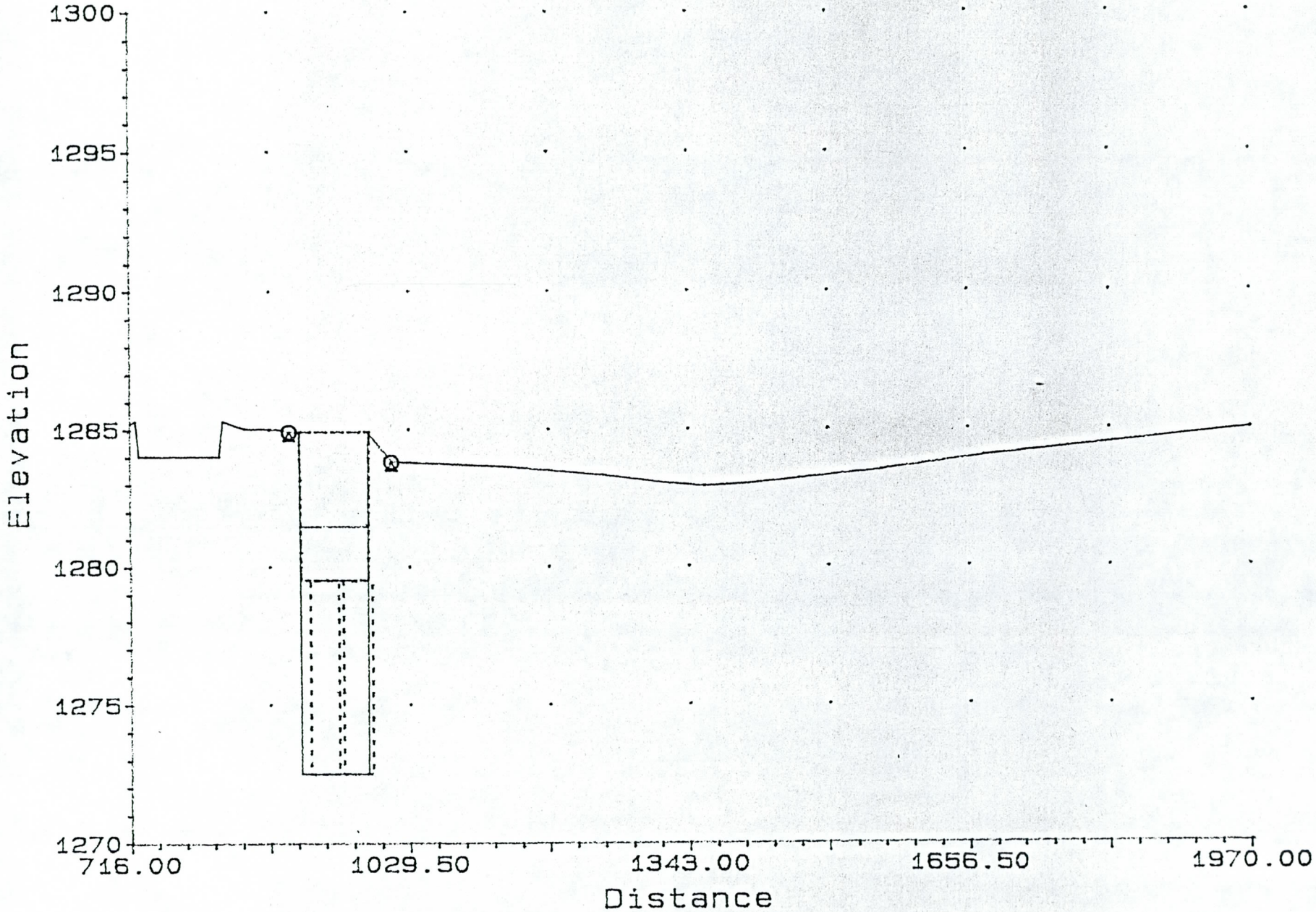
ARIZONA CANAL CROSSING
9326 CFS TOTAL FLOW




ARIZONA CANAL CROSSING
9326 CFS TOTAL FLOW
1284
1282
1280
1278
1276
1274
1272
Elevation
840.00
895.50
951.00
1006.50
1062.00
Distance
Invert
profile 1

ARIZONA CANAL CROSSING
Cross-section 51.000