FLOOD CONTROL DISTRICT of MARICOPA COUNTY

# IONA WASH FLOODPLAIN DELINEATION STUDY

## TECHNICAL SUPPORT DATA NOTEBOOK

### VOLUME 2 OF 3
### SECTION 4

CH2M HILL

# IONA WASH
# FLOODPLAIN DELINEATION STUDY

# TECHNICAL SUPPORT DATA NOTEBOOK

**VOLUME 2 OF 3**

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

**Prepared For:**

**FLOOD CONTROL DISTRICT OF MARICOPA COUNTY**
**2801 West Durango**
**Phoenix, Arizona 85009**
**(602) 506-1501**

**Prepared By:**

**CH2M HILL**
**1620 West Fountainhead Parkway**
**Suite 550**
**Tempe, Arizona 85285**

**October 5, 1993**

# TABLE OF CONTENTS


| Section | Description | TDN Volume |
|---|---|---|
| | N. F. I. P. Maps: Application/Certification Forms | 1 |
| 1 | General Documentation and Correspondence | 1 |
| 2 | Mapping and Survey Information | 1 |
| 3 | Hydrologic Analysis | 1 |
| **4** | **Hydraulic Analysis** | **2** |
| 5 | Erosion/Sediment Transport | 3 |
| 6 | Reference Materials | 3 |
| 7 | Cross-Referencing and Labeling Information | 3 |
| 8 | Draft FIS Report - Revised Text | 3 |


Registered Professional Engineer (Civil)
CERTIFICATE NO. 2396
STEVEN R. WALKER
Date signed 7/22/97
ARIZONA, U.S.A.

Registered Professional Engineer (Civil)
CERTIFICATE NO. 26846
JONATHAN E. FULLER
Date Signed 7/22/97
ARIZONA, U. S. A.

# Section 4: Hydraulic Analysis

# Section 4: Hydraulic Analysis

*4.1 Method Description*

# Flood Insurance Study
# Iona Wash
# Maricopa County, Arizona

**for**

**Flood Control District**
**of**
**Maricopa County**

**Contract FCD 92-07**

*Prepared by*

CH2M HILL
*1620 W. Fountainhead Parkway, Suite 550*
*Tempe, Arizona 85282*

*July 1993*

# Table of Contents


**1.0 Introduction** . . . . . **1**
- 1.1 Purpose of Study . . . . . 1
- 1.2 Authority and Acknowledgements . . . . . 1
- 1.3 Coordination . . . . . 1

**2.0 Area Studied** . . . . . **3**
- 2.1 Scope of Study . . . . . 3
- 2.2 Community Description . . . . . 3
- 2.3 Principal Flood Problems . . . . . 4
- 2.4 Flood Protection Measures . . . . . 4

**3.0 Engineering Methods** . . . . . **5**
- 3.1 Hydrologic Analyses . . . . . 5
- 3.2 Hydraulic Analyses . . . . . 5

**4.0 Floodplain Management Applications** . . . . . **7**
- 4.1 Floodplain Boundaries . . . . . 7
- 4.2 Floodways . . . . . 14

**5.0 Insurance Applications** . . . . . **14**
- Zone A . . . . . 14
- Zone AE . . . . . 15
- Zone AH . . . . . 15

**6.0 Other Studies** . . . . . **15**

**7.0 Location of Data** . . . . . **15**

**8.0 Bibliography** . . . . . **15**

**9.0 Reduced Delineation Maps** . . . . . **17**

**10.0 Elevation Reference Marks** . . . . . **18**

FLOOD INSURANCE STUDY
IONA WASH
MARICOPA COUNTY, ARIZONA

# 1.0 INTRODUCTION

## 1.1 Purpose of Study

This Flood Insurance Study includes revised floodplain and floodway delineations for approximately 13.5 miles of Iona Wash. The Iona Wash study area is located in northwestern Maricopa County, Arizona, and includes portions of unincorporated Maricopa County and portions of the Town of Surprise, Arizona. The study reach begins at the confluence of the Trilby and Iona washes extending north to State Route 89 (Figure 1). The information in this study will be used to update existing floodplain information as part of the regular phase of the National Flood Insurance Program (NFIP). The information will also be used by local and regional planners to further promote sound land use and floodplain development.

## 1.2 Authority and Acknowledgements

This study was performed by CH2M HILL, with assistance from Project Engineering Consultants, Ltd. (PEC). The study was prepared for the Flood Control District of Maricopa County (FCDMC) under Contract Number FCD 92-07. Topographic mapping was prepared by Kenney Aerial Mapping. Ground control and check surveys were performed by Brady-Aulerich, Inc. The study was completed in July, 1993.

## 1.3 Coordination

The areas of approximate and detailed studies were coordinated with the FCDMC. Officials from the Town of Surprise were also contacted for community coordination (Reference 1). The FCDMC conducted a public meeting at the Morristown, Arizona school on November 16, 1992. Public notices for the study were published in the Wickenburg Sun (a local newspaper) and the Phoenix Business Gazette (a widely circulated newspaper). In addition, notification was sent to each property owner within the study area.

The Initial Consultation and Coordination Meeting was held on October 26, 1992. Representatives of the FCDMC (Sandy Story, Pedro Calza) and CH2M HILL (Steve Walker, Jon Fuller) attended this meeting and

