SALT RIVER HYDRAULIC AND SCOUR ANALYSIS ASSOCIATED WITH THE THIRD RUNWAY DESIGN AND TAXIWAY G AT PHOENIX SKY HARBOR INTERNATIONAL AIRPORT

sla

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

SALT RIVER HYDRAULIC AND SCOUR ANALYSIS ASSOCIATED WITH THE THIRD RUNWAY DESIGN AND TAXIWAY G AT PHOENIX SKY HARBOR INTERNATIONAL AIRPORT

Submitted to:

URS Greiner, Inc.
7878 N. 16th Street, Suite 200
Phoenix, Arizona 85020

Submitted by:

Simons, Li & Associates, Inc.
4600 South Mill Avenue, Suite 200
Tempe Arizona 85282
(602) 491-1393

Registered Professional Engineer (Civil)
CERTIFICATE NO.
21560
DENNIS L.
RICHARDS
Date Signed 3/31/97
ARIZONA, U.S.A.

March 1997

Don Rerick - FCD

From: Don Rerick - FCD
To: Warren Rosebraugh - FCD
Cc: Fred Fuller - FCD; Dick Perreault - FCD; Hasan Mushtaq - FCD; Don Rerick - FCD
Subject: Salt River Channel - North Bank at Airport
Date: Tuesday, April 22, 1997 7:49AM

We have received from Greiner a set of plan sheets for the north bank CSA improvements for about 1,500 feet along the new third runway alignment at the airport.

Unfortunately, the contract for construction has already been awarded, construction is underway, and we have never seen the plans or hydraulics report.

I am forwarding to you one set of the CSA related plan sheets, the CSA specs, and the "Hydraulic and Scour Analysis" report with computer file for Engineering review.

According to the enclosed construction schedule, CSA construction is not scheduled to begin until late May.

Please provide me with your review comments, including the hydraulics and scour review from Hasan (??), by May 2.

Note that the plans do not include any kind of CSA bank protection profile. Everything is done via the plan view with lines and elevations. Not easy to review this type of plan for a levee.

Fred, you may want to get someone out to the field to check on the status of the project, get to know names of the field people, and establish a line of communication. FCD should make periodic inspections of the CSA work in case we end up with O&M. You may want to call John Shoemaker, the Project Manager, at 273-0706 to find out who the contractor is and get a contact name. I will send you a set of the plans sheets as well for your use in the field.

Thanks.

FLOOD CONTROL DISTRICT
of
Maricopa County

2801 West Durango Street • Phoenix, Arizona 85009-6399
Telephone (602) 506-1501
Fax (602) 506-4601
TT (602) 506-5859

BOARD OF DIRECTORS
Betsey Bayless
Jan Brewer
Fulton Brock
Don Stapley
Mary Rose Garrido Wilcox

May 7, 1997

Mr. James L. Cooke, P.E., Project Manager
URS Greiner, Inc.
7878 North 16th Street, Suite 200
Phoenix, Arizona 85020-4499

Subject: Sky Harbor Airport - Salt River Hydraulic and Scour Analysis

Dear Mr. Cooke:

The Flood Control District has reviewed the subject submittal provided on April 15. We have no major comments on the HEC-2 analysis or the scour calculations. However, we do have the following comment regarding interpretation of the plans with respect to the calculations.

No top of levee or toe-down profile is provided in the plans. Only three design toe-down depths are shown on the plans. Therefore, it is not possible to compare the required and the design toe-down depths for the entire project reach. However, the design toe-down depths at the three locations provided on the plans appear to exceed the required depths as derived from the calculations.

In order to more properly review the plans and calculations, the District requests that a profile plot of the top of levee and the toe-down depth of the levee over the entire reach of the project be provided. In addition, the profile stationing should be correlated to the HEC stationing and scour calculations.

Upon receipt of this profile, we can complete our review of the plans and calculations.

If you have any questions, please call me or Hasan Mushtaq at 506-1501.

Sincerely,

Donald J. Rerick, P.E.
Project Manager

Copy to: Bennett Sloan, P.E., Chanen/Sverdrup

Info: HM, WFR

File: LS 1.5.1

Hasan Mushtaq - FCD

From: Hasan Mushtaq - FCD
To: Don Rerick - FCD
Cc: Pedro Calza - FCD
Subject: Salt River Channel - North Bank at Airport
Date: Tuesday, May 06, 1997 11:12AM

I have completed reviewing the Hydraulic Analysis and Scour calculations for the above mentioned project.

No major comments on the HEC-2 analysis and the Scour calculations.

The design Top of Bank elevations, as per the plan sheets, are greater than the required Top of Bank Elevations, derived from the hydrulic analysis.

Only three design toe-down depths were shown on the plan sheets. Therefore, it was not possible to compare the required and the design toe-down depths for the entire project reach. However, the design toe-down depths, at the three locations, as shown on the plan sheets, exceed the required toe down depths as derived from the hydraulic and scour analysis.

Don Rerick - FCD

From: Don Rerick - FCD
To: Hasan Mushtaq - FCD
Cc: Don Rerick - FCD
Subject: Sky Harbor Airport Bank Protection - Profiles
Date: Thursday, May 22, 1997 1:45PM

I have received and will forward to you the original package referenced showing the profile plot of the levee top and toe with respect to the HEC-2 cross sections and model.

Please use this to complete your review of the bank protection and provide me with a memo response as to its acceptance. Also, make a copy of the package for your files and return the original to me with the memo.

Please provide your response by May 30.

Thanks.

URS Greiner, Inc.
7878 N. 16th Street, Suite 200
Phoenix, Arizona 85020-4449
Telephone: (602) 371-1100
Facsimile: (602) 371-1615
Offices in Principal Cities Nationwide

URS Greiner

Project No. E100688.01

May 22, 1997

FLOOD CONTROL DISTRICT
RECEIVED
MAY 22 1997
CH ENG
1 Dke 5/22
2 HM

Mr. Donald J. Rerick, P.E.
Project Manager
Flood Control District of Maricopa County
2801 West Durango Street
Phoenix, AZ 85009-1501

Re: **Sky Harbor International Airport**
Third Runway Index # A-954537 FAA
Salt River Hydraulic and Scour Analysis

Dear Donald:

As requested in your letter dated May 7, 1997, we have prepared a drawing which shows the profile plot of the top of levee and the toe-down of the levee. Enclosed are two copies of an 11" x 17" Drawing No. 1 entitled "C.S.A. BANK PROTECTION PROFILES" for review and file.

We superimposed the cross-sections and HEC stationing onto the plan and profile of the levee based on the cross-sections information provided by Simons, Li & Associates, Inc. The HEC stationing is the same as shown in Exhibit 1 of the Hydraulic and Scour Report prepared by Simons, Li & Associates, Inc., dated March 1997. The elevation of the top of the levee (bank protection) has been tabulated and is shown on the attached sheet for your reference.

We hope this information will enable FCDMC to complete the review of the referenced project.

If you have any questions, please call me at 371-1100.

Sincerely,

URS Greiner, Inc.

James L. Cooke

James L. Cooke, P.E.
Project Manager

Enclosure

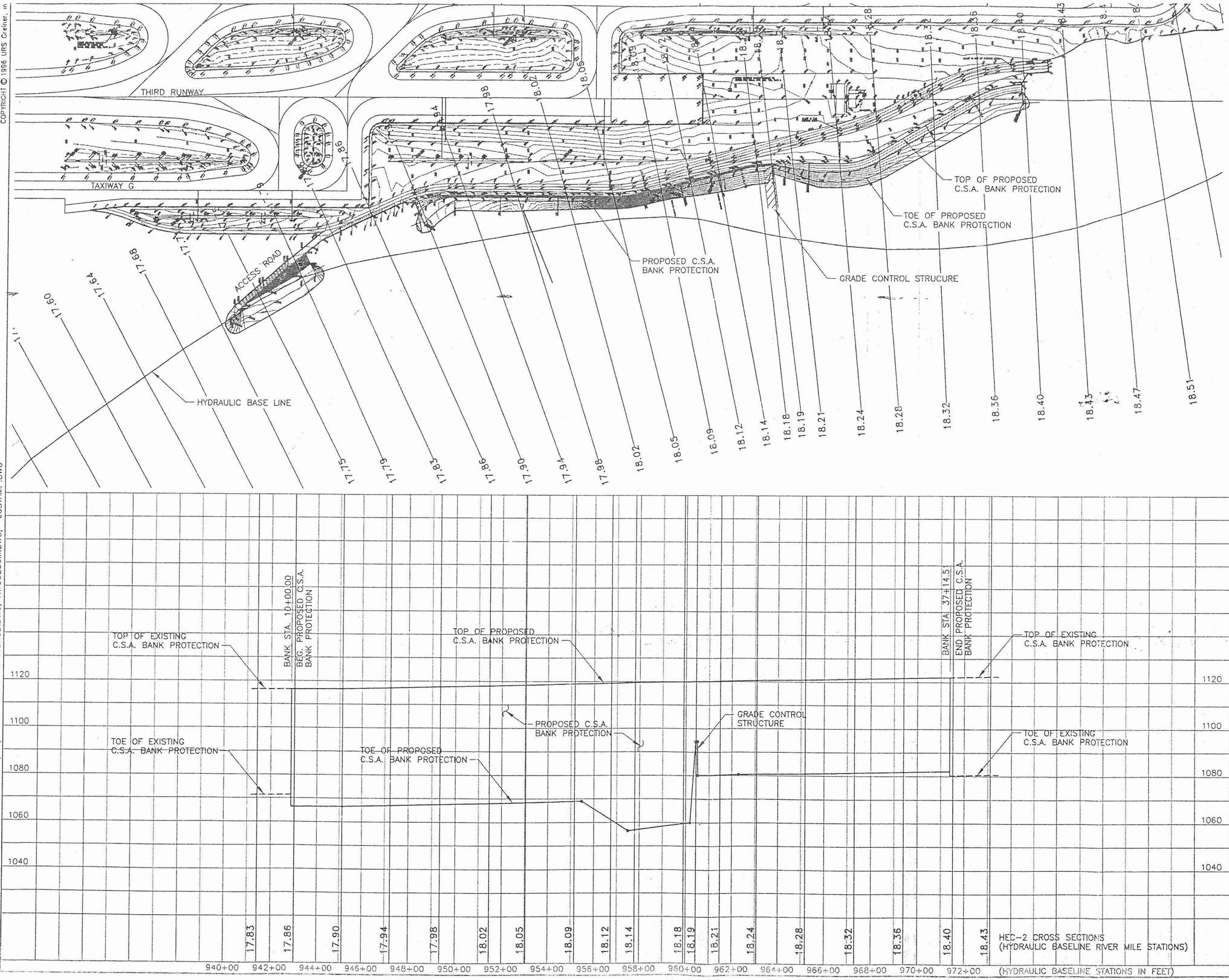
cc: Mr. Dave Hensley, P.E., City of Phoenix (2 copies)
Mr. Bennett Sloan, P.E., Chanen / Sverdrup (3 copies)

SKY HARBOR INTERNATIONAL AIRPORT
THIRD RUNWAY INDEX # A-954537
C.S.A. BANK PROTECTION — TOP ELEVATION

HEC CROSS-SECTION NUMBER (mile)	ELEVATION TOP OF BANK (FT. AMSL)
17.89	1116.50 Existing Bank
17.90	1116.63
17.94	1117.11
17.98	1117.60
18.02	1118.07
18.05	1118.53
18.09	1119.00
18.12	1119.30
18.14	1119.61
18.18	1119.97
18.19	1120.15
18.21	1120.32
18.24	1120.68
18.28	1120.98
18.32	1121.46
18.36	1121.84
18.40	1122.20 Existing Bank

There is no 17.89
17.79 may be?

AMSL = Above Mean Sea Level



LEGEND

18.12 — HEC-2 CROSS SECTION LOCATION

GENERAL NOTES

1. HYDRAULIC BASE LINE, HEC-2 CROSS SECTIONS AND PROFILE STATIONING ARE BASED ON "SALT RIVER HYDRAULIC AND SCOUR ANALYSIS" REPORT, EXHIBIT 1, DATED MARCH 31, 1997 BY SIMONS, LI AND ASSOCIATES, INC.
2. ELEVATIONS OF TOP AND TOE-DOWN OF C.S.A. BANK PROTECTION AT HEC-2 CROSS SECTIONS ARE BASED ON "THIRD RUNWAY – ISSUED FOR CONSTRUCTION" PLANS DATED JANUARY, 1997.

GRAPHIC SCALE IN FEET

200 0 200 400

HORIZONTAL

20 0 20 40

VERTICAL

N

Registered Professional Engineer (Civil) CERTIFICATE NO. 6106 JON GIRAND Date Signed 5-20-97 ARIZONA U.S.A.

URS Greiner PHOENIX, ARIZONA | HUNT-ZOLLARS

CITY OF PHOENIX, ARIZONA
AVIATION DEPARTMENT ENGINEERING SECTION

PHOENIX SKY HARBOR INTERNATIONAL AIRPORT
THIRD RUNWAY

C.S.A. BANK PROTECTION PROFILES

DR SLS	DES JG	CHK JG	DRAWING NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
DATE 5/20	DATE 5/20	DATE 5/20				
A.I.P. NO. 3-04-0029-32 INDEX NO. A-954537 FAA			1			

COPYRIGHT © 1996 URS Greiner, Inc.

H:\PROJ\05034001\DWG\BNKPRF-2.DWG 05/20/97 XREF: RWGTBKSB.DWG, RWCGEOM.DWG, JGSTAMP.DWG

Hasan Mushtaq - FCD

From: Hasan Mushtaq - FCD
To: Don Rerick - FCD
Cc: Pedro Calza - FCD; Hasan Mushtaq - FCD
Subject: RE: Sky Harbor Airport Bank Protection - Profiles
Date: Thursday, May 22, 1997 2:28PM

The additional materials submitted on the above mentioned project has been reviewed to complete the review comments provided to you on May 6, 1997.

The Design Toe-down depths and Top-of bank of elevations are shown on the revised plan and profile sheets. According to these plan and profile sheets, these elevations are in excess of the required TOB and TDD elevations throughout the length of the project reach.

From: Don Rerick - FCD
To: Hasan Mushtaq - FCD
Cc: Don Rerick - FCD
Subject: Sky Harbor Airport Bank Protection - Profiles
Date: Thursday, May 22, 1997 1:45PM

I have received and will forward to you the original package referenced showing the profile plot of the levee top and toe with respect to the HEC-2 cross sections and model.

Please use this to complete your review of the bank protection and provide me with a memo response as to its acceptance. Also, make a copy of the package for your files and return the original to me with the memo.

Please provide your response by May 30.

Thanks.

TABLE OF CONTENTS

Page

LIST OF FIGURES ii

LIST OF TABLES ii

LIST OF APPENDICES iii

I. INTRODUCTION 1

1.1 Authorization and Purpose 1
1.2 Scope of Work 1
1.3 Data Base 1

II. HYDRAULICS 2

2.1 Study Reach 2
2.2 HEC-2 Model 2
2.3 Analysis Results 2

III. BANK PROTECTION DESIGN CRITERIA 13

3.1 Plan and Profile 13
3.2 Recommended Toe Down 13
3.3 Recommended Bank Height 16

IV. GRADE CONTROL STRUCTURE RECONSTRUCTION 17

4.1 Grade Control Analysis 17
4.2 Recommendations for Reconstruction 19

V. REFERENCES 20

Registered Professional Engineer (Civil)
CERTIFICATE NO.
21560
DENNIS L.
RICHARDS
Date Signed 3/31/97
ARIZONA, U.S.A.

LIST OF FIGURES

		Page
Figure 1	HEC-2 Cross Section Location Map for Study Reach	3
Figure 2	Water-Surface Profile for Study Reach	12
Figure 3	Salt River Invert Profile for Study Reach	18

LIST OF TABLES

Table 1	Salt River 100-Year Hydraulic Variables, Existing Conditions versus ERSA Alignment with Vertical Wall	5
Table 2	Salt River 100-Year Hydraulic Variables, Existing Conditions versus ERSA Alignment with 2:1 Side Slopes	6
Table 3	Salt River 100-Year Hydraulic Variables, Existing Conditions versus ERSA Alignment with 0.5:1 Side Slopes	7
Table 4	Salt River 100-Year Hydraulic Variables, Existing Conditions versus Base Case Alignment with 1:1 Side Slopes	9
Table 5	Salt River 100-Year Hydraulic Variables, Existing Conditions versus Base Case Alignment with ½:1 Side Slopes	10
Table 6	Salt River 100-Year Hydraulic Variables, Existing Conditions versus Base Case Alignment with Side Slopes Varying from ½:1 to 1:1	11
Table 7	Recommended Bank Protection Toe Down	14
Table 8	Recommended Bank Protection Height	16

LIST OF APPENDICES

A HEC-2 Cross Section Location Maps

B HEC-2 Water-Surface Profiles for Existing Conditons

C HEC-2 Water-Surface Profiles for Proposed Condtions

D Calculations

I. INTRODUCTION

1.1 Authorization and Purpose

The study summarized in this report was authorized by the City of Phoenix Aviation Department under Index No. A-954537. The City of Phoenix retained URS Greiner, Inc. in association with Simons, Li & Associates, Inc. (SLA) to provide Salt River analysis and design services associated with the Third Runway and Taxiway G at Sky Harbor International Airport.

Bank protection along the north bank of the Salt River is required to insure integrity of airport facilities near the Salt River. The Extended Runway Safety Area (ERSA) associated with the Third Runway and Taxiway G extends into the Salt River channel in the vicinity of ASR-9. This report provides the results of the hydraulic and scour analyses performed to establish the bank alignment and design criteria for bank protection. The report also provides the results of the analyses performed to develop design parameters for the reconstruction of Grade Control Structure No. 1., located at the ASR.

1.2 Scope of Work

The study entailed hydraulic and sediment transport analysis of the Salt River in the vicinity of the Third Runway and Taxiway G project to account for the bank alignment changes associated with the additional taxiway. The 10-, 50-, and 100-year frequency flood events were analyzed to identify potential impacts to existing structures and the river system. The study developed modifications to proposed bank protection alignments and determined top-of-bank and toe-down profiles for the proposed bank protection. In addition, hydraulic and scour analyses were conducted to develop design parameters for the reconstruction of Grade Control Structure No. 1, located at the ASR. Analyses for Grade Control Structure No. 1 were conducted for both the 100-year and Standard Project Flood (SPF) event since the grade control structure was originally designed considering both events.

1.3 Data Base

The hydrologic, sediment size, and channel geometry data base used for this study are identical to those used in SLA's 1994 preliminary design for the Sky Harbor International Airport/Salt River Bank Protection Reconstruction Project (Reference 1). Potential with-mining channel geometries were developed from information provided in SLA's 1996 summary report for Hydraulic and River Stability Impacts Associated with In-Stream Mining of the Salt River Near Sky Harbor International Airport (Reference 2). The proposed bank alignments evaluated were provided by URS Greiner.

II. HYDRAULIC ANALYSIS

2.1 Study Reach

The study reach of the Salt River extends from the drop wall located immediately downstream of the I-10 bridge to the Hohokam Freeway. The project reach of the Salt River of particular concern in this study extends from approximately 2,000 feet downstream of Grade Control Structure No. 1 (ASR grade control structure) to approximately 2,000 feet upstream of the grade control structure. **Figure 1** is the HEC-2 cross section location map for the project reach. Appendix A presents the HEC-2 cross section location maps for the study reach.

2.2 HEC-2 Model

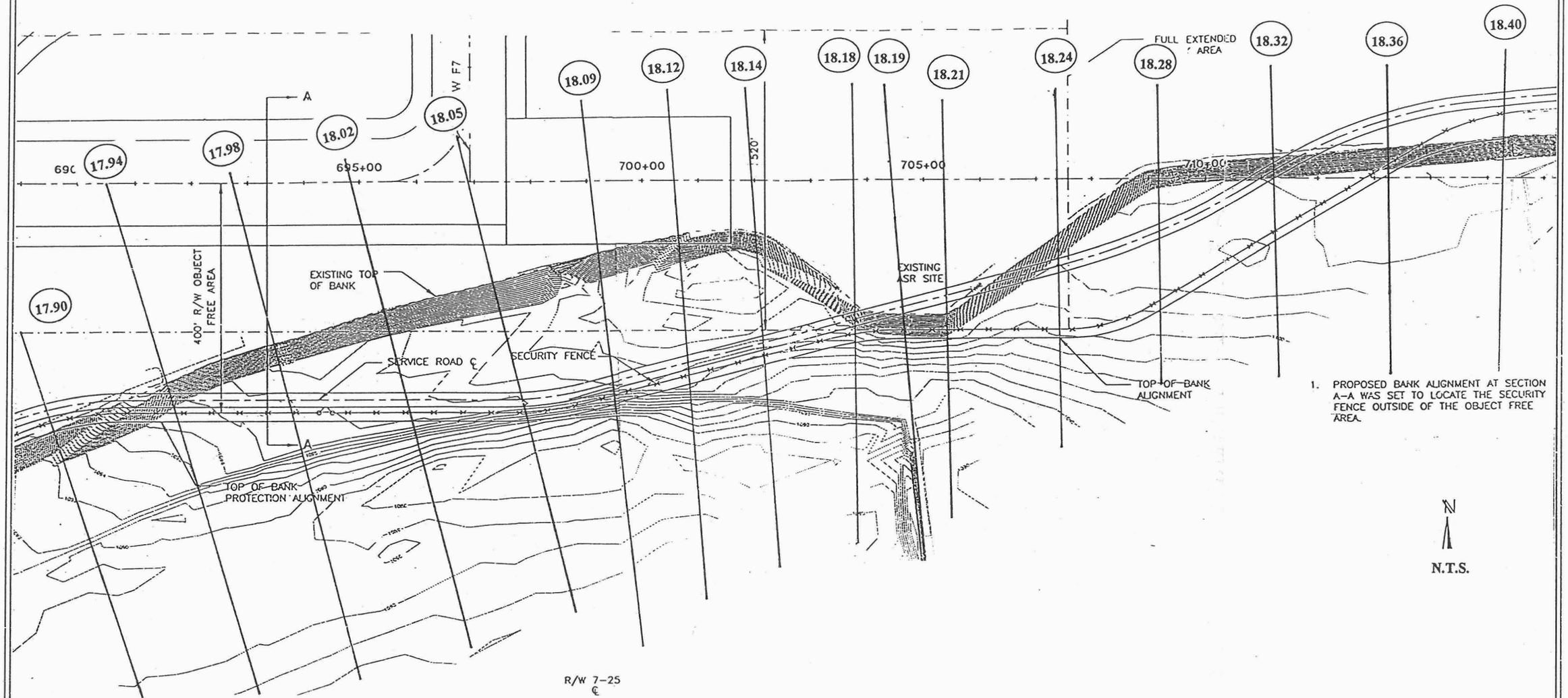
A hydraulic model of the Salt River for this study reach was previously prepared for the preliminary design study cited above (Reference 1). The previous analysis used the U.S. Army Corps of Engineers' HEC-2 Water Surface Profile Model for calculation of the hydraulic characteristics of the local reach under several flood conditions. This previously developed model was used as the base model for all analyses conducted in the current study.

The initial cross section for the HEC-2 analysis was cross-section 16.69. Starting water-surface elevations were the elevations published in the current flood insurance study (Reference 3). Discharges used for the analysis were 91,700 cfs for the 10-year event, 157,000 cfs for the 50-year event, 205,000 cfs for the 100-year event, and 287,720 cfs for the SPF.

The existing conditions model included channel geometry changes associated with channel mining located downstream of the proposed improvements. The analysis included a mined depth of 5.7-feet which was maximum depth recommended for the mining sites identified in SLA's 1996 study (Reference 2). This depth of mining would maximize the amount of material that could be extracted at the site and without increasing the toe-down depth of the cement-stabilized alluvium (CSA) bank constructed previously. The proposed mining was to extend between Station 32+00 and Station 46+00 of the north bank CSA, affecting cross-sections 17.28 through 17.56 of the HEC-2 model. Both with-mining and without-mining conditions were initially analyzed to determine the worst case condition. Appendix B contains the HEC-2 water-sufrace profile for existing conditions.

2.3 Analysis Results

Hydraulic analyses were performed for both the existing conditions and proposed conditions. The existing conditions model included the north bank CSA alignment completed in 1995. The hydraulic analysis established water-surface profiles for both the existing conditions and proposed conditions, and identified the impact to water-surface elevations associated with the proposed



1. PROPOSED BANK ALIGNMENT AT SECTION A–A WAS SET TO LOCATE THE SECURITY FENCE OUTSIDE OF THE OBJECT FREE AREA.

FIGURE 1

sla SIMONS, LI & ASSOCIATES, INC.

CROSS SECTION LOCATION MAP

conditions. Proposed conditions evaluated included: 1) a full ERSA bank alignment; and 2) a Base Case bank alignment. Various bank side slope conditions were evaluated for each alignment. For the proposed conditions, Grade-Control Structure No. 1 was modeled with a proposed crest elevation of 1092.0 feet.

The full ERSA alignment extended from approximately 1,500 feet downstream of Grade-Control Structure No. 1 to approximately 1,000 feet upstream of the structure. The Base Case alignment extended from approximately 1,500 feet downstream of Grade-Control Structure No. 1 and tied into the existing bank at the grade-control structure. For each condition, bank slopes varying from vertical walls to 2:1 side slopes were evaluated. The bank protection for both proposed conditions ties into the existing north bank protection upstream and downstream of the grade control structure.

2.3.1 Full ERSA Bank Alignment

For the full ERSA bank alignment, several proposed CSA bank conditions were evaluated for the project reach. These conditions included:

1. vertical wall; and
2. 2:1 side slopes; and
3. ½:1 side slopes.

For the full ERSA bank protection with a vertical wall, the 100-year water-surface elevations and average velocities are provided in **Table 1** for both existing conditions and proposed conditions. The difference between the existing and proposed conditions is also provided in **Table 1**. With the vertical wall bank protection, the maximum increase in water-surface elevation is 1.13 feet which occurs approximately 900 feet upstream of Grade-Control Structure No. 1.

Table 2 provides a comparison of existing conditions versus proposed conditions for the full ERSA bank protection alignment with 2:1 side slopes. For this alignment, the maximum increase in water-surface elevation is estimated to be 1.62 feet which occurs approximately 1,100 feet upstream of Grade-Control Structure No. 1. The water-surface elevation increase is estimated to be greater than 1 foot from Section 18.14 to 18.19, and from Section 18.32 to 18.66.

Table 3 provides a comparison of existing conditions versus proposed conditions for the full ERSA bank protection alignment with ½:1 side slopes. The maximum increase in water-surface elevations for this condition was estimated to be 1.23 feet which occurs approximately 1,100 feet upstream of Grade-Control Structure No. 1.

Design criteria required the proposed bank alignment and configuration to limit the increase in water-surface elevation to one (1) foot or less over the existing conditions. For the Full ERSA bank alignment, none of the conditions evaluated met this design criteria.

TABLE 1. Salt River 100–Year Hydraulic Variables
Existing Conditions versus ERSA Alignment
with Vertical Wall

Cross Section Number	Water–Surface Elevation			Average Velocity		
	Existing (FT)	ERSA (FT)	Delta (FT)	Existing (FPS)	ERSA (FPS)	Delta (FPS)
17.83	1110.73	1110.73	0.00	10.87	10.87	0.00
17.86	1111.01	1111.01	0.00	10.90	10.90	0.00
17.90	1111.27	1111.27	0.00	11.05	11.05	0.00
17.94	1111.58	1111.51	−0.07	11.02	11.28	0.26
17.98	1111.84	1111.60	−0.24	11.20	12.26	1.06
18.02	1112.04	1111.66	−0.38	11.77	13.53	1.76
18.05	1112.37	1111.87	−0.50	11.90	14.43	2.53
18.09	1112.66	1112.25	−0.41	12.34	15.07	2.73
18.12	1112.66	1112.86	0.20	13.47	14.64	1.17
18.14	1112.74	1113.51	0.77	14.42	14.05	−0.37
18.18	1113.28	1114.06	0.78	14.23	13.71	−0.52
18.19	1113.37	1114.18	0.81	14.50	15.11	0.61
18.21	1113.48	1114.16	0.68	15.04	14.15	−0.89
18.24	1114.99	1114.44	−0.55	12.96	12.40	−0.56
18.28	1115.81	1115.55	−0.26	11.87	11.44	−0.43
18.32	1116.35	1117.08	0.73	11.54	11.18	−0.36
18.36	1116.77	1117.90	1.13	11.32	11.01	−0.31
18.40	1117.03	1118.16	1.13	11.60	11.29	−0.31
18.43	1117.38	1118.43	1.05	11.63	11.33	−0.30
18.47	1117.73	1118.71	0.98	11.64	11.37	−0.27
18.51	1118.08	1118.99	0.91	11.66	11.40	−0.26
18.55	1118.41	1119.25	0.84	11.78	11.54	−0.24
18.58	1118.75	1119.54	0.79	11.89	11.66	−0.23
18.62	1119.13	1119.86	0.73	11.88	11.67	−0.21
18.66	1119.44	1120.11	0.67	12.18	11.98	−0.20
18.70	1119.79	1120.42	0.63	12.41	12.22	−0.19
18.74	1120.33	1120.87	0.54	12.37	12.20	−0.17
18.77	1120.84	1121.32	0.48	12.17	12.03	−0.14
18.79	1121.01	1121.47	0.46	12.31	12.18	−0.13
18.81	1121.24	1121.67	0.43	12.29	12.16	−0.13
18.85	1121.58	1121.97	0.39	12.66	12.54	−0.12
18.89	1122.12	1122.46	0.34	12.40	12.30	−0.10

TABLE 2. Salt River 100–Year Hydraulic Variables
Existing Conditions versus ERSA Alignment
with 2:1 Side Slopes

Cross Section Number	Water–Surface Elevation			Average Velocity		
	Existing (FT)	ERSA (FT)	Delta (FT)	Existing (FPS)	ERSA (FPS)	Delta (FPS)
17.83	1110.73	1110.73	0.00	10.87	10.87	0.00
17.86	1111.01	1111.01	0.00	10.90	10.90	0.00
17.90	1111.27	1111.27	0.00	11.05	11.05	0.00
17.94	1111.58	1111.46	−0.12	11.02	11.28	0.26
17.98	1111.84	1111.49	−0.35	11.20	12.26	1.06
18.02	1112.04	1111.51	−0.53	11.77	13.53	1.76
18.05	1112.37	1111.71	−0.66	11.90	14.43	2.53
18.09	1112.66	1112.21	−0.45	12.34	15.07	2.73
18.12	1112.66	1113.13	0.47	13.47	14.64	1.17
18.14	1112.74	1113.97	1.23	14.42	14.05	−0.37
18.18	1113.28	1114.40	1.12	14.23	13.71	−0.52
18.19	1113.37	1114.51	1.14	14.50	13.81	−0.69
18.21	1113.48	1114.46	0.98	15.04	14.87	−0.17
18.24	1114.99	1114.90	−0.09	12.96	15.61	2.65
18.28	1115.81	1116.03	0.22	11.87	14.42	2.55
18.32	1116.35	1117.52	1.17	11.54	12.12	0.58
18.36	1116.77	1118.34	1.57	11.32	10.80	−0.52
18.40	1117.03	1118.65	1.62	11.60	10.87	−0.73
18.43	1117.38	1118.89	1.51	11.63	10.94	−0.69
18.47	1117.73	1119.15	1.42	11.64	11.00	−0.64
18.51	1118.08	1119.41	1.33	11.66	11.05	−0.61
18.55	1118.41	1119.65	1.24	11.78	11.21	−0.57
18.58	1118.75	1119.91	1.16	11.89	11.35	−0.54
18.62	1119.13	1120.20	1.07	11.88	11.37	−0.51
18.66	1119.44	1120.44	1.00	12.18	11.69	−0.49
18.70	1119.79	1120.72	0.93	12.41	11.94	−0.47
18.74	1120.33	1121.15	0.82	12.37	11.96	−0.41
18.77	1120.84	1121.56	0.72	12.17	11.81	−0.36
18.79	1121.01	1121.71	0.70	12.31	11.97	−0.34
18.81	1121.24	1121.89	0.65	12.29	11.96	−0.33
18.85	1121.58	1122.17	0.59	12.66	12.36	−0.30
18.89	1122.12	1122.64	0.52	12.40	12.15	−0.25

TABLE 3. Salt River 100–Year Hydraulic Variables
Existing Conditions versus ERSA Alignment
with 1/2:1 Side Slopes

Cross Section Number	Water–Surface Elevation			Average Velocity		
	Existing (FT)	ERSA (FT)	Delta (FT)	Existing (FPS)	ERSA (FPS)	Delta (FPS)
17.83	1110.73	1110.73	0.00	10.87	10.87	0.00
17.86	1111.01	1111.01	0.00	10.90	10.90	0.00
17.90	1111.27	1111.27	0.00	11.05	11.05	0.00
17.94	1111.58	1111.50	−0.08	11.02	11.35	0.33
17.98	1111.84	1111.56	−0.28	11.20	12.43	1.23
18.02	1112.04	1111.60	−0.44	11.77	13.80	2.03
18.05	1112.37	1111.84	−0.53	11.90	14.67	2.77
18.09	1112.66	1112.24	−0.42	12.34	15.30	2.96
18.12	1112.66	1112.81	0.15	13.47	14.99	1.52
18.14	1112.74	1113.61	0.87	14.42	14.11	−0.31
18.18	1113.28	1114.12	0.84	14.23	13.88	−0.35
18.19	1113.37	1114.22	0.85	14.50	14.09	−0.41
18.21	1113.48	1114.29	0.81	15.04	14.77	−0.27
18.24	1114.99	1114.54	−0.45	12.96	15.63	2.67
18.28	1115.81	1115.66	−0.15	11.87	14.41	2.54
18.32	1116.35	1117.17	0.82	11.54	12.12	0.58
18.36	1116.77	1118.00	1.23	11.32	10.79	−0.53
18.40	1117.03	1118.26	1.23	11.60	10.81	−0.79
18.43	1117.38	1118.52	1.14	11.63	10.88	−0.75
18.47	1117.73	1118.80	1.07	11.64	10.94	−0.70
18.51	1118.08	1119.08	1.00	11.66	11.00	−0.66
18.55	1118.41	1119.34	0.93	11.78	11.16	−0.62
18.58	1118.75	1119.61	0.86	11.89	11.30	−0.59
18.62	1119.13	1119.93	0.80	11.88	11.32	−0.56
18.66	1119.44	1120.18	0.74	12.18	11.64	−0.54
18.70	1119.79	1120.48	0.69	12.41	11.89	−0.52
18.74	1120.33	1120.93	0.60	12.37	11.92	−0.45
18.77	1120.84	1121.37	0.53	12.17	11.78	−0.39
18.79	1121.01	1121.52	0.51	12.31	11.93	−0.38
18.81	1121.24	1121.71	0.47	12.29	11.93	−0.36
18.85	1121.58	1122.01	0.43	12.66	12.32	−0.34
18.89	1122.12	1122.49	0.37	12.40	12.12	−0.28

2.3.2 Base Case Bank Alignment

For the Base Case bank alignment, several proposed CSA bank conditions were evaluated for the project reach. These conditions included:

1. 2:1 side slopes;
2. 1:1 side slopes;
3. ½:1 side slopes; and
4. Combination of 1:1 and ½:1 side slopes.

For the Base Case bank protection with 2:1 side slopes, the hydraulic analysis indicated the increase in 100-year water-surface elevation over existing conditions was as much as 1.4 feet. A comparison of existing conditions versus proposed conditions for 1:1 side slopes is provided in **Table 4**. The maximum increase in water-surface elevation for this conditions was approximately 1.1 feet. For the case of ½:1 side slopes, the maximum increase in water-surface elevation was estimated to be 0.92 feet. **Table 5** provides the a comparison of water-surface elevations and average velocities of existing conditions versus proposed Base Case bank protection alignment with ½:1 side slopes.

By utilizing ½:1 slopes from downstream of cross section 18.05 (see cross-section location map) to upstream of cross section 18.09 and 1:1 slopes for the balance of the Base Case alignment, the increase in water-surface elevation was also estimated to be less than one foot. **Table 6** provides estimated water-surface elevations and average velocities for the proposed Base Case condition with a combination of ½:1 and 1:1 side slopes.

2.3.3 Recommended Bank Configuration

Based on the results of the hydraulic analyses presented in the previous sections of this report, the recommended bank alignment and side slope condition is the Base Case bank alignment with a combination of ½:1 and 1:1 side slopes. This bank configuration resulted in a water-surface elevation increase of less than one foot above the water-surface elevation for existing conditions. **Figure 2** is a plot of the water-surface profile for the study reach. Table 6 provides water-surface elevations and velocities, and Appendix C contains the HEC-2 water-surface profiles for this recommended Base Case condition.

TABLE 4. Salt River 100–Year Hydraulic Variables
Existing Conditions versus Base Case Alignment
with 1:1 Side Slopes

Cross Section Number	Water–Surface Elevation			Average Velocity		
	Existing (FT)	ERSA (FT)	Delta (FT)	Existing (FPS)	ERSA (FPS)	Delta (FPS)
17.83	1110.73	1110.73	0.00	10.87	10.87	0.00
17.86	1111.01	1111.01	0.00	10.90	10.90	0.00
17.90	1111.27	1111.27	0.00	11.05	11.05	0.00
17.94	1111.58	1111.49	−0.09	11.02	11.41	0.39
17.98	1111.84	1111.55	−0.29	11.20	12.51	1.31
18.02	1112.04	1111.47	−0.57	11.77	14.33	2.56
18.05	1112.37	1111.84	−0.53	11.90	14.88	2.98
18.09	1112.66	1112.26	−0.40	12.34	15.50	3.16
18.12	1112.66	1113.00	0.34	13.47	14.86	1.39
18.14	1112.74	1113.74	1.00	14.42	14.08	−0.34
18.18	1113.28	1114.22	0.94	14.23	13.89	−0.34
18.19	1113.37	1114.43	1.06	14.50	13.79	−0.71
18.21	1113.48	1114.55	1.07	15.04	14.10	−0.94
18.24	1114.99	1115.77	0.78	12.96	12.37	−0.59
18.28	1115.81	1116.47	0.66	11.87	11.41	−0.46
18.32	1116.35	1116.93	0.58	11.54	11.16	−0.38
18.36	1116.77	1117.30	0.53	11.32	10.99	−0.33
18.40	1117.03	1117.53	0.50	11.60	11.27	−0.33
18.43	1117.38	1117.84	0.46	11.63	11.31	−0.32
18.47	1117.73	1118.16	0.43	11.64	11.35	−0.29
18.51	1118.08	1118.48	0.40	11.66	11.39	−0.27
18.55	1118.41	1118.78	0.37	11.78	11.53	−0.25
18.58	1118.75	1119.09	0.34	11.89	11.65	−0.24
18.62	1119.13	1119.44	0.31	11.88	11.65	−0.23
18.66	1119.44	1119.72	0.28	12.18	11.97	−0.21
18.70	1119.79	1120.06	0.27	12.41	12.21	−0.20
18.74	1120.33	1120.56	0.23	12.37	12.19	−0.18
18.77	1120.84	1121.04	0.20	12.17	12.02	−0.15
18.79	1121.01	1121.15	0.14	12.31	12.17	−0.14
18.81	1121.24	1121.20	−0.04	12.29	12.16	−0.13
18.85	1121.58	1121.41	−0.17	12.66	12.54	−0.12
18.89	1122.12	1121.26	−0.86	12.40	12.30	−0.10

TABLE 5. Salt River 100–Year Hydraulic Variables
Existing Conditions versus Base Case
with 1/2:1 Side Slopes

Cross Section Number	Water–Surface Elevation			Average Velocity		
	Existing (FT)	ERSA (FT)	Delta (FT)	Existing (FPS)	ERSA (FPS)	Delta (FPS)
17.83	1110.73	1110.73	0.00	10.87	10.87	0.00
17.86	1111.01	1111.01	0.00	10.90	10.90	0.00
17.90	1111.27	1111.27	0.00	11.05	11.05	0.00
17.94	1111.58	1111.50	−0.08	11.02	11.35	0.33
17.98	1111.84	1111.56	−0.28	11.20	12.43	1.23
18.02	1112.04	1111.60	−0.44	11.77	13.80	2.03
18.05	1112.37	1111.84	−0.53	11.90	14.67	2.77
18.09	1112.66	1112.24	−0.42	12.34	15.30	2.96
18.12	1112.66	1112.81	0.15	13.47	14.99	1.52
18.14	1112.74	1113.61	0.87	14.42	14.11	−0.31
18.18	1113.28	1114.12	0.84	14.23	13.88	−0.35
18.19	1113.37	1114.25	0.88	14.50	13.98	−0.52
18.21	1113.48	1114.40	0.92	15.04	14.23	−0.81
18.24	1114.99	1115.65	0.66	12.96	12.46	−0.50
18.28	1115.81	1116.36	0.55	11.87	11.48	−0.39
18.32	1116.35	1116.84	0.49	11.54	11.21	−0.33
18.36	1116.77	1117.21	0.44	11.32	11.04	−0.28
18.40	1117.03	1117.46	0.43	11.60	11.32	−0.28
18.43	1117.38	1117.77	0.39	11.63	11.36	−0.27
18.47	1117.73	1118.09	0.36	11.64	11.40	−0.24
18.51	1118.08	1118.41	0.33	11.66	11.43	−0.23
18.55	1118.41	1118.72	0.31	11.78	11.57	−0.21
18.58	1118.75	1119.03	0.28	11.89	11.68	−0.21
18.62	1119.13	1119.39	0.26	11.88	11.69	−0.19
18.66	1119.44	1119.68	0.24	12.18	12.00	−0.18
18.70	1119.79	1120.01	0.22	12.41	12.24	−0.17
18.74	1120.33	1120.52	0.19	12.37	12.22	−0.15
18.77	1120.84	1121.01	0.17	12.17	12.04	−0.13
18.79	1121.01	1121.17	0.16	12.31	12.19	−0.12
18.81	1121.24	1121.38	0.14	12.29	12.18	−0.11
18.85	1121.58	1121.71	0.13	12.66	12.56	−0.10
18.89	1122.12	1122.23	0.11	12.40	12.32	−0.08

TABLE 6. Salt River 100–Year Hydraulic Variables
Existing Conditions versus Base Case Alignment
with Side Slopes Varying from 1/2:1 to 1:1

Cross Section Number	Water–Surface Elevation			Average Velocity		
	Existing (FT)	ERSA (FT)	Delta (FT)	Existing (FPS)	ERSA (FPS)	Delta (FPS)
17.83	1110.73	1110.73	0.00	10.87	10.87	0.00
17.86	1111.01	1111.01	0.00	10.90	10.90	0.00
17.90	1111.27	1111.27	0.00	11.05	11.05	0.00
17.94	1111.58	1111.47	−0.11	11.02	11.47	0.45
17.98	1111.84	1111.55	−0.29	11.20	12.50	1.30
18.02	1112.04	1111.62	−0.42	11.77	13.76	1.99
18.05	1112.37	1111.85	−0.52	11.90	14.66	2.76
18.09	1112.66	1112.25	−0.41	12.34	15.28	2.94
18.12	1112.66	1112.88	0.22	13.47	14.85	1.38
18.14	1112.74	1113.59	0.85	14.42	14.13	−0.29
18.18	1113.28	1114.04	0.76	14.23	14.03	−0.20
18.19	1113.37	1114.13	0.76	14.50	14.32	−0.18
18.21	1113.48	1114.37	0.89	15.04	14.26	−0.78
18.24	1114.99	1115.64	0.65	12.96	12.47	−0.49
18.28	1115.81	1116.35	0.54	11.87	11.49	−0.38
18.32	1116.35	1116.83	0.48	11.54	11.22	−0.32
18.36	1116.77	1117.20	0.43	11.32	11.04	−0.28
18.40	1117.03	1117.44	0.41	11.60	11.32	−0.28
18.43	1117.38	1117.76	0.38	11.63	11.37	−0.26
18.47	1117.73	1118.08	0.35	11.64	11.40	−0.24
18.51	1118.08	1118.41	0.33	11.66	11.43	−0.23
18.55	1118.41	1118.71	0.30	11.78	11.57	−0.21
18.58	1118.75	1119.03	0.28	11.89	11.69	−0.20
18.62	1119.13	1119.38	0.25	11.88	11.69	−0.19
18.66	1119.44	1119.67	0.23	12.18	12.01	−0.17
18.70	1119.79	1120.01	0.22	12.41	12.24	−0.17
18.74	1120.33	1120.52	0.19	12.37	12.22	−0.15
18.77	1120.84	1121.00	0.16	12.17	12.05	−0.12
18.79	1121.01	1121.17	0.16	12.31	12.19	−0.12
18.81	1121.24	1121.38	0.14	12.29	12.18	−0.11
18.85	1121.58	1121.70	0.12	12.66	12.56	−0.10
18.89	1122.12	1122.23	0.11	12.40	12.32	−0.08
18.93	1122.53	1122.63	0.10	12.43	12.35	−0.08
18.96	1122.96	1123.05	0.09	12.42	12.35	−0.07
19.00	1123.36	1123.44	0.08	12.48	12.42	−0.06
19.04	1123.80	1123.87	0.07	12.47	12.41	−0.06
19.08	1124.18	1124.25	0.07	12.65	12.60	−0.05
19.12	1124.64	1124.70	0.06	12.60	12.55	−0.05
19.15	1125.16	1125.21	0.05	12.39	12.35	−0.04
19.19	1125.64	1125.68	0.04	12.25	12.21	−0.04
19.23	1126.03	1126.06	0.03	12.36	12.33	−0.03
19.28	1126.54	1126.57	0.03	12.53	12.51	−0.02
19.30	1126.73	1126.76	0.03	12.82	12.79	−0.03
19.34	1127.23	1127.26	0.03	12.80	12.78	−0.02
19.38	1127.69	1127.71	0.02	12.83	12.81	−0.02
19.40	1128.57	1128.59	0.02	12.40	12.39	−0.01

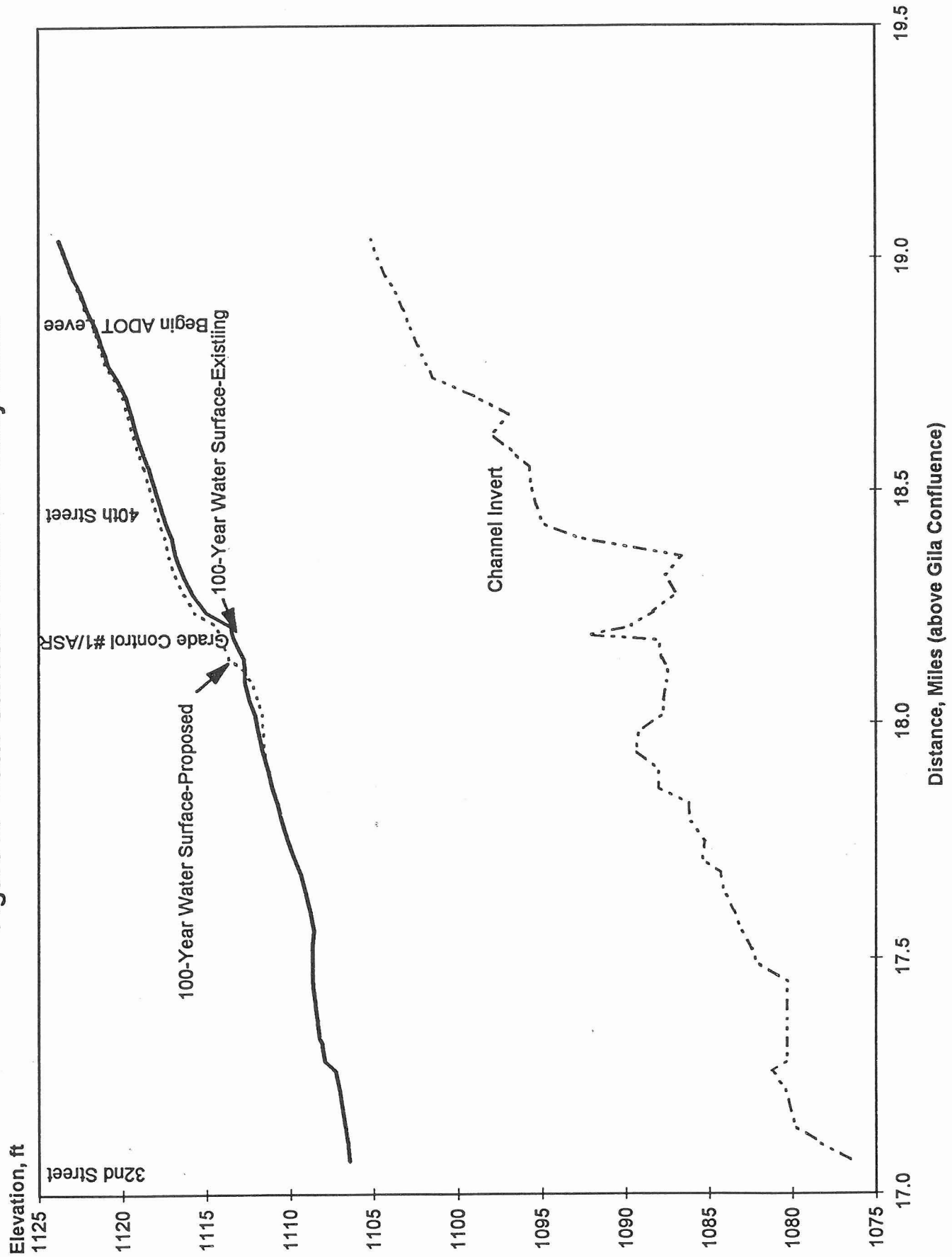


Figure 2. Water Surface Profiles for Study Reach

III. BANK PROTECTION DESIGN CRITERIA

3.1 Plan and Profile

This section provides the design criteria for the Salt River bank protection to be constructed in conjunction with the 3rd runway at Sky Harbor International Airport. The proposed bank alignment is the Base Case alignment with side slopes which vary from 2:1, where the project ties into the existing 2:1 CSA bank, to a side slope as steep as ½:1. The key criteria used to develop the bank protection design parameters is summarized as follows:

Design Hydrology:	Peak Discharge = 205,000 cfs (current 100-year flood).
Channel Roughness:	Manning's "n" = 0.035 for the channel; 0.040 for the overbanks
Toe-Down Depth:	Based on preliminary estimates of the sum of long-term degradation, general scour, low-flow incisement, bend scour, local scour, and bed form scour. A factor of safety of 1.3 is applied to the total potential scour depth. sum of the general, bend and bed form scour.
Protection Height:	Freeboard allowance of 3 feet over the 100-year water-surface elevation.

3.2 Recommended Toe-Down

a factor of safety 1.3 is applied

The recommended toe-down depths are summarized in **Table 7**. The recommended toe-down depth is computed as the sum of seven potential channel adjustment components: (1) long-term degradation; (2) general scour; (3) bed-form scour; (4) bend scour; (5) low-flow incisement; (6) local scour; and, (7) factor of safety. These components were computed for the recommended Base Case bank alignment. These components were added together to obtain the total scour depth. This scour depth was subtracted from the minimum invert elevations to determine the recommended toe-down profiles. Scour calculations are included in Appendix D.

3.2.1 Long-Term Degradation

Long-term stable channel profiles for the channel reach were previously computed in the preliminary design study for the north bank CSA (Reference 1). Within the lower portion of the study reach, the equilibrium slope for the Salt River was computed to be 0.0020 ft/ft, with the downstream pivot point at the I-10 drop wall.

TABLE 7. RECOMMENDED BANK PROTECTION TOE–DOWN
BASE CASE ALIGNMENT WITH SIDE SLOPES
VARYING FROM 2:1 TO 1/2:1

HEC–2 X–SEC NUMBER	CHANNEL INVERT ELEV. (FT)	LONG–TERM DEGRAD. (FT)	GENERAL SCOUR (FT)	LOW–FLOW INCISE. (FT)	BEND SCOUR (FT)	DUNE SCOUR (FT)	FACTOR OF SAFETY (FT)	GRADE CONTROL SCOUR (FT)	TOTAL TOE–DOWN (FT)	TOE–DOWN ELEV. (FT)
17.79	1086.1	4.0	1.1	3.0	3.7	1.7	2.0	0.0	15.5	1070.6
17.83	1086.2	4.0	1.1	3.0	3.7	1.7	2.0	0.0	15.5	1070.8
17.86	1088.0	4.0	1.1	3.0	3.7	1.7	2.0	0.0	15.5	1072.6
17.90	1088.0	4.0	1.1	3.0	3.7	1.7	2.0	0.0	15.5	1072.6
17.94	1089.4	4.0	1.1	3.0	3.7	1.7	2.0	0.0	15.5	1074.0
17.98	1089.2	4.0	1.1	3.0	3.7	1.7	2.0	0.0	15.5	1073.8
18.02	1087.7	4.0	2.5	3.0	3.7	1.7	2.4	0.0	17.3	1070.4
18.05	1087.7	4.0	2.5	3.0	3.7	1.7	2.4	0.0	17.3	1070.4
18.09	1087.5	4.0	2.5	3.0	3.7	1.7	2.4	0.0	17.3	1070.2
18.12	1087.4	4.0	2.5	3.0	3.7	1.7	2.4	0.0	17.3	1070.1
18.14	1087.8	4.0	2.5	3.0	3.7	1.7	2.4	26.1	26.1	1061.7
18.18	1087.8	4.0	2.5	3.0	3.7	1.7	2.4	26.1	26.1	1061.7
18.19	1092.0									
18.21	1092.1	0.0	4.0	3.0	0.0	1.7	1.7	0.0	10.4	1081.7
18.24	1092.5	0.0	4.0	3.0	0.0	1.7	1.7	0.0	10.4	1082.1
18.28	1093.0	0.0	4.0	3.0	0.0	1.7	1.7	0.0	10.4	1082.6
18.32	1093.5	0.0	4.0	3.0	0.0	1.7	1.7	0.0	10.4	1083.1
18.36	1093.5	0.0	4.0	3.0	0.0	1.7	1.7	0.0	10.4	1083.1
18.40	1094.5	0.0	4.0	3.0	0.0	1.7	1.7	0.0	10.4	1084.1
18.43	1094.9	0.0	4.0	3.0	0.0	1.7	1.7	0.0	10.4	1084.5
18.47	1095.3	0.0	1.4	3.0	0.0	1.7	0.9	0.0	7.0	1088.3
18.51	1095.6	0.0	1.4	3.0	0.0	1.7	0.9	0.0	7.0	1088.6
18.55	1095.7	0.0	1.4	3.0	0.0	1.7	0.9	0.0	7.0	1088.7
18.58	1096.7	0.0	1.4	3.0	0.0	1.7	0.9	0.0	7.0	1089.7

3.2.2 General Scour

General scour refers to the vertical lowering of the channel bed over relatively short time periods, for example, the general scour in a given reach after passage of a single flood event. A quasi-dynamic sediment routing model (QUASED) was used to quantify the channel adjustment expected throughout passage of the 100-year flood event through the study reach for the recommended Base Case condition. The scour depth computed for general scour within the project area varied along the channel reach.

3.2.3 Bedform Scour

The bed-form scour component was estimated by calculating the dune height using a relationship developed by Allen (Reference 5). The maximum scour depth calculated with the above relationship, for the 100-year design hydraulic conditions, was 1.7 feet. This has been used as the bedform scour depth for the design reach.

3.2.4 Bend Scour

The bend scour component of the total scour depth was estimated to be 3.7 feet. This estimate was based on the hydraulic variables upstream of the bend for the 100-year flow event.

3.2.5 Low-flow Incisement

The large width-depth ratios for the design reach of the Salt River require consideration of the development of low-flow channels. There are no rigorous methodologies for the prediction of low-flow channel incisement. A review of existing field conditions and experience from previous projects along the Salt River indicate a low-flow incisement depth of 3-feet is reasonable for the design reach.

3.2.6 Local Scour

Scour below grade-control structures is a special case of local scour. The depth of scour below Grade Control Structure No. 1 was estimated from a relationship developed in a study conducted for the Pima County Department of Transportation (Reference 6). The estimated depth of local scour due to the submerged grade-control structure was estimated to be 26.1 feet for the SPF event (287,720 cfs). The longitudinal extent of this scour hole downstream of the grade control structure was estimated to be 312 feet. The maximum depth of local scour is estimated to occur approximately 125 feet downstream of the grade-control structure.

In the absence of bridge piers and/or abutments, the depth of scour below grade-control structures is not added to the other scour components. Rather, the depth of scour caused by the grade-control structure is compared to the design depth of scour which incorporates general scour, bedform scour, bend scour, low-flow incisement, and other local scour components. The larger of the two values is then used for toe-down design.

3.2.7 Factor of Safety

A factor of safety was included in the total scour depth to account for non-uniform flow distributions typical of alluvial channels. This factor of safety is calculated as 30 percent of the sum of the general scour, bedform scour, bend scour, and local scour.

3.3 Recommended Bank Protection Height

The recommended bank heights are summarized in **Table 8**. The required top of bank is the sum of the 100-year water-surface elevation plus a 3-foot freeboard allowance.

TABLE 8. RECOMMENDED BANK PROTECTION HEIGHT
BASE CASE ALIGNMENT WITH SIDE
SLOPES VARYING FROM 2:1 TO 1/2:1

HEC-2 X-SEC NUMBER	CHANNEL INVERT ELEV. (FT)	100-YEAR WATER SURFACE (FT)	FREEBOARD (FT)	REQUIRED TOP OF BANK (FT)
17.79	1086.1	1110.5	3.0	1113.5
17.83	1086.2	1110.7	3.0	1113.7
17.86	1088.0	1111.0	3.0	1114.0
17.90	1088.0	1111.3	3.0	1114.3
17.94	1089.4	1111.5	3.0	1114.5
17.98	1089.2	1111.6	3.0	1114.6
18.02	1087.7	1111.6	3.0	1114.6
18.05	1087.7	1111.9	3.0	1114.9
18.09	1087.5	1112.3	3.0	1115.3
18.12	1087.4	1112.9	3.0	1115.9
18.14	1087.8	1113.6	3.0	1116.6
18.18	1087.8	1114.0	3.0	1117.0
18.19	1092.0	1114.1	3.0	1117.1
18.21	1092.1	1114.4	3.0	1117.4
18.24	1092.5	1115.6	3.0	1118.6
18.28	1093.0	1116.4	3.0	1119.4
18.32	1093.5	1116.8	3.0	1119.8
18.36	1093.5	1117.2	3.0	1120.2
18.40	1094.5	1117.4	3.0	1120.4
18.43	1094.9	1117.8	3.0	1120.8
18.47	1095.3	1118.1	3.0	1121.1
18.51	1095.6	1118.4	3.0	1121.4
18.55	1095.7	1118.7	3.0	1121.7
18.58	1096.7	1119.0	3.0	1122.0

V. GRADE-CONTROL STRUCTURE RECONSTRUCTION

4.1 Grade Control Analysis

Grade Control Structure No. 1, located at the ASR, was constructed by the Arizona Department of Transportation as part of the East Papago Freeway/Salt River Channelization project. The grade-control structure was originally analyzed for both the 100-year event and the SPF event. The "as-built" plans for Grade-Control Structure No. 1 indicate the design crest elevation for this structure was 1094.6 feet. During 1993, this structure was damaged during high flows within the Salt River.

The Salt River channel invert profile of the study reach is shown in **Figure 3.** The profile was plotted using the design crest elevation (1094.6 feet) at the grade-control structure. Degradation (local scour) of the channel invert is indictated both upstream and downstream of the structure. Based on this information, a crest elevation of 1092.0 feet was established for the analyses conducted for reconstruction of the structure.

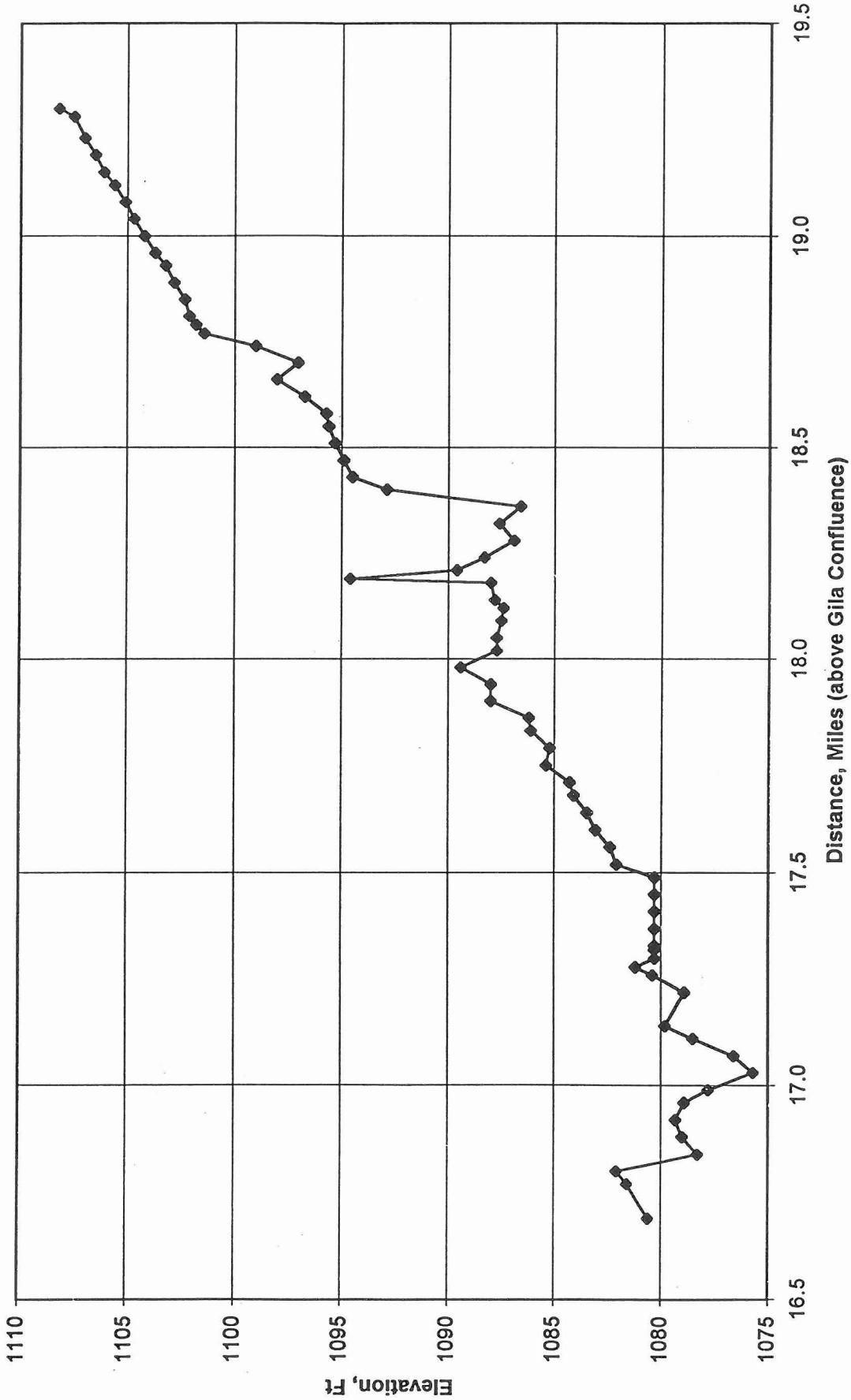
Hydraulic and scour analyses were performed for the north bank protection alignment recommended to accommodate the extended runway safety area. The hydraulic analysis developed water-surface profiles for both the 100-year and SPF events, and established the hydraulic parameters (flow depth, velocity, unit discharge, etc.) for the design of the grade-control structure. The SPF analysis was based on a discharge of 287,720 cfs. This is the SPF flow rate originally used for the design of Grade-Control Structure No. 1. A crest elevation of 1092.0 was used in the analyses.

Scour analyses were conducted to establish toe-down depths to protect against local scour immediately downstream of the grade-control structure as well as ensure adequate toe-downs for the bank protection in the vicinity of the grade-control structure. The results of the scour analysis at Grade Control Structure No. 1 is as follows:

a. For the 100-year event, local scour immediately downstream of the structure is estimated to be 22.1 feet. This requires a toe-down elevation of 1066.1 feet. This protection would extend for a minimum distance of 133 feet and then taper on a 6 horizontal to 1 vertical until the standard bank protection toe-down elevation is intersected.

b. For the SPF event, local scour immediately downstream of the structure is estimated to be 26.1 feet. This requires a toe-down elevation of 1062.1 feet at the base of the grade-control structure. This protection would extend for a minimum distance of 157 feet and then taper on a 6:1 until the standard bank protection toe-down elevation is intersected.

FIGURE 3. SALT RIVER INVERT PROFILE



4.2 Recommendations for Reconstruction

The reommended crest elevation for the reconstruction of Grade Control Structure No. 1 is 1092.0 feet.

Toe-down requirements should be based on the SPF event which would require a toe-down elevation of 1062.1 on the downstream side of Grade Control Structure No. 1. The "as-built" plans for the structure shows the constructed toe-down elevation on the downstream side to be 1057.2 feet. This protection extends for a distance of 193 feet and then tapers on a 6:1 until intersecting the standard bank protection toe-down. Therefore, the toe-down elevation, as constructed by ADOT, immediately downstream of the grade-control structure is adequate.

The "as-built" plans for Grade Control Structure No. 1 show the upstream toe of the structure to be at elevation of 1090 feet. It is recommended the grade-control structure toe extend to an elevation of 1083.5 feet on the upstream side of the structure. In addition, bank protection toe-down elevations upstream of the grade-control structure should be constructed to a minimum elevation of 1083.5 feet for approximately 1000 feet upstream of the grade-control structure.

VI. REFERENCES

1. Simons, Li & Associates, Inc., "Preliminary Design Report; Salt River Bank Protection; Reconstruction at Sky Harbor International Airport; Phoenix, Arizona." Prepared for NBS Lowry Engineers & Planners, March, 1994.

2. Simons, Li & Associates, Inc., "Summary Report, Analysis of Hydraulic Stability Impacts Associated With In-Stream Mining of the Salt River Near Sky Harbor International Airport." Prepared for SFC Engineering Company, March, 1996.

3. Federal Emergency Management Agency, "Flood Insurance Study, Maricopa County, Arizona and Incorporated Areas, Volume 6 of 12." Revised: September 30, 1995.

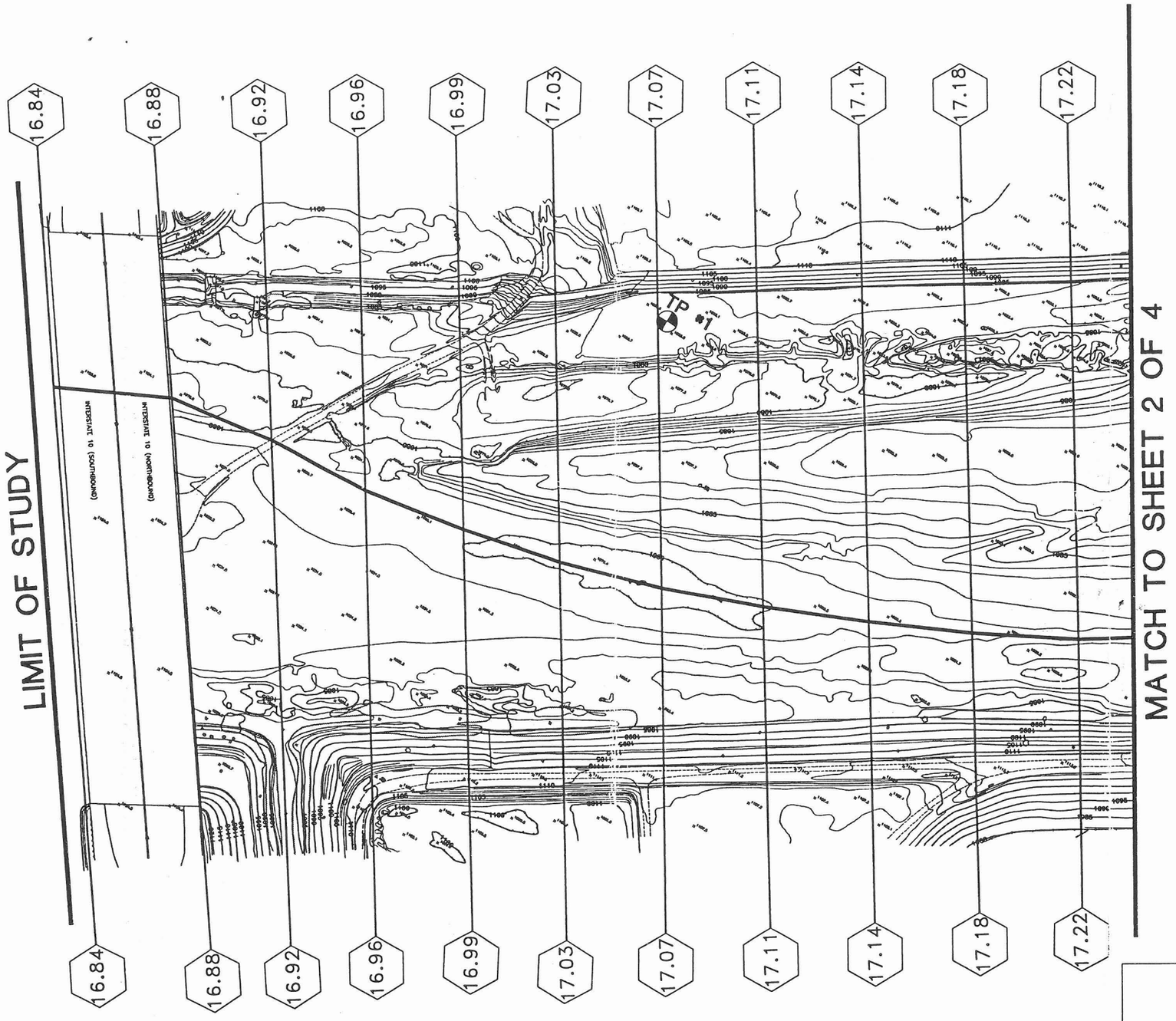
4. Simons, Li & Associates, Inc., "Design Manual for Engineering Analysis of Fluvial Systems." Prepared for the Arizona Department of Water Resources, March, 1985.

5. Simons, Daryl B. and Fuat Senturk, "Sediment Transport Technology." Water Resources Publications, Ft. Collins, Colorado, 1992.

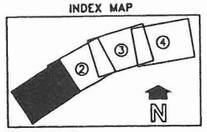
6. Simons, Li & Associates, Inc., "Project Report, Hydraulic Model Study of Local Scour Downstream of Rigid Grade-Control Structures." Prepared for the Pima County Department of Transportation and Flood Control District, March 20, 1986.

APPENDIX A

HEC-2 Cross Section Location Maps



INDEX MAP



LEGEND

- HEC-2 CROSS SECTION
- HYDRAULIC BASELINE
- TEST PIT

N

100' 0 100' 200'

SCALE: 1" = 100'

CONTOUR INTERVAL = 1 FT

REVISION BY CITY OF PHOENIX				
NO	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX				
NO	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX				
NO	DESCRIPTION	REV BY	CKD BY	DATE

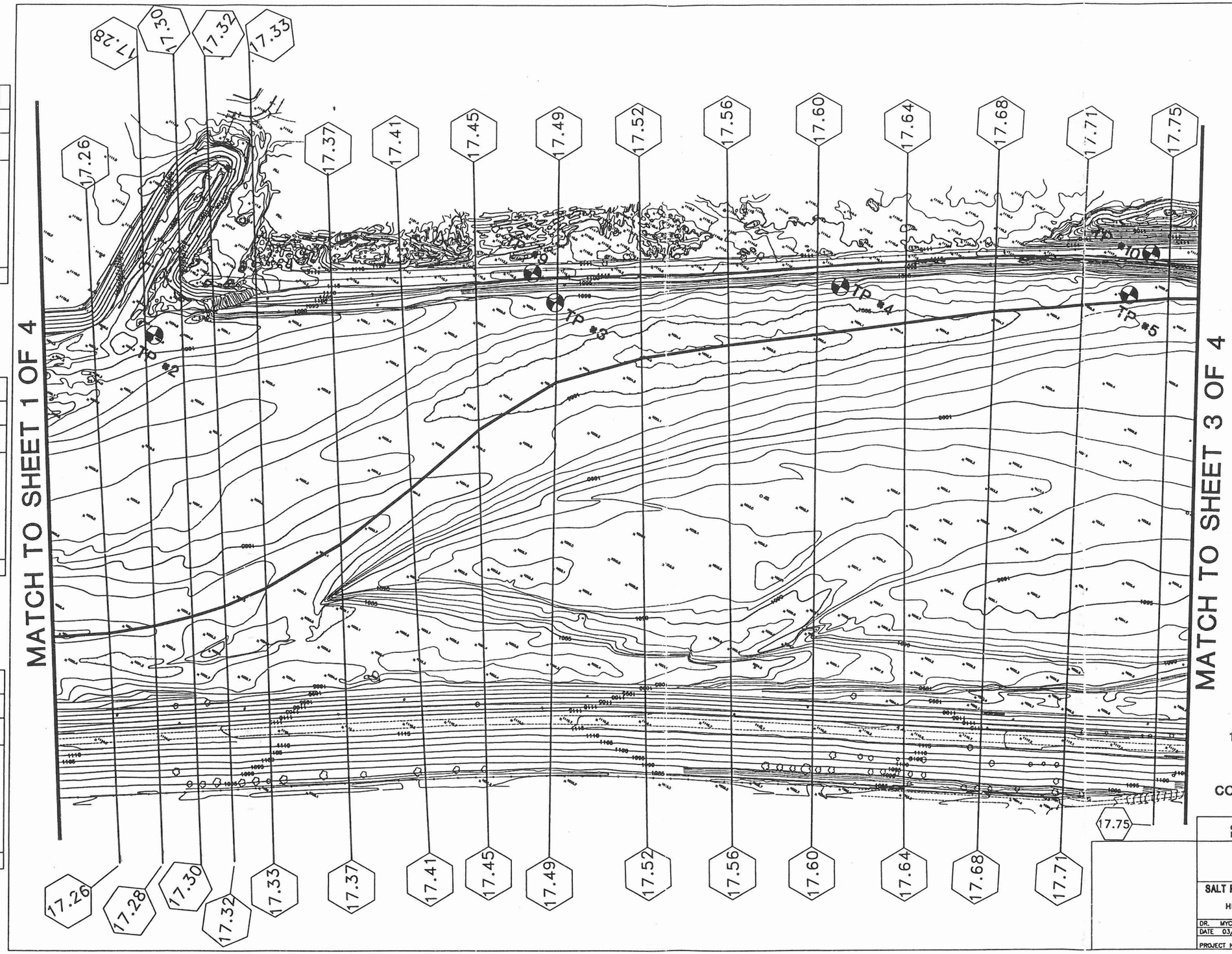
sla SIMONS, LI & ASSOCIATES, INC.

CITY OF PHOENIX, ARIZONA
AVIATION DEPARTMENT
ENGINEERING SECTION

SALT RIVER BANK PROTECTION RECONSTRUCTION

HEC-2 CROSS SECTION LOCATION MAP

DR. MYC	DES JRM	CK JRM	SHEET NO	TOTAL SHEETS	AS BUILT
DATE 03/94	DATE 03/94	DATE 03/94	1	4	
PROJECT NO A-931295 FAA					

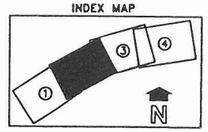


REVISION BY CITY OF PHOENIX				
NO	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX				
NO	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX				
NO	DESCRIPTION	REV BY	CKD BY	DATE

INDEX MAP



LEGEND

- HEC-2 CROSS SECTION
- HYDRAULIC BASELINE
- TEST PIT

N

100' 0 100' 200'

SCALE: 1" = 100'

CONTOUR INTERVAL = 1 FT

sla SIMONS, LI & ASSOCIATES, INC.

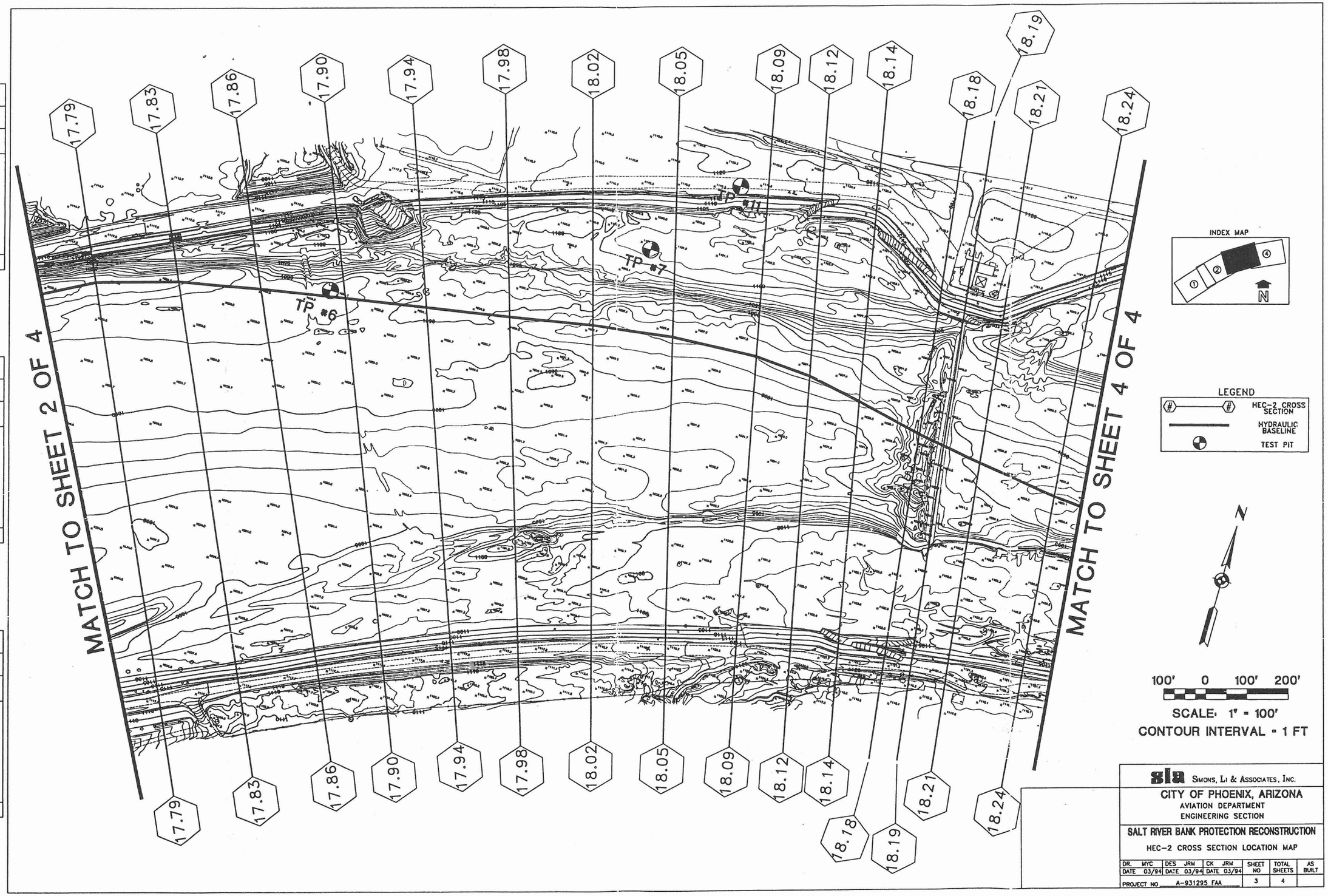
CITY OF PHOENIX, ARIZONA
AVIATION DEPARTMENT
ENGINEERING SECTION

SALT RIVER BANK PROTECTION RECONSTRUCTION

HEC-2 CROSS SECTION LOCATION MAP

DR. MYC	DES JRM	CK JRM	SHEET NO	TOTAL SHEETS	AS BUILT
DATE 03/94	DATE 03/94	DATE 03/94	2	4	

PROJECT NO A-931295 FAA



REVISION BY CITY OF PHOENIX				
NO	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX				
NO	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX				
NO	DESCRIPTION	REV BY	CKD BY	DATE

SIMONS, LI & ASSOCIATES, INC.

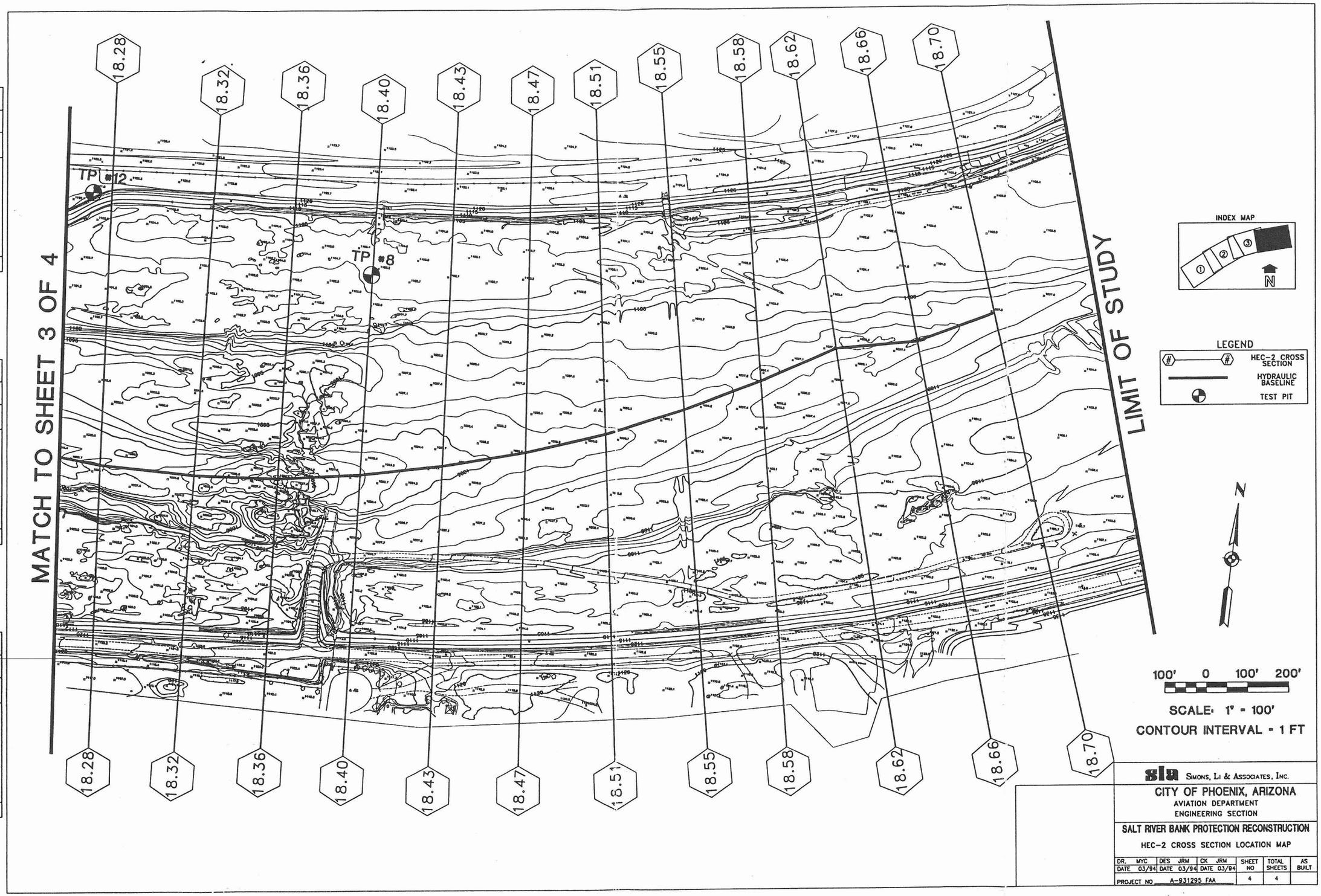
CITY OF PHOENIX, ARIZONA
AVIATION DEPARTMENT
ENGINEERING SECTION

SALT RIVER BANK PROTECTION RECONSTRUCTION

HEC-2 CROSS SECTION LOCATION MAP

DR. MYC	DES JRM	CK JRM	SHEET NO	TOTAL SHEETS	AS BUILT
DATE 03/94	DATE 03/94	DATE 03/94	3	4	

PROJECT NO A-931295 FAA



REVISION BY CITY OF PHOENIX					
NO	DESCRIPTION	REV BY	CKD BY	DATE	

REVISION BY CITY OF PHOENIX					
NO	DESCRIPTION	REV BY	CKD BY	DATE	

REVISION BY CITY OF PHOENIX					
NO	DESCRIPTION	REV BY	CKD BY	DATE	

SIMONS, LI & ASSOCIATES, INC.

CITY OF PHOENIX, ARIZONA
AVIATION DEPARTMENT
ENGINEERING SECTION

SALT RIVER BANK PROTECTION RECONSTRUCTION

HEC-2 CROSS SECTION LOCATION MAP

DR. MYC	DES JRM	CK JRM	SHEET NO	TOTAL SHEETS	AS BUILT
DATE 03/94	DATE 03/94	DATE 03/94	4	4	
PROJECT NO A-931295 FAA					

APPENDIX B

HEC-2 Water Surface Profiles
Existing Conditions

```
1*****************************************
 *  HEC-2 WATER SURFACE PROFILES          *
 *                                        *
 *  Version   4.6.2;  May 1991            *
 *                                        *
 *  RUN DATE    02APR97    TIME   10:16:38 *
 *****************************************
```

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

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

1

02APR97 10:16:38 PAGE 1

THIS RUN EXECUTED 02APR97 10:16:38

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

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

```
THIS IS AN ARCHIVAL RUN ALL DATA AND RESULTS ARE SAVED ON UNIT   96

AC
AC      EXIST.DAT        Downstream Ineffective Flow
AC                       GR at Grade Control Modified
AC
AC      MODIFIED FROM MININING STUDY, JUST START FROM UPSTREAM I-10
AC      STRATING WATER SURFACE FROM FEMA MAP
AC
AC      CHANGING INVERT ELEVATION FROM SECTION 18.02-18.4
AC      Changed the grade control elevation from 1094.6 to 1092.0
AC
AC      ENCROACHMENT AT SECTION 18.14, 18.12 AND 18.09
AC
AC      WITH MINING RUN (5.7' DEEP PLAN, CALMAT PARCEL, SECTIONS 17.28 - 17.56)
AC
AC      INEFFECTIVE FLOW AREAS WITHIN A CROSS-SECTION WERE REMOVED TO FACILITATE
AC      THE QUASED CALCULATIONS AND LIMIT THE HYDRAULIC CALCULATIONS TO THE
AC      EFFECTIVE AREAS OF THE CHANNEL.
AC
T1      SIMONS, LI & ASSOCIATES, INC.
T2      SALT RIVER - 24TH STR. TO PRIEST DRIVE
T3      100-YEAR FLOW
```

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
		2							105.3	

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

NC	.0400	.04000	.03300	.10000	.30000					
QT	1	205000								
X1	16.690	20	9470.0	10520.0	460.0	330.0	400.0			
X3	10.							.00	.00	
GR	102.0	8400.0	100.00	8790.0	104.00	8815.0	100.00	8870.0	95.00	9010.0
GR	100.0	9100.0	100.00	9385.0	104.00	9410.0	104.00	9470.0	84.00	9560.0
GR	80.6	10000.0	84.00	10450.0	104.00	10520.0	104.00	10570.0	100.00	10595.0
GR	96.0	11050.0	72.00	11085.0	72.00	11125.0	100.00	11175.0	104.00	11245.0

1

NC	.0400	.04000	.03300							
X1	16.770	9	9210.0	10400.0	500.0	380.0	400.0			
X3	10.							.00	.00	
GR	98.9	9210.0	96.00	9400.0	84.00	9445.0	81.60	10000.0	84.00	10290.0
GR	108.0	10400.0	100.00	10450.0	100.00	10850.0	104.00	10970.0		
X1	16.800	9	9240.0	10960.0	235.0	280.0	200.0			
X3	10.							.00	.00	
GR	98.9	9240.0	96.00	9365.0	84.00	9410.0	82.10	10000.0	84.00	10230.0
GR	104.0	10325.0	104.00	10380.0	102.00	10510.0	104.00	10960.0		
NC				.30000	.50000					
X1	16.840	96	9203.0	10305.5	160.0	160.0	160.0			
GR	122.7	8944.7	122.60	8965.3	122.60	8988.0	122.70	9010.5	122.90	9029.2
GR	123.2	9050.9	123.30	9078.8	123.20	9108.4	122.80	9134.0	123.40	9161.8
GR	123.2	9174.2	122.80	9180.7	122.90	9189.5	122.70	9194.4	122.40	9200.4
GR	122.0	9203.0	119.10	9209.1	114.90	9219.0	109.30	9230.1	107.10	9237.6
GR	99.7	9250.0	98.90	9252.2	99.20	9271.4	99.00	9313.0	91.80	9331.1
GR	83.0	9361.5	82.70	9399.8	83.10	9408.1	82.10	9421.4	82.50	9443.6
GR	83.0	9461.3	83.20	9474.7	81.70	9482.8	80.60	9500.0	79.50	9520.5
GR	79.6	9533.8	79.50	9547.1	79.20	9557.7	79.20	9583.9	80.20	9598.8
GR	81.0	9613.3	80.20	9621.5	79.50	9634.6	79.10	9649.7	79.60	9662.8
GR	80.1	9679.4	80.60	9690.7	81.40	9710.8	81.70	9719.3	83.00	9737.3
GR	82.9	9764.4	82.60	9784.8	82.20	9816.5	81.50	9840.7	81.30	9861.8
GR	81.5	9875.8	82.70	9891.8	83.40	9906.2	82.50	9910.9	82.10	9919.3
GR	79.0	9929.6	78.50	9945.2	78.60	9960.1	78.30	9974.8	78.70	9989.0
GR	78.7	10000.0	78.60	10014.9	79.10	10024.6	80.10	10033.0	79.20	10045.0
GR	78.6	10058.7	78.60	10078.5	79.00	10097.2	78.90	10114.0	78.40	10130.0
GR	79.2	10145.5	80.00	10158.5	81.80	10168.3	83.30	10181.0	87.40	10196.0
GR	94.7	10212.3	98.30	10226.1	97.90	10238.4	98.70	10246.0	103.40	10256.0
GR	109.8	10267.3	114.30	10274.9	115.80	10286.0	117.80	10293.0	121.60	10305.5
GR	121.9	10325.2	121.70	10366.1	121.00	10392.0	121.40	10418.0	121.00	10446.0
GR	120.7	10456.4								
SB	1.050	1.00	2.60	.00	713.50	70.00	28037.70	3.000	79.00	78.30
X1	16.880	89	9213.0	10320.7	225.4	225.4	225.4			
X2	0.	.00	1.	116.14	123.72	.00		.000		.000

GR	123.0	8956.0	123.00	8986.9	123.20	9022.6	123.20	9052.0	123.20	9083.9
GR	123.2	9118.7	123.30	9146.4	123.30	9173.5	122.80	9195.1	122.60	9206.9
GR	122.6	9213.0	119.40	9226.8	115.80	9233.9	109.10	9246.5	102.40	9260.1
GR	100.3	9268.6	100.30	9287.7	100.10	9307.0	99.50	9321.4	97.70	9333.2
GR	94.2	9346.2	89.70	9357.3	86.60	9370.3	84.30	9376.8	83.30	9381.0
GR	83.0	9413.7	83.50	9422.4	83.80	9437.9	83.70	9452.0	83.80	9462.5
GR	84.2	9471.1	83.20	9477.8	81.90	9485.4	81.80	9504.0	81.70	9517.5
GR	81.5	9538.9	81.40	9561.8	80.80	9582.7	81.00	9603.2	81.20	9626.7
GR	81.3	9649.3	82.10	9669.4	81.90	9691.1	81.90	9712.9	82.30	9732.0
GR	82.1	9755.8	82.20	9780.1	82.20	9805.8	82.40	9828.3	82.10	9848.5
GR	82.0	9866.2	81.80	9892.4	81.20	9914.0	80.90	9939.6	80.30	9962.9
GR	79.3	9976.3	79.00	9988.5	79.20	10000.0	79.40	10030.5	79.40	10050.3
GR	79.9	10070.0	80.20	10093.5	80.20	10118.1	80.50	10137.2	81.10	10149.2
GR	81.5	10162.9	81.50	10173.1	84.40	10183.9	86.70	10194.4	90.40	10206.7
GR	94.6	10219.6	98.10	10232.0	98.50	10239.1	98.60	10251.9	98.20	10265.3
GR	102.3	10271.1	108.40	10281.7	113.90	10290.6	114.70	10298.5	114.80	10303.5

1

GR	116.5	10307.4	121.00	10316.7	122.00	10320.7	122.10	10335.2	122.40	10358.5
GR	122.8	10383.7	122.80	10414.9	122.90	10451.9	123.20	10479.2		
X1	16.920	63	9559.3	10315.7	206.9	206.9	206.9			
X3	10.							.00	.00	
GR	82.5	9390.0	82.50	9396.3	82.60	9474.0	84.20	9477.7	86.20	9484.1
GR	84.8	9489.6	84.40	9496.1	85.20	9503.0	84.80	9513.3	84.30	9523.9
GR	84.0	9533.7	82.80	9543.5	83.70	9549.9	84.00	9559.3	83.80	9565.2
GR	81.9	9572.0	81.70	9582.5	82.20	9594.9	81.60	9608.3	81.30	9630.4
GR	81.1	9656.5	81.10	9680.1	81.20	9701.0	81.50	9727.4	81.90	9745.9
GR	81.5	9764.4	81.30	9789.2	81.80	9816.2	81.60	9839.4	81.40	9862.7
GR	81.0	9888.9	80.90	9917.3	80.90	9937.8	80.90	9951.7	80.70	9970.3
GR	80.4	9988.0	80.30	10000.0	79.90	10018.1	79.40	10031.0	79.40	10038.0
GR	79.5	10055.0	79.50	10060.3	79.30	10066.1	80.10	10070.0	80.00	10078.0
GR	79.8	10092.1	80.00	10112.8	80.50	10131.2	81.30	10148.0	80.90	10164.0
GR	80.7	10183.6	81.00	10201.5	81.40	10214.9	81.80	10225.0	82.10	10240.0
GR	82.1	10248.1	84.70	10254.5	86.80	10265.6	90.00	10278.0	93.00	10289.0
GR	94.9	10298.6	97.80	10309.5	98.60	10315.7				
NC				.10000	.30000					
X1	16.960	83	9462.5	10403.3	203.3	203.3	203.3			
X3	10.							.00	.00	
GR	106.1	9158.9	105.90	9180.5	105.10	9205.5	104.70	9231.6	104.50	9255.9
GR	104.5	9273.1	104.50	9293.7	104.60	9310.8	105.60	9322.7	105.70	9327.5
GR	103.7	9335.0	101.60	9341.0	101.90	9353.6	102.60	9368.4	104.20	9383.5
GR	106.4	9396.3	108.70	9407.6	110.10	9415.7	109.90	9428.0	110.00	9445.8
GR	110.0	9459.1	110.00	9462.5	107.60	9476.0	103.40	9491.5	97.70	9508.2
GR	91.8	9523.0	87.90	9535.4	84.90	9545.9	84.00	9553.2	83.30	9555.3
GR	82.8	9559.0	82.90	9590.2	84.30	9594.8	85.30	9601.8	84.30	9609.7
GR	84.7	9620.9	84.30	9630.6	83.60	9635.8	83.20	9643.7	82.80	9656.8
GR	82.2	9677.9	81.90	9712.9	81.10	9743.2	81.10	9764.5	81.70	9785.4
GR	81.9	9834.5	81.40	9859.7	81.00	9887.0	80.60	9914.4	80.40	9939.9
GR	80.3	9967.5	81.00	9989.8	80.60	10000.0	80.50	10020.9	81.40	10037.0
GR	81.2	10057.0	80.70	10077.5	79.90	10088.5	79.70	10100.0	80.40	10110.0
GR	80.1	10120.1	80.00	10130.9	79.20	10139.5	78.90	10152.8	79.20	10161.0
GR	81.3	10168.8	80.20	10173.0	80.80	10179.1	80.70	10197.8	81.00	10201.0
GR	80.3	10208.3	80.80	10249.2	81.50	10265.2	81.70	10293.0	81.90	10319.0
GR	81.4	10332.0	81.70	10338.7	85.80	10352.9	88.20	10360.0	89.10	10369.0
GR	92.2	10377.4	96.10	10391.3	99.40	10403.3				

X1	16.990	82	9547.0	10474.1	201.7	201.7	201.7			
X3	10.							.00	.00	
GR	100.5	9394.5	150.50	9394.5	100.50	9394.5	100.60	9417.2	100.50	9435.1
GR	100.4	9452.3	99.80	9463.3	100.50	9475.5	101.50	9483.4	104.90	9494.6
GR	108.1	9506.4	110.20	9514.2	110.20	9527.6	109.90	9540.4	109.90	9547.0
GR	109.1	9553.4	106.60	9561.0	103.50	9569.5	99.80	9578.4	94.60	9591.1
GR	89.7	9605.9	85.50	9617.4	83.80	9623.3	82.70	9627.2	83.30	9653.5
GR	84.3	9661.3	83.10	9667.9	84.90	9676.9	87.00	9689.3	86.10	9697.5
GR	83.9	9704.8	83.30	9717.9	83.40	9723.9	82.30	9738.9	82.60	9758.6
GR	82.1	9782.8	81.50	9803.2	81.30	9823.1	81.10	9850.3	81.60	9871.8
GR	81.2	9898.3	80.50	9921.7	80.10	9944.7	80.20	9963.6	80.40	9986.1
GR	80.3	10000.0	80.50	10030.2	81.20	10052.0	81.60	10066.4	83.80	10086.4
GR	85.3	10102.7	85.70	10114.6	85.50	10125.2	84.80	10128.2	79.10	10134.4
GR	78.9	10141.9	78.20	10157.7	77.90	10175.5	77.80	10233.5	78.40	10256.8

1

GR	79.7	10281.0	81.00	10302.0	81.60	10310.4	80.60	10316.8	81.50	10327.2
GR	82.0	10333.0	82.70	10335.0	81.60	10338.4	82.40	10348.1	82.90	10362.5
GR	84.4	10368.0	83.30	10371.0	85.10	10380.4	85.90	10395.7	86.00	10407.8
GR	85.3	10418.0	85.00	10423.0	86.20	10430.8	90.00	10442.6	94.50	10455.1
GR	99.1	10466.0	100.70	10474.1						
NC			.03500							
X1	17.030	75	9611.5	10511.6	193.6	193.6	193.6			
X3	10.							.00	.00	
GR	99.9	9493.4	149.90	9493.4	99.90	9493.4	100.10	9516.0	100.10	9532.3
GR	100.5	9542.4	101.80	9548.0	104.60	9560.1	108.80	9574.6	110.90	9581.2
GR	110.6	9585.7	110.70	9595.1	110.80	9604.0	110.70	9611.5	105.60	9624.4
GR	98.7	9641.5	91.40	9660.6	85.50	9677.8	82.80	9685.6	83.00	9705.4
GR	84.7	9710.5	85.10	9718.2	84.10	9725.6	85.20	9732.3	84.10	9737.8
GR	83.2	9745.4	83.10	9753.5	82.90	9763.8	82.80	9771.8	82.30	9775.0
GR	82.9	9789.1	82.80	9804.8	82.60	9828.0	82.00	9850.8	81.20	9876.5
GR	81.1	9894.9	81.00	9918.7	80.30	9949.6	80.00	9977.6	79.60	9999.4
GR	79.6	10000.0	79.60	10023.9	80.20	10047.9	80.80	10067.2	81.50	10083.2
GR	83.9	10102.4	85.20	10120.0	85.80	10144.9	86.20	10163.1	86.30	10177.1
GR	86.9	10190.3	86.60	10203.9	86.00	10214.7	83.80	10224.4	80.30	10237.5
GR	78.6	10254.3	77.10	10267.7	76.50	10282.3	76.00	10319.0	75.70	10331.5
GR	76.0	10339.3	77.10	10349.0	79.00	10359.6	80.70	10368.9	82.10	10377.2
GR	82.7	10388.1	83.00	10402.0	82.60	10414.5	82.70	10442.7	83.10	10456.5
GR	85.2	10470.0	87.70	10485.0	91.30	10497.9	95.10	10505.8	97.90	10511.6
X1	17.070	64	9663.8	10598.0	202.5	202.5	202.5			
X3	10.							.00	.00	
GR	107.8	9349.5	107.50	9399.4	107.10	9446.9	107.10	9498.5	107.10	9539.2
GR	107.5	9573.1	107.80	9604.0	108.20	9617.9	108.80	9622.4	110.90	9631.5
GR	111.4	9635.1	111.20	9652.5	111.20	9663.8	103.70	9682.2	99.30	9693.8
GR	98.6	9697.2	90.50	9720.0	84.20	9738.6	82.60	9744.7	82.60	9753.4
GR	83.0	9765.3	83.20	9775.3	83.80	9785.2	83.80	9798.5	84.00	9820.0
GR	83.8	9844.7	82.90	9869.5	82.00	9894.8	81.10	9918.8	80.50	9938.3
GR	80.2	9958.6	79.50	9982.0	79.80	9997.0	79.70	10000.0	79.50	10030.8
GR	80.1	10054.3	80.70	10075.4	81.30	10097.0	83.70	10112.1	83.70	10128.7
GR	85.4	10157.5	86.10	10183.5	87.20	10209.0	87.60	10231.5	87.60	10254.9
GR	86.6	10262.3	86.50	10271.3	85.30	10285.9	81.90	10306.7	79.00	10321.5
GR	78.1	10332.5	77.60	10341.6	77.10	10354.1	76.90	10368.2	77.10	10384.6
GR	77.3	10398.9	77.30	10405.8	76.60	10408.5	77.50	10413.1	78.90	10421.3
GR	80.8	10429.6	81.56	10433.5	81.56	10538.0	111.56	10598.0		
X1	17.110	69	9703.5	10641.9	196.2	196.2	196.2			

X3	10.							.00	.00	
GR	107.9	9393.8	108.20	9424.7	108.30	9462.3	107.70	9492.8	107.20	9523.9
GR	106.8	9551.9	106.80	9587.2	106.90	9618.3	107.30	9641.6	107.40	9654.8
GR	108.0	9658.5	111.20	9668.2	111.80	9673.4	111.60	9683.7	111.40	9695.4
GR	111.3	9703.5	103.60	9725.1	99.50	9736.3	99.40	9739.2	90.70	9762.2
GR	84.6	9780.2	83.80	9783.5	83.90	9799.7	83.90	9822.2	84.20	9846.0
GR	83.8	9864.6	83.20	9878.9	82.30	9890.2	81.40	9905.2	81.50	9921.4
GR	80.5	9941.6	80.10	9961.9	80.00	9984.3	79.90	10000.0	80.00	10030.3
GR	80.8	10059.9	80.80	10086.1	81.50	10099.3	82.50	10116.4	84.10	10134.1
GR	84.4	10153.2	85.20	10179.9	86.40	10213.4	87.80	10242.0	88.50	10273.5
GR	88.1	10291.1	87.70	10303.4	86.50	10326.5	84.30	10344.9	81.00	10364.4
GR	79.7	10376.7	79.60	10389.6	79.50	10406.5	79.50	10420.2	79.20	10428.7

1

GR	78.9	10436.8	79.00	10445.0	78.60	10454.0	78.50	10458.1	79.30	10462.9
GR	80.9	10470.3	83.40	10483.2	84.30	10496.3	84.20	10508.3	83.40	10526.5
GR	83.3	10547.2	83.10	10565.7	82.91	10581.9	112.91	10641.9		
X1	17.140	67	9737.5	10679.5	203.5	203.5	203.5			
X3	10.							.00	.00	
GR	97.4	9432.6	104.40	9464.7	109.10	9489.2	109.20	9513.7	108.40	9527.6
GR	108.7	9550.1	108.60	9576.7	108.50	9601.3	108.70	9629.5	108.10	9649.7
GR	106.9	9662.1	106.70	9675.4	107.30	9685.5	108.50	9693.1	112.40	9705.4
GR	112.4	9717.6	112.10	9724.3	112.20	9737.5	105.30	9754.4	100.50	9770.1
GR	100.4	9772.7	98.00	9781.7	89.90	9802.9	85.10	9817.5	84.40	9822.4
GR	84.6	9834.3	84.10	9849.4	83.70	9870.2	82.80	9891.6	82.60	9911.5
GR	82.5	9934.6	81.90	9957.4	80.90	9977.8	79.90	9996.2	79.80	10000.0
GR	80.1	10027.8	80.90	10055.2	81.50	10086.4	82.50	10114.7	83.40	10145.6
GR	84.8	10170.2	86.10	10203.3	87.10	10230.5	88.80	10257.8	89.30	10282.6
GR	89.4	10308.5	89.60	10334.2	89.40	10350.4	88.90	10365.9	88.10	10371.4
GR	84.5	10378.9	82.70	10389.5	80.80	10410.9	80.10	10428.0	79.80	10444.3
GR	80.3	10463.8	80.60	10484.1	80.80	10504.5	82.20	10520.4	83.90	10529.1
GR	83.7	10538.7	83.20	10545.9	83.20	10556.9	82.90	10576.4	82.70	10604.1
GR	82.6	10619.5	112.60	10679.5						
X1	17.180	54	9768.6	10702.4	198.7	198.7	198.7			
X3	10.							.00	.00	
GR	64.8	9473.2	64.80	9555.3	69.90	9565.8	72.90	9574.9	77.10	9584.9
GR	78.4	9588.0	78.60	9600.1	79.40	9604.0	81.30	9615.8	82.40	9620.3
GR	89.6	9641.6	103.60	9675.8	112.90	9699.8	112.60	9719.0	113.10	9741.8
GR	113.0	9768.6	102.40	9797.9	101.80	9800.3	86.70	9838.3	86.30	9853.6
GR	84.4	9855.8	83.60	9880.9	81.80	9918.7	81.20	9947.5	81.70	9980.9
GR	80.0	10000.0	80.70	10048.7	82.50	10107.9	84.30	10150.2	83.70	10166.5
GR	85.5	10200.0	86.80	10254.3	88.80	10313.2	89.30	10347.0	88.50	10365.8
GR	87.6	10369.6	87.90	10374.7	88.50	10389.8	87.50	10404.5	82.60	10433.1
GR	80.0	10459.0	79.70	10473.6	78.90	10483.2	80.40	10497.0	84.10	10512.0
GR	86.5	10521.5	87.30	10541.7	85.80	10551.7	83.10	10568.4	83.20	10588.2
GR	83.0	10614.4	82.50	10639.8	82.50	10642.4	112.50	10702.4		
X1	17.220	53	9783.7	10721.7	202.6	202.6	202.6			
X3	10.							.00	.00	
GR	64.8	9493.5	64.80	9595.4	80.40	9623.1	79.60	9641.6	80.40	9644.0
GR	81.4	9648.5	82.60	9652.8	83.00	9657.8	94.90	9696.5	113.30	9748.6
GR	113.8	9758.2	113.80	9774.1	113.80	9783.7	102.40	9807.8	102.20	9810.5
GR	93.0	9832.1	86.50	9846.0	86.40	9859.3	85.80	9862.3	85.40	9876.5
GR	82.8	9904.4	80.70	9939.0	81.90	9963.3	82.90	9980.1	81.30	9994.3
GR	80.6	10000.0	80.40	10010.4	81.40	10042.9	82.10	10081.3	82.80	10118.9
GR	85.1	10163.5	86.60	10201.5	86.40	10221.8	88.00	10248.0	88.80	10293.1

GR	89.5	10350.3	89.00	10400.4	87.40	10428.5	83.70	10473.6	82.00	10501.7
GR	84.2	10518.6	83.90	10534.2	85.20	10542.2	84.30	10548.4	85.90	10559.3
GR	86.1	10570.2	84.50	10581.3	83.50	10593.9	81.90	10606.8	82.70	10637.8
GR	83.1	10658.5	83.10	10661.7	113.10	10721.7				

1

X1	17.260	50	9781.0	10719.9	233.0	233.0	233.0			
X3	10.							.00	.00	
GR	64.8	9487.5	64.80	9597.3	81.50	9625.9	81.30	9637.4	82.60	9641.8
GR	82.6	9644.1	83.70	9648.3	83.40	9651.4	85.70	9665.1	89.60	9679.8
GR	98.2	9703.5	114.10	9747.7	114.20	9752.6	114.50	9770.4	114.20	9781.0
GR	104.1	9800.2	103.70	9803.0	88.40	9832.5	87.70	9838.8	87.90	9846.8
GR	87.1	9848.9	84.00	9872.8	83.50	9896.6	81.80	9934.6	81.70	9955.2
GR	82.6	9984.7	81.20	10000.0	82.00	10035.1	82.40	10068.4	84.20	10150.7
GR	85.6	10170.9	86.50	10183.5	87.20	10206.4	87.90	10254.3	88.10	10294.4
GR	88.5	10332.2	89.00	10377.1	89.10	10412.7	87.70	10465.2	85.90	10523.6
GR	86.6	10546.9	86.60	10556.0	84.60	10570.7	86.10	10582.8	84.30	10594.5
GR	84.3	10608.2	82.90	10622.2	83.70	10641.1	83.30	10659.9	113.30	10719.9
X1	17.280	48	9769.2	10712.1	103.2	103.2	103.2			
X3	10.							.00	.00	
GR	64.8	9470.9	64.80	9583.5	81.60	9610.9	81.50	9626.5	82.10	9629.7
GR	82.0	9634.3	83.10	9639.5	85.40	9650.5	94.90	9678.6	110.10	9725.2
GR	114.9	9738.7	114.70	9755.3	114.70	9769.2	104.50	9788.3	104.30	9790.9
GR	89.1	9820.4	88.50	9830.1	88.40	9836.3	86.80	9840.8	82.80	9868.3
GR	81.6	9894.9	81.30	9904.3	82.10	9913.3	81.30	9923.6	82.30	9945.1
GR	82.3	9986.1	81.70	10000.0	82.40	10040.2	82.60	10055.7	83.20	10080.9
GR	83.9	10119.0	85.20	10160.2	86.50	10202.6	86.62	10206.4	80.30	10219.0
GR	80.3	10237.3	80.30	10269.8	80.30	10309.8	80.30	10354.0	80.30	10404.9
GR	80.3	10449.8	80.30	10524.4	80.30	10571.0	85.35	10581.1	85.40	10581.2
GR	84.7	10631.7	84.70	10652.1	114.70	10712.1				
X1	17.300	45	9753.3	10695.6	86.3	86.3	86.3			
X3	10.							.00	.00	
GR	64.8	9446.2	64.80	9564.8	73.60	9579.7	82.00	9594.8	81.90	9609.6
GR	82.7	9617.8	84.60	9626.6	87.30	9638.0	100.20	9677.0	115.10	9721.5
GR	114.9	9740.4	114.60	9753.3	104.60	9772.8	103.90	9776.3	88.50	9805.6
GR	88.3	9819.9	87.10	9825.2	84.20	9837.0	82.50	9857.8	82.40	9875.2
GR	82.5	9890.6	84.50	9904.6	84.30	9911.9	83.00	9924.3	83.20	9937.7
GR	82.8	9956.7	82.70	9978.7	82.10	10000.0	83.00	10044.4	82.80	10070.5
GR	84.6	10128.8	83.55	10131.0	80.30	10137.5	80.30	10189.8	80.30	10265.0
GR	80.3	10334.1	80.30	10400.0	80.30	10470.9	80.30	10523.7	80.30	10554.5
GR	85.9	10565.6	85.00	10588.2	84.40	10635.1	84.40	10635.6	114.40	10695.6
X1	17.320	45	9734.7	10676.9	77.1	77.1	77.1			
X3	10.							.00	.00	
GR	64.8	9429.9	64.80	9552.4	68.60	9556.2	78.60	9575.5	82.40	9580.2
GR	82.6	9593.1	83.20	9598.2	84.80	9603.4	85.50	9611.2	91.50	9627.8
GR	106.9	9673.9	114.70	9703.2	114.80	9722.0	114.70	9734.7	105.20	9754.2
GR	104.7	9757.8	88.80	9785.8	88.10	9797.3	87.50	9799.5	85.00	9803.3
GR	83.3	9818.2	82.90	9858.7	82.30	9879.0	84.40	9891.7	84.20	9913.4
GR	84.4	9922.8	84.30	9929.5	83.30	9951.1	82.40	9971.0	82.60	10000.0
GR	82.9	10038.0	83.14	10052.8	80.30	10058.5	80.30	10111.4	80.30	10186.9
GR	80.3	10254.0	80.30	10312.9	80.30	10377.1	80.30	10459.6	80.30	10532.0
GR	80.3	10535.5	86.67	10548.2	84.70	10591.9	84.20	10616.9	114.20	10676.9

1

X1	17.330	43	9701.2	10668.3	101.2	101.2	101.2			
X3	10.							.00	.00	
GR	64.8	9386.0	64.80	9513.2	78.00	9531.9	83.20	9538.5	82.60	9556.4
GR	83.4	9564.0	84.90	9570.6	86.90	9581.0	101.60	9621.9	115.00	9664.3
GR	114.9	9684.9	114.80	9701.2	105.30	9719.2	104.90	9721.2	89.80	9748.6
GR	88.9	9762.3	87.90	9764.4	84.60	9767.4	84.30	9783.2	83.70	9831.6
GR	82.8	9861.4	83.80	9871.9	84.00	9907.9	83.00	9947.4	82.94	9974.2
GR	80.3	9979.5	80.30	9995.5	80.30	10000.0	80.30	10080.1	80.30	10141.9
GR	80.3	10202.0	80.30	10259.8	80.30	10317.7	80.30	10359.0	80.30	10411.9
GR	80.3	10462.0	80.30	10517.1	80.30	10526.5	86.27	10538.4	85.10	10568.5
GR	84.9	10592.8	86.73	10608.3	116.73	10668.3				
X1	17.370	53	9611.5	10574.0	194.5	194.5	194.5			
X3	10.							.00	.00	
GR	64.8	9295.1	64.80	9417.8	67.70	9424.4	82.80	9448.6	82.40	9464.5
GR	83.5	9472.8	84.80	9477.6	85.40	9482.8	87.20	9493.5	99.80	9528.2
GR	109.5	9556.9	114.90	9571.8	115.00	9594.3	115.20	9611.5	105.80	9628.5
GR	105.3	9631.0	91.30	9658.7	90.50	9661.9	90.10	9670.8	89.00	9673.6
GR	85.0	9677.2	84.00	9694.6	84.30	9711.9	83.60	9750.1	83.27	9775.1
GR	80.3	9781.0	80.30	9795.0	80.30	9827.8	80.30	9852.6	80.30	9866.3
GR	80.3	9877.3	80.30	9890.1	80.30	9898.9	80.30	9903.9	80.30	9913.2
GR	80.3	9933.2	80.30	9961.9	80.30	10000.0	80.30	10062.4	80.30	10112.6
GR	80.3	10149.6	80.30	10195.3	80.30	10241.9	80.30	10284.1	80.30	10328.1
GR	80.3	10391.0	80.30	10433.0	87.16	10446.7	87.10	10450.5	85.90	10495.9
GR	85.9	10511.6	86.59	10514.0	116.59	10574.0				
X1	17.410	54	9493.0	10455.2	199.5	199.5	199.5			
X3	10.							.00	.00	
GR	64.8	9186.2	64.80	9307.1	66.00	9310.6	82.20	9334.9	81.80	9351.7
GR	83.3	9360.0	86.50	9374.4	97.90	9407.2	115.40	9456.8	115.50	9470.9
GR	115.4	9485.4	115.20	9493.0	105.60	9511.6	105.30	9514.0	91.50	9542.7
GR	90.6	9558.7	86.60	9563.0	85.80	9567.0	84.70	9568.7	84.10	9579.7
GR	84.6	9583.4	81.40	9589.8	80.30	9592.0	80.30	9596.0	80.30	9618.0
GR	80.3	9654.4	80.30	9678.9	80.30	9700.0	80.30	9722.0	80.30	9740.8
GR	80.3	9763.7	80.30	9784.4	80.30	9800.1	80.30	9836.1	80.30	9859.4
GR	80.3	9880.7	80.30	9911.0	80.30	9948.5	80.30	9988.1	80.30	10000.0
GR	80.3	10046.5	80.30	10092.6	80.30	10131.7	80.30	10167.5	80.30	10204.3
GR	80.3	10241.6	80.30	10276.9	80.30	10312.0	80.30	10314.0	87.63	10328.7
GR	87.1	10352.8	85.90	10384.0	86.65	10395.2	116.65	10455.2		
X1	17.450	46	9370.0	10331.9	201.6	201.6	201.6			
X3	10.							.00	.00	
GR	64.8	9069.8	64.80	9178.4	75.50	9195.6	82.40	9204.9	82.00	9225.3
GR	82.6	9230.8	84.70	9237.9	85.80	9244.9	98.40	9283.2	113.20	9326.9
GR	115.4	9332.8	115.40	9354.1	115.40	9370.0	106.10	9386.6	105.80	9388.7
GR	91.4	9417.6	90.30	9426.7	83.20	9436.1	83.30	9451.9	83.01	9462.6
GR	80.3	9468.0	80.30	9484.7	80.30	9528.1	80.30	9548.6	80.30	9579.0
GR	80.3	9612.7	80.30	9648.4	80.30	9662.3	80.30	9689.4	80.30	9736.2
GR	80.3	9804.0	80.30	9847.6	80.30	9891.1	80.30	9933.9	80.30	9977.6
GR	80.3	10000.0	80.30	10063.6	80.30	10118.1	80.30	10153.6	80.30	10189.9
GR	80.3	10190.0	87.96	10205.3	88.30	10216.8	88.40	10257.7	88.40	10271.9
GR	118.4	10331.9								

1

X1	17.490	51	9266.2	10233.7	203.3	203.3	203.3			
X3	10.							.00	.00	
GR	64.8	8940.9	64.80	9072.7	80.60	9098.8	83.60	9102.8	83.30	9123.4
GR	82.3	9126.4	84.00	9132.0	84.10	9136.5	87.90	9148.1	101.70	9187.8
GR	115.6	9229.3	115.50	9234.5	115.70	9250.8	115.40	9263.7	115.90	9266.2
GR	107.4	9280.4	107.10	9283.2	92.00	9314.8	91.40	9324.0	89.70	9326.6
GR	83.2	9332.3	82.70	9344.5	82.10	9370.4	82.30	9381.0	82.30	9402.3
GR	82.3	9428.6	82.30	9452.8	82.30	9475.2	82.30	9494.1	82.30	9503.1
GR	82.3	9509.8	82.30	9546.0	82.30	9590.6	82.30	9646.4	82.30	9695.3
GR	82.3	9729.2	82.30	9738.2	82.30	9770.9	82.30	9825.0	82.30	9870.8
GR	82.3	9921.5	82.30	9971.6	82.30	10000.0	82.30	10045.8	82.30	10091.1
GR	82.3	10092.0	85.66	10098.7	86.90	10134.8	89.00	10164.2	89.32	10173.7
GR	119.3	10233.7								

X1	17.520	55	9208.9	10183.9	200.8	200.8	200.8			
X3	10.							.00	.00	
GR	64.8	8909.7	64.80	9014.7	81.50	9041.0	83.90	9043.7	83.40	9065.3
GR	83.1	9070.7	84.60	9077.0	85.70	9083.9	99.00	9121.2	115.50	9168.7
GR	116.2	9172.7	116.20	9181.0	116.30	9193.9	115.70	9208.9	109.00	9222.7
GR	108.7	9225.0	93.10	9255.0	92.40	9260.6	83.70	9271.9	83.40	9286.7
GR	82.4	9317.8	82.90	9326.8	86.60	9343.0	87.80	9370.5	88.70	9397.2
GR	90.8	9429.4	92.40	9448.9	92.40	9449.3	84.30	9465.5	84.30	9481.1
GR	84.3	9515.2	84.30	9551.1	84.30	9592.2	84.30	9626.1	84.30	9656.9
GR	84.3	9670.4	84.30	9681.0	84.30	9696.5	84.30	9726.5	84.30	9765.0
GR	84.3	9804.9	84.30	9840.1	84.30	9878.9	84.30	9894.9	84.30	9945.9
GR	84.3	9945.9	84.30	9945.9	83.50	9985.3	83.60	10000.0	84.20	10043.2
GR	85.2	10073.5	85.90	10098.1	88.40	10122.4	88.49	10123.9	118.40	10183.9

X1	17.560	53	9170.2	10156.5	199.0	199.0	199.0			
X3	10.							.00	.00	
GR	64.8	8881.8	64.80	8974.0	81.90	9001.5	83.10	9003.8	83.00	9027.3
GR	83.3	9030.2	83.30	9033.4	85.00	9038.9	86.10	9044.5	92.60	9065.2
GR	106.9	9108.2	116.20	9134.7	116.20	9159.0	115.90	9170.2	109.60	9184.4
GR	109.4	9186.0	93.70	9216.4	93.00	9227.1	91.80	9229.8	89.00	9233.1
GR	86.2	9252.1	83.70	9272.8	83.10	9284.2	83.60	9289.6	87.50	9302.7
GR	88.0	9326.7	88.40	9347.9	89.20	9370.2	89.60	9393.9	89.70	9405.1
GR	91.2	9421.8	92.20	9454.0	92.50	9488.7	92.40	9530.3	92.10	9561.7
GR	92.1	9592.6	93.00	9620.8	93.20	9651.7	93.20	9684.1	93.18	9684.7
GR	86.3	9698.5	86.30	9715.9	86.30	9744.1	86.30	9781.7	86.30	9843.9
GR	86.3	9886.7	85.10	9931.1	83.80	9970.4	83.80	10000.0	84.60	10039.1
GR	85.7	10079.3	86.83	10096.5	116.80	10156.5				

X1	17.600	54	9138.1	10138.5	200.6	200.6	200.6			
X3	10.							.00	.00	
GR	64.8	8856.7	64.80	8942.8	76.50	8959.8	81.90	8973.0	81.30	8988.5
GR	81.7	8995.9	85.10	9005.9	86.50	9013.5	94.00	9036.0	108.40	9079.0
GR	116.5	9102.8	116.20	9125.1	116.10	9138.1	110.10	9148.9	109.60	9151.2
GR	93.9	9181.2	93.50	9196.0	91.80	9203.3	90.60	9209.1	88.60	9222.0
GR	86.2	9241.9	86.00	9265.4	86.20	9293.8	88.40	9314.7	90.90	9326.0
GR	90.8	9329.0	88.50	9336.2	88.20	9340.9	92.80	9351.1	92.30	9360.4
GR	90.0	9368.7	89.30	9384.5	89.70	9413.4	90.00	9443.2	90.90	9473.8
GR	92.6	9493.5	92.50	9525.2	92.80	9557.8	93.20	9594.3	93.40	9627.9
GR	93.4	9660.5	93.10	9683.9	92.40	9723.0	90.70	9766.0	88.80	9822.9

GR	86.6	9869.3	85.50	9914.4	84.20	9957.7	83.70	9987.9	83.50	10000.0
GR	84.2	10032.1	85.30	10063.0	86.35	10078.5	116.35	10138.5		

X1	17.640	47	9101.0	10119.3	200.4	200.4	200.4			
X3	10.							.00	.00	
GR	64.8	8829.1	64.80	8899.7	66.80	8903.6	83.50	8933.0	83.20	8958.8
GR	84.2	8961.5	84.00	8963.5	85.70	8968.8	85.30	8972.8	88.50	8984.5
GR	101.1	9018.1	113.90	9056.2	116.20	9063.7	116.60	9087.0	116.00	9101.0
GR	109.1	9114.0	108.50	9117.3	94.30	9146.4	94.10	9161.1	92.20	9178.7
GR	88.3	9194.9	87.90	9213.7	87.70	9235.4	87.70	9255.7	89.00	9279.0
GR	92.0	9305.4	93.30	9335.1	93.50	9375.8	93.90	9409.5	93.70	9425.4
GR	92.0	9447.2	91.80	9488.9	92.10	9537.0	92.80	9583.4	93.40	9627.6
GR	92.8	9676.2	91.40	9731.0	90.70	9760.5	89.40	9810.6	87.60	9861.8
GR	86.0	9910.7	84.40	9955.6	84.10	9991.1	84.40	10000.0	85.30	10048.6
GR	85.7	10059.3	115.78	10119.3						
X1	17.680	53	9065.8	10101.4	201.8	201.8	201.8			
X3	10.							.00	.00	
GR	80.3	8796.5	80.60	8824.2	79.60	8831.3	78.20	8840.6	77.50	8848.4
GR	77.4	8856.5	79.40	8869.1	79.60	8881.4	81.00	8889.4	84.60	8897.4
GR	83.5	8919.8	85.00	8927.0	85.20	8929.2	87.40	8936.4	88.40	8941.3
GR	92.3	8955.9	114.80	9026.3	116.60	9031.7	116.80	9057.7	116.60	9065.8
GR	109.9	9077.5	109.20	9080.1	94.80	9110.9	94.60	9125.0	93.90	9136.3
GR	94.5	9152.0	89.30	9163.0	88.80	9175.7	87.80	9204.9	88.20	9221.0
GR	90.8	9247.9	93.80	9297.7	94.50	9345.8	94.80	9369.4	94.40	9410.4
GR	93.2	9458.9	92.60	9502.4	92.40	9544.3	92.70	9594.1	92.70	9638.1
GR	92.0	9681.0	91.00	9727.6	90.00	9763.9	89.00	9807.9	88.70	9852.6
GR	87.6	9894.2	86.30	9927.8	84.60	9962.7	84.30	9993.4	84.60	10000.0
GR	86.0	10033.7	86.33	10041.4	116.33	10101.4				
X1	17.710	62	9043.0	10095.8	198.9	198.9	198.9			
X3	10.							.00	.00	
GR	104.3	8777.8	89.70	8813.4	83.90	8831.2	83.60	8845.4	83.20	8848.6
GR	84.4	8851.6	82.10	8858.0	82.60	8866.0	83.80	8874.5	84.00	8885.8
GR	84.4	8898.2	84.20	8903.1	83.90	8907.0	85.90	8911.6	88.40	8917.9
GR	94.8	8940.5	102.60	8966.1	112.30	8992.1	116.40	9007.4	117.00	9026.7
GR	116.7	9043.0	111.60	9053.1	110.90	9056.0	95.40	9085.6	95.40	9101.8
GR	95.4	9108.6	95.80	9121.8	96.20	9129.4	94.00	9140.6	90.90	9150.4
GR	88.8	9166.3	88.50	9184.3	88.90	9196.0	90.80	9210.0	92.80	9233.5
GR	93.7	9262.3	94.00	9291.7	94.50	9325.6	95.00	9366.9	95.50	9397.4
GR	94.8	9409.5	94.10	9439.1	93.50	9474.2	93.20	9507.7	92.90	9544.8
GR	92.9	9583.0	92.40	9625.8	91.80	9662.4	90.30	9697.2	90.20	9731.9
GR	90.0	9764.8	89.40	9809.2	89.10	9841.7	88.70	9879.8	87.40	9915.8
GR	86.4	9948.3	86.10	9973.1	85.50	9990.1	85.40	10000.0	86.10	10027.3
GR	87.0	10035.8	117.05	10095.8						
X1	17.750	59	9018.2	10083.1	198.9	198.9	198.9			
X3	10.							.00	.00	
GR	110.0	8776.7	109.80	8796.8	110.50	8804.3	110.20	8813.7	103.70	8825.9
GR	92.6	8849.7	90.80	8856.2	90.90	8864.9	91.10	8880.3	91.30	8888.6
GR	91.2	8897.3	93.00	8902.2	104.20	8939.0	115.50	8976.4	117.10	8981.6
GR	116.5	8986.6	116.90	9002.6	116.70	9018.2	110.50	9029.8	110.00	9033.1
GR	96.1	9062.2	96.00	9080.8	95.80	9093.3	95.90	9106.1	94.80	9123.0
GR	93.1	9140.6	92.70	9145.8	90.70	9155.1	89.60	9166.6	89.40	9177.8

1

GR	90.7	9187.4	91.80	9201.6	93.00	9224.0	93.70	9254.4	94.30	9282.6
GR	94.6	9313.6	95.20	9347.9	95.10	9384.5	94.70	9423.1	94.10	9461.2
GR	93.4	9495.5	93.10	9534.5	92.30	9580.0	91.50	9618.6	90.40	9657.0
GR	90.2	9692.7	89.80	9732.2	89.40	9770.9	89.30	9809.2	89.20	9846.7
GR	88.5	9883.9	87.40	9917.6	87.40	9944.7	87.30	9958.3	87.10	9971.7

GR	86.1	9981.5	85.80	10000.0	85.22	10023.1	115.22	10083.1		
X1	17.790	53	9012.7	10097.2	201.8	201.8	201.8			
X3	10.							.00	.00	
GR	110.9	8761.2	110.40	8791.5	110.20	8810.4	110.20	8824.9	109.90	8843.2
GR	110.4	8851.1	110.40	8859.3	100.50	8882.1	100.20	8897.7	100.00	8914.8
GR	100.1	8921.2	104.40	8937.0	114.10	8968.0	117.10	8975.2	117.00	8992.3
GR	116.4	9012.7	110.90	9023.7	109.90	9027.9	99.00	9050.4	96.50	9060.6
GR	96.1	9075.4	96.70	9102.3	95.70	9121.8	95.40	9147.2	95.00	9161.3
GR	94.1	9175.1	91.20	9181.1	90.30	9189.4	90.30	9202.8	92.30	9218.7
GR	93.4	9241.0	94.20	9273.0	94.00	9308.5	94.60	9345.6	94.90	9382.5
GR	94.7	9416.6	94.00	9467.9	93.10	9517.1	91.90	9560.4	91.60	9602.9
GR	90.5	9650.2	89.90	9697.8	89.70	9745.3	89.30	9795.0	88.90	9847.9
GR	88.2	9898.2	88.50	9934.7	87.40	9960.4	86.60	9987.1	86.10	10000.0
GR	86.8	10015.6	91.25	10037.2	121.25	10097.2				
X1	17.830	51	9040.5	10144.0	199.3	199.3	199.3			
X3	10.							.00	.00	
GR	111.2	8805.8	111.50	8862.9	111.50	8909.5	110.20	8919.4	108.90	8930.6
GR	108.8	8946.8	108.30	8957.1	108.40	8969.4	109.20	8982.8	109.60	8994.4
GR	113.6	9002.6	117.00	9011.8	117.30	9019.5	117.10	9040.5	110.70	9050.0
GR	97.5	9080.1	96.70	9087.3	97.30	9099.2	97.40	9116.2	97.00	9149.4
GR	96.4	9171.5	95.70	9183.1	95.80	9194.5	96.40	9202.0	95.90	9221.6
GR	95.3	9256.1	94.70	9284.3	93.70	9302.4	94.00	9339.6	94.50	9389.4
GR	94.6	9437.5	94.00	9494.8	92.80	9549.3	91.60	9607.5	90.30	9657.3
GR	89.4	9713.2	89.40	9761.1	89.50	9809.7	88.70	9866.6	88.50	9907.8
GR	88.8	9939.8	87.30	9975.8	86.20	10000.0	86.80	10020.6	92.30	10042.5
GR	95.7	10053.2	96.90	10060.3	96.50	10072.6	97.15	10075.8	97.15	10084.0
GR	127.1	10144.0								
X1	17.860	49	9088.1	10193.0	198.7	198.7	198.7			
X3	10.							.00	.00	
GR	111.4	8860.8	111.20	8898.9	111.40	8933.7	111.20	8961.3	110.50	8973.5
GR	109.0	8989.5	108.10	9008.3	107.90	9023.2	107.90	9030.8	107.90	9035.4
GR	111.2	9045.6	117.40	9059.1	117.60	9078.7	117.50	9088.1	111.30	9100.1
GR	98.5	9127.5	97.90	9133.5	97.20	9146.5	97.10	9161.1	96.80	9179.0
GR	96.9	9193.6	96.90	9208.1	96.10	9230.3	96.40	9240.9	97.00	9255.2
GR	96.6	9289.0	96.10	9307.9	94.90	9320.7	95.80	9341.2	94.60	9376.1
GR	94.3	9439.3	93.50	9513.8	92.80	9566.6	91.70	9624.8	90.80	9676.1
GR	90.0	9718.0	89.20	9771.7	89.30	9822.6	89.00	9865.1	88.00	9902.4
GR	88.5	9941.6	88.00	9978.2	88.20	9997.6	88.10	10000.0	89.40	10043.9
GR	92.6	10061.7	97.65	10082.9	97.65	10133.0	127.65	10193.0		
X1	17.900	67	9136.6	10238.6	204.0	204.0	204.0			
X3	10.							.00	.00	
GR	111.3	8910.9	111.50	8936.8	111.00	8966.4	111.00	8988.5	111.10	9002.6
GR	109.4	9007.4	108.90	9017.2	107.70	9023.2	107.30	9038.0	107.50	9052.7
GR	107.6	9065.0	107.80	9076.8	112.70	9093.9	116.10	9102.2	117.70	9107.1
GR	117.7	9125.2	118.00	9136.6	114.20	9146.0	103.70	9164.5	98.40	9177.8

1

GR	98.1	9194.5	97.70	9222.4	97.10	9235.7	97.50	9257.5	97.80	9278.5
GR	97.4	9299.6	95.70	9317.7	94.80	9336.4	95.20	9345.2	96.20	9364.9
GR	96.7	9379.8	96.20	9400.2	94.70	9426.4	94.50	9456.5	94.00	9492.2
GR	93.6	9526.8	93.10	9561.0	92.80	9592.4	92.20	9626.5	91.40	9660.0
GR	91.3	9678.4	90.30	9698.9	90.40	9724.4	89.40	9758.2	89.40	9785.6
GR	88.8	9808.2	89.10	9834.2	89.60	9868.1	90.00	9904.9	88.80	9922.3
GR	89.2	9935.4	89.10	9951.6	89.20	9965.8	88.30	9992.9	88.40	10000.0

GR	88.0	10028.8	89.60	10050.8	92.50	10072.4	95.70	10094.1	98.20	10113.7
GR	100.0	10132.1	100.50	10149.2	100.00	10161.1	98.80	10168.9	97.60	10176.4
GR	98.1	10178.6	128.12	10238.6						
X1	17.940	67	9183.6	10281.0	196.8	196.8	196.8			
X3	10.							.00	.00	
GR	112.0	8961.6	111.80	9007.4	111.20	9034.0	110.50	9049.8	110.00	9068.3
GR	109.2	9083.1	109.70	9098.1	109.80	9106.9	109.40	9116.1	109.90	9122.5
GR	113.4	9133.9	117.70	9149.6	117.40	9168.9	117.10	9183.6	110.40	9196.8
GR	99.1	9221.1	99.30	9234.3	99.10	9237.0	98.10	9243.0	97.20	9253.7
GR	96.7	9267.4	97.30	9278.1	98.30	9305.1	98.30	9331.8	97.80	9355.8
GR	97.9	9368.2	98.00	9387.3	97.30	9398.5	96.90	9403.6	96.80	9419.8
GR	96.1	9426.3	96.20	9429.3	95.30	9432.1	95.50	9440.4	96.30	9443.3
GR	94.9	9452.6	94.60	9473.3	94.10	9500.1	92.90	9537.6	92.50	9582.3
GR	92.3	9629.7	92.00	9671.9	90.90	9720.7	89.70	9758.7	89.50	9805.5
GR	89.9	9841.0	89.70	9860.1	89.60	9885.2	90.00	9911.5	89.40	9938.0
GR	89.5	9967.0	90.40	9995.6	90.70	10000.0	90.90	10023.7	89.70	10039.9
GR	90.6	10056.4	89.90	10075.8	91.10	10095.2	92.00	10103.8	93.60	10109.7
GR	95.4	10127.5	97.20	10138.3	96.20	10145.9	96.90	10161.2	98.60	10174.4
GR	98.6	10221.0	128.60	10281.0						
X1	17.980	57	9219.6	10316.0	201.9	201.9	201.9			
X3	10.							.00	.00	
GR	112.7	8976.0	112.60	9028.6	112.60	9060.4	112.70	9075.9	111.50	9080.1
GR	110.2	9094.2	110.10	9114.9	110.60	9132.1	111.00	9142.7	110.30	9154.2
GR	110.8	9162.8	114.00	9172.9	118.00	9189.1	117.70	9207.8	117.60	9219.6
GR	112.9	9229.5	99.60	9258.5	99.50	9276.5	97.70	9283.6	98.20	9310.6
GR	97.5	9336.6	98.30	9361.2	98.80	9378.0	98.30	9404.8	98.10	9417.6
GR	100.2	9438.5	101.00	9454.5	101.80	9467.8	99.00	9478.1	98.90	9487.3
GR	95.8	9496.7	93.80	9518.0	92.80	9543.9	91.80	9583.8	91.70	9626.5
GR	91.9	9674.9	91.40	9720.8	90.40	9771.2	90.00	9817.1	90.20	9860.4
GR	89.6	9897.2	89.90	9929.9	89.80	9960.4	89.20	10000.0	90.40	10039.8
GR	91.0	10077.5	92.90	10104.9	94.20	10121.6	95.40	10140.1	96.80	10151.3
GR	98.1	10163.3	98.30	10183.5	98.70	10210.3	98.80	10227.1	99.09	10228.0
GR	99.0	10256.0	129.09	10316.0						
X1	18.020	64	9234.1	10339.9	202.2	202.2	202.2			
X3	10.	89.7						.00	.00	
GR	113.8	9008.5	113.70	9027.2	113.30	9052.9	112.90	9078.6	112.60	9100.1
GR	112.5	9110.0	112.60	9135.4	113.00	9153.7	113.50	9161.0	113.60	9168.8
GR	113.7	9175.0	113.40	9187.3	114.10	9194.8	118.40	9214.0	118.40	9234.1
GR	117.8	9244.7	116.10	9250.4	111.90	9257.9	101.00	9280.1	101.00	9283.5
GR	99.7	9284.5	99.50	9295.2	99.10	9303.9	99.00	9320.6	99.60	9333.8
GR	99.9	9350.1	100.30	9362.6	100.30	9385.6	100.00	9407.4	99.60	9441.4
GR	99.3	9466.1	100.40	9489.8	99.50	9496.6	100.10	9502.9	100.40	9506.6
GR	99.5	9514.6	97.40	9530.0	93.50	9568.4	92.20	9607.1	92.20	9644.5
GR	92.6	9671.8	92.20	9709.4	91.10	9799.5	90.40	9883.1	89.70	9932.7

GR	87.9	9982.5	87.70	10000.0	89.10	10029.3	91.20	10056.8	92.80	10081.0
GR	94.3	10102.3	96.10	10120.8	97.80	10132.5	99.30	10151.5	99.30	10181.5
GR	99.9	10208.5	100.30	10214.5	99.70	10217.7	100.30	10226.5	100.60	10232.3
GR	100.0	10263.7	99.10	10278.8	99.59	10279.9	129.59	10339.9		
X1	18.050	66	9271.5	10371.0	195.6	195.6	195.6			
X3	10.	90.1						.00	.00	
GR	115.4	9031.2	115.70	9037.0	118.20	9047.4	118.60	9067.6	119.70	9096.1
GR	118.9	9103.2	121.40	9137.2	119.60	9145.7	118.80	9159.9	117.50	9162.4

GR	118.2	9174.0	117.20	9187.0	117.00	9210.7	118.30	9228.7	119.70	9245.7
GR	119.5	9262.2	119.20	9271.5	114.20	9282.2	101.80	9309.0	101.50	9311.9
GR	100.3	9313.8	100.00	9324.5	100.80	9340.3	101.60	9361.4	101.50	9387.6
GR	100.9	9399.3	100.50	9419.3	100.50	9446.9	100.50	9456.2	100.40	9472.3
GR	100.4	9503.2	100.20	9517.0	101.00	9522.4	100.30	9526.4	100.10	9537.2
GR	100.0	9545.8	99.00	9555.9	99.70	9559.1	92.30	9576.8	91.90	9606.3
GR	92.2	9634.1	92.70	9659.4	93.00	9681.9	92.40	9708.5	92.10	9742.3
GR	91.7	9781.3	91.70	9821.1	90.70	9861.8	90.20	9900.7	89.90	9935.6
GR	88.5	9965.3	87.80	10000.0	87.70	10023.9	88.80	10055.1	90.50	10082.4
GR	92.8	10102.9	96.50	10119.3	99.40	10143.8	100.70	10174.6	101.30	10207.4
GR	101.1	10239.3	100.70	10261.3	100.30	10273.1	100.09	10285.0	100.09	10311.0
GR	130.0	10371.0								
X1	18.090	69	9311.0	10411.0	207.2	207.2	207.2			
X3	10.	90.6				10341.0		.00	.00	
GR	115.6	9067.6	116.00	9087.4	115.50	9106.6	116.00	9122.8	114.90	9138.7
GR	114.1	9153.1	114.30	9163.4	118.00	9171.0	124.00	9177.4	124.70	9186.4
GR	126.3	9203.3	125.60	9221.3	125.80	9229.0	127.20	9235.9	126.30	9244.2
GR	126.8	9251.0	127.50	9253.0	121.10	9266.6	121.00	9279.9	121.00	9296.3
GR	121.0	9311.0	118.40	9318.6	106.90	9339.9	103.30	9352.1	101.60	9364.4
GR	101.6	9370.4	103.30	9375.0	103.60	9378.5	102.50	9382.1	102.10	9401.6
GR	101.5	9410.8	101.50	9446.7	101.60	9457.3	102.40	9462.1	101.80	9478.4
GR	101.4	9504.9	101.30	9533.9	101.10	9566.7	100.70	9588.3	99.20	9603.1
GR	96.0	9620.1	94.00	9634.2	91.60	9649.7	90.60	9666.1	91.30	9684.7
GR	91.5	9711.6	91.80	9742.1	91.80	9768.8	91.80	9798.7	92.00	9830.0
GR	91.8	9858.1	91.00	9880.0	90.00	9912.1	89.40	9942.2	89.10	9965.4
GR	88.0	9988.1	87.80	10000.0	87.50	10025.7	87.70	10041.3	88.50	10058.7
GR	88.8	10074.9	89.50	10092.0	90.40	10103.3	95.60	10122.3	97.70	10136.3
GR	99.5	10155.2	100.60	10176.1	100.60	10351.0	130.60	10411.0		
X1	18.120	65	9359.1	10451.0	137.4	137.4	137.4			
X3	10.	91.0				10325.9		.00	.00	
GR	121.1	9244.1	171.10	9244.1	121.10	9244.1	122.70	9259.6	123.70	9269.3
GR	122.3	9276.1	122.40	9282.7	123.60	9288.9	123.30	9305.7	122.40	9322.2
GR	121.3	9340.8	121.00	9355.4	120.40	9359.1	111.90	9380.4	104.60	9394.4
GR	103.9	9397.5	102.40	9400.6	102.10	9419.6	102.60	9446.7	102.70	9489.4
GR	102.3	9529.7	102.50	9569.4	101.50	9594.2	101.00	9624.6	100.60	9644.0
GR	100.9	9648.2	98.10	9656.2	94.10	9677.8	92.00	9704.0	90.80	9725.9
GR	90.5	9735.5	91.60	9754.0	91.30	9778.6	91.40	9802.4	91.80	9827.5
GR	91.7	9851.9	90.90	9872.9	91.10	9897.4	90.30	9922.1	89.20	9950.9
GR	88.1	9980.6	87.70	10000.0	87.40	10028.2	87.80	10046.3	89.40	10066.3
GR	90.0	10084.1	91.40	10102.2	93.20	10125.6	95.10	10140.3	97.60	10156.8
GR	98.4	10172.6	98.80	10185.4	100.30	10205.7	102.20	10225.6	102.40	10242.6
GR	103.0	10257.8	103.40	10273.3	103.00	10287.3	102.30	10294.5	101.60	10306.2
GR	100.6	10320.1	100.20	10333.4	100.90	10337.8	100.92	10365.9	130.94	10451.0

1

X1	18.140	61	9396.1	10499.0	134.5	134.5	134.5			
X3	10.	91.2				10296.3		.00	.00	
GR	122.9	9366.4	172.90	9366.4	122.90	9366.4	122.50	9371.2	122.00	9387.7
GR	121.7	9396.1	113.40	9412.6	108.80	9423.4	107.80	9434.7	107.40	9439.7
GR	103.6	9445.8	103.20	9459.5	103.10	9480.1	103.20	9499.8	103.80	9521.8
GR	103.1	9541.7	103.80	9556.8	103.40	9568.8	102.60	9583.1	102.60	9605.6
GR	101.7	9633.6	101.80	9652.3	101.30	9673.6	101.40	9691.3	100.60	9700.7
GR	97.2	9715.5	94.50	9735.3	92.20	9761.1	90.60	9777.1	90.00	9783.5
GR	89.5	9794.8	88.80	9807.1	89.00	9825.5	90.40	9841.7	91.20	9863.3
GR	92.2	9885.9	91.60	9903.6	91.00	9915.2	90.40	9929.0	89.90	9953.2

GR	89.7	9974.5	88.60	9995.7	88.70	10000.0	87.80	10028.7	88.10	10055.9
GR	89.6	10090.4	90.00	10112.1	91.50	10134.0	92.20	10155.6	94.50	10175.7
GR	96.6	10192.5	97.40	10210.1	98.30	10228.2	99.10	10243.7	100.90	10257.3
GR	102.8	10272.1	102.80	10291.0	102.60	10315.1	101.90	10338.4	101.50	10356.3
GR	131.26	10499.0								
X1	18.180	78	9449.6	10377.0	164.0	164.0	164.0			
X3	10.	91.7						.00	.00	
GR	114.7	9220.9	114.80	9241.8	114.40	9253.2	114.60	9268.5	114.60	9272.2
GR	116.7	9272.2	116.50	9283.6	115.90	9283.7	115.40	9290.7	116.10	9309.7
GR	116.3	9334.8	116.30	9358.5	115.90	9378.7	115.80	9391.8	115.80	9404.0
GR	117.6	9413.0	118.70	9420.7	121.60	9431.5	121.70	9449.6	120.80	9460.2
GR	117.1	9468.5	116.10	9481.2	112.30	9489.2	111.60	9497.8	111.20	9501.2
GR	104.6	9512.1	104.00	9516.3	103.30	9541.8	104.20	9551.4	103.50	9561.0
GR	104.2	9581.3	103.40	9607.7	104.10	9621.5	102.60	9636.0	102.80	9667.1
GR	102.9	9697.0	102.30	9718.1	102.10	9731.0	96.00	9745.5	91.60	9766.7
GR	88.2	9784.6	87.80	9799.3	86.60	9807.8	86.40	9823.9	85.60	9836.6
GR	83.8	9847.2	81.40	9857.8	81.40	9862.7	83.10	9876.2	84.60	9886.4
GR	83.3	9899.7	82.40	9911.9	83.20	9923.4	85.40	9937.7	85.70	9963.2
GR	85.0	9977.5	86.90	9997.7	87.00	10000.0	87.50	10034.2	86.30	10055.5
GR	86.8	10072.9	86.10	10085.2	86.90	10102.0	89.00	10119.4	88.20	10132.7
GR	88.7	10146.6	89.10	10167.3	89.50	10185.9	90.10	10204.8	91.80	10225.4
GR	94.1	10242.7	96.10	10259.2	96.90	10274.9	98.90	10289.7	100.40	10299.1
GR	101.6	10301.4	101.65	10317.0	131.65	10377.0				
X1	18.190	60	9487.1	10386.0	64.9	64.9	64.9			
X3	10.	92.0						.00	.00	
GR	113.6	9245.6	114.90	9252.2	115.40	9276.4	116.80	9300.6	116.80	9321.3
GR	116.3	9344.8	116.60	9372.2	116.60	9395.9	116.40	9407.7	116.00	9413.6
GR	115.7	9424.6	116.00	9433.5	117.40	9437.8	119.50	9444.5	120.80	9449.6
GR	121.8	9464.2	121.40	9478.5	120.90	9487.1	113.00	9505.0	106.10	9519.9
GR	104.7	9526.5	103.50	9538.1	102.90	9541.2	103.00	9550.2	102.40	9555.9
GR	103.6	9569.9	104.20	9575.6	104.30	9585.7	104.80	9591.8	103.60	9614.4
GR	103.2	9652.8	103.00	9685.0	102.60	9711.4	102.30	9729.1	103.10	9741.3
GR	101.6	9751.9	97.40	9764.0	95.20	9776.8	95.20	9803.8	95.10	9855.5
GR	92.0	9856.6	92.00	9899.7	92.00	9908.8	92.00	9911.1	92.00	9934.5
GR	92.0	9937.6	92.00	9967.8	92.00	10000.0	92.00	10061.5	92.00	10103.6
GR	92.0	10125.3	92.00	10127.1	92.00	10175.1	92.00	10216.4	92.00	10255.3
GR	92.0	10284.7	96.50	10302.1	101.81	10309.2	101.81	10326.0	131.81	10386.0

1

X1	18.210	56	9516.1	10392.7	96.2	96.2	96.2			
X3	10.	92.1						.00	.00	
GR	110.6	9257.6	112.80	9283.8	114.90	9311.4	116.10	9338.5	116.90	9369.6
GR	117.9	9395.3	117.20	9420.0	117.20	9437.1	117.70	9449.0	117.30	9459.2
GR	118.1	9465.8	120.60	9473.4	121.50	9486.2	121.40	9501.0	120.90	9516.1
GR	107.1	9544.3	105.80	9551.1	105.40	9576.4	105.00	9605.2	104.50	9619.1
GR	103.8	9628.5	103.50	9654.3	103.30	9699.0	102.30	9726.0	103.50	9750.6
GR	103.5	9776.0	103.20	9787.7	102.90	9792.5	103.00	9804.5	93.60	9824.9
GR	91.2	9835.7	90.20	9854.9	90.70	9870.6	91.60	9897.4	91.50	9924.8
GR	90.2	9955.1	89.60	9983.4	89.60	10000.0	89.70	10035.4	90.20	10074.2
GR	91.0	10109.1	91.30	10143.6	91.90	10172.5	92.80	10193.8	93.30	10215.5
GR	94.6	10230.9	94.60	10244.7	95.40	10264.5	98.10	10282.2	97.70	10295.1
GR	95.7	10308.7	94.60	10318.9	94.40	10324.8	94.60	10330.1	94.40	10332.7
GR	124.4	10392.7								
X1	18.240	77	9564.8	10574.0	198.8	198.8	198.8			

X3	10.	92.5						.00	.00	
GR	117.7	9296.9	117.60	9318.9	118.10	9339.3	117.60	9364.5	117.70	9372.5
GR	117.1	9378.6	117.00	9393.8	117.20	9416.9	117.40	9427.5	117.90	9429.1
GR	117.5	9434.1	117.50	9461.3	118.10	9486.6	118.30	9500.1	118.60	9510.4
GR	121.8	9522.2	121.60	9539.7	121.30	9557.0	120.80	9564.8	116.90	9574.5
GR	108.2	9590.1	105.90	9595.6	105.20	9602.4	102.30	9615.2	103.10	9628.7
GR	104.6	9638.5	103.30	9648.1	103.80	9658.5	102.60	9672.8	103.00	9688.4
GR	103.4	9703.2	103.30	9715.1	102.70	9729.4	102.70	9744.5	103.20	9763.0
GR	103.5	9789.7	104.10	9817.9	103.30	9844.0	104.00	9849.1	102.00	9858.9
GR	100.5	9864.9	98.30	9872.6	95.20	9881.2	93.60	9905.6	91.30	9918.0
GR	88.3	9935.1	88.70	9957.5	89.10	9977.4	89.20	9999.0	89.10	10000.0
GR	88.5	10016.9	89.30	10034.1	89.10	10052.6	88.70	10067.9	89.40	10088.0
GR	90.5	10112.8	91.70	10139.8	92.60	10164.2	92.70	10190.5	93.10	10224.5
GR	93.8	10257.3	95.60	10277.7	98.20	10296.7	100.90	10313.4	101.20	10329.4
GR	101.4	10351.5	100.90	10376.6	100.60	10401.3	101.10	10418.9	100.80	10435.1
GR	100.9	10447.1	100.50	10457.6	101.20	10480.7	101.90	10488.7	102.36	10491.0
GR	102.3	10514.0	132.30	10574.0						
X1	18.280	77	9580.3	10688.0	169.5	169.5	169.5			
X3	10.	93.0						.00	.00	
GR	116.8	9324.6	117.80	9365.3	118.10	9403.8	118.20	9445.5	118.10	9477.0
GR	117.9	9505.0	118.20	9518.2	118.90	9522.9	118.00	9526.4	118.40	9539.5
GR	119.3	9548.6	122.20	9556.0	122.60	9561.8	122.20	9580.3	122.00	9587.2
GR	121.4	9590.2	119.80	9595.6	109.50	9619.1	105.60	9628.4	105.50	9632.3
GR	104.3	9634.9	103.80	9645.1	105.20	9650.0	103.50	9655.9	102.60	9672.0
GR	103.2	9689.4	103.20	9712.9	104.60	9728.0	104.00	9742.0	104.20	9761.4
GR	103.9	9783.0	103.70	9792.1	102.90	9801.8	103.50	9818.8	103.70	9833.9
GR	103.4	9850.8	103.90	9859.8	96.80	9876.9	94.60	9901.7	94.00	9923.3
GR	92.6	9937.5	88.70	9950.0	86.90	9962.3	87.90	9985.7	88.30	10000.0
GR	89.3	10020.6	90.00	10041.5	89.70	10064.8	90.20	10087.9	91.30	10112.3
GR	92.3	10141.3	92.80	10170.7	92.80	10194.7	92.50	10207.2	92.70	10233.0
GR	93.7	10254.2	94.80	10277.8	96.20	10300.0	98.00	10316.1	101.60	10330.8
GR	103.1	10341.9	103.10	10359.1	103.00	10374.0	101.60	10391.0	101.10	10419.3
GR	101.1	10439.2	101.80	10447.5	102.10	10463.9	102.80	10502.3	103.80	10543.1
GR	103.5	10577.3	103.80	10585.0	103.80	10588.4	102.30	10604.1	103.00	10612.2
GR	103.0	10628.0	133.00	10688.0						

1

X1	18.320	70	9607.4	10703.0	228.0	228.0	228.0			
X3	10.	93.5						.00	.00	
GR	117.7	9338.1	117.80	9373.1	118.70	9430.5	119.60	9478.4	120.70	9496.9
GR	120.9	9504.6	118.50	9517.4	119.40	9529.1	119.70	9533.9	119.10	9544.3
GR	119.1	9549.2	122.80	9565.2	122.20	9573.8	121.90	9595.7	121.80	9603.1
GR	121.3	9607.4	103.90	9644.1	103.80	9656.0	105.40	9670.8	104.80	9678.1
GR	106.0	9688.2	104.40	9699.6	105.00	9709.3	103.40	9725.6	104.00	9744.5
GR	104.3	9770.1	105.30	9789.4	104.40	9807.8	102.10	9824.7	101.00	9842.9
GR	101.2	9854.1	92.30	9869.9	90.70	9875.1	88.50	9884.9	87.90	9897.0
GR	87.6	9912.5	87.90	9922.8	88.70	9927.8	90.90	9936.6	89.20	9948.6
GR	87.8	9971.8	88.00	9991.9	88.20	10000.0	88.60	10020.4	89.50	10047.6
GR	91.2	10067.8	93.30	10089.3	94.70	10105.9	94.90	10122.3	93.70	10144.5
GR	93.3	10167.2	93.40	10185.8	93.70	10211.8	93.90	10226.0	93.80	10239.4
GR	93.7	10257.6	94.10	10277.5	96.20	10297.7	97.20	10318.6	99.50	10332.8
GR	102.5	10347.2	103.00	10367.1	102.40	10393.0	102.00	10423.5	102.10	10446.6
GR	102.4	10484.6	103.20	10521.7	103.60	10539.2	103.60	10643.0	133.60	10703.0
X1	18.360	93	9595.5	10701.0	201.7	201.7	201.7			
X3	10.	93.5						.00	.00	

GR	118.2	9437.7	118.20	9457.1	118.30	9477.9	118.30	9495.0	118.10	9512.1
GR	118.7	9518.8	119.20	9528.1	120.00	9530.7	123.40	9537.9	123.40	9550.9
GR	122.9	9568.2	122.70	9586.2	123.00	9595.5	122.50	9602.0	121.90	9604.0
GR	111.0	9626.0	105.00	9639.6	104.40	9646.8	104.50	9660.5	105.30	9665.2
GR	103.9	9671.2	104.60	9688.5	104.20	9698.5	104.80	9719.9	104.70	9737.7
GR	103.3	9759.0	103.00	9771.4	103.20	9788.2	103.20	9805.1	102.30	9822.1
GR	101.2	9832.7	101.10	9837.3	93.50	9852.5	94.70	9865.5	93.10	9875.7
GR	93.4	9885.2	95.40	9900.8	96.10	9914.3	94.50	9928.6	92.50	9936.0
GR	90.0	9942.0	88.70	9952.8	88.10	9957.7	87.70	9960.3	86.60	9968.7
GR	88.6	9982.4	90.40	9987.7	90.40	9992.7	89.10	10000.0	89.40	10010.0
GR	90.0	10016.7	90.10	10019.9	88.50	10026.3	88.40	10035.0	89.60	10044.4
GR	90.8	10055.5	92.60	10065.6	92.60	10071.9	94.70	10085.6	95.40	10101.2
GR	95.3	10115.3	95.10	10128.6	94.50	10150.9	94.20	10167.7	93.50	10179.1
GR	93.7	10196.7	94.10	10211.2	95.00	10228.0	94.50	10239.8	94.70	10255.5
GR	95.0	10271.1	94.80	10284.6	95.40	10296.2	97.60	10302.7	98.40	10318.6
GR	99.9	10330.4	100.90	10335.9	100.70	10340.4	102.20	10352.2	103.00	10364.4
GR	103.4	10381.4	102.70	10397.6	102.50	10413.7	101.80	10432.1	101.80	10453.5
GR	102.3	10475.7	102.80	10500.2	103.60	10527.3	103.90	10566.5	104.00	10588.3
GR	104.1	10598.4	104.12	10641.0	134.12	10701.0				
X1	18.400	48	9587.5	10679.7	198.8	198.8	198.8			
X3	10.	94.5						.00	.00	
GR	119.4	9326.8	119.20	9372.0	118.90	9399.4	118.60	9420.9	119.00	9454.0
GR	118.8	9493.2	118.40	9529.7	118.40	9537.6	117.90	9545.8	118.60	9550.2
GR	122.4	9559.1	122.50	9585.6	122.60	9587.5	114.00	9602.4	104.40	9622.2
GR	104.0	9636.7	105.10	9646.4	105.20	9671.4	105.30	9700.5	105.00	9741.5
GR	106.7	9759.4	105.10	9771.5	104.50	9779.2	99.20	9795.9	98.30	9836.1
GR	98.0	9875.5	95.90	9899.5	93.70	9927.0	94.10	9951.0	92.90	9992.1
GR	92.9	10000.0	94.10	10058.4	95.60	10113.8	97.10	10183.4	97.10	10229.3
GR	96.6	10277.2	98.20	10318.5	100.90	10347.1	102.90	10372.1	103.10	10408.6
GR	103.2	10448.1	103.10	10482.1	103.30	10518.1	103.40	10557.9	103.40	10593.7
GR	103.0	10597.0	103.00	10619.7	133.00	10679.7				

X1	18.430	65	9552.9	10655.0	199.2	199.2	199.2			
X3	10.							.00	.00	
GR	122.1	9281.0	123.80	9296.8	124.00	9307.1	123.60	9307.9	123.30	9333.1
GR	122.9	9345.5	122.90	9357.7	123.30	9358.6	123.30	9360.2	125.90	9360.3
GR	126.0	9369.4	128.10	9390.1	128.20	9403.7	123.30	9416.1	122.50	9426.7
GR	121.8	9446.1	120.60	9459.5	121.20	9496.4	123.30	9524.3	123.30	9543.1
GR	123.5	9552.9	122.90	9558.0	113.80	9579.3	104.20	9595.9	104.70	9614.6
GR	104.1	9621.8	105.50	9631.8	105.80	9653.6	105.30	9680.7	106.20	9695.0
GR	106.1	9716.1	105.40	9745.5	104.10	9757.6	100.10	9770.8	99.50	9778.3
GR	99.2	9789.4	98.20	9803.4	97.20	9830.6	97.20	9860.8	96.90	9892.4
GR	95.9	9919.3	96.00	9948.7	95.10	9978.2	94.90	10000.0	95.40	10045.6
GR	95.1	10079.7	95.80	10112.3	96.60	10149.5	97.60	10194.7	98.10	10239.5
GR	99.0	10287.1	99.70	10316.8	101.10	10355.8	102.90	10394.1	103.50	10413.8
GR	103.6	10440.2	103.60	10483.1	103.60	10505.2	104.10	10521.0	103.70	10543.6
GR	103.9	10571.6	104.40	10589.4	105.14	10592.2	105.14	10595.0	135.14	10655.0
X1	18.470	66	9525.1	10621.0	204.1	204.1	204.1			
X3	10.							.00	.00	
GR	123.5	9249.3	122.70	9285.2	122.70	9300.1	123.10	9300.3	128.80	9301.4
GR	128.0	9307.0	128.90	9321.1	129.60	9332.5	129.50	9335.5	122.80	9345.3
GR	121.0	9355.7	120.20	9389.7	119.90	9411.9	119.90	9435.5	119.60	9458.1
GR	120.0	9473.3	121.70	9492.4	122.00	9506.3	122.00	9521.5	121.90	9525.1
GR	118.1	9535.9	110.50	9552.1	105.10	9564.3	105.10	9580.5	105.70	9605.2

GR	105.8	9624.5	105.70	9644.9	105.70	9661.7	105.80	9679.3	105.60	9697.3
GR	104.9	9714.6	104.20	9726.6	103.20	9736.5	103.10	9746.8	101.80	9755.7
GR	99.2	9770.9	98.60	9795.2	98.80	9821.2	98.80	9860.3	98.10	9887.6
GR	96.6	9910.4	96.20	9940.6	96.10	9972.5	95.30	9997.8	95.30	10000.0
GR	95.7	10032.2	96.10	10065.8	96.40	10099.3	96.50	10128.7	97.10	10159.0
GR	97.6	10184.2	98.10	10208.5	98.90	10244.7	99.40	10281.9	100.40	10306.6
GR	101.7	10334.8	102.30	10363.6	103.00	10393.0	103.10	10435.5	103.60	10474.2
GR	103.9	10505.0	103.90	10539.1	104.40	10547.2	105.66	10552.3	105.66	10561.0
GR	135.6	10621.0								
X1	18.510	68	9487.5	10585.0	198.6	198.6	198.6			
X3	10.							.00	.00	
GR	120.0	9217.2	119.80	9227.6	127.80	9228.1	126.90	9235.4	126.10	9251.9
GR	125.9	9260.8	121.20	9269.5	121.20	9284.7	120.50	9307.6	120.40	9333.0
GR	120.2	9360.0	120.20	9389.6	120.30	9410.4	119.80	9427.2	121.30	9443.1
GR	122.0	9452.2	122.30	9469.9	122.40	9484.4	122.80	9487.5	121.50	9492.7
GR	110.3	9514.8	105.60	9526.2	105.80	9550.8	106.50	9566.5	107.20	9578.5
GR	106.0	9584.8	106.30	9601.3	106.00	9624.9	105.80	9645.7	105.70	9658.5
GR	105.3	9661.6	105.30	9673.9	104.90	9681.8	104.70	9715.2	102.10	9738.1
GR	100.0	9752.8	98.80	9758.5	98.90	9788.9	99.30	9812.9	99.30	9826.3
GR	98.2	9835.0	99.00	9871.1	97.90	9901.6	97.10	9930.8	96.10	9966.3
GR	95.6	9992.6	95.70	10000.0	96.10	10037.5	96.60	10069.6	97.50	10095.9
GR	98.0	10113.2	97.50	10138.9	97.90	10177.4	98.90	10226.5	99.70	10271.4
GR	100.6	10299.6	102.40	10330.3	102.80	10363.0	103.10	10386.6	103.20	10417.4
GR	104.1	10448.9	104.50	10469.2	104.30	10491.8	104.30	10501.1	105.60	10516.8
GR	106.1	10518.7	106.15	10525.0	136.15	10585.0				

1

X1	18.550	57	9442.6	10538.0	199.2	199.2	199.2			
X3	10.							.00	.00	
GR	119.4	9187.1	119.00	9205.6	118.10	9225.2	119.30	9254.5	119.40	9300.1
GR	119.4	9332.2	120.10	9367.4	120.30	9381.1	123.10	9407.1	122.90	9428.2
GR	122.9	9439.8	123.00	9442.6	111.90	9468.3	106.20	9482.2	105.80	9492.0
GR	105.8	9502.0	105.40	9507.4	106.40	9518.3	105.90	9538.3	103.80	9550.9
GR	104.7	9561.6	106.20	9566.8	105.80	9579.8	105.30	9592.4	106.20	9606.8
GR	105.4	9629.2	105.40	9657.7	104.70	9694.8	103.00	9723.1	100.20	9745.8
GR	99.9	9758.1	100.50	9790.2	99.90	9840.5	97.80	9878.7	97.70	9907.3
GR	97.1	9937.1	95.90	9955.4	95.70	9983.7	96.40	10000.0	96.80	10045.2
GR	98.0	10087.6	98.40	10128.4	99.60	10168.5	99.70	10199.8	99.10	10237.1
GR	100.0	10272.2	102.60	10292.9	103.00	10316.0	102.80	10345.4	102.90	10368.3
GR	104.3	10394.9	104.90	10416.6	105.20	10440.6	105.30	10460.8	106.65	10466.3
GR	106.6	10478.0	136.60	10538.0						
X1	18.580	63	9394.8	10489.0	197.7	197.7	197.7			
X3	10.							.00	.00	
GR	117.2	9121.8	117.70	9148.4	117.80	9178.1	117.70	9196.5	118.10	9223.4
GR	118.5	9246.4	118.60	9279.9	118.70	9316.5	120.00	9334.3	121.90	9351.6
GR	123.0	9359.7	123.00	9388.3	123.20	9393.1	123.30	9394.8	112.00	9419.1
GR	105.4	9434.8	104.60	9463.2	105.40	9472.5	105.40	9485.2	104.90	9488.9
GR	105.9	9506.1	105.30	9543.3	105.70	9581.4	106.00	9615.8	105.80	9646.8
GR	106.3	9678.8	106.20	9706.3	102.90	9717.2	101.90	9723.5	101.40	9738.5
GR	100.4	9764.9	100.10	9785.1	100.20	9816.9	99.30	9841.9	97.80	9873.3
GR	97.1	9900.0	98.10	9926.0	98.00	9953.8	97.20	9991.8	96.90	10000.0
GR	96.7	10025.1	98.00	10061.5	98.90	10103.4	99.70	10144.4	100.30	10195.5
GR	100.5	10227.9	101.60	10243.9	102.40	10265.8	102.80	10318.0	103.40	10352.8
GR	104.0	10357.2	102.80	10360.0	102.80	10370.9	104.80	10376.4	104.40	10381.9
GR	104.6	10388.1	106.10	10391.7	106.10	10396.1	105.50	10398.6	106.40	10410.9

GR	107.1	10417.5	107.15	10429.0	137.15	10489.0				
X1	18.620	35	9342.0	10436.2	198.6	198.6	198.6			
GR	123.5	9278.0	123.00	9294.0	122.00	9311.0	121.00	9342.0	120.00	9343.0
GR	115.0	9357.0	110.00	9369.0	109.00	9376.0	107.00	9377.0	106.00	9408.0
GR	105.0	9440.0	105.00	9453.0	105.00	9650.0	104.00	9690.0	103.00	9718.0
GR	102.0	9770.0	101.00	9800.0	100.00	9813.0	99.00	9836.0	98.00	9851.0
GR	98.0	10000.0	98.00	10047.0	99.00	10068.0	100.00	10086.0	101.00	10178.0
GR	102.0	10217.0	103.00	10270.0	104.00	10325.0	104.00	10331.0	105.00	10345.0
GR	106.0	10350.0	107.00	10354.0	107.67	10362.7	107.67	10376.2	137.60	10436.2
X1	18.660	30	9361.0	10452.7	196.8	196.8	196.8			
GR	123.0	9361.0	120.00	9367.0	115.00	9379.0	110.00	9389.0	108.00	9396.0
GR	107.0	9424.0	106.00	9427.0	106.00	9608.0	105.00	9632.0	104.00	9803.0
GR	103.0	9832.0	102.00	9852.0	101.00	9869.0	100.00	9880.0	99.00	9940.0
GR	98.0	9972.0	97.00	9995.0	97.00	10008.0	98.00	10035.0	99.00	10061.0
GR	100.0	10105.0	101.00	10139.0	102.00	10242.0	103.00	10334.0	104.00	10358.0
GR	105.0	10365.0	108.00	10368.0	108.19	10371.4	108.19	10392.7	138.19	10452.7

1

X1	18.700	30	9332.0	10424.3	198.9	198.9	198.9			
GR	123.0	9332.0	120.00	9340.0	115.00	9351.0	110.00	9362.0	108.00	9368.0
GR	107.0	9398.0	107.00	9426.0	106.00	9449.0	106.00	9478.0	107.00	9497.0
GR	106.0	9582.0	105.00	9632.0	105.00	9740.0	104.00	9800.0	103.00	9849.0
GR	102.0	9865.0	101.00	9878.0	100.00	9922.0	99.00	9958.0	99.00	10040.0
GR	100.0	10061.0	101.00	10082.0	102.00	10101.0	103.00	10301.0	103.00	10328.0
GR	104.0	10340.0	105.00	10343.0	108.71	10349.5	108.71	10364.3	138.71	10424.3
X1	18.740	12	10035.0	11130.0	238.1	238.1	238.1			
GR	125.5	10000.0	125.00	10035.0	110.00	10075.0	104.40	10386.0	101.40	10392.0
GR	101.4	10792.0	104.40	10798.0	104.40	11071.0	116.90	11089.0	116.90	11097.0
GR	127.9	11130.0	127.90	11141.0						
X1	18.770	12	10035.0	11130.0	200.0	200.0	200.0			
GR	127.6	10000.0	127.00	10035.0	110.00	10070.0	104.80	10364.0	101.80	10370.0
GR	101.8	10770.0	104.80	10776.0	104.80	11070.0	117.40	11089.0	117.40	11097.0
GR	128.4	11130.0	128.40	11140.0						
X1	18.790	12	10035.0	11125.0	100.0	100.0	100.0			
GR	127.8	10000.0	127.00	10035.0	110.50	10070.0	105.10	10347.0	102.10	10353.0
GR	102.1	10753.0	105.10	10759.0	105.10	11065.0	117.60	11084.0	117.60	11092.0
GR	128.6	11125.0	128.60	11136.0						
X1	18.810	12	10032.0	11123.0	100.0	100.0	100.0			
GR	128.0	10000.0	126.00	10032.0	110.00	10082.0	105.30	10334.0	102.30	10340.0
GR	102.3	10740.0	105.30	10746.0	105.30	11063.0	117.80	11082.0	117.80	11090.0
GR	128.8	11123.0	128.80	11134.0						
X1	18.850	12	10047.0	11109.0	200.0	200.0	200.0			
GR	129.3	10000.0	129.00	10047.0	111.00	10085.0	105.80	10308.0	102.80	10314.0
GR	102.8	10714.0	105.80	10720.0	105.80	11049.0	118.20	11068.0	118.20	11076.0
GR	129.2	11109.0	129.20	11119.0						
X1	18.890	14	10033.0	11097.0	200.0	200.0	200.0			
GR	130.0	10000.0	130.00	10033.0	118.60	10078.0	118.60	10086.0	106.20	10105.0
GR	106.2	10281.0	103.20	10287.0	103.20	10687.0	106.20	10693.0	106.20	11038.0
GR	118.6	11056.0	118.60	11064.0	129.60	11097.0	129.60	11108.0		

X1	18.930	14	10055.0	11130.0	200.0	200.0	200.0			
GR	130.4	10000.0	131.00	10055.0	119.10	10108.0	119.10	10116.0	106.70	10135.0
GR	106.7	10284.0	103.70	10290.0	103.70	10690.0	106.70	10696.0	106.70	11071.0
GR	119.1	11089.0	119.10	11097.0	130.00	11130.0	130.00	11141.0		
X1	18.960	14	10059.0	11115.0	200.0	200.0	200.0			
GR	132.0	10000.0	131.00	10059.0	119.40	10087.0	119.40	10095.0	107.20	10113.0
GR	107.2	10244.0	104.20	10250.0	104.20	10650.0	107.20	10656.0	107.20	11055.0
GR	119.5	11074.0	119.50	11082.0	130.50	11115.0	130.50	11126.0		

1

X1	19.000	14	10040.0	11092.0	200.0	200.0	200.0			
GR	131.0	10000.0	130.00	10040.0	119.90	10064.0	119.90	10072.0	107.70	10090.0
GR	107.7	10194.0	104.70	10200.0	104.70	10600.0	107.70	10606.0	107.70	11032.0
GR	119.9	11051.0	119.90	11059.0	130.90	11092.0	130.90	11102.0		
X1	19.040	14	10040.0	11092.0	200.0	200.0	200.0			
GR	131.0	10000.0	130.00	10040.0	120.30	10064.0	120.30	10072.0	108.10	10090.0
GR	108.1	10172.0	105.10	10178.0	105.10	10578.0	108.10	10584.0	108.10	11032.0
GR	120.3	11051.0	120.30	11059.0	131.30	11092.0	131.30	11102.0		
X1	19.080	14	10042.0	11087.0	200.0	200.0	200.0			
GR	132.0	10000.0	130.00	10042.0	120.80	10067.0	120.80	10075.0	108.60	10093.0
GR	108.6	10144.0	105.60	10150.0	105.60	10550.0	108.60	10556.0	108.60	11027.0
GR	120.8	11046.0	120.80	11054.0	131.80	11087.0	131.80	11097.0		
X1	19.120	14	10035.0	11081.0	200.0	200.0	200.0			
GR	132.5	10000.0	130.00	10035.0	121.20	10055.0	121.20	10063.0	109.10	10081.0
GR	109.1	10114.0	106.10	10120.0	106.10	10520.0	109.10	10526.0	109.10	11022.0
GR	121.2	11040.0	121.20	11048.0	132.20	11081.0	132.20	11092.0		
X1	19.150	14	10033.0	11085.0	200.0	200.0	200.0			
GR	132.0	10000.0	130.00	10033.0	121.60	10049.0	121.60	10057.0	109.50	10075.0
GR	109.5	10096.0	106.50	10102.0	106.50	10502.0	109.50	10508.0	109.50	11026.0
GR	121.6	11044.0	121.60	11052.0	132.60	11085.0	132.60	11096.0		
X1	19.190	14	10011.0	11093.0	200.0	200.0	200.0			
GR	133.0	10000.0	133.00	10011.0	122.00	10044.0	122.00	10052.0	110.00	10070.0
GR	110.0	10091.0	107.00	10097.0	107.00	10497.0	110.00	10503.0	110.00	11034.0
GR	122.0	11052.0	122.00	11060.0	133.00	11093.0	133.00	11104.0		
X1	19.230	13	10027.0	11093.0	200.0	200.0	200.0			
GR	133.5	10000.0	133.50	10027.0	133.50	10035.0	110.50	10070.0	110.50	10086.0
GR	107.5	10092.0	107.50	10492.0	110.50	10498.0	110.50	11034.0	122.50	11052.0
GR	122.5	11060.0	133.50	11093.0	133.50	11104.0				
X1	19.280	10	10036.0	11068.0	265.0	265.0	265.0			
GR	134.1	10000.0	134.10	10036.0	111.20	10070.0	111.20	10092.0	108.20	10098.0
GR	108.2	10498.0	111.20	10504.0	111.20	11034.0	134.10	11068.0	134.10	11103.0
QT	1	210000								
X1	19.300	12	10011.0	11068.0	120.0	120.0	120.0			
GR	134.3	10000.0	134.30	10011.0	123.30	10044.0	123.30	10052.0	111.40	10070.0
GR	111.4	10092.0	108.40	10098.0	108.40	10498.0	111.40	10504.0	111.40	11034.0
GR	134.3	11068.0	134.30	11103.0						

```
X1   19.340      14   10011.0   11091.0     215.0     215.0     215.0
GR    134.7 10000.0    134.70   10011.0    123.70   10044.0    123.70   10052.0    111.90   10070.0
GR    111.9 10091.0    108.90   10097.0    108.90   10497.0    111.90   10503.0    111.90   11033.0
GR    123.7 11050.0    123.70   11058.0    134.70   11091.0    134.70   11102.0
1
   02APR97      10:16:38                                                                          PAGE   20


X1   19.380      14   10011.0   11091.0     200.0     200.0     200.0
GR    135.2 10000.0    135.20   10011.0    124.20   10044.0    124.20   10052.0    112.40   10070.0
GR    112.4 10091.0    109.40   10097.0    109.40   10497.0    112.40   10503.0    112.40   11033.0
GR    124.2 11050.0    124.20   11058.0    135.20   11091.0    135.20   11102.0

NC                               .30000     .50000
X1   19.384      13   10014.1   11091.6      17.0      17.0      17.0
GR    135.2 10000.0    135.20   10014.1    112.40   10069.5    112.40   10090.0    109.40   10096.0
GR    109.4 10496.0    112.40   10502.0    112.40   10551.2    112.40   11032.9    124.20   11050.6
GR    124.2 11058.6    135.20   11091.6    135.20   11102.4

SB    1.050     1.56      2.60       .00     875.00     73.50  30974.00     2.000    109.70    109.40
X1   19.400      13   10035.3   11091.6     109.0     109.0     109.0
X2       0.     .00        1.   145.20     152.20       .00                .000                 .000
GR    135.5 10000.0    135.50   10035.3    112.70   10069.5    112.70   10090.0    109.70   10096.0
GR    109.7 10496.0    112.70   10502.0    112.70   10551.2    112.70   11032.9    124.50   11050.6
GR    124.5 11058.6    135.50   11091.6    135.50   11102.4

X1   19.430      13   10035.3   11091.4     141.0     141.0     141.0
GR    135.7 10000.0    135.70   10035.3    113.00   10069.5    113.00   10090.0    110.00   10096.0
GR    110.0 10496.0    113.00   10502.0    113.00   10551.1    113.00   11032.7    124.70   11050.4
GR    124.7 11058.4    135.70   11091.4    135.70   11102.2

X1   19.460      11   10035.3   11091.0     141.0     141.0     141.0
GR    136.0 10000.0    136.00   10035.3    113.30   10069.4    113.30   10090.0    110.30   10096.0
GR    110.3 10496.0    113.30   10502.0    113.30   10550.9    113.30   11032.4    136.00   11091.0
GR    136.0 11101.8

SB    1.050     1.56      2.60       .00     875.00     80.00  26567.00     2.000    110.70    110.30
X1   19.480      13   10010.8   11065.9     122.0     122.0     122.0
X2       0.     .00        1.   141.70     148.70       .00                .000                 .000
GR    136.3 10000.0    136.30   10010.8    125.30   10043.8    125.30   10051.8    113.70   10069.2
GR    113.7 10090.0    110.70   10096.0    110.70   10496.0    113.70   10502.0    113.70   10550.6
GR    113.7 11032.0    136.30   11065.9    136.30   11101.2

X1   19.490      13   10010.8   11065.9      70.0      70.0      70.0
GR    136.4 10000.0    136.40   10010.8    125.40   10043.8    125.40   10051.8    113.80   10069.2
GR    113.8 10090.0    110.80   10096.0    110.80   10496.0    113.80   10502.0    113.80   10550.6
GR    113.8 11032.0    136.40   11065.9    136.40   11101.2

NC                               .10000     .30000
X1   19.530      16   10011.0   11084.0     200.0     200.0     200.0
GR    136.9 10000.0    136.90   10011.0    125.90   10044.0    125.90   10052.0    114.30   10078.0
GR    114.3 10089.0    111.30   10095.0    111.30   10495.0    114.30   10501.0    114.30   11032.0
GR    125.9 11050.0    125.90   11058.0    122.90   11062.0    122.90   11063.0    136.90   11084.0
GR    136.9 11098.0

X1   19.570      15   10020.0   11096.0     200.0     200.0     200.0
GR    137.3 10000.0    137.30   10012.0    137.30   10020.0    114.70   10081.0    114.70   10109.0
GR    111.7 10115.0    111.70   10515.0    114.70   10521.0    114.70   11043.0    126.30   11061.0
GR    126.3 11069.0    123.30   11073.0    123.30   11074.0    137.30   11096.0    137.30   11109.0
```

X1	19.610	16	10011.0	11083.0	200.0	200.0	200.0			
GR	137.7	10000.0	137.70	10011.0	126.70	10044.0	126.70	10052.0	115.20	10069.0
GR	115.2	10102.0	112.20	10108.0	112.20	10508.0	115.20	10514.0	115.20	11031.0
GR	126.7	11049.0	126.70	11057.0	123.70	11061.0	123.70	11062.0	138.30	11083.0
GR	138.3	11098.0								
X1	19.650	16	10011.0	11085.0	200.0	200.0	200.0			
GR	138.1	10000.0	138.10	10011.0	127.10	10043.0	127.10	10051.0	115.70	10069.0
GR	115.7	10124.0	112.70	10130.0	112.70	10530.0	115.70	10536.0	115.70	11033.0
GR	127.1	11050.0	127.10	11058.0	124.10	11063.0	124.10	11064.0	138.70	11085.0
GR	138.7	11099.0								
X1	19.680	16	10010.0	11087.0	200.0	200.0	200.0			
GR	138.6	10000.0	138.60	10010.0	127.60	10043.0	127.60	10051.0	116.20	10069.0
GR	116.2	10157.0	113.20	10163.0	113.20	10563.0	116.20	10569.0	116.20	11035.0
GR	127.6	11052.0	127.60	11060.0	124.60	11065.0	124.60	11066.0	139.20	11087.0
GR	139.2	11101.0								
X1	19.720	16	10011.0	11089.0	200.0	200.0	200.0			
GR	139.0	10000.0	139.00	10011.0	128.00	10044.0	128.00	10052.0	116.60	10069.0
GR	116.6	10205.0	113.60	10211.0	113.60	10611.0	116.60	10617.0	116.60	11037.0
GR	128.0	11054.0	128.00	11062.0	125.00	11067.0	125.00	11068.0	139.60	11089.0
GR	139.6	11103.0								
X1	19.760	16	10011.0	11089.0	200.0	200.0	200.0			
GR	139.4	10000.0	139.40	10011.0	128.40	10044.0	128.40	10052.0	117.10	10069.0
GR	117.1	10263.0	114.10	10269.0	114.10	10669.0	117.10	10675.0	117.10	11037.0
GR	128.4	11054.0	128.40	11062.0	125.40	11067.0	125.40	11068.0	140.00	11089.0
GR	140.0	11103.0								
X1	19.800	12	10010.0	11088.0	200.0	200.0	200.0			
GR	139.8	10000.0	139.80	10010.0	128.80	10043.0	128.80	10051.0	117.60	10068.0
GR	117.6	10322.0	114.60	10328.0	114.60	10728.0	117.60	10734.0	117.60	11036.0
GR	140.4	11088.0	140.40	11102.0						
X1	19.830	12	10011.0	11070.0	200.0	200.0	200.0			
GR	140.3	10000.0	140.30	10011.0	129.30	10044.0	129.30	10052.0	118.00	10069.0
GR	118.0	10382.0	115.00	10388.0	115.00	10788.0	118.00	10794.0	118.00	11035.0
GR	140.9	11070.0	140.90	11084.0						
X1	19.870	12	10011.0	11067.0	200.0	200.0	200.0			
GR	140.7	10000.0	140.70	10011.0	129.70	10044.0	129.70	10052.0	118.50	10068.0
GR	118.5	10431.0	115.50	10437.0	115.50	10837.0	118.50	10843.0	118.50	11033.0
GR	141.3	11067.0	141.30	11081.0						
X1	19.910	12	10011.0	11065.0	200.0	200.0	200.0			
GR	141.0	10000.0	141.00	10011.0	130.10	10044.0	130.10	10052.0	119.00	10069.0
GR	119.0	10485.0	116.00	10491.0	116.00	10891.0	119.00	10897.0	119.00	11031.0
GR	141.7	11065.0	141.70	11079.0						

X1	19.950	12	10011.0	11061.0	200.0	200.0	200.0

GR	141.5	10000.0	141.50	10011.0	130.50	10044.0	130.50	10052.0	119.50	10069.0
GR	119.5	10528.0	116.50	10534.0	116.50	10934.0	119.50	10940.0	119.50	11027.0
GR	142.1	11061.0	142.10	11075.0						
X1	19.990	10	10015.0	11080.0	200.0	200.0	200.0			
GR	142.0	10000.0	142.00	10015.0	119.90	10077.0	119.90	10567.0	116.90	10573.0
GR	116.9	10973.0	119.90	10979.0	119.90	11032.0	142.60	11080.0	142.60	11090.0
X1	20.020	10	10018.0	11050.0	200.0	200.0	200.0			
GR	142.4	10000.0	142.40	10018.0	120.40	10067.0	120.40	10576.0	117.40	10582.0
GR	117.4	10982.0	120.40	10988.0	120.40	11016.0	143.00	11050.0	143.00	11063.0
X1	20.060	12	10011.0	11046.0	200.0	200.0	200.0			
GR	142.8	10000.0	142.80	10011.0	131.80	10044.0	131.80	10052.0	120.90	10069.0
GR	120.9	10587.0	117.90	10593.0	117.90	10993.0	120.90	10999.0	120.90	11012.0
GR	143.4	11046.0	143.40	11060.0						
X1	20.100	12	10011.0	11039.0	200.0	200.0	200.0			
GR	143.2	10000.0	143.20	10011.0	132.20	10044.0	132.20	10052.0	121.30	10069.0
GR	121.3	10586.0	118.30	10592.0	118.30	10992.0	121.30	10998.0	121.30	11005.0
GR	143.8	11039.0	143.80	11053.0						
X1	20.140	12	10011.0	11031.0	200.0	200.0	200.0			
GR	143.7	10000.0	143.70	10011.0	132.70	10044.0	132.70	10052.0	121.80	10068.0
GR	121.8	10574.0	118.80	10580.0	118.80	10980.0	121.80	10986.0	121.80	10998.0
GR	144.3	11031.0	144.30	11045.0						
X1	20.180	12	10011.0	11023.0	200.0	200.0	200.0			
GR	144.1	10000.0	144.10	10011.0	133.10	10044.0	133.10	10052.0	122.30	10068.0
GR	122.3	10555.0	119.30	10561.0	119.30	10961.0	122.30	10967.0	122.30	10989.0
GR	144.7	11023.0	144.70	11037.0						
X1	20.210	12	10011.0	11014.0	200.0	200.0	200.0			
GR	144.5	10000.0	144.50	10011.0	133.50	10044.0	133.50	10052.0	122.80	10068.0
GR	122.8	10516.0	119.80	10522.0	119.80	10922.0	122.80	10928.0	122.80	10980.0
GR	145.1	11014.0	145.10	11028.0						
X1	20.250	12	10011.0	11005.0	200.0	200.0	200.0			
GR	145.0	10000.0	145.00	10011.0	134.00	10044.0	134.00	10052.0	123.20	10068.0
GR	123.2	10480.0	120.20	10486.0	120.20	10886.0	123.20	10892.0	123.20	10972.0
GR	145.6	11005.0	145.60	11019.0						
X1	20.290	12	10010.0	10994.0	200.0	200.0	200.0			
GR	145.6	10000.0	145.60	10010.0	134.60	10043.0	134.60	10051.0	123.70	10068.0
GR	123.7	10435.0	120.70	10441.0	120.70	10841.0	123.70	10847.0	123.70	10961.0
GR	145.6	10994.0	145.60	11008.0						

1

X1	20.330	12	10011.0	10987.0	200.0	200.0	200.0			
GR	146.1	10000.0	146.10	10011.0	135.10	10044.0	135.10	10052.0	124.20	10068.0
GR	124.2	10382.0	121.20	10388.0	121.20	10788.0	124.20	10794.0	124.20	10951.0
GR	146.1	10987.0	146.10	11000.0						
X1	20.370	10	10020.0	10987.0	200.0	200.0	200.0			
GR	146.6	10000.0	146.60	10020.0	124.60	10066.0	124.60	10325.0	121.60	10331.0
GR	121.6	10731.0	124.60	10737.0	124.60	10938.0	146.60	10987.0	146.60	11000.0

```
X1   20.400        12   10010.0   10965.0      200.0      200.0      200.0
GR    147.1   10000.0    147.10   10010.0     136.10    10043.0     136.10    10051.0     125.10    10068.0
GR    125.1   10276.0    122.10   10282.0     122.10    10682.0     125.10    10688.0     125.10    10932.0
GR    147.1   10965.0    147.10   10979.0

X1   20.436        14   10012.0   10988.0      182.0      182.0      182.0
GR    147.7   10000.0    147.67   10012.0     136.66    10045.0     136.66    10053.0     125.56    10069.0
GR    125.6   10230.0    122.50   10236.0     122.50    10636.0     125.56    10642.0     125.56    10931.0
GR    136.7   10947.0    136.66   10955.0     147.67    10988.0     147.67    10999.0

X1   20.441        14   10012.0   10988.0       18.0       18.0       18.0
GR    147.7   10000.0    147.70   10012.0     136.69    10045.0     136.69    10053.0     125.59    10069.0
GR    125.6   10230.0    122.53   10236.0     122.53    10636.0     125.59    10642.0     125.59    10931.0
GR    136.7   10947.0    136.69   10955.0     147.70    10988.0     147.70    10999.0

X1   20.480        10   10032.0   10964.0      200.0      200.0      200.0
GR    148.2   10000.0    148.20   10032.0     125.94    10069.0     125.94    10190.0     122.86    10196.0
GR    122.9   10596.0    125.94   10602.0     125.94    10931.0     148.20    10964.0     148.20    10999.0
1
```



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


*PROF 1
0

CCHV=     .100 CEHV=     .300
*SECNO 16.690
3280 CROSS SECTION     16.69 EXTENDED      3.30 FEET

    16.690     33.30    105.30       .00    105.30    106.00       .70       .00       .00    104.00
  205000.0   13248.7  161642.4   30108.9    5406.0   22278.0    6742.5        .0        .0    104.00
       .00      2.45      7.26      4.47      .040      .033      .040      .000     72.00   8400.00
   .000445      460.      400.      330.         0         0         0       .00   2845.00  11245.00


*SECNO 16.770
3280 CROSS SECTION     16.77 EXTENDED      6.19 FEET


3301 HV CHANGED MORE THAN HVINS


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       98.90 ELREA=       108.00

    16.770     23.49    105.09       .00       .00    106.44      1.35       .24       .20     98.90
  205000.0        .0  205000.0        .0        .0   21980.3        .0     263.6      19.5    108.00
       .01       .00      9.33       .00      .000      .033      .000      .000     81.60   9210.00
   .000875      500.      400.      380.         2         0         0       .00   1176.64  10386.64


*SECNO 16.800
3280 CROSS SECTION     16.80 EXTENDED      6.47 FEET

    16.800     23.27    105.37       .00       .00    106.66      1.29       .21       .01     98.90
```

205000.0	.0	205000.0	.0	.0	22512.4	.0	365.8	26.2	104.00
.02	.00	9.11	.00	.000	.033	.000	.000	82.10	9240.00
.001337	235.	200.	280.	2	0	0	.00	1720.00	10960.00

CCHV= .300 CEHV= .500

*SECNO 16.840

16.840	27.21	105.51	.00	.00	106.81	1.31	.15	.01	122.00
205000.0	.0	205000.0	.0	.0	22355.0	.0	448.2	31.2	121.60
.02	.00	9.17	.00	.000	.033	.000	.000	78.30	9240.27
.000685	160.	160.	160.	2	0	0	.00	1019.46	10259.72

1

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

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.05	1.00	2.60	.00	713.50	70.00	28037.70	3.00	79.00	78.30

*SECNO 16.880

CLASS A LOW FLOW

3420 BRIDGE W.S.= 105.53 BRIDGE VELOCITY= 10.53 CALCULATED CHANNEL AREA= 19185.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	107.13	.23	0.	205000.	28038.	28038.	116.14	123.72	0.

16.880	26.74	105.74	.00	.00	107.13	1.39	.31	.00	122.60
205000.0	.0	205000.0	.0	.0	21639.9	.0	562.0	36.5	122.00
.03	.00	9.47	.00	.000	.033	.000	.000	79.00	9253.33
.000765	225.	225.	225.	0	0	0	.00	1023.74	10277.07

*SECNO 16.920

3280 CROSS SECTION 16.92 EXTENDED 23.39 FEET

16.920	26.59	105.89	.00	.00	107.28	1.39	.15	.00	84.00
205000.0	28610.9	176389.1	.0	3798.7	18126.4	.0	665.5	41.1	98.60
.04	7.53	9.73	.00	.040	.033	.000	.000	79.30	9390.00
.000688	207.	207.	207.	0	0	0	.00	925.70	10315.70

CCHV= .100 CEHV= .300

*SECNO 16.960

3280 CROSS SECTION 16.96 EXTENDED 6.59 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 110.00 ELREA= 99.40

16.960	27.09	105.99	.00	.00	107.44	1.46	.14	.02	110.00
205000.0	.0	205000.0	.0	.0	21169.3	.0	766.0	45.4	99.40
.04	.00	9.68	.00	.000	.033	.000	.000	78.90	9481.95
.000722	203.	203.	203.	2	0	0	.00	921.35	10403.30

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

*SECNO 16.990
3280 CROSS SECTION 16.99 EXTENDED 5.63 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 109.90 ELREA= 100.70

16.990	28.32	106.12	.00	.00	107.60	1.47	.15	.01	109.90
205000.0	.0	205000.0	.0	.0	21038.1	.0	863.8	49.7	100.70
.05	.00	9.74	.00	.000	.033	.000	.000	77.80	9562.29
.000730	202.	202.	202.	0	0	0	.00	911.81	10474.10

*SECNO 17.030
3280 CROSS SECTION 17.03 EXTENDED 8.34 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 110.70 ELREA= 97.90

17.030	30.54	106.24	.00	.00	107.76	1.53	.15	.02	110.70
205000.0	.0	205000.0	.0	.0	20665.7	.0	956.4	53.7	97.90
.05	.00	9.92	.00	.000	.035	.000	.000	75.70	9622.79
.000844	194.	194.	194.	2	0	0	.00	888.81	10511.60

*SECNO 17.070

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 111.20 ELREA= 111.56

17.070	29.83	106.43	.00	.00	107.94	1.51	.17	.00	111.20
205000.0	.0	205000.0	.0	.0	20797.4	.0	1052.8	57.9	111.56
.06	.00	9.86	.00	.000	.035	.000	.000	76.60	9675.51
.000848	203.	203.	203.	2	0	0	.00	912.23	10587.74

*SECNO 17.110

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 111.30 ELREA= 112.91

17.110	28.03	106.53	.00	.00	108.14	1.61	.18	.03	111.30
205000.0	.0	205000.0	.0	.0	20151.3	.0	1145.0	62.0	112.91
.06	.00	10.17	.00	.000	.035	.000	.000	78.50	9716.87
.000941	196.	196.	196.	2	0	0	.00	912.28	10629.15

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

*SECNO 17.140
3280 CROSS SECTION 17.14 EXTENDED 9.29 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 112.20 ELREA= 112.60

17.140	26.89	106.69	.00	.00	108.36	1.67	.20	.02	112.20
205000.0	.0	205000.0	.0	.0	19783.2	.0	1238.3	66.2	112.60
.07	.00	10.36	.00	.000	.035	.000	.000	79.80	9750.99
.001007	204.	204.	204.	2	0	0	.00	916.69	10667.68

*SECNO 17.180
3280 CROSS SECTION 17.18 EXTENDED 42.06 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 113.00 ELREA= 112.50

17.180	27.96	106.86	.00	.00	108.58	1.72	.20	.02	113.00
205000.0	.0	205000.0	.0	.0	19486.1	.0	1327.9	70.4	112.50
.07	.00	10.52	.00	.000	.035	.000	.000	78.90	9785.58
.001044	199.	199.	199.	2	0	0	.00	905.54	10691.12

*SECNO 17.220
3280 CROSS SECTION 17.22 EXTENDED 42.24 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 113.80 ELREA= 113.10

17.220	26.64	107.04	.00	.00	108.81	1.77	.22	.01	113.80
205000.0	.0	205000.0	.0	.0	19218.6	.0	1417.9	74.6	113.10
.08	.00	10.67	.00	.000	.035	.000	.000	80.40	9797.99
.001102	203.	203.	203.	2	0	0	.00	911.60	10709.58

*SECNO 17.260
3280 CROSS SECTION 17.26 EXTENDED 42.48 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 114.20 ELREA= 113.30

17.260	26.07	107.27	.00	.00	109.08	1.81	.26	.01	114.20
205000.0	.0	205000.0	.0	.0	18986.5	.0	1520.1	79.5	113.30
.09	.00	10.80	.00	.000	.035	.000	.000	81.20	9794.15
.001151	233.	233.	233.	1	0	0	.00	913.72	10707.87

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

*SECNO 17.280
3280 CROSS SECTION 17.28 EXTENDED 43.10 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 114.70 ELREA= 114.70

17.280	27.60	107.90	.00	.00	109.22	1.32	.09	.05	114.70
205000.0	.0	205000.0	.0	.0	22204.8	.0	1568.8	81.7	114.70
.09	.00	9.23	.00	.000	.035	.000	.000	80.30	9781.93
.000688	103.	103.	103.	2	0	0	.00	916.57	10698.50

*SECNO 17.300
3280 CROSS SECTION 17.30 EXTENDED 43.19 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 114.60 ELREA= 114.40

17.300	27.70	108.00	.00	.00	109.28	1.29	.06	.00	114.60
205000.0	.0	205000.0	.0	.0	22510.0	.0	1613.1	83.5	114.40
.09	.00	9.11	.00	.000	.035	.000	.000	80.30	9766.19
.000657	86.	86.	86.	1	0	0	.00	916.58	10682.77

*SECNO 17.320
3280 CROSS SECTION 17.32 EXTENDED 43.28 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 114.70 ELREA= 114.20

17.320	27.78	108.08	.00	.00	109.34	1.26	.05	.00	114.70
205000.0	.0	205000.0	.0	.0	22739.0	.0	1653.2	85.1	114.20
.09	.00	9.02	.00	.000	.035	.000	.000	80.30	9748.30
.000635	77.	77.	77.	2	0	0	.00	916.35	10664.65

*SECNO 17.330
3280 CROSS SECTION 17.33 EXTENDED 43.43 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 114.80 ELREA= 116.73

17.330	27.93	108.23	.00	.00	109.41	1.18	.06	.01	114.80
205000.0	.0	205000.0	.0	.0	23530.0	.0	1706.9	87.3	116.73
.10	.00	8.71	.00	.000	.035	.000	.000	80.30	9713.65
.000584	101.	101.	101.	2	0	0	.00	937.65	10651.30

1

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

*SECNO 17.370
3280 CROSS SECTION 17.37 EXTENDED 43.56 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 115.20 ELREA= 116.59

17.370	28.07	108.37	.00	.00	109.52	1.16	.11	.00	115.20
205000.0	.0	205000.0	.0	.0	23765.6	.0	1812.5	91.4	116.59
.10	.00	8.63	.00	.000	.035	.000	.000	80.30	9623.88
.000562	195.	195.	195.	1	0	0	.00	933.65	10557.53

*SECNO 17.410
3280 CROSS SECTION 17.41 EXTENDED 43.70 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 115.20 ELREA= 116.65

17.410	28.20	108.50	.00	.00	109.63	1.13	.11	.00	115.20
205000.0	.0	205000.0	.0	.0	24022.9	.0	1922.0	95.7	116.65
.11	.00	8.53	.00	.000	.035	.000	.000	80.30	9505.98
.000542	200.	200.	200.	2	0	0	.00	932.93	10438.91

*SECNO 17.450
3280 CROSS SECTION 17.45 EXTENDED 43.81 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 115.40 ELREA= 118.40

17.450	28.32	108.62	.00	.00	109.74	1.13	.11	.00	115.40
205000.0	.0	205000.0	.0	.0	24063.8	.0	2033.2	100.0	118.40
.12	.00	8.52	.00	.000	.035	.000	.000	80.30	9382.11
.000537	202.	202.	202.	0	0	0	.00	930.22	10312.33

*SECNO 17.490
3280 CROSS SECTION 17.49 EXTENDED 43.84 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 115.90 ELREA= 119.30

17.490	26.54	108.64	.00	.00	109.90	1.26	.12	.04	115.90
205000.0	.0	205000.0	.0	.0	22764.5	.0	2142.5	104.4	119.30
.12	.00	9.01	.00	.000	.035	.000	.000	82.10	9278.32
.000648	203.	203.	203.	2	0	0	.00	934.05	10212.37

1

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

Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 17.520
3280 CROSS SECTION 17.52 EXTENDED 43.85 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 115.70 ELREA= 118.40

17.520	26.25	108.65	.00	.00	110.11	1.46	.15	.06	115.70
205000.0	.0	205000.0	.0	.0	21122.0	.0	2243.7	108.7	118.40
.13	.00	9.71	.00	.000	.035	.000	.000	82.40	9225.10
.000840	201.	201.	201.	2	0	0	.00	939.24	10164.34

*SECNO 17.560
3280 CROSS SECTION 17.56 EXTENDED 43.75 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 115.90 ELREA= 116.80

17.560	25.45	108.55	.00	.00	110.45	1.90	.21	.13	115.90
205000.0	.0	205000.0	.0	.0	18549.3	.0	2334.3	113.0	116.80
.13	.00	11.05	.00	.000	.035	.000	.000	83.10	9187.64
.001316	199.	199.	199.	2	0	0	.00	952.34	10139.99

*SECNO 17.600
3280 CROSS SECTION 17.60 EXTENDED 43.97 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 116.10 ELREA= 116.35

17.600	25.27	108.77	.00	.00	110.75	1.97	.28	.02	116.10
205000.0	.0	205000.0	.0	.0	18195.2	.0	2418.9	117.4	116.35
.14	.00	11.27	.00	.000	.035	.000	.000	83.50	9152.79
.001437	201.	201.	201.	0	0	0	.00	970.54	10123.33

*SECNO 17.640
3280 CROSS SECTION 17.64 EXTENDED 44.25 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 116.00 ELREA= 115.78

17.640	24.94	109.04	.00	.00	111.05	2.01	.30	.01	116.00
205000.0	.0	205000.0	.0	.0	18007.3	.0	2502.2	122.0	115.78
.14	.00	11.38	.00	.000	.035	.000	.000	84.10	9114.28
.001526	200.	200.	200.	0	0	0	.00	991.60	10105.88

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA

SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 17.680
3280 CROSS SECTION 17.68 EXTENDED 29.05 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 116.60 ELREA= 116.33

17.680	25.05	109.35	.00	.00	111.37	2.01	.31	.00	116.60
205000.0	.0	205000.0	.0	.0	18008.6	.0	2585.6	126.6	116.33
.15	.00	11.38	.00	.000	.035	.000	.000	84.30	9079.55
.001560	202.	202.	202.	1	0	0	.00	1007.88	10087.43

*SECNO 17.710
3280 CROSS SECTION 17.71 EXTENDED 5.38 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 116.70 ELREA= 117.05

17.710	24.28	109.68	.00	.00	111.68	2.00	.31	.00	116.70
205000.0	.0	205000.0	.0	.0	18083.7	.0	2668.0	131.2	117.05
.15	.00	11.34	.00	.000	.035	.000	.000	85.40	9058.32
.001568	199.	199.	199.	2	0	0	.00	1022.77	10081.09

*SECNO 17.750
3280 CROSS SECTION 17.75 EXTENDED .10 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 116.70 ELREA= 115.22

17.750	24.88	110.10	.00	.00	111.99	1.89	.30	.01	116.70
205000.0	.0	205000.0	.0	.0	18592.3	.0	2751.7	135.9	115.22
.16	.00	11.03	.00	.000	.035	.000	.000	85.22	9032.42
.001461	199.	199.	199.	2	0	0	.00	1040.44	10072.86

*SECNO 17.790

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 116.40 ELREA= 121.25

17.790	24.36	110.46	.00	.00	112.28	1.83	.29	.01	116.40
205000.0	.0	205000.0	.0	.0	18907.4	.0	2838.6	140.8	121.25
.16	.00	10.84	.00	.000	.035	.000	.000	86.10	9025.55
.001397	202.	202.	202.	2	0	0	.00	1050.07	10075.62

1

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

*SECNO 17.830

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 117.10 ELREA= 127.10

17.830	24.53	110.73	.00	.00	112.57	1.83	.28	.00	117.10
205000.0	.0	205000.0	.0	.0	18866.9	.0	2925.0	145.6	127.10
.17	.00	10.87	.00	.000	.035	.000	.000	86.20	9049.93
.001425	199.	199.	199.	0	0	0	.00	1061.30	10111.23

*SECNO 17.860

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 117.50 ELREA= 127.65

17.860	23.01	111.01	.00	.00	112.86	1.85	.28	.00	117.50
205000.0	.0	205000.0	.0	.0	18804.1	.0	3010.9	150.4	127.65
.17	.00	10.90	.00	.000	.035	.000	.000	88.00	9100.71
.001436	199.	199.	199.	0	0	0	.00	1059.02	10159.73

*SECNO 17.900

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 118.00 ELREA= 128.12

17.900	23.27	111.27	.00	.00	113.17	1.90	.30	.02	118.00
205000.0	.0	205000.0	.0	.0	18551.3	.0	3098.4	155.4	128.12
.18	.00	11.05	.00	.000	.035	.000	.000	88.00	9151.16
.001493	204.	204.	204.	2	0	0	.00	1053.77	10204.93

*SECNO 17.940

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 117.10 ELREA= 128.60

17.940	22.18	111.58	.00	.00	113.46	1.89	.29	.00	117.10
205000.0	.0	205000.0	.0	.0	18597.4	.0	3182.3	160.2	128.60
.18	.00	11.02	.00	.000	.035	.000	.000	89.40	9194.50
.001478	197.	197.	197.	1	0	0	.00	1052.44	10246.94

*SECNO 17.980

1

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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 117.60 ELREA= 129.09

17.980	22.64	111.84	.00	.00	113.79	1.95	.31	.02	117.60
205000.0	.0	205000.0	.0	.0	18298.1	.0	3267.8	165.0	129.09
.19	.00	11.20	.00	.000	.035	.000	.000	89.20	9231.81
.001555	202.	202.	202.	2	0	0	.00	1049.79	10281.60

*SECNO 18.020

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 118.40 ELREA= 129.59

18.020	22.34	112.04	.00	.00	114.19	2.15	.34	.06	118.40
205000.0	.0	205000.0	.0	.0	17416.2	.0	3350.7	169.9	129.59
.19	.00	11.77	.00	.000	.035	.000	.000	89.70	9257.65
.001827	202.	202.	202.	2	0	0	.00	1047.14	10304.80

*SECNO 18.050

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 119.20 ELREA= 130.00

18.050	22.27	112.37	.00	.00	114.57	2.20	.36	.01	119.20
205000.0	.0	205000.0	.0	.0	17225.0	.0	3428.5	174.6	130.00
.20	.00	11.90	.00	.000	.035	.000	.000	90.10	9286.16
.001903	196.	196.	196.	0	0	0	.00	1049.47	10335.63

*SECNO 18.090

3470 ENCROACHMENT STATIONS= .0 10341.0 TYPE= 1 TARGET= 10341.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 121.00 ELREA= 100000.00

18.090	22.06	112.66	.00	.00	115.03	2.36	.41	.05	121.00
205000.0	.0	205000.0	.0	.0	16617.6	.0	3509.0	179.5	100000.00
.20	.00	12.34	.00	.000	.035	.000	.000	90.60	9329.22
.002066	207.	207.	207.	2	0	0	.00	1011.78	10341.00

*SECNO 18.120

1

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

3470 ENCROACHMENT STATIONS= .0 10325.9 TYPE= 1 TARGET= 10325.900

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 120.40 ELREA= 100000.00

18.120	21.66	112.66	.00	.00	115.48	2.82	.31	.14	120.40
205000.0	.0	205000.0	.0	.0	15218.1	.0	3559.2	182.6	100000.00
.21	.00	13.47	.00	.000	.035	.000	.000	91.00	9378.49
.002541	137.	137.	137.	2	0	0	.00	947.41	10325.90

*SECNO 18.140

3470 ENCROACHMENT STATIONS= .0 10296.3 TYPE= 1 TARGET= 10296.300

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 121.70 ELREA= 100000.00

18.140	21.54	112.74	.00	.00	115.97	3.23	.36	.12	121.70

205000.0	.0	205000.0	.0	.0	14218.9	.0	3604.6	185.4	100000.00
.21	.00	14.42	.00	.000	.035	.000	.000	91.20	9414.15
.002889	135.	135.	135.	2	0	0	.00	882.15	10296.30

*SECNO 18.180

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 121.70 ELREA= 131.65

18.180	21.58	113.28	.00	.00	116.42	3.15	.45	.01	121.70
205000.0	.0	205000.0	.0	.0	14402.5	.0	3658.5	188.7	131.65
.21	.00	14.23	.00	.000	.035	.000	.000	91.70	9487.14
.002626	164.	164.	164.	2	0	0	.00	853.12	10340.26

*SECNO 18.190

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 120.90 ELREA= 131.81

18.190	21.37	113.37	.00	.00	116.63	3.26	.17	.04	120.90
205000.0	.0	205000.0	.0	.0	14140.4	.0	3679.8	189.9	131.81
.21	.00	14.50	.00	.000	.035	.000	.000	92.00	9504.16
.002768	65.	65.	65.	2	0	0	.00	844.96	10349.12

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

*SECNO 18.210
3280 CROSS SECTION 18.21 EXTENDED 2.88 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 120.90 ELREA= 124.40

18.210	21.38	113.48	.00	.00	116.99	3.51	.28	.07	120.90
205000.0	.0	205000.0	.0	.0	13631.6	.0	3710.4	191.8	124.40
.21	.00	15.04	.00	.000	.035	.000	.000	92.10	9531.26
.003095	96.	96.	96.	2	0	0	.00	839.59	10370.86

*SECNO 18.240

3301 HV CHANGED MORE THAN HVINS

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 120.80 ELREA= 132.30

18.240	22.49	114.99	.00	.00	117.60	2.61	.52	.09	120.80
205000.0	.0	205000.0	.0	.0	15815.6	.0	3777.6	195.9	132.30
.22	.00	12.96	.00	.000	.035	.000	.000	92.50	9577.92
.002252	199.	199.	199.	3	0	0	.00	961.47	10539.39

*SECNO 18.280

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 122.20 ELREA= 133.00

18.280	22.81	115.81	.00	.00	117.99	2.19	.35	.04	122.20
205000.0	.0	205000.0	.0	.0	17270.7	.0	3842.0	199.8	133.00
.22	.00	11.87	.00	.000	.035	.000	.000	93.00	9604.71
.001886	170.	170.	170.	2	0	0	.00	1048.91	10653.62

*SECNO 18.320

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 121.30 ELREA= 133.60

18.320	22.85	116.35	.00	.00	118.42	2.07	.41	.01	121.30
205000.0	.0	205000.0	.0	.0	17765.7	.0	3933.7	205.3	133.60
.23	.00	11.54	.00	.000	.035	.000	.000	93.50	9617.84
.001722	228.	228.	228.	2	0	0	.00	1050.65	10668.50

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

*SECNO 18.360

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 123.00 ELREA= 134.12

18.360	23.27	116.77	.00	.00	118.76	1.99	.34	.01	123.00
205000.0	.0	205000.0	.0	.0	18103.1	.0	4016.7	210.2	134.12
.23	.00	11.32	.00	.000	.035	.000	.000	93.50	9614.36
.001620	202.	202.	202.	2	0	0	.00	1051.94	10666.30

*SECNO 18.400

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 122.60 ELREA= 133.00

18.400	22.53	117.03	.00	.00	119.12	2.09	.33	.03	122.60
205000.0	.0	205000.0	.0	.0	17671.8	.0	4098.4	215.0	133.00
.24	.00	11.60	.00	.000	.035	.000	.000	94.50	9597.14
.001749	199.	199.	199.	2	0	0	.00	1050.63	10647.77

*SECNO 18.430

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 123.50 ELREA= 135.14

18.430	22.48	117.38	.00	.00	119.48	2.10	.35	.00	123.50
205000.0	.0	205000.0	.0	.0	17627.3	.0	4179.1	219.8	135.14
.24	.00	11.63	.00	.000	.035	.000	.000	94.90	9570.94
.001758	199.	199.	199.	0	0	0	.00	1048.52	10619.46

*SECNO 18.470

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 121.90 ELREA= 135.60

18.470	22.43	117.73	.00	.00	119.84	2.10	.36	.00	121.90
205000.0	.0	205000.0	.0	.0	17607.8	.0	4261.6	224.7	135.60
.25	.00	11.64	.00	.000	.035	.000	.000	95.30	9536.68
.001762	204.	204.	204.	0	0	0	.00	1048.52	10585.20

*SECNO 18.510

1

02APR97 10:16:38 PAGE 37

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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 122.80 ELREA= 136.15

18.510	22.48	118.08	.00	.00	120.19	2.11	.35	.00	122.80
205000.0	.0	205000.0	.0	.0	17584.3	.0	4341.9	229.5	136.15
.25	.00	11.66	.00	.000	.035	.000	.000	95.60	9499.44
.001773	199.	199.	199.	0	0	0	.00	1049.42	10548.86

*SECNO 18.550

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 123.00 ELREA= 136.60

18.550	22.71	118.41	.00	.00	120.56	2.16	.36	.01	123.00
205000.0	.0	205000.0	.0	.0	17399.3	.0	4421.8	234.3	136.60
.26	.00	11.78	.00	.000	.035	.000	.000	95.70	9453.23
.001834	199.	199.	199.	2	0	0	.00	1048.38	10501.61

*SECNO 18.580

3280 CROSS SECTION 18.58 EXTENDED 1.56 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 123.30 ELREA= 137.15

18.580	22.05	118.75	.00	.00	120.94	2.19	.37	.01	123.30
205000.0	.0	205000.0	.0	.0	17244.4	.0	4500.5	239.0	137.15
.26	.00	11.89	.00	.000	.035	.000	.000	96.70	9404.57
.001890	198.	198.	198.	1	0	0	.00	1047.64	10452.21

*SECNO 18.620

18.620	21.13	119.13	.00	.00	121.32	2.19	.38	.00	121.00
205000.0	.0	205000.0	.0	.0	17257.8	.0	4579.1	243.8	137.60
.27	.00	11.88	.00	.000	.035	.000	.000	98.00	9345.47
.001897	199.	199.	199.	0	0	0	.00	1053.68	10399.15

*SECNO 18.660

18.660	22.44	119.44	.00	.00	121.74	2.30	.39	.03	123.00
205000.0	.0	205000.0	.0	.0	16830.0	.0	4656.1	248.6	138.19
.27	.00	12.18	.00	.000	.035	.000	.000	97.00	9368.35
.002046	197.	197.	197.	2	0	0	.00	1046.84	10415.19

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

*SECNO 18.700

18.700	20.79	119.79	.00	.00	122.19	2.39	.42	.03	123.00
205000.0	.0	205000.0	.0	.0	16517.2	.0	4732.2	253.4	138.71
.27	.00	12.41	.00	.000	.035	.000	.000	99.00	9340.45
.002175	199.	199.	199.	2	0	0	.00	1046.02	10386.47

*SECNO 18.740

18.740	18.93	120.33	.00	.00	122.71	2.37	.52	.00	125.00
205000.0	.0	205000.0	.0	.0	16578.5	.0	4822.7	259.1	127.90
.28	.00	12.37	.00	.000	.035	.000	.000	101.40	10047.44
.002189	238.	238.	238.	2	0	0	.00	1059.86	11107.30

*SECNO 18.770

18.770	19.04	120.84	.00	.00	123.14	2.30	.43	.01	127.00
205000.0	.0	205000.0	.0	.0	16847.2	.0	4899.4	264.0	128.40
.28	.00	12.17	.00	.000	.035	.000	.000	101.80	10047.68
.002076	200.	200.	200.	2	0	0	.00	1059.65	11107.33

*SECNO 18.790

18.790	18.91	121.01	.00	.00	123.37	2.35	.21	.02	127.00
205000.0	.0	205000.0	.0	.0	16651.2	.0	4937.9	266.4	128.60
.29	.00	12.31	.00	.000	.035	.000	.000	102.10	10047.70
.002144	100.	100.	100.	2	0	0	.00	1054.55	11102.25

*SECNO 18.810

18.810	18.94	121.24	.00	.00	123.58	2.35	.21	.00	126.00
205000.0	.0	205000.0	.0	.0	16680.1	.0	4976.1	268.8	128.80
.29	.00	12.29	.00	.000	.035	.000	.000	102.30	10046.90
.002127	100.	100.	100.	1	0	0	.00	1053.39	11100.29

*SECNO 18.850

18.850	18.78	121.58	.00	.00	124.06	2.49	.44	.04	129.00
205000.0	.0	205000.0	.0	.0	16189.6	.0	5051.6	273.6	129.20
.29	.00	12.66	.00	.000	.035	.000	.000	102.80	10062.67
.002263	200.	200.	200.	2	0	0	.00	1023.45	11086.13

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
*SECNO 18.890									
18.890	18.92	122.12	.00	.00	124.51	2.39	.43	.01	130.00
205000.0	.0	205000.0	.0	.0	16531.7	.0	5126.7	278.3	129.60
.30	.00	12.40	.00	.000	.035	.000	.000	103.20	10064.10
.002081	200.	200.	200.	2	0	0	.00	1010.46	11074.56
*SECNO 18.930									
18.930	18.83	122.53	.00	.00	124.93	2.40	.42	.00	131.00
205000.0	.0	205000.0	.0	.0	16492.1	.0	5202.5	282.9	130.00
.30	.00	12.43	.00	.000	.035	.000	.000	103.70	10092.71
.002109	200.	200.	200.	2	0	0	.00	1014.68	11107.39
*SECNO 18.960									
18.960	18.76	122.96	.00	.00	125.35	2.40	.42	.00	131.00
205000.0	.0	205000.0	.0	.0	16500.5	.0	5278.3	287.6	130.50
.31	.00	12.42	.00	.000	.035	.000	.000	104.20	10078.43
.002103	200.	200.	200.	0	0	0	.00	1013.92	11092.35
*SECNO 19.000									
19.000	18.66	123.36	.00	.00	125.78	2.42	.42	.01	130.00
205000.0	.0	205000.0	.0	.0	16422.1	.0	5353.9	292.2	130.90
.31	.00	12.48	.00	.000	.035	.000	.000	104.70	10055.75
.002136	200.	200.	200.	1	0	0	.00	1013.66	11069.41
*SECNO 19.040									
19.040	18.70	123.80	.00	.00	126.21	2.41	.43	.00	130.00
205000.0	.0	205000.0	.0	.0	16439.6	.0	5429.3	296.9	131.30
.32	.00	12.47	.00	.000	.035	.000	.000	105.10	10055.37
.002130	200.	200.	200.	0	0	0	.00	1014.09	11069.46
*SECNO 19.080									
19.080	18.58	124.18	.00	.00	126.67	2.48	.43	.02	130.00
205000.0	.0	205000.0	.0	.0	16208.6	.0	5504.2	301.5	131.80
.32	.00	12.65	.00	.000	.035	.000	.000	105.60	10057.81
.002210	200.	200.	200.	2	0	0	.00	1006.33	11064.14

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

```
*SECNO 19.120
    19.120     18.54    124.64       .00       .00    127.11      2.46       .44       .00    130.00
  205000.0        .0  205000.0        .0        .0   16272.3        .0    5578.8     306.1    132.20
       .32       .00     12.60       .00      .000      .035      .000      .000    106.10  10047.17
   .002195      200.      200.      200.         2         0         0       .00   1011.16  11058.33


*SECNO 19.150
    19.150     18.66    125.16       .00       .00    127.55      2.38       .43       .01    130.00
  205000.0        .0  205000.0        .0        .0   16546.9        .0    5654.1     310.8    132.60
       .33       .00     12.39       .00      .000      .035      .000      .000    106.50  10042.21
   .002102      200.      200.      200.         2         0         0       .00   1020.47  11062.69


*SECNO 19.190
    19.190     18.64    125.64       .00       .00    127.97      2.33       .42       .01    133.00
  205000.0        .0  205000.0        .0        .0   16738.8        .0    5730.6     315.5    133.00
       .33       .00     12.25       .00      .000      .035      .000      .000    107.00  10033.08
   .002067      200.      200.      200.         2         0         0       .00   1037.83  11070.92


*SECNO 19.230
    19.230     18.52    126.02       .00       .00    128.40      2.37       .42       .01    133.50
  205000.0        .0  205000.0        .0        .0   16585.6        .0    5807.1     320.3    133.50
       .34       .00     12.36       .00      .000      .035      .000      .000    107.50  10046.38
   .002096      200.      200.      200.         2         0         0       .00   1024.20  11070.57


*SECNO 19.280
    19.280     18.34    126.54       .00       .00    128.98      2.44       .56       .02    134.10
  205000.0        .0  205000.0        .0        .0   16356.4        .0    5907.3     326.5    134.10
       .34       .00     12.53       .00      .000      .035      .000      .000    108.20  10047.22
   .002156      265.      265.      265.         2         0         0       .00   1009.55  11056.78


*SECNO 19.300
    19.300     18.33    126.73       .00       .00    129.28      2.55       .27       .03    134.30
  210000.0        .0  210000.0        .0        .0   16384.0        .0    5952.4     329.3    134.30
       .35       .00     12.82       .00      .000      .035      .000      .000    108.40  10033.71
   .002287      120.      120.      120.         2         0         0       .00   1023.05  11056.76


1
   02APR97      10:16:38                                                                          PAGE   41


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


*SECNO 19.340
    19.340     18.33    127.23       .00       .00    129.78      2.54       .49       .00    134.70
  210000.0        .0  210000.0        .0        .0   16405.2        .0    6033.3     334.3    134.70
       .35       .00     12.80       .00      .000      .035      .000      .000    108.90  10033.41
   .002312      215.      215.      215.         2         0         0       .00   1035.18  11068.59


*SECNO 19.380
```

19.380	18.29	127.69	.00	.00	130.24	2.56	.46	.00	135.20
210000.0	.0	210000.0	.0	.0	16364.3	.0	6108.5	339.1	135.20
.36	.00	12.83	.00	.000	.035	.000	.000	109.40	10033.53
.002331	200.	200.	200.	0	0	0	.00	1034.95	11068.47

CCHV= .300 CEHV= .500

*SECNO 19.384

19.384	18.41	127.81	.00	.00	130.30	2.50	.04	.02	135.20
210000.0	.0	210000.0	.0	.0	16564.4	.0	6114.9	339.5	135.20
.36	.00	12.68	.00	.000	.035	.000	.000	109.40	10032.07
.002242	17.	17.	17.	2	0	0	.00	1037.35	11069.42

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.05	1.56	2.60	.00	875.00	73.50	30974.00	2.00	109.70	109.40

*SECNO 19.400

CLASS A LOW FLOW

3420 BRIDGE W.S.= 127.25 BRIDGE VELOCITY= 14.17 CALCULATED CHANNEL AREA= 14684.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	130.96	.77	0.	210000.	30974.	30974.	145.20	152.20	0.

19.400	18.87	128.57	.00	.00	130.96	2.39	.66	.00	135.50
210000.0	.0	210000.0	.0	.0	16934.1	.0	6156.8	342.1	135.50
.36	.00	12.40	.00	.000	.035	.000	.000	109.70	10045.69
.002055	109.	109.	109.	0	0	0	.00	1025.13	11070.82

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

*SECNO 19.430

19.430	18.86	128.86	.00	.00	131.25	2.39	.29	.00	135.70
210000.0	.0	210000.0	.0	.0	16931.6	.0	6211.7	345.4	135.70
.36	.00	12.40	.00	.000	.035	.000	.000	110.00	10045.59
.002056	141.	141.	141.	1	0	0	.00	1025.33	11070.91

*SECNO 19.460

19.460	18.89	129.19	.00	.00	131.55	2.36	.29	.01	136.00
210000.0	.0	210000.0	.0	.0	17033.6	.0	6266.6	348.7	136.00
.36	.00	12.33	.00	.000	.035	.000	.000	110.30	10045.53
.002019	141.	141.	141.	2	0	0	.00	1027.88	11073.42

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.05	1.56	2.60	.00	875.00	80.00	26567.00	2.00	110.70	110.30

*SECNO 19.480
CLASS A LOW FLOW

3420 BRIDGE W.S.= 128.65 BRIDGE VELOCITY= 13.92 CALCULATED CHANNEL AREA= 14918.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	132.22	.75	0.	210000.	26567.	26567.	141.70	148.70	0.

19.480	19.23	129.93	.00	.00	132.22	2.29	.67	.00	136.30
210000.0	.0	210000.0	.0	.0	17296.3	.0	6314.7	351.6	136.30
.37	.00	12.14	.00	.000	.035	.000	.000	110.70	10029.90
.001919	122.	122.	122.	0	0	0	.00	1026.45	11056.35

*SECNO 19.490

19.490	19.28	130.08	.00	.00	132.36	2.28	.13	.00	136.40
210000.0	.0	210000.0	.0	.0	17335.2	.0	6342.5	353.2	136.40
.37	.00	12.11	.00	.000	.035	.000	.000	110.80	10029.79
.001905	70.	70.	70.	0	0	0	.00	1026.62	11056.41

CCHV= .100 CEHV= .300

1

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

*SECNO 19.530

19.530	19.16	130.46	.00	.00	132.75	2.30	.39	.00	136.90
210000.0	.0	210000.0	.0	.0	17272.7	.0	6422.0	358.0	136.90
.37	.00	12.16	.00	.000	.035	.000	.000	111.30	10030.31
.001973	200.	200.	200.	0	0	0	.00	1044.03	11074.34

*SECNO 19.570

19.570	19.20	130.90	.00	.00	133.15	2.25	.39	.00	137.30
210000.0	.0	210000.0	.0	.0	17456.6	.0	6501.7	362.8	137.30
.38	.00	12.03	.00	.000	.035	.000	.000	111.70	10037.28
.001915	200.	200.	200.	2	0	0	.00	1048.66	11085.94

*SECNO 19.610

19.610	19.04	131.24	.00	.00	133.56	2.32	.39	.02	137.70
210000.0	.0	210000.0	.0	.0	17185.3	.0	6581.2	367.6	138.30
.38	.00	12.22	.00	.000	.035	.000	.000	112.20	10030.38
.002005	200.	200.	200.	2	0	0	.00	1042.47	11072.85

```
*SECNO 19.650
    19.650     18.93    131.63       .00       .00    133.97      2.34       .40       .01    138.10
  210000.0        .0  210000.0        .0        .0   17115.9        .0    6660.0     372.4    138.70
       .39       .00     12.27       .00      .000      .035      .000      .000    112.70  10029.81
   .002038      200.      200.      200.         0         0         0       .00   1045.02  11074.83


*SECNO 19.680
    19.680     18.83    132.03       .00       .00    134.39      2.36       .41       .01    138.60
  210000.0        .0  210000.0        .0        .0   17047.7        .0    6738.4     377.2    139.20
       .39       .00     12.32       .00      .000      .035      .000      .000    113.20  10029.69
   .002071      200.      200.      200.         0         0         0       .00   1047.00  11076.70


*SECNO 19.720
    19.720     18.85    132.45       .00       .00    134.80      2.35       .41       .00    139.00
  210000.0        .0  210000.0        .0        .0   17079.3        .0    6816.8     382.0    139.60
       .40       .00     12.30       .00      .000      .035      .000      .000    113.60  10030.66
   .002061      200.      200.      200.         1         0         0       .00   1048.05  11078.71


1
   02APR97      10:16:38                                                                          PAGE   44


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


*SECNO 19.760
    19.760     18.75    132.85       .00       .00    135.22      2.37       .42       .01    139.40
  210000.0        .0  210000.0        .0        .0   16994.8        .0    6895.0     386.8    140.00
       .40       .00     12.36       .00      .000      .035      .000      .000    114.10  10030.62
   .002095      200.      200.      200.         1         0         0       .00   1048.11  11078.73


*SECNO 19.800
    19.800     18.65    133.25       .00       .00    135.65      2.40       .42       .01    139.80
  210000.0        .0  210000.0        .0        .0   16893.3        .0    6972.8     391.6    140.40
       .41       .00     12.43       .00      .000      .035      .000      .000    114.60  10029.62
   .002113      200.      200.      200.         1         0         0       .00   1042.10  11071.72


*SECNO 19.830
    19.830     18.65    133.65       .00       .00    136.09      2.44       .42       .01    140.30
  210000.0        .0  210000.0        .0        .0   16755.6        .0    7050.0     396.4    140.90
       .41       .00     12.53       .00      .000      .035      .000      .000    115.00  10030.95
   .002136      200.      200.      200.         2         0         0       .00   1027.97  11058.92


*SECNO 19.870
    19.870     18.56    134.06       .00       .00    136.53      2.47       .43       .01    140.70
  210000.0        .0  210000.0        .0        .0   16643.4        .0    7126.7     401.1    141.30
       .41       .00     12.62       .00      .000      .035      .000      .000    115.50  10030.90
   .002178      200.      200.      200.         1         0         0       .00   1025.31  11056.21
```

```
*SECNO 19.910
    19.910     18.47    134.47       .00       .00    136.98      2.51       .44       .01    141.00
  210000.0        .0  210000.0        .0        .0   16523.6        .0    7202.8     405.8    141.70
       .42       .00     12.71       .00      .000      .035      .000      .000    116.00  10030.74
   .002224      200.      200.      200.         1         0         0       .00   1023.45  11054.19


*SECNO 19.950
    19.950     18.39    134.89       .00       .00    137.45      2.55       .45       .01    141.50
  210000.0        .0  210000.0        .0        .0   16372.5        .0    7278.4     410.5    142.10
       .42       .00     12.83       .00      .000      .035      .000      .000    116.50  10030.83
   .002281      200.      200.      200.         2         0         0       .00   1019.33  11050.15


1
   02APR97      10:16:38                                                                          PAGE   45


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


*SECNO 19.990
    19.990     18.53    135.43       .00       .00    137.90      2.47       .45       .01    142.00
  210000.0        .0  210000.0        .0        .0   16639.2        .0    7354.1     415.2    142.60
       .43       .00     12.62       .00      .000      .035      .000      .000    116.90  10033.44
   .002189      200.      200.      200.         2         0         0       .00   1031.39  11064.83


*SECNO 20.020
    20.020     18.39    135.79       .00       .00    138.38      2.59       .45       .03    142.40
  210000.0        .0  210000.0        .0        .0   16270.0        .0    7429.7     419.9    143.00
       .43       .00     12.91       .00      .000      .035      .000      .000    117.40  10032.71
   .002289      200.      200.      200.         2         0         0       .00   1006.45  11039.16


*SECNO 20.060
    20.060     18.32    136.22       .00       .00    138.87      2.65       .47       .02    142.80
  210000.0        .0  210000.0        .0        .0   16071.0        .0    7503.9     424.5    143.40
       .44       .00     13.07       .00      .000      .035      .000      .000    117.90  10030.75
   .002380      200.      200.      200.         2         0         0       .00   1004.39  11035.14


*SECNO 20.100
    20.100     18.38    136.68       .00       .00    139.35      2.66       .48       .00    143.20
  210000.0        .0  210000.0        .0        .0   16030.4        .0    7577.6     429.1    143.80
       .44       .00     13.10       .00      .000      .035      .000      .000    118.30  10030.55
   .002379      200.      200.      200.         0         0         0       .00    997.70  11028.25


*SECNO 20.140
    20.140     18.33    137.13       .00       .00    139.85      2.72       .48       .02    143.70
  210000.0        .0  210000.0        .0        .0   15865.8        .0    7650.8     433.6    144.30
       .44       .00     13.24       .00      .000      .035      .000      .000    118.80  10030.72
   .002437      200.      200.      200.         2         0         0       .00    989.75  11020.48


*SECNO 20.180
```

20.180	18.28	137.58	.00	.00	140.36	2.78	.49	.02	144.10
210000.0	.0	210000.0	.0	.0	15688.3	.0	7723.3	438.2	144.70
.45	.00	13.39	.00	.000	.035	.000	.000	119.30	10030.57
.002502	200.	200.	200.	2	0	0	.00	981.62	11012.19

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

*SECNO 20.210

20.210	18.24	138.04	.00	.00	140.88	2.84	.51	.02	144.50
210000.0	.0	210000.0	.0	.0	15519.5	.0	7794.9	442.6	145.10
.45	.00	13.53	.00	.000	.035	.000	.000	119.80	10030.38
.002563	200.	200.	200.	2	0	0	.00	972.86	11003.24

*SECNO 20.250

20.250	18.34	138.54	.00	.00	141.40	2.85	.51	.00	145.00
210000.0	.0	210000.0	.0	.0	15491.3	.0	7866.1	447.1	145.60
.46	.00	13.56	.00	.000	.035	.000	.000	120.20	10030.36
.002550	200.	200.	200.	0	0	0	.00	964.25	10994.61

*SECNO 20.290

20.290	18.31	139.01	.00	.00	141.94	2.93	.52	.02	145.60
210000.0	.0	210000.0	.0	.0	15299.2	.0	7936.8	451.5	145.60
.46	.00	13.73	.00	.000	.035	.000	.000	120.70	10029.77
.002621	200.	200.	200.	2	0	0	.00	954.30	10984.07

*SECNO 20.330

20.330	18.30	139.50	.00	.00	142.48	2.99	.53	.02	146.10
210000.0	.0	210000.0	.0	.0	15139.7	.0	8006.7	455.9	146.10
.46	.00	13.87	.00	.000	.035	.000	.000	121.20	10030.81
.002680	200.	200.	200.	2	0	0	.00	945.34	10976.15

*SECNO 20.370

20.370	18.46	140.06	.00	.00	143.02	2.96	.53	.00	146.60
210000.0	.0	210000.0	.0	.0	15212.8	.0	8076.4	460.2	146.60
.47	.00	13.80	.00	.000	.035	.000	.000	121.60	10033.68
.002607	200.	200.	200.	2	0	0	.00	938.75	10972.43

*SECNO 20.400

20.400	18.42	140.52	.00	.00	143.58	3.06	.53	.03	147.10
210000.0	.0	210000.0	.0	.0	14949.2	.0	8145.6	464.5	147.10
.47	.00	14.05	.00	.000	.035	.000	.000	122.10	10029.75
.002719	200.	200.	200.	2	0	0	.00	925.37	10955.13

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

*SECNO 20.436

20.436	18.55	141.05	.00	.00	144.08	3.03	.49	.00	147.67
210000.0	.0	210000.0	.0	.0	15036.1	.0	8208.2	468.3	147.67
.48	.00	13.97	.00	.000	.035	.000	.000	122.50	10031.84
.002708	182.	182.	182.	2	0	0	.00	936.31	10968.16

*SECNO 20.441

20.441	18.58	141.11	.00	.00	144.13	3.02	.05	.00	147.70
210000.0	.0	210000.0	.0	.0	15056.6	.0	8214.5	468.7	147.70
.48	.00	13.95	.00	.000	.035	.000	.000	122.53	10031.79
.002696	18.	18.	18.	0	0	0	.00	936.42	10968.21

*SECNO 20.480

20.480	18.84	141.70	.00	.00	144.65	2.96	.52	.01	148.20
210000.0	.0	210000.0	.0	.0	15214.5	.0	8284.0	473.0	148.20
.48	.00	13.80	.00	.000	.035	.000	.000	122.86	10042.81
.002516	200.	200.	200.	2	0	0	.00	911.55	10954.36

1

THIS RUN EXECUTED 02APR97 10:16:46

****
HEC-2 WATER SURFACE PROFILES

Version 4.6.2; May 1991
****

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

100-YEAR FLOW

SUMMARY PRINTOUT TABLE 150

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
16.690	.00	.00	.00	72.00	205000.00	105.30	.00	106.00	4.45	7.26	34426.51	97207.59
16.770	400.00	.00	.00	81.60	205000.00	105.09	.00	106.44	8.75	9.33	21980.29	69295.58
16.800	200.00	.00	.00	82.10	205000.00	105.37	.00	106.66	13.37	9.11	22512.41	56055.83
16.840	160.00	.00	.00	78.30	205000.00	105.51	.00	106.81	6.85	9.17	22354.95	78353.08

16.880	225.40	123.72	116.14	79.00	205000.00	105.74	.00	107.13	7.65	9.47	21639.87	74103.63
16.920	206.90	.00	.00	79.30	205000.00	105.89	.00	107.28	6.88	9.73	21925.01	78178.97
16.960	203.30	.00	.00	78.90	205000.00	105.99	.00	107.44	7.22	9.68	21169.25	76283.02
16.990	201.70	.00	.00	77.80	205000.00	106.12	.00	107.60	7.30	9.74	21038.13	75854.24
17.030	193.60	.00	.00	75.70	205000.00	106.24	.00	107.76	8.44	9.92	20665.70	70568.02
17.070	202.50	.00	.00	76.60	205000.00	106.43	.00	107.94	8.48	9.86	20797.42	70404.48
17.110	196.20	.00	.00	78.50	205000.00	106.53	.00	108.14	9.41	10.17	20151.25	66830.63
17.140	203.50	.00	.00	79.80	205000.00	106.69	.00	108.36	10.07	10.36	19783.20	64598.78
17.180	198.70	.00	.00	78.90	205000.00	106.86	.00	108.58	10.44	10.52	19486.11	63431.40
17.220	202.60	.00	.00	80.40	205000.00	107.04	.00	108.81	11.02	10.67	19218.62	61754.54
17.260	233.00	.00	.00	81.20	205000.00	107.27	.00	109.08	11.51	10.80	18986.54	60434.30
17.280	103.20	.00	.00	80.30	205000.00	107.90	.00	109.22	6.88	9.23	22204.80	78173.88
17.300	86.30	.00	.00	80.30	205000.00	108.00	.00	109.28	6.57	9.11	22509.97	79976.30

1

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
17.320	77.10	.00	.00	80.30	205000.00	108.08	.00	109.34	6.35	9.02	22739.04	81321.28
17.330	101.20	.00	.00	80.30	205000.00	108.23	.00	109.41	5.84	8.71	23530.00	84816.17
17.370	194.50	.00	.00	80.30	205000.00	108.37	.00	109.52	5.62	8.63	23765.58	86473.82
17.410	199.50	.00	.00	80.30	205000.00	108.50	.00	109.63	5.42	8.53	24022.92	88077.92
17.450	201.60	.00	.00	80.30	205000.00	108.62	.00	109.74	5.37	8.52	24063.77	88504.91
17.490	203.30	.00	.00	82.10	205000.00	108.64	.00	109.90	6.48	9.01	22764.48	80524.63
17.520	200.80	.00	.00	82.40	205000.00	108.65	.00	110.11	8.40	9.71	21121.98	70741.52
17.560	199.00	.00	.00	83.10	205000.00	108.55	.00	110.45	13.16	11.05	18549.27	56510.72
17.600	200.60	.00	.00	83.50	205000.00	108.77	.00	110.75	14.37	11.27	18195.15	54078.41
17.640	200.40	.00	.00	84.10	205000.00	109.04	.00	111.05	15.26	11.38	18007.26	52477.40
17.680	201.80	.00	.00	84.30	205000.00	109.35	.00	111.37	15.60	11.38	18008.59	51909.01
17.710	198.90	.00	.00	85.40	205000.00	109.68	.00	111.68	15.68	11.34	18083.74	51771.64
17.750	198.90	.00	.00	85.22	205000.00	110.10	.00	111.99	14.61	11.03	18592.35	53625.25
17.790	201.80	.00	.00	86.10	205000.00	110.46	.00	112.28	13.97	10.84	18907.45	54842.45

17.830	199.30	.00	.00	86.20	205000.00	110.73	.00	112.57	14.25	10.87	18866.93	54306.91
17.860	198.70	.00	.00	88.00	205000.00	111.01	.00	112.86	14.36	10.90	18804.11	54101.93
17.900	204.00	.00	.00	88.00	205000.00	111.27	.00	113.17	14.93	11.05	18551.32	53055.89
17.940	196.80	.00	.00	89.40	205000.00	111.58	.00	113.46	14.78	11.02	18597.38	53324.77
17.980	201.90	.00	.00	89.20	205000.00	111.84	.00	113.79	15.55	11.20	18298.05	51983.03
18.020	202.20	.00	.00	89.70	205000.00	112.04	.00	114.19	18.27	11.77	17416.25	47958.83
18.050	195.60	.00	.00	90.10	205000.00	112.37	.00	114.57	19.03	11.90	17224.96	46992.27
18.090	207.20	.00	.00	90.60	205000.00	112.66	.00	115.03	20.66	12.34	16617.58	45103.34
18.120	137.40	.00	.00	91.00	205000.00	112.66	.00	115.48	25.41	13.47	15218.12	40671.47
18.140	134.50	.00	.00	91.20	205000.00	112.74	.00	115.97	28.89	14.42	14218.87	38139.21
18.180	164.00	.00	.00	91.70	205000.00	113.28	.00	116.42	26.26	14.23	14402.47	40007.02
18.190	64.90	.00	.00	92.00	205000.00	113.37	.00	116.63	27.68	14.50	14140.35	38965.71

1

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
18.210	96.20	.00	.00	92.10	205000.00	113.48	.00	116.99	30.95	15.04	13631.64	36851.23
18.240	198.80	.00	.00	92.50	205000.00	114.99	.00	117.60	22.52	12.96	15815.60	43197.31
18.280	169.50	.00	.00	93.00	205000.00	115.81	.00	117.99	18.86	11.87	17270.67	47206.50
18.320	228.00	.00	.00	93.50	205000.00	116.35	.00	118.42	17.22	11.54	17765.70	49407.45
18.360	201.70	.00	.00	93.50	205000.00	116.77	.00	118.76	16.20	11.32	18103.09	50938.07
18.400	198.80	.00	.00	94.50	205000.00	117.03	.00	119.12	17.49	11.60	17671.78	49014.86
18.430	199.20	.00	.00	94.90	205000.00	117.38	.00	119.48	17.58	11.63	17627.33	48889.91
18.470	204.10	.00	.00	95.30	205000.00	117.73	.00	119.84	17.62	11.64	17607.84	48831.38
18.510	198.60	.00	.00	95.60	205000.00	118.08	.00	120.19	17.73	11.66	17584.35	48687.42
18.550	199.20	.00	.00	95.70	205000.00	118.41	.00	120.56	18.34	11.78	17399.33	47868.21
18.580	197.70	.00	.00	96.70	205000.00	118.75	.00	120.94	18.90	11.89	17244.38	47152.79
18.620	198.60	.00	.00	98.00	205000.00	119.13	.00	121.32	18.97	11.88	17257.78	47073.38
18.660	196.80	.00	.00	97.00	205000.00	119.44	.00	121.74	20.46	12.18	16829.96	45325.09
18.700	198.90	.00	.00	99.00	205000.00	119.79	.00	122.19	21.75	12.41	16517.22	43960.26
18.740	238.10	.00	.00	101.40	205000.00	120.33	.00	122.71	21.89	12.37	16578.48	43813.45

18.770	200.00	.00	.00	101.80	205000.00	120.84	.00	123.14	20.76	12.17	16847.20	44995.25
18.790	100.00	.00	.00	102.10	205000.00	121.01	.00	123.37	21.44	12.31	16651.20	44272.52
18.810	100.00	.00	.00	102.30	205000.00	121.24	.00	123.58	21.27	12.29	16680.15	44450.16
18.850	200.00	.00	.00	102.80	205000.00	121.58	.00	124.06	22.63	12.66	16189.57	43091.50
18.890	200.00	.00	.00	103.20	205000.00	122.12	.00	124.51	20.81	12.40	16531.71	44943.09
18.930	200.00	.00	.00	103.70	205000.00	122.53	.00	124.93	21.09	12.43	16492.09	44643.25
18.960	200.00	.00	.00	104.20	205000.00	122.96	.00	125.35	21.03	12.42	16500.54	44698.43
19.000	200.00	.00	.00	104.70	205000.00	123.36	.00	125.78	21.36	12.48	16422.05	44353.84
19.040	200.00	.00	.00	105.10	205000.00	123.80	.00	126.21	21.30	12.47	16439.64	44421.14
19.080	200.00	.00	.00	105.60	205000.00	124.18	.00	126.67	22.10	12.65	16208.63	43608.88
19.120	200.00	.00	.00	106.10	205000.00	124.64	.00	127.11	21.95	12.60	16272.34	43751.29

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
19.150	200.00	.00	.00	106.50	205000.00	125.16	.00	127.55	21.02	12.39	16546.88	44711.91
19.190	200.00	.00	.00	107.00	205000.00	125.64	.00	127.97	20.67	12.25	16738.78	45085.83
19.230	200.00	.00	.00	107.50	205000.00	126.02	.00	128.40	20.96	12.36	16585.65	44778.30
19.280	265.00	.00	.00	108.20	205000.00	126.54	.00	128.98	21.56	12.53	16356.35	44154.15
19.300	120.00	.00	.00	108.40	210000.00	126.73	.00	129.28	22.87	12.82	16383.99	43908.14
19.340	215.00	.00	.00	108.90	210000.00	127.23	.00	129.78	23.12	12.80	16405.19	43674.25
19.380	200.00	.00	.00	109.40	210000.00	127.69	.00	130.24	23.31	12.83	16364.35	43500.16
19.384	17.00	.00	.00	109.40	210000.00	127.81	.00	130.30	22.42	12.68	16564.41	44354.55
19.400	109.00	152.20	145.20	109.70	210000.00	128.57	.00	130.96	20.55	12.40	16934.15	46323.86
19.430	141.00	.00	.00	110.00	210000.00	128.86	.00	131.25	20.56	12.40	16931.60	46308.27
19.460	141.00	.00	.00	110.30	210000.00	129.19	.00	131.55	20.19	12.33	17033.64	46733.79
19.480	122.00	148.70	141.70	110.70	210000.00	129.93	.00	132.22	19.19	12.14	17296.35	47942.01
19.490	70.00	.00	.00	110.80	210000.00	130.08	.00	132.36	19.05	12.11	17335.16	48115.66
19.530	200.00	.00	.00	111.30	210000.00	130.46	.00	132.75	19.73	12.16	17272.66	47277.50
19.570	200.00	.00	.00	111.70	210000.00	130.90	.00	133.15	19.15	12.03	17456.63	47991.15
19.610	200.00	.00	.00	112.20	210000.00	131.24	.00	133.56	20.05	12.22	17185.30	46894.41

19.650	200.00	.00	.00	112.70	210000.00	131.63	.00	133.97	20.38	12.27	17115.93	46511.97
19.680	200.00	.00	.00	113.20	210000.00	132.03	.00	134.39	20.71	12.32	17047.72	46147.71
19.720	200.00	.00	.00	113.60	210000.00	132.45	.00	134.80	20.61	12.30	17079.26	46254.89
19.760	200.00	.00	.00	114.10	210000.00	132.85	.00	135.22	20.95	12.36	16994.80	45875.56
19.800	200.00	.00	.00	114.60	210000.00	133.25	.00	135.65	21.13	12.43	16893.34	45689.39
19.830	200.00	.00	.00	115.00	210000.00	133.65	.00	136.09	21.36	12.53	16755.65	45437.58
19.870	200.00	.00	.00	115.50	210000.00	134.06	.00	136.53	21.78	12.62	16643.43	45002.68
19.910	200.00	.00	.00	116.00	210000.00	134.47	.00	136.98	22.24	12.71	16523.56	44524.97
19.950	200.00	.00	.00	116.50	210000.00	134.89	.00	137.45	22.81	12.83	16372.52	43968.41
19.990	200.00	.00	.00	116.90	210000.00	135.43	.00	137.90	21.89	12.62	16639.19	44888.99

1

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
20.020	200.00	.00	.00	117.40	210000.00	135.79	.00	138.38	22.89	12.91	16269.96	43896.11
20.060	200.00	.00	.00	117.90	210000.00	136.22	.00	138.87	23.80	13.07	16070.96	43046.79
20.100	200.00	.00	.00	118.30	210000.00	136.68	.00	139.35	23.79	13.10	16030.39	43054.71
20.140	200.00	.00	.00	118.80	210000.00	137.13	.00	139.85	24.37	13.24	15865.82	42537.16
20.180	200.00	.00	.00	119.30	210000.00	137.58	.00	140.36	25.02	13.39	15688.33	41980.57
20.210	200.00	.00	.00	119.80	210000.00	138.04	.00	140.88	25.63	13.53	15519.45	41476.79
20.250	200.00	.00	.00	120.20	210000.00	138.54	.00	141.40	25.50	13.56	15491.32	41588.50
20.290	200.00	.00	.00	120.70	210000.00	139.01	.00	141.94	26.21	13.73	15299.19	41018.41
20.330	200.00	.00	.00	121.20	210000.00	139.50	.00	142.48	26.80	13.87	15139.65	40564.53
20.370	200.00	.00	.00	121.60	210000.00	140.06	.00	143.02	26.07	13.80	15212.84	41125.75
20.400	200.00	.00	.00	122.10	210000.00	140.52	.00	143.58	27.19	14.05	14949.15	40272.91
20.436	182.00	.00	.00	122.50	210000.00	141.05	.00	144.08	27.08	13.97	15036.08	40354.77
20.441	18.00	.00	.00	122.53	210000.00	141.11	.00	144.13	26.96	13.95	15056.61	40444.11
20.480	200.00	.00	.00	122.86	210000.00	141.70	.00	144.65	25.16	13.80	15214.48	41866.48

1

100-YEAR FLOW

SUMMARY PRINTOUT TABLE 150

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
16.690	205000.00	105.30	.00	.00	.00	2845.00	.00
16.770	205000.00	105.09	.00	-.21	.00	1176.64	400.00
16.800	205000.00	105.37	.00	.28	.00	1720.00	200.00
16.840	205000.00	105.51	.00	.14	.00	1019.46	160.00
16.880	205000.00	105.74	.00	.23	.00	1023.74	225.40
16.920	205000.00	105.89	.00	.16	.00	925.70	206.90
16.960	205000.00	105.99	.00	.10	.00	921.35	203.30
16.990	205000.00	106.12	.00	.13	.00	911.81	201.70
17.030	205000.00	106.24	.00	.11	.00	888.81	193.60
17.070	205000.00	106.43	.00	.19	.00	912.23	202.50
17.110	205000.00	106.53	.00	.11	.00	912.28	196.20
17.140	205000.00	106.69	.00	.16	.00	916.69	203.50
17.180	205000.00	106.86	.00	.17	.00	905.54	198.70
17.220	205000.00	107.04	.00	.18	.00	911.60	202.60
17.260	205000.00	107.27	.00	.23	.00	913.72	233.00
17.280	205000.00	107.90	.00	.63	.00	916.57	103.20
17.300	205000.00	108.00	.00	.10	.00	916.58	86.30
17.320	205000.00	108.08	.00	.08	.00	916.35	77.10
17.330	205000.00	108.23	.00	.15	.00	937.65	101.20
17.370	205000.00	108.37	.00	.14	.00	933.65	194.50
17.410	205000.00	108.50	.00	.14	.00	932.93	199.50
17.450	205000.00	108.62	.00	.11	.00	930.22	201.60
17.490	205000.00	108.64	.00	.03	.00	934.05	203.30
17.520	205000.00	108.65	.00	.01	.00	939.24	200.80

1

SECNO Q CWSEL DIFWSP DIFWSX DIFKWS TOPWID XLCH

17.560	205000.00	108.55	.00	-.10	.00	952.34	199.00
17.600	205000.00	108.77	.00	.22	.00	970.54	200.60
17.640	205000.00	109.04	.00	.27	.00	991.60	200.40
17.680	205000.00	109.35	.00	.31	.00	1007.88	201.80
17.710	205000.00	109.68	.00	.33	.00	1022.77	198.90
17.750	205000.00	110.10	.00	.42	.00	1040.44	198.90
17.790	205000.00	110.46	.00	.36	.00	1050.07	201.80
17.830	205000.00	110.73	.00	.28	.00	1061.30	199.30
17.860	205000.00	111.01	.00	.28	.00	1059.02	198.70
17.900	205000.00	111.27	.00	.26	.00	1053.77	204.00
17.940	205000.00	111.58	.00	.30	.00	1052.44	196.80
17.980	205000.00	111.84	.00	.26	.00	1049.79	201.90
18.020	205000.00	112.04	.00	.20	.00	1047.14	202.20
18.050	205000.00	112.37	.00	.33	.00	1049.47	195.60
18.090	205000.00	112.66	.00	.30	.00	1011.78	207.20
18.120	205000.00	112.66	.00	.00	.00	947.41	137.40
18.140	205000.00	112.74	.00	.08	.00	882.15	134.50
18.180	205000.00	113.28	.00	.54	.00	853.12	164.00
18.190	205000.00	113.37	.00	.09	.00	844.96	64.90
18.210	205000.00	113.48	.00	.11	.00	839.59	96.20
18.240	205000.00	114.99	.00	1.51	.00	961.47	198.80
18.280	205000.00	115.81	.00	.81	.00	1048.91	169.50
18.320	205000.00	116.35	.00	.54	.00	1050.65	228.00
18.360	205000.00	116.77	.00	.42	.00	1051.94	201.70
18.400	205000.00	117.03	.00	.27	.00	1050.63	198.80
18.430	205000.00	117.38	.00	.34	.00	1048.52	199.20

1

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
18.470	205000.00	117.73	.00	.36	.00	1048.52	204.10

18.510	205000.00	118.08	.00	.35	.00	1049.42	198.60
18.550	205000.00	118.41	.00	.33	.00	1048.38	199.20
18.580	205000.00	118.75	.00	.34	.00	1047.64	197.70
18.620	205000.00	119.13	.00	.38	.00	1053.68	198.60
18.660	205000.00	119.44	.00	.31	.00	1046.84	196.80
18.700	205000.00	119.79	.00	.36	.00	1046.02	198.90
18.740	205000.00	120.33	.00	.54	.00	1059.86	238.10
18.770	205000.00	120.84	.00	.51	.00	1059.65	200.00
18.790	205000.00	121.01	.00	.17	.00	1054.55	100.00
18.810	205000.00	121.24	.00	.22	.00	1053.39	100.00
18.850	205000.00	121.58	.00	.34	.00	1023.45	200.00
18.890	205000.00	122.12	.00	.55	.00	1010.46	200.00
18.930	205000.00	122.53	.00	.41	.00	1014.68	200.00
18.960	205000.00	122.96	.00	.42	.00	1013.92	200.00
19.000	205000.00	123.36	.00	.41	.00	1013.66	200.00
19.040	205000.00	123.80	.00	.43	.00	1014.09	200.00
19.080	205000.00	124.18	.00	.39	.00	1006.33	200.00
19.120	205000.00	124.64	.00	.46	.00	1011.16	200.00
19.150	205000.00	125.16	.00	.52	.00	1020.47	200.00
19.190	205000.00	125.64	.00	.48	.00	1037.83	200.00
19.230	205000.00	126.02	.00	.39	.00	1024.20	200.00
19.280	205000.00	126.54	.00	.52	.00	1009.55	265.00
19.300	210000.00	126.73	.00	.19	.00	1023.05	120.00
19.340	210000.00	127.23	.00	.50	.00	1035.18	215.00
19.380	210000.00	127.69	.00	.46	.00	1034.95	200.00

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
19.384	210000.00	127.81	.00	.12	.00	1037.35	17.00
19.400	210000.00	128.57	.00	.77	.00	1025.13	109.00

19.430	210000.00	128.86	.00	.29	.00	1025.33	141.00
19.460	210000.00	129.19	.00	.32	.00	1027.88	141.00
19.480	210000.00	129.93	.00	.75	.00	1026.45	122.00
19.490	210000.00	130.08	.00	.15	.00	1026.62	70.00
19.530	210000.00	130.46	.00	.38	.00	1044.03	200.00
19.570	210000.00	130.90	.00	.44	.00	1048.66	200.00
19.610	210000.00	131.24	.00	.34	.00	1042.47	200.00
19.650	210000.00	131.63	.00	.39	.00	1045.02	200.00
19.680	210000.00	132.03	.00	.40	.00	1047.00	200.00
19.720	210000.00	132.45	.00	.42	.00	1048.05	200.00
19.760	210000.00	132.85	.00	.40	.00	1048.11	200.00
19.800	210000.00	133.25	.00	.40	.00	1042.10	200.00
19.830	210000.00	133.65	.00	.40	.00	1027.97	200.00
19.870	210000.00	134.06	.00	.41	.00	1025.31	200.00
19.910	210000.00	134.47	.00	.41	.00	1023.45	200.00
19.950	210000.00	134.89	.00	.42	.00	1019.33	200.00
19.990	210000.00	135.43	.00	.54	.00	1031.39	200.00
20.020	210000.00	135.79	.00	.37	.00	1006.45	200.00
20.060	210000.00	136.22	.00	.42	.00	1004.39	200.00
20.100	210000.00	136.68	.00	.47	.00	997.70	200.00
20.140	210000.00	137.13	.00	.44	.00	989.75	200.00
20.180	210000.00	137.58	.00	.45	.00	981.62	200.00
20.210	210000.00	138.04	.00	.46	.00	972.86	200.00
20.250	210000.00	138.54	.00	.50	.00	964.25	200.00

1

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
20.290	210000.00	139.01	.00	.47	.00	954.30	200.00
20.330	210000.00	139.50	.00	.49	.00	945.34	200.00
20.370	210000.00	140.06	.00	.56	.00	938.75	200.00

20.400	210000.00	140.52	.00	.46	.00	925.37	200.00
20.436	210000.00	141.05	.00	.53	.00	936.31	182.00
20.441	210000.00	141.11	.00	.06	.00	936.42	18.00
20.480	210000.00	141.70	.00	.59	.00	911.55	200.00

1

SUMMARY OF ERRORS AND SPECIAL NOTES

APPENDIX C

HEC-2 Water Surface Profiles
Proposed Conditions

```
1*****************************************
 *  HEC-2 WATER SURFACE PROFILES          *
 *                                        *
 *  Version   4.6.2;  May 1991            *
 *                                        *
 *  RUN DATE    02APR97    TIME   10:19:46 *
 *****************************************
```

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

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

1

02APR97 10:19:46 PAGE 1

THIS RUN EXECUTED 02APR97 10:19:46

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

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

```
THIS IS AN ARCHIVAL RUN ALL DATA AND RESULTS ARE SAVED ON UNIT   96

AC
AC      BASE-VS.DAT     BASE case with a combination of 1/2:1 and 1:1 slopes
AC      STRATING WATER SURFACE FROM FEMA MAP
AC
AC      Proposed Conditions for the airport new alignment(second option)
AC      Changed the grade control from 1094.6 to 1092.0
AC
AC
AC      Invert elevation has been changed from section 18.02-18.4
AC
AC      WITH MINING RUN (5.7' DEEP PLAN, CALMAT PARCEL, SECTIONS 17.28 - 17.56)
AC
AC
AC      INEFFECTIVE FLOW AREAS WITHIN A CROSS-SECTION WERE REMOVED TO FACILITATE
AC      THE QUASED CALCULATIONS AND LIMIT THE HYDRAULIC CALCULATIONS TO THE
AC      EFFECTIVE AREAS OF THE CHANNEL.
AC
T1      SIMONS, LI & ASSOCIATES, INC.
T2      SALT RIVER - 24TH STR. TO PRIEST DRIVE
T3      100-YEAR FLOW

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
```

2 105.3

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

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38	1	42	26	8	4	25	

NC	.0400	.04000	.03300	.10000	.30000					
QT	1	205000								
X1	16.690	20	9470.0	10520.0	460.0	330.0	400.0			
X3	10.							.00	.00	
GR	102.0	8400.0	100.00	8790.0	104.00	8815.0	100.00	8870.0	95.00	9010.0
GR	100.0	9100.0	100.00	9385.0	104.00	9410.0	104.00	9470.0	84.00	9560.0
GR	80.6	10000.0	84.00	10450.0	104.00	10520.0	104.00	10570.0	100.00	10595.0
GR	96.0	11050.0	72.00	11085.0	72.00	11125.0	100.00	11175.0	104.00	11245.0

1

02APR97 10:19:46 PAGE 2

NC	.0400	.04000	.03300							
X1	16.770	9	9210.0	10400.0	500.0	380.0	400.0			
X3	10.							.00	.00	
GR	98.9	9210.0	96.00	9400.0	84.00	9445.0	81.60	10000.0	84.00	10290.0
GR	108.0	10400.0	100.00	10450.0	100.00	10850.0	104.00	10970.0		
X1	16.800	9	9240.0	10960.0	235.0	280.0	200.0			
X3	10.							.00	.00	
GR	98.9	9240.0	96.00	9365.0	84.00	9410.0	82.10	10000.0	84.00	10230.0
GR	104.0	10325.0	104.00	10380.0	102.00	10510.0	104.00	10960.0		
NC				.30000	.50000					
X1	16.840	96	9203.0	10305.5	160.0	160.0	160.0			
GR	122.7	8944.7	122.60	8965.3	122.60	8988.0	122.70	9010.5	122.90	9029.2
GR	123.2	9050.9	123.30	9078.8	123.20	9108.4	122.80	9134.0	123.40	9161.8
GR	123.2	9174.2	122.80	9180.7	122.90	9189.5	122.70	9194.4	122.40	9200.4
GR	122.0	9203.0	119.10	9209.1	114.90	9219.0	109.30	9230.1	107.10	9237.6
GR	99.7	9250.0	98.90	9252.2	99.20	9271.4	99.00	9313.0	91.80	9331.1
GR	83.0	9361.5	82.70	9399.8	83.10	9408.1	82.10	9421.4	82.50	9443.6
GR	83.0	9461.3	83.20	9474.7	81.70	9482.8	80.60	9500.0	79.50	9520.5
GR	79.6	9533.8	79.50	9547.1	79.20	9557.7	79.20	9583.9	80.20	9598.8
GR	81.0	9613.3	80.20	9621.5	79.50	9634.6	79.10	9649.7	79.60	9662.8
GR	80.1	9679.4	80.60	9690.7	81.40	9710.8	81.70	9719.3	83.00	9737.3
GR	82.9	9764.4	82.60	9784.8	82.20	9816.5	81.50	9840.7	81.30	9861.8
GR	81.5	9875.8	82.70	9891.8	83.40	9906.2	82.50	9910.9	82.10	9919.3
GR	79.0	9929.6	78.50	9945.2	78.60	9960.1	78.30	9974.8	78.70	9989.0
GR	78.7	10000.0	78.60	10014.9	79.10	10024.6	80.10	10033.0	79.20	10045.0
GR	78.6	10058.7	78.60	10078.5	79.00	10097.2	78.90	10114.0	78.40	10130.0
GR	79.2	10145.5	80.00	10158.5	81.80	10168.3	83.30	10181.0	87.40	10196.0
GR	94.7	10212.3	98.30	10226.1	97.90	10238.4	98.70	10246.0	103.40	10256.0
GR	109.8	10267.3	114.30	10274.9	115.80	10286.0	117.80	10293.0	121.60	10305.5
GR	121.9	10325.2	121.70	10366.1	121.00	10392.0	121.40	10418.0	121.00	10446.0
GR	120.7	10456.4								
SB	1.050	1.00	2.60	.00	713.50	70.00	28037.70	3.000	79.00	78.30

X1	16.880	89	9213.0	10320.7	225.4	225.4	225.4			
X2	0.	.00	1.	116.14	123.72	.00		.000		.000
GR	123.0	8956.0	123.00	8986.9	123.20	9022.6	123.20	9052.0	123.20	9083.9
GR	123.2	9118.7	123.30	9146.4	123.30	9173.5	122.80	9195.1	122.60	9206.9
GR	122.6	9213.0	119.40	9226.8	115.80	9233.9	109.10	9246.5	102.40	9260.1
GR	100.3	9268.6	100.30	9287.7	100.10	9307.0	99.50	9321.4	97.70	9333.2
GR	94.2	9346.2	89.70	9357.3	86.60	9370.3	84.30	9376.8	83.30	9381.0
GR	83.0	9413.7	83.50	9422.4	83.80	9437.9	83.70	9452.0	83.80	9462.5
GR	84.2	9471.1	83.20	9477.8	81.90	9485.4	81.80	9504.0	81.70	9517.5
GR	81.5	9538.9	81.40	9561.8	80.80	9582.7	81.00	9603.2	81.20	9626.7
GR	81.3	9649.3	82.10	9669.4	81.90	9691.1	81.90	9712.9	82.30	9732.0
GR	82.1	9755.8	82.20	9780.1	82.20	9805.8	82.40	9828.3	82.10	9848.5
GR	82.0	9866.2	81.80	9892.4	81.20	9914.0	80.90	9939.6	80.30	9962.9
GR	79.3	9976.3	79.00	9988.5	79.20	10000.0	79.40	10030.5	79.40	10050.3
GR	79.9	10070.0	80.20	10093.5	80.20	10118.1	80.50	10137.2	81.10	10149.2
GR	81.5	10162.9	81.50	10173.1	84.40	10183.9	86.70	10194.4	90.40	10206.7
GR	94.6	10219.6	98.10	10232.0	98.50	10239.1	98.60	10251.9	98.20	10265.3
GR	102.3	10271.1	108.40	10281.7	113.90	10290.6	114.70	10298.5	114.80	10303.5

1

GR	116.5	10307.4	121.00	10316.7	122.00	10320.7	122.10	10335.2	122.40	10358.5
GR	122.8	10383.7	122.80	10414.9	122.90	10451.9	123.20	10479.2		
X1	16.920	63	9559.3	10315.7	206.9	206.9	206.9			
X3	10.							.00	.00	
GR	82.5	9390.0	82.50	9396.3	82.60	9474.0	84.20	9477.7	86.20	9484.1
GR	84.8	9489.6	84.40	9496.1	85.20	9503.0	84.80	9513.3	84.30	9523.9
GR	84.0	9533.7	82.80	9543.5	83.70	9549.9	84.00	9559.3	83.80	9565.2
GR	81.9	9572.0	81.70	9582.5	82.20	9594.9	81.60	9608.3	81.30	9630.4
GR	81.1	9656.5	81.10	9680.1	81.20	9701.0	81.50	9727.4	81.90	9745.9
GR	81.5	9764.4	81.30	9789.2	81.80	9816.2	81.60	9839.4	81.40	9862.7
GR	81.0	9888.9	80.90	9917.3	80.90	9937.8	80.90	9951.7	80.70	9970.3
GR	80.4	9988.0	80.30	10000.0	79.90	10018.1	79.40	10031.0	79.40	10038.0
GR	79.5	10055.0	79.50	10060.3	79.30	10066.1	80.10	10070.0	80.00	10078.0
GR	79.8	10092.1	80.00	10112.8	80.50	10131.2	81.30	10148.0	80.90	10164.0
GR	80.7	10183.6	81.00	10201.5	81.40	10214.9	81.80	10225.0	82.10	10240.0
GR	82.1	10248.1	84.70	10254.5	86.80	10265.6	90.00	10278.0	93.00	10289.0
GR	94.9	10298.6	97.80	10309.5	98.60	10315.7				
NC				.10000	.30000					
X1	16.960	83	9462.5	10403.3	203.3	203.3	203.3			
X3	10.							.00	.00	
GR	106.1	9158.9	105.90	9180.5	105.10	9205.5	104.70	9231.6	104.50	9255.9
GR	104.5	9273.1	104.50	9293.7	104.60	9310.8	105.60	9322.7	105.70	9327.5
GR	103.7	9335.0	101.60	9341.0	101.90	9353.6	102.60	9368.4	104.20	9383.5
GR	106.4	9396.3	108.70	9407.6	110.10	9415.7	109.90	9428.0	110.00	9445.8
GR	110.0	9459.1	110.00	9462.5	107.60	9476.0	103.40	9491.5	97.70	9508.2
GR	91.8	9523.0	87.90	9535.4	84.90	9545.9	84.00	9553.2	83.30	9555.3
GR	82.8	9559.0	82.90	9590.2	84.30	9594.8	85.30	9601.8	84.30	9609.7
GR	84.7	9620.9	84.30	9630.6	83.60	9635.8	83.20	9643.7	82.80	9656.8
GR	82.2	9677.9	81.90	9712.9	81.10	9743.2	81.10	9764.5	81.70	9785.4
GR	81.9	9834.5	81.40	9859.7	81.00	9887.0	80.60	9914.4	80.40	9939.9
GR	80.3	9967.5	81.00	9989.8	80.60	10000.0	80.50	10020.9	81.40	10037.0
GR	81.2	10057.0	80.70	10077.5	79.90	10088.5	79.70	10100.0	80.40	10110.0
GR	80.1	10120.1	80.00	10130.9	79.20	10139.5	78.90	10152.8	79.20	10161.0
GR	81.3	10168.8	80.20	10173.0	80.80	10179.1	80.70	10197.8	81.00	10201.0
GR	80.3	10208.3	80.80	10249.2	81.50	10265.2	81.70	10293.0	81.90	10319.0
GR	81.4	10332.0	81.70	10338.7	85.80	10352.9	88.20	10360.0	89.10	10369.0

GR	92.2	10377.4	96.10	10391.3	99.40	10403.3				
X1	16.990	82	9547.0	10474.1	201.7	201.7	201.7			
X3	10.							.00	.00	
GR	100.5	9394.5	150.50	9394.5	100.50	9394.5	100.60	9417.2	100.50	9435.1
GR	100.4	9452.3	99.80	9463.3	100.50	9475.5	101.50	9483.4	104.90	9494.6
GR	108.1	9506.4	110.20	9514.2	110.20	9527.6	109.90	9540.4	109.90	9547.0
GR	109.1	9553.4	106.60	9561.0	103.50	9569.5	99.80	9578.4	94.60	9591.1
GR	89.7	9605.9	85.50	9617.4	83.80	9623.3	82.70	9627.2	83.30	9653.5
GR	84.3	9661.3	83.10	9667.9	84.90	9676.9	87.00	9689.3	86.10	9697.5
GR	83.9	9704.8	83.30	9717.9	83.40	9723.9	82.30	9738.9	82.60	9758.6
GR	82.1	9782.8	81.50	9803.2	81.30	9823.1	81.10	9850.3	81.60	9871.8
GR	81.2	9898.3	80.50	9921.7	80.10	9944.7	80.20	9963.6	80.40	9986.1
GR	80.3	10000.0	80.50	10030.2	81.20	10052.0	81.60	10066.4	83.80	10086.4
GR	85.3	10102.7	85.70	10114.6	85.50	10125.2	84.80	10128.2	79.10	10134.4
GR	78.9	10141.9	78.20	10157.7	77.90	10175.5	77.80	10233.5	78.40	10256.8

1

GR	79.7	10281.0	81.00	10302.0	81.60	10310.4	80.60	10316.8	81.50	10327.2
GR	82.0	10333.0	82.70	10335.0	81.60	10338.4	82.40	10348.1	82.90	10362.5
GR	84.4	10368.0	83.30	10371.0	85.10	10380.4	85.90	10395.7	86.00	10407.8
GR	85.3	10418.0	85.00	10423.0	86.20	10430.8	90.00	10442.6	94.50	10455.1
GR	99.1	10466.0	100.70	10474.1						
NC			.03500							
X1	17.030	75	9611.5	10511.6	193.6	193.6	193.6			
X3	10.							.00	.00	
GR	99.9	9493.4	149.90	9493.4	99.90	9493.4	100.10	9516.0	100.10	9532.3
GR	100.5	9542.4	101.80	9548.0	104.60	9560.1	108.80	9574.6	110.90	9581.2
GR	110.6	9585.7	110.70	9595.1	110.80	9604.0	110.70	9611.5	105.60	9624.4
GR	98.7	9641.5	91.40	9660.6	85.50	9677.8	82.80	9685.6	83.00	9705.4
GR	84.7	9710.5	85.10	9718.2	84.10	9725.6	85.20	9732.3	84.10	9737.8
GR	83.2	9745.4	83.10	9753.5	82.90	9763.8	82.80	9771.8	82.30	9775.0
GR	82.9	9789.1	82.80	9804.8	82.60	9828.0	82.00	9850.8	81.20	9876.5
GR	81.1	9894.9	81.00	9918.7	80.30	9949.6	80.00	9977.6	79.60	9999.4
GR	79.6	10000.0	79.60	10023.9	80.20	10047.9	80.80	10067.2	81.50	10083.2
GR	83.9	10102.4	85.20	10120.0	85.80	10144.9	86.20	10163.1	86.30	10177.1
GR	86.9	10190.3	86.60	10203.9	86.00	10214.7	83.80	10224.4	80.30	10237.5
GR	78.6	10254.3	77.10	10267.7	76.50	10282.3	76.00	10319.0	75.70	10331.5
GR	76.0	10339.3	77.10	10349.0	79.00	10359.6	80.70	10368.9	82.10	10377.2
GR	82.7	10388.1	83.00	10402.0	82.60	10414.5	82.70	10442.7	83.10	10456.5
GR	85.2	10470.0	87.70	10485.0	91.30	10497.9	95.10	10505.8	97.90	10511.6
X1	17.070	64	9663.8	10598.0	202.5	202.5	202.5			
X3	10.							.00	.00	
GR	107.8	9349.5	107.50	9399.4	107.10	9446.9	107.10	9498.5	107.10	9539.2
GR	107.5	9573.1	107.80	9604.0	108.20	9617.9	108.80	9622.4	110.90	9631.5
GR	111.4	9635.1	111.20	9652.5	111.20	9663.8	103.70	9682.2	99.30	9693.8
GR	98.6	9697.2	90.50	9720.0	84.20	9738.6	82.60	9744.7	82.60	9753.4
GR	83.0	9765.3	83.20	9775.3	83.80	9785.2	83.80	9798.5	84.00	9820.0
GR	83.8	9844.7	82.90	9869.5	82.00	9894.8	81.10	9918.8	80.50	9938.3
GR	80.2	9958.6	79.50	9982.0	79.80	9997.0	79.70	10000.0	79.50	10030.8
GR	80.1	10054.3	80.70	10075.4	81.30	10097.0	83.70	10112.1	83.70	10128.7
GR	85.4	10157.5	86.10	10183.5	87.20	10209.0	87.60	10231.5	87.60	10254.9
GR	86.6	10262.3	86.50	10271.3	85.30	10285.9	81.90	10306.7	79.00	10321.5
GR	78.1	10332.5	77.60	10341.6	77.10	10354.1	76.90	10368.2	77.10	10384.6
GR	77.3	10398.9	77.30	10405.8	76.60	10408.5	77.50	10413.1	78.90	10421.3
GR	80.8	10429.6	81.56	10433.5	81.56	10538.0	111.56	10598.0		

X1	17.110	69	9703.5	10641.9	196.2	196.2	196.2			
X3	10.							.00	.00	
GR	107.9	9393.8	108.20	9424.7	108.30	9462.3	107.70	9492.8	107.20	9523.9
GR	106.8	9551.9	106.80	9587.2	106.90	9618.3	107.30	9641.6	107.40	9654.8
GR	108.0	9658.5	111.20	9668.2	111.80	9673.4	111.60	9683.7	111.40	9695.4
GR	111.3	9703.5	103.60	9725.1	99.50	9736.3	99.40	9739.2	90.70	9762.2
GR	84.6	9780.2	83.80	9783.5	83.90	9799.7	83.90	9822.2	84.20	9846.0
GR	83.8	9864.6	83.20	9878.9	82.30	9890.2	81.40	9905.2	81.50	9921.4
GR	80.5	9941.6	80.10	9961.9	80.00	9984.3	79.90	10000.0	80.00	10030.3
GR	80.8	10059.9	80.80	10086.1	81.50	10099.3	82.50	10116.4	84.10	10134.1
GR	84.4	10153.2	85.20	10179.9	86.40	10213.4	87.80	10242.0	88.50	10273.5
GR	88.1	10291.1	87.70	10303.4	86.50	10326.5	84.30	10344.9	81.00	10364.4
GR	79.7	10376.7	79.60	10389.6	79.50	10406.5	79.50	10420.2	79.20	10428.7

GR	78.9	10436.8	79.00	10445.0	78.60	10454.0	78.50	10458.1	79.30	10462.9
GR	80.9	10470.3	83.40	10483.2	84.30	10496.3	84.20	10508.3	83.40	10526.5
GR	83.3	10547.2	83.10	10565.7	82.91	10581.9	112.91	10641.9		
X1	17.140	67	9737.5	10679.5	203.5	203.5	203.5			
X3	10.							.00	.00	
GR	97.4	9432.6	104.40	9464.7	109.10	9489.2	109.20	9513.7	108.40	9527.6
GR	108.7	9550.1	108.60	9576.7	108.50	9601.3	108.70	9629.5	108.10	9649.7
GR	106.9	9662.1	106.70	9675.4	107.30	9685.5	108.50	9693.1	112.40	9705.4
GR	112.4	9717.6	112.10	9724.3	112.20	9737.5	105.30	9754.4	100.50	9770.1
GR	100.4	9772.7	98.00	9781.7	89.90	9802.9	85.10	9817.5	84.40	9822.4
GR	84.6	9834.3	84.10	9849.4	83.70	9870.2	82.80	9891.6	82.60	9911.5
GR	82.5	9934.6	81.90	9957.4	80.90	9977.8	79.90	9996.2	79.80	10000.0
GR	80.1	10027.8	80.90	10055.2	81.50	10086.4	82.50	10114.7	83.40	10145.6
GR	84.8	10170.2	86.10	10203.3	87.10	10230.5	88.80	10257.8	89.30	10282.6
GR	89.4	10308.5	89.60	10334.2	89.40	10350.4	88.90	10365.9	88.10	10371.4
GR	84.5	10378.9	82.70	10389.5	80.80	10410.9	80.10	10428.0	79.80	10444.3
GR	80.3	10463.8	80.60	10484.1	80.80	10504.5	82.20	10520.4	83.90	10529.1
GR	83.7	10538.7	83.20	10545.9	83.20	10556.9	82.90	10576.4	82.70	10604.1
GR	82.6	10619.5	112.60	10679.5						
X1	17.180	54	9768.6	10702.4	198.7	198.7	198.7			
X3	10.							.00	.00	
GR	64.8	9473.2	64.80	9555.3	69.90	9565.8	72.90	9574.9	77.10	9584.9
GR	78.4	9588.0	78.60	9600.1	79.40	9604.0	81.30	9615.8	82.40	9620.3
GR	89.6	9641.6	103.60	9675.8	112.90	9699.8	112.60	9719.0	113.10	9741.8
GR	113.0	9768.6	102.40	9797.9	101.80	9800.3	86.70	9838.3	86.30	9853.6
GR	84.4	9855.8	83.60	9880.9	81.80	9918.7	81.20	9947.5	81.70	9980.9
GR	80.0	10000.0	80.70	10048.7	82.50	10107.9	84.30	10150.2	83.70	10166.5
GR	85.5	10200.0	86.80	10254.3	88.80	10313.2	89.30	10347.0	88.50	10365.8
GR	87.6	10369.6	87.90	10374.7	88.50	10389.8	87.50	10404.5	82.60	10433.1
GR	80.0	10459.0	79.70	10473.6	78.90	10483.2	80.40	10497.0	84.10	10512.0
GR	86.5	10521.5	87.30	10541.7	85.80	10551.7	83.10	10568.4	83.20	10588.2
GR	83.0	10614.4	82.50	10639.8	82.50	10642.4	112.50	10702.4		
X1	17.220	53	9783.7	10721.7	202.6	202.6	202.6			
X3	10.							.00	.00	
GR	64.8	9493.5	64.80	9595.4	80.40	9623.1	79.60	9641.6	80.40	9644.0
GR	81.4	9648.5	82.60	9652.8	83.00	9657.8	94.90	9696.5	113.30	9748.6
GR	113.8	9758.2	113.80	9774.1	113.80	9783.7	102.40	9807.8	102.20	9810.5
GR	93.0	9832.1	86.50	9846.0	86.40	9859.3	85.80	9862.3	85.40	9876.5
GR	82.8	9904.4	80.70	9939.0	81.90	9963.3	82.90	9980.1	81.30	9994.3

GR	80.6	10000.0	80.40	10010.4	81.40	10042.9	82.10	10081.3	82.80	10118.9
GR	85.1	10163.5	86.60	10201.5	86.40	10221.8	88.00	10248.0	88.80	10293.1
GR	89.5	10350.3	89.00	10400.4	87.40	10428.5	83.70	10473.6	82.00	10501.7
GR	84.2	10518.6	83.90	10534.2	85.20	10542.2	84.30	10548.4	85.90	10559.3
GR	86.1	10570.2	84.50	10581.3	83.50	10593.9	81.90	10606.8	82.70	10637.8
GR	83.1	10658.5	83.10	10661.7	113.10	10721.7				

1

X1	17.260	50	9781.0	10719.9	233.0	233.0	233.0			
X3	10.							.00	.00	
GR	64.8	9487.5	64.80	9597.3	81.50	9625.9	81.30	9637.4	82.60	9641.8
GR	82.6	9644.1	83.70	9648.3	83.40	9651.4	85.70	9665.1	89.60	9679.8
GR	98.2	9703.5	114.10	9747.7	114.20	9752.6	114.50	9770.4	114.20	9781.0
GR	104.1	9800.2	103.70	9803.0	88.40	9832.5	87.70	9838.8	87.90	9846.8
GR	87.1	9848.9	84.00	9872.8	83.50	9896.6	81.80	9934.6	81.70	9955.2
GR	82.6	9984.7	81.20	10000.0	82.00	10035.1	82.40	10068.4	84.20	10150.7
GR	85.6	10170.9	86.50	10183.5	87.20	10206.4	87.90	10254.3	88.10	10294.4
GR	88.5	10332.2	89.00	10377.1	89.10	10412.7	87.70	10465.2	85.90	10523.6
GR	86.6	10546.9	86.60	10556.0	84.60	10570.7	86.10	10582.8	84.30	10594.5
GR	84.3	10608.2	82.90	10622.2	83.70	10641.1	83.30	10659.9	113.30	10719.9
X1	17.280	48	9769.2	10712.1	103.2	103.2	103.2			
X3	10.							.00	.00	
GR	64.8	9470.9	64.80	9583.5	81.60	9610.9	81.50	9626.5	82.10	9629.7
GR	82.0	9634.3	83.10	9639.5	85.40	9650.5	94.90	9678.6	110.10	9725.2
GR	114.9	9738.7	114.70	9755.3	114.70	9769.2	104.50	9788.3	104.30	9790.9
GR	89.1	9820.4	88.50	9830.1	88.40	9836.3	86.80	9840.8	82.80	9868.3
GR	81.6	9894.9	81.30	9904.3	82.10	9913.3	81.30	9923.6	82.30	9945.1
GR	82.3	9986.1	81.70	10000.0	82.40	10040.2	82.60	10055.7	83.20	10080.9
GR	83.9	10119.0	85.20	10160.2	86.50	10202.6	86.62	10206.4	80.30	10219.0
GR	80.3	10237.3	80.30	10269.8	80.30	10309.8	80.30	10354.0	80.30	10404.9
GR	80.3	10449.8	80.30	10524.4	80.30	10571.0	85.35	10581.1	85.40	10581.2
GR	84.7	10631.7	84.70	10652.1	114.70	10712.1				
X1	17.300	45	9753.3	10695.6	86.3	86.3	86.3			
X3	10.							.00	.00	
GR	64.8	9446.2	64.80	9564.8	73.60	9579.7	82.00	9594.8	81.90	9609.6
GR	82.7	9617.8	84.60	9626.6	87.30	9638.0	100.20	9677.0	115.10	9721.5
GR	114.9	9740.4	114.60	9753.3	104.60	9772.8	103.90	9776.3	88.50	9805.6
GR	88.3	9819.9	87.10	9825.2	84.20	9837.0	82.50	9857.8	82.40	9875.2
GR	82.5	9890.6	84.50	9904.6	84.30	9911.9	83.00	9924.3	83.20	9937.7
GR	82.8	9956.7	82.70	9978.7	82.10	10000.0	83.00	10044.4	82.80	10070.5
GR	84.6	10128.8	83.55	10131.0	80.30	10137.5	80.30	10189.8	80.30	10265.0
GR	80.3	10334.1	80.30	10400.0	80.30	10470.9	80.30	10523.7	80.30	10554.5
GR	85.9	10565.6	85.00	10588.2	84.40	10635.1	84.40	10635.6	114.40	10695.6
X1	17.320	45	9734.7	10676.9	77.1	77.1	77.1			
X3	10.							.00	.00	
GR	64.8	9429.9	64.80	9552.4	68.60	9556.2	78.60	9575.5	82.40	9580.2
GR	82.6	9593.1	83.20	9598.2	84.80	9603.4	85.50	9611.2	91.50	9627.8
GR	106.9	9673.9	114.70	9703.2	114.80	9722.0	114.70	9734.7	105.20	9754.2
GR	104.7	9757.8	88.80	9785.8	88.10	9797.3	87.50	9799.5	85.00	9803.3
GR	83.3	9818.2	82.90	9858.7	82.30	9879.0	84.40	9891.7	84.20	9913.4
GR	84.4	9922.8	84.30	9929.5	83.30	9951.1	82.40	9971.0	82.60	10000.0
GR	82.9	10038.0	83.14	10052.8	80.30	10058.5	80.30	10111.4	80.30	10186.9
GR	80.3	10254.0	80.30	10312.9	80.30	10377.1	80.30	10459.6	80.30	10532.0
GR	80.3	10535.5	86.67	10548.2	84.70	10591.9	84.20	10616.9	114.20	10676.9

X1	17.330	43	9701.2	10668.3	101.2	101.2	101.2			
X3	10.							.00	.00	
GR	64.8	9386.0	64.80	9513.2	78.00	9531.9	83.20	9538.5	82.60	9556.4
GR	83.4	9564.0	84.90	9570.6	86.90	9581.0	101.60	9621.9	115.00	9664.3
GR	114.9	9684.9	114.80	9701.2	105.30	9719.2	104.90	9721.2	89.80	9748.6
GR	88.9	9762.3	87.90	9764.4	84.60	9767.4	84.30	9783.2	83.70	9831.6
GR	82.8	9861.4	83.80	9871.9	84.00	9907.9	83.00	9947.4	82.94	9974.2
GR	80.3	9979.5	80.30	9995.5	80.30	10000.0	80.30	10080.1	80.30	10141.9
GR	80.3	10202.0	80.30	10259.8	80.30	10317.7	80.30	10359.0	80.30	10411.9
GR	80.3	10462.0	80.30	10517.1	80.30	10526.5	86.27	10538.4	85.10	10568.5
GR	84.9	10592.8	86.73	10608.3	116.73	10668.3				
X1	17.370	53	9611.5	10574.0	194.5	194.5	194.5			
X3	10.							.00	.00	
GR	64.8	9295.1	64.80	9417.8	67.70	9424.4	82.80	9448.6	82.40	9464.5
GR	83.5	9472.8	84.80	9477.6	85.40	9482.8	87.20	9493.5	99.80	9528.2
GR	109.5	9556.9	114.90	9571.8	115.00	9594.3	115.20	9611.5	105.80	9628.5
GR	105.3	9631.0	91.30	9658.7	90.50	9661.9	90.10	9670.8	89.00	9673.6
GR	85.0	9677.2	84.00	9694.6	84.30	9711.9	83.60	9750.1	83.27	9775.1
GR	80.3	9781.0	80.30	9795.0	80.30	9827.8	80.30	9852.6	80.30	9866.3
GR	80.3	9877.3	80.30	9890.1	80.30	9898.9	80.30	9903.9	80.30	9913.2
GR	80.3	9933.2	80.30	9961.9	80.30	10000.0	80.30	10062.4	80.30	10112.6
GR	80.3	10149.6	80.30	10195.3	80.30	10241.9	80.30	10284.1	80.30	10328.1
GR	80.3	10391.0	80.30	10433.0	87.16	10446.7	87.10	10450.5	85.90	10495.9
GR	85.9	10511.6	86.59	10514.0	116.59	10574.0				
X1	17.410	54	9493.0	10455.2	199.5	199.5	199.5			
X3	10.							.00	.00	
GR	64.8	9186.2	64.80	9307.1	66.00	9310.6	82.20	9334.9	81.80	9351.7
GR	83.3	9360.0	86.50	9374.4	97.90	9407.2	115.40	9456.8	115.50	9470.9
GR	115.4	9485.4	115.20	9493.0	105.60	9511.6	105.30	9514.0	91.50	9542.7
GR	90.6	9558.7	86.60	9563.0	85.80	9567.0	84.70	9568.7	84.10	9579.7
GR	84.6	9583.4	81.40	9589.8	80.30	9592.0	80.30	9596.0	80.30	9618.0
GR	80.3	9654.4	80.30	9678.9	80.30	9700.0	80.30	9722.0	80.30	9740.8
GR	80.3	9763.7	80.30	9784.4	80.30	9800.1	80.30	9836.1	80.30	9859.4
GR	80.3	9880.7	80.30	9911.0	80.30	9948.5	80.30	9988.1	80.30	10000.0
GR	80.3	10046.5	80.30	10092.6	80.30	10131.7	80.30	10167.5	80.30	10204.3
GR	80.3	10241.6	80.30	10276.9	80.30	10312.0	80.30	10314.0	87.63	10328.7
GR	87.1	10352.8	85.90	10384.0	86.65	10395.2	116.65	10455.2		
X1	17.450	46	9370.0	10331.9	201.6	201.6	201.6			
X3	10.							.00	.00	
GR	64.8	9069.8	64.80	9178.4	75.50	9195.6	82.40	9204.9	82.00	9225.3
GR	82.6	9230.8	84.70	9237.9	85.80	9244.9	98.40	9283.2	113.20	9326.9
GR	115.4	9332.8	115.40	9354.1	115.40	9370.0	106.10	9386.6	105.80	9388.7
GR	91.4	9417.6	90.30	9426.7	83.20	9436.1	83.30	9451.9	83.01	9462.6
GR	80.3	9468.0	80.30	9484.7	80.30	9528.1	80.30	9548.6	80.30	9579.0
GR	80.3	9612.7	80.30	9648.4	80.30	9662.3	80.30	9689.4	80.30	9736.2
GR	80.3	9804.0	80.30	9847.6	80.30	9891.1	80.30	9933.9	80.30	9977.6
GR	80.3	10000.0	80.30	10063.6	80.30	10118.1	80.30	10153.6	80.30	10189.9
GR	80.3	10190.0	87.96	10205.3	88.30	10216.8	88.40	10257.7	88.40	10271.9
GR	118.4	10331.9								

X1	17.490	51	9266.2	10233.7	203.3	203.3	203.3			
X3	10.							.00	.00	
GR	64.8	8940.9	64.80	9072.7	80.60	9098.8	83.60	9102.8	83.30	9123.4
GR	82.3	9126.4	84.00	9132.0	84.10	9136.5	87.90	9148.1	101.70	9187.8
GR	115.6	9229.3	115.50	9234.5	115.70	9250.8	115.40	9263.7	115.90	9266.2
GR	107.4	9280.4	107.10	9283.2	92.00	9314.8	91.40	9324.0	89.70	9326.6
GR	83.2	9332.3	82.70	9344.5	82.10	9370.4	82.30	9381.0	82.30	9402.3
GR	82.3	9428.6	82.30	9452.8	82.30	9475.2	82.30	9494.1	82.30	9503.1
GR	82.3	9509.8	82.30	9546.0	82.30	9590.6	82.30	9646.4	82.30	9695.3
GR	82.3	9729.2	82.30	9738.2	82.30	9770.9	82.30	9825.0	82.30	9870.8
GR	82.3	9921.5	82.30	9971.6	82.30	10000.0	82.30	10045.8	82.30	10091.1
GR	82.3	10092.0	85.66	10098.7	86.90	10134.8	89.00	10164.2	89.32	10173.7
GR	119.3	10233.7								
X1	17.520	55	9208.9	10183.9	200.8	200.8	200.8			
X3	10.							.00	.00	
GR	64.8	8909.7	64.80	9014.7	81.50	9041.0	83.90	9043.7	83.40	9065.3
GR	83.1	9070.7	84.60	9077.0	85.70	9083.9	99.00	9121.2	115.50	9168.7
GR	116.2	9172.7	116.20	9181.0	116.30	9193.9	115.70	9208.9	109.00	9222.7
GR	108.7	9225.0	93.10	9255.0	92.40	9260.6	83.70	9271.9	83.40	9286.7
GR	82.4	9317.8	82.90	9326.8	86.60	9343.0	87.80	9370.5	88.70	9397.2
GR	90.8	9429.4	92.40	9448.9	92.40	9449.3	84.30	9465.5	84.30	9481.1
GR	84.3	9515.2	84.30	9551.1	84.30	9592.2	84.30	9626.1	84.30	9656.9
GR	84.3	9670.4	84.30	9681.0	84.30	9696.5	84.30	9726.5	84.30	9765.0
GR	84.3	9804.9	84.30	9840.1	84.30	9878.9	84.30	9894.9	84.30	9945.9
GR	84.3	9945.9	84.30	9945.9	83.50	9985.3	83.60	10000.0	84.20	10043.2
GR	85.2	10073.5	85.90	10098.1	88.40	10122.4	88.49	10123.9	118.40	10183.9
X1	17.560	53	9170.2	10156.5	199.0	199.0	199.0			
X3	10.							.00	.00	
GR	64.8	8881.8	64.80	8974.0	81.90	9001.5	83.10	9003.8	83.00	9027.3
GR	83.3	9030.2	83.30	9033.4	85.00	9038.9	86.10	9044.5	92.60	9065.2
GR	106.9	9108.2	116.20	9134.7	116.20	9159.0	115.90	9170.2	109.60	9184.4
GR	109.4	9186.0	93.70	9216.4	93.00	9227.1	91.80	9229.8	89.00	9233.1
GR	86.2	9252.1	83.70	9272.8	83.10	9284.2	83.60	9289.6	87.50	9302.7
GR	88.0	9326.7	88.40	9347.9	89.20	9370.2	89.60	9393.9	89.70	9405.1
GR	91.2	9421.8	92.20	9454.0	92.50	9488.7	92.40	9530.3	92.10	9561.7
GR	92.1	9592.6	93.00	9620.8	93.20	9651.7	93.20	9684.1	93.18	9684.7
GR	86.3	9698.5	86.30	9715.9	86.30	9744.1	86.30	9781.7	86.30	9843.9
GR	86.3	9886.7	85.10	9931.1	83.80	9970.4	83.80	10000.0	84.60	10039.1
GR	85.7	10079.3	86.83	10096.5	116.80	10156.5				
X1	17.600	54	9138.1	10138.5	200.6	200.6	200.6			
X3	10.							.00	.00	
GR	64.8	8856.7	64.80	8942.8	76.50	8959.8	81.90	8973.0	81.30	8988.5
GR	81.7	8995.9	85.10	9005.9	86.50	9013.5	94.00	9036.0	108.40	9079.0
GR	116.5	9102.8	116.20	9125.1	116.10	9138.1	110.10	9148.9	109.60	9151.2
GR	93.9	9181.2	93.50	9196.0	91.80	9203.3	90.60	9209.1	88.60	9222.0
GR	86.2	9241.9	86.00	9265.4	86.20	9293.8	88.40	9314.7	90.90	9326.0
GR	90.8	9329.0	88.50	9336.2	88.20	9340.9	92.80	9351.1	92.30	9360.4
GR	90.0	9368.7	89.30	9384.5	89.70	9413.4	90.00	9443.2	90.90	9473.8
GR	92.6	9493.5	92.50	9525.2	92.80	9557.8	93.20	9594.3	93.40	9627.9
GR	93.4	9660.5	93.10	9683.9	92.40	9723.0	90.70	9766.0	88.80	9822.9

1

GR	86.6	9869.3	85.50	9914.4	84.20	9957.7	83.70	9987.9	83.50	10000.0

GR	84.2	10032.1	85.30	10063.0	86.35	10078.5	116.35	10138.5		
X1	17.640	47	9101.0	10119.3	200.4	200.4	200.4			
X3	10.							.00	.00	
GR	64.8	8829.1	64.80	8899.7	66.80	8903.6	83.50	8933.0	83.20	8958.8
GR	84.2	8961.5	84.00	8963.5	85.70	8968.8	85.30	8972.8	88.50	8984.5
GR	101.1	9018.1	113.90	9056.2	116.20	9063.7	116.60	9087.0	116.00	9101.0
GR	109.1	9114.0	108.50	9117.3	94.30	9146.4	94.10	9161.1	92.20	9178.7
GR	88.3	9194.9	87.90	9213.7	87.70	9235.4	87.70	9255.7	89.00	9279.0
GR	92.0	9305.4	93.30	9335.1	93.50	9375.8	93.90	9409.5	93.70	9425.4
GR	92.0	9447.2	91.80	9488.9	92.10	9537.0	92.80	9583.4	93.40	9627.6
GR	92.8	9676.2	91.40	9731.0	90.70	9760.5	89.40	9810.6	87.60	9861.8
GR	86.0	9910.7	84.40	9955.6	84.10	9991.1	84.40	10000.0	85.30	10048.6
GR	85.7	10059.3	115.78	10119.3						
X1	17.680	53	9065.8	10101.4	201.8	201.8	201.8			
X3	10.							.00	.00	
GR	80.3	8796.5	80.60	8824.2	79.60	8831.3	78.20	8840.6	77.50	8848.4
GR	77.4	8856.5	79.40	8869.1	79.60	8881.4	81.00	8889.4	84.60	8897.4
GR	83.5	8919.8	85.00	8927.0	85.20	8929.2	87.40	8936.4	88.40	8941.3
GR	92.3	8955.9	114.80	9026.3	116.60	9031.7	116.80	9057.7	116.60	9065.8
GR	109.9	9077.5	109.20	9080.1	94.80	9110.9	94.60	9125.0	93.90	9136.3
GR	94.5	9152.0	89.30	9163.0	88.80	9175.7	87.80	9204.9	88.20	9221.0
GR	90.8	9247.9	93.80	9297.7	94.50	9345.8	94.80	9369.4	94.40	9410.4
GR	93.2	9458.9	92.60	9502.4	92.40	9544.3	92.70	9594.1	92.70	9638.1
GR	92.0	9681.0	91.00	9727.6	90.00	9763.9	89.00	9807.9	88.70	9852.6
GR	87.6	9894.2	86.30	9927.8	84.60	9962.7	84.30	9993.4	84.60	10000.0
GR	86.0	10033.7	86.33	10041.4	116.33	10101.4				
X1	17.710	62	9043.0	10095.8	198.9	198.9	198.9			
X3	10.							.00	.00	
GR	104.3	8777.8	89.70	8813.4	83.90	8831.2	83.60	8845.4	83.20	8848.6
GR	84.4	8851.6	82.10	8858.0	82.60	8866.0	83.80	8874.5	84.00	8885.8
GR	84.4	8898.2	84.20	8903.1	83.90	8907.0	85.90	8911.6	88.40	8917.9
GR	94.8	8940.5	102.60	8966.1	112.30	8992.1	116.40	9007.4	117.00	9026.7
GR	116.7	9043.0	111.60	9053.1	110.90	9056.0	95.40	9085.6	95.40	9101.8
GR	95.4	9108.6	95.80	9121.8	96.20	9129.4	94.00	9140.6	90.90	9150.4
GR	88.8	9166.3	88.50	9184.3	88.90	9196.0	90.80	9210.0	92.80	9233.5
GR	93.7	9262.3	94.00	9291.7	94.50	9325.6	95.00	9366.9	95.50	9397.4
GR	94.8	9409.5	94.10	9439.1	93.50	9474.2	93.20	9507.7	92.90	9544.8
GR	92.9	9583.0	92.40	9625.8	91.80	9662.4	90.30	9697.2	90.20	9731.9
GR	90.0	9764.8	89.40	9809.2	89.10	9841.7	88.70	9879.8	87.40	9915.8
GR	86.4	9948.3	86.10	9973.1	85.50	9990.1	85.40	10000.0	86.10	10027.3
GR	87.0	10035.8	117.05	10095.8						
X1	17.750	59	9018.2	10083.1	198.9	198.9	198.9			
X3	10.							.00	.00	
GR	110.0	8776.7	109.80	8796.8	110.50	8804.3	110.20	8813.7	103.70	8825.9
GR	92.6	8849.7	90.80	8856.2	90.90	8864.9	91.10	8880.3	91.30	8888.6
GR	91.2	8897.3	93.00	8902.2	104.20	8939.0	115.50	8976.4	117.10	8981.6
GR	116.5	8986.6	116.90	9002.6	116.70	9018.2	110.50	9029.8	110.00	9033.1
GR	96.1	9062.2	96.00	9080.8	95.80	9093.3	95.90	9106.1	94.80	9123.0
GR	93.1	9140.6	92.70	9145.8	90.70	9155.1	89.60	9166.6	89.40	9177.8

GR	90.7	9187.4	91.80	9201.6	93.00	9224.0	93.70	9254.4	94.30	9282.6
GR	94.6	9313.6	95.20	9347.9	95.10	9384.5	94.70	9423.1	94.10	9461.2
GR	93.4	9495.5	93.10	9534.5	92.30	9580.0	91.50	9618.6	90.40	9657.0

GR	90.2	9692.7	89.80	9732.2	89.40	9770.9	89.30	9809.2	89.20	9846.7
GR	88.5	9883.9	87.40	9917.6	87.40	9944.7	87.30	9958.3	87.10	9971.7
GR	86.1	9981.5	85.80	10000.0	85.22	10023.1	115.22	10083.1		
X1	17.790	53	9012.7	10097.2	201.8	201.8	201.8			
X3	10.							.00	.00	
GR	110.9	8761.2	110.40	8791.5	110.20	8810.4	110.20	8824.9	109.90	8843.2
GR	110.4	8851.1	110.40	8859.3	100.50	8882.1	100.20	8897.7	100.00	8914.8
GR	100.1	8921.2	104.40	8937.0	114.10	8968.0	117.10	8975.2	117.00	8992.3
GR	116.4	9012.7	110.90	9023.7	109.90	9027.9	99.00	9050.4	96.50	9060.6
GR	96.1	9075.4	96.70	9102.3	95.70	9121.8	95.40	9147.2	95.00	9161.3
GR	94.1	9175.1	91.20	9181.1	90.30	9189.4	90.30	9202.8	92.30	9218.7
GR	93.4	9241.0	94.20	9273.0	94.00	9308.5	94.60	9345.6	94.90	9382.5
GR	94.7	9416.6	94.00	9467.9	93.10	9517.1	91.90	9560.4	91.60	9602.9
GR	90.5	9650.2	89.90	9697.8	89.70	9745.3	89.30	9795.0	88.90	9847.9
GR	88.2	9898.2	88.50	9934.7	87.40	9960.4	86.60	9987.1	86.10	10000.0
GR	86.8	10015.6	91.25	10037.2	121.25	10097.2				
X1	17.830	51	9040.5	10144.0	199.3	199.3	199.3			
X3	10.							.00	.00	
GR	111.2	8805.8	111.50	8862.9	111.50	8909.5	110.20	8919.4	108.90	8930.6
GR	108.8	8946.8	108.30	8957.1	108.40	8969.4	109.20	8982.8	109.60	8994.4
GR	113.6	9002.6	117.00	9011.8	117.30	9019.5	117.10	9040.5	110.70	9050.0
GR	97.5	9080.1	96.70	9087.3	97.30	9099.2	97.40	9116.2	97.00	9149.4
GR	96.4	9171.5	95.70	9183.1	95.80	9194.5	96.40	9202.0	95.90	9221.6
GR	95.3	9256.1	94.70	9284.3	93.70	9302.4	94.00	9339.6	94.50	9389.4
GR	94.6	9437.5	94.00	9494.8	92.80	9549.3	91.60	9607.5	90.30	9657.3
GR	89.4	9713.2	89.40	9761.1	89.50	9809.7	88.70	9866.6	88.50	9907.8
GR	88.8	9939.8	87.30	9975.8	86.20	10000.0	86.80	10020.6	92.30	10042.5
GR	95.7	10053.2	96.90	10060.3	96.50	10072.6	97.15	10075.8	97.15	10084.0
GR	127.1	10144.0								
X1	17.860	49	9088.1	10193.0	198.7	198.7	198.7			
X3	10.							.00	.00	
GR	111.4	8860.8	111.20	8898.9	111.40	8933.7	111.20	8961.3	110.50	8973.5
GR	109.0	8989.5	108.10	9008.3	107.90	9023.2	107.90	9030.8	107.90	9035.4
GR	111.2	9045.6	117.40	9059.1	117.60	9078.7	117.50	9088.1	111.30	9100.1
GR	98.5	9127.5	97.90	9133.5	97.20	9146.5	97.10	9161.1	96.80	9179.0
GR	96.9	9193.6	96.90	9208.1	96.10	9230.3	96.40	9240.9	97.00	9255.2
GR	96.6	9289.0	96.10	9307.9	94.90	9320.7	95.80	9341.2	94.60	9376.1
GR	94.3	9439.3	93.50	9513.8	92.80	9566.6	91.70	9624.8	90.80	9676.1
GR	90.0	9718.0	89.20	9771.7	89.30	9822.6	89.00	9865.1	88.00	9902.4
GR	88.5	9941.6	88.00	9978.2	88.20	9997.6	88.10	10000.0	89.40	10043.9
GR	92.6	10061.7	97.65	10082.9	97.65	10133.0	127.65	10193.0		
X1	17.900	67	9136.6	10238.6	204.0	204.0	204.0			
X3	10.							.00	.00	
GR	111.3	8910.9	111.50	8936.8	111.00	8966.4	111.00	8988.5	111.10	9002.6
GR	109.4	9007.4	108.90	9017.2	107.70	9023.2	107.30	9038.0	107.50	9052.7
GR	107.6	9065.0	107.80	9076.8	112.70	9093.9	116.10	9102.2	117.70	9107.1
GR	117.7	9125.2	118.00	9136.6	114.20	9146.0	103.70	9164.5	98.40	9177.8

1

GR	98.1	9194.5	97.70	9222.4	97.10	9235.7	97.50	9257.5	97.80	9278.5
GR	97.4	9299.6	95.70	9317.7	94.80	9336.4	95.20	9345.2	96.20	9364.9
GR	96.7	9379.8	96.20	9400.2	94.70	9426.4	94.50	9456.5	94.00	9492.2
GR	93.6	9526.8	93.10	9561.0	92.80	9592.4	92.20	9626.5	91.40	9660.0
GR	91.3	9678.4	90.30	9698.9	90.40	9724.4	89.40	9758.2	89.40	9785.6

GR	88.8	9808.2	89.10	9834.2	89.60	9868.1	90.00	9904.9	88.80	9922.3
GR	89.2	9935.4	89.10	9951.6	89.20	9965.8	88.30	9992.9	88.40	10000.0
GR	88.0	10028.8	89.60	10050.8	92.50	10072.4	95.70	10094.1	98.20	10113.7
GR	100.0	10132.1	100.50	10149.2	100.00	10161.1	98.80	10168.9	97.60	10176.4
GR	98.1	10178.6	128.12	10238.6						
X1	17.940	66	9183.6	10203.2	196.8	196.8	196.8			
X3	10.							.00	.00	
GR	112.0	8961.6	111.80	9007.4	111.20	9034.0	110.50	9049.8	110.00	9068.3
GR	109.2	9083.1	109.70	9098.1	109.80	9106.9	109.40	9116.1	109.90	9122.5
GR	113.4	9133.9	117.70	9149.6	117.40	9168.9	117.10	9183.6	110.40	9196.8
GR	99.1	9221.1	99.30	9234.3	99.10	9237.0	98.10	9243.0	97.20	9253.7
GR	96.7	9267.4	97.30	9278.1	98.30	9305.1	98.30	9331.8	97.80	9355.8
GR	97.9	9368.2	98.00	9387.3	97.30	9398.5	96.90	9403.6	96.80	9419.8
GR	96.1	9426.3	96.20	9429.3	95.30	9432.1	95.50	9440.4	96.30	9443.3
GR	94.9	9452.6	94.60	9473.3	94.10	9500.1	92.90	9537.6	92.50	9582.3
GR	92.3	9629.7	92.00	9671.9	90.90	9720.7	89.70	9758.7	89.50	9805.5
GR	89.9	9841.0	89.70	9860.1	89.60	9885.2	90.00	9911.5	89.40	9938.0
GR	89.5	9967.0	90.40	9995.6	90.70	10000.0	90.90	10023.7	89.70	10039.9
GR	90.6	10056.4	89.90	10075.8	91.10	10095.2	92.00	10103.8	93.60	10109.7
GR	95.4	10127.5	97.20	10138.3	96.20	10145.9	96.90	10161.2	98.60	10175.3
GR	117.2	10203.2								
X1	17.980	49	9219.6	10158.8	201.9	201.9	201.9			
X3	10.							.00	.00	
GR	112.7	8976.0	112.60	9028.6	112.60	9060.4	112.70	9075.9	111.50	9080.1
GR	110.2	9094.2	110.10	9114.9	110.60	9132.1	111.00	9142.7	110.30	9154.2
GR	110.8	9162.8	114.00	9172.9	118.00	9189.1	117.70	9207.8	117.60	9219.6
GR	112.9	9229.5	99.60	9258.5	99.50	9276.5	97.70	9283.6	98.20	9310.6
GR	97.5	9336.6	98.30	9361.2	98.80	9378.0	98.30	9404.8	98.10	9417.6
GR	100.2	9438.5	101.00	9454.5	101.80	9467.8	99.00	9478.1	98.90	9487.3
GR	95.8	9496.7	93.80	9518.0	92.80	9543.9	91.80	9583.8	91.70	9626.5
GR	91.9	9674.9	91.40	9720.8	90.40	9771.2	90.00	9817.1	90.20	9860.4
GR	89.6	9897.2	89.90	9929.9	89.80	9960.4	89.20	10000.0	90.40	10039.8
GR	91.0	10077.5	92.90	10104.9	93.50	10134.3	118.0	10158.8		
X1	18.020	51	9234.1	10126.7	202.2	202.2	202.2			
X3	10.	89.7						.00	.00	
GR	113.8	9008.5	113.70	9027.2	113.30	9052.9	112.90	9078.6	112.60	9100.1
GR	112.5	9110.0	112.60	9135.4	113.00	9153.7	113.50	9161.0	113.60	9168.8
GR	113.7	9175.0	113.40	9187.3	114.10	9194.8	118.40	9214.0	118.40	9234.1
GR	117.8	9244.7	116.10	9250.4	111.90	9257.9	101.00	9280.1	101.00	9283.5
GR	99.7	9284.5	99.50	9295.2	99.10	9303.9	99.00	9320.6	99.60	9333.8
GR	99.9	9350.1	100.30	9362.6	100.30	9385.6	100.00	9407.4	99.60	9441.4
GR	99.3	9466.1	100.40	9489.8	99.50	9496.6	100.10	9502.9	100.40	9506.6
GR	99.5	9514.6	97.40	9530.0	93.50	9568.4	92.20	9607.1	92.20	9644.5
GR	92.6	9671.8	92.20	9709.4	91.10	9799.5	90.40	9883.1	89.70	9932.7
GR	87.9	9982.5	87.70	10000.0	89.10	10029.3	91.20	10056.8	92.40	10109.0
GR	119.0	10126.7								

1

X1	18.050	55	9271.5	10108.0	195.6	195.6	195.6			
X3	10.	90.1						.00	.00	
GR	115.4	9031.2	115.70	9037.0	118.20	9047.4	118.60	9067.6	119.70	9096.1
GR	118.9	9103.2	121.40	9137.2	119.60	9145.7	118.80	9159.9	117.50	9162.4
GR	118.2	9174.0	117.20	9187.0	117.00	9210.7	118.30	9228.7	119.70	9245.7
GR	119.5	9262.2	119.20	9271.5	114.20	9282.2	101.80	9309.0	101.50	9311.9

GR	100.3	9313.8	100.00	9324.5	100.80	9340.3	101.60	9361.4	101.50	9387.6
GR	100.9	9399.3	100.50	9419.3	100.50	9446.9	100.50	9456.2	100.40	9472.3
GR	100.4	9503.2	100.20	9517.0	101.00	9522.4	100.30	9526.4	100.10	9537.2
GR	100.0	9545.8	99.00	9555.9	99.70	9559.1	92.30	9576.8	91.90	9606.3
GR	92.2	9634.1	92.70	9659.4	93.00	9681.9	92.40	9708.5	92.10	9742.3
GR	91.7	9781.3	91.70	9821.1	90.70	9861.8	90.20	9900.7	89.90	9935.6
GR	88.5	9965.3	87.80	10000.0	87.70	10023.9	88.40	10092.5	119.5	10108.0
X1	18.090	62	9311.0	10122.8	207.2	207.2	207.2			
X3	10.	90.6						.00	.00	
GR	115.6	9067.6	116.00	9087.4	115.50	9106.6	116.00	9122.8	114.90	9138.7
GR	114.1	9153.1	114.30	9163.4	118.00	9171.0	124.00	9177.4	124.70	9186.4
GR	126.3	9203.3	125.60	9221.3	125.80	9229.0	127.20	9235.9	126.30	9244.2
GR	126.8	9251.0	127.50	9253.0	121.10	9266.6	121.00	9279.9	121.00	9296.3
GR	121.0	9311.0	118.40	9318.6	106.90	9339.9	103.30	9352.1	101.60	9364.4
GR	101.6	9370.4	103.30	9375.0	103.60	9378.5	102.50	9382.1	102.10	9401.6
GR	101.5	9410.8	101.50	9446.7	101.60	9457.3	102.40	9462.1	101.80	9478.4
GR	101.4	9504.9	101.30	9533.9	101.10	9566.7	100.70	9588.3	99.20	9603.1
GR	96.0	9620.1	94.00	9634.2	91.60	9649.7	90.60	9666.1	91.30	9684.7
GR	91.5	9711.6	91.80	9742.1	91.80	9768.8	91.80	9798.7	92.00	9830.0
GR	91.8	9858.1	91.00	9880.0	90.00	9912.1	89.40	9942.2	89.10	9965.4
GR	88.0	9988.1	87.80	10000.0	87.50	10025.7	87.70	10041.3	88.50	10058.7
GR	88.6	10107.6	119.0	10122.8						
X1	18.120	50	9359.1	10182.7	137.4	137.4	137.4			
X3	10.	91.0						.00	.00	
GR	121.1	9244.1	171.10	9244.1	121.10	9244.1	122.70	9259.6	123.70	9269.3
GR	122.3	9276.1	122.40	9282.7	123.60	9288.9	123.30	9305.7	122.40	9322.2
GR	121.3	9340.8	121.00	9355.4	120.40	9359.1	111.90	9380.4	104.60	9394.4
GR	103.9	9397.5	102.40	9400.6	102.10	9419.6	102.60	9446.7	102.70	9489.4
GR	102.3	9529.7	102.50	9569.4	101.50	9594.2	101.00	9624.6	100.60	9644.0
GR	100.9	9648.2	98.10	9656.2	94.10	9677.8	92.00	9704.0	90.80	9725.9
GR	90.5	9735.5	91.60	9754.0	91.30	9778.6	91.40	9802.4	91.80	9827.5
GR	91.7	9851.9	90.90	9872.9	91.10	9897.4	90.30	9922.1	89.20	9950.9
GR	88.1	9980.6	87.70	10000.0	87.40	10028.2	87.80	10046.3	89.40	10066.3
GR	90.0	10084.1	91.40	10102.2	93.20	10125.6	93.40	10165.4	119.3	10182.7
X1	18.140	54	9396.1	10261.5	134.5	134.5	134.5			
X3	10.	91.2						.00	.00	
GR	122.9	9366.4	172.90	9366.4	122.90	9366.4	122.50	9371.2	122.00	9387.7
GR	121.7	9396.1	113.40	9412.6	108.80	9423.4	107.80	9434.7	107.40	9439.7
GR	103.6	9445.8	103.20	9459.5	103.10	9480.1	103.20	9499.8	103.80	9521.8
GR	103.1	9541.7	103.80	9556.8	103.40	9568.8	102.60	9583.1	102.60	9605.6
GR	101.7	9633.6	101.80	9652.3	101.30	9673.6	101.40	9691.3	100.60	9700.7
GR	97.2	9715.5	94.50	9735.3	92.20	9761.1	90.60	9777.1	90.00	9783.5
GR	89.5	9794.8	88.80	9807.1	89.00	9825.5	90.40	9841.7	91.20	9863.3
GR	92.2	9885.9	91.60	9903.6	91.00	9915.2	90.40	9929.0	89.90	9953.2

GR	89.7	9974.5	88.60	9995.7	88.70	10000.0	87.80	10028.7	88.10	10055.9
GR	89.6	10090.4	90.00	10112.1	91.50	10134.0	92.20	10155.6	94.50	10175.7
GR	96.6	10192.5	97.40	10210.1	97.60	10246.5	120.0	10261.5		
X1	18.180	73	9449.6	10305.7	164.0	164.0	164.0			
X3	10.	91.7						.00	.00	
GR	114.7	9220.9	114.80	9241.8	114.40	9253.2	114.60	9268.5	114.60	9272.2
GR	116.7	9272.2	116.50	9283.6	115.90	9283.7	115.40	9290.7	116.10	9309.7
GR	116.3	9334.8	116.30	9358.5	115.90	9378.7	115.80	9391.8	115.80	9404.0

GR	117.6	9413.0	118.70	9420.7	121.60	9431.5	121.70	9449.6	120.80	9460.2
GR	117.1	9468.5	116.10	9481.2	112.30	9489.2	111.60	9497.8	111.20	9501.2
GR	104.6	9512.1	104.00	9516.3	103.30	9541.8	104.20	9551.4	103.50	9561.0
GR	104.2	9581.3	103.40	9607.7	104.10	9621.5	102.60	9636.0	102.80	9667.1
GR	102.9	9697.0	102.30	9718.1	102.10	9731.0	96.00	9745.5	91.60	9766.7
GR	88.2	9784.6	87.80	9799.3	86.60	9807.8	86.40	9823.9	85.60	9836.6
GR	83.8	9847.2	81.40	9857.8	81.40	9862.7	83.10	9876.2	84.60	9886.4
GR	83.3	9899.7	82.40	9911.9	83.20	9923.4	85.40	9937.7	85.70	9963.2
GR	85.0	9977.5	86.90	9997.7	87.00	10000.0	87.50	10034.2	86.30	10055.5
GR	86.8	10072.9	86.10	10085.2	86.90	10102.0	89.00	10119.4	88.20	10132.7
GR	88.7	10146.6	89.10	10167.3	89.50	10185.9	90.10	10204.8	91.80	10225.4
GR	94.1	10242.7	95.10	10279.8	121.0	10305.7				
X1	18.190	57	9487.1	10322.4	64.9	64.9	64.9			
X3	10.	92.0						.00	.00	
GR	113.6	9245.6	114.90	9252.2	115.40	9276.4	116.80	9300.6	116.80	9321.3
GR	116.3	9344.8	116.60	9372.2	116.60	9395.9	116.40	9407.7	116.00	9413.6
GR	115.7	9424.6	116.00	9433.5	117.40	9437.8	119.50	9444.5	120.80	9449.6
GR	121.8	9464.2	121.40	9478.5	120.90	9487.1	113.00	9505.0	106.10	9519.9
GR	104.7	9526.5	103.50	9538.1	102.90	9541.2	103.00	9550.2	102.40	9555.9
GR	103.6	9569.9	104.20	9575.6	104.30	9585.7	104.80	9591.8	103.60	9614.4
GR	103.2	9652.8	103.00	9685.0	102.60	9711.4	102.30	9729.1	103.10	9741.3
GR	101.6	9751.9	97.40	9764.0	95.20	9776.8	95.20	9803.8	95.10	9855.5
GR	92.0	9856.6	92.00	9899.7	92.00	9908.8	92.00	9911.1	92.00	9934.5
GR	92.0	9937.6	92.00	9967.8	92.00	10000.0	92.00	10061.5	92.00	10103.6
GR	92.0	10125.3	92.00	10127.1	92.00	10175.1	92.00	10216.4	92.00	10255.3
GR	92.0	10290.9	121.0	10334.4						
X1	18.210	56	9516.1	10392.7	96.2	96.2	96.2			
X3	10.	92.1						.00	.00	
GR	110.6	9257.6	112.80	9283.8	114.90	9311.4	116.10	9338.5	116.90	9369.6
GR	117.9	9395.3	117.20	9420.0	117.20	9437.1	117.70	9449.0	117.30	9459.2
GR	118.1	9465.8	120.60	9473.4	121.50	9486.2	121.40	9501.0	120.90	9516.1
GR	107.1	9544.3	105.80	9551.1	105.40	9576.4	105.00	9605.2	104.50	9619.1
GR	103.8	9628.5	103.50	9654.3	103.30	9699.0	102.30	9726.0	103.50	9750.6
GR	103.5	9776.0	103.20	9787.7	102.90	9792.5	103.00	9804.5	93.60	9824.9
GR	91.2	9835.7	90.20	9854.9	90.70	9870.6	91.60	9897.4	91.50	9924.8
GR	90.2	9955.1	89.60	9983.4	89.60	10000.0	89.70	10035.4	90.20	10074.2
GR	91.0	10109.1	91.30	10143.6	91.90	10172.5	92.80	10193.8	93.30	10215.5
GR	94.6	10230.9	94.60	10244.7	95.40	10264.5	98.10	10282.2	97.70	10295.1
GR	95.7	10308.7	94.60	10318.9	94.40	10324.8	94.60	10330.1	94.40	10332.7
GR	124.4	10392.7								

1

X1	18.240	77	9564.8	10574.0	198.8	198.8	198.8			
X3	10.	92.5						.00	.00	
GR	117.7	9296.9	117.60	9318.9	118.10	9339.3	117.60	9364.5	117.70	9372.5
GR	117.1	9378.6	117.00	9393.8	117.20	9416.9	117.40	9427.5	117.90	9429.1
GR	117.5	9434.1	117.50	9461.3	118.10	9486.6	118.30	9500.1	118.60	9510.4
GR	121.8	9522.2	121.60	9539.7	121.30	9557.0	120.80	9564.8	116.90	9574.5
GR	108.2	9590.1	105.90	9595.6	105.20	9602.4	102.30	9615.2	103.10	9628.7
GR	104.6	9638.5	103.30	9648.1	103.80	9658.5	102.60	9672.8	103.00	9688.4
GR	103.4	9703.2	103.30	9715.1	102.70	9729.4	102.70	9744.5	103.20	9763.0
GR	103.5	9789.7	104.10	9817.9	103.30	9844.0	104.00	9849.1	102.00	9858.9
GR	100.5	9864.9	98.30	9872.6	95.20	9881.2	93.60	9905.6	91.30	9918.0
GR	88.3	9935.1	88.70	9957.5	89.10	9977.4	89.20	9999.0	89.10	10000.0
GR	88.5	10016.9	89.30	10034.1	89.10	10052.6	88.70	10067.9	89.40	10088.0

GR	90.5	10112.8	91.70	10139.8	92.60	10164.2	92.70	10190.5	93.10	10224.5
GR	93.8	10257.3	95.60	10277.7	98.20	10296.7	100.90	10313.4	101.20	10329.4
GR	101.4	10351.5	100.90	10376.6	100.60	10401.3	101.10	10418.9	100.80	10435.1
GR	100.9	10447.1	100.50	10457.6	101.20	10480.7	101.90	10488.7	102.36	10491.0
GR	102.3	10514.0	132.30	10574.0						
X1	18.280	77	9580.3	10688.0	169.5	169.5	169.5			
X3	10.	93.0						.00	.00	
GR	116.8	9324.6	117.80	9365.3	118.10	9403.8	118.20	9445.5	118.10	9477.0
GR	117.9	9505.0	118.20	9518.2	118.90	9522.9	118.00	9526.4	118.40	9539.5
GR	119.3	9548.6	122.20	9556.0	122.60	9561.8	122.20	9580.3	122.00	9587.2
GR	121.4	9590.2	119.80	9595.6	109.50	9619.1	105.60	9628.4	105.50	9632.3
GR	104.3	9634.9	103.80	9645.1	105.20	9650.0	103.50	9655.9	102.60	9672.0
GR	103.2	9689.4	103.20	9712.9	104.60	9728.0	104.00	9742.0	104.20	9761.4
GR	103.9	9783.0	103.70	9792.1	102.90	9801.8	103.50	9818.8	103.70	9833.9
GR	103.4	9850.8	103.90	9859.8	96.80	9876.9	94.60	9901.7	94.00	9923.3
GR	92.6	9937.5	88.70	9950.0	86.90	9962.3	87.90	9985.7	88.30	10000.0
GR	89.3	10020.6	90.00	10041.5	89.70	10064.8	90.20	10087.9	91.30	10112.3
GR	92.3	10141.3	92.80	10170.7	92.80	10194.7	92.50	10207.2	92.70	10233.0
GR	93.7	10254.2	94.80	10277.8	96.20	10300.0	98.00	10316.1	101.60	10330.8
GR	103.1	10341.9	103.10	10359.1	103.00	10374.0	101.60	10391.0	101.10	10419.3
GR	101.1	10439.2	101.80	10447.5	102.10	10463.9	102.80	10502.3	103.80	10543.1
GR	103.5	10577.3	103.80	10585.0	103.80	10588.4	102.30	10604.1	103.00	10612.2
GR	103.0	10628.0	133.00	10688.0						
X1	18.320	70	9607.4	10703.0	228.0	228.0	228.0			
X3	10.	93.5						.00	.00	
GR	117.7	9338.1	117.80	9373.1	118.70	9430.5	119.60	9478.4	120.70	9496.9
GR	120.9	9504.6	118.50	9517.4	119.40	9529.1	119.70	9533.9	119.10	9544.3
GR	119.1	9549.2	122.80	9565.2	122.20	9573.8	121.90	9595.7	121.80	9603.1
GR	121.3	9607.4	103.90	9644.1	103.80	9656.0	105.40	9670.8	104.80	9678.1
GR	106.0	9688.2	104.40	9699.6	105.00	9709.3	103.40	9725.6	104.00	9744.5
GR	104.3	9770.1	105.30	9789.4	104.40	9807.8	102.10	9824.7	101.00	9842.9
GR	101.2	9854.1	92.30	9869.9	90.70	9875.1	88.50	9884.9	87.90	9897.0
GR	87.6	9912.5	87.90	9922.8	88.70	9927.8	90.90	9936.6	89.20	9948.6
GR	87.8	9971.8	88.00	9991.9	88.20	10000.0	88.60	10020.4	89.50	10047.6
GR	91.2	10067.8	93.30	10089.3	94.70	10105.9	94.90	10122.3	93.70	10144.5
GR	93.3	10167.2	93.40	10185.8	93.70	10211.8	93.90	10226.0	93.80	10239.4
GR	93.7	10257.6	94.10	10277.5	96.20	10297.7	97.20	10318.6	99.50	10332.8
GR	102.5	10347.2	103.00	10367.1	102.40	10393.0	102.00	10423.5	102.10	10446.6

1

GR	102.4	10484.6	103.20	10521.7	103.60	10539.2	103.60	10643.0	133.60	10703.0
X1	18.360	93	9595.5	10701.0	201.7	201.7	201.7			
X3	10.	93.5						.00	.00	
GR	118.2	9437.7	118.20	9457.1	118.30	9477.9	118.30	9495.0	118.10	9512.1
GR	118.7	9518.8	119.20	9528.1	120.00	9530.7	123.40	9537.9	123.40	9550.9
GR	122.9	9568.2	122.70	9586.2	123.00	9595.5	122.50	9602.0	121.90	9604.0
GR	111.0	9626.0	105.00	9639.6	104.40	9646.8	104.50	9660.5	105.30	9665.2
GR	103.9	9671.2	104.60	9688.5	104.20	9698.5	104.80	9719.9	104.70	9737.7
GR	103.3	9759.0	103.00	9771.4	103.20	9788.2	103.20	9805.1	102.30	9822.1
GR	101.2	9832.7	101.10	9837.3	93.50	9852.5	94.70	9865.5	93.10	9875.7
GR	93.4	9885.2	95.40	9900.8	96.10	9914.3	94.50	9928.6	92.50	9936.0
GR	90.0	9942.0	88.70	9952.8	88.10	9957.7	87.70	9960.3	86.60	9968.7
GR	88.6	9982.4	90.40	9987.7	90.40	9992.7	89.10	10000.0	89.40	10010.0
GR	90.0	10016.7	90.10	10019.9	88.50	10026.3	88.40	10035.0	89.60	10044.4

GR	90.8	10055.5	92.60	10065.6	92.60	10071.9	94.70	10085.6	95.40	10101.2
GR	95.3	10115.3	95.10	10128.6	94.50	10150.9	94.20	10167.7	93.50	10179.1
GR	93.7	10196.7	94.10	10211.2	95.00	10228.0	94.50	10239.8	94.70	10255.5
GR	95.0	10271.1	94.80	10284.6	95.40	10296.2	97.60	10302.7	98.40	10318.6
GR	99.9	10330.4	100.90	10335.9	100.70	10340.4	102.20	10352.2	103.00	10364.4
GR	103.4	10381.4	102.70	10397.6	102.50	10413.7	101.80	10432.1	101.80	10453.5
GR	102.3	10475.7	102.80	10500.2	103.60	10527.3	103.90	10566.5	104.00	10588.3
GR	104.1	10598.4	104.12	10641.0	134.12	10701.0				

X1	18.400	48	9587.5	10679.7	198.8	198.8	198.8			
X3	10.	94.5						.00	.00	
GR	119.4	9326.8	119.20	9372.0	118.90	9399.4	118.60	9420.9	119.00	9454.0
GR	118.8	9493.2	118.40	9529.7	118.40	9537.6	117.90	9545.8	118.60	9550.2
GR	122.4	9559.1	122.50	9585.6	122.60	9587.5	114.00	9602.4	104.40	9622.2
GR	104.0	9636.7	105.10	9646.4	105.20	9671.4	105.30	9700.5	105.00	9741.5
GR	106.7	9759.4	105.10	9771.5	104.50	9779.2	99.20	9795.9	98.30	9836.1
GR	98.0	9875.5	95.90	9899.5	93.70	9927.0	94.10	9951.0	92.90	9992.1
GR	92.9	10000.0	94.10	10058.4	95.60	10113.8	97.10	10183.4	97.10	10229.3
GR	96.6	10277.2	98.20	10318.5	100.90	10347.1	102.90	10372.1	103.10	10408.6
GR	103.2	10448.1	103.10	10482.1	103.30	10518.1	103.40	10557.9	103.40	10593.7
GR	103.0	10597.0	103.00	10619.7	133.00	10679.7				

X1	18.430	65	9552.9	10655.0	199.2	199.2	199.2			
X3	10.							.00	.00	
GR	122.1	9281.0	123.80	9296.8	124.00	9307.1	123.60	9307.9	123.30	9333.1
GR	122.9	9345.5	122.90	9357.7	123.30	9358.6	123.30	9360.2	125.90	9360.3
GR	126.0	9369.4	128.10	9390.1	128.20	9403.7	123.30	9416.1	122.50	9426.7
GR	121.8	9446.1	120.60	9459.5	121.20	9496.4	123.30	9524.3	123.30	9543.1
GR	123.5	9552.9	122.90	9558.0	113.80	9579.3	104.20	9595.9	104.70	9614.6
GR	104.1	9621.8	105.50	9631.8	105.80	9653.6	105.30	9680.7	106.20	9695.0
GR	106.1	9716.1	105.40	9745.5	104.10	9757.6	100.10	9770.8	99.50	9778.3
GR	99.2	9789.4	98.20	9803.4	97.20	9830.6	97.20	9860.8	96.90	9892.4
GR	95.9	9919.3	96.00	9948.7	95.10	9978.2	94.90	10000.0	95.40	10045.6
GR	95.1	10079.7	95.80	10112.3	96.60	10149.5	97.60	10194.7	98.10	10239.5
GR	99.0	10287.1	99.70	10316.8	101.10	10355.8	102.90	10394.1	103.50	10413.8
GR	103.6	10440.2	103.60	10483.1	103.60	10505.2	104.10	10521.0	103.70	10543.6
GR	103.9	10571.6	104.40	10589.4	105.14	10592.2	105.14	10595.0	135.14	10655.0

1

X1	18.470	66	9525.1	10621.0	204.1	204.1	204.1			
X3	10.							.00	.00	
GR	123.5	9249.3	122.70	9285.2	122.70	9300.1	123.10	9300.3	128.80	9301.4
GR	128.0	9307.0	128.90	9321.1	129.60	9332.5	129.50	9335.5	122.80	9345.3
GR	121.0	9355.7	120.20	9389.7	119.90	9411.9	119.90	9435.5	119.60	9458.1
GR	120.0	9473.3	121.70	9492.4	122.00	9506.3	122.00	9521.5	121.90	9525.1
GR	118.1	9535.9	110.50	9552.1	105.10	9564.3	105.10	9580.5	105.70	9605.2
GR	105.8	9624.5	105.70	9644.9	105.70	9661.7	105.80	9679.3	105.60	9697.3
GR	104.9	9714.6	104.20	9726.6	103.20	9736.5	103.10	9746.8	101.80	9755.7
GR	99.2	9770.9	98.60	9795.2	98.80	9821.2	98.80	9860.3	98.10	9887.6
GR	96.6	9910.4	96.20	9940.6	96.10	9972.5	95.30	9997.8	95.30	10000.0
GR	95.7	10032.2	96.10	10065.8	96.40	10099.3	96.50	10128.7	97.10	10159.0
GR	97.6	10184.2	98.10	10208.5	98.90	10244.7	99.40	10281.9	100.40	10306.6
GR	101.7	10334.8	102.30	10363.6	103.00	10393.0	103.10	10435.5	103.60	10474.2
GR	103.9	10505.0	103.90	10539.1	104.40	10547.2	105.66	10552.3	105.66	10561.0
GR	135.6	10621.0								

X1	18.510	68	9487.5	10585.0	198.6	198.6	198.6			
X3	10.							.00	.00	
GR	120.0	9217.2	119.80	9227.6	127.80	9228.1	126.90	9235.4	126.10	9251.9
GR	125.9	9260.8	121.20	9269.5	121.20	9284.7	120.50	9307.6	120.40	9333.0
GR	120.2	9360.0	120.20	9389.6	120.30	9410.4	119.80	9427.2	121.30	9443.1
GR	122.0	9452.2	122.30	9469.9	122.40	9484.4	122.80	9487.5	121.50	9492.7
GR	110.3	9514.8	105.60	9526.2	105.80	9550.8	106.50	9566.5	107.20	9578.5
GR	106.0	9584.8	106.30	9601.3	106.00	9624.9	105.80	9645.7	105.70	9658.5
GR	105.3	9661.6	105.30	9673.9	104.90	9681.8	104.70	9715.2	102.10	9738.1
GR	100.0	9752.8	98.80	9758.5	98.90	9788.9	99.30	9812.9	99.30	9826.3
GR	98.2	9835.0	99.00	9871.1	97.90	9901.6	97.10	9930.8	96.10	9966.3
GR	95.6	9992.6	95.70	10000.0	96.10	10037.5	96.60	10069.6	97.50	10095.9
GR	98.0	10113.2	97.50	10138.9	97.90	10177.4	98.90	10226.5	99.70	10271.4
GR	100.6	10299.6	102.40	10330.3	102.80	10363.0	103.10	10386.6	103.20	10417.4
GR	104.1	10448.9	104.50	10469.2	104.30	10491.8	104.30	10501.1	105.60	10516.8
GR	106.1	10518.7	106.15	10525.0	136.15	10585.0				
X1	18.550	57	9442.6	10538.0	199.2	199.2	199.2			
X3	10.							.00	.00	
GR	119.4	9187.1	119.00	9205.6	118.10	9225.2	119.30	9254.5	119.40	9300.1
GR	119.4	9332.2	120.10	9367.4	120.30	9381.1	123.10	9407.1	122.90	9428.2
GR	122.9	9439.8	123.00	9442.6	111.90	9468.3	106.20	9482.2	105.80	9492.0
GR	105.8	9502.0	105.40	9507.4	106.40	9518.3	105.90	9538.3	103.80	9550.9
GR	104.7	9561.6	106.20	9566.8	105.80	9579.8	105.30	9592.4	106.20	9606.8
GR	105.4	9629.2	105.40	9657.7	104.70	9694.8	103.00	9723.1	100.20	9745.8
GR	99.9	9758.1	100.50	9790.2	99.90	9840.5	97.80	9878.7	97.70	9907.3
GR	97.1	9937.1	95.90	9955.4	95.70	9983.7	96.40	10000.0	96.80	10045.2
GR	98.0	10087.6	98.40	10128.4	99.60	10168.5	99.70	10199.8	99.10	10237.1
GR	100.0	10272.2	102.60	10292.9	103.00	10316.0	102.80	10345.4	102.90	10368.3
GR	104.3	10394.9	104.90	10416.6	105.20	10440.6	105.30	10460.8	106.65	10466.3
GR	106.6	10478.0	136.60	10538.0						

1

X1	18.580	63	9394.8	10489.0	197.7	197.7	197.7			
X3	10.							.00	.00	
GR	117.2	9121.8	117.70	9148.4	117.80	9178.1	117.70	9196.5	118.10	9223.4
GR	118.5	9246.4	118.60	9279.9	118.70	9316.5	120.00	9334.3	121.90	9351.6
GR	123.0	9359.7	123.00	9388.3	123.20	9393.1	123.30	9394.8	112.00	9419.1
GR	105.4	9434.8	104.60	9463.2	105.40	9472.5	105.40	9485.2	104.90	9488.9
GR	105.9	9506.1	105.30	9543.3	105.70	9581.4	106.00	9615.8	105.80	9646.8
GR	106.3	9678.8	106.20	9706.3	102.90	9717.2	101.90	9723.5	101.40	9738.5
GR	100.4	9764.9	100.10	9785.1	100.20	9816.9	99.30	9841.9	97.80	9873.3
GR	97.1	9900.0	98.10	9926.0	98.00	9953.8	97.20	9991.8	96.90	10000.0
GR	96.7	10025.1	98.00	10061.5	98.90	10103.4	99.70	10144.4	100.30	10195.5
GR	100.5	10227.9	101.60	10243.9	102.40	10265.8	102.80	10318.0	103.40	10352.8
GR	104.0	10357.2	102.80	10360.0	102.80	10370.9	104.80	10376.4	104.40	10381.9
GR	104.6	10388.1	106.10	10391.7	106.10	10396.1	105.50	10398.6	106.40	10410.9
GR	107.1	10417.5	107.15	10429.0	137.15	10489.0				
X1	18.620	35	9342.0	10436.2	198.6	198.6	198.6			
GR	123.5	9278.0	123.00	9294.0	122.00	9311.0	121.00	9342.0	120.00	9343.0
GR	115.0	9357.0	110.00	9369.0	109.00	9376.0	107.00	9377.0	106.00	9408.0
GR	105.0	9440.0	105.00	9453.0	105.00	9650.0	104.00	9690.0	103.00	9718.0
GR	102.0	9770.0	101.00	9800.0	100.00	9813.0	99.00	9836.0	98.00	9851.0
GR	98.0	10000.0	98.00	10047.0	99.00	10068.0	100.00	10086.0	101.00	10178.0
GR	102.0	10217.0	103.00	10270.0	104.00	10325.0	104.00	10331.0	105.00	10345.0
GR	106.0	10350.0	107.00	10354.0	107.67	10362.7	107.67	10376.2	137.60	10436.2

X1	18.660	30	9361.0	10452.7	196.8	196.8	196.8			
GR	123.0	9361.0	120.00	9367.0	115.00	9379.0	110.00	9389.0	108.00	9396.0
GR	107.0	9424.0	106.00	9427.0	106.00	9608.0	105.00	9632.0	104.00	9803.0
GR	103.0	9832.0	102.00	9852.0	101.00	9869.0	100.00	9880.0	99.00	9940.0
GR	98.0	9972.0	97.00	9995.0	97.00	10008.0	98.00	10035.0	99.00	10061.0
GR	100.0	10105.0	101.00	10139.0	102.00	10242.0	103.00	10334.0	104.00	10358.0
GR	105.0	10365.0	108.00	10368.0	108.19	10371.4	108.19	10392.7	138.19	10452.7
X1	18.700	30	9332.0	10424.3	198.9	198.9	198.9			
GR	123.0	9332.0	120.00	9340.0	115.00	9351.0	110.00	9362.0	108.00	9368.0
GR	107.0	9398.0	107.00	9426.0	106.00	9449.0	106.00	9478.0	107.00	9497.0
GR	106.0	9582.0	105.00	9632.0	105.00	9740.0	104.00	9800.0	103.00	9849.0
GR	102.0	9865.0	101.00	9878.0	100.00	9922.0	99.00	9958.0	99.00	10040.0
GR	100.0	10061.0	101.00	10082.0	102.00	10101.0	103.00	10301.0	103.00	10328.0
GR	104.0	10340.0	105.00	10343.0	108.71	10349.5	108.71	10364.3	138.71	10424.3
X1	18.740	12	10035.0	11130.0	238.1	238.1	238.1			
GR	125.5	10000.0	125.00	10035.0	110.00	10075.0	104.40	10386.0	101.40	10392.0
GR	101.4	10792.0	104.40	10798.0	104.40	11071.0	116.90	11089.0	116.90	11097.0
GR	127.9	11130.0	127.90	11141.0						
X1	18.770	12	10035.0	11130.0	200.0	200.0	200.0			
GR	127.6	10000.0	127.00	10035.0	110.00	10070.0	104.80	10364.0	101.80	10370.0
GR	101.8	10770.0	104.80	10776.0	104.80	11070.0	117.40	11089.0	117.40	11097.0
GR	128.4	11130.0	128.40	11140.0						

1

X1	18.790	12	10035.0	11125.0	100.0	100.0	100.0			
GR	127.8	10000.0	127.00	10035.0	110.50	10070.0	105.10	10347.0	102.10	10353.0
GR	102.1	10753.0	105.10	10759.0	105.10	11065.0	117.60	11084.0	117.60	11092.0
GR	128.6	11125.0	128.60	11136.0						
X1	18.810	12	10032.0	11123.0	100.0	100.0	100.0			
GR	128.0	10000.0	126.00	10032.0	110.00	10082.0	105.30	10334.0	102.30	10340.0
GR	102.3	10740.0	105.30	10746.0	105.30	11063.0	117.80	11082.0	117.80	11090.0
GR	128.8	11123.0	128.80	11134.0						
X1	18.850	12	10047.0	11109.0	200.0	200.0	200.0			
GR	129.3	10000.0	129.00	10047.0	111.00	10085.0	105.80	10308.0	102.80	10314.0
GR	102.8	10714.0	105.80	10720.0	105.80	11049.0	118.20	11068.0	118.20	11076.0
GR	129.2	11109.0	129.20	11119.0						
X1	18.890	14	10033.0	11097.0	200.0	200.0	200.0			
GR	130.0	10000.0	130.00	10033.0	118.60	10078.0	118.60	10086.0	106.20	10105.0
GR	106.2	10281.0	103.20	10287.0	103.20	10687.0	106.20	10693.0	106.20	11038.0
GR	118.6	11056.0	118.60	11064.0	129.60	11097.0	129.60	11108.0		
X1	18.930	14	10055.0	11130.0	200.0	200.0	200.0			
GR	130.4	10000.0	131.00	10055.0	119.10	10108.0	119.10	10116.0	106.70	10135.0
GR	106.7	10284.0	103.70	10290.0	103.70	10690.0	106.70	10696.0	106.70	11071.0
GR	119.1	11089.0	119.10	11097.0	130.00	11130.0	130.00	11141.0		
X1	18.960	14	10059.0	11115.0	200.0	200.0	200.0			
GR	132.0	10000.0	131.00	10059.0	119.40	10087.0	119.40	10095.0	107.20	10113.0
GR	107.2	10244.0	104.20	10250.0	104.20	10650.0	107.20	10656.0	107.20	11055.0
GR	119.5	11074.0	119.50	11082.0	130.50	11115.0	130.50	11126.0		

```
X1   19.000      14   10040.0   11092.0     200.0     200.0     200.0
GR    131.0 10000.0    130.00   10040.0    119.90   10064.0    119.90   10072.0    107.70   10090.0
GR    107.7 10194.0    104.70   10200.0    104.70   10600.0    107.70   10606.0    107.70   11032.0
GR    119.9 11051.0    119.90   11059.0    130.90   11092.0    130.90   11102.0

X1   19.040      14   10040.0   11092.0     200.0     200.0     200.0
GR    131.0 10000.0    130.00   10040.0    120.30   10064.0    120.30   10072.0    108.10   10090.0
GR    108.1 10172.0    105.10   10178.0    105.10   10578.0    108.10   10584.0    108.10   11032.0
GR    120.3 11051.0    120.30   11059.0    131.30   11092.0    131.30   11102.0

X1   19.080      14   10042.0   11087.0     200.0     200.0     200.0
GR    132.0 10000.0    130.00   10042.0    120.80   10067.0    120.80   10075.0    108.60   10093.0
GR    108.6 10144.0    105.60   10150.0    105.60   10550.0    108.60   10556.0    108.60   11027.0
GR    120.8 11046.0    120.80   11054.0    131.80   11087.0    131.80   11097.0

X1   19.120      14   10035.0   11081.0     200.0     200.0     200.0
GR    132.5 10000.0    130.00   10035.0    121.20   10055.0    121.20   10063.0    109.10   10081.0
GR    109.1 10114.0    106.10   10120.0    106.10   10520.0    109.10   10526.0    109.10   11022.0
GR    121.2 11040.0    121.20   11048.0    132.20   11081.0    132.20   11092.0
1
   02APR97      10:19:46                                                                    PAGE    19

X1   19.150      14   10033.0   11085.0     200.0     200.0     200.0
GR    132.0 10000.0    130.00   10033.0    121.60   10049.0    121.60   10057.0    109.50   10075.0
GR    109.5 10096.0    106.50   10102.0    106.50   10502.0    109.50   10508.0    109.50   11026.0
GR    121.6 11044.0    121.60   11052.0    132.60   11085.0    132.60   11096.0

X1   19.190      14   10011.0   11093.0     200.0     200.0     200.0
GR    133.0 10000.0    133.00   10011.0    122.00   10044.0    122.00   10052.0    110.00   10070.0
GR    110.0 10091.0    107.00   10097.0    107.00   10497.0    110.00   10503.0    110.00   11034.0
GR    122.0 11052.0    122.00   11060.0    133.00   11093.0    133.00   11104.0

X1   19.230      13   10027.0   11093.0     200.0     200.0     200.0
GR    133.5 10000.0    133.50   10027.0    133.50   10035.0    110.50   10070.0    110.50   10086.0
GR    107.5 10092.0    107.50   10492.0    110.50   10498.0    110.50   11034.0    122.50   11052.0
GR    122.5 11060.0    133.50   11093.0    133.50   11104.0

X1   19.280      10   10036.0   11068.0     265.0     265.0     265.0
GR    134.1 10000.0    134.10   10036.0    111.20   10070.0    111.20   10092.0    108.20   10098.0
GR    108.2 10498.0    111.20   10504.0    111.20   11034.0    134.10   11068.0    134.10   11103.0

QT       1 210000
X1   19.300      12   10011.0   11068.0     120.0     120.0     120.0
GR    134.3 10000.0    134.30   10011.0    123.30   10044.0    123.30   10052.0    111.40   10070.0
GR    111.4 10092.0    108.40   10098.0    108.40   10498.0    111.40   10504.0    111.40   11034.0
GR    134.3 11068.0    134.30   11103.0

X1   19.340      14   10011.0   11091.0     215.0     215.0     215.0
GR    134.7 10000.0    134.70   10011.0    123.70   10044.0    123.70   10052.0    111.90   10070.0
GR    111.9 10091.0    108.90   10097.0    108.90   10497.0    111.90   10503.0    111.90   11033.0
GR    123.7 11050.0    123.70   11058.0    134.70   11091.0    134.70   11102.0

X1   19.380      14   10011.0   11091.0     200.0     200.0     200.0
GR    135.2 10000.0    135.20   10011.0    124.20   10044.0    124.20   10052.0    112.40   10070.0
GR    112.4 10091.0    109.40   10097.0    109.40   10497.0    112.40   10503.0    112.40   11033.0
GR    124.2 11050.0    124.20   11058.0    135.20   11091.0    135.20   11102.0
```

```
NC                                  .30000     .50000
X1   19.384        13    10014.1   11091.6      17.0       17.0       17.0
GR    135.2   10000.0     135.20   10014.1    112.40    10069.5     112.40    10090.0     109.40    10096.0
GR    109.4   10496.0     112.40   10502.0    112.40    10551.2     112.40    11032.9     124.20    11050.6
GR    124.2   11058.6     135.20   11091.6    135.20    11102.4

SB    1.050      1.56       2.60       .00    875.00      73.50   30974.00     2.000     109.70     109.40
X1   19.400        13    10035.3   11091.6     109.0      109.0      109.0
X2       0.       .00         1.    145.20    152.20        .00                .000                  .000
GR    135.5   10000.0     135.50   10035.3    112.70    10069.5     112.70    10090.0     109.70    10096.0
GR    109.7   10496.0     112.70   10502.0    112.70    10551.2     112.70    11032.9     124.50    11050.6
GR    124.5   11058.6     135.50   11091.6    135.50    11102.4
1
   02APR97      10:19:46                                                                          PAGE    20


X1   19.430        13    10035.3   11091.4     141.0      141.0      141.0
GR    135.7   10000.0     135.70   10035.3    113.00    10069.5     113.00    10090.0     110.00    10096.0
GR    110.0   10496.0     113.00   10502.0    113.00    10551.1     113.00    11032.7     124.70    11050.4
GR    124.7   11058.4     135.70   11091.4    135.70    11102.2

X1   19.460        11    10035.3   11091.0     141.0      141.0      141.0
GR    136.0   10000.0     136.00   10035.3    113.30    10069.4     113.30    10090.0     110.30    10096.0
GR    110.3   10496.0     113.30   10502.0    113.30    10550.9     113.30    11032.4     136.00    11091.0
GR    136.0   11101.8

SB    1.050      1.56       2.60       .00    875.00      80.00   26567.00     2.000     110.70     110.30
X1   19.480        13    10010.8   11065.9     122.0      122.0      122.0
X2       0.       .00         1.    141.70    148.70        .00                .000                  .000
GR    136.3   10000.0     136.30   10010.8    125.30    10043.8     125.30    10051.8     113.70    10069.2
GR    113.7   10090.0     110.70   10096.0    110.70    10496.0     113.70    10502.0     113.70    10550.6
GR    113.7   11032.0     136.30   11065.9    136.30    11101.2

X1   19.490        13    10010.8   11065.9      70.0       70.0       70.0
GR    136.4   10000.0     136.40   10010.8    125.40    10043.8     125.40    10051.8     113.80    10069.2
GR    113.8   10090.0     110.80   10096.0    110.80    10496.0     113.80    10502.0     113.80    10550.6
GR    113.8   11032.0     136.40   11065.9    136.40    11101.2

NC                                  .10000     .30000
X1   19.530        16    10011.0   11084.0     200.0      200.0      200.0
GR    136.9   10000.0     136.90   10011.0    125.90    10044.0     125.90    10052.0     114.30    10078.0
GR    114.3   10089.0     111.30   10095.0    111.30    10495.0     114.30    10501.0     114.30    11032.0
GR    125.9   11050.0     125.90   11058.0    122.90    11062.0     122.90    11063.0     136.90    11084.0
GR    136.9   11098.0

X1   19.570        15    10020.0   11096.0     200.0      200.0      200.0
GR    137.3   10000.0     137.30   10012.0    137.30    10020.0     114.70    10081.0     114.70    10109.0
GR    111.7   10115.0     111.70   10515.0    114.70    10521.0     114.70    11043.0     126.30    11061.0
GR    126.3   11069.0     123.30   11073.0    123.30    11074.0     137.30    11096.0     137.30    11109.0

X1   19.610        16    10011.0   11083.0     200.0      200.0      200.0
GR    137.7   10000.0     137.70   10011.0    126.70    10044.0     126.70    10052.0     115.20    10069.0
GR    115.2   10102.0     112.20   10108.0    112.20    10508.0     115.20    10514.0     115.20    11031.0
GR    126.7   11049.0     126.70   11057.0    123.70    11061.0     123.70    11062.0     138.30    11083.0
GR    138.3   11098.0

X1   19.650        16    10011.0   11085.0     200.0      200.0      200.0
GR    138.1   10000.0     138.10   10011.0    127.10    10043.0     127.10    10051.0     115.70    10069.0
GR    115.7   10124.0     112.70   10130.0    112.70    10530.0     115.70    10536.0     115.70    11033.0
```

```
GR    127.1    11050.0    127.10    11058.0    124.10    11063.0    124.10    11064.0    138.70    11085.0
GR    138.7    11099.0

X1    19.680        16    10010.0   11087.0    200.0     200.0     200.0
GR    138.6    10000.0    138.60    10010.0    127.60    10043.0    127.60    10051.0    116.20    10069.0
GR    116.2    10157.0    113.20    10163.0    113.20    10563.0    116.20    10569.0    116.20    11035.0
GR    127.6    11052.0    127.60    11060.0    124.60    11065.0    124.60    11066.0    139.20    11087.0
GR    139.2    11101.0
1
   02APR97      10:19:46                                                                          PAGE   21

X1    19.720        16    10011.0   11089.0    200.0     200.0     200.0
GR    139.0    10000.0    139.00    10011.0    128.00    10044.0    128.00    10052.0    116.60    10069.0
GR    116.6    10205.0    113.60    10211.0    113.60    10611.0    116.60    10617.0    116.60    11037.0
GR    128.0    11054.0    128.00    11062.0    125.00    11067.0    125.00    11068.0    139.60    11089.0
GR    139.6    11103.0

X1    19.760        16    10011.0   11089.0    200.0     200.0     200.0
GR    139.4    10000.0    139.40    10011.0    128.40    10044.0    128.40    10052.0    117.10    10069.0
GR    117.1    10263.0    114.10    10269.0    114.10    10669.0    117.10    10675.0    117.10    11037.0
GR    128.4    11054.0    128.40    11062.0    125.40    11067.0    125.40    11068.0    140.00    11089.0
GR    140.0    11103.0

X1    19.800        12    10010.0   11088.0    200.0     200.0     200.0
GR    139.8    10000.0    139.80    10010.0    128.80    10043.0    128.80    10051.0    117.60    10068.0
GR    117.6    10322.0    114.60    10328.0    114.60    10728.0    117.60    10734.0    117.60    11036.0
GR    140.4    11088.0    140.40    11102.0

X1    19.830        12    10011.0   11070.0    200.0     200.0     200.0
GR    140.3    10000.0    140.30    10011.0    129.30    10044.0    129.30    10052.0    118.00    10069.0
GR    118.0    10382.0    115.00    10388.0    115.00    10788.0    118.00    10794.0    118.00    11035.0
GR    140.9    11070.0    140.90    11084.0

X1    19.870        12    10011.0   11067.0    200.0     200.0     200.0
GR    140.7    10000.0    140.70    10011.0    129.70    10044.0    129.70    10052.0    118.50    10068.0
GR    118.5    10431.0    115.50    10437.0    115.50    10837.0    118.50    10843.0    118.50    11033.0
GR    141.3    11067.0    141.30    11081.0

X1    19.910        12    10011.0   11065.0    200.0     200.0     200.0
GR    141.0    10000.0    141.00    10011.0    130.10    10044.0    130.10    10052.0    119.00    10069.0
GR    119.0    10485.0    116.00    10491.0    116.00    10891.0    119.00    10897.0    119.00    11031.0
GR    141.7    11065.0    141.70    11079.0

X1    19.950        12    10011.0   11061.0    200.0     200.0     200.0
GR    141.5    10000.0    141.50    10011.0    130.50    10044.0    130.50    10052.0    119.50    10069.0
GR    119.5    10528.0    116.50    10534.0    116.50    10934.0    119.50    10940.0    119.50    11027.0
GR    142.1    11061.0    142.10    11075.0

X1    19.990        10    10015.0   11080.0    200.0     200.0     200.0
GR    142.0    10000.0    142.00    10015.0    119.90    10077.0    119.90    10567.0    116.90    10573.0
GR    116.9    10973.0    119.90    10979.0    119.90    11032.0    142.60    11080.0    142.60    11090.0

X1    20.020        10    10018.0   11050.0    200.0     200.0     200.0
GR    142.4    10000.0    142.40    10018.0    120.40    10067.0    120.40    10576.0    117.40    10582.0
GR    117.4    10982.0    120.40    10988.0    120.40    11016.0    143.00    11050.0    143.00    11063.0

X1    20.060        12    10011.0   11046.0    200.0     200.0     200.0
GR    142.8    10000.0    142.80    10011.0    131.80    10044.0    131.80    10052.0    120.90    10069.0
```

GR	120.9	10587.0	117.90	10593.0	117.90	10993.0	120.90	10999.0	120.90	11012.0
GR	143.4	11046.0	143.40	11060.0						

1

X1	20.100	12	10011.0	11039.0	200.0	200.0	200.0			
GR	143.2	10000.0	143.20	10011.0	132.20	10044.0	132.20	10052.0	121.30	10069.0
GR	121.3	10586.0	118.30	10592.0	118.30	10992.0	121.30	10998.0	121.30	11005.0
GR	143.8	11039.0	143.80	11053.0						
X1	20.140	12	10011.0	11031.0	200.0	200.0	200.0			
GR	143.7	10000.0	143.70	10011.0	132.70	10044.0	132.70	10052.0	121.80	10068.0
GR	121.8	10574.0	118.80	10580.0	118.80	10980.0	121.80	10986.0	121.80	10998.0
GR	144.3	11031.0	144.30	11045.0						
X1	20.180	12	10011.0	11023.0	200.0	200.0	200.0			
GR	144.1	10000.0	144.10	10011.0	133.10	10044.0	133.10	10052.0	122.30	10068.0
GR	122.3	10555.0	119.30	10561.0	119.30	10961.0	122.30	10967.0	122.30	10989.0
GR	144.7	11023.0	144.70	11037.0						
X1	20.210	12	10011.0	11014.0	200.0	200.0	200.0			
GR	144.5	10000.0	144.50	10011.0	133.50	10044.0	133.50	10052.0	122.80	10068.0
GR	122.8	10516.0	119.80	10522.0	119.80	10922.0	122.80	10928.0	122.80	10980.0
GR	145.1	11014.0	145.10	11028.0						
X1	20.250	12	10011.0	11005.0	200.0	200.0	200.0			
GR	145.0	10000.0	145.00	10011.0	134.00	10044.0	134.00	10052.0	123.20	10068.0
GR	123.2	10480.0	120.20	10486.0	120.20	10886.0	123.20	10892.0	123.20	10972.0
GR	145.6	11005.0	145.60	11019.0						
X1	20.290	12	10010.0	10994.0	200.0	200.0	200.0			
GR	145.6	10000.0	145.60	10010.0	134.60	10043.0	134.60	10051.0	123.70	10068.0
GR	123.7	10435.0	120.70	10441.0	120.70	10841.0	123.70	10847.0	123.70	10961.0
GR	145.6	10994.0	145.60	11008.0						
X1	20.330	12	10011.0	10987.0	200.0	200.0	200.0			
GR	146.1	10000.0	146.10	10011.0	135.10	10044.0	135.10	10052.0	124.20	10068.0
GR	124.2	10382.0	121.20	10388.0	121.20	10788.0	124.20	10794.0	124.20	10951.0
GR	146.1	10987.0	146.10	11000.0						
X1	20.370	10	10020.0	10987.0	200.0	200.0	200.0			
GR	146.6	10000.0	146.60	10020.0	124.60	10066.0	124.60	10325.0	121.60	10331.0
GR	121.6	10731.0	124.60	10737.0	124.60	10938.0	146.60	10987.0	146.60	11000.0
X1	20.400	12	10010.0	10965.0	200.0	200.0	200.0			
GR	147.1	10000.0	147.10	10010.0	136.10	10043.0	136.10	10051.0	125.10	10068.0
GR	125.1	10276.0	122.10	10282.0	122.10	10682.0	125.10	10688.0	125.10	10932.0
GR	147.1	10965.0	147.10	10979.0						
X1	20.436	14	10012.0	10988.0	182.0	182.0	182.0			
GR	147.7	10000.0	147.67	10012.0	136.66	10045.0	136.66	10053.0	125.56	10069.0
GR	125.6	10230.0	122.50	10236.0	122.50	10636.0	125.56	10642.0	125.56	10931.0
GR	136.7	10947.0	136.66	10955.0	147.67	10988.0	147.67	10999.0		

1

```
X1   20.441        14    10012.0    10988.0       18.0       18.0       18.0
GR    147.7   10000.0     147.70    10012.0     136.69    10045.0     136.69    10053.0     125.59    10069.0
GR    125.6   10230.0     122.53    10236.0     122.53    10636.0     125.59    10642.0     125.59    10931.0
GR    136.7   10947.0     136.69    10955.0     147.70    10988.0     147.70    10999.0

X1   20.480        10    10032.0    10964.0      200.0      200.0      200.0
GR    148.2   10000.0     148.20    10032.0     125.94    10069.0     125.94    10190.0     122.86    10196.0
GR    122.9   10596.0     125.94    10602.0     125.94    10931.0     148.20    10964.0     148.20    10999.0
1
   02APR97      10:19:46                                                                                PAGE   24


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


 *PROF 1
0

 CCHV=     .100 CEHV=     .300
 *SECNO 16.690
 3280 CROSS SECTION     16.69 EXTENDED      3.30 FEET

    16.690     33.30    105.30       .00    105.30    106.00       .70       .00       .00    104.00
  205000.0   13248.7  161642.4   30108.9    5406.0   22278.0    6742.5        .0        .0    104.00
       .00      2.45      7.26      4.47      .040      .033      .040      .000     72.00   8400.00
   .000445      460.      400.      330.         0         0         0       .00   2845.00  11245.00


 *SECNO 16.770
 3280 CROSS SECTION     16.77 EXTENDED      6.19 FEET


 3301 HV CHANGED MORE THAN HVINS


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       98.90 ELREA=       108.00

    16.770     23.49    105.09       .00       .00    106.44      1.35       .24       .20     98.90
  205000.0        .0  205000.0        .0        .0   21980.3        .0     263.6      19.5    108.00
       .01       .00      9.33       .00      .000      .033      .000      .000     81.60   9210.00
   .000875      500.      400.      380.         2         0         0       .00   1176.64  10386.64


 *SECNO 16.800
 3280 CROSS SECTION     16.80 EXTENDED      6.47 FEET

    16.800     23.27    105.37       .00       .00    106.66      1.29       .21       .01     98.90
  205000.0        .0  205000.0        .0        .0   22512.4        .0     365.8      26.2    104.00
       .02       .00      9.11       .00      .000      .033      .000      .000     82.10   9240.00
   .001337      235.      200.      280.         2         0         0       .00   1720.00  10960.00


 CCHV=     .300 CEHV=     .500
 *SECNO 16.840
    16.840     27.21    105.51       .00       .00    106.81      1.31       .15       .01    122.00
  205000.0        .0  205000.0        .0        .0   22355.0        .0     448.2      31.2    121.60
       .02       .00      9.17       .00      .000      .033      .000      .000     78.30   9240.27
```

.000685	160.	160.	160.	2	0	0	.00	1019.46	10259.72

1

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

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.05	1.00	2.60	.00	713.50	70.00	28037.70	3.00	79.00	78.30

*SECNO 16.880
CLASS A LOW FLOW

3420 BRIDGE W.S.= 105.53 BRIDGE VELOCITY= 10.53 CALCULATED CHANNEL AREA= 19185.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	107.13	.23	0.	205000.	28038.	28038.	116.14	123.72	0.

16.880	26.74	105.74	.00	.00	107.13	1.39	.31	.00	122.60
205000.0	.0	205000.0	.0	.0	21639.9	.0	562.0	36.5	122.00
.03	.00	9.47	.00	.000	.033	.000	.000	79.00	9253.33
.000765	225.	225.	225.	0	0	0	.00	1023.74	10277.07

*SECNO 16.920
3280 CROSS SECTION 16.92 EXTENDED 23.39 FEET

16.920	26.59	105.89	.00	.00	107.28	1.39	.15	.00	84.00
205000.0	28610.9	176389.1	.0	3798.7	18126.4	.0	665.5	41.1	98.60
.04	7.53	9.73	.00	.040	.033	.000	.000	79.30	9390.00
.000688	207.	207.	207.	0	0	0	.00	925.70	10315.70

CCHV= .100 CEHV= .300
*SECNO 16.960
3280 CROSS SECTION 16.96 EXTENDED 6.59 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 110.00 ELREA= 99.40

16.960	27.09	105.99	.00	.00	107.44	1.46	.14	.02	110.00
205000.0	.0	205000.0	.0	.0	21169.3	.0	766.0	45.4	99.40
.04	.00	9.68	.00	.000	.033	.000	.000	78.90	9481.95
.000722	203.	203.	203.	2	0	0	.00	921.35	10403.30

1

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

*SECNO 16.990
3280 CROSS SECTION 16.99 EXTENDED 5.63 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 109.90 ELREA= 100.70

16.990	28.32	106.12	.00	.00	107.60	1.47	.15	.01	109.90
205000.0	.0	205000.0	.0	.0	21038.1	.0	863.8	49.7	100.70
.05	.00	9.74	.00	.000	.033	.000	.000	77.80	9562.29
.000730	202.	202.	202.	0	0	0	.00	911.81	10474.10

*SECNO 17.030
3280 CROSS SECTION 17.03 EXTENDED 8.34 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 110.70 ELREA= 97.90

17.030	30.54	106.24	.00	.00	107.76	1.53	.15	.02	110.70
205000.0	.0	205000.0	.0	.0	20665.7	.0	956.4	53.7	97.90
.05	.00	9.92	.00	.000	.035	.000	.000	75.70	9622.79
.000844	194.	194.	194.	2	0	0	.00	888.81	10511.60

*SECNO 17.070

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 111.20 ELREA= 111.56

17.070	29.83	106.43	.00	.00	107.94	1.51	.17	.00	111.20
205000.0	.0	205000.0	.0	.0	20797.4	.0	1052.8	57.9	111.56
.06	.00	9.86	.00	.000	.035	.000	.000	76.60	9675.51
.000848	203.	203.	203.	2	0	0	.00	912.23	10587.74

*SECNO 17.110

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 111.30 ELREA= 112.91

17.110	28.03	106.53	.00	.00	108.14	1.61	.18	.03	111.30
205000.0	.0	205000.0	.0	.0	20151.3	.0	1145.0	62.0	112.91
.06	.00	10.17	.00	.000	.035	.000	.000	78.50	9716.87
.000941	196.	196.	196.	2	0	0	.00	912.28	10629.15

1

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

*SECNO 17.140
3280 CROSS SECTION 17.14 EXTENDED 9.29 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 112.20 ELREA= 112.60

17.140	26.89	106.69	.00	.00	108.36	1.67	.20	.02	112.20
205000.0	.0	205000.0	.0	.0	19783.2	.0	1238.3	66.2	112.60
.07	.00	10.36	.00	.000	.035	.000	.000	79.80	9750.99
.001007	204.	204.	204.	2	0	0	.00	916.69	10667.68

*SECNO 17.180
3280 CROSS SECTION 17.18 EXTENDED 42.06 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 113.00 ELREA= 112.50

17.180	27.96	106.86	.00	.00	108.58	1.72	.20	.02	113.00
205000.0	.0	205000.0	.0	.0	19486.1	.0	1327.9	70.4	112.50
.07	.00	10.52	.00	.000	.035	.000	.000	78.90	9785.58
.001044	199.	199.	199.	2	0	0	.00	905.54	10691.12

*SECNO 17.220
3280 CROSS SECTION 17.22 EXTENDED 42.24 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 113.80 ELREA= 113.10

17.220	26.64	107.04	.00	.00	108.81	1.77	.22	.01	113.80
205000.0	.0	205000.0	.0	.0	19218.6	.0	1417.9	74.6	113.10
.08	.00	10.67	.00	.000	.035	.000	.000	80.40	9797.99
.001102	203.	203.	203.	2	0	0	.00	911.60	10709.58

*SECNO 17.260
3280 CROSS SECTION 17.26 EXTENDED 42.48 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 114.20 ELREA= 113.30

17.260	26.07	107.27	.00	.00	109.08	1.81	.26	.01	114.20
205000.0	.0	205000.0	.0	.0	18986.5	.0	1520.1	79.5	113.30
.09	.00	10.80	.00	.000	.035	.000	.000	81.20	9794.15
.001151	233.	233.	233.	1	0	0	.00	913.72	10707.87

1

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

*SECNO 17.280

3280 CROSS SECTION 17.28 EXTENDED 43.10 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 114.70 ELREA= 114.70

17.280	27.60	107.90	.00	.00	109.22	1.32	.09	.05	114.70
205000.0	.0	205000.0	.0	.0	22204.8	.0	1568.8	81.7	114.70
.09	.00	9.23	.00	.000	.035	.000	.000	80.30	9781.93
.000688	103.	103.	103.	2	0	0	.00	916.57	10698.50

*SECNO 17.300
3280 CROSS SECTION 17.30 EXTENDED 43.19 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 114.60 ELREA= 114.40

17.300	27.70	108.00	.00	.00	109.28	1.29	.06	.00	114.60
205000.0	.0	205000.0	.0	.0	22510.0	.0	1613.1	83.5	114.40
.09	.00	9.11	.00	.000	.035	.000	.000	80.30	9766.19
.000657	86.	86.	86.	1	0	0	.00	916.58	10682.77

*SECNO 17.320
3280 CROSS SECTION 17.32 EXTENDED 43.28 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 114.70 ELREA= 114.20

17.320	27.78	108.08	.00	.00	109.34	1.26	.05	.00	114.70
205000.0	.0	205000.0	.0	.0	22739.0	.0	1653.2	85.1	114.20
.09	.00	9.02	.00	.000	.035	.000	.000	80.30	9748.30
.000635	77.	77.	77.	2	0	0	.00	916.35	10664.65

*SECNO 17.330
3280 CROSS SECTION 17.33 EXTENDED 43.43 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 114.80 ELREA= 116.73

17.330	27.93	108.23	.00	.00	109.41	1.18	.06	.01	114.80
205000.0	.0	205000.0	.0	.0	23530.0	.0	1706.9	87.3	116.73
.10	.00	8.71	.00	.000	.035	.000	.000	80.30	9713.65
.000584	101.	101.	101.	2	0	0	.00	937.65	10651.30

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

*SECNO 17.370
3280 CROSS SECTION 17.37 EXTENDED 43.56 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 115.20 ELREA= 116.59

17.370	28.07	108.37	.00	.00	109.52	1.16	.11	.00	115.20
205000.0	.0	205000.0	.0	.0	23765.6	.0	1812.5	91.4	116.59
.10	.00	8.63	.00	.000	.035	.000	.000	80.30	9623.88
.000562	195.	195.	195.	1	0	0	.00	933.65	10557.53

*SECNO 17.410
3280 CROSS SECTION 17.41 EXTENDED 43.70 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 115.20 ELREA= 116.65

17.410	28.20	108.50	.00	.00	109.63	1.13	.11	.00	115.20
205000.0	.0	205000.0	.0	.0	24022.9	.0	1922.0	95.7	116.65
.11	.00	8.53	.00	.000	.035	.000	.000	80.30	9505.98
.000542	200.	200.	200.	2	0	0	.00	932.93	10438.91

*SECNO 17.450
3280 CROSS SECTION 17.45 EXTENDED 43.81 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 115.40 ELREA= 118.40

17.450	28.32	108.62	.00	.00	109.74	1.13	.11	.00	115.40
205000.0	.0	205000.0	.0	.0	24063.8	.0	2033.2	100.0	118.40
.12	.00	8.52	.00	.000	.035	.000	.000	80.30	9382.11
.000537	202.	202.	202.	0	0	0	.00	930.22	10312.33

*SECNO 17.490
3280 CROSS SECTION 17.49 EXTENDED 43.84 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 115.90 ELREA= 119.30

17.490	26.54	108.64	.00	.00	109.90	1.26	.12	.04	115.90
205000.0	.0	205000.0	.0	.0	22764.5	.0	2142.5	104.4	119.30
.12	.00	9.01	.00	.000	.035	.000	.000	82.10	9278.32
.000648	203.	203.	203.	2	0	0	.00	934.05	10212.37

1

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

*SECNO 17.520
3280 CROSS SECTION 17.52 EXTENDED 43.85 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 115.70 ELREA= 118.40

```
   17.520     26.25    108.65       .00       .00    110.11      1.46       .15       .06    115.70
 205000.0        .0  205000.0        .0        .0   21122.0        .0    2243.7     108.7    118.40
      .13       .00      9.71       .00      .000      .035      .000      .000     82.40   9225.10
  .000840      201.      201.      201.         2         0         0       .00    939.24  10164.34


*SECNO 17.560
3280 CROSS SECTION     17.56 EXTENDED     43.75 FEET


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       115.90 ELREA=       116.80

   17.560     25.45    108.55       .00       .00    110.45      1.90       .21       .13    115.90
 205000.0        .0  205000.0        .0        .0   18549.3        .0    2334.3     113.0    116.80
      .13       .00     11.05       .00      .000      .035      .000      .000     83.10   9187.64
  .001316      199.      199.      199.         2         0         0       .00    952.34  10139.99


*SECNO 17.600
3280 CROSS SECTION     17.60 EXTENDED     43.97 FEET


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       116.10 ELREA=       116.35

   17.600     25.27    108.77       .00       .00    110.75      1.97       .28       .02    116.10
 205000.0        .0  205000.0        .0        .0   18195.2        .0    2418.9     117.4    116.35
      .14       .00     11.27       .00      .000      .035      .000      .000     83.50   9152.79
  .001437      201.      201.      201.         0         0         0       .00    970.54  10123.33


*SECNO 17.640
3280 CROSS SECTION     17.64 EXTENDED     44.25 FEET


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       116.00 ELREA=       115.78

   17.640     24.94    109.04       .00       .00    111.05      2.01       .30       .01    116.00
 205000.0        .0  205000.0        .0        .0   18007.3        .0    2502.2     122.0    115.78
      .14       .00     11.38       .00      .000      .035      .000      .000     84.10   9114.28
  .001526      200.      200.      200.         0         0         0       .00    991.60  10105.88


1
   02APR97      10:19:46                                                                          PAGE   31


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


*SECNO 17.680
3280 CROSS SECTION     17.68 EXTENDED     29.05 FEET


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=       116.60 ELREA=       116.33

   17.680     25.05    109.35       .00       .00    111.37      2.01       .31       .00    116.60
```

205000.0	.0	205000.0	.0	.0	18008.6	.0	2585.6	126.6	116.33
.15	.00	11.38	.00	.000	.035	.000	.000	84.30	9079.55
.001560	202.	202.	202.	1	0	0	.00	1007.88	10087.43

*SECNO 17.710
3280 CROSS SECTION 17.71 EXTENDED 5.38 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 116.70 ELREA= 117.05

17.710	24.28	109.68	.00	.00	111.68	2.00	.31	.00	116.70
205000.0	.0	205000.0	.0	.0	18083.7	.0	2668.0	131.2	117.05
.15	.00	11.34	.00	.000	.035	.000	.000	85.40	9058.32
.001568	199.	199.	199.	2	0	0	.00	1022.77	10081.09

*SECNO 17.750
3280 CROSS SECTION 17.75 EXTENDED .10 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 116.70 ELREA= 115.22

17.750	24.88	110.10	.00	.00	111.99	1.89	.30	.01	116.70
205000.0	.0	205000.0	.0	.0	18592.3	.0	2751.7	135.9	115.22
.16	.00	11.03	.00	.000	.035	.000	.000	85.22	9032.42
.001461	199.	199.	199.	2	0	0	.00	1040.44	10072.86

*SECNO 17.790

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 116.40 ELREA= 121.25

17.790	24.36	110.46	.00	.00	112.28	1.83	.29	.01	116.40
205000.0	.0	205000.0	.0	.0	18907.4	.0	2838.6	140.8	121.25
.16	.00	10.84	.00	.000	.035	.000	.000	86.10	9025.55
.001397	202.	202.	202.	2	0	0	.00	1050.07	10075.62

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

*SECNO 17.830

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 117.10 ELREA= 127.10

17.830	24.53	110.73	.00	.00	112.57	1.83	.28	.00	117.10
205000.0	.0	205000.0	.0	.0	18866.9	.0	2925.0	145.6	127.10
.17	.00	10.87	.00	.000	.035	.000	.000	86.20	9049.93
.001425	199.	199.	199.	0	0	0	.00	1061.30	10111.23

*SECNO 17.860

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 117.50 ELREA= 127.65

17.860	23.01	111.01	.00	.00	112.86	1.85	.28	.00	117.50
205000.0	.0	205000.0	.0	.0	18804.1	.0	3010.9	150.4	127.65
.17	.00	10.90	.00	.000	.035	.000	.000	88.00	9100.71
.001436	199.	199.	199.	0	0	0	.00	1059.02	10159.73

*SECNO 17.900

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 118.00 ELREA= 128.12

17.900	23.27	111.27	.00	.00	113.17	1.90	.30	.02	118.00
205000.0	.0	205000.0	.0	.0	18551.3	.0	3098.4	155.4	128.12
.18	.00	11.05	.00	.000	.035	.000	.000	88.00	9151.16
.001493	204.	204.	204.	2	0	0	.00	1053.77	10204.93

*SECNO 17.940

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 117.10 ELREA= 117.20

17.940	22.07	111.47	.00	.00	113.52	2.04	.30	.04	117.10
205000.0	.0	205000.0	.0	.0	17867.4	.0	3180.7	160.0	117.20
.18	.00	11.47	.00	.000	.035	.000	.000	89.40	9194.69
.001580	197.	197.	197.	2	0	0	.00	999.92	10194.61

*SECNO 17.980

1

02APR97 10:19:46 PAGE 33

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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 117.60 ELREA= 118.00

17.980	22.35	111.55	.00	.00	113.98	2.43	.35	.12	117.60
205000.0	.0	205000.0	.0	.0	16394.1	.0	3260.1	164.5	118.00
.19	.00	12.50	.00	.000	.035	.000	.000	89.20	9232.44
.001895	202.	202.	202.	2	0	0	.00	919.92	10152.35

*SECNO 18.020

3301 HV CHANGED MORE THAN HVINS

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 118.40 ELREA= 119.00

18.020	21.92	111.62	.00	.00	114.56	2.94	.43	.15	118.40
205000.0	.0	205000.0	.0	.0	14893.1	.0	3332.7	168.6	119.00
.19	.00	13.76	.00	.000	.035	.000	.000	89.70	9258.46
.002409	202.	202.	202.	2	0	0	.00	863.33	10121.79

*SECNO 18.050

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 119.20 ELREA= 119.50

18.050	21.75	111.85	.00	.00	115.19	3.34	.51	.12	119.20
205000.0	.0	205000.0	.0	.0	13987.9	.0	3397.5	172.4	119.50
.20	.00	14.66	.00	.000	.035	.000	.000	90.10	9287.27
.002778	196.	196.	196.	2	0	0	.00	816.92	10104.19

*SECNO 18.090

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 121.00 ELREA= 119.00

18.090	21.65	112.25	.00	.00	115.88	3.63	.60	.09	121.00
205000.0	.0	205000.0	.0	.0	13413.4	.0	3462.7	176.2	119.00
.20	.00	15.28	.00	.000	.035	.000	.000	90.60	9329.99
.003050	207.	207.	207.	2	0	0	.00	789.44	10119.43

1

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

*SECNO 18.120

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 120.40 ELREA= 119.30

18.120	21.88	112.88	.00	.00	116.30	3.42	.40	.02	120.40
205000.0	.0	205000.0	.0	.0	13804.4	.0	3505.6	178.7	119.30
.20	.00	14.85	.00	.000	.035	.000	.000	91.00	9377.95
.002809	137.	137.	137.	2	0	0	.00	800.46	10178.41

*SECNO 18.140

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 121.70 ELREA= 120.00

18.140	22.39	113.59	.00	.00	116.69	3.10	.36	.03	121.70
205000.0	.0	205000.0	.0	.0	14512.9	.0	3549.3	181.3	120.00
.20	.00	14.13	.00	.000	.035	.000	.000	91.20	9412.21
.002544	135.	135.	135.	2	0	0	.00	845.00	10257.21

*SECNO 18.180

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 121.70 ELREA= 121.00

18.180	22.34	114.04	.00	.00	117.10	3.06	.40	.00	121.70
205000.0	.0	205000.0	.0	.0	14609.0	.0	3604.1	184.4	121.00
.21	.00	14.03	.00	.000	.035	.000	.000	91.70	9485.55
.002368	164.	164.	164.	0	0	0	.00	813.18	10298.73

*SECNO 18.190
3280 CROSS SECTION 18.19 EXTENDED .53 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 120.90 ELREA= 92.00

18.190	22.13	114.13	.00	.00	117.28	3.15	.16	.03	120.90
205000.0	.0	202031.4	2968.6	.0	14110.4	367.4	3625.8	185.6	92.00
.21	.00	14.32	8.08	.000	.035	.040	.000	92.00	9502.43
.002451	65.	65.	65.	2	0	0	.00	821.66	10324.10

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

*SECNO 18.210
3280 CROSS SECTION 18.21 EXTENDED 3.76 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 120.90 ELREA= 124.40

18.210	22.27	114.37	.00	.00	117.53	3.16	.24	.00	120.90
205000.0	.0	205000.0	.0	.0	14375.9	.0	3657.7	187.4	124.40
.21	.00	14.26	.00	.000	.035	.000	.000	92.10	9529.46
.002608	96.	96.	96.	0	0	0	.00	843.17	10372.63

*SECNO 18.240

3301 HV CHANGED MORE THAN HVINS

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 120.80 ELREA= 132.30

18.240	23.14	115.64	.00	.00	118.05	2.42	.45	.07	120.80
205000.0	.0	205000.0	.0	.0	16436.4	.0	3728.0	191.6	132.30
.22	.00	12.47	.00	.000	.035	.000	.000	92.50	9576.76
.001988	199.	199.	199.	3	0	0	.00	963.91	10540.68

*SECNO 18.280

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 122.20 ELREA= 133.00

18.280	23.35	116.35	.00	.00	118.40	2.05	.31	.04	122.20
205000.0	.0	205000.0	.0	.0	17843.4	.0	3794.7	195.5	133.00
.22	.00	11.49	.00	.000	.035	.000	.000	93.00	9603.46
.001697	170.	170.	170.	2	0	0	.00	1051.24	10654.71

*SECNO 18.320

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 121.30 ELREA= 133.60

18.320	23.33	116.83	.00	.00	118.78	1.95	.37	.01	121.30
205000.0	.0	205000.0	.0	.0	18270.0	.0	3889.2	201.0	133.60
.23	.00	11.22	.00	.000	.035	.000	.000	93.50	9616.83
.001573	228.	228.	228.	2	0	0	.00	1052.62	10669.46

1

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

*SECNO 18.360

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 123.00 ELREA= 134.12

18.360	23.70	117.20	.00	.00	119.10	1.89	.31	.01	123.00
205000.0	.0	205000.0	.0	.0	18560.9	.0	3974.5	205.9	134.12
.23	.00	11.04	.00	.000	.035	.000	.000	93.50	9613.48
.001494	202.	202.	202.	2	0	0	.00	1053.69	10667.17

*SECNO 18.400

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 122.60 ELREA= 133.00

18.400	22.94	117.44	.00	.00	119.44	1.99	.31	.03	122.60
205000.0	.0	205000.0	.0	.0	18103.1	.0	4058.1	210.7	133.00
.23	.00	11.32	.00	.000	.035	.000	.000	94.50	9596.43
.001618	199.	199.	199.	2	0	0	.00	1052.16	10648.59

*SECNO 18.430

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 123.50 ELREA= 135.14

18.430	22.86	117.76	.00	.00	119.76	2.01	.32	.00	123.50
205000.0	.0	205000.0	.0	.0	18031.0	.0	4140.8	215.5	135.14
.24	.00	11.37	.00	.000	.035	.000	.000	94.90	9570.04
.001634	199.	199.	199.	0	0	0	.00	1050.19	10620.23

*SECNO 18.470

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 121.90 ELREA= 135.60

18.470	22.78	118.08	.00	.00	120.10	2.02	.33	.00	121.90
205000.0	.0	205000.0	.0	.0	17980.3	.0	4225.1	220.4	135.60
.24	.00	11.40	.00	.000	.035	.000	.000	95.30	9535.92
.001647	204.	204.	204.	0	0	0	.00	1049.99	10585.91

*SECNO 18.510

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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 122.80 ELREA= 136.15

18.510	22.81	118.41	.00	.00	120.44	2.03	.33	.00	122.80
205000.0	.0	205000.0	.0	.0	17928.9	.0	4307.0	225.2	136.15
.25	.00	11.43	.00	.000	.035	.000	.000	95.60	9498.80
.001665	199.	199.	199.	0	0	0	.00	1050.72	10549.52

*SECNO 18.550

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 123.00 ELREA= 136.60

18.550	23.01	118.71	.00	.00	120.79	2.08	.34	.01	123.00
205000.0	.0	205000.0	.0	.0	17715.8	.0	4388.5	230.0	136.60
.25	.00	11.57	.00	.000	.035	.000	.000	95.70	9452.54
.001730	199.	199.	199.	2	0	0	.00	1049.68	10502.22

*SECNO 18.580
3280 CROSS SECTION 18.58 EXTENDED 1.84 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 123.30 ELREA= 137.15

18.580	22.33	119.03	.00	.00	121.15	2.12	.35	.01	123.30
205000.0	.0	205000.0	.0	.0	17537.7	.0	4468.5	234.8	137.15
.26	.00	11.69	.00	.000	.035	.000	.000	96.70	9403.97
.001790	198.	198.	198.	1	0	0	.00	1048.80	10452.77

*SECNO 18.620

18.620	21.38	119.38	.00	.00	121.51	2.12	.36	.00	121.00
205000.0	.0	205000.0	.0	.0	17530.5	.0	4548.4	239.6	137.60
.26	.00	11.69	.00	.000	.035	.000	.000	98.00	9344.75
.001803	199.	199.	199.	0	0	0	.00	1054.92	10399.67

*SECNO 18.660

18.660	22.67	119.67	.00	.00	121.91	2.24	.37	.03	123.00
205000.0	.0	205000.0	.0	.0	17076.2	.0	4626.6	244.3	138.19
.27	.00	12.01	.00	.000	.035	.000	.000	97.00	9367.79
.001952	197.	197.	197.	2	0	0	.00	1047.88	10415.66

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

Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
*SECNO 18.700									
18.700	21.01	120.01	.00	.00	122.34	2.33	.40	.03	123.00
205000.0	.0	205000.0	.0	.0	16742.2	.0	4703.8	249.1	138.71
.27	.00	12.24	.00	.000	.035	.000	.000	99.00	9339.98
.002081	199.	199.	199.	2	0	0	.00	1046.92	10386.90
*SECNO 18.740									
18.740	19.12	120.52	.00	.00	122.84	2.32	.50	.00	125.00
205000.0	.0	205000.0	.0	.0	16774.2	.0	4795.4	254.8	127.90
.28	.00	12.22	.00	.000	.035	.000	.000	101.40	10046.95
.002108	238.	238.	238.	2	0	0	.00	1060.90	11107.85
*SECNO 18.770									
18.770	19.20	121.00	.00	.00	123.26	2.25	.41	.01	127.00
205000.0	.0	205000.0	.0	.0	17016.1	.0	4873.0	259.7	128.40
.28	.00	12.05	.00	.000	.035	.000	.000	101.80	10047.35
.002010	200.	200.	200.	2	0	0	.00	1060.46	11107.80
*SECNO 18.790									
18.790	19.07	121.17	.00	.00	123.48	2.31	.20	.02	127.00
205000.0	.0	205000.0	.0	.0	16811.9	.0	4911.8	262.1	128.60
.29	.00	12.19	.00	.000	.035	.000	.000	102.10	10047.37
.002079	100.	100.	100.	2	0	0	.00	1055.33	11102.70
*SECNO 18.810									
18.810	19.08	121.38	.00	.00	123.68	2.30	.21	.00	126.00
205000.0	.0	205000.0	.0	.0	16828.5	.0	4950.4	264.6	128.80
.29	.00	12.18	.00	.000	.035	.000	.000	102.30	10046.46
.002067	100.	100.	100.	0	0	0	.00	1054.25	11100.71
*SECNO 18.850									
18.850	18.90	121.70	.00	.00	124.15	2.45	.43	.04	129.00
205000.0	.0	205000.0	.0	.0	16322.4	.0	5026.5	269.3	129.20
.29	.00	12.56	.00	.000	.035	.000	.000	102.80	10062.40
.002204	200.	200.	200.	2	0	0	.00	1024.11	11086.51

1

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
*SECNO 18.890									
18.890	19.03	122.23	.00	.00	124.59	2.36	.42	.01	130.00
205000.0	.0	205000.0	.0	.0	16643.0	.0	5102.2	274.0	129.60

```
      .30       .00     12.32       .00      .000      .035      .000      .000    103.20  10063.67
   .002037      200.      200.      200.         2         0         0       .00   1011.23  11074.89


*SECNO 18.930
    18.930     18.93    122.63       .00       .00    125.00      2.37       .41       .00    131.00
  205000.0        .0  205000.0        .0        .0   16593.5        .0    5178.5     278.7    130.00
      .30       .00     12.35       .00      .000      .035      .000      .000    103.70  10092.27
   .002068      200.      200.      200.         2         0         0       .00   1015.42  11107.69


*SECNO 18.960
    18.960     18.85    123.05       .00       .00    125.42      2.37       .41       .00    131.00
  205000.0        .0  205000.0        .0        .0   16593.3        .0    5254.7     283.3    130.50
      .31       .00     12.35       .00      .000      .035      .000      .000    104.20  10078.21
   .002066      200.      200.      200.         0         0         0       .00   1014.42  11092.63


*SECNO 19.000
    19.000     18.74    123.44       .00       .00    125.84      2.40       .42       .01    130.00
  205000.0        .0  205000.0        .0        .0   16504.1        .0    5330.7     288.0    130.90
      .31       .00     12.42       .00      .000      .035      .000      .000    104.70  10055.56
   .002102      200.      200.      200.         1         0         0       .00   1014.10  11069.66


*SECNO 19.040
    19.040     18.77    123.87       .00       .00    126.26      2.39       .42       .00    130.00
  205000.0        .0  205000.0        .0        .0   16513.8        .0    5406.5     292.6    131.30
      .31       .00     12.41       .00      .000      .035      .000      .000    105.10  10055.19
   .002099      200.      200.      200.         0         0         0       .00   1014.49  11069.68


*SECNO 19.080
    19.080     18.65    124.25       .00       .00    126.71      2.46       .43       .02    130.00
  205000.0        .0  205000.0        .0        .0   16273.0        .0    5481.7     297.3    131.80
      .32       .00     12.60       .00      .000      .035      .000      .000    105.60  10057.64
   .002182      200.      200.      200.         2         0         0       .00   1006.70  11064.34


1
   02APR97      10:19:46                                                                          PAGE   40


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


*SECNO 19.120
    19.120     18.60    124.70       .00       .00    127.15      2.45       .44       .00    130.00
  205000.0        .0  205000.0        .0        .0   16328.9        .0    5556.6     301.9    132.20
      .32       .00     12.55       .00      .000      .035      .000      .000    106.10  10047.05
   .002171      200.      200.      200.         2         0         0       .00   1011.45  11058.50


*SECNO 19.150
    19.150     18.71    125.21       .00       .00    127.58      2.37       .43       .01    130.00
  205000.0        .0  205000.0        .0        .0   16596.2        .0    5632.2     306.6    132.60
      .33       .00     12.35       .00      .000      .035      .000      .000    106.50  10042.12
```

```
   .002082      200.      200.      200.         2         0         0       .00   1020.71  11062.83


*SECNO 19.190
    19.190     18.68    125.68       .00       .00    128.00      2.32       .41       .01    133.00
  205000.0        .0  205000.0        .0        .0   16782.8        .0    5708.8     311.3    133.00
       .33       .00     12.21       .00      .000      .035      .000      .000    107.00  10032.96
   .002050      200.      200.      200.         2         0         0       .00   1038.09  11071.04


*SECNO 19.230
    19.230     18.56    126.06       .00       .00    128.42      2.36       .41       .01    133.50
  205000.0        .0  205000.0        .0        .0   16625.0        .0    5785.5     316.0    133.50
       .34       .00     12.33       .00      .000      .035      .000      .000    107.50  10046.32
   .002080      200.      200.      200.         2         0         0       .00   1024.37  11070.69


*SECNO 19.280
    19.280     18.37    126.57       .00       .00    129.00      2.43       .56       .02    134.10
  205000.0        .0  205000.0        .0        .0   16390.2        .0    5885.9     322.2    134.10
       .34       .00     12.51       .00      .000      .035      .000      .000    108.20  10047.17
   .002141      265.      265.      265.         2         0         0       .00   1009.65  11056.83


*SECNO 19.300
    19.300     18.36    126.76       .00       .00    129.30      2.54       .26       .03    134.30
  210000.0        .0  210000.0        .0        .0   16416.5        .0    5931.1     325.0    134.30
       .35       .00     12.79       .00      .000      .035      .000      .000    108.40  10033.62
   .002273      120.      120.      120.         2         0         0       .00   1023.19  11056.81


1
   02APR97      10:19:46                                                                          PAGE   41


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


*SECNO 19.340
    19.340     18.36    127.26       .00       .00    129.79      2.54       .49       .00    134.70
  210000.0        .0  210000.0        .0        .0   16432.9        .0    6012.2     330.1    134.70
       .35       .00     12.78       .00      .000      .035      .000      .000    108.90  10033.33
   .002300      215.      215.      215.         2         0         0       .00   1035.34  11068.67


*SECNO 19.380
    19.380     18.31    127.71       .00       .00    130.26      2.55       .46       .00    135.20
  210000.0        .0  210000.0        .0        .0   16389.7        .0    6087.5     334.9    135.20
       .35       .00     12.81       .00      .000      .035      .000      .000    109.40  10033.45
   .002319      200.      200.      200.         0         0         0       .00   1035.09  11068.55


CCHV=      .300 CEHV=      .500
*SECNO 19.384
    19.384     18.43    127.83       .00       .00    130.32      2.49       .04       .02    135.20
  210000.0        .0  210000.0        .0        .0   16588.6        .0    6094.0     335.3    135.20
       .35       .00     12.66       .00      .000      .035      .000      .000    109.40  10032.01
```

.002231	17.	17.	17.	2	0	0	.00	1037.47	11069.49

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.05	1.56	2.60	.00	875.00	73.50	30974.00	2.00	109.70	109.40

*SECNO 19.400
CLASS A LOW FLOW

3420 BRIDGE W.S.= 127.28 BRIDGE VELOCITY= 14.15 CALCULATED CHANNEL AREA= 14708.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	130.98	.76	0.	210000.	30974.	30974.	145.20	152.20	0.

19.400	18.89	128.59	.00	.00	130.98	2.38	.66	.00	135.50
210000.0	.0	210000.0	.0	.0	16953.3	.0	6135.9	337.8	135.50
.36	.00	12.39	.00	.000	.035	.000	.000	109.70	10045.66
.002048	109.	109.	109.	0	0	0	.00	1025.22	11070.88

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

*SECNO 19.430

19.430	18.88	128.88	.00	.00	131.26	2.38	.29	.00	135.70
210000.0	.0	210000.0	.0	.0	16949.3	.0	6190.8	341.2	135.70
.36	.00	12.39	.00	.000	.035	.000	.000	110.00	10045.56
.002050	141.	141.	141.	1	0	0	.00	1025.40	11070.97

*SECNO 19.460

19.460	18.90	129.20	.00	.00	131.56	2.36	.29	.01	136.00
210000.0	.0	210000.0	.0	.0	17050.0	.0	6245.8	344.5	136.00
.36	.00	12.32	.00	.000	.035	.000	.000	110.30	10045.51
.002013	141.	141.	141.	2	0	0	.00	1027.95	11073.46

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.05	1.56	2.60	.00	875.00	80.00	26567.00	2.00	110.70	110.30

*SECNO 19.480
CLASS A LOW FLOW

3420 BRIDGE W.S.= 128.67 BRIDGE VELOCITY= 13.90 CALCULATED CHANNEL AREA= 14934.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	132.23	.74	0.	210000.	26567.	26567.	141.70	148.70	0.

19.480	19.25	129.95	.00	.00	132.23	2.29	.67	.00	136.30
210000.0	.0	210000.0	.0	.0	17309.6	.0	6293.9	347.4	136.30
.37	.00	12.13	.00	.000	.035	.000	.000	110.70	10029.86
.001914	122.	122.	122.	0	0	0	.00	1026.51	11056.37

*SECNO 19.490

19.490	19.29	130.09	.00	.00	132.37	2.28	.13	.00	136.40
210000.0	.0	210000.0	.0	.0	17348.0	.0	6321.8	349.0	136.40
.37	.00	12.11	.00	.000	.035	.000	.000	110.80	10029.75
.001900	70.	70.	70.	0	0	0	.00	1026.68	11056.43

CCHV= .100 CEHV= .300

1

02APR97 10:19:46 PAGE 43

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

*SECNO 19.530

19.530	19.17	130.47	.00	.00	132.76	2.29	.39	.01	136.90
210000.0	.0	210000.0	.0	.0	17284.7	.0	6401.3	353.8	136.90
.37	.00	12.15	.00	.000	.035	.000	.000	111.30	10030.28
.001969	200.	200.	200.	0	0	0	.00	1044.09	11074.36

*SECNO 19.570

19.570	19.21	130.91	.00	.00	133.15	2.24	.39	.00	137.30
210000.0	.0	210000.0	.0	.0	17467.2	.0	6481.1	358.6	137.30
.38	.00	12.02	.00	.000	.035	.000	.000	111.70	10037.25
.001911	200.	200.	200.	2	0	0	.00	1048.71	11085.96

*SECNO 19.610

19.610	19.05	131.25	.00	.00	133.57	2.32	.39	.02	137.70
210000.0	.0	210000.0	.0	.0	17194.9	.0	6560.6	363.4	138.30
.38	.00	12.21	.00	.000	.035	.000	.000	112.20	10030.35
.002002	200.	200.	200.	2	0	0	.00	1042.51	11072.86

*SECNO 19.650

19.650	18.94	131.64	.00	.00	133.98	2.34	.40	.01	138.10
210000.0	.0	210000.0	.0	.0	17124.8	.0	6639.4	368.2	138.70
.39	.00	12.26	.00	.000	.035	.000	.000	112.70	10029.79
.002035	200.	200.	200.	0	0	0	.00	1045.06	11074.85

*SECNO 19.680

19.680	18.84	132.04	.00	.00	134.39	2.35	.41	.01	138.60
210000.0	.0	210000.0	.0	.0	17055.8	.0	6717.9	373.0	139.20

.39	.00	12.31	.00	.000	.035	.000	.000	113.20	10029.67
.002068	200.	200.	200.	0	0	0	.00	1047.04	11076.71

*SECNO 19.720

19.720	18.86	132.46	.00	.00	134.80	2.35	.41	.00	139.00
210000.0	.0	210000.0	.0	.0	17086.5	.0	6796.3	377.8	139.60
.40	.00	12.29	.00	.000	.035	.000	.000	113.60	10030.64
.002058	200.	200.	200.	1	0	0	.00	1048.08	11078.72

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

*SECNO 19.760

19.760	18.76	132.86	.00	.00	135.23	2.37	.42	.01	139.40
210000.0	.0	210000.0	.0	.0	17001.2	.0	6874.5	382.6	140.00
.40	.00	12.35	.00	.000	.035	.000	.000	114.10	10030.60
.002093	200.	200.	200.	1	0	0	.00	1048.13	11078.74

*SECNO 19.800

19.800	18.66	133.26	.00	.00	135.66	2.40	.42	.01	139.80
210000.0	.0	210000.0	.0	.0	16899.1	.0	6952.4	387.4	140.40
.40	.00	12.43	.00	.000	.035	.000	.000	114.60	10029.60
.002110	200.	200.	200.	1	0	0	.00	1042.13	11071.73

*SECNO 19.830

19.830	18.65	133.65	.00	.00	136.09	2.44	.42	.01	140.30
210000.0	.0	210000.0	.0	.0	16760.7	.0	7029.6	392.1	140.90
.41	.00	12.53	.00	.000	.035	.000	.000	115.00	10030.94
.002134	200.	200.	200.	2	0	0	.00	1027.99	11058.93

*SECNO 19.870

19.870	18.56	134.06	.00	.00	136.53	2.47	.43	.01	140.70
210000.0	.0	210000.0	.0	.0	16648.0	.0	7106.3	396.8	141.30
.41	.00	12.61	.00	.000	.035	.000	.000	115.50	10030.89
.002176	200.	200.	200.	1	0	0	.00	1025.33	11056.22

*SECNO 19.910

19.910	18.48	134.48	.00	.00	136.98	2.51	.44	.01	141.00
210000.0	.0	210000.0	.0	.0	16527.7	.0	7182.5	401.6	141.70
.42	.00	12.71	.00	.000	.035	.000	.000	116.00	10030.72
.002223	200.	200.	200.	1	0	0	.00	1023.47	11054.19

*SECNO 19.950

19.950	18.39	134.89	.00	.00	137.45	2.55	.45	.01	141.50
210000.0	.0	210000.0	.0	.0	16376.2	.0	7258.0	406.2	142.10
.42	.00	12.82	.00	.000	.035	.000	.000	116.50	10030.82

.002280	200.	200.	200.	2	0	0	.00	1019.34	11050.16

1

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
*SECNO 19.990									
19.990	18.53	135.43	.00	.00	137.90	2.47	.45	.01	142.00
210000.0	.0	210000.0	.0	.0	16642.4	.0	7333.8	410.9	142.60
.43	.00	12.62	.00	.000	.035	.000	.000	116.90	10033.43
.002187	200.	200.	200.	2	0	0	.00	1031.41	11064.84
*SECNO 20.020									
20.020	18.40	135.80	.00	.00	138.38	2.59	.45	.03	142.40
210000.0	.0	210000.0	.0	.0	16272.8	.0	7409.4	415.6	143.00
.43	.00	12.91	.00	.000	.035	.000	.000	117.40	10032.71
.002287	200.	200.	200.	2	0	0	.00	1006.46	11039.17
*SECNO 20.060									
20.060	18.32	136.22	.00	.00	138.87	2.65	.47	.02	142.80
210000.0	.0	210000.0	.0	.0	16073.5	.0	7483.6	420.2	143.40
.43	.00	13.07	.00	.000	.035	.000	.000	117.90	10030.74
.002379	200.	200.	200.	2	0	0	.00	1004.41	11035.15
*SECNO 20.100									
20.100	18.39	136.69	.00	.00	139.35	2.66	.48	.00	143.20
210000.0	.0	210000.0	.0	.0	16032.6	.0	7557.3	424.8	143.80
.44	.00	13.10	.00	.000	.035	.000	.000	118.30	10030.54
.002378	200.	200.	200.	0	0	0	.00	997.71	11028.25
*SECNO 20.140									
20.140	18.33	137.13	.00	.00	139.85	2.72	.48	.02	143.70
210000.0	.0	210000.0	.0	.0	15867.8	.0	7630.6	429.4	144.30
.44	.00	13.23	.00	.000	.035	.000	.000	118.80	10030.72
.002436	200.	200.	200.	2	0	0	.00	989.76	11020.48
*SECNO 20.180									
20.180	18.28	137.58	.00	.00	140.36	2.78	.49	.02	144.10
210000.0	.0	210000.0	.0	.0	15690.0	.0	7703.0	433.9	144.70
.45	.00	13.38	.00	.000	.035	.000	.000	119.30	10030.57
.002501	200.	200.	200.	2	0	0	.00	981.62	11012.19

1

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

Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
*SECNO 20.210									
20.210	18.24	138.04	.00	.00	140.88	2.84	.51	.02	144.50
210000.0	.0	210000.0	.0	.0	15521.0	.0	7774.7	438.4	145.10
.45	.00	13.53	.00	.000	.035	.000	.000	119.80	10030.38
.002563	200.	200.	200.	2	0	0	.00	972.86	11003.24
*SECNO 20.250									
20.250	18.35	138.55	.00	.00	141.40	2.85	.51	.00	145.00
210000.0	.0	210000.0	.0	.0	15492.6	.0	7845.9	442.9	145.60
.46	.00	13.55	.00	.000	.035	.000	.000	120.20	10030.36
.002549	200.	200.	200.	0	0	0	.00	964.25	10994.61
*SECNO 20.290									
20.290	18.31	139.01	.00	.00	141.94	2.93	.52	.02	145.60
210000.0	.0	210000.0	.0	.0	15300.2	.0	7916.6	447.3	145.60
.46	.00	13.73	.00	.000	.035	.000	.000	120.70	10029.76
.002621	200.	200.	200.	2	0	0	.00	954.31	10984.07
*SECNO 20.330									
20.330	18.30	139.50	.00	.00	142.49	2.99	.53	.02	146.10
210000.0	.0	210000.0	.0	.0	15140.6	.0	7986.4	451.6	146.10
.46	.00	13.87	.00	.000	.035	.000	.000	121.20	10030.80
.002680	200.	200.	200.	2	0	0	.00	945.34	10976.15
*SECNO 20.370									
20.370	18.46	140.06	.00	.00	143.02	2.96	.53	.00	146.60
210000.0	.0	210000.0	.0	.0	15213.7	.0	8056.1	456.0	146.60
.47	.00	13.80	.00	.000	.035	.000	.000	121.60	10033.68
.002607	200.	200.	200.	2	0	0	.00	938.75	10972.43
*SECNO 20.400									
20.400	18.42	140.52	.00	.00	143.58	3.06	.53	.03	147.10
210000.0	.0	210000.0	.0	.0	14949.9	.0	8125.4	460.2	147.10
.47	.00	14.05	.00	.000	.035	.000	.000	122.10	10029.75
.002719	200.	200.	200.	2	0	0	.00	925.38	10955.13

1

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
*SECNO 20.436									
20.436	18.55	141.05	.00	.00	144.08	3.03	.49	.00	147.67
210000.0	.0	210000.0	.0	.0	15036.8	.0	8188.0	464.1	147.67

.48	.00	13.97	.00	.000	.035	.000	.000	122.50	10031.84
.002708	182.	182.	182.	2	0	0	.00	936.31	10968.16

*SECNO 20.441

20.441	18.58	141.11	.00	.00	144.13	3.02	.05	.00	147.70
210000.0	.0	210000.0	.0	.0	15057.2	.0	8194.2	464.5	147.70
.48	.00	13.95	.00	.000	.035	.000	.000	122.53	10031.79
.002696	18.	18.	18.	0	0	0	.00	936.43	10968.21

*SECNO 20.480

20.480	18.84	141.70	.00	.00	144.65	2.96	.52	.01	148.20
210000.0	.0	210000.0	.0	.0	15214.9	.0	8263.7	468.8	148.20
.48	.00	13.80	.00	.000	.035	.000	.000	122.86	10042.81
.002516	200.	200.	200.	2	0	0	.00	911.55	10954.36

1

THIS RUN EXECUTED 02APR97 10:19:53

****
HEC-2 WATER SURFACE PROFILES

Version 4.6.2; May 1991
****

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

100-YEAR FLOW

SUMMARY PRINTOUT

SECNO	CWSEL	ELMIN	VCH	DEPTH	TOPWID	AREA
16.690	105.30	72.00	7.26	33.30	2845.00	34426.51
16.770	105.09	81.60	9.33	23.49	1176.64	21980.29
16.800	105.37	82.10	9.11	23.27	1720.00	22512.41
16.840	105.51	78.30	9.17	27.21	1019.46	22354.95
16.880	105.74	79.00	9.47	26.74	1023.74	21639.87
16.920	105.89	79.30	9.73	26.59	925.70	21925.01
16.960	105.99	78.90	9.68	27.09	921.35	21169.25
16.990	106.12	77.80	9.74	28.32	911.81	21038.13
17.030	106.24	75.70	9.92	30.54	888.81	20665.70

17.070	106.43	76.60	9.86	29.83	912.23	20797.42
17.110	106.53	78.50	10.17	28.03	912.28	20151.25
17.140	106.69	79.80	10.36	26.89	916.69	19783.20
17.180	106.86	78.90	10.52	27.96	905.54	19486.11
17.220	107.04	80.40	10.67	26.64	911.60	19218.62
17.260	107.27	81.20	10.80	26.07	913.72	18986.54
17.280	107.90	80.30	9.23	27.60	916.57	22204.80
17.300	108.00	80.30	9.11	27.70	916.58	22509.97

SECNO	CWSEL	ELMIN	VCH	DEPTH	TOPWID	AREA
17.320	108.08	80.30	9.02	27.78	916.35	22739.04
17.330	108.23	80.30	8.71	27.93	937.65	23530.00
17.370	108.37	80.30	8.63	28.07	933.65	23765.58
17.410	108.50	80.30	8.53	28.20	932.93	24022.92
17.450	108.62	80.30	8.52	28.32	930.22	24063.77
17.490	108.64	82.10	9.01	26.54	934.05	22764.48
17.520	108.65	82.40	9.71	26.25	939.24	21121.98
17.560	108.55	83.10	11.05	25.45	952.34	18549.27
17.600	108.77	83.50	11.27	25.27	970.54	18195.15
17.640	109.04	84.10	11.38	24.94	991.60	18007.26
17.680	109.35	84.30	11.38	25.05	1007.88	18008.59
17.710	109.68	85.40	11.34	24.28	1022.77	18083.74
17.750	110.10	85.22	11.03	24.88	1040.44	18592.35
17.790	110.46	86.10	10.84	24.36	1050.07	18907.45
17.830	110.73	86.20	10.87	24.53	1061.30	18866.93
17.860	111.01	88.00	10.90	23.01	1059.02	18804.11
17.900	111.27	88.00	11.05	23.27	1053.77	18551.32
17.940	111.47	89.40	11.47	22.07	999.92	17867.40
17.980	111.55	89.20	12.50	22.35	919.92	16394.12

18.020	111.62	89.70	13.76	21.92	863.33	14893.10
18.050	111.85	90.10	14.66	21.75	816.92	13987.93
18.090	112.25	90.60	15.28	21.65	789.44	13413.39
18.120	112.88	91.00	14.85	21.88	800.46	13804.41
18.140	113.59	91.20	14.13	22.39	845.00	14512.90
18.180	114.04	91.70	14.03	22.34	813.18	14609.00
18.190	114.13	92.00	14.32	22.13	821.66	14477.82

SECNO	CWSEL	ELMIN	VCH	DEPTH	TOPWID	AREA
18.210	114.37	92.10	14.26	22.27	843.17	14375.86
18.240	115.64	92.50	12.47	23.14	963.91	16436.37
18.280	116.35	93.00	11.49	23.35	1051.24	17843.41
18.320	116.83	93.50	11.22	23.33	1052.62	18270.04
18.360	117.20	93.50	11.04	23.70	1053.69	18560.92
18.400	117.44	94.50	11.32	22.94	1052.16	18103.12
18.430	117.76	94.90	11.37	22.86	1050.19	18030.95
18.470	118.08	95.30	11.40	22.78	1049.99	17980.25
18.510	118.41	95.60	11.43	22.81	1050.72	17928.91
18.550	118.71	95.70	11.57	23.01	1049.68	17715.75
18.580	119.03	96.70	11.69	22.33	1048.80	17537.73
18.620	119.38	98.00	11.69	21.38	1054.92	17530.51
18.660	119.67	97.00	12.01	22.67	1047.88	17076.17
18.700	120.01	99.00	12.24	21.01	1046.92	16742.19
18.740	120.52	101.40	12.22	19.12	1060.90	16774.19
18.770	121.00	101.80	12.05	19.20	1060.46	17016.07
18.790	121.17	102.10	12.19	19.07	1055.33	16811.88
18.810	121.38	102.30	12.18	19.08	1054.25	16828.47
18.850	121.70	102.80	12.56	18.90	1024.11	16322.37
18.890	122.23	103.20	12.32	19.03	1011.23	16643.04

18.930	122.63	103.70	12.35	18.93	1015.42	16593.50
18.960	123.05	104.20	12.35	18.85	1014.42	16593.29
19.000	123.44	104.70	12.42	18.74	1014.10	16504.13
19.040	123.87	105.10	12.41	18.77	1014.49	16513.84
19.080	124.25	105.60	12.60	18.65	1006.70	16273.01
19.120	124.70	106.10	12.55	18.60	1011.45	16328.85

1

SECNO	CWSEL	ELMIN	VCH	DEPTH	TOPWID	AREA
19.150	125.21	106.50	12.35	18.71	1020.71	16596.18
19.190	125.68	107.00	12.21	18.68	1038.09	16782.79
19.230	126.06	107.50	12.33	18.56	1024.37	16624.98
19.280	126.57	108.20	12.51	18.37	1009.65	16390.25
19.300	126.76	108.40	12.79	18.36	1023.19	16416.55
19.340	127.26	108.90	12.78	18.36	1035.34	16432.86
19.380	127.71	109.40	12.81	18.31	1035.09	16389.72
19.384	127.83	109.40	12.66	18.43	1037.47	16588.61
19.400	128.59	109.70	12.39	18.89	1025.22	16953.29
19.430	128.88	110.00	12.39	18.88	1025.40	16949.33
19.460	129.20	110.30	12.32	18.90	1027.95	17049.99
19.480	129.95	110.70	12.13	19.25	1026.51	17309.63
19.490	130.09	110.80	12.11	19.29	1026.68	17348.04
19.530	130.47	111.30	12.15	19.17	1044.09	17284.68
19.570	130.91	111.70	12.02	19.21	1048.71	17467.21
19.610	131.25	112.20	12.21	19.05	1042.51	17194.93
19.650	131.64	112.70	12.26	18.94	1045.06	17124.83
19.680	132.04	113.20	12.31	18.84	1047.04	17055.83
19.720	132.46	113.60	12.29	18.86	1048.08	17086.49
19.760	132.86	114.10	12.35	18.76	1048.13	17001.25
19.800	133.26	114.60	12.43	18.66	1042.13	16899.13

19.830	133.65	115.00	12.53	18.65	1027.99	16760.75
19.870	134.06	115.50	12.61	18.56	1025.33	16648.05
19.910	134.48	116.00	12.71	18.48	1023.47	16527.71
19.950	134.89	116.50	12.82	18.39	1019.34	16376.22
19.990	135.43	116.90	12.62	18.53	1031.41	16642.44

1

SECNO	CWSEL	ELMIN	VCH	DEPTH	TOPWID	AREA
20.020	135.80	117.40	12.91	18.40	1006.46	16272.76
20.060	136.22	117.90	13.07	18.32	1004.41	16073.46
20.100	136.69	118.30	13.10	18.39	997.71	16032.63
20.140	137.13	118.80	13.23	18.33	989.76	15867.78
20.180	137.58	119.30	13.38	18.28	981.62	15690.03
20.210	138.04	119.80	13.53	18.24	972.86	15520.96
20.250	138.55	120.20	13.55	18.35	964.25	15492.63
20.290	139.01	120.70	13.73	18.31	954.31	15300.23
20.330	139.50	121.20	13.87	18.30	945.34	15140.56
20.370	140.06	121.60	13.80	18.46	938.75	15213.72
20.400	140.52	122.10	14.05	18.42	925.38	14949.85
20.436	141.05	122.50	13.97	18.55	936.31	15036.75
20.441	141.11	122.53	13.95	18.58	936.43	15057.19
20.480	141.70	122.86	13.80	18.84	911.55	15214.88

1

SUMMARY OF ERRORS AND SPECIAL NOTES

```
1*****************************************
 *  HEC-2 WATER SURFACE PROFILES          *
 *                                        *
 *  Version   4.6.2;  May 1991            *
 *                                        *
 *  RUN DATE    04APR97    TIME   08:46:52 *
 *****************************************
```

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

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

1

04APR97 08:46:52 PAGE 1

THIS RUN EXECUTED 04APR97 08:46:52

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

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

```
THIS IS AN ARCHIVAL RUN ALL DATA AND RESULTS ARE SAVED ON UNIT   96

AC
AC      SPF-BS.DAT  BASE case with a combination of 1/2:1 and 1:1 slopes
AC                  SPF event
AC      STRATING WATER SURFACE FROM FEMA MAP
AC
AC      Proposed Conditions for the airport new alignment(second option)
AC      Changed the grade control from 1094.6 to 1092.0
AC
AC
AC      Invert elevation has been changed from section 18.02-18.4
AC
AC      WITH MINING RUN (5.7' DEEP PLAN, CALMAT PARCEL, SECTIONS 17.28 - 17.56)
AC
AC
AC      INEFFECTIVE FLOW AREAS WITHIN A CROSS-SECTION WERE REMOVED TO FACILITATE
AC      THE QUASED CALCULATIONS AND LIMIT THE HYDRAULIC CALCULATIONS TO THE
AC      EFFECTIVE AREAS OF THE CHANNEL.
AC
T1      SIMONS, LI & ASSOCIATES, INC.
T2      SALT RIVER - 24TH STR. TO PRIEST DRIVE
T3      SPF FLOW
```

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
		2							110.7	

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

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

	38	1	42	26	8	4	25

NC	.0400	.04000	.03300	.10000	.30000					
QT	1	287720								
X1	16.690	20	9470.0	10520.0	460.0	330.0	400.0			
X3	10.							.00	.00	
GR	102.0	8400.0	100.00	8790.0	104.00	8815.0	100.00	8870.0	95.00	9010.0
GR	100.0	9100.0	100.00	9385.0	104.00	9410.0	104.00	9470.0	84.00	9560.0
GR	80.6	10000.0	84.00	10450.0	104.00	10520.0	104.00	10570.0	100.00	10595.0
GR	96.0	11050.0	72.00	11085.0	72.00	11125.0	100.00	11175.0	104.00	11245.0

1

NC	.0400	.04000	.03300							
X1	16.770	9	9210.0	10400.0	500.0	380.0	400.0			
X3	10.							.00	.00	
GR	98.9	9210.0	96.00	9400.0	84.00	9445.0	81.60	10000.0	84.00	10290.0
GR	108.0	10400.0	100.00	10450.0	100.00	10850.0	104.00	10970.0		
X1	16.800	9	9240.0	10960.0	235.0	280.0	200.0			
X3	10.							.00	.00	
GR	98.9	9240.0	96.00	9365.0	84.00	9410.0	82.10	10000.0	84.00	10230.0
GR	104.0	10325.0	104.00	10380.0	102.00	10510.0	104.00	10960.0		
NC				.30000	.50000					
X1	16.840	96	9203.0	10305.5	160.0	160.0	160.0			
GR	122.7	8944.7	122.60	8965.3	122.60	8988.0	122.70	9010.5	122.90	9029.2
GR	123.2	9050.9	123.30	9078.8	123.20	9108.4	122.80	9134.0	123.40	9161.8
GR	123.2	9174.2	122.80	9180.7	122.90	9189.5	122.70	9194.4	122.40	9200.4
GR	122.0	9203.0	119.10	9209.1	114.90	9219.0	109.30	9230.1	107.10	9237.6
GR	99.7	9250.0	98.90	9252.2	99.20	9271.4	99.00	9313.0	91.80	9331.1
GR	83.0	9361.5	82.70	9399.8	83.10	9408.1	82.10	9421.4	82.50	9443.6
GR	83.0	9461.3	83.20	9474.7	81.70	9482.8	80.60	9500.0	79.50	9520.5
GR	79.6	9533.8	79.50	9547.1	79.20	9557.7	79.20	9583.9	80.20	9598.8
GR	81.0	9613.3	80.20	9621.5	79.50	9634.6	79.10	9649.7	79.60	9662.8
GR	80.1	9679.4	80.60	9690.7	81.40	9710.8	81.70	9719.3	83.00	9737.3
GR	82.9	9764.4	82.60	9784.8	82.20	9816.5	81.50	9840.7	81.30	9861.8
GR	81.5	9875.8	82.70	9891.8	83.40	9906.2	82.50	9910.9	82.10	9919.3
GR	79.0	9929.6	78.50	9945.2	78.60	9960.1	78.30	9974.8	78.70	9989.0
GR	78.7	10000.0	78.60	10014.9	79.10	10024.6	80.10	10033.0	79.20	10045.0
GR	78.6	10058.7	78.60	10078.5	79.00	10097.2	78.90	10114.0	78.40	10130.0
GR	79.2	10145.5	80.00	10158.5	81.80	10168.3	83.30	10181.0	87.40	10196.0
GR	94.7	10212.3	98.30	10226.1	97.90	10238.4	98.70	10246.0	103.40	10256.0
GR	109.8	10267.3	114.30	10274.9	115.80	10286.0	117.80	10293.0	121.60	10305.5
GR	121.9	10325.2	121.70	10366.1	121.00	10392.0	121.40	10418.0	121.00	10446.0
GR	120.7	10456.4								

SB	1.050	1.00	2.60	.00	713.50	70.00	28037.70	3.000	79.00	78.30
X1	16.880	89	9213.0	10320.7	225.4	225.4	225.4			
X2	0.	.00	1.	116.14	123.72	.00		.000		.000
GR	123.0	8956.0	123.00	8986.9	123.20	9022.6	123.20	9052.0	123.20	9083.9
GR	123.2	9118.7	123.30	9146.4	123.30	9173.5	122.80	9195.1	122.60	9206.9
GR	122.6	9213.0	119.40	9226.8	115.80	9233.9	109.10	9246.5	102.40	9260.1
GR	100.3	9268.6	100.30	9287.7	100.10	9307.0	99.50	9321.4	97.70	9333.2
GR	94.2	9346.2	89.70	9357.3	86.60	9370.3	84.30	9376.8	83.30	9381.0
GR	83.0	9413.7	83.50	9422.4	83.80	9437.9	83.70	9452.0	83.80	9462.5
GR	84.2	9471.1	83.20	9477.8	81.90	9485.4	81.80	9504.0	81.70	9517.5
GR	81.5	9538.9	81.40	9561.8	80.80	9582.7	81.00	9603.2	81.20	9626.7
GR	81.3	9649.3	82.10	9669.4	81.90	9691.1	81.90	9712.9	82.30	9732.0
GR	82.1	9755.8	82.20	9780.1	82.20	9805.8	82.40	9828.3	82.10	9848.5
GR	82.0	9866.2	81.80	9892.4	81.20	9914.0	80.90	9939.6	80.30	9962.9
GR	79.3	9976.3	79.00	9988.5	79.20	10000.0	79.40	10030.5	79.40	10050.3
GR	79.9	10070.0	80.20	10093.5	80.20	10118.1	80.50	10137.2	81.10	10149.2
GR	81.5	10162.9	81.50	10173.1	84.40	10183.9	86.70	10194.4	90.40	10206.7
GR	94.6	10219.6	98.10	10232.0	98.50	10239.1	98.60	10251.9	98.20	10265.3
GR	102.3	10271.1	108.40	10281.7	113.90	10290.6	114.70	10298.5	114.80	10303.5

GR	116.5	10307.4	121.00	10316.7	122.00	10320.7	122.10	10335.2	122.40	10358.5
GR	122.8	10383.7	122.80	10414.9	122.90	10451.9	123.20	10479.2		
X1	16.920	63	9559.3	10315.7	206.9	206.9	206.9			
X3	10.							.00	.00	
GR	82.5	9390.0	82.50	9396.3	82.60	9474.0	84.20	9477.7	86.20	9484.1
GR	84.8	9489.6	84.40	9496.1	85.20	9503.0	84.80	9513.3	84.30	9523.9
GR	84.0	9533.7	82.80	9543.5	83.70	9549.9	84.00	9559.3	83.80	9565.2
GR	81.9	9572.0	81.70	9582.5	82.20	9594.9	81.60	9608.3	81.30	9630.4
GR	81.1	9656.5	81.10	9680.1	81.20	9701.0	81.50	9727.4	81.90	9745.9
GR	81.5	9764.4	81.30	9789.2	81.80	9816.2	81.60	9839.4	81.40	9862.7
GR	81.0	9888.9	80.90	9917.3	80.90	9937.8	80.90	9951.7	80.70	9970.3
GR	80.4	9988.0	80.30	10000.0	79.90	10018.1	79.40	10031.0	79.40	10038.0
GR	79.5	10055.0	79.50	10060.3	79.30	10066.1	80.10	10070.0	80.00	10078.0
GR	79.8	10092.1	80.00	10112.8	80.50	10131.2	81.30	10148.0	80.90	10164.0
GR	80.7	10183.6	81.00	10201.5	81.40	10214.9	81.80	10225.0	82.10	10240.0
GR	82.1	10248.1	84.70	10254.5	86.80	10265.6	90.00	10278.0	93.00	10289.0
GR	94.9	10298.6	97.80	10309.5	98.60	10315.7				
NC				.10000	.30000					
X1	16.960	83	9462.5	10403.3	203.3	203.3	203.3			
X3	10.							.00	.00	
GR	106.1	9158.9	105.90	9180.5	105.10	9205.5	104.70	9231.6	104.50	9255.9
GR	104.5	9273.1	104.50	9293.7	104.60	9310.8	105.60	9322.7	105.70	9327.5
GR	103.7	9335.0	101.60	9341.0	101.90	9353.6	102.60	9368.4	104.20	9383.5
GR	106.4	9396.3	108.70	9407.6	110.10	9415.7	109.90	9428.0	110.00	9445.8
GR	110.0	9459.1	110.00	9462.5	107.60	9476.0	103.40	9491.5	97.70	9508.2
GR	91.8	9523.0	87.90	9535.4	84.90	9545.9	84.00	9553.2	83.30	9555.3
GR	82.8	9559.0	82.90	9590.2	84.30	9594.8	85.30	9601.8	84.30	9609.7
GR	84.7	9620.9	84.30	9630.6	83.60	9635.8	83.20	9643.7	82.80	9656.8
GR	82.2	9677.9	81.90	9712.9	81.10	9743.2	81.10	9764.5	81.70	9785.4
GR	81.9	9834.5	81.40	9859.7	81.00	9887.0	80.60	9914.4	80.40	9939.9
GR	80.3	9967.5	81.00	9989.8	80.60	10000.0	80.50	10020.9	81.40	10037.0
GR	81.2	10057.0	80.70	10077.5	79.90	10088.5	79.70	10100.0	80.40	10110.0
GR	80.1	10120.1	80.00	10130.9	79.20	10139.5	78.90	10152.8	79.20	10161.0
GR	81.3	10168.8	80.20	10173.0	80.80	10179.1	80.70	10197.8	81.00	10201.0

GR	80.3	10208.3	80.80	10249.2	81.50	10265.2	81.70	10293.0	81.90	10319.0
GR	81.4	10332.0	81.70	10338.7	85.80	10352.9	88.20	10360.0	89.10	10369.0
GR	92.2	10377.4	96.10	10391.3	99.40	10403.3				
X1	16.990	82	9547.0	10474.1	201.7	201.7	201.7			
X3	10.							.00	.00	
GR	100.5	9394.5	150.50	9394.5	100.50	9394.5	100.60	9417.2	100.50	9435.1
GR	100.4	9452.3	99.80	9463.3	100.50	9475.5	101.50	9483.4	104.90	9494.6
GR	108.1	9506.4	110.20	9514.2	110.20	9527.6	109.90	9540.4	109.90	9547.0
GR	109.1	9553.4	106.60	9561.0	103.50	9569.5	99.80	9578.4	94.60	9591.1
GR	89.7	9605.9	85.50	9617.4	83.80	9623.3	82.70	9627.2	83.30	9653.5
GR	84.3	9661.3	83.10	9667.9	84.90	9676.9	87.00	9689.3	86.10	9697.5
GR	83.9	9704.8	83.30	9717.9	83.40	9723.9	82.30	9738.9	82.60	9758.6
GR	82.1	9782.8	81.50	9803.2	81.30	9823.1	81.10	9850.3	81.60	9871.8
GR	81.2	9898.3	80.50	9921.7	80.10	9944.7	80.20	9963.6	80.40	9986.1
GR	80.3	10000.0	80.50	10030.2	81.20	10052.0	81.60	10066.4	83.80	10086.4
GR	85.3	10102.7	85.70	10114.6	85.50	10125.2	84.80	10128.2	79.10	10134.4
GR	78.9	10141.9	78.20	10157.7	77.90	10175.5	77.80	10233.5	78.40	10256.8

1

GR	79.7	10281.0	81.00	10302.0	81.60	10310.4	80.60	10316.8	81.50	10327.2
GR	82.0	10333.0	82.70	10335.0	81.60	10338.4	82.40	10348.1	82.90	10362.5
GR	84.4	10368.0	83.30	10371.0	85.10	10380.4	85.90	10395.7	86.00	10407.8
GR	85.3	10418.0	85.00	10423.0	86.20	10430.8	90.00	10442.6	94.50	10455.1
GR	99.1	10466.0	100.70	10474.1						
NC			.03500							
X1	17.030	75	9611.5	10511.6	193.6	193.6	193.6			
X3	10.							.00	.00	
GR	99.9	9493.4	149.90	9493.4	99.90	9493.4	100.10	9516.0	100.10	9532.3
GR	100.5	9542.4	101.80	9548.0	104.60	9560.1	108.80	9574.6	110.90	9581.2
GR	110.6	9585.7	110.70	9595.1	110.80	9604.0	110.70	9611.5	105.60	9624.4
GR	98.7	9641.5	91.40	9660.6	85.50	9677.8	82.80	9685.6	83.00	9705.4
GR	84.7	9710.5	85.10	9718.2	84.10	9725.6	85.20	9732.3	84.10	9737.8
GR	83.2	9745.4	83.10	9753.5	82.90	9763.8	82.80	9771.8	82.30	9775.0
GR	82.9	9789.1	82.80	9804.8	82.60	9828.0	82.00	9850.8	81.20	9876.5
GR	81.1	9894.9	81.00	9918.7	80.30	9949.6	80.00	9977.6	79.60	9999.4
GR	79.6	10000.0	79.60	10023.9	80.20	10047.9	80.80	10067.2	81.50	10083.2
GR	83.9	10102.4	85.20	10120.0	85.80	10144.9	86.20	10163.1	86.30	10177.1
GR	86.9	10190.3	86.60	10203.9	86.00	10214.7	83.80	10224.4	80.30	10237.5
GR	78.6	10254.3	77.10	10267.7	76.50	10282.3	76.00	10319.0	75.70	10331.5
GR	76.0	10339.3	77.10	10349.0	79.00	10359.6	80.70	10368.9	82.10	10377.2
GR	82.7	10388.1	83.00	10402.0	82.60	10414.5	82.70	10442.7	83.10	10456.5
GR	85.2	10470.0	87.70	10485.0	91.30	10497.9	95.10	10505.8	97.90	10511.6
X1	17.070	64	9663.8	10598.0	202.5	202.5	202.5			
X3	10.							.00	.00	
GR	107.8	9349.5	107.50	9399.4	107.10	9446.9	107.10	9498.5	107.10	9539.2
GR	107.5	9573.1	107.80	9604.0	108.20	9617.9	108.80	9622.4	110.90	9631.5
GR	111.4	9635.1	111.20	9652.5	111.20	9663.8	103.70	9682.2	99.30	9693.8
GR	98.6	9697.2	90.50	9720.0	84.20	9738.6	82.60	9744.7	82.60	9753.4
GR	83.0	9765.3	83.20	9775.3	83.80	9785.2	83.80	9798.5	84.00	9820.0
GR	83.8	9844.7	82.90	9869.5	82.00	9894.8	81.10	9918.8	80.50	9938.3
GR	80.2	9958.6	79.50	9982.0	79.80	9997.0	79.70	10000.0	79.50	10030.8
GR	80.1	10054.3	80.70	10075.4	81.30	10097.0	83.70	10112.1	83.70	10128.7
GR	85.4	10157.5	86.10	10183.5	87.20	10209.0	87.60	10231.5	87.60	10254.9
GR	86.6	10262.3	86.50	10271.3	85.30	10285.9	81.90	10306.7	79.00	10321.5
GR	78.1	10332.5	77.60	10341.6	77.10	10354.1	76.90	10368.2	77.10	10384.6

GR	77.3	10398.9	77.30	10405.8	76.60	10408.5	77.50	10413.1	78.90	10421.3
GR	80.8	10429.6	81.56	10433.5	81.56	10538.0	111.56	10598.0		
X1	17.110	69	9703.5	10641.9	196.2	196.2	196.2			
X3	10.							.00	.00	
GR	107.9	9393.8	108.20	9424.7	108.30	9462.3	107.70	9492.8	107.20	9523.9
GR	106.8	9551.9	106.80	9587.2	106.90	9618.3	107.30	9641.6	107.40	9654.8
GR	108.0	9658.5	111.20	9668.2	111.80	9673.4	111.60	9683.7	111.40	9695.4
GR	111.3	9703.5	103.60	9725.1	99.50	9736.3	99.40	9739.2	90.70	9762.2
GR	84.6	9780.2	83.80	9783.5	83.90	9799.7	83.90	9822.2	84.20	9846.0
GR	83.8	9864.6	83.20	9878.9	82.30	9890.2	81.40	9905.2	81.50	9921.4
GR	80.5	9941.6	80.10	9961.9	80.00	9984.3	79.90	10000.0	80.00	10030.3
GR	80.8	10059.9	80.80	10086.1	81.50	10099.3	82.50	10116.4	84.10	10134.1
GR	84.4	10153.2	85.20	10179.9	86.40	10213.4	87.80	10242.0	88.50	10273.5
GR	88.1	10291.1	87.70	10303.4	86.50	10326.5	84.30	10344.9	81.00	10364.4
GR	79.7	10376.7	79.60	10389.6	79.50	10406.5	79.50	10420.2	79.20	10428.7

GR	78.9	10436.8	79.00	10445.0	78.60	10454.0	78.50	10458.1	79.30	10462.9
GR	80.9	10470.3	83.40	10483.2	84.30	10496.3	84.20	10508.3	83.40	10526.5
GR	83.3	10547.2	83.10	10565.7	82.91	10581.9	112.91	10641.9		
X1	17.140	67	9737.5	10679.5	203.5	203.5	203.5			
X3	10.							.00	.00	
GR	97.4	9432.6	104.40	9464.7	109.10	9489.2	109.20	9513.7	108.40	9527.6
GR	108.7	9550.1	108.60	9576.7	108.50	9601.3	108.70	9629.5	108.10	9649.7
GR	106.9	9662.1	106.70	9675.4	107.30	9685.5	108.50	9693.1	112.40	9705.4
GR	112.4	9717.6	112.10	9724.3	112.20	9737.5	105.30	9754.4	100.50	9770.1
GR	100.4	9772.7	98.00	9781.7	89.90	9802.9	85.10	9817.5	84.40	9822.4
GR	84.6	9834.3	84.10	9849.4	83.70	9870.2	82.80	9891.6	82.60	9911.5
GR	82.5	9934.6	81.90	9957.4	80.90	9977.8	79.90	9996.2	79.80	10000.0
GR	80.1	10027.8	80.90	10055.2	81.50	10086.4	82.50	10114.7	83.40	10145.6
GR	84.8	10170.2	86.10	10203.3	87.10	10230.5	88.80	10257.8	89.30	10282.6
GR	89.4	10308.5	89.60	10334.2	89.40	10350.4	88.90	10365.9	88.10	10371.4
GR	84.5	10378.9	82.70	10389.5	80.80	10410.9	80.10	10428.0	79.80	10444.3
GR	80.3	10463.8	80.60	10484.1	80.80	10504.5	82.20	10520.4	83.90	10529.1
GR	83.7	10538.7	83.20	10545.9	83.20	10556.9	82.90	10576.4	82.70	10604.1
GR	82.6	10619.5	112.60	10679.5						
X1	17.180	54	9768.6	10702.4	198.7	198.7	198.7			
X3	10.							.00	.00	
GR	64.8	9473.2	64.80	9555.3	69.90	9565.8	72.90	9574.9	77.10	9584.9
GR	78.4	9588.0	78.60	9600.1	79.40	9604.0	81.30	9615.8	82.40	9620.3
GR	89.6	9641.6	103.60	9675.8	112.90	9699.8	112.60	9719.0	113.10	9741.8
GR	113.0	9768.6	102.40	9797.9	101.80	9800.3	86.70	9838.3	86.30	9853.6
GR	84.4	9855.8	83.60	9880.9	81.80	9918.7	81.20	9947.5	81.70	9980.9
GR	80.0	10000.0	80.70	10048.7	82.50	10107.9	84.30	10150.2	83.70	10166.5
GR	85.5	10200.0	86.80	10254.3	88.80	10313.2	89.30	10347.0	88.50	10365.8
GR	87.6	10369.6	87.90	10374.7	88.50	10389.8	87.50	10404.5	82.60	10433.1
GR	80.0	10459.0	79.70	10473.6	78.90	10483.2	80.40	10497.0	84.10	10512.0
GR	86.5	10521.5	87.30	10541.7	85.80	10551.7	83.10	10568.4	83.20	10588.2
GR	83.0	10614.4	82.50	10639.8	82.50	10642.4	112.50	10702.4		
X1	17.220	53	9783.7	10721.7	202.6	202.6	202.6			
X3	10.							.00	.00	
GR	64.8	9493.5	64.80	9595.4	80.40	9623.1	79.60	9641.6	80.40	9644.0
GR	81.4	9648.5	82.60	9652.8	83.00	9657.8	94.90	9696.5	113.30	9748.6
GR	113.8	9758.2	113.80	9774.1	113.80	9783.7	102.40	9807.8	102.20	9810.5

GR	93.0	9832.1	86.50	9846.0	86.40	9859.3	85.80	9862.3	85.40	9876.5
GR	82.8	9904.4	80.70	9939.0	81.90	9963.3	82.90	9980.1	81.30	9994.3
GR	80.6	10000.0	80.40	10010.4	81.40	10042.9	82.10	10081.3	82.80	10118.9
GR	85.1	10163.5	86.60	10201.5	86.40	10221.8	88.00	10248.0	88.80	10293.1
GR	89.5	10350.3	89.00	10400.4	87.40	10428.5	83.70	10473.6	82.00	10501.7
GR	84.2	10518.6	83.90	10534.2	85.20	10542.2	84.30	10548.4	85.90	10559.3
GR	86.1	10570.2	84.50	10581.3	83.50	10593.9	81.90	10606.8	82.70	10637.8
GR	83.1	10658.5	83.10	10661.7	113.10	10721.7				

X1	17.260	50	9781.0	10719.9	233.0	233.0	233.0			
X3	10.							.00	.00	
GR	64.8	9487.5	64.80	9597.3	81.50	9625.9	81.30	9637.4	82.60	9641.8
GR	82.6	9644.1	83.70	9648.3	83.40	9651.4	85.70	9665.1	89.60	9679.8
GR	98.2	9703.5	114.10	9747.7	114.20	9752.6	114.50	9770.4	114.20	9781.0
GR	104.1	9800.2	103.70	9803.0	88.40	9832.5	87.70	9838.8	87.90	9846.8
GR	87.1	9848.9	84.00	9872.8	83.50	9896.6	81.80	9934.6	81.70	9955.2
GR	82.6	9984.7	81.20	10000.0	82.00	10035.1	82.40	10068.4	84.20	10150.7
GR	85.6	10170.9	86.50	10183.5	87.20	10206.4	87.90	10254.3	88.10	10294.4
GR	88.5	10332.2	89.00	10377.1	89.10	10412.7	87.70	10465.2	85.90	10523.6
GR	86.6	10546.9	86.60	10556.0	84.60	10570.7	86.10	10582.8	84.30	10594.5
GR	84.3	10608.2	82.90	10622.2	83.70	10641.1	83.30	10659.9	113.30	10719.9

X1	17.280	48	9769.2	10712.1	103.2	103.2	103.2			
X3	10.							.00	.00	
GR	64.8	9470.9	64.80	9583.5	81.60	9610.9	81.50	9626.5	82.10	9629.7
GR	82.0	9634.3	83.10	9639.5	85.40	9650.5	94.90	9678.6	110.10	9725.2
GR	114.9	9738.7	114.70	9755.3	114.70	9769.2	104.50	9788.3	104.30	9790.9
GR	89.1	9820.4	88.50	9830.1	88.40	9836.3	86.80	9840.8	82.80	9868.3
GR	81.6	9894.9	81.30	9904.3	82.10	9913.3	81.30	9923.6	82.30	9945.1
GR	82.3	9986.1	81.70	10000.0	82.40	10040.2	82.60	10055.7	83.20	10080.9
GR	83.9	10119.0	85.20	10160.2	86.50	10202.6	86.62	10206.4	80.30	10219.0
GR	80.3	10237.3	80.30	10269.8	80.30	10309.8	80.30	10354.0	80.30	10404.9
GR	80.3	10449.8	80.30	10524.4	80.30	10571.0	85.35	10581.1	85.40	10581.2
GR	84.7	10631.7	84.70	10652.1	114.70	10712.1				

X1	17.300	45	9753.3	10695.6	86.3	86.3	86.3			
X3	10.							.00	.00	
GR	64.8	9446.2	64.80	9564.8	73.60	9579.7	82.00	9594.8	81.90	9609.6
GR	82.7	9617.8	84.60	9626.6	87.30	9638.0	100.20	9677.0	115.10	9721.5
GR	114.9	9740.4	114.60	9753.3	104.60	9772.8	103.90	9776.3	88.50	9805.6
GR	88.3	9819.9	87.10	9825.2	84.20	9837.0	82.50	9857.8	82.40	9875.2
GR	82.5	9890.6	84.50	9904.6	84.30	9911.9	83.00	9924.3	83.20	9937.7
GR	82.8	9956.7	82.70	9978.7	82.10	10000.0	83.00	10044.4	82.80	10070.5
GR	84.6	10128.8	83.55	10131.0	80.30	10137.5	80.30	10189.8	80.30	10265.0
GR	80.3	10334.1	80.30	10400.0	80.30	10470.9	80.30	10523.7	80.30	10554.5
GR	85.9	10565.6	85.00	10588.2	84.40	10635.1	84.40	10635.6	114.40	10695.6

X1	17.320	45	9734.7	10676.9	77.1	77.1	77.1			
X3	10.							.00	.00	
GR	64.8	9429.9	64.80	9552.4	68.60	9556.2	78.60	9575.5	82.40	9580.2
GR	82.6	9593.1	83.20	9598.2	84.80	9603.4	85.50	9611.2	91.50	9627.8
GR	106.9	9673.9	114.70	9703.2	114.80	9722.0	114.70	9734.7	105.20	9754.2
GR	104.7	9757.8	88.80	9785.8	88.10	9797.3	87.50	9799.5	85.00	9803.3
GR	83.3	9818.2	82.90	9858.7	82.30	9879.0	84.40	9891.7	84.20	9913.4
GR	84.4	9922.8	84.30	9929.5	83.30	9951.1	82.40	9971.0	82.60	10000.0
GR	82.9	10038.0	83.14	10052.8	80.30	10058.5	80.30	10111.4	80.30	10186.9

GR	80.3	10254.0	80.30	10312.9	80.30	10377.1	80.30	10459.6	80.30	10532.0
GR	80.3	10535.5	86.67	10548.2	84.70	10591.9	84.20	10616.9	114.20	10676.9

1

X1	17.330	43	9701.2	10668.3	101.2	101.2	101.2			
X3	10.							.00	.00	
GR	64.8	9386.0	64.80	9513.2	78.00	9531.9	83.20	9538.5	82.60	9556.4
GR	83.4	9564.0	84.90	9570.6	86.90	9581.0	101.60	9621.9	115.00	9664.3
GR	114.9	9684.9	114.80	9701.2	105.30	9719.2	104.90	9721.2	89.80	9748.6
GR	88.9	9762.3	87.90	9764.4	84.60	9767.4	84.30	9783.2	83.70	9831.6
GR	82.8	9861.4	83.80	9871.9	84.00	9907.9	83.00	9947.4	82.94	9974.2
GR	80.3	9979.5	80.30	9995.5	80.30	10000.0	80.30	10080.1	80.30	10141.9
GR	80.3	10202.0	80.30	10259.8	80.30	10317.7	80.30	10359.0	80.30	10411.9
GR	80.3	10462.0	80.30	10517.1	80.30	10526.5	86.27	10538.4	85.10	10568.5
GR	84.9	10592.8	86.73	10608.3	116.73	10668.3				
X1	17.370	53	9611.5	10574.0	194.5	194.5	194.5			
X3	10.							.00	.00	
GR	64.8	9295.1	64.80	9417.8	67.70	9424.4	82.80	9448.6	82.40	9464.5
GR	83.5	9472.8	84.80	9477.6	85.40	9482.8	87.20	9493.5	99.80	9528.2
GR	109.5	9556.9	114.90	9571.8	115.00	9594.3	115.20	9611.5	105.80	9628.5
GR	105.3	9631.0	91.30	9658.7	90.50	9661.9	90.10	9670.8	89.00	9673.6
GR	85.0	9677.2	84.00	9694.6	84.30	9711.9	83.60	9750.1	83.27	9775.1
GR	80.3	9781.0	80.30	9795.0	80.30	9827.8	80.30	9852.6	80.30	9866.3
GR	80.3	9877.3	80.30	9890.1	80.30	9898.9	80.30	9903.9	80.30	9913.2
GR	80.3	9933.2	80.30	9961.9	80.30	10000.0	80.30	10062.4	80.30	10112.6
GR	80.3	10149.6	80.30	10195.3	80.30	10241.9	80.30	10284.1	80.30	10328.1
GR	80.3	10391.0	80.30	10433.0	87.16	10446.7	87.10	10450.5	85.90	10495.9
GR	85.9	10511.6	86.59	10514.0	116.59	10574.0				
X1	17.410	54	9493.0	10455.2	199.5	199.5	199.5			
X3	10.							.00	.00	
GR	64.8	9186.2	64.80	9307.1	66.00	9310.6	82.20	9334.9	81.80	9351.7
GR	83.3	9360.0	86.50	9374.4	97.90	9407.2	115.40	9456.8	115.50	9470.9
GR	115.4	9485.4	115.20	9493.0	105.60	9511.6	105.30	9514.0	91.50	9542.7
GR	90.6	9558.7	86.60	9563.0	85.80	9567.0	84.70	9568.7	84.10	9579.7
GR	84.6	9583.4	81.40	9589.8	80.30	9592.0	80.30	9596.0	80.30	9618.0
GR	80.3	9654.4	80.30	9678.9	80.30	9700.0	80.30	9722.0	80.30	9740.8
GR	80.3	9763.7	80.30	9784.4	80.30	9800.1	80.30	9836.1	80.30	9859.4
GR	80.3	9880.7	80.30	9911.0	80.30	9948.5	80.30	9988.1	80.30	10000.0
GR	80.3	10046.5	80.30	10092.6	80.30	10131.7	80.30	10167.5	80.30	10204.3
GR	80.3	10241.6	80.30	10276.9	80.30	10312.0	80.30	10314.0	87.63	10328.7
GR	87.1	10352.8	85.90	10384.0	86.65	10395.2	116.65	10455.2		
X1	17.450	46	9370.0	10331.9	201.6	201.6	201.6			
X3	10.							.00	.00	
GR	64.8	9069.8	64.80	9178.4	75.50	9195.6	82.40	9204.9	82.00	9225.3
GR	82.6	9230.8	84.70	9237.9	85.80	9244.9	98.40	9283.2	113.20	9326.9
GR	115.4	9332.8	115.40	9354.1	115.40	9370.0	106.10	9386.6	105.80	9388.7
GR	91.4	9417.6	90.30	9426.7	83.20	9436.1	83.30	9451.9	83.01	9462.6
GR	80.3	9468.0	80.30	9484.7	80.30	9528.1	80.30	9548.6	80.30	9579.0
GR	80.3	9612.7	80.30	9648.4	80.30	9662.3	80.30	9689.4	80.30	9736.2
GR	80.3	9804.0	80.30	9847.6	80.30	9891.1	80.30	9933.9	80.30	9977.6
GR	80.3	10000.0	80.30	10063.6	80.30	10118.1	80.30	10153.6	80.30	10189.9
GR	80.3	10190.0	87.96	10205.3	88.30	10216.8	88.40	10257.7	88.40	10271.9
GR	118.4	10331.9								

1

X1	17.490	51	9266.2	10233.7	203.3	203.3	203.3			
X3	10.							.00	.00	
GR	64.8	8940.9	64.80	9072.7	80.60	9098.8	83.60	9102.8	83.30	9123.4
GR	82.3	9126.4	84.00	9132.0	84.10	9136.5	87.90	9148.1	101.70	9187.8
GR	115.6	9229.3	115.50	9234.5	115.70	9250.8	115.40	9263.7	115.90	9266.2
GR	107.4	9280.4	107.10	9283.2	92.00	9314.8	91.40	9324.0	89.70	9326.6
GR	83.2	9332.3	82.70	9344.5	82.10	9370.4	82.30	9381.0	82.30	9402.3
GR	82.3	9428.6	82.30	9452.8	82.30	9475.2	82.30	9494.1	82.30	9503.1
GR	82.3	9509.8	82.30	9546.0	82.30	9590.6	82.30	9646.4	82.30	9695.3
GR	82.3	9729.2	82.30	9738.2	82.30	9770.9	82.30	9825.0	82.30	9870.8
GR	82.3	9921.5	82.30	9971.6	82.30	10000.0	82.30	10045.8	82.30	10091.1
GR	82.3	10092.0	85.66	10098.7	86.90	10134.8	89.00	10164.2	89.32	10173.7
GR	119.3	10233.7								
X1	17.520	55	9208.9	10183.9	200.8	200.8	200.8			
X3	10.							.00	.00	
GR	64.8	8909.7	64.80	9014.7	81.50	9041.0	83.90	9043.7	83.40	9065.3
GR	83.1	9070.7	84.60	9077.0	85.70	9083.9	99.00	9121.2	115.50	9168.7
GR	116.2	9172.7	116.20	9181.0	116.30	9193.9	115.70	9208.9	109.00	9222.7
GR	108.7	9225.0	93.10	9255.0	92.40	9260.6	83.70	9271.9	83.40	9286.7
GR	82.4	9317.8	82.90	9326.8	86.60	9343.0	87.80	9370.5	88.70	9397.2
GR	90.8	9429.4	92.40	9448.9	92.40	9449.3	84.30	9465.5	84.30	9481.1
GR	84.3	9515.2	84.30	9551.1	84.30	9592.2	84.30	9626.1	84.30	9656.9
GR	84.3	9670.4	84.30	9681.0	84.30	9696.5	84.30	9726.5	84.30	9765.0
GR	84.3	9804.9	84.30	9840.1	84.30	9878.9	84.30	9894.9	84.30	9945.9
GR	84.3	9945.9	84.30	9945.9	83.50	9985.3	83.60	10000.0	84.20	10043.2
GR	85.2	10073.5	85.90	10098.1	88.40	10122.4	88.49	10123.9	118.40	10183.9
X1	17.560	53	9170.2	10156.5	199.0	199.0	199.0			
X3	10.							.00	.00	
GR	64.8	8881.8	64.80	8974.0	81.90	9001.5	83.10	9003.8	83.00	9027.3
GR	83.3	9030.2	83.30	9033.4	85.00	9038.9	86.10	9044.5	92.60	9065.2
GR	106.9	9108.2	116.20	9134.7	116.20	9159.0	115.90	9170.2	109.60	9184.4
GR	109.4	9186.0	93.70	9216.4	93.00	9227.1	91.80	9229.8	89.00	9233.1
GR	86.2	9252.1	83.70	9272.8	83.10	9284.2	83.60	9289.6	87.50	9302.7
GR	88.0	9326.7	88.40	9347.9	89.20	9370.2	89.60	9393.9	89.70	9405.1
GR	91.2	9421.8	92.20	9454.0	92.50	9488.7	92.40	9530.3	92.10	9561.7
GR	92.1	9592.6	93.00	9620.8	93.20	9651.7	93.20	9684.1	93.18	9684.7
GR	86.3	9698.5	86.30	9715.9	86.30	9744.1	86.30	9781.7	86.30	9843.9
GR	86.3	9886.7	85.10	9931.1	83.80	9970.4	83.80	10000.0	84.60	10039.1
GR	85.7	10079.3	86.83	10096.5	116.80	10156.5				
X1	17.600	54	9138.1	10138.5	200.6	200.6	200.6			
X3	10.							.00	.00	
GR	64.8	8856.7	64.80	8942.8	76.50	8959.8	81.90	8973.0	81.30	8988.5
GR	81.7	8995.9	85.10	9005.9	86.50	9013.5	94.00	9036.0	108.40	9079.0
GR	116.5	9102.8	116.20	9125.1	116.10	9138.1	110.10	9148.9	109.60	9151.2
GR	93.9	9181.2	93.50	9196.0	91.80	9203.3	90.60	9209.1	88.60	9222.0
GR	86.2	9241.9	86.00	9265.4	86.20	9293.8	88.40	9314.7	90.90	9326.0
GR	90.8	9329.0	88.50	9336.2	88.20	9340.9	92.80	9351.1	92.30	9360.4
GR	90.0	9368.7	89.30	9384.5	89.70	9413.4	90.00	9443.2	90.90	9473.8
GR	92.6	9493.5	92.50	9525.2	92.80	9557.8	93.20	9594.3	93.40	9627.9
GR	93.4	9660.5	93.10	9683.9	92.40	9723.0	90.70	9766.0	88.80	9822.9

1

GR	86.6	9869.3	85.50	9914.4	84.20	9957.7	83.70	9987.9	83.50	10000.0
GR	84.2	10032.1	85.30	10063.0	86.35	10078.5	116.35	10138.5		
X1	17.640	47	9101.0	10119.3	200.4	200.4	200.4			
X3	10.							.00	.00	
GR	64.8	8829.1	64.80	8899.7	66.80	8903.6	83.50	8933.0	83.20	8958.8
GR	84.2	8961.5	84.00	8963.5	85.70	8968.8	85.30	8972.8	88.50	8984.5
GR	101.1	9018.1	113.90	9056.2	116.20	9063.7	116.60	9087.0	116.00	9101.0
GR	109.1	9114.0	108.50	9117.3	94.30	9146.4	94.10	9161.1	92.20	9178.7
GR	88.3	9194.9	87.90	9213.7	87.70	9235.4	87.70	9255.7	89.00	9279.0
GR	92.0	9305.4	93.30	9335.1	93.50	9375.8	93.90	9409.5	93.70	9425.4
GR	92.0	9447.2	91.80	9488.9	92.10	9537.0	92.80	9583.4	93.40	9627.6
GR	92.8	9676.2	91.40	9731.0	90.70	9760.5	89.40	9810.6	87.60	9861.8
GR	86.0	9910.7	84.40	9955.6	84.10	9991.1	84.40	10000.0	85.30	10048.6
GR	85.7	10059.3	115.78	10119.3						
X1	17.680	53	9065.8	10101.4	201.8	201.8	201.8			
X3	10.							.00	.00	
GR	80.3	8796.5	80.60	8824.2	79.60	8831.3	78.20	8840.6	77.50	8848.4
GR	77.4	8856.5	79.40	8869.1	79.60	8881.4	81.00	8889.4	84.60	8897.4
GR	83.5	8919.8	85.00	8927.0	85.20	8929.2	87.40	8936.4	88.40	8941.3
GR	92.3	8955.9	114.80	9026.3	116.60	9031.7	116.80	9057.7	116.60	9065.8
GR	109.9	9077.5	109.20	9080.1	94.80	9110.9	94.60	9125.0	93.90	9136.3
GR	94.5	9152.0	89.30	9163.0	88.80	9175.7	87.80	9204.9	88.20	9221.0
GR	90.8	9247.9	93.80	9297.7	94.50	9345.8	94.80	9369.4	94.40	9410.4
GR	93.2	9458.9	92.60	9502.4	92.40	9544.3	92.70	9594.1	92.70	9638.1
GR	92.0	9681.0	91.00	9727.6	90.00	9763.9	89.00	9807.9	88.70	9852.6
GR	87.6	9894.2	86.30	9927.8	84.60	9962.7	84.30	9993.4	84.60	10000.0
GR	86.0	10033.7	86.33	10041.4	116.33	10101.4				
X1	17.710	62	9043.0	10095.8	198.9	198.9	198.9			
X3	10.							.00	.00	
GR	104.3	8777.8	89.70	8813.4	83.90	8831.2	83.60	8845.4	83.20	8848.6
GR	84.4	8851.6	82.10	8858.0	82.60	8866.0	83.80	8874.5	84.00	8885.8
GR	84.4	8898.2	84.20	8903.1	83.90	8907.0	85.90	8911.6	88.40	8917.9
GR	94.8	8940.5	102.60	8966.1	112.30	8992.1	116.40	9007.4	117.00	9026.7
GR	116.7	9043.0	111.60	9053.1	110.90	9056.0	95.40	9085.6	95.40	9101.8
CR	95.4	9108.6	95.80	9121.8	96.20	9129.4	94.00	9140.6	90.90	9150.4
GR	88.8	9166.3	88.50	9184.3	88.90	9196.0	90.80	9210.0	92.80	9233.5
GR	93.7	9262.3	94.00	9291.7	94.50	9325.6	95.00	9366.9	95.50	9397.4
GR	94.8	9409.5	94.10	9439.1	93.50	9474.2	93.20	9507.7	92.90	9544.8
GR	92.9	9583.0	92.40	9625.8	91.80	9662.4	90.30	9697.2	90.20	9731.9
GR	90.0	9764.8	89.40	9809.2	89.10	9841.7	88.70	9879.8	87.40	9915.8
GR	86.4	9948.3	86.10	9973.1	85.50	9990.1	85.40	10000.0	86.10	10027.3
GR	87.0	10035.8	117.05	10095.8						
X1	17.750	59	9018.2	10083.1	198.9	198.9	198.9			
X3	10.							.00	.00	
GR	110.0	8776.7	109.80	8796.8	110.50	8804.3	110.20	8813.7	103.70	8825.9
GR	92.6	8849.7	90.80	8856.2	90.90	8864.9	91.10	8880.3	91.30	8888.6
GR	91.2	8897.3	93.00	8902.2	104.20	8939.0	115.50	8976.4	117.10	8981.6
GR	116.5	8986.6	116.90	9002.6	116.70	9018.2	110.50	9029.8	110.00	9033.1
GR	96.1	9062.2	96.00	9080.8	95.80	9093.3	95.90	9106.1	94.80	9123.0
GR	93.1	9140.6	92.70	9145.8	90.70	9155.1	89.60	9166.6	89.40	9177.8

1

GR	90.7	9187.4	91.80	9201.6	93.00	9224.0	93.70	9254.4	94.30	9282.6

GR	94.6	9313.6	95.20	9347.9	95.10	9384.5	94.70	9423.1	94.10	9461.2
GR	93.4	9495.5	93.10	9534.5	92.30	9580.0	91.50	9618.6	90.40	9657.0
GR	90.2	9692.7	89.80	9732.2	89.40	9770.9	89.30	9809.2	89.20	9846.7
GR	88.5	9883.9	87.40	9917.6	87.40	9944.7	87.30	9958.3	87.10	9971.7
GR	86.1	9981.5	85.80	10000.0	85.22	10023.1	115.22	10083.1		
X1	17.790	53	9012.7	10097.2	201.8	201.8	201.8			
X3	10.							.00	.00	
GR	110.9	8761.2	110.40	8791.5	110.20	8810.4	110.20	8824.9	109.90	8843.2
GR	110.4	8851.1	110.40	8859.3	100.50	8882.1	100.20	8897.7	100.00	8914.8
GR	100.1	8921.2	104.40	8937.0	114.10	8968.0	117.10	8975.2	117.00	8992.3
GR	116.4	9012.7	110.90	9023.7	109.90	9027.9	99.00	9050.4	96.50	9060.6
GR	96.1	9075.4	96.70	9102.3	95.70	9121.8	95.40	9147.2	95.00	9161.3
GR	94.1	9175.1	91.20	9181.1	90.30	9189.4	90.30	9202.8	92.30	9218.7
GR	93.4	9241.0	94.20	9273.0	94.00	9308.5	94.60	9345.6	94.90	9382.5
GR	94.7	9416.6	94.00	9467.9	93.10	9517.1	91.90	9560.4	91.60	9602.9
GR	90.5	9650.2	89.90	9697.8	89.70	9745.3	89.30	9795.0	88.90	9847.9
GR	88.2	9898.2	88.50	9934.7	87.40	9960.4	86.60	9987.1	86.10	10000.0
GR	86.8	10015.6	91.25	10037.2	121.25	10097.2				
X1	17.830	51	9040.5	10144.0	199.3	199.3	199.3			
X3	10.							.00	.00	
GR	111.2	8805.8	111.50	8862.9	111.50	8909.5	110.20	8919.4	108.90	8930.6
GR	108.8	8946.8	108.30	8957.1	108.40	8969.4	109.20	8982.8	109.60	8994.4
GR	113.6	9002.6	117.00	9011.8	117.30	9019.5	117.10	9040.5	110.70	9050.0
GR	97.5	9080.1	96.70	9087.3	97.30	9099.2	97.40	9116.2	97.00	9149.4
GR	96.4	9171.5	95.70	9183.1	95.80	9194.5	96.40	9202.0	95.90	9221.6
GR	95.3	9256.1	94.70	9284.3	93.70	9302.4	94.00	9339.6	94.50	9389.4
GR	94.6	9437.5	94.00	9494.8	92.80	9549.3	91.60	9607.5	90.30	9657.3
GR	89.4	9713.2	89.40	9761.1	89.50	9809.7	88.70	9866.6	88.50	9907.8
GR	88.8	9939.8	87.30	9975.8	86.20	10000.0	86.80	10020.6	92.30	10042.5
GR	95.7	10053.2	96.90	10060.3	96.50	10072.6	97.15	10075.8	97.15	10084.0
GR	127.1	10144.0								
X1	17.860	49	9088.1	10193.0	198.7	198.7	198.7			
X3	10.							.00	.00	
GR	111.4	8860.8	111.20	8898.9	111.40	8933.7	111.20	8961.3	110.50	8973.5
GR	109.0	8989.5	108.10	9008.3	107.90	9023.2	107.90	9030.8	107.90	9035.4
GR	111.2	9045.6	117.40	9059.1	117.60	9078.7	117.50	9088.1	111.30	9100.1
GR	98.5	9127.5	97.90	9133.5	97.20	9146.5	97.10	9161.1	96.80	9179.0
GR	96.9	9193.6	96.90	9208.1	96.10	9230.3	96.40	9240.9	97.00	9255.2
GR	96.6	9289.0	96.10	9307.9	94.90	9320.7	95.80	9341.2	94.60	9376.1
GR	94.3	9439.3	93.50	9513.8	92.80	9566.6	91.70	9624.8	90.80	9676.1
GR	90.0	9718.0	89.20	9771.7	89.30	9822.6	89.00	9865.1	88.00	9902.4
GR	88.5	9941.6	88.00	9978.2	88.20	9997.6	88.10	10000.0	89.40	10043.9
GR	92.6	10061.7	97.65	10082.9	97.65	10133.0	127.65	10193.0		
X1	17.900	67	9136.6	10238.6	204.0	204.0	204.0			
X3	10.							.00	.00	
GR	111.3	8910.9	111.50	8936.8	111.00	8966.4	111.00	8988.5	111.10	9002.6
GR	109.4	9007.4	108.90	9017.2	107.70	9023.2	107.30	9038.0	107.50	9052.7
GR	107.6	9065.0	107.80	9076.8	112.70	9093.9	116.10	9102.2	117.70	9107.1
GR	117.7	9125.2	118.00	9136.6	114.20	9146.0	103.70	9164.5	98.40	9177.8

1

GR	98.1	9194.5	97.70	9222.4	97.10	9235.7	97.50	9257.5	97.80	9278.5
GR	97.4	9299.6	95.70	9317.7	94.80	9336.4	95.20	9345.2	96.20	9364.9
GR	96.7	9379.8	96.20	9400.2	94.70	9426.4	94.50	9456.5	94.00	9492.2

GR	93.6	9526.8	93.10	9561.0	92.80	9592.4	92.20	9626.5	91.40	9660.0
GR	91.3	9678.4	90.30	9698.9	90.40	9724.4	89.40	9758.2	89.40	9785.6
GR	88.8	9808.2	89.10	9834.2	89.60	9868.1	90.00	9904.9	88.80	9922.3
GR	89.2	9935.4	89.10	9951.6	89.20	9965.8	88.30	9992.9	88.40	10000.0
GR	88.0	10028.8	89.60	10050.8	92.50	10072.4	95.70	10094.1	98.20	10113.7
GR	100.0	10132.1	100.50	10149.2	100.00	10161.1	98.80	10168.9	97.60	10176.4
GR	98.1	10178.6	128.12	10238.6						
X1	17.940	66	9183.6	10203.2	196.8	196.8	196.8			
X3	10.							.00	.00	
GR	112.0	8961.6	111.80	9007.4	111.20	9034.0	110.50	9049.8	110.00	9068.3
GR	109.2	9083.1	109.70	9098.1	109.80	9106.9	109.40	9116.1	109.90	9122.5
GR	113.4	9133.9	117.70	9149.6	117.40	9168.9	117.10	9183.6	110.40	9196.8
GR	99.1	9221.1	99.30	9234.3	99.10	9237.0	98.10	9243.0	97.20	9253.7
GR	96.7	9267.4	97.30	9278.1	98.30	9305.1	98.30	9331.8	97.80	9355.8
GR	97.9	9368.2	98.00	9387.3	97.30	9398.5	96.90	9403.6	96.80	9419.8
GR	96.1	9426.3	96.20	9429.3	95.30	9432.1	95.50	9440.4	96.30	9443.3
GR	94.9	9452.6	94.60	9473.3	94.10	9500.1	92.90	9537.6	92.50	9582.3
GR	92.3	9629.7	92.00	9671.9	90.90	9720.7	89.70	9758.7	89.50	9805.5
GR	89.9	9841.0	89.70	9860.1	89.60	9885.2	90.00	9911.5	89.40	9938.0
GR	89.5	9967.0	90.40	9995.6	90.70	10000.0	90.90	10023.7	89.70	10039.9
GR	90.6	10056.4	89.90	10075.8	91.10	10095.2	92.00	10103.8	93.60	10109.7
GR	95.4	10127.5	97.20	10138.3	96.20	10145.9	96.90	10161.2	98.60	10175.3
GR	117.2	10203.2								
X1	17.980	49	9219.6	10158.8	201.9	201.9	201.9			
X3	10.							.00	.00	
GR	112.7	8976.0	112.60	9028.6	112.60	9060.4	112.70	9075.9	111.50	9080.1
GR	110.2	9094.2	110.10	9114.9	110.60	9132.1	111.00	9142.7	110.30	9154.2
GR	110.8	9162.8	114.00	9172.9	118.00	9189.1	117.70	9207.8	117.60	9219.6
GR	112.9	9229.5	99.60	9258.5	99.50	9276.5	97.70	9283.6	98.20	9310.6
GR	97.5	9336.6	98.30	9361.2	98.80	9378.0	98.30	9404.8	98.10	9417.6
GR	100.2	9438.5	101.00	9454.5	101.80	9467.8	99.00	9478.1	98.90	9487.3
GR	95.8	9496.7	93.80	9518.0	92.80	9543.9	91.80	9583.8	91.70	9626.5
GR	91.9	9674.9	91.40	9720.8	90.40	9771.2	90.00	9817.1	90.20	9860.4
GR	89.6	9897.2	89.90	9929.9	89.80	9960.4	89.20	10000.0	90.40	10039.8
GR	91.0	10077.5	92.90	10104.9	93.50	10134.3	118.0	10158.8		
X1	18.020	51	9234.1	10126.7	202.2	202.2	202.2			
X3	10.	89.7						.00	.00	
GR	113.8	9008.5	113.70	9027.2	113.30	9052.9	112.90	9078.6	112.60	9100.1
GR	112.5	9110.0	112.60	9135.4	113.00	9153.7	113.50	9161.0	113.60	9168.8
GR	113.7	9175.0	113.40	9187.3	114.10	9194.8	118.40	9214.0	118.40	9234.1
GR	117.8	9244.7	116.10	9250.4	111.90	9257.9	101.00	9280.1	101.00	9283.5
GR	99.7	9284.5	99.50	9295.2	99.10	9303.9	99.00	9320.6	99.60	9333.8
GR	99.9	9350.1	100.30	9362.6	100.30	9385.6	100.00	9407.4	99.60	9441.4
GR	99.3	9466.1	100.40	9489.8	99.50	9496.6	100.10	9502.9	100.40	9506.6
GR	99.5	9514.6	97.40	9530.0	93.50	9568.4	92.20	9607.1	92.20	9644.5
GR	92.6	9671.8	92.20	9709.4	91.10	9799.5	90.40	9883.1	89.70	9932.7
GR	87.9	9982.5	87.70	10000.0	89.10	10029.3	91.20	10056.8	92.40	10109.0
GR	119.0	10126.7								

1

X1	18.050	55	9271.5	10108.0	195.6	195.6	195.6			
X3	10.	90.1						.00	.00	
GR	115.4	9031.2	115.70	9037.0	118.20	9047.4	118.60	9067.6	119.70	9096.1
GR	118.9	9103.2	121.40	9137.2	119.60	9145.7	118.80	9159.9	117.50	9162.4

GR	118.2	9174.0	117.20	9187.0	117.00	9210.7	118.30	9228.7	119.70	9245.7
GR	119.5	9262.2	119.20	9271.5	114.20	9282.2	101.80	9309.0	101.50	9311.9
GR	100.3	9313.8	100.00	9324.5	100.80	9340.3	101.60	9361.4	101.50	9387.6
GR	100.9	9399.3	100.50	9419.3	100.50	9446.9	100.50	9456.2	100.40	9472.3
GR	100.4	9503.2	100.20	9517.0	101.00	9522.4	100.30	9526.4	100.10	9537.2
GR	100.0	9545.8	99.00	9555.9	99.70	9559.1	92.30	9576.8	91.90	9606.3
GR	92.2	9634.1	92.70	9659.4	93.00	9681.9	92.40	9708.5	92.10	9742.3
GR	91.7	9781.3	91.70	9821.1	90.70	9861.8	90.20	9900.7	89.90	9935.6
GR	88.5	9965.3	87.80	10000.0	87.70	10023.9	88.40	10092.5	119.5	10108.0
X1	18.090	62	9311.0	10122.8	207.2	207.2	207.2			
X3	10.	90.6						.00	.00	
GR	115.6	9067.6	116.00	9087.4	115.50	9106.6	116.00	9122.8	114.90	9138.7
GR	114.1	9153.1	114.30	9163.4	118.00	9171.0	124.00	9177.4	124.70	9186.4
GR	126.3	9203.3	125.60	9221.3	125.80	9229.0	127.20	9235.9	126.30	9244.2
GR	126.8	9251.0	127.50	9253.0	121.10	9266.6	121.00	9279.9	121.00	9296.3
GR	121.0	9311.0	118.40	9318.6	106.90	9339.9	103.30	9352.1	101.60	9364.4
GR	101.6	9370.4	103.30	9375.0	103.60	9378.5	102.50	9382.1	102.10	9401.6
GR	101.5	9410.8	101.50	9446.7	101.60	9457.3	102.40	9462.1	101.80	9478.4
GR	101.4	9504.9	101.30	9533.9	101.10	9566.7	100.70	9588.3	99.20	9603.1
GR	96.0	9620.1	94.00	9634.2	91.60	9649.7	90.60	9666.1	91.30	9684.7
GR	91.5	9711.6	91.80	9742.1	91.80	9768.8	91.80	9798.7	92.00	9830.0
GR	91.8	9858.1	91.00	9880.0	90.00	9912.1	89.40	9942.2	89.10	9965.4
GR	88.0	9988.1	87.80	10000.0	87.50	10025.7	87.70	10041.3	88.50	10058.7
GR	88.6	10107.6	119.0	10122.8						
X1	18.120	50	9359.1	10182.7	137.4	137.4	137.4			
X3	10.	91.0						.00	.00	
GR	121.1	9244.1	171.10	9244.1	121.10	9244.1	122.70	9259.6	123.70	9269.3
GR	122.3	9276.1	122.40	9282.7	123.60	9288.9	123.30	9305.7	122.40	9322.2
GR	121.3	9340.8	121.00	9355.4	120.40	9359.1	111.90	9380.4	104.60	9394.4
GR	103.9	9397.5	102.40	9400.6	102.10	9419.6	102.60	9446.7	102.70	9489.4
GR	102.3	9529.7	102.50	9569.4	101.50	9594.2	101.00	9624.6	100.60	9644.0
GR	100.9	9648.2	98.10	9656.2	94.10	9677.8	92.00	9704.0	90.80	9725.9
GR	90.5	9735.5	91.60	9754.0	91.30	9778.6	91.40	9802.4	91.80	9827.5
GR	91.7	9851.9	90.90	9872.9	91.10	9897.4	90.30	9922.1	89.20	9950.9
GR	88.1	9980.6	87.70	10000.0	87.40	10028.2	87.80	10046.3	89.40	10066.3
GR	90.0	10084.1	91.40	10102.2	93.20	10125.6	93.40	10165.4	119.3	10182.7
X1	18.140	54	9396.1	10261.5	134.5	134.5	134.5			
X3	10.	91.2						.00	.00	
GR	122.9	9366.4	172.90	9366.4	122.90	9366.4	122.50	9371.2	122.00	9387.7
GR	121.7	9396.1	113.40	9412.6	108.80	9423.4	107.80	9434.7	107.40	9439.7
GR	103.6	9445.8	103.20	9459.5	103.10	9480.1	103.20	9499.8	103.80	9521.8
GR	103.1	9541.7	103.80	9556.8	103.40	9568.8	102.60	9583.1	102.60	9605.6
GR	101.7	9633.6	101.80	9652.3	101.30	9673.6	101.40	9691.3	100.60	9700.7
GR	97.2	9715.5	94.50	9735.3	92.20	9761.1	90.60	9777.1	90.00	9783.5
GR	89.5	9794.8	88.80	9807.1	89.00	9825.5	90.40	9841.7	91.20	9863.3
GR	92.2	9885.9	91.60	9903.6	91.00	9915.2	90.40	9929.0	89.90	9953.2

GR	89.7	9974.5	88.60	9995.7	88.70	10000.0	87.80	10028.7	88.10	10055.9
GR	89.6	10090.4	90.00	10112.1	91.50	10134.0	92.20	10155.6	94.50	10175.7
GR	96.6	10192.5	97.40	10210.1	97.60	10246.5	120.0	10261.5		
X1	18.180	73	9449.6	10305.7	164.0	164.0	164.0			
X3	10.	91.7						.00	.00	
GR	114.7	9220.9	114.80	9241.8	114.40	9253.2	114.60	9268.5	114.60	9272.2

GR	116.7	9272.2	116.50	9283.6	115.90	9283.7	115.40	9290.7	116.10	9309.7
GR	116.3	9334.8	116.30	9358.5	115.90	9378.7	115.80	9391.8	115.80	9404.0
GR	117.6	9413.0	118.70	9420.7	121.60	9431.5	121.70	9449.6	120.80	9460.2
GR	117.1	9468.5	116.10	9481.2	112.30	9489.2	111.60	9497.8	111.20	9501.2
GR	104.6	9512.1	104.00	9516.3	103.30	9541.8	104.20	9551.4	103.50	9561.0
GR	104.2	9581.3	103.40	9607.7	104.10	9621.5	102.60	9636.0	102.80	9667.1
GR	102.9	9697.0	102.30	9718.1	102.10	9731.0	96.00	9745.5	91.60	9766.7
GR	88.2	9784.6	87.80	9799.3	86.60	9807.8	86.40	9823.9	85.60	9836.6
GR	83.8	9847.2	81.40	9857.8	81.40	9862.7	83.10	9876.2	84.60	9886.4
GR	83.3	9899.7	82.40	9911.9	83.20	9923.4	85.40	9937.7	85.70	9963.2
GR	85.0	9977.5	86.90	9997.7	87.00	10000.0	87.50	10034.2	86.30	10055.5
GR	86.8	10072.9	86.10	10085.2	86.90	10102.0	89.00	10119.4	88.20	10132.7
GR	88.7	10146.6	89.10	10167.3	89.50	10185.9	90.10	10204.8	91.80	10225.4
GR	94.1	10242.7	95.10	10279.8	121.0	10305.7				
X1	18.190	57	9487.1	10322.4	64.9	64.9	64.9			
X3	10.	92.0						.00	.00	
GR	113.6	9245.6	114.90	9252.2	115.40	9276.4	116.80	9300.6	116.80	9321.3
GR	116.3	9344.8	116.60	9372.2	116.60	9395.9	116.40	9407.7	116.00	9413.6
GR	115.7	9424.6	116.00	9433.5	117.40	9437.8	119.50	9444.5	120.80	9449.6
GR	121.8	9464.2	121.40	9478.5	120.90	9487.1	113.00	9505.0	106.10	9519.9
GR	104.7	9526.5	103.50	9538.1	102.90	9541.2	103.00	9550.2	102.40	9555.9
GR	103.6	9569.9	104.20	9575.6	104.30	9585.7	104.80	9591.8	103.60	9614.4
GR	103.2	9652.8	103.00	9685.0	102.60	9711.4	102.30	9729.1	103.10	9741.3
GR	101.6	9751.9	97.40	9764.0	95.20	9776.8	95.20	9803.8	95.10	9855.5
GR	92.0	9856.6	92.00	9899.7	92.00	9908.8	92.00	9911.1	92.00	9934.5
GR	92.0	9937.6	92.00	9967.8	92.00	10000.0	92.00	10061.5	92.00	10103.6
GR	92.0	10125.3	92.00	10127.1	92.00	10175.1	92.00	10216.4	92.00	10255.3
GR	92.0	10290.9	121.0	10334.4						
X1	18.210	56	9516.1	10392.7	96.2	96.2	96.2			
X3	10.	92.1						.00	.00	
GR	110.6	9257.6	112.80	9283.8	114.90	9311.4	116.10	9338.5	116.90	9369.6
GR	117.9	9395.3	117.20	9420.0	117.20	9437.1	117.70	9449.0	117.30	9459.2
GR	118.1	9465.8	120.60	9473.4	121.50	9486.2	121.40	9501.0	120.90	9516.1
GR	107.1	9544.3	105.80	9551.1	105.40	9576.4	105.00	9605.2	104.50	9619.1
GR	103.8	9628.5	103.50	9654.3	103.30	9699.0	102.30	9726.0	103.50	9750.6
GR	103.5	9776.0	103.20	9787.7	102.90	9792.5	103.00	9804.5	93.60	9824.9
GR	91.2	9835.7	90.20	9854.9	90.70	9870.6	91.60	9897.4	91.50	9924.8
GR	90.2	9955.1	89.60	9983.4	89.60	10000.0	89.70	10035.4	90.20	10074.2
GR	91.0	10109.1	91.30	10143.6	91.90	10172.5	92.80	10193.8	93.30	10215.5
GR	94.6	10230.9	94.60	10244.7	95.40	10264.5	98.10	10282.2	97.70	10295.1
GR	95.7	10308.7	94.60	10318.9	94.40	10324.8	94.60	10330.1	94.40	10332.7
GR	124.4	10392.7								

1

X1	18.240	77	9564.8	10574.0	198.8	198.8	198.8			
X3	10.	92.5						.00	.00	
GR	117.7	9296.9	117.60	9318.9	118.10	9339.3	117.60	9364.5	117.70	9372.5
GR	117.1	9378.6	117.00	9393.8	117.20	9416.9	117.40	9427.5	117.90	9429.1
GR	117.5	9434.1	117.50	9461.3	118.10	9486.6	118.30	9500.1	118.60	9510.4
GR	121.8	9522.2	121.60	9539.7	121.30	9557.0	120.80	9564.8	116.90	9574.5
GR	108.2	9590.1	105.90	9595.6	105.20	9602.4	102.30	9615.2	103.10	9628.7
GR	104.6	9638.5	103.30	9648.1	103.80	9658.5	102.60	9672.8	103.00	9688.4
GR	103.4	9703.2	103.30	9715.1	102.70	9729.4	102.70	9744.5	103.20	9763.0
GR	103.5	9789.7	104.10	9817.9	103.30	9844.0	104.00	9849.1	102.00	9858.9
GR	100.5	9864.9	98.30	9872.6	95.20	9881.2	93.60	9905.6	91.30	9918.0

GR	88.3	9935.1	88.70	9957.5	89.10	9977.4	89.20	9999.0	89.10	10000.0
GR	88.5	10016.9	89.30	10034.1	89.10	10052.6	88.70	10067.9	89.40	10088.0
GR	90.5	10112.8	91.70	10139.8	92.60	10164.2	92.70	10190.5	93.10	10224.5
GR	93.8	10257.3	95.60	10277.7	98.20	10296.7	100.90	10313.4	101.20	10329.4
GR	101.4	10351.5	100.90	10376.6	100.60	10401.3	101.10	10418.9	100.80	10435.1
GR	100.9	10447.1	100.50	10457.6	101.20	10480.7	101.90	10488.7	102.36	10491.0
GR	102.3	10514.0	132.30	10574.0						
X1	18.280	77	9580.3	10688.0	169.5	169.5	169.5			
X3	10.	93.0						.00	.00	
GR	116.8	9324.6	117.80	9365.3	118.10	9403.8	118.20	9445.5	118.10	9477.0
GR	117.9	9505.0	118.20	9518.2	118.90	9522.9	118.00	9526.4	118.40	9539.5
GR	119.3	9548.6	122.20	9556.0	122.60	9561.8	122.20	9580.3	122.00	9587.2
GR	121.4	9590.2	119.80	9595.6	109.50	9619.1	105.60	9628.4	105.50	9632.3
GR	104.3	9634.9	103.80	9645.1	105.20	9650.0	103.50	9655.9	102.60	9672.0
GR	103.2	9689.4	103.20	9712.9	104.60	9728.0	104.00	9742.0	104.20	9761.4
GR	103.9	9783.0	103.70	9792.1	102.90	9801.8	103.50	9818.8	103.70	9833.9
GR	103.4	9850.8	103.90	9859.8	96.80	9876.9	94.60	9901.7	94.00	9923.3
GR	92.6	9937.5	88.70	9950.0	86.90	9962.3	87.90	9985.7	88.30	10000.0
GR	89.3	10020.6	90.00	10041.5	89.70	10064.8	90.20	10087.9	91.30	10112.3
GR	92.3	10141.3	92.80	10170.7	92.80	10194.7	92.50	10207.2	92.70	10233.0
GR	93.7	10254.2	94.80	10277.8	96.20	10300.0	98.00	10316.1	101.60	10330.8
GR	103.1	10341.9	103.10	10359.1	103.00	10374.0	101.60	10391.0	101.10	10419.3
GR	101.1	10439.2	101.80	10447.5	102.10	10463.9	102.80	10502.3	103.80	10543.1
GR	103.5	10577.3	103.80	10585.0	103.80	10588.4	102.30	10604.1	103.00	10612.2
GR	103.0	10628.0	133.00	10688.0						
X1	18.320	70	9607.4	10703.0	228.0	228.0	228.0			
X3	10.	93.5						.00	.00	
GR	117.7	9338.1	117.80	9373.1	118.70	9430.5	119.60	9478.4	120.70	9496.9
GR	120.9	9504.6	118.50	9517.4	119.40	9529.1	119.70	9533.9	119.10	9544.3
GR	119.1	9549.2	122.80	9565.2	122.20	9573.8	121.90	9595.7	121.80	9603.1
GR	121.3	9607.4	103.90	9644.1	103.80	9656.0	105.40	9670.8	104.80	9678.1
GR	106.0	9688.2	104.40	9699.6	105.00	9709.3	103.40	9725.6	104.00	9744.5
GR	104.3	9770.1	105.30	9789.4	104.40	9807.8	102.10	9824.7	101.00	9842.9
GR	101.2	9854.1	92.30	9869.9	90.70	9875.1	88.50	9884.9	87.90	9897.0
GR	87.6	9912.5	87.90	9922.8	88.70	9927.8	90.90	9936.6	89.20	9948.6
GR	87.8	9971.8	88.00	9991.9	88.20	10000.0	88.60	10020.4	89.50	10047.6
GR	91.2	10067.8	93.30	10089.3	94.70	10105.9	94.90	10122.3	93.70	10144.5
GR	93.3	10167.2	93.40	10185.8	93.70	10211.8	93.90	10226.0	93.80	10239.4
GR	93.7	10257.6	94.10	10277.5	96.20	10297.7	97.20	10318.6	99.50	10332.8
GR	102.5	10347.2	103.00	10367.1	102.40	10393.0	102.00	10423.5	102.10	10446.6

1

GR	102.4	10484.6	103.20	10521.7	103.60	10539.2	103.60	10643.0	133.60	10703.0
X1	18.360	93	9595.5	10701.0	201.7	201.7	201.7			
X3	10.	93.5						.00	.00	
GR	118.2	9437.7	118.20	9457.1	118.30	9477.9	118.30	9495.0	118.10	9512.1
GR	118.7	9518.8	119.20	9528.1	120.00	9530.7	123.40	9537.9	123.40	9550.9
GR	122.9	9568.2	122.70	9586.2	123.00	9595.5	122.50	9602.0	121.90	9604.0
GR	111.0	9626.0	105.00	9639.6	104.40	9646.8	104.50	9660.5	105.30	9665.2
GR	103.9	9671.2	104.60	9688.5	104.20	9698.5	104.80	9719.9	104.70	9737.7
GR	103.3	9759.0	103.00	9771.4	103.20	9788.2	103.20	9805.1	102.30	9822.1
GR	101.2	9832.7	101.10	9837.3	93.50	9852.5	94.70	9865.5	93.10	9875.7
GR	93.4	9885.2	95.40	9900.8	96.10	9914.3	94.50	9928.6	92.50	9936.0
GR	90.0	9942.0	88.70	9952.8	88.10	9957.7	87.70	9960.3	86.60	9968.7

GR	88.6	9982.4	90.40	9987.7	90.40	9992.7	89.10	10000.0	89.40	10010.0
GR	90.0	10016.7	90.10	10019.9	88.50	10026.3	88.40	10035.0	89.60	10044.4
GR	90.8	10055.5	92.60	10065.6	92.60	10071.9	94.70	10085.6	95.40	10101.2
GR	95.3	10115.3	95.10	10128.6	94.50	10150.9	94.20	10167.7	93.50	10179.1
GR	93.7	10196.7	94.10	10211.2	95.00	10228.0	94.50	10239.8	94.70	10255.5
GR	95.0	10271.1	94.80	10284.6	95.40	10296.2	97.60	10302.7	98.40	10318.6
GR	99.9	10330.4	100.90	10335.9	100.70	10340.4	102.20	10352.2	103.00	10364.4
GR	103.4	10381.4	102.70	10397.6	102.50	10413.7	101.80	10432.1	101.80	10453.5
GR	102.3	10475.7	102.80	10500.2	103.60	10527.3	103.90	10566.5	104.00	10588.3
GR	104.1	10598.4	104.12	10641.0	134.12	10701.0				
X1	18.400	48	9587.5	10679.7	198.8	198.8	198.8			
X3	10.	94.5						.00	.00	
GR	119.4	9326.8	119.20	9372.0	118.90	9399.4	118.60	9420.9	119.00	9454.0
GR	118.8	9493.2	118.40	9529.7	118.40	9537.6	117.90	9545.8	118.60	9550.2
GR	122.4	9559.1	122.50	9585.6	122.60	9587.5	114.00	9602.4	104.40	9622.2
GR	104.0	9636.7	105.10	9646.4	105.20	9671.4	105.30	9700.5	105.00	9741.5
GR	106.7	9759.4	105.10	9771.5	104.50	9779.2	99.20	9795.9	98.30	9836.1
GR	98.0	9875.5	95.90	9899.5	93.70	9927.0	94.10	9951.0	92.90	9992.1
GR	92.9	10000.0	94.10	10058.4	95.60	10113.8	97.10	10183.4	97.10	10229.3
GR	96.6	10277.2	98.20	10318.5	100.90	10347.1	102.90	10372.1	103.10	10408.6
GR	103.2	10448.1	103.10	10482.1	103.30	10518.1	103.40	10557.9	103.40	10593.7
GR	103.0	10597.0	103.00	10619.7	133.00	10679.7				
X1	18.430	65	9552.9	10655.0	199.2	199.2	199.2			
X3	10.							.00	.00	
GR	122.1	9281.0	123.80	9296.8	124.00	9307.1	123.60	9307.9	123.30	9333.1
GR	122.9	9345.5	122.90	9357.7	123.30	9358.6	123.30	9360.2	125.90	9360.3
GR	126.0	9369.4	128.10	9390.1	128.20	9403.7	123.30	9416.1	122.50	9426.7
GR	121.8	9446.1	120.60	9459.5	121.20	9496.4	123.30	9524.3	123.30	9543.1
GR	123.5	9552.9	122.90	9558.0	113.80	9579.3	104.20	9595.9	104.70	9614.6
GR	104.1	9621.8	105.50	9631.8	105.80	9653.6	105.30	9680.7	106.20	9695.0
GR	106.1	9716.1	105.40	9745.5	104.10	9757.6	100.10	9770.8	99.50	9778.3
GR	99.2	9789.4	98.20	9803.4	97.20	9830.6	97.20	9860.8	96.90	9892.4
GR	95.9	9919.3	96.00	9948.7	95.10	9978.2	94.90	10000.0	95.40	10045.6
GR	95.1	10079.7	95.80	10112.3	96.60	10149.5	97.60	10194.7	98.10	10239.5
GR	99.0	10287.1	99.70	10316.8	101.10	10355.8	102.90	10394.1	103.50	10413.8
GR	103.6	10440.2	103.60	10483.1	103.60	10505.2	104.10	10521.0	103.70	10543.6
GR	103.9	10571.6	104.40	10589.4	105.14	10592.2	105.14	10595.0	135.14	10655.0

1

X1	18.470	66	9525.1	10621.0	204.1	204.1	204.1			
X3	10.							.00	.00	
GR	123.5	9249.3	122.70	9285.2	122.70	9300.1	123.10	9300.3	128.80	9301.4
GR	128.0	9307.0	128.90	9321.1	129.60	9332.5	129.50	9335.5	122.80	9345.3
GR	121.0	9355.7	120.20	9389.7	119.90	9411.9	119.90	9435.5	119.60	9458.1
GR	120.0	9473.3	121.70	9492.4	122.00	9506.3	122.00	9521.5	121.90	9525.1
GR	118.1	9535.9	110.50	9552.1	105.10	9564.3	105.10	9580.5	105.70	9605.2
GR	105.8	9624.5	105.70	9644.9	105.70	9661.7	105.80	9679.3	105.60	9697.3
GR	104.9	9714.6	104.20	9726.6	103.20	9736.5	103.10	9746.8	101.80	9755.7
GR	99.2	9770.9	98.60	9795.2	98.80	9821.2	98.80	9860.3	98.10	9887.6
GR	96.6	9910.4	96.20	9940.6	96.10	9972.5	95.30	9997.8	95.30	10000.0
GR	95.7	10032.2	96.10	10065.8	96.40	10099.3	96.50	10128.7	97.10	10159.0
GR	97.6	10164.2	98.10	10208.5	98.90	10244.7	99.40	10281.9	100.40	10306.6
GR	101.7	10334.8	102.30	10363.6	103.00	10393.0	103.10	10435.5	103.60	10474.2
GR	103.9	10505.0	103.90	10539.1	104.40	10547.2	105.66	10552.3	105.66	10561.0

GR	135.6	10621.0								
X1	18.510	68	9487.5	10585.0	198.6	198.6	198.6			
X3	10.							.00	.00	
GR	120.0	9217.2	119.80	9227.6	127.80	9228.1	126.90	9235.4	126.10	9251.9
GR	125.9	9260.8	121.20	9269.5	121.20	9284.7	120.50	9307.6	120.40	9333.0
GR	120.2	9360.0	120.20	9389.6	120.30	9410.4	119.80	9427.2	121.30	9443.1
GR	122.0	9452.2	122.30	9469.9	122.40	9484.4	122.80	9487.5	121.50	9492.7
GR	110.3	9514.8	105.60	9526.2	105.80	9550.8	106.50	9566.5	107.20	9578.5
GR	106.0	9584.8	106.30	9601.3	106.00	9624.9	105.80	9645.7	105.70	9658.5
GR	105.3	9661.6	105.30	9673.9	104.90	9681.8	104.70	9715.2	102.10	9738.1
GR	100.0	9752.8	98.80	9758.5	98.90	9788.9	99.30	9812.9	99.30	9826.3
GR	98.2	9835.0	99.00	9871.1	97.90	9901.6	97.10	9930.8	96.10	9966.3
GR	95.6	9992.6	95.70	10000.0	96.10	10037.5	96.60	10069.6	97.50	10095.9
GR	98.0	10113.2	97.50	10138.9	97.90	10177.4	98.90	10226.5	99.70	10271.4
GR	100.6	10299.6	102.40	10330.3	102.80	10363.0	103.10	10386.6	103.20	10417.4
GR	104.1	10448.9	104.50	10469.2	104.30	10491.8	104.30	10501.1	105.60	10516.8
GR	106.1	10518.7	106.15	10525.0	136.15	10585.0				
X1	18.550	57	9442.6	10538.0	199.2	199.2	199.2			
X3	10.							.00	.00	
GR	119.4	9187.1	119.00	9205.6	118.10	9225.2	119.30	9254.5	119.40	9300.1
GR	119.4	9332.2	120.10	9367.4	120.30	9381.1	123.10	9407.1	122.90	9428.2
GR	122.9	9439.8	123.00	9442.6	111.90	9468.3	106.20	9482.2	105.80	9492.0
GR	105.8	9502.0	105.40	9507.4	106.40	9518.3	105.90	9538.3	103.80	9550.9
GR	104.7	9561.6	106.20	9566.8	105.80	9579.8	105.30	9592.4	106.20	9606.8
GR	105.4	9629.2	105.40	9657.7	104.70	9694.8	103.00	9723.1	100.20	9745.8
GR	99.9	9758.1	100.50	9790.2	99.90	9840.5	97.80	9878.7	97.70	9907.3
GR	97.1	9937.1	95.90	9955.4	95.70	9983.7	96.40	10000.0	96.80	10045.2
GR	98.0	10087.6	98.40	10128.4	99.60	10168.5	99.70	10199.8	99.10	10237.1
GR	100.0	10272.2	102.60	10292.9	103.00	10316.0	102.80	10345.4	102.90	10368.3
GR	104.3	10394.9	104.90	10416.6	105.20	10440.6	105.30	10460.8	106.65	10466.3
GR	106.6	10478.0	136.60	10538.0						

X1	18.580	63	9394.8	10489.0	197.7	197.7	197.7			
X3	10.							.00	.00	
GR	117.2	9121.8	117.70	9148.4	117.80	9178.1	117.70	9196.5	118.10	9223.4
GR	118.5	9246.4	118.60	9279.9	118.70	9316.5	120.00	9334.3	121.90	9351.6
GR	123.0	9359.7	123.00	9388.3	123.20	9393.1	123.30	9394.8	112.00	9419.1
GR	105.4	9434.8	104.60	9463.2	105.40	9472.5	105.40	9485.2	104.90	9488.9
GR	105.9	9506.1	105.30	9543.3	105.70	9581.4	106.00	9615.8	105.80	9646.8
GR	106.3	9678.8	106.20	9706.3	102.90	9717.2	101.90	9723.5	101.40	9738.5
GR	100.4	9764.9	100.10	9785.1	100.20	9816.9	99.30	9841.9	97.80	9873.3
GR	97.1	9900.0	98.10	9926.0	98.00	9953.8	97.20	9991.8	96.90	10000.0
GR	96.7	10025.1	98.00	10061.5	98.90	10103.4	99.70	10144.4	100.30	10195.5
GR	100.5	10227.9	101.60	10243.9	102.40	10265.8	102.80	10318.0	103.40	10352.8
GR	104.0	10357.2	102.80	10360.0	102.80	10370.9	104.80	10376.4	104.40	10381.9
GR	104.6	10388.1	106.10	10391.7	106.10	10396.1	105.50	10398.6	106.40	10410.9
GR	107.1	10417.5	107.15	10429.0	137.15	10489.0				
X1	18.620	35	9342.0	10436.2	198.6	198.6	198.6			
GR	123.5	9278.0	123.00	9294.0	122.00	9311.0	121.00	9342.0	120.00	9343.0
GR	115.0	9357.0	110.00	9369.0	109.00	9376.0	107.00	9377.0	106.00	9408.0
GR	105.0	9440.0	105.00	9453.0	105.00	9650.0	104.00	9690.0	103.00	9718.0
GR	102.0	9770.0	101.00	9800.0	100.00	9813.0	99.00	9836.0	98.00	9851.0
GR	98.0	10000.0	98.00	10047.0	99.00	10068.0	100.00	10086.0	101.00	10178.0

GR	102.0	10217.0	103.00	10270.0	104.00	10325.0	104.00	10331.0	105.00	10345.0
GR	106.0	10350.0	107.00	10354.0	107.67	10362.7	107.67	10376.2	137.60	10436.2
X1	18.660	30	9361.0	10452.7	196.8	196.8	196.8			
GR	123.0	9361.0	120.00	9367.0	115.00	9379.0	110.00	9389.0	108.00	9396.0
GR	107.0	9424.0	106.00	9427.0	106.00	9608.0	105.00	9632.0	104.00	9803.0
GR	103.0	9832.0	102.00	9852.0	101.00	9869.0	100.00	9880.0	99.00	9940.0
GR	98.0	9972.0	97.00	9995.0	97.00	10008.0	98.00	10035.0	99.00	10061.0
GR	100.0	10105.0	101.00	10139.0	102.00	10242.0	103.00	10334.0	104.00	10358.0
GR	105.0	10365.0	108.00	10368.0	108.19	10371.4	108.19	10392.7	138.19	10452.7
X1	18.700	30	9332.0	10424.3	198.9	198.9	198.9			
GR	123.0	9332.0	120.00	9340.0	115.00	9351.0	110.00	9362.0	108.00	9368.0
GR	107.0	9398.0	107.00	9426.0	106.00	9449.0	106.00	9478.0	107.00	9497.0
GR	106.0	9582.0	105.00	9632.0	105.00	9740.0	104.00	9800.0	103.00	9849.0
GR	102.0	9865.0	101.00	9878.0	100.00	9922.0	99.00	9958.0	99.00	10040.0
GR	100.0	10061.0	101.00	10082.0	102.00	10101.0	103.00	10301.0	103.00	10328.0
GR	104.0	10340.0	105.00	10343.0	108.71	10349.5	108.71	10364.3	138.71	10424.3
X1	18.740	12	10035.0	11130.0	238.1	238.1	238.1			
GR	125.5	10000.0	125.00	10035.0	110.00	10075.0	104.40	10386.0	101.40	10392.0
GR	101.4	10792.0	104.40	10798.0	104.40	11071.0	116.90	11089.0	116.90	11097.0
GR	127.9	11130.0	127.90	11141.0						
X1	18.770	12	10035.0	11130.0	200.0	200.0	200.0			
GR	127.6	10000.0	127.00	10035.0	110.00	10070.0	104.80	10364.0	101.80	10370.0
GR	101.8	10770.0	104.80	10776.0	104.80	11070.0	117.40	11089.0	117.40	11097.0
GR	128.4	11130.0	128.40	11140.0						

X1	18.790	12	10035.0	11125.0	100.0	100.0	100.0			
GR	127.8	10000.0	127.00	10035.0	110.50	10070.0	105.10	10347.0	102.10	10353.0
GR	102.1	10753.0	105.10	10759.0	105.10	11065.0	117.60	11084.0	117.60	11092.0
GR	128.6	11125.0	128.60	11136.0						
X1	18.810	12	10032.0	11123.0	100.0	100.0	100.0			
GR	128.0	10000.0	126.00	10032.0	110.00	10082.0	105.30	10334.0	102.30	10340.0
GR	102.3	10740.0	105.30	10746.0	105.30	11063.0	117.80	11082.0	117.80	11090.0
GR	128.8	11123.0	128.80	11134.0						
X1	18.850	12	10047.0	11109.0	200.0	200.0	200.0			
GR	129.3	10000.0	129.00	10047.0	111.00	10085.0	105.80	10308.0	102.80	10314.0
GR	102.8	10714.0	105.80	10720.0	105.80	11049.0	118.20	11068.0	118.20	11076.0
GR	129.2	11109.0	129.20	11119.0						
X1	18.890	14	10033.0	11097.0	200.0	200.0	200.0			
GR	130.0	10000.0	130.00	10033.0	118.60	10078.0	118.60	10086.0	106.20	10105.0
GR	106.2	10281.0	103.20	10287.0	103.20	10687.0	106.20	10693.0	106.20	11038.0
GR	118.6	11056.0	118.60	11064.0	129.60	11097.0	129.60	11108.0		
X1	18.930	14	10055.0	11130.0	200.0	200.0	200.0			
GR	130.4	10000.0	131.00	10055.0	119.10	10108.0	119.10	10116.0	106.70	10135.0
GR	106.7	10284.0	103.70	10290.0	103.70	10690.0	106.70	10696.0	106.70	11071.0
GR	119.1	11089.0	119.10	11097.0	130.00	11130.0	130.00	11141.0		
X1	18.960	14	10059.0	11115.0	200.0	200.0	200.0			
GR	132.0	10000.0	131.00	10059.0	119.40	10087.0	119.40	10095.0	107.20	10113.0

GR	107.2	10244.0	104.20	10250.0	104.20	10650.0	107.20	10656.0	107.20	11055.0
GR	119.5	11074.0	119.50	11082.0	130.50	11115.0	130.50	11126.0		
X1	19.000	14	10040.0	11092.0	200.0	200.0	200.0			
GR	131.0	10000.0	130.00	10040.0	119.90	10064.0	119.90	10072.0	107.70	10090.0
GR	107.7	10194.0	104.70	10200.0	104.70	10600.0	107.70	10606.0	107.70	11032.0
GR	119.9	11051.0	119.90	11059.0	130.90	11092.0	130.90	11102.0		
X1	19.040	14	10040.0	11092.0	200.0	200.0	200.0			
GR	131.0	10000.0	130.00	10040.0	120.30	10064.0	120.30	10072.0	108.10	10090.0
GR	108.1	10172.0	105.10	10178.0	105.10	10578.0	108.10	10584.0	108.10	11032.0
GR	120.3	11051.0	120.30	11059.0	131.30	11092.0	131.30	11102.0		
X1	19.080	14	10042.0	11087.0	200.0	200.0	200.0			
GR	132.0	10000.0	130.00	10042.0	120.80	10067.0	120.80	10075.0	108.60	10093.0
GR	108.6	10144.0	105.60	10150.0	105.60	10550.0	108.60	10556.0	108.60	11027.0
GR	120.8	11046.0	120.80	11054.0	131.80	11087.0	131.80	11097.0		
X1	19.120	14	10035.0	11081.0	200.0	200.0	200.0			
GR	132.5	10000.0	130.00	10035.0	121.20	10055.0	121.20	10063.0	109.10	10081.0
GR	109.1	10114.0	106.10	10120.0	106.10	10520.0	109.10	10526.0	109.10	11022.0
GR	121.2	11040.0	121.20	11048.0	132.20	11081.0	132.20	11092.0		

1

X1	19.150	14	10033.0	11085.0	200.0	200.0	200.0			
GR	132.0	10000.0	130.00	10033.0	121.60	10049.0	121.60	10057.0	109.50	10075.0
GR	109.5	10096.0	106.50	10102.0	106.50	10502.0	109.50	10508.0	109.50	11026.0
GR	121.6	11044.0	121.60	11052.0	132.60	11085.0	132.60	11096.0		
X1	19.190	14	10011.0	11093.0	200.0	200.0	200.0			
GR	133.0	10000.0	133.00	10011.0	122.00	10044.0	122.00	10052.0	110.00	10070.0
GR	110.0	10091.0	107.00	10097.0	107.00	10497.0	110.00	10503.0	110.00	11034.0
GR	122.0	11052.0	122.00	11060.0	133.00	11093.0	133.00	11104.0		
X1	19.230	13	10027.0	11093.0	200.0	200.0	200.0			
GR	133.5	10000.0	133.50	10027.0	133.50	10035.0	110.50	10070.0	110.50	10086.0
GR	107.5	10092.0	107.50	10492.0	110.50	10498.0	110.50	11034.0	122.50	11052.0
GR	122.5	11060.0	133.50	11093.0	133.50	11104.0				
X1	19.280	10	10036.0	11068.0	265.0	265.0	265.0			
GR	134.1	10000.0	134.10	10036.0	111.20	10070.0	111.20	10092.0	108.20	10098.0
GR	108.2	10498.0	111.20	10504.0	111.20	11034.0	134.10	11068.0	134.10	11103.0
QT	1	289000								
X1	19.300	12	10011.0	11068.0	120.0	120.0	120.0			
GR	134.3	10000.0	134.30	10011.0	123.30	10044.0	123.30	10052.0	111.40	10070.0
GR	111.4	10092.0	108.40	10098.0	108.40	10498.0	111.40	10504.0	111.40	11034.0
GR	134.3	11068.0	134.30	11103.0						
X1	19.340	14	10011.0	11091.0	215.0	215.0	215.0			
GR	134.7	10000.0	134.70	10011.0	123.70	10044.0	123.70	10052.0	111.90	10070.0
GR	111.9	10091.0	108.90	10097.0	108.90	10497.0	111.90	10503.0	111.90	11033.0
GR	123.7	11050.0	123.70	11058.0	134.70	11091.0	134.70	11102.0		
X1	19.380	14	10011.0	11091.0	200.0	200.0	200.0			
GR	135.2	10000.0	135.20	10011.0	124.20	10044.0	124.20	10052.0	112.40	10070.0
GR	112.4	10091.0	109.40	10097.0	109.40	10497.0	112.40	10503.0	112.40	11033.0

GR	124.2	11050.0	124.20	11058.0	135.20	11091.0	135.20	11102.0		
NC				.30000	.50000					
X1	19.384	13	10014.1	11091.6	17.0	17.0	17.0			
GR	135.2	10000.0	135.20	10014.1	112.40	10069.5	112.40	10090.0	109.40	10096.0
GR	109.4	10496.0	112.40	10502.0	112.40	10551.2	112.40	11032.9	124.20	11050.6
GR	124.2	11058.6	135.20	11091.6	135.20	11102.4				
SB	1.050	1.56	2.60	.00	875.00	73.50	30974.00	2.000	109.70	109.40
X1	19.400	13	10035.3	11091.6	109.0	109.0	109.0			
X2	0.	.00	1.	145.20	152.20	.00		.000		.000
GR	135.5	10000.0	135.50	10035.3	112.70	10069.5	112.70	10090.0	109.70	10096.0
GR	109.7	10496.0	112.70	10502.0	112.70	10551.2	112.70	11032.9	124.50	11050.6
GR	124.5	11058.6	135.50	11091.6	135.50	11102.4				

X1	19.430	13	10035.3	11091.4	141.0	141.0	141.0			
GR	135.7	10000.0	135.70	10035.3	113.00	10069.5	113.00	10090.0	110.00	10096.0
GR	110.0	10496.0	113.00	10502.0	113.00	10551.1	113.00	11032.7	124.70	11050.4
GR	124.7	11058.4	135.70	11091.4	135.70	11102.2				
X1	19.460	11	10035.3	11091.0	141.0	141.0	141.0			
GR	136.0	10000.0	136.00	10035.3	113.30	10069.4	113.30	10090.0	110.30	10096.0
GR	110.3	10496.0	113.30	10502.0	113.30	10550.9	113.30	11032.4	136.00	11091.0
GR	136.0	11101.8								
SB	1.050	1.56	2.60	.00	875.00	80.00	26567.00	2.000	110.70	110.30
X1	19.480	13	10010.8	11065.9	122.0	122.0	122.0			
X2	0.	.00	1.	141.70	148.70	.00		.000		.000
GR	136.3	10000.0	136.30	10010.8	125.30	10043.8	125.30	10051.8	113.70	10069.2
GR	113.7	10090.0	110.70	10096.0	110.70	10496.0	113.70	10502.0	113.70	10550.6
GR	113.7	11032.0	136.30	11065.9	136.30	11101.2				
X1	19.490	13	10010.8	11065.9	70.0	70.0	70.0			
GR	136.4	10000.0	136.40	10010.8	125.40	10043.8	125.40	10051.8	113.80	10069.2
GR	113.8	10090.0	110.80	10096.0	110.80	10496.0	113.80	10502.0	113.80	10550.6
GR	113.8	11032.0	136.40	11065.9	136.40	11101.2				
NC				.10000	.30000					
X1	19.530	16	10011.0	11084.0	200.0	200.0	200.0			
GR	136.9	10000.0	136.90	10011.0	125.90	10044.0	125.90	10052.0	114.30	10078.0
GR	114.3	10089.0	111.30	10095.0	111.30	10495.0	114.30	10501.0	114.30	11032.0
GR	125.9	11050.0	125.90	11058.0	122.90	11062.0	122.90	11063.0	136.90	11084.0
GR	136.9	11098.0								
X1	19.570	15	10020.0	11096.0	200.0	200.0	200.0			
GR	137.3	10000.0	137.30	10012.0	137.30	10020.0	114.70	10081.0	114.70	10109.0
GR	111.7	10115.0	111.70	10515.0	114.70	10521.0	114.70	11043.0	126.30	11061.0
GR	126.3	11069.0	123.30	11073.0	123.30	11074.0	137.30	11096.0	137.30	11109.0
X1	19.610	16	10011.0	11083.0	200.0	200.0	200.0			
GR	137.7	10000.0	137.70	10011.0	126.70	10044.0	126.70	10052.0	115.20	10069.0
GR	115.2	10102.0	112.20	10108.0	112.20	10508.0	115.20	10514.0	115.20	11031.0
GR	126.7	11049.0	126.70	11057.0	123.70	11061.0	123.70	11062.0	138.30	11083.0
GR	138.3	11098.0								
X1	19.650	16	10011.0	11085.0	200.0	200.0	200.0			

GR	138.1	10000.0	138.10	10011.0	127.10	10043.0	127.10	10051.0	115.70	10069.0
GR	115.7	10124.0	112.70	10130.0	112.70	10530.0	115.70	10536.0	115.70	11033.0
GR	127.1	11050.0	127.10	11058.0	124.10	11063.0	124.10	11064.0	138.70	11085.0
GR	138.7	11099.0								
X1	19.680	16	10010.0	11087.0	200.0	200.0	200.0			
GR	138.6	10000.0	138.60	10010.0	127.60	10043.0	127.60	10051.0	116.20	10069.0
GR	116.2	10157.0	113.20	10163.0	113.20	10563.0	116.20	10569.0	116.20	11035.0
GR	127.6	11052.0	127.60	11060.0	124.60	11065.0	124.60	11066.0	139.20	11087.0
GR	139.2	11101.0								

1

X1	19.720	16	10011.0	11089.0	200.0	200.0	200.0			
GR	139.0	10000.0	139.00	10011.0	128.00	10044.0	128.00	10052.0	116.60	10069.0
GR	116.6	10205.0	113.60	10211.0	113.60	10611.0	116.60	10617.0	116.60	11037.0
GR	128.0	11054.0	128.00	11062.0	125.00	11067.0	125.00	11068.0	139.60	11089.0
GR	139.6	11103.0								
X1	19.760	16	10011.0	11089.0	200.0	200.0	200.0			
GR	139.4	10000.0	139.40	10011.0	128.40	10044.0	128.40	10052.0	117.10	10069.0
GR	117.1	10263.0	114.10	10269.0	114.10	10669.0	117.10	10675.0	117.10	11037.0
GR	128.4	11054.0	128.40	11062.0	125.40	11067.0	125.40	11068.0	140.00	11089.0
GR	140.0	11103.0								
X1	19.800	12	10010.0	11088.0	200.0	200.0	200.0			
GR	139.8	10000.0	139.80	10010.0	128.80	10043.0	128.80	10051.0	117.60	10068.0
GR	117.6	10322.0	114.60	10328.0	114.60	10728.0	117.60	10734.0	117.60	11036.0
GR	140.4	11088.0	140.40	11102.0						
X1	19.830	12	10011.0	11070.0	200.0	200.0	200.0			
GR	140.3	10000.0	140.30	10011.0	129.30	10044.0	129.30	10052.0	118.00	10069.0
GR	118.0	10382.0	115.00	10388.0	115.00	10788.0	118.00	10794.0	118.00	11035.0
GR	140.9	11070.0	140.90	11084.0						
X1	19.870	12	10011.0	11067.0	200.0	200.0	200.0			
GR	140.7	10000.0	140.70	10011.0	129.70	10044.0	129.70	10052.0	118.50	10068.0
GR	118.5	10431.0	115.50	10437.0	115.50	10837.0	118.50	10843.0	118.50	11033.0
GR	141.3	11067.0	141.30	11081.0						
X1	19.910	12	10011.0	11065.0	200.0	200.0	200.0			
GR	141.0	10000.0	141.00	10011.0	130.10	10044.0	130.10	10052.0	119.00	10069.0
GR	119.0	10485.0	116.00	10491.0	116.00	10891.0	119.00	10897.0	119.00	11031.0
GR	141.7	11065.0	141.70	11079.0						
X1	19.950	12	10011.0	11061.0	200.0	200.0	200.0			
GR	141.5	10000.0	141.50	10011.0	130.50	10044.0	130.50	10052.0	119.50	10069.0
GR	119.5	10528.0	116.50	10534.0	116.50	10934.0	119.50	10940.0	119.50	11027.0
GR	142.1	11061.0	142.10	11075.0						
X1	19.990	10	10015.0	11080.0	200.0	200.0	200.0			
GR	142.0	10000.0	142.00	10015.0	119.90	10077.0	119.90	10567.0	116.90	10573.0
GR	116.9	10973.0	119.90	10979.0	119.90	11032.0	142.60	11080.0	142.60	11090.0
X1	20.020	10	10018.0	11050.0	200.0	200.0	200.0			
GR	142.4	10000.0	142.40	10018.0	120.40	10067.0	120.40	10576.0	117.40	10582.0
GR	117.4	10982.0	120.40	10988.0	120.40	11016.0	143.00	11050.0	143.00	11063.0

X1	20.060	12	10011.0	11046.0	200.0	200.0	200.0			
GR	142.8	10000.0	142.80	10011.0	131.80	10044.0	131.80	10052.0	120.90	10069.0
GR	120.9	10587.0	117.90	10593.0	117.90	10993.0	120.90	10999.0	120.90	11012.0
GR	143.4	11046.0	143.40	11060.0						

1

X1	20.100	12	10011.0	11039.0	200.0	200.0	200.0			
GR	143.2	10000.0	143.20	10011.0	132.20	10044.0	132.20	10052.0	121.30	10069.0
GR	121.3	10586.0	118.30	10592.0	118.30	10992.0	121.30	10998.0	121.30	11005.0
GR	143.8	11039.0	143.80	11053.0						
X1	20.140	12	10011.0	11031.0	200.0	200.0	200.0			
GR	143.7	10000.0	143.70	10011.0	132.70	10044.0	132.70	10052.0	121.80	10068.0
GR	121.8	10574.0	118.80	10580.0	118.80	10980.0	121.80	10986.0	121.80	10998.0
GR	144.3	11031.0	144.30	11045.0						
X1	20.180	12	10011.0	11023.0	200.0	200.0	200.0			
GR	144.1	10000.0	144.10	10011.0	133.10	10044.0	133.10	10052.0	122.30	10068.0
GR	122.3	10555.0	119.30	10561.0	119.30	10961.0	122.30	10967.0	122.30	10989.0
GR	144.7	11023.0	144.70	11037.0						
X1	20.210	12	10011.0	11014.0	200.0	200.0	200.0			
GR	144.5	10000.0	144.50	10011.0	133.50	10044.0	133.50	10052.0	122.80	10068.0
GR	122.8	10516.0	119.80	10522.0	119.80	10922.0	122.80	10928.0	122.80	10980.0
GR	145.1	11014.0	145.10	11028.0						
X1	20.250	12	10011.0	11005.0	200.0	200.0	200.0			
GR	145.0	10000.0	145.00	10011.0	134.00	10044.0	134.00	10052.0	123.20	10068.0
GR	123.2	10480.0	120.20	10486.0	120.20	10886.0	123.20	10892.0	123.20	10972.0
GR	145.6	11005.0	145.60	11019.0						
X1	20.290	12	10010.0	10994.0	200.0	200.0	200.0			
GR	145.6	10000.0	145.60	10010.0	134.60	10043.0	134.60	10051.0	123.70	10068.0
GR	123.7	10435.0	120.70	10441.0	120.70	10841.0	123.70	10847.0	123.70	10961.0
GR	145.6	10994.0	145.60	11008.0						
X1	20.330	12	10011.0	10987.0	200.0	200.0	200.0			
GR	146.1	10000.0	146.10	10011.0	135.10	10044.0	135.10	10052.0	124.20	10068.0
GR	124.2	10382.0	121.20	10388.0	121.20	10788.0	124.20	10794.0	124.20	10951.0
GR	146.1	10987.0	146.10	11000.0						
X1	20.370	10	10020.0	10987.0	200.0	200.0	200.0			
GR	146.6	10000.0	146.60	10020.0	124.60	10066.0	124.60	10325.0	121.60	10331.0
GR	121.6	10731.0	124.60	10737.0	124.60	10938.0	146.60	10987.0	146.60	11000.0
X1	20.400	12	10010.0	10965.0	200.0	200.0	200.0			
GR	147.1	10000.0	147.10	10010.0	136.10	10043.0	136.10	10051.0	125.10	10068.0
GR	125.1	10276.0	122.10	10282.0	122.10	10682.0	125.10	10688.0	125.10	10932.0
GR	147.1	10965.0	147.10	10979.0						
X1	20.436	14	10012.0	10988.0	182.0	182.0	182.0			
GR	147.7	10000.0	147.67	10012.0	136.66	10045.0	136.66	10053.0	125.56	10069.0
GR	125.6	10230.0	122.50	10236.0	122.50	10636.0	125.56	10642.0	125.56	10931.0
GR	136.7	10947.0	136.66	10955.0	147.67	10988.0	147.67	10999.0		

1

```
X1   20.441        14    10012.0    10988.0       18.0       18.0       18.0
GR    147.7   10000.0     147.70    10012.0     136.69    10045.0     136.69    10053.0     125.59    10069.0
GR    125.6   10230.0     122.53    10236.0     122.53    10636.0     125.59    10642.0     125.59    10931.0
GR    136.7   10947.0     136.69    10955.0     147.70    10988.0     147.70    10999.0

X1   20.480        10    10032.0    10964.0      200.0      200.0      200.0
GR    148.2   10000.0     148.20    10032.0     125.94    10069.0     125.94    10190.0     122.86    10196.0
GR    122.9   10596.0     125.94    10602.0     125.94    10931.0     148.20    10964.0     148.20    10999.0
1
   04APR97      08:46:52                                                                                PAGE   24


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


*PROF 1
0

CCHV=     .100 CEHV=     .300
*SECNO 16.690
3280 CROSS SECTION     16.69 EXTENDED      8.70 FEET

   16.690     38.70    110.70       .00    110.70    111.35       .65       .00       .00    104.00
 287720.0   36491.5  203506.1   47722.5   11184.0   27948.0   10657.5        .0        .0    104.00
      .00      3.26      7.28      4.48      .040      .033      .040      .000     72.00   8400.00
  .000331      460.      400.      330.         0         0         0       .00   2845.00  11245.00


*SECNO 16.770
3280 CROSS SECTION     16.77 EXTENDED     11.56 FEET


3301 HV CHANGED MORE THAN HVINS

   16.770     28.86    110.46       .00       .00    111.72      1.26       .18       .18     98.90
 287720.0        .0  264142.4   23577.6        .0   28352.3    5520.5     393.2      22.1    108.00
      .01       .00      9.32      4.27      .000      .033      .040      .000     81.60   9210.00
  .000635      500.      400.      380.         2         0         0       .00   1760.00  10970.00


*SECNO 16.800
3280 CROSS SECTION     16.80 EXTENDED     11.67 FEET

   16.800     28.48    110.58       .00       .00    111.88      1.30       .15       .01     98.90
 287720.0        .0  287720.0        .0        .0   31460.9        .0     548.3      30.6    104.00
      .02       .00      9.15       .00      .000      .033      .000      .000     82.10   9240.00
  .000870      235.      200.      280.         0         0         0       .00   1720.00  10960.00


CCHV=     .300 CEHV=     .500
*SECNO 16.840
   16.840     32.20    110.50       .00       .00    112.20      1.70       .12       .20    122.00
 287720.0        .0  287720.0        .0        .0   27499.2        .0     656.6      35.7    121.60
      .02       .00     10.46       .00      .000      .033      .000      .000     78.30   9227.71
  .000697      160.      160.      160.         2         0         0       .00   1040.77  10268.49
```

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

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.05	1.00	2.60	.00	713.50	70.00	28037.70	3.00	79.00	78.30

*SECNO 16.880
CLASS A LOW FLOW

3420 BRIDGE W.S.= 110.38 BRIDGE VELOCITY= 12.27 CALCULATED CHANNEL AREA= 23151.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	112.59	.30	0.	287720.	28038.	28038.	116.14	123.72	0.

16.880	31.81	110.81	.00	.00	112.59	1.78	.38	.00	122.60
287720.0	.0	287720.0	.0	.0	26881.0	.0	797.3	41.0	122.00
.03	.00	10.70	.00	.000	.033	.000	.000	79.00	9243.29
.000752	225.	225.	225.	0	0	0	.00	1042.31	10285.60

*SECNO 16.920
3280 CROSS SECTION 16.92 EXTENDED 28.42 FEET

16.920	31.62	110.92	.00	.00	112.78	1.86	.15	.04	84.00
287720.0	40935.7	246784.3	.0	4651.2	21935.5	.0	924.3	45.7	98.60
.03	8.80	11.25	.00	.040	.033	.000	.000	79.30	9390.00
.000719	207.	207.	207.	2	0	0	.00	925.70	10315.70

CCHV= .100 CEHV= .300
*SECNO 16.960
3280 CROSS SECTION 16.96 EXTENDED 11.73 FEET

16.960	32.23	111.13	.00	.00	112.93	1.80	.15	.01	110.00
287720.0	5727.5	281992.5	.0	1682.7	25965.4	.0	1050.8	50.8	99.40
.04	3.40	10.86	.00	.040	.033	.000	.000	78.90	9158.90
.000717	203.	203.	203.	2	0	0	.00	1244.40	10403.30

*SECNO 16.990
3280 CROSS SECTION 16.99 EXTENDED 10.74 FEET

16.990	33.44	111.24	.00	.00	113.09	1.85	.15	.01	109.90
287720.0	5003.1	282716.9	.0	1159.3	25744.9	.0	1177.1	56.2	100.70
.04	4.32	10.98	.00	.040	.033	.000	.000	77.80	9394.50
.000730	202.	202.	202.	2	0	0	.00	1079.60	10474.10

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

*SECNO 17.030
3280 CROSS SECTION 17.03 EXTENDED 13.42 FEET

17.030	35.62	111.32	.00	.00	113.27	1.95	.15	.03	110.70
287720.0	3598.1	284121.9	.0	800.6	25220.3	.0	1294.7	60.8	97.90
.05	4.49	11.27	.00	.040	.035	.000	.000	75.70	9493.40
.000856	194.	194.	194.	2	0	0	.00	1018.20	10511.60

*SECNO 17.070
3280 CROSS SECTION 17.07 EXTENDED 3.74 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 111.20 ELREA= 111.56

17.070	34.94	111.54	.00	.00	113.45	1.91	.17	.00	111.20
287720.0	3188.2	284531.8	.0	1157.2	25519.2	.0	1417.2	66.1	111.56
.05	2.76	11.15	.00	.040	.035	.000	.000	76.60	9349.50
.000855	203.	203.	203.	2	0	0	.00	1248.46	10597.96

*SECNO 17.110

3265 DIVIDED FLOW

3280 CROSS SECTION 17.11 EXTENDED 3.75 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 111.30 ELREA= 112.91

17.110	33.15	111.65	.00	.00	113.66	2.01	.17	.03	111.30
287720.0	3309.8	284410.2	.0	1133.4	24878.3	.0	1535.9	71.7	112.91
.06	2.92	11.43	.00	.040	.035	.000	.000	78.50	9393.80
.000931	196.	196.	196.	2	0	0	.00	1236.41	10639.38

*SECNO 17.140
3280 CROSS SECTION 17.14 EXTENDED 14.35 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 112.20 ELREA= 112.60

17.140	31.95	111.75	.00	.00	113.89	2.15	.20	.04	112.20
287720.0	.0	287720.0	.0	.0	24476.4	.0	1653.8	76.8	112.60
.06	.00	11.75	.00	.000	.035	.000	.000	79.80	9738.61
.001010	204.	204.	204.	2	0	0	.00	939.19	10677.80

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

*SECNO 17.180
3280 CROSS SECTION 17.18 EXTENDED 47.11 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 113.00 ELREA= 112.50

17.180	33.01	111.91	.00	.00	114.12	2.21	.20	.02	113.00
287720.0	.0	287720.0	.0	.0	24119.4	.0	1764.6	81.0	112.50
.07	.00	11.93	.00	.000	.035	.000	.000	78.90	9771.62
.001049	199.	199.	199.	2	0	0	.00	929.60	10701.22

*SECNO 17.220
3280 CROSS SECTION 17.22 EXTENDED 47.29 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 113.80 ELREA= 113.10

17.220	31.69	112.09	.00	.00	114.35	2.26	.22	.01	113.80
287720.0	.0	287720.0	.0	.0	23875.2	.0	1876.3	85.4	113.10
.07	.00	12.05	.00	.000	.035	.000	.000	80.40	9787.31
.001088	203.	203.	203.	2	0	0	.00	932.38	10719.69

*SECNO 17.260
3280 CROSS SECTION 17.26 EXTENDED 47.52 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 114.20 ELREA= 113.30

17.260	31.12	112.32	.00	.00	114.62	2.30	.26	.01	114.20
287720.0	.0	287720.0	.0	.0	23636.7	.0	2003.3	90.4	113.30
.08	.00	12.17	.00	.000	.035	.000	.000	81.20	9784.58
.001127	233.	233.	233.	2	0	0	.00	933.36	10717.94

*SECNO 17.280
3280 CROSS SECTION 17.28 EXTENDED 48.19 FEET

3301 HV CHANGED MORE THAN HVINS

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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 114.70 ELREA= 114.70

17.280	32.69	112.99	.00	.00	114.77	1.77	.09	.05	114.70
287720.0	.0	287720.0	.0	.0	26922.3	.0	2063.2	92.6	114.70
.08	.00	10.69	.00	.000	.035	.000	.000	80.30	9772.40
.000736	103.	103.	103.	2	0	0	.00	936.29	10708.69

*SECNO 17.300
3280 CROSS SECTION 17.30 EXTENDED 48.30 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 114.60 ELREA= 114.40

17.300	32.80	113.10	.00	.00	114.83	1.73	.06	.00	114.60
287720.0	.0	287720.0	.0	.0	27247.8	.0	2116.9	94.4	114.40
.08	.00	10.56	.00	.000	.035	.000	.000	80.30	9756.22
.000707	86.	86.	86.	2	0	0	.00	936.78	10693.00

*SECNO 17.320
3280 CROSS SECTION 17.32 EXTENDED 48.39 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 114.70 ELREA= 114.20

17.320	32.89	113.19	.00	.00	114.89	1.70	.05	.00	114.70
287720.0	.0	287720.0	.0	.0	27474.7	.0	2165.3	96.1	114.20
.09	.00	10.47	.00	.000	.035	.000	.000	80.30	9737.81
.000688	77.	77.	77.	2	0	0	.00	937.06	10674.87

*SECNO 17.330
3280 CROSS SECTION 17.33 EXTENDED 48.57 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 114.80 ELREA= 116.73

17.330	33.07	113.37	.00	.00	114.97	1.59	.07	.01	114.80
287720.0	.0	287720.0	.0	.0	28405.1	.0	2230.2	98.3	116.73
.09	.00	10.13	.00	.000	.035	.000	.000	80.30	9703.90
.000634	101.	101.	101.	2	0	0	.00	957.68	10661.58

1

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

*SECNO 17.370
3280 CROSS SECTION 17.37 EXTENDED 48.72 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 115.20 ELREA= 116.59

17.370	33.22	113.52	.00	.00	115.09	1.57	.12	.00	115.20
287720.0	.0	287720.0	.0	.0	28640.5	.0	2357.6	102.6	116.59
.09	.00	10.05	.00	.000	.035	.000	.000	80.30	9614.53
.000613	195.	195.	195.	2	0	0	.00	953.33	10567.87

*SECNO 17.410
3280 CROSS SECTION 17.41 EXTENDED 48.87 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 115.20 ELREA= 116.65

17.410	33.37	113.67	.00	.00	115.21	1.54	.12	.00	115.20
287720.0	.0	287720.0	.0	.0	28900.1	.0	2489.3	106.9	116.65
.10	.00	9.96	.00	.000	.035	.000	.000	80.30	9495.96
.000595	200.	200.	200.	2	0	0	.00	953.29	10449.25

*SECNO 17.450
3280 CROSS SECTION 17.45 EXTENDED 49.00 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 115.40 ELREA= 118.40

17.450	33.50	113.80	.00	.00	115.33	1.54	.12	.00	115.40
287720.0	.0	287720.0	.0	.0	28934.8	.0	2623.2	111.3	118.40
.11	.00	9.94	.00	.000	.035	.000	.000	80.30	9372.86
.000590	202.	202.	202.	0	0	0	.00	949.83	10322.69

*SECNO 17.490
3280 CROSS SECTION 17.49 EXTENDED 49.02 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 115.90 ELREA= 119.30

17.490	31.72	113.82	.00	.00	115.51	1.68	.13	.04	115.90
287720.0	.0	287720.0	.0	.0	27654.4	.0	2755.2	115.8	119.30
.11	.00	10.40	.00	.000	.035	.000	.000	82.10	9269.67
.000688	203.	203.	203.	2	0	0	.00	953.08	10222.74

1

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

*SECNO 17.520
3280 CROSS SECTION 17.52 EXTENDED 49.03 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 115.70 ELREA= 118.40

17.520	31.43	113.83	.00	.00	115.72	1.89	.15	.06	115.70
287720.0	.0	287720.0	.0	.0	26051.3	.0	2879.0	120.2	118.40
.12	.00	11.04	.00	.000	.035	.000	.000	82.40	9212.75
.000851	201.	201.	201.	2	0	0	.00	961.98	10174.73

*SECNO 17.560
3280 CROSS SECTION 17.56 EXTENDED 48.93 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 115.90 ELREA= 116.80

17.560	30.63	113.73	.00	.00	116.05	2.32	.20	.13	115.90
287720.0	.0	287720.0	.0	.0	23544.5	.0	2992.3	124.6	116.80
.12	.00	12.22	.00	.000	.035	.000	.000	83.10	9175.09
.001212	199.	199.	199.	2	0	0	.00	975.27	10150.36

*SECNO 17.600
3280 CROSS SECTION 17.60 EXTENDED 49.14 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 116.10 ELREA= 116.35

17.600	30.44	113.94	.00	.00	116.32	2.37	.25	.02	116.10
287720.0	.0	287720.0	.0	.0	23272.0	.0	3100.1	129.1	116.35
.12	.00	12.36	.00	.000	.035	.000	.000	83.50	9141.99
.001286	201.	201.	201.	0	0	0	.00	991.69	10133.68

*SECNO 17.640
3280 CROSS SECTION 17.64 EXTENDED 49.39 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 116.00 ELREA= 115.78

17.640	30.09	114.19	.00	.00	116.59	2.40	.26	.01	116.00
287720.0	.0	287720.0	.0	.0	23160.9	.0	3206.9	133.7	115.78
.13	.00	12.42	.00	.000	.035	.000	.000	84.10	9104.40
.001338	200.	200.	200.	0	0	0	.00	1011.74	10116.14

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

*SECNO 17.680
3280 CROSS SECTION 17.68 EXTENDED 34.18 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 116.60 ELREA= 116.33

17.680	30.18	114.48	.00	.00	116.86	2.38	.27	.00	116.60

287720.0	.0	287720.0	.0	.0	23236.9	.0	3314.4	138.5	116.33
.13	.00	12.38	.00	.000	.035	.000	.000	84.30	9069.50
.001353	202.	202.	202.	2	0	0	.00	1028.20	10097.70

*SECNO 17.710
3280 CROSS SECTION 17.71 EXTENDED 10.47 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 116.70 ELREA= 117.05

17.710	29.37	114.77	.00	.00	117.13	2.36	.27	.00	116.70
287720.0	.0	287720.0	.0	.0	23347.7	.0	3420.7	143.2	117.05
.14	.00	12.32	.00	.000	.035	.000	.000	85.40	9046.81
.001359	199.	199.	199.	2	0	0	.00	1044.44	10091.26

*SECNO 17.750
3280 CROSS SECTION 17.75 EXTENDED 5.16 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 116.70 ELREA= 115.22

17.750	29.94	115.16	.00	.00	117.41	2.25	.26	.01	116.70
287720.0	.0	287720.0	.0	.0	23910.7	.0	3528.6	148.0	115.22
.14	.00	12.03	.00	.000	.035	.000	.000	85.22	9021.09
.001282	199.	199.	199.	2	0	0	.00	1061.89	10082.97

*SECNO 17.790
3280 CROSS SECTION 17.79 EXTENDED 4.58 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 116.40 ELREA= 121.25

17.790	29.38	115.48	.00	.00	117.67	2.19	.25	.01	116.40
287720.0	.0	287720.0	.0	.0	24231.4	.0	3640.1	152.9	121.25
.15	.00	11.87	.00	.000	.035	.000	.000	86.10	9014.55
.001239	202.	202.	202.	2	0	0	.00	1071.11	10085.65

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

*SECNO 17.830
3280 CROSS SECTION 17.83 EXTENDED 4.53 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 117.10 ELREA= 127.10

17.830	29.52	115.72	.00	.00	117.92	2.19	.25	.00	117.10
287720.0	.0	287720.0	.0	.0	24200.0	.0	3750.9	157.9	127.10
.15	.00	11.89	.00	.000	.035	.000	.000	86.20	9042.54

.001255	199.	199.	199.	0	0	0	.00	1078.68	10121.22

*SECNO 17.860
3280 CROSS SECTION 17.86 EXTENDED 4.57 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 117.50 ELREA= 127.65

17.860	27.96	115.96	.00	.00	118.17	2.21	.25	.01	117.50
287720.0	.0	287720.0	.0	.0	24099.1	.0	3861.1	162.8	127.65
.16	.00	11.94	.00	.000	.035	.000	.000	88.00	9091.06
.001271	199.	199.	199.	0	0	0	.00	1078.58	10169.64

*SECNO 17.900
3280 CROSS SECTION 17.90 EXTENDED 4.88 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 118.00 ELREA= 128.12

17.900	28.18	116.18	.00	.00	118.46	2.28	.26	.02	118.00
287720.0	.0	287720.0	.0	.0	23768.9	.0	3973.2	167.8	128.12
.16	.00	12.10	.00	.000	.035	.000	.000	88.00	9141.10
.001323	204.	204.	204.	2	0	0	.00	1073.64	10214.74

*SECNO 17.940
3280 CROSS SECTION 17.94 EXTENDED 4.30 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 117.10 ELREA= 117.20

17.940	26.90	116.30	.00	.00	118.79	2.49	.27	.06	117.10
287720.0	.0	287720.0	.0	.0	22739.0	.0	4078.2	172.5	117.20
.17	.00	12.65	.00	.000	.035	.000	.000	89.40	9185.17
.001429	197.	197.	197.	2	0	0	.00	1016.69	10201.86

1

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

*SECNO 17.980
3280 CROSS SECTION 17.98 EXTENDED 3.58 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 117.60 ELREA= 118.00

17.980	27.08	116.28	.00	.00	119.25	2.98	.32	.15	117.60
287720.0	.0	287720.0	.0	.0	20775.5	.0	4179.1	177.1	118.00
.17	.00	13.85	.00	.000	.035	.000	.000	89.20	9222.39
.001738	202.	202.	202.	2	0	0	.00	934.69	10157.08

*SECNO 18.020
3280 CROSS SECTION 18.02 EXTENDED 2.44 FEET

3301 HV CHANGED MORE THAN HVINS

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 118.40 ELREA= 119.00

18.020	26.54	116.24	.00	.00	119.83	3.60	.39	.19	118.40
287720.0	.0	287720.0	.0	.0	18903.0	.0	4271.2	181.3	119.00
.17	.00	15.22	.00	.000	.035	.000	.000	89.70	9249.94
.002193	202.	202.	202.	2	0	0	.00	874.92	10124.86

*SECNO 18.050
3280 CROSS SECTION 18.05 EXTENDED .94 FEET

3301 HV CHANGED MORE THAN HVINS

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 119.20 ELREA= 119.50

18.050	26.24	116.34	.00	.00	120.45	4.11	.46	.15	119.20
287720.0	.0	287720.0	.0	.0	17680.4	.0	4353.3	185.1	119.50
.18	.00	16.27	.00	.000	.035	.000	.000	90.10	9277.62
.002569	196.	196.	196.	2	0	0	.00	828.81	10106.43

1
04APR97 08:46:52 PAGE 34

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

*SECNO 18.090
3280 CROSS SECTION 18.09 EXTENDED 1.02 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 121.00 ELREA= 119.00

18.090	26.02	116.62	.00	.00	121.13	4.51	.56	.12	121.00
287720.0	.0	287720.0	.0	.0	16887.9	.0	4435.5	189.0	119.00
.18	.00	17.04	.00	.000	.035	.000	.000	90.60	9321.89
.002853	207.	207.	207.	2	0	0	.00	799.72	10121.61

*SECNO 18.120

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 120.40 ELREA= 119.30

18.120	26.26	117.26	.00	.00	121.53	4.27	.38	.02	120.40
287720.0	.0	287720.0	.0	.0	17343.5	.0	4489.5	191.5	119.30
.18	.00	16.59	.00	.000	.035	.000	.000	91.00	9366.97

.002659	137.	137.	137.	2	0	0	.00	814.37	10181.34

*SECNO 18.140

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 121.70 ELREA= 120.00

18.140	26.89	118.09	.00	.00	121.91	3.82	.34	.05	121.70
287720.0	.0	287720.0	.0	.0	18343.0	.0	4544.6	194.1	120.00
.18	.00	15.69	.00	.000	.035	.000	.000	91.20	9403.26
.002351	135.	135.	135.	2	0	0	.00	856.97	10260.23

*SECNO 18.180
3280 CROSS SECTION 18.18 EXTENDED 3.75 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 121.70 ELREA= 121.00

18.180	26.75	118.45	.00	.00	122.31	3.86	.38	.01	121.70
287720.0	.0	287720.0	.0	.0	18249.9	.0	4613.5	197.3	121.00
.19	.00	15.77	.00	.000	.035	.000	.000	91.70	9465.47
.002319	164.	164.	164.	2	0	0	.00	837.68	10303.15

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

*SECNO 18.190
3280 CROSS SECTION 18.19 EXTENDED 4.92 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 120.90 ELREA= 92.00

18.190	26.52	118.52	.00	.00	122.49	3.97	.15	.03	120.90
287720.0	.0	283013.0	4707.0	.0	17593.3	527.5	4640.6	198.5	92.00
.19	.00	16.09	8.92	.000	.035	.040	.000	92.00	9492.49
.002348	65.	65.	65.	2	0	0	.00	838.19	10330.68

*SECNO 18.210
3280 CROSS SECTION 18.21 EXTENDED 8.25 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 120.90 ELREA= 124.40

18.210	26.75	118.85	.00	.00	122.73	3.88	.23	.01	120.90
287720.0	.0	287720.0	.0	.0	18201.5	.0	4680.7	200.4	124.40
.19	.00	15.81	.00	.000	.035	.000	.000	92.10	9520.28
.002414	96.	96.	96.	2	0	0	.00	861.32	10381.61

*SECNO 18.240

3280 CROSS SECTION 18.24 EXTENDED 2.62 FEET

3301 HV CHANGED MORE THAN HVINS

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 120.80 ELREA= 132.30

18.240	27.82	120.32	.00	.00	123.24	2.92	.41	.10	120.80
287720.0	.0	287720.0	.0	.0	20998.9	.0	4770.1	204.6	132.30
.19	.00	13.70	.00	.000	.035	.000	.000	92.50	9565.98
.001784	199.	199.	199.	3	0	0	.00	984.06	10550.05

*SECNO 18.280
3280 CROSS SECTION 18.28 EXTENDED 4.31 FEET

1
04APR97 08:46:52 PAGE 36

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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 122.20 ELREA= 133.00

18.280	28.11	121.11	.00	.00	123.56	2.45	.28	.05	122.20
287720.0	.0	287720.0	.0	.0	22895.9	.0	4855.6	208.6	133.00
.20	.00	12.57	.00	.000	.035	.000	.000	93.00	9591.17
.001500	170.	170.	170.	2	0	0	.00	1073.05	10664.22

*SECNO 18.320

3265 DIVIDED FLOW

3280 CROSS SECTION 18.32 EXTENDED 3.88 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 121.30 ELREA= 133.60

18.320	28.08	121.58	.00	.00	123.90	2.33	.33	.01	121.30
287720.0	1618.5	286101.5	.0	587.0	23318.0	.0	4978.0	214.8	133.60
.20	2.76	12.27	.00	.040	.035	.000	.000	93.50	9338.10
.001394	228.	228.	228.	2	0	0	.00	1295.79	10678.96

*SECNO 18.360
3280 CROSS SECTION 18.36 EXTENDED 3.67 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 123.00 ELREA= 134.12

18.360	28.36	121.86	.00	.00	124.18	2.32	.28	.00	123.00
287720.0	.0	287720.0	.0	.0	23516.9	.0	5087.8	220.3	134.12
.21	.00	12.23	.00	.000	.035	.000	.000	93.50	9604.07

.001372	202.	202.	202.	1	0	0	.00	1072.42	10676.49

*SECNO 18.400
3280 CROSS SECTION 18.40 EXTENDED 2.67 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 122.60 ELREA= 133.00

18.400	27.57	122.07	.00	.00	124.50	2.43	.28	.03	122.60
287720.0	.0	287720.0	.0	.0	23008.0	.0	5194.0	225.2	133.00
.21	.00	12.51	.00	.000	.035	.000	.000	94.50	9588.42
.001468	199.	199.	199.	2	0	0	.00	1069.42	10657.84

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

*SECNO 18.430
3280 CROSS SECTION 18.43 EXTENDED .25 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 123.50 ELREA= 135.14

18.430	27.45	122.35	.00	.00	124.80	2.45	.29	.01	123.50
287720.0	.0	287720.0	.0	.0	22904.3	.0	5299.0	230.1	135.14
.22	.00	12.56	.00	.000	.035	.000	.000	94.90	9559.28
.001490	199.	199.	199.	0	0	0	.00	1070.14	10629.42

*SECNO 18.470

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 121.90 ELREA= 135.60

18.470	27.36	122.66	.00	.00	125.10	2.45	.30	.00	121.90
287720.0	928.3	286791.8	.0	366.9	22818.2	.0	5406.9	235.5	135.60
.22	2.53	12.57	.00	.040	.035	.000	.000	95.30	9346.17
.001497	204.	204.	204.	0	0	0	.00	1248.88	10595.05

*SECNO 18.510

3265 DIVIDED FLOW

3280 CROSS SECTION 18.51 EXTENDED 2.95 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 122.80 ELREA= 136.15

18.510	27.35	122.95	.00	.00	125.40	2.45	.30	.00	122.80
287720.0	1292.6	286427.4	.0	506.0	22747.1	.0	5512.8	241.3	136.15
.23	2.55	12.59	.00	.040	.035	.000	.000	95.60	9217.20
.001512	199.	199.	199.	0	0	0	.00	1302.95	10558.61

*SECNO 18.550
3280 CROSS SECTION 18.55 EXTENDED 3.85 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 123.00 ELREA= 136.60

1
04APR97 08:46:52 PAGE 38

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
18.550	27.55	123.25	.00	.00	125.71	2.46	.30	.00	123.00
287720.0	2868.9	284851.2	.0	817.9	22529.3	.0	5619.4	247.3	136.60
.23	3.51	12.64	.00	.040	.035	.000	.000	95.70	9187.10
.001539	199.	199.	199.	0	0	0	.00	1324.21	10511.30

*SECNO 18.580
3280 CROSS SECTION 18.58 EXTENDED 6.37 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 123.30 ELREA= 137.15

18.580	26.87	123.57	.00	.00	126.02	2.44	.31	.00	123.30
287720.0	5206.7	282513.3	.0	1214.5	22339.8	.0	5725.8	253.4	137.15
.23	4.29	12.65	.00	.040	.035	.000	.000	96.70	9121.80
.001556	198.	198.	198.	2	0	0	.00	1340.05	10461.85

*SECNO 18.620
3280 CROSS SECTION 18.62 EXTENDED .28 FEET

18.620	25.78	123.78	.00	.00	126.38	2.60	.32	.05	121.00
287720.0	231.2	287488.8	.0	101.0	22207.5	.0	5830.3	259.0	137.60
.24	2.29	12.95	.00	.040	.035	.000	.000	98.00	9278.00
.001639	199.	199.	199.	2	0	0	.00	1130.50	10408.50

*SECNO 18.660
3280 CROSS SECTION 18.66 EXTENDED 1.02 FEET

18.660	27.02	124.02	.00	.00	126.76	2.74	.34	.04	123.00
287720.0	.0	287720.0	.0	.0	21672.1	.0	5929.7	264.0	138.19
.24	.00	13.28	.00	.000	.035	.000	.000	97.00	9361.00
.001777	197.	197.	197.	2	0	0	.00	1063.36	10424.36

*SECNO 18.700
3280 CROSS SECTION 18.70 EXTENDED 1.32 FEET

18.700	25.32	124.32	.00	.00	127.15	2.84	.36	.03	123.00
287720.0	.0	287720.0	.0	.0	21293.1	.0	6027.8	268.8	138.71
.25	.00	13.51	.00	.000	.035	.000	.000	99.00	9332.00

.001885	199.	199.	199.	2	0	0	.00	1063.51	10395.51

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
*SECNO 18.740									
18.740	23.39	124.79	.00	.00	127.61	2.82	.45	.00	125.00
287720.0	.0	287720.0	.0	.0	21356.1	.0	6144.3	274.7	127.90
.25	.00	13.47	.00	.000	.035	.000	.000	101.40	10035.57
.001916	238.	238.	238.	2	0	0	.00	1085.10	11120.66
*SECNO 18.770									
18.770	23.42	125.22	.00	.00	127.99	2.77	.38	.00	127.00
287720.0	.0	287720.0	.0	.0	21529.4	.0	6242.8	279.7	128.40
.26	.00	13.36	.00	.000	.035	.000	.000	101.80	10038.67
.001859	200.	200.	200.	2	0	0	.00	1081.77	11120.45
*SECNO 18.790									
18.790	23.26	125.36	.00	.00	128.20	2.84	.19	.02	127.00
287720.0	.0	287720.0	.0	.0	21279.8	.0	6291.9	282.2	128.60
.26	.00	13.52	.00	.000	.035	.000	.000	102.10	10038.48
.001921	100.	100.	100.	2	0	0	.00	1076.79	11115.28
*SECNO 18.810									
18.810	23.25	125.55	.00	.00	128.39	2.84	.19	.00	126.00
287720.0	.0	287720.0	.0	.0	21284.1	.0	6340.8	284.6	128.80
.26	.00	13.52	.00	.000	.035	.000	.000	102.30	10033.42
.001925	100.	100.	100.	0	0	0	.00	1079.83	11113.24
*SECNO 18.850									
18.850	23.01	125.81	.00	.00	128.85	3.04	.40	.06	129.00
287720.0	.0	287720.0	.0	.0	20570.0	.0	6436.9	289.5	129.20
.26	.00	13.99	.00	.000	.035	.000	.000	102.80	10053.73
.002067	200.	200.	200.	2	0	0	.00	1045.10	11098.83
*SECNO 18.890									
18.890	23.09	126.29	.00	.00	129.26	2.97	.40	.01	130.00
287720.0	.0	287720.0	.0	.0	20804.3	.0	6531.9	294.3	129.60
.27	.00	13.83	.00	.000	.035	.000	.000	103.20	10047.65
.001980	200.	200.	200.	2	0	0	.00	1039.42	11087.07

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

Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
*SECNO 18.930									
18.930	22.98	126.68	.00	.00	129.66	2.98	.40	.00	131.00
287720.0	.0	287720.0	.0	.0	20774.7	.0	6627.3	299.1	130.00
.27	.00	13.85	.00	.000	.035	.000	.000	103.70	10074.20
.002005	200.	200.	200.	1	0	0	.00	1045.78	11119.98
*SECNO 18.960									
18.960	22.87	127.07	.00	.00	130.06	2.99	.40	.00	131.00
287720.0	.0	287720.0	.0	.0	20734.3	.0	6722.6	303.9	130.50
.28	.00	13.88	.00	.000	.035	.000	.000	104.20	10068.46
.001995	200.	200.	200.	0	0	0	.00	1036.28	11104.74
*SECNO 19.000									
19.000	22.75	127.45	.00	.00	130.48	3.03	.40	.01	130.00
287720.0	.0	287720.0	.0	.0	20602.2	.0	6817.5	308.6	130.90
.28	.00	13.97	.00	.000	.035	.000	.000	104.70	10046.06
.002036	200.	200.	200.	2	0	0	.00	1035.59	11081.65
*SECNO 19.040									
19.040	22.76	127.86	.00	.00	130.89	3.03	.41	.00	130.00
287720.0	.0	287720.0	.0	.0	20608.3	.0	6912.1	313.4	131.30
.28	.00	13.96	.00	.000	.035	.000	.000	105.10	10045.31
.002036	200.	200.	200.	0	0	0	.00	1036.35	11081.66
*SECNO 19.080									
19.080	22.61	128.21	.00	.00	131.33	3.12	.42	.03	130.00
287720.0	.0	287720.0	.0	.0	20312.0	.0	7006.0	318.1	131.80
.29	.00	14.16	.00	.000	.035	.000	.000	105.60	10046.86
.002118	200.	200.	200.	2	0	0	.00	1029.38	11076.24
*SECNO 19.120									
19.120	22.56	128.66	.00	.00	131.75	3.10	.42	.00	130.00
287720.0	.0	287720.0	.0	.0	20371.3	.0	7099.4	322.8	132.20
.29	.00	14.12	.00	.000	.035	.000	.000	106.10	10038.06
.002106	200.	200.	200.	2	0	0	.00	1032.31	11070.37

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
*SECNO 19.150									
19.150	22.67	129.17	.00	.00	132.17	3.01	.41	.01	130.00
287720.0	.0	287720.0	.0	.0	20673.1	.0	7193.7	327.6	132.60

.30	.00	13.92	.00	.000	.035	.000	.000	106.50	10034.59
.002026	200.	200.	200.	2	0	0	.00	1040.11	11074.70

*SECNO 19.190

19.190	22.66	129.66	.00	.00	132.58	2.93	.40	.01	133.00
287720.0	.0	287720.0	.0	.0	20958.1	.0	7289.2	332.4	133.00
.30	.00	13.73	.00	.000	.035	.000	.000	107.00	10021.03
.001987	200.	200.	200.	2	0	0	.00	1061.95	11082.97

*SECNO 19.230

19.230	22.51	130.01	.00	.00	133.01	3.00	.40	.02	133.50
287720.0	.0	287720.0	.0	.0	20700.3	.0	7384.9	337.3	133.50
.30	.00	13.90	.00	.000	.035	.000	.000	107.50	10040.31
.002023	200.	200.	200.	2	0	0	.00	1042.21	11082.52

*SECNO 19.280

19.280	22.28	130.48	.00	.00	133.58	3.10	.54	.03	134.10
287720.0	.0	287720.0	.0	.0	20355.7	.0	7509.8	343.5	134.10
.31	.00	14.13	.00	.000	.035	.000	.000	108.20	10041.38
.002086	265.	265.	265.	2	0	0	.00	1021.25	11062.63

*SECNO 19.300

19.300	22.36	130.76	.00	.00	133.84	3.07	.25	.00	134.30
289000.0	.0	289000.0	.0	.0	20548.2	.0	7566.1	346.4	134.30
.31	.00	14.06	.00	.000	.035	.000	.000	108.40	10021.61
.002089	120.	120.	120.	2	0	0	.00	1041.14	11062.75

*SECNO 19.340

19.340	22.33	131.23	.00	.00	134.29	3.06	.45	.00	134.70
289000.0	.0	289000.0	.0	.0	20582.2	.0	7667.6	351.6	134.70
.32	.00	14.04	.00	.000	.035	.000	.000	108.90	10021.44
.002122	215.	215.	215.	1	0	0	.00	1059.12	11080.56

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

*SECNO 19.380

19.380	22.24	131.64	.00	.00	134.72	3.08	.43	.01	135.20
289000.0	.0	289000.0	.0	.0	20507.7	.0	7761.9	356.4	135.20
.32	.00	14.09	.00	.000	.035	.000	.000	109.40	10021.65
.002147	200.	200.	200.	0	0	0	.00	1058.70	11080.35

CCHV= .300 CEHV= .500
*SECNO 19.384

19.384	22.35	131.75	.00	.00	134.78	3.03	.04	.02	135.20
289000.0	.0	289000.0	.0	.0	20696.8	.0	7770.0	356.8	135.20

.32	.00	13.96	.00	.000	.035	.000	.000	109.40	10022.49
.002080	17.	17.	17.	2	0	0	.00	1058.76	11081.24

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.05	1.56	2.60	.00	875.00	73.50	30974.00	2.00	109.70	109.40

*SECNO 19.400
CLASS A LOW FLOW

3420 BRIDGE W.S.= 130.97 BRIDGE VELOCITY= 15.98 CALCULATED CHANNEL AREA= 17949.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	135.57	.92	0.	289000.	30974.	30974.	145.20	152.20	0.

19.400	22.97	132.67	.00	.00	135.57	2.89	.79	.00	135.50
289000.0	.0	289000.0	.0	.0	21173.0	.0	7822.4	359.5	135.50
.32	.00	13.65	.00	.000	.035	.000	.000	109.70	10039.54
.001897	109.	109.	109.	0	0	0	.00	1043.57	11083.12

*SECNO 19.430

19.430	22.94	132.94	.00	.00	135.84	2.90	.27	.00	135.70
289000.0	.0	289000.0	.0	.0	21146.1	.0	7890.8	362.8	135.70
.33	.00	13.67	.00	.000	.035	.000	.000	110.00	10039.45
.001905	141.	141.	141.	1	0	0	.00	1043.68	11083.13

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

*SECNO 19.460

19.460	22.93	133.23	.00	.00	136.11	2.88	.27	.01	136.00
289000.0	.0	289000.0	.0	.0	21222.1	.0	7959.4	366.2	136.00
.33	.00	13.62	.00	.000	.035	.000	.000	110.30	10039.46
.001881	141.	141.	141.	2	0	0	.00	1044.39	11083.85

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.05	1.56	2.60	.00	875.00	80.00	26567.00	2.00	110.70	110.30

*SECNO 19.480
CLASS A LOW FLOW

3420 BRIDGE W.S.= 132.49 BRIDGE VELOCITY= 15.67 CALCULATED CHANNEL AREA= 18272.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	136.90	.90	0.	289000.	26567.	26567.	141.70	148.70	0.

19.480	23.44	134.14	.00	.00	136.90	2.77	.79	.00	136.30
289000.0	.0	289000.0	.0	.0	21648.8	.0	8019.5	369.1	136.30
.33	.00	13.35	.00	.000	.035	.000	.000	110.70	10017.29
.001766	122.	122.	122.	0	0	0	.00	1045.36	11062.65

*SECNO 19.490

19.490	23.47	134.27	.00	.00	137.03	2.76	.12	.00	136.40
289000.0	.0	289000.0	.0	.0	21677.7	.0	8054.3	370.8	136.40
.33	.00	13.33	.00	.000	.035	.000	.000	110.80	10017.21
.001758	70.	70.	70.	0	0	0	.00	1045.48	11062.70

CCHV= .100 CEHV= .300

*SECNO 19.530

19.530	23.32	134.62	.00	.00	137.39	2.77	.36	.00	136.90
289000.0	.0	289000.0	.0	.0	21652.1	.0	8153.7	375.7	136.90
.34	.00	13.35	.00	.000	.035	.000	.000	111.30	10017.84
.001805	200.	200.	200.	0	0	0	.00	1062.74	11080.58

1

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

*SECNO 19.570

19.570	23.32	135.02	.00	.00	137.75	2.72	.36	.00	137.30
289000.0	.0	289000.0	.0	.0	21818.5	.0	8253.5	380.6	137.30
.34	.00	13.25	.00	.000	.035	.000	.000	111.70	10026.14
.001767	200.	200.	200.	2	0	0	.00	1066.28	11092.42

*SECNO 19.610

19.610	23.12	135.32	.00	.00	138.14	2.81	.36	.03	137.70
289000.0	.0	289000.0	.0	.0	21479.9	.0	8352.9	385.4	138.30
.34	.00	13.45	.00	.000	.035	.000	.000	112.20	10018.13
.001852	200.	200.	200.	2	0	0	.00	1060.59	11078.72

*SECNO 19.650

19.650	22.98	135.68	.00	.00	138.52	2.84	.37	.01	138.10
289000.0	.0	289000.0	.0	.0	21388.1	.0	8451.3	390.3	138.70
.35	.00	13.51	.00	.000	.035	.000	.000	112.70	10018.02
.001882	200.	200.	200.	0	0	0	.00	1062.64	11080.67

*SECNO 19.680

19.680	22.84	136.04	.00	.00	138.90	2.86	.38	.01	138.60

289000.0	.0	289000.0	.0	.0	21284.6	.0	8549.3	395.2	139.20
.35	.00	13.58	.00	.000	.035	.000	.000	113.20	10017.65
.001918	200.	200.	200.	1	0	0	.00	1064.81	11082.47

*SECNO 19.720

19.720	22.83	136.43	.00	.00	139.29	2.86	.38	.00	139.00
289000.0	.0	289000.0	.0	.0	21281.5	.0	8647.0	400.1	139.60
.36	.00	13.58	.00	.000	.035	.000	.000	113.60	10018.74
.001921	200.	200.	200.	0	0	0	.00	1065.69	11084.43

*SECNO 19.760

19.760	22.69	136.79	.00	.00	139.69	2.90	.39	.01	139.40
289000.0	.0	289000.0	.0	.0	21146.8	.0	8744.4	405.0	140.00
.36	.00	13.67	.00	.000	.035	.000	.000	114.10	10018.84
.001962	200.	200.	200.	2	0	0	.00	1065.54	11084.38

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

*SECNO 19.800

19.800	22.55	137.15	.00	.00	140.10	2.94	.40	.01	139.80
289000.0	.0	289000.0	.0	.0	20989.8	.0	8841.2	409.9	140.40
.37	.00	13.77	.00	.000	.035	.000	.000	114.60	10017.94
.001995	200.	200.	200.	2	0	0	.00	1062.65	11080.59

*SECNO 19.830

19.830	22.51	137.51	.00	.00	140.52	3.01	.40	.02	140.30
289000.0	.0	289000.0	.0	.0	20756.7	.0	8937.0	414.7	140.90
.37	.00	13.92	.00	.000	.035	.000	.000	115.00	10019.37
.002031	200.	200.	200.	2	0	0	.00	1045.44	11064.82

*SECNO 19.870

19.870	22.39	137.89	.00	.00	140.94	3.06	.41	.01	140.70
289000.0	.0	289000.0	.0	.0	20592.0	.0	9031.9	419.5	141.30
.37	.00	14.03	.00	.000	.035	.000	.000	115.50	10019.44
.002078	200.	200.	200.	2	0	0	.00	1042.47	11061.91

*SECNO 19.910

19.910	22.27	138.27	.00	.00	141.38	3.11	.42	.01	141.00
289000.0	.0	289000.0	.0	.0	20437.0	.0	9126.1	424.3	141.70
.38	.00	14.14	.00	.000	.035	.000	.000	116.00	10019.25
.002125	200.	200.	200.	2	0	0	.00	1040.61	11059.87

*SECNO 19.950

19.950	22.16	138.66	.00	.00	141.83	3.16	.43	.02	141.50
289000.0	.0	289000.0	.0	.0	20250.4	.0	9219.5	429.1	142.10

.38	.00	14.27	.00	.000	.035	.000	.000	116.50	10019.51
.002179	200.	200.	200.	2	0	0	.00	1036.32	11055.83

*SECNO 19.990

19.990	22.30	139.20	.00	.00	142.26	3.07	.43	.01	142.00
289000.0	.0	289000.0	.0	.0	20561.4	.0	9313.2	433.8	142.60
.38	.00	14.06	.00	.000	.035	.000	.000	116.90	10022.87
.002100	200.	200.	200.	2	0	0	.00	1049.93	11072.80

1

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

*SECNO 20.020

20.020	22.11	139.51	.00	.00	142.74	3.23	.43	.05	142.40
289000.0	.0	289000.0	.0	.0	20037.7	.0	9406.4	438.6	143.00
.39	.00	14.42	.00	.000	.035	.000	.000	117.40	10024.43
.002210	200.	200.	200.	2	0	0	.00	1020.32	11044.75

*SECNO 20.060

20.060	22.01	139.91	.00	.00	143.22	3.30	.45	.02	142.80
289000.0	.0	289000.0	.0	.0	19813.4	.0	9497.9	443.3	143.40
.39	.00	14.59	.00	.000	.035	.000	.000	117.90	10019.67
.002297	200.	200.	200.	2	0	0	.00	1021.06	11040.73

*SECNO 20.100

20.100	22.05	140.35	.00	.00	143.68	3.33	.46	.01	143.20
289000.0	.0	289000.0	.0	.0	19731.7	.0	9588.7	448.0	143.80
.40	.00	14.65	.00	.000	.035	.000	.000	118.30	10019.51
.002309	200.	200.	200.	0	0	0	.00	1014.29	11033.81

*SECNO 20.140

20.140	21.97	140.77	.00	.00	144.18	3.41	.47	.02	143.70
289000.0	.0	289000.0	.0	.0	19498.3	.0	9678.7	452.6	144.30
.40	.00	14.82	.00	.000	.035	.000	.000	118.80	10019.80
.002378	200.	200.	200.	2	0	0	.00	1006.01	11025.82

*SECNO 20.180

20.180	21.89	141.19	.00	.00	144.68	3.49	.48	.02	144.10
289000.0	.0	289000.0	.0	.0	19265.3	.0	9767.7	457.2	144.70
.40	.00	15.00	.00	.000	.035	.000	.000	119.30	10019.73
.002448	200.	200.	200.	2	0	0	.00	997.94	11017.67

*SECNO 20.210

20.210	21.83	141.63	.00	.00	145.21	3.58	.50	.03	144.50
289000.0	.0	289000.0	.0	.0	19039.0	.0	9855.7	461.8	145.10
.41	.00	15.18	.00	.000	.035	.000	.000	119.80	10019.62

.002516	200.	200.	200.	2	0	0	.00	989.09	11008.71

1

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
*SECNO 20.250									
20.250	21.91	142.11	.00	.00	145.72	3.61	.50	.01	145.00
289000.0	.0	289000.0	.0	.0	18964.1	.0	9942.9	466.3	145.60
.41	.00	15.24	.00	.000	.035	.000	.000	120.20	10019.64
.002520	200.	200.	200.	1	0	0	.00	980.23	10999.87
*SECNO 20.290									
20.290	21.85	142.55	.00	.00	146.26	3.71	.51	.03	145.60
289000.0	.0	289000.0	.0	.0	18709.3	.0	10029.4	470.7	145.60
.41	.00	15.45	.00	.000	.035	.000	.000	120.70	10019.14
.002600	200.	200.	200.	2	0	0	.00	970.27	10989.41
*SECNO 20.330									
20.330	21.82	143.02	.00	.00	146.81	3.79	.53	.03	146.10
289000.0	.0	289000.0	.0	.0	18500.7	.0	10114.8	475.2	146.10
.42	.00	15.62	.00	.000	.035	.000	.000	121.20	10020.23
.002667	200.	200.	200.	2	0	0	.00	961.71	10981.94
*SECNO 20.370									
20.370	21.96	143.56	.00	.00	147.34	3.78	.53	.00	146.60
289000.0	.0	289000.0	.0	.0	18516.7	.0	10199.8	479.6	146.60
.42	.00	15.61	.00	.000	.035	.000	.000	121.60	10026.38
.002625	200.	200.	200.	0	0	0	.00	953.82	10980.20
*SECNO 20.400									
20.400	21.90	144.00	.00	.00	147.92	3.91	.54	.04	147.10
289000.0	.0	289000.0	.0	.0	18202.6	.0	10284.1	483.9	147.10
.43	.00	15.88	.00	.000	.035	.000	.000	122.10	10019.29
.002737	200.	200.	200.	2	0	0	.00	941.06	10960.35
*SECNO 20.436									
20.436	22.08	144.58	.00	.00	148.42	3.84	.50	.01	147.67
289000.0	.0	289000.0	.0	.0	18380.8	.0	10360.5	487.9	147.67
.43	.00	15.72	.00	.000	.035	.000	.000	122.50	10021.26
.002709	182.	182.	182.	2	0	0	.00	957.48	10978.74

1

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

Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
*SECNO 20.441									
20.441	22.11	144.64	.00	.00	148.47	3.83	.05	.00	147.70
289000.0	.0	289000.0	.0	.0	18401.7	.0	10368.1	488.3	147.70
.43	.00	15.71	.00	.000	.035	.000	.000	122.53	10021.20
.002699	18.	18.	18.	0	0	0	.00	957.60	10978.80
*SECNO 20.480									
20.480	22.31	145.17	.00	.00	149.00	3.83	.53	.00	148.20
289000.0	.0	289000.0	.0	.0	18404.6	.0	10452.6	492.6	148.20
.43	.00	15.70	.00	.000	.035	.000	.000	122.86	10037.03
.002574	200.	200.	200.	1	0	0	.00	922.49	10959.52

THIS RUN EXECUTED 04APR97 08:46:59

****
HEC-2 WATER SURFACE PROFILES

Version 4.6.2; May 1991
****

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

SPF FLOW

SUMMARY PRINTOUT

SECNO	CWSEL	ELMIN	VCH	DEPTH	TOPWID	AREA
16.690	110.70	72.00	7.28	38.70	2845.00	49789.49
16.770	110.46	81.60	9.32	28.86	1760.00	33872.79
16.800	110.58	82.10	9.15	28.48	1720.00	31460.92
16.840	110.50	78.30	10.46	32.20	1040.77	27499.20
16.880	110.81	79.00	10.70	31.81	1042.31	26881.00
16.920	110.92	79.30	11.25	31.62	925.70	26586.78
16.960	111.13	78.90	10.86	32.23	1244.40	27648.08
16.990	111.24	77.80	10.98	33.44	1079.60	26904.27
17.030	111.32	75.70	11.27	35.62	1018.20	26020.84

17.070	111.54	76.60	11.15	34.94	1248.46	26676.37
17.110	111.65	78.50	11.43	33.15	1236.41	26011.68
17.140	111.75	79.80	11.75	31.95	939.19	24476.45
17.180	111.91	78.90	11.93	33.01	929.60	24119.39
17.220	112.09	80.40	12.05	31.69	932.38	23875.21
17.260	112.32	81.20	12.17	31.12	933.36	23636.74
17.280	112.99	80.30	10.69	32.69	936.29	26922.28
17.300	113.10	80.30	10.56	32.80	936.78	27247.81

SECNO	CWSEL	ELMIN	VCH	DEPTH	TOPWID	AREA
17.320	113.19	80.30	10.47	32.89	937.06	27474.70
17.330	113.37	80.30	10.13	33.07	957.68	28405.08
17.370	113.52	80.30	10.05	33.22	953.33	28640.45
17.410	113.67	80.30	9.96	33.37	953.29	28900.10
17.450	113.80	80.30	9.94	33.50	949.83	28934.83
17.490	113.82	82.10	10.40	31.72	953.08	27654.39
17.520	113.83	82.40	11.04	31.43	961.98	26051.33
17.560	113.73	83.10	12.22	30.63	975.27	23544.51
17.600	113.94	83.50	12.36	30.44	991.69	23271.98
17.640	114.19	84.10	12.42	30.09	1011.74	23160.90
17.680	114.48	84.30	12.38	30.18	1028.20	23236.93
17.710	114.77	85.40	12.32	29.37	1044.44	23347.71
17.750	115.16	85.22	12.03	29.94	1061.89	23910.68
17.790	115.48	86.10	11.87	29.38	1071.11	24231.45
17.830	115.72	86.20	11.89	29.52	1078.68	24200.00
17.860	115.96	88.00	11.94	27.96	1078.58	24099.13
17.900	116.18	88.00	12.10	28.18	1073.64	23768.92
17.940	116.30	89.40	12.65	26.90	1016.69	22738.98
17.980	116.28	89.20	13.85	27.08	934.69	20775.49

18.020	116.24	89.70	15.22	26.54	874.92	18903.01
18.050	116.34	90.10	16.27	26.24	828.81	17680.43
18.090	116.62	90.60	17.04	26.02	799.72	16887.91
18.120	117.26	91.00	16.59	26.26	814.37	17343.49
18.140	118.09	91.20	15.69	26.89	856.97	18343.03
18.180	118.45	91.70	15.77	26.75	837.68	18249.87
18.190	118.52	92.00	16.09	26.52	838.19	18120.80

SECNO	CWSEL	ELMIN	VCH	DEPTH	TOPWID	AREA
18.210	118.85	92.10	15.81	26.75	861.32	18201.49
18.240	120.32	92.50	13.70	27.82	984.06	20998.89
18.280	121.11	93.00	12.57	28.11	1073.05	22895.92
18.320	121.58	93.50	12.27	28.08	1295.79	23905.05
18.360	121.86	93.50	12.23	28.36	1072.42	23516.89
18.400	122.07	94.50	12.51	27.57	1069.42	23007.99
18.430	122.35	94.90	12.56	27.45	1070.14	22904.33
18.470	122.66	95.30	12.57	27.36	1248.88	23185.14
18.510	122.95	95.60	12.59	27.35	1302.95	23253.06
18.550	123.25	95.70	12.64	27.55	1324.21	23347.19
18.580	123.57	96.70	12.65	26.87	1340.05	23554.34
18.620	123.78	98.00	12.95	25.78	1130.50	22308.55
18.660	124.02	97.00	13.28	27.02	1063.36	21672.11
18.700	124.32	99.00	13.51	25.32	1063.51	21293.14
18.740	124.79	101.40	13.47	23.39	1085.10	21356.09
18.770	125.22	101.80	13.36	23.42	1081.77	21529.44
18.790	125.36	102.10	13.52	23.26	1076.79	21279.82
18.810	125.55	102.30	13.52	23.25	1079.83	21284.06
18.850	125.81	102.80	13.99	23.01	1045.10	20570.00
18.890	126.29	103.20	13.83	23.09	1039.42	20804.28

18.930	126.68	103.70	13.85	22.98	1045.78	20774.71
18.960	127.07	104.20	13.88	22.87	1036.28	20734.25
19.000	127.45	104.70	13.97	22.75	1035.59	20602.20
19.040	127.86	105.10	13.96	22.76	1036.35	20608.25
19.080	128.21	105.60	14.16	22.61	1029.38	20312.05
19.120	128.66	106.10	14.12	22.56	1032.31	20371.35

1

SECNO	CWSEL	ELMIN	VCH	DEPTH	TOPWID	AREA
19.150	129.17	106.50	13.92	22.67	1040.11	20673.06
19.190	129.66	107.00	13.73	22.66	1061.95	20958.14
19.230	130.01	107.50	13.90	22.51	1042.21	20700.33
19.280	130.48	108.20	14.13	22.28	1021.25	20355.72
19.300	130.76	108.40	14.06	22.36	1041.14	20548.16
19.340	131.23	108.90	14.04	22.33	1059.12	20582.22
19.380	131.64	109.40	14.09	22.24	1058.70	20507.73
19.384	131.75	109.40	13.96	22.35	1058.76	20696.75
19.400	132.67	109.70	13.65	22.97	1043.57	21172.96
19.430	132.94	110.00	13.67	22.94	1043.68	21146.06
19.460	133.23	110.30	13.62	22.93	1044.39	21222.10
19.480	134.14	110.70	13.35	23.44	1045.36	21648.82
19.490	134.27	110.80	13.33	23.47	1045.48	21677.72
19.530	134.62	111.30	13.35	23.32	1062.74	21652.09
19.570	135.02	111.70	13.25	23.32	1066.28	21818.46
19.610	135.32	112.20	13.45	23.12	1060.59	21479.86
19.650	135.68	112.70	13.51	22.98	1062.64	21388.05
19.680	136.04	113.20	13.58	22.84	1064.81	21284.57
19.720	136.43	113.60	13.58	22.83	1065.69	21281.50
19.760	136.79	114.10	13.67	22.69	1065.54	21146.79
19.800	137.15	114.60	13.77	22.55	1062.65	20989.79

19.830	137.51	115.00	13.92	22.51	1045.44	20756.67
19.870	137.89	115.50	14.03	22.39	1042.47	20592.01
19.910	138.27	116.00	14.14	22.27	1040.61	20437.01
19.950	138.66	116.50	14.27	22.16	1036.32	20250.41
19.990	139.20	116.90	14.06	22.30	1049.93	20561.44

SECNO	CWSEL	ELMIN	VCH	DEPTH	TOPWID	AREA
20.020	139.51	117.40	14.42	22.11	1020.32	20037.65
20.060	139.91	117.90	14.59	22.01	1021.06	19813.38
20.100	140.35	118.30	14.65	22.05	1014.29	19731.69
20.140	140.77	118.80	14.82	21.97	1006.01	19498.29
20.180	141.19	119.30	15.00	21.89	997.94	19265.28
20.210	141.63	119.80	15.18	21.83	989.09	19039.01
20.250	142.11	120.20	15.24	21.91	980.23	18964.15
20.290	142.55	120.70	15.45	21.85	970.27	18709.25
20.330	143.02	121.20	15.62	21.82	961.71	18500.72
20.370	143.56	121.60	15.61	21.96	953.82	18516.71
20.400	144.00	122.10	15.88	21.90	941.06	18202.56
20.436	144.58	122.50	15.72	22.08	957.48	18380.82
20.441	144.64	122.53	15.71	22.11	957.60	18401.73
20.480	145.17	122.86	15.70	22.31	922.49	18404.57

SUMMARY OF ERRORS AND SPECIAL NOTES

APPENDIX D

Calculations

BED–FORM SCOUR DEPTHS
100–YEAR EVENT

HEC–2 CROSS–SECTION NUMBER	MAXIMUM DESIGN CHANNEL DEPTH (ft)	AVERAGE CHANNEL VELOCITY (ft/sec)	DUNE SCOUR (ft)
17.79	24.36	10.84	1.6
17.83	24.53	10.87	1.6
17.86	23.01	10.90	1.5
17.90	23.27	11.05	1.5
17.94	22.07	11.47	1.4
17.98	22.35	12.50	1.4
18.02	23.90	13.76	1.5
18.05	24.15	14.66	1.5
18.09	24.75	15.28	1.6
18.12	25.48	14.85	1.6
18.14	25.79	14.13	1.7
18.18	26.24	14.03	1.7
18.19	22.13	14.32	1.4
18.21	22.27	14.26	1.4
18.24	23.14	12.47	1.5
18.28	23.35	11.49	1.5
18.32	23.33	11.22	1.5
18.36	23.70	11.04	1.5
18.40	22.94	11.32	1.4
18.43	22.86	11.37	1.4
18.47	22.78	11.40	1.4
18.51	22.81	11.43	1.4
18.55	23.01	11.57	1.5
18.58	22.33	11.69	1.4

with Mining Aligment (1)

$$Z_{bs} = \frac{0.0685\, Y\, V^{0.8}}{Y_h^{0.4}\, S_e^{0.3}} \left[2.1 \left(\frac{\sin^2 \frac{\alpha}{2}}{\cos \alpha} \right)^{0.2} - 1 \right]$$

Z_{bs} = bend scour component of total scour depth

V = Mean velocity of upstream flow (ft/s)

Y = Maximum depth of upstream flow (ft)

Y_h = Hydraulic depth of upstream flow (ft)

S_e = upstream average slope (ft/ft)

α = Angle formed by the projection of the channel centerline from the point of curvature to a point which meets a line tangent to the outer bank of the channel (degrees)

where, $\frac{r_c}{W} = \frac{\cos \alpha}{4 \sin^2 (\frac{\alpha}{2})}$

$r_c = 5729.58'$
$W = 1000'$

As-Built Salt River Channelization Plans, USNTB, 1982

$$\frac{r_c}{W} = \frac{5729.58'}{1000'} = 5.7296$$

$$\frac{\sin^2 (\frac{\alpha}{2})}{\cos \alpha} = 0.04037 \qquad 2.1 (0.04037)^{0.2} - 1 = 0.1228$$

Alignment 2 with Mining

$$Z_{bs} = \frac{0.0685\, Y\, V^{0.8}}{Y_h^{0.4}\, S_e^{0.3}} \left[2.1 \left(\frac{\sin^2 \frac{\alpha}{2}}{\cos \alpha} \right)^{0.2} - 1 \right]$$

$r_c = 5729.58^{ft}$

$w = 1000^{ft}$

$$\frac{r_c}{w} = \frac{\cos \alpha}{4 \sin^2 (\frac{\alpha}{2})} = 5.7296$$

$$2.1 \left(\frac{\sin^2 \frac{\alpha}{2}}{\cos \alpha} \right)^{0.2} - 1 = 0.1228$$

Location ⓓ X-Sect. 18.28

$18.32 - 18.28 = 0.04^{mi} = 211.2^{ft}$

$EG_{18.32} - EG_{18.28} = 119.21 - 118.92 = 0.29^{ft}$

$$S_e = \frac{0.29}{211.2} = 0.00137$$

$Y = 30.0^{ft}$ $V = 10.54\ ft/sec$ $Y_h = \frac{19449.5}{1054.83} = 18.4^{ft}$

$$Z_{bs} = \frac{0.0685 * (30.0) * (10.54)^{0.8}}{(18.4)^{0.4} (0.00137)^{0.3}} * (0.1228)$$

$= 3.74^{ft} \approx 3.7^{ft}$

Location 2 @ 18.18

$18.19 - 18.18 = 0.01^{mi} = 52.8^{ft}$

$\Delta EG = 117.91 - 117.3 = 0.61^{ft}$

$S_e = \frac{0.61}{52.8} = 0.0116$

$y = 26.91^{ft}$ $V = 12.43$ fps $y_h = \frac{16497.57}{809.80} = 20.4^{ft}$

$z_{bs} = \frac{0.0685(26.91)(12.43)^{0.8}}{(20.4)^{0.4}(0.0116)^{0.3}}(0.1228) = 1.94^{ft}$

Location 3 @ 18.12

$18.14 - 18.12 = 0.02^{mi} = 105.6^{ft}$

$S_e = \frac{116.96 - 116.61}{105.6} = 0.0033$

$y = 25.97$ $V = 14.45$ fps $y_h = \frac{14188.83}{794.13} = 17.87^{ft}$

$z_{bs} = \frac{0.0685(25.97)(14.45)^{0.8}}{(17.87)^{0.4}(0.0033)^{0.3}} * (0.1228)$

$= 3.24^{ft}$

using bend scour depth as determined with upstream cross-section 18.28

$z_{bs} = 3.7^{ft}$

Local Scour

$$D_s = 1.70 \frac{q^{0.67}}{g^{0.33}} \left[\frac{\Delta H}{y_t} \right]^{0.158} (S_r)^{-0.134}$$

Use Section 18.24 For Upstream Section
Use Section 18.14 For Downstream Section

Base case with a combination of 1/2:1 and 1:1 slopes.

For Q_{100}.

q = depth x velocity

$= (1115.64 - 1092.5) \times 12.47 = 288.6$ cfs/ft

$D_p = 1092.0 - 1088.2 = 3.8$ ft.

$\Delta H = 1115.64 - 1113.59 = 2.05$ ft.

$y_t = 1113.59 - 1091.2 = 22.39$ ft.

$y_1 = 1115.64 - 1092.5 = 23.14$ ft.

$$S_r = \frac{y_t - D_p}{y_1} = \frac{22.39 - 3.8}{23.14} = 0.80$$

$$D_s = 1.70 \frac{288.6^{0.67}}{32.2^{0.33}} \left[\frac{2.05}{22.39} \right]^{0.158} (0.80)^{-0.134}$$

$= 16.99$ ft

Safety Factor = 30% = 0.3 * 16.99 ft = 5.10 ft.

Total Local Scour = 17.0 + 5.1 = 22.1 ft.

For SPF

$q = (1120.32 - 1092.5) \times 13.70 = 381.1$ cfs/ft

$D_p = 1092.0 - 1088.2 = 3.8$ ft

$\Delta H = 1120.32 - 1118.09 = 2.23$ ft

$Y_t = 1118.09 - 1091.2 = 26.89$ ft

$y_1 = 1120.32 - 1092.5 = 27.82$ ft

$$S_r = \frac{y_t - D_p}{y_1} = \frac{26.89 - 3.8}{27.82} = 0.83$$

$$D_s = 1.70 \frac{381.1^{0.67}}{32.2^{0.33}} \left[\frac{2.23}{26.89}\right]^{0.158} (0.83)^{-0.134}$$

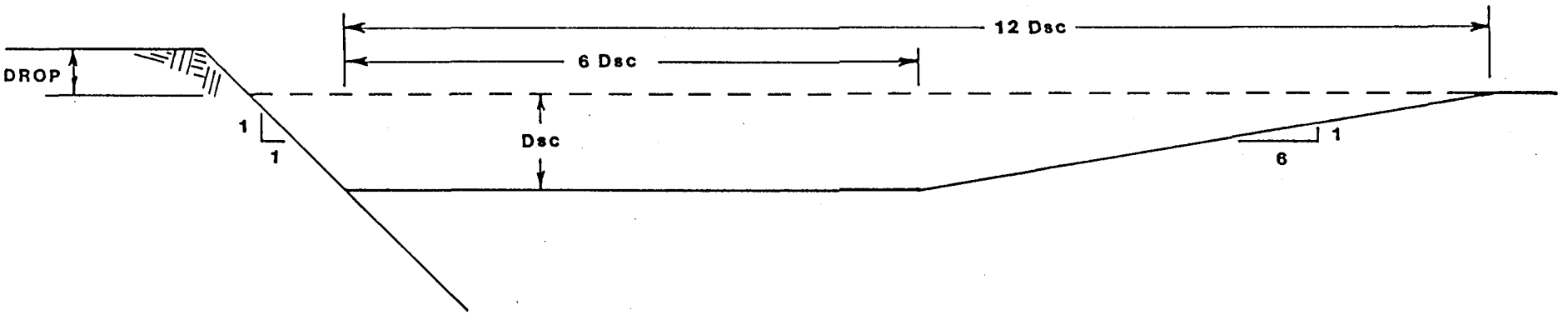
$= 20.05$ ft.

Safety Factor 30% $0.3 \times 20.05 = 6.0$ ft.

Total Local Scour $= 20.1 + 6.0 = 26.1$ ft.

Extend Downstream Toe-Down Protection of 26.1 ft. For Distance $= 6.0 D_s = 6.0 (26.1) = 156.6$ ft.

From A Distance of ~157 ft. Downstream, Taper Toe-Down Protection on a 6 Horizontal to 1 Vertical until normal toe-down Depth is intersected.



Simons, Li & Associates, Inc.

GRADE CONTROL
SCOUR HOLE