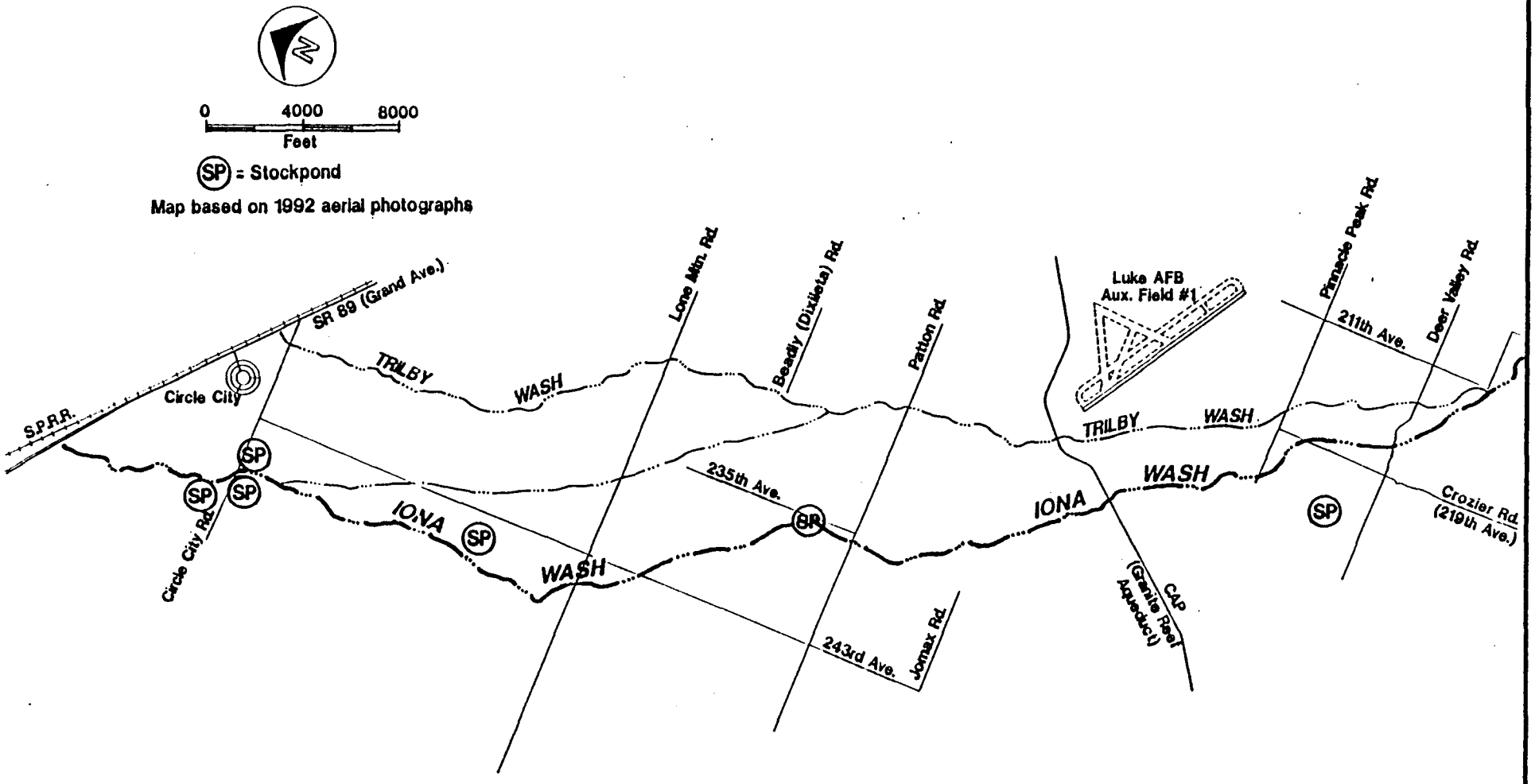



**FIGURE 1**
**LOCATION MAP**

Maricopa County, Arizona
June, 1993 CH2M HILL
Iona Wash FIS PHX34747.A0

CH2M HILL

discussed scheduling, study methods, assumptions, and the format of the deliverable items. Throughout the project coordination meetings were held in conjunction with project deliverables and at three month intervals, with the forenamed parties to discuss progress and preliminary study results. In addition, FCDMC participated in the initial field reconnaissance of the study area.

Requests for information were solicited from the following agencies:

- FEMA (Michael Baker, Jr. Inc.- Previous FIS Records)
- Arizona Dept of Water Resources
- U.S. Soil Conservation Service
- U.S. Bureau of Reclamation
- Arizona Department of Transportation
- Maricopa County Highway Department

Information obtained from community coordination and agency contact is summarized in Reference 2.

## 2.0 AREA STUDIED

### 2.1 Scope of Study

The Iona Wash study area extends approximately 13.5 river miles from the confluence with Trilby Wash in T.4N., R3W., Section 25 to State Route 89 (Grand Avenue) in T.6N., R.3W., Section 29 as shown in Figure 1. Iona Wash includes reaches of channelized and unconfined sheet flow. Flooding sources include only natural runoff from the Iona Wash watershed.

### 2.2 Community Description

The study area is located northwest of metropolitan Phoenix, in portions of unincorporated Maricopa County, and the Town of Surprise, Arizona. Development within the study area is extremely limited. North of the Central Arizona Project (CAP) canal there no engineered structures or habitable structures in the floodplain. South of the CAP, within the Town of Surprise, some rural development is present in the floodplain. Development south of the CAP is limited to multi-acre lots, many with mobile home residences. Vacant land is generally used for cattle grazing, although in the past some areas were used as crop land. Several small stockponds are located within the floodplain in the study area.

Floodplain vegetation in the area consists mainly of desert brush, including creosote, mesquite, palo verde and catclaw. Vegetative cover densities reflect land use and proximity to Iona Wash; most dense vegetation occurs along the wash in areas not currently grazed or developed.

## 2.3 Principal Flood Problems

No systematic historical flood information is available for the Iona Wash study area. No stream gage data, flood photographs, flood damage reports, or other flood information are available for the study reach.

Reference 2 describes some anecdotal information regarding past floods in the general study area. No formal drainage complaints have been logged by the Town of Surprise, the FCDMC, the Arizona Department of Water Resources, or other agencies and communities contacted for this study. The Town Engineer for Surprise reports that flooding sometimes damages unpaved roads downstream of the C.A.P. at-grade crossings. The Maricopa County Highway Operations Superintendent for Maricopa County Department of Transportation reports that storm runoff frequently flows outside the defined channels as sheet flow. Floods occurred in 1978, 1982, 1988, and 1990 that flowed well outside the defined channels, deposited several inches of sandy sediment on the roadways, and eroded the culvert embankments at Patton Road.

## 2.4 Flood Protection Measures

Only two engineered drainage structures are located in the study area: the Patton Road culvert crossing and the CAP overchute (Reference 2). The CAP overchute is a 47 ft. by 7 ft. structural concrete channel over the CAP, with a "dragon's tooth" energy dissipator and drop structure on the downstream end. The Patton Road culverts consist of four 42-inch reinforced concrete culverts with projecting inlet and upstream and downstream grouted road embankment protection.

The upstream face of the CAP is protected by levee which directs runoff toward the overchutes. This levee is designed to withstand the 100-year, 6-hour storm predicted by the Bureau of Reclamation (BuRec). However, the BuRec design storm is smaller than the base flood estimated in Reference 3 and used for this study. The CAP levee is overtopped by the base flood used in this study.

There are no other flood control levees within the study area. There are, however, five stock ponds and associated diversions which may affect

runoff along Iona Wash. Four of the five stock ponds were built between 1951 and 1992, but none are licensed by ADWR. Therefore, no engineering data are available for any of the stock ponds. Stock ponds are discussed in more detail in Reference 2.

## 3.0 ENGINEERING METHODS

### 3.1 Hydrologic Analyses

Hydrologic data for detailed methods in this flood study were provided by the FCDMC from the Wittmann ADMS (References 3, 4). Discharges used in this study are summarized in Table 1.

Table 1. Base Flood Discharge Rates (cfs)

| ADMS Discharge | Drainage Area ($mi^2$) | Downstream HEC-2 Cross Section | Location |
|---|---|---|---|
| 5,001 | 32.58 | 0.640 | Trilby Confluence |
| 5,309 | 31.33 | 3.713 | CAP |
| 5,360 | 23.77 | 7.709 | Minor Tributary |
| 4,915 | 22.11 | 7.800 | Minor Tributary |
| 2,371 | 8.87 | 9.289 | SR 89 |

Other flow rates used in floodplain and floodway modeling were determined from hydraulic analysis of Iona Wash at flood overflow reaches at points between concentration points listed in Table 1.

### 3.2 Hydraulic Analyses

Detailed floodplain and floodway delineations were determined using the computer model HEC-2, version 4.6.2 (Reference 5). HEC-2 model input includes cross section geometry, hydraulic variables such as manning's roughness coefficients, starting water surface elevations, and effective flow boundaries.

Cross section data were developed directly from a digital terrain model of the study area with 2-foot contour interval accuracy, prepared specifically for this project. Topography was based on aerial photography dated

November 12, 1992. Vertical control was based on (NGVD 1929) with horizontal control tied to the Arizona State Plane Coordinate System (NAD 1983). Cross sections alignments were developed to be perpendicular to the primary flow direction along the main channel as well as the overbank floodplains. Dimensions of hydraulic structures were obtained from certified as-built plans, and by field survey and measurement.

Starting water surface elevations for floodplain and floodway runs were obtained from the Trilby Wash Flood Insurance Study (Reference 6). Cross section 0.640 of the Iona Wash Study corresponds to cross section 7.134 of the Trilby Wash Study. Cross section 0.640 was used as the downstream end of the Iona Wash Study. At the downstream side of the CAP overchute and drop structure, critical depth was assumed for computing upstream water surface elevations.

Manning's roughness coefficients, or "n" values, were determined using procedures adopted by the FCDMC (Reference 7). In addition, the following materials were used to support the analysis: (1) 1:12000 1992 aerial photographs by Kenney Aerial Mapping; (2) ground photographs taken during field reconnaissance; and (3) field data including hydraulic information and geomorphic data gathered during field reconnaissance. The FCDMC procedure consists of selection of a base "n" value and addition of several adjustment factors to determine a composite roughness coefficient for hydraulic modeling. The base "n" value accounts for roughness due to the bed material. Adjustments to the base "n" value include factors for the degree of channel irregularity, obstructions, vegetation, variations in cross section geometry, and degree of meandering.

The highly variable density of riparian vegetation, bank conditions, bed sediment size, and degree of channel condition are reflected in the variability of "n" values between adjacent cross sections. Therefore, "n" values can be better reported for types of channel reaches found in the study area rather than by specific cross section. There are three general types of channels in the study area: defined channels, braided channels, and sheet flow areas (Reference 8). Channel "n" values for braided and sheet flow areas are composites of the channel and riparian zone, as defined by denser vegetation visible on aerial photographs. In defined channels, "n" values represent just the bed of the defined channel. N values for riparian zones adjacent to defined channels were assigned a separate "n" value. Floodplains were assigned a composite "n" value according to criteria outlined in Reference 7.

| Table 2. Manning's "N" Values. | |
|---|---|
| Reach Type | Range of "N" Values |
| Defined Channel | 0.035 - 0.048 |
| Braided Channel | 0.065 - 0.105 |
| Riparian Vegetation | 0.070 - 0.115 |
| Sheet Flow Area | 0.045 - 0.065 |
| Floodplain | 0.045 - 0.055 |

Several flood overflows occur along Iona Wash due to perched channels, historical stock pond diversions, and inadequate channel capacity. Flood overflows were modeled according to procedures published in Reference 9 and guidelines set by the FCDMC. Where flood overflows did not flow parallel to the main channel and did not return to Iona Wash, the base flood was reduced by the amount of the overflow, when the flow rate could be determined by HEC-2 split flow analyses. Floodplain boundaries for the flood overflow areas were determined by approximate methods. Approximate method analyses included single section HEC-2 ratings within the overflow areas. Reference 10 describes specific modeling approaches for each flood overflow area.

Stock ponds and levees overtopped by the base flood were removed from the hydraulic model prior to final floodplain and floodway modeling, as directed by Reference 11.

A summary of the results of the hydraulic analyses is given in Table 3.

Natural condition water surface profiles are found at the end of this report (See Exhibit 1).

## 4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

### 4.1 Floodplain Boundaries

Floodplain boundaries for the detailed studies were delineated on topographic maps with a scale of 1"=200' and a contour interval of two feet

| Flooding Source | | Floodway | | | Base Flood Water Surface Elevation | | | |
|---|---|---|---|---|---|---|---|---|
| Cross Section | Distance (miles above Trilby Wash) | Width (feet) | Section Area (square feet) | Mean Velocity (feet per second) | Regulatory (feet NGVD) | Without Floodway (feet NGVD) | With Floodway (feet NGVD) | Increase * (feet) |
| Iona Wash | | | | | | | | |
| A | 0.640 | 385 | 1065 | 4.7 | 1461.0 | 1461.0 | 1462.0 | 1.0 |
| B | 0.734 | 410 | 1530 | 3.3 | 1464.4 | 1464.9 | 1465.4 | 1.0 |
| C | 0.819 | 476 | 1667 | 3.0 | 1466.9 | 1467.2 | 1467.7 | 0.8 |
| D | 0.912 | 416 | 1437 | 3.5 | 1469.5 | 1469.7 | 1470.5 | 1.0 |
| E | 0.999 | 391 | 1411 | 3.5 | 1471.7 | 1471.7 | 1472.6 | 0.9 |
| F | 1.101 | 503 | 1624 | 3.1 | 1473.9 | 1473.9 | 1474.9 | 1.0 |
| G | 1.189 | 460 | 1470 | 3.4 | 1476.3 | 1476.3 | 1477.3 | 1.0 |
| H | 1.285 | 448 | 1684 | 3.0 | 1478.8 | 1478.8 | 1479.8 | 1.0 |
| I | 1.386 | 475 | 1645 | 3.0 | 1481.3 | 1481.3 | 1482.3 | 1.0 |
| J | 1.480 | 403 | 1503 | 3.3 | 1483.7 | 1483.7 | 1484.7 | 1.0 |
| K | 1.578 | 410 | 1367 | 3.7 | 1486.1 | 1486.1 | 1487.1 | 1.0 |
| L | 1.670 | 376 | 1163 | 4.3 | 1489.0 | 1489.0 | 1489.9 | 0.9 |
| M | 1.764 | 436 | 1582 | 3.2 | 1491.3 | 1491.3 | 1492.3 | 1.0 |
| N | 1.866 | 368 | 1132 | 4.4 | 1493.8 | 1493.8 | 1494.8 | 1.0 |
| O | 1.967 | 512 | 1402 | 3.6 | 1496.9 | 1496.9 | 1497.9 | 1.0 |
| P | 2.064 | 605 | 1621 | 3.1 | 1498.7 | 1498.7 | 1499.7 | 1.0 |
| Q | 2.159 | 465 | 1186 | 4.2 | 1501.1 | 1501.1 | 1502.1 | 1.0 |
| R | 2.251 | 562 | 1428 | 3.5 | 1503.5 | 1503.5 | 1504.5 | 1.0 |
| S | 2.346 | 535 | 1248 | 4.0 | 1506.1 | 1506.1 | 1507.1 | 1.0 |
| T | 2.442 | 561 | 1377 | 3.6 | 1509.2 | 1509.2 | 1510.2 | 1.0 |
| U | 2.537 | 615 | 1380 | 3.6 | 1512.1 | 1512.1 | 1513.1 | 1.0 |
| V | 2.631 | 646 | 1514 | 3.3 | 1514.6 | 1514.6 | 1515.6 | 1.0 |
| W | 2.727 | 482 | 1342 | 3.7 | 1517.6 | 1517.6 | 1518.4 | 0.8 |
| X | 2.827 | 551 | 1419 | 3.5 | 1520.6 | 1520.6 | 1521.6 | 1.0 |
| Y | 2.927 | 683 | 1533 | 3.3 | 1523.0 | 1523.0 | 1524.0 | 1.0 |

Table 3

**FEDERAL EMERGENCY MANAGEMENT AGENCY**

**UNINCORPORATED MARICOPA COUNTY/ SURPRISE, AZ**

# FLOODWAY DATA

## IONA WASH

* Increase, I: Sections 0.640 to 0.999, I = Floodway El. - Regulatory El.
Sections 1.101 to 13.499, I = Floodway El. - "Without Floodway" El.(see SPR #9)

FWDATTBL.XLS

| Flooding Source | | Floodway | | | Base Flood Water Surface Elevation | | | |
|---|---|---|---|---|---|---|---|---|
| Cross Section | Distance (miles above Trilby Wash) | Width (feet) | Section Area (square feet) | Mean Velocity (feet per second) | Regulatory (feet NGVD) | Without Floodway (feet NGVD) | With Floodway (feet NGVD) | Increase * (feet) |
| Z | 3.027 | 468 | 1171 | 4.3 | 1526.0 | 1526.0 | 1526.9 | 0.9 |
| AA | 3.137 | 346 | 1091 | 4.6 | 1529.2 | 1529.2 | 1530.2 | 1.0 |
| AB | 3.224 | 345 | 1134 | 4.4 | 1532.0 | 1532.0 | 1533.0 | 1.0 |
| AC | 3.321 | 316 | 1183 | 4.2 | 1534.9 | 1534.9 | 1535.9 | 1.0 |
| AD | 3.413 | 204 | 935 | 5.4 | 1537.6 | 1537.6 | 1538.5 | 0.9 |
| AE | 3.514 | 270 | 1450 | 3.4 | 1540.1 | 1540.1 | 1541.1 | 1.0 |
| AF | 3.617 | 84 | 552 | 9.1 | 1541.7 | 1541.7 | 1542.6 | 0.9 |
| AG | 3.651 | 562 | 1208 | 4.2 | 1553.1 | 1553.1 | 1553.6 | 0.5 |
| AH | 3.670 | 670 | 1327 | 3.8 | 1553.6 | 1553.6 | 1554.0 | 0.4 |
| AI | 3.713 | 1159 | 11814 | 0.4 | 1554.3 | 1554.3 | 1555.3 | 1.0 |
| AJ | 3.821 | 1050 | 9171 | 0.6 | 1554.3 | 1554.3 | 1555.3 | 1.0 |
| AK | 3.917 | 686 | 4530 | 1.2 | 1554.4 | 1554.4 | 1555.4 | 1.0 |
| AL | 4.010 | 540 | 2480 | 2.1 | 1554.6 | 1554.6 | 1555.6 | 1.0 |
| AM | 4.119 | 265 | 1066 | 5.0 | 1555.8 | 1555.8 | 1556.8 | 1.0 |
| AN | 4.214 | 214 | 1039 | 5.1 | 1558.8 | 1558.8 | 1559.8 | 1.0 |
| AO | 4.306 | 200 | 917 | 5.8 | 1561.6 | 1561.6 | 1562.6 | 1.0 |
| AP | 4.403 | 205 | 1069 | 5.0 | 1564.5 | 1564.5 | 1565.5 | 1.0 |
| AQ | 4.497 | 142 | 816 | 6.5 | 1566.9 | 1566.9 | 1567.8 | 0.9 |
| AR | 4.596 | 146 | 1077 | 4.9 | 1569.3 | 1569.3 | 1570.3 | 1.0 |
| AS | 4.694 | 111 | 773 | 6.9 | 1571.5 | 1571.5 | 1572.2 | 0.7 |
| AT | 4.789 | 115 | 951 | 5.6 | 1574.5 | 1574.5 | 1575.1 | 0.6 |
| AU | 4.893 | 116 | 688 | 7.7 | 1578.4 | 1578.4 | 1578.9 | 0.5 |
| AV | 4.988 | 149 | 936 | 5.7 | 1582.8 | 1582.8 | 1583.2 | 0.4 |
| AW | 5.095 | 118 | 911 | 5.8 | 1585.8 | 1585.8 | 1586.5 | 0.7 |
| AX | 5.189 | 206 | 1268 | 4.2 | 1587.9 | 1587.9 | 1588.5 | 0.6 |
| AY | 5.287 | 466 | 1016 | 5.2 | 1592.5 | 1592.5 | 1593.1 | 0.6 |

Table 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

UNINCORPORATED MARICOPA COUNTY/
SURPRISE, AZ

# FLOODWAY DATA

## IONA WASH

* Increase, I: Sections 0.640 to 0.999, I = Floodway El. - Regulatory El.
Sections 1.101 to 13.499, I = Floodway El. - "Without Floodway" El.(see SPR #9)

| Flooding Source | | Floodway | | | Base Flood Water Surface Elevation | | | |
|---|---|---|---|---|---|---|---|---|
| Cross Section | Distance (miles above Trilby Wash) | Width (feet) | Section Area (square feet) | Mean Velocity (feet per second) | Regulatory (feet NGVD) | Without Floodway (feet NGVD) | With Floodway (feet NGVD) | Increase * (feet) |
| AZ | 5.386 | 485 | 1400 | 3.8 | 1596.6 | 1596.6 | 1597.6 | 1.0 |
| BA | 5.485 | 324 | 1068 | 5.0 | 1599.6 | 1599.6 | 1600.4 | 0.8 |
| BB | 5.577 | 132 | 705 | 7.6 | 1602.0 | 1602.0 | 1602.9 | 0.9 |
| BC | 5.668 | 740 | 1854 | 2.9 | 1605.0 | 1605.0 | 1606.0 | 1.0 |
| BD | 5.765 | 690 | 1598 | 3.3 | 1607.9 | 1607.9 | 1608.8 | 0.9 |
| BE | 5.858 | 690 | 2087 | 2.6 | 1611.1 | 1611.1 | 1612.1 | 1.0 |
| BF | 5.945 | 1046 | 2155 | 2.5 | 1613.6 | 1613.6 | 1614.3 | 0.7 |
| BG | 6.026 | 1192 | 1898 | 2.8 | 1615.4 | 1615.4 | 1616.3 | 0.9 |
| BH | 6.067 | 564 | 1632 | 3.3 | 1617.0 | 1617.0 | 1618.0 | 1.0 |
| BI | 6.135 | 440 | 1302 | 4.1 | 1618.7 | 1618.7 | 1619.7 | 1.0 |
| BJ | 6.223 | 617 | 1953 | 2.7 | 1621.5 | 1621.5 | 1622.5 | 1.0 |
| BK | 6.321 | 581 | 1549 | 3.4 | 1624.0 | 1624.0 | 1625.0 | 1.0 |
| BL | 6.413 | 489 | 1477 | 3.6 | 1627.5 | 1627.5 | 1628.5 | 1.0 |
| BM | 6.511 | 390 | 1345 | 4.0 | 1630.3 | 1630.3 | 1631.3 | 1.0 |
| BN | 6.603 | 371 | 1364 | 3.9 | 1633.5 | 1633.5 | 1634.4 | 0.9 |
| BO | 6.704 | 400 | 1484 | 3.6 | 1636.2 | 1636.2 | 1637.2 | 1.0 |
| BP | 6.801 | 546 | 1865 | 2.9 | 1638.9 | 1638.9 | 1639.9 | 1.0 |
| BQ | 6.897 | 832 | 2054 | 2.6 | 1641.8 | 1641.8 | 1642.8 | 1.0 |
| BR | 6.986 | 769 | 1462 | 3.7 | 1644.7 | 1644.7 | 1645.7 | 1.0 |
| BS | 7.077 | 975 | 1944 | 2.8 | 1647.9 | 1647.9 | 1648.9 | 1.0 |
| BT | 7.167 | 836 | 1599 | 3.3 | 1651.9 | 1651.9 | 1652.9 | 1.0 |
| BU | 7.264 | 1174 | 2360 | 2.3 | 1655.3 | 1655.3 | 1656.3 | 1.0 |
| BV | 7.352 | 867 | 1634 | 3.3 | 1658.2 | 1658.2 | 1659.0 | 0.8 |
| BW | 7.438 | 585 | 1611 | 3.3 | 1661.3 | 1661.3 | 1662.2 | 0.9 |
| BX | 7.533 | 485 | 1638 | 3.3 | 1664.8 | 1664.8 | 1665.8 | 1.0 |
| BY | 7.624 | 446 | 1527 | 3.5 | 1668.0 | 1668.0 | 1668.8 | 0.8 |

Table 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

UNINCORPORATED MARICOPA COUNTY/
SURPRISE, AZ

# FLOODWAY DATA

## IONA WASH

* Increase, I: Sections 0.640 to 0.999, I = Floodway El. - Regulatory El.
Sections 1.101 to 13.499, I = Floodway El. - "Without Floodway" El.(see SPR #9)

| Flooding Source | | Floodway | | | Base Flood Water Surface Elevation | | | |
|---|---|---|---|---|---|---|---|---|
| Cross Section | Distance (miles above Trilby Wash) | Width (feet) | Section Area (square feet) | Mean Velocity (feet per second) | Regulatory (feet NGVD) | Without Floodway (feet NGVD) | With Floodway (feet NGVD) | Increase * (feet) |
| BZ | 7.709 | 430 | 1668 | 3.2 | 1670.7 | 1670.7 | 1671.5 | 0.8 |
| CA | 7.800 | 455 | 1527 | 3.5 | 1673.4 | 1673.4 | 1674.2 | 0.8 |
| CB | 7.896 | 520 | 1765 | 3.0 | 1676.0 | 1676.0 | 1677.0 | 1.0 |
| CC | 7.995 | 406 | 1244 | 4.2 | 1678.8 | 1678.8 | 1679.7 | 0.9 |
| CD | 8.088 | 340 | 1272 | 4.1 | 1681.5 | 1681.5 | 1682.2 | 0.7 |
| CE | 8.182 | 225 | 639 | 8.2 | 1684.9 | 1684.9 | 1685.4 | 0.5 |
| CF | 8.273 | 265 | 1380 | 3.8 | 1688.5 | 1688.5 | 1689.5 | 1.0 |
| CG | 8.374 | 198 | 1028 | 5.0 | 1691.2 | 1691.2 | 1691.9 | 0.7 |
| CH | 8.465 | 141 | 783 | 6.6 | 1693.9 | 1693.9 | 1694.8 | 0.9 |
| CI | 8.560 | 290 | 1662 | 3.1 | 1695.9 | 1695.9 | 1696.9 | 1.0 |
| CJ | 8.654 | 252 | 1082 | 4.7 | 1697.4 | 1697.4 | 1698.1 | 0.7 |
| CK | 8.740 | 172 | 744 | 6.8 | 1699.7 | 1699.7 | 1699.9 | 0.2 |
| CL | 8.844 | 153 | 630 | 8.0 | 1703.6 | 1703.6 | 1703.7 | 0.1 |
| CM | 8.940 | 205 | 1135 | 4.4 | 1707.1 | 1707.1 | 1708.1 | 1.0 |
| CN | 9.032 | 260 | 1172 | 4.3 | 1709.3 | 1709.3 | 1709.9 | 0.6 |
| CO | 9.119 | 210 | 680 | 7.3 | 1711.6 | 1711.6 | 1712.4 | 0.8 |
| CP | 9.202 | 99 | 754 | 6.5 | 1715.4 | 1715.4 | 1716.3 | 0.9 |
| CQ | 9.289 | 135 | 551 | 8.9 | 1718.8 | 1718.8 | 1719.0 | 0.2 |
| CR | 9.387 | 162 | 551 | 1.2 | 1720.5 | 1720.5 | 1721.5 | 1.0 |
| CS | 9.480 | 79 | 212 | 3.2 | 1721.6 | 1721.6 | 1722.1 | 0.5 |
| CT | 9.588 | 54 | 93 | 7.2 | 1725.5 | 1725.5 | 1725.4 | -0.1 |
| CU | 9.677 | 57 | 150 | 4.5 | 1730.6 | 1730.6 | 1730.9 | 0.3 |
| CV | 9.770 | 50 | 108 | 6.2 | 1735.0 | 1735.0 | 1735.7 | 0.7 |
| CW | 9.865 | 146 | 181 | 3.7 | 1740.6 | 1740.6 | 1740.8 | 0.2 |
| CX | 9.963 | 115 | 175 | 3.8 | 1745.5 | 1745.5 | 1745.4 | -0.1 |
| CY | 10.054 | 69 | 136 | 4.9 | 1749.3 | 1749.3 | 1749.9 | 0.6 |

Table 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

UNINCORPORATED MARICOPA COUNTY/
SURPRISE, AZ

# FLOODWAY DATA

## IONA WASH

* Increase, I: Sections 0.640 to 0.999, I = Floodway El. - Regulatory El.
Sections 1.101 to 13.499, I = Floodway El. - "Without Floodway" El.(see SPR #9)

| Flooding Source | | Floodway | | | Base Flood Water Surface Elevation | | | |
|---|---|---|---|---|---|---|---|---|
| Cross Section | Distance (miles above Trilby Wash) | Width (feet) | Section Area (square feet) | Mean Velocity (feet per second) | Regulatory (feet NGVD) | Without Floodway (feet NGVD) | With Floodway (feet NGVD) | Increase * (feet) |
| CZ | 10.139 | 52 | 105 | 6.3 | 1754.2 | 1754.2 | 1754.9 | 0.7 |
| DA | 10.232 | 120 | 196 | 3.4 | 1759.2 | 1759.2 | 1759.5 | 0.3 |
| DB | 10.320 | 79 | 168 | 4.0 | 1762.6 | 1762.6 | 1763.0 | 0.4 |
| DC | 10.426 | 124 | 230 | 2.9 | 1766.9 | 1766.9 | 1767.5 | 0.6 |
| DD | 10.516 | 181 | 205 | 3.3 | 1771.8 | 1771.8 | 1772.6 | 0.8 |
| DE | 10.620 | 90 | 202 | 3.3 | 1777.0 | 1777.0 | 1778.0 | 1.0 |
| DF | 10.710 | 195 | 239 | 2.8 | 1781.3 | 1781.3 | 1782.1 | 0.8 |
| DG | 10.802 | 117 | 215 | 3.1 | 1785.6 | 1785.6 | 1786.5 | 0.9 |
| DH | 10.891 | 255 | 317 | 2.1 | 1789.9 | 1789.9 | 1790.3 | 0.4 |
| DI | 10.982 | 124 | 201 | 3.3 | 1794.4 | 1794.4 | 1795.1 | 0.7 |
| DJ | 11.079 | 146 | 234 | 2.9 | 1798.7 | 1798.7 | 1799.7 | 1.0 |
| DK | 11.174 | 150 | 213 | 3.3 | 1804.0 | 1804.0 | 1804.8 | 0.8 |
| DL | 11.264 | 79 | 207 | 3.4 | 1807.9 | 1807.9 | 1808.8 | 0.9 |
| DM | 11.368 | 172 | 452 | 4.4 | 1813.0 | 1813.0 | 1813.8 | 0.8 |
| DN | 11.469 | 244 | 698 | 3.1 | 1817.0 | 1817.0 | 1817.9 | 0.9 |
| DO | 11.570 | 365 | 652 | 3.3 | 1822.1 | 1822.1 | 1823.1 | 1.0 |
| DP | 11.666 | 572 | 1069 | 2.2 | 1827.0 | 1827.0 | 1828.0 | 1.0 |
| DQ | 11.750 | 327 | 862 | 2.8 | 1830.9 | 1830.9 | 1831.9 | 1.0 |
| DR | 11.847 | 334 | 1002 | 2.4 | 1835.0 | 1835.0 | 1836.0 | 1.0 |
| DS | 11.920 | 540 | 1150 | 2.1 | 1837.3 | 1837.3 | 1837.7 | 0.4 |
| DT | 12.010 | 521 | 926 | 2.6 | 1839.9 | 1839.9 | 1839.9 | 0.0 |
| DU | 12.101 | 358 | 294 | 2.9 | 1844.2 | 1844.2 | 1845.2 | 1.0 |
| DV | 12.191 | 300 | 424 | 2.0 | 1849.6 | 1849.6 | 1849.7 | 0.1 |
| DW | 12.281 | 394 | 400 | 2.4 | 1853.3 | 1853.3 | 1853.1 | -0.2 |
| DX | 12.369 | 335 | 530 | 3.4 | 1857.6 | 1857.6 | 1857.9 | 0.3 |
| DY | 12.464 | 420 | 468 | 3.9 | 1862.2 | 1862.2 | 1863.2 | 1.0 |

Table 3

**FEDERAL EMERGENCY MANAGEMENT AGENCY**

**UNINCORPORATED MARICOPA COUNTY/ SURPRISE, AZ**

# FLOODWAY DATA

**IONA WASH**

* Increase, I: Sections 0.640 to 0.999, I = Floodway El. - Regulatory El.
Sections 1.101 to 13.499, I = Floodway El. - "Without Floodway" El.(see SPR #9)

| Flooding Source | | Floodway | | | Base Flood Water Surface Elevation | | | |
|---|---|---|---|---|---|---|---|---|
| Cross Section | Distance (miles above Trilby Wash) | Width (feet) | Section Area (square feet) | Mean Velocity (feet per second) | Regulatory (feet NGVD) | Without Floodway (feet NGVD) | With Floodway (feet NGVD) | Increase * (feet) |
| DZ | 12.614 | 712 | 573 | 4.1 | 1869.3 | 1869.3 | 1870.3 | 1.0 |
| EA | 12.692 | 528 | 421 | 5.6 | 1874.8 | 1874.8 | 1875.4 | 0.6 |
| EB | 12.752 | 400 | 502 | 4.7 | 1878.0 | 1878.0 | 1878.9 | 0.9 |
| EC | 12.849 | 126 | 306 | 7.7 | 1882.6 | 1882.6 | 1883.5 | 0.9 |
| ED | 12.942 | 165 | 408 | 5.8 | 1887.7 | 1887.7 | 1888.6 | 0.9 |
| EE | 13.025 | 96 | 254 | 9.3 | 1892.9 | 1892.9 | 1893.2 | 0.3 |
| EF | 13.127 | 113 | 384 | 6.2 | 1898.4 | 1898.4 | 1899.3 | 0.9 |
| EG | 13.221 | 163 | 423 | 5.6 | 1903.4 | 1903.4 | 1903.6 | 0.2 |
| EH | 13.325 | 109 | 330 | 7.2 | 1908.5 | 1908.5 | 1908.3 | -0.2 |
| EI | 13.419 | 174 | 488 | 4.9 | 1913.4 | 1913.4 | 1914.2 | 0.8 |
| EJ | 13.499 | 52 | 224 | 10.6 | 1918.9 | 1918.9 | 1919.5 | 0.6 |

Table 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

UNINCORPORATED MARICOPA COUNTY/
SURPRISE, AZ

# FLOODWAY DATA

## IONA WASH

* Increase, I: Sections 0.640 to 0.999, I = Floodway El. - Regulatory El.
Sections 1.101 to 13.499, I = Floodway El. - "Without Floodway" El.(see SPR #9)

(See Exhibit 2). The boundaries of the 100-yr flood were delineated using the elevations computed at each cross section by the HEC-2 models. The delineations were interpolated between cross sections using engineering judgement in conjunction with the topographic map features and known field conditions. The ponding area upstream of the CAP extends west of the area covered by detailed topographic mapping, and was therefore delineated on the U.S.G.S. quadrangle map (Reference 12). The 500-year flood elevations were not determined by this study.

Because cross section data were obtained directly from the DTM models, the accuracy of the cross section data exceeds that of the contour mapping. As a result, slight discrepancies may appear between the computed elevations and the intersections of the flood limits with the contour lines.

### 4.2 Floodways

For Flood Insurance Studies, floodways are typically defined as the main channel of a watercourse and the adjacent land width that must remain free of encroachments so as not to raise the 100-yr water surface elevation in the watercourse more than a specified amount. The allowable rise determined for this study is 1.0 foot.

Floodway delineations were computed based on equal conveyance methods using HEC-2 encroachment method 4. Method 4 encroachment stations were converted to HEC-2 encroachment method 1 target stations for final floodway modeling. Final floodway model was performed to ensure that no encroachments greater than 1.0 foot occurred within the study area. Floodway boundaries were then plotted at the cross sections on the topographic maps. Engineering judgement was used to appropriately interpolate and smooth the floodplain delineation. Floodway delineations are shown on Exhibit 2.

## 5.0 INSURANCE APPLICATION

For flood insurance rating purposes, each floodplain area was divide into appropriate rate zones based on the floodplain boundaries and the engineering analyses. The areas were divided into flood insurance rate zones based on the following criteria:

Zone A

Zone A is the flood insurance rate zone that corresponds to the 100-yr floodplains that are determined in the FIS by approximate methods. Because detailed

hydraulic analyses are not performed for such areas, no base flood elevations or depths are shown within this zone.

Zone AE

Zone AE is the flood insurance rate zone that corresponds to the 100-yr floodplains that are determined in the FIS by detailed methods. BFE's derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone AH

Zone AH is the flood insurance rate zone that corresponds to the areas of 100-yr shallow flooding with a constant water-surface elevation (usually areas of ponding) where average depths are between 1 and 3 feet. The BFE's derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

## 6.0 OTHER STUDIES

This study is intended to update and supersede the previous study performed in 1979 (Reference 13). Portions of the study area were previously mapped by approximate methods, and are shown as Zone A or shaded Zone X on Panels 680 and 1110 of 4350 for Unincorporated Maricopa County. Reference 2 describes other studies and information relevant to this Flood Insurance Study.

## 7.0 LOCATION OF DATA

All data developed for this can be obtained from the Flood Control District of Maricopa County, Floodplain Management Section at 2801 West Durango, Phoenix, AZ 85009 (602)506-1501.

## 8.0 BIBLIOGRAPHY

1. CH2M HILL, 1992, Memorandum from Jon Fuller/CH2M HILL to Sandy Story/FCDMC dated October 26, 1992. Memorandum describes Community Officials Meeting of October 14, 1992.

2. CH2M HILL, 1992, Memorandum entitled "Data Collection Report" from Jon Fuller/CH2M HILL to Sandy Story/FCDMC dated December 21, 1992.

3. The WLB Group, 1989, Wittmann Area Drainage Master Study, Part A: Hydrology and Hydraulics. Report to the FCDMC.

4. CH2M HILL, 1993, Memorandum from Jon Fuller/CH2M HILL to Sandy Story/FCDMC dated March 3, 1993. Memorandum discussed flow rates for use in hydraulic modeling.

5. U.S. Army Corps of Engineers, Hydrologic Engineering Center, 1991, "HEC-2 Water Surface Profiles, User's Manual."

6. P&D Technologies, 1992 (February 6), "Flood Insurance Study for Trilby Wash," Report submitted to FCDMC, Contract #90-24.

7. Thomsen, B.W., and Hjalmarson, H.W., 1991, "Estimated Manning's Roughness Coefficients for Stream Channels and Flood Plains in Maricopa County, Arizona," Report by the U.S. Geological Survey to the FCDMC.

8. CH2M HILL, 1992, "Field Reconnaissance Report." Report submitted to FCDMC, December.

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

10. CH2M HILL, 1993, Technical Study Documentation Notebook for Iona Wash Flood Insurance Study, Appendix A, Special Problems Reports. Document submitted to FCDMC, July.

11. Federal Emergency Management Agency, 1991, "FEMA 37: Flood Insurance Study Guidelines and Specifications for Study Contractors," March.

12. U.S. Geological Survey, 1978, White Tanks Mtn, NE, Arizona - 7.5 minute quadrangle map.

13. Harris-Toups Associates, 1979, Flood Insurance Study Approximate Study for Unincorporated Area of Maricopa County, Arizona. Prepared for the U.S. Department of Housing and Urban Development, unpublished.

## 9.0 REDUCED DELINEATION MAPS

Will be include upon FEMA acceptance of work maps.

## 10.0 ELEVATION REFERENCE MARKS

| NO. | ELEVATION | DESCRIPTION |
|---|---|---|
| ERM 1 | 1605.88 | Top of Maricopa County Highway Department Brass Cap flush with pavement at the intersection of 230th Avenue and Patton Road. |
| ERM 2 | 1613.46 | Top of Maricopa County Highway Department Brass Cap in handhole located at the intersection of Patton Road and 235th Avenue. |
| ERM 3 | 1622.28 | Top of Maricopa County Highway Department Brass Cap flush with pavement at the intersection of Patton Road and 239th Avenue. |
| ERM 4 | 1636.61 | Top of Maricopa County Highway Department Brass Cap flush with pavement at the intersection of Patton Road and 243rd Avenue. |
| ERM 5 | 1650.98 | Top of 1 1/2" Aluminum Cap marked Iona Wash FS ERM #5 located 0.5 miles North of Patton Road on 243rd Avenue on the West side of roadway. |
| ERM 6 | 1665.63 | Top of 1 1/2" Aluminum Cap marked Iona Wash FS ERM #6 located 1 mile North of Patton Road on 243rd Avenue (dirt), 125' North of a water tank on the West side of roadway. |
| ERM 7 | 1679.60 | Top of 1 1/2" Aluminum Cap marked Iona Wash FS ERM #7 located 325'+ South of the centerline of the Iona Wash and 20' + West of the existing dirt roadway; also 3'+ Southwest of a found 1 1/2" Aluminum Cap marked FCDMC 14". |
| ERM 8 | 1696.93 | Top of G.L.O. Brass Cap marked S17■S16 1916 S20■S21. |
| ERM 9 | 1717.54 | Top of G.L.O. Brass Cap marked 1/4 S17■S16 1916. |
| ERM 10 | 1735.29 | Top of G.L.O. Brass Cap marked S8■S9 1916 S17■S16. |
| ERM 11 | 1758.40 | Top of G.L.O. Brass Cap marked 1/4 S8■S9 1916. |

| | | |
|---|---|---|
| ERM 12 | 1786.77 | Top of G.L.O. Brass Cap marked S5■S4 T5N R3W S8■S9. |
| ERM 13 | 1814.28 | Top of G.L.O. Brass Cap marked 1/4 S5■S4. |
| ERM 14 | 1947.54 | Top of G.L.O. Brass Cap marked S32■S33 T6N R3W 1916 S5■S4. |
| ERM 15 | 1838.91 | Top of 1 1/2" Aluminum Cap marked Iona Wash FS ERM #15 located on the South side of an East West roadway 10'+ North and an East West fence line. |
| ERM 16 | 1862.43 | Top of 1 1/2" Aluminum Cap marked Iona Wash FS ERM #16 of the Iona Wash road crossing, 0.5+ miles North of Township line. |
| ERM 17 | 1902.43 | Top of G.L.O. Brass Cap marked 1/4 S29■S32. |
| ERM 18 | 1593.64 | Top of Maricopa County Highway Department Brass Cap located near the Southwest corner of Section 26, T5N R3W. |
| ERM 19 | 1569.93 | Top of G.L.O. Brass Cap marked 1/4 S34■S35 1916 located 70'+ North of the Iona Wash. |
| ERM 20 | 1570.45 | Top of G.L.O. Brass Cap marked S34■S35 1916 SC. |
| ERM 21 | 1551.74 | Top of 1 1/2 Aluminum Cap marked Iona Wash FS ERM #21 located 2' North of a concrete cattle guard 150' South of the Central Arizona Project Canal 200'+ East of the Trilby Wash. |
| ERM 22 | 1543.08 | Top of 1 1/2" Aluminum Cap marked Iona Wash FS ERM #22 located 15'+ West of the West edge of a dirt roadway. |
| ERM 23 | 1527.02 | Top of 1 1/2" Aluminum Cap marked Iona Wash FS ERM #23 located 30'+ West of the West side of the dirt roadway. |
| ERM 24 | 1510.67 | Top of 1 1/2" Aluminum Cap marked Iona Wash FS ERM #24 located 23'+ West of the West edge of the dirt roadway. |
| ERM 25 | 1498.53 | Top of 1 1/2" Aluminum Cap marked Iona Wash FS ERM #25 located 11.0'+ South of street sign marked "Pinnacle Peak Road" and 219th Avenue. |

| | | |
|---|---|---|
| ERM 26 | 1483.46 | Top of 1 1/2" Aluminum Cap marked Iona Wash FS ERM #26 located 7.5'+ South, Southwest of the G.L.O. Brass Cap marked 1/4 S14■S13 1915. |
| ERM 27 | 1473.51 | Top of "Bureau of Reclamation Brass Cap" located at the Northwest corner of Deer Valley Road and 219th Avenue. |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.544 | 1419.11 | .57 | 1419.36 | 952.00 | 69.93 | 6123.96 | 5445.11 | 852.00 | 4745.00 | 4825.00 | 5065.00 | 5555.00 |
| 5.544 | 1417.00 | .00 | 1417.24 | 1245.16 | 136.59 | 4723.39 | 4020.21 | .00 | .00 | 4825.00 | 5065.00 | .00 |
| 5.544 | 1415.79 | .00 | 1415.98 | 892.90 | 26.59 | 2375.96 | 1726.45 | .00 | .00 | 4825.00 | 5065.00 | .00 |
| 5.579 | 1419.00 | .00 | 1419.10 | 291.09 | 651.46 | 10838.54 | .00 | .00 | .00 | 4900.00 | 5079.00 | .00 |
| 5.579 | 1419.44 | .44 | 1419.59 | 250.67 | 40.32 | 11515.36 | 4.32 | 875.00 | 4675.00 | 4900.00 | 5079.00 | 5550.00 |
| 5.579 | 1417.48 | .00 | 1418.26 | 279.73 | 335.50 | 8449.50 | .00 | .00 | .00 | 4900.00 | 5079.00 | .00 |
| 5.579 | 1416.22 | .00 | 1416.57 | 252.21 | 69.75 | 4620.25 | .00 | .00 | .00 | 4900.00 | 5079.00 | .00 |
| 5.645 | 1420.12 | .00 | 1420.26 | 1459.59 | 4019.49 | 3988.53 | 3551.97 | .00 | .00 | 4915.00 | 5065.00 | .00 |
| 5.645 | 1420.56 | .43 | 1420.73 | 900.00 | 3847.49 | 4476.82 | 3235.69 | 900.00 | 4515.00 | 4915.00 | 5065.00 | 5415.00 |
| 5.645 | 1419.24 | .00 | 1419.39 | 1350.88 | 3006.95 | 3326.82 | 2511.23 | .00 | .00 | 4915.00 | 5065.00 | .00 |
| 5.645 | 1417. | | | | | | | | | 4915.00 | 5065.00 | .00 |
| 5.717 | 1421. | | | | | | | | | 4442.00 | 5455.00 | .00 |
| 5.717 | 1421. | | | | | | | | | 4442.00 | 5455.00 | 5455.00 |
| 5.717 | 1421. | | | | | | | | | 4442.00 | 5455.00 | .00 |
| 5.717 | 1419. | | | | | | | | | 4442.00 | 5455.00 | .00 |
| 5.777 | 1423. | | | | | | | | | 4875.00 | 5160.00 | .00 |
| 5.777 | 1423. | | | | | | | | | 4875.00 | 5160.00 | 5432.00 |
| 5.777 | 1423. | | | | | | | | | 4875.00 | 5160.00 | .00 |
| 5.777 | 1422. | | | | | | | | | 4875.00 | 5160.00 | .00 |
| 5.840 | 1425. | | | | | | | | | 4390.00 | 5612.00 | .00 |
| 5.840 | 1425. | | | | | | | | | 4390.00 | 5612.00 | 5525.00 |
| 5.840 | 1425. | | | | | | | | | 4390.00 | 5612.00 | .00 |
| 5.840 | 1424. | | | | | | | | | 4390.00 | 5612.00 | .00 |
| 5.951 | 1429. | | | | | | | | | 4275.00 | 5665.00 | .00 |
| 5.951 | 1429.61 | .35 | 1429.78 | 1165.00 | .00 | 11560.00 | .00 | 1165.00 | 4500.00 | 4275.00 | 5665.00 | 5665.00 |
| 5.951 | 1428.88 | .00 | 1429.00 | 1715.74 | 192.54 | 8359.17 | 293.30 | .00 | .00 | 4275.00 | 5665.00 | .00 |
| 5.951 | 1428.20 | .00 | 1428.27 | 1649.15 | 50.40 | 4525.36 | 114.24 | .00 | .00 | 4275.00 | 5665.00 | .00 |

PROFILES: [TRILBV]

#1 100 YR EVENT WITH NO ENCROACHMENT

#2 100YR EVENT WITH FW ENCROACHMENT

#3 50 YR EVENT

#4 50 YR EVENT

FOR STARTING WSEL IONA WAS #



| SECNO | CWSEL | DIFKWS | SS | TOPWID | QLOB | QCH | QROB | PENENC | STENCL | STCHL | STCHR | STENCR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6.082 | 1432.94 | .00 | 1433.04 | 2436.03 | 3860.04 | 7208.21 | 491.75 | .00 | .00 | 4505.00 | 5695.00 | .00 |
| 6.082 | 1433.62 | .68 | 1433.78 | 1190.00 | .00 | 11560.00 | .00 | 1190.00 | 4505.00 | 4505.00 | 5695.00 | 5695.00 |
| 6.082 | 1432.60 | .00 | 1432.68 | 2306.27 | 2916.55 | 5544.96 | 293.48 | .00 | .00 | 4505.00 | 5695.00 | .00 |
| 6.082 | 1431.95 | .00 | 1432.01 | 1910.25 | 1523.44 | 3110.39 | 56.16 | .00 | .00 | 4505.00 | 5695.00 | .00 |
| 6.200 | 1437.05 | .00 | 1437.17 | 1720.27 | .00 | 11307.86 | 252.14 | .00 | .00 | 4340.00 | 5890.00 | .00 |
| 6.200 | 1437.42 | .37 | 1437.53 | 1460.00 | .00 | 11560.00 | .00 | 1460.00 | 4430.00 | 4340.00 | 5890.00 | 5890.00 |
| 6.200 | 1436.69 | .00 | 1436.79 | 1673.77 | .00 | 8719.18 | 125.82 | .00 | .00 | 4340.00 | 5890.00 | .00 |
| 6.200 | 1436.01 | .00 | 1436.06 | 1582.34 | .00 | 4678.74 | 11.26 | .00 | .00 | 4340.00 | 5890.00 | .00 |
| 6.293 | 1440.16 | .00 | 1440.22 | 2080.74 | .03 | 9838.15 | 1661.83 | .00 | .00 | 4195.00 | 5820.00 | .00 |
| 6.293 | 1440.34 | .18 | 1440.42 | 1555.00 | .00 | 11560.00 | .00 | 1555.00 | 4265.00 | 4195.00 | 5820.00 | 5820.00 |
| 6.293 | 1439.73 | .00 | 1439.78 | 2049.15 | .00 | 7648.56 | 1196.44 | .00 | .00 | 4195.00 | 5820.00 | .00 |
| 6.293 | 1438.95 | .00 | 1438.98 | 1969.87 | .00 | 4145.03 | 544.97 | .00 | .00 | 4195.00 | 5820.00 | .00 |
| 6.395 | 1442.70 | .00 | 1442.76 | 2742.71 | 230.85 | 11329.15 | .00 | .00 | .00 | 4088.00 | 6610.00 | .00 |
| 6.395 | 1443.13 | .42 | 1443.20 | 1720.00 | .00 | 11560.00 | .00 | 1720.00 | 4150.00 | 4088.00 | 6610.00 | 5870.00 |
| 6.395 | 1442.32 | .00 | 1442.37 | 2387.76 | .00 | 8845.00 | .00 | .00 | .00 | 4088.00 | 6610.00 | .00 |
| 6.395 | 1441.60 | .00 | 1441.63 | 2275.53 | .00 | 4690.00 | .00 | .00 | .00 | 4088.00 | 6610.00 | .00 |
| 6.520 | 1445.48 | .00 | 1445.52 | 2759.10 | 251.53 | 9216.63 | 2091.84 | .00 | .00 | 4215.00 | 6005.00 | .00 |
| 6.520 | 1445.93 | .45 | 1445.99 | 1790.00 | .00 | 11560.00 | .00 | 1790.00 | 4215.00 | 4215.00 | 6005.00 | 6005.00 |
| 6.520 | 1445.12 | .00 | 1445.16 | 2685.95 | 147.67 | 7196.46 | 1500.87 | .00 | .00 | 4215.00 | 6005.00 | .00 |
| 6.520 | 1444.39 | .00 | 1444.42 | 2525.38 | 23.78 | 3985.01 | 681.21 | .00 | .00 | 4215.00 | 6005.00 | .00 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6.645 | 1448.50 | .26 | 1448.56 | 1990.00 | .00 | 10423.73 | 1130.27 | 1992.00 | 4360.00 | 4235.00 | 6140.00 | 6372.00 |
| 6.645 | 1447.85 | .00 | 1447.89 | 2566.56 | .00 | 7245.23 | 1599.71 | .00 | .00 | 4235.00 | 6140.00 | .00 |
| 6.645 | 1447.13 | .00 | 1447.15 | 2426.23 | .00 | 3966.66 | 723.33 | .00 | .00 | 4235.00 | 6141.00 | .00 |
| 6.787 | 1450.99 | .00 | 1451.03 | 2869.28 | .00 | 7437.52 | 4122.48 | .00 | .00 | 4420.00 | 6210.00 | .00 |
| 6.787 | 1451.31 | .31 | 1451.35 | 2200.00 | .00 | 9367.69 | 2192.31 | 2200.00 | 4420.00 | 4420.00 | 6210.00 | 5622.00 |
| 6.787 | 1450.58 | .00 | 1450.61 | 2737.55 | .00 | 5304.14 | 3040.85 | .00 | .00 | 4420.00 | 6210.00 | .00 |
| 6.787 | 1449.75 | .00 | 1449.77 | 2381.76 | .00 | 3377.47 | 1312.53 | .00 | .00 | 4420.00 | 6210.00 | .00 |
| 6.986 | 1453.78 | .00 | 1453.84 | 3367.38 | 2.03 | 3339.74 | 9218.23 | .00 | .00 | 4620.00 | 6165.00 | .00 |
| 6.986 | 1454.15 | .37 | 1454.24 | 2220.00 | .00 | 4825.62 | 6733.38 | 2222.00 | 4620.00 | 4620.00 | 6165.00 | 5842.00 |
| 6.986 | 1453.42 | .00 | 1453.47 | 3232.39 | .00 | 2220.12 | 6524.88 | .00 | .00 | 4620.00 | 6165.00 | .00 |
| 6.986 | 1452.65 | .00 | 1452.71 | 2534.52 | .00 | 753.09 | 3936.91 | .00 | .00 | 4620.00 | 6165.00 | .00 |
| 7.220 | 1457.34 | .00 | 1457.89 | 3789.78 | 1.79 | 2697.26 | 8799.95 | .00 | .00 | 4710.00 | 5640.00 | .00 |
| 7.220 | 1458.78 | .94 | 1458.88 | 1920.00 | 57.37 | 6635.62 | 4805.81 | 1920.00 | 4670.00 | 4710.00 | 5640.00 | 6590.00 |
| 7.220 | 1457.55 | .00 | 1457.59 | 3702.12 | .01 | 1992.79 | 6776.19 | .00 | .00 | 4710.00 | 5640.00 | .00 |
| 7.220 | 1457.21 | .00 | 1457.23 | 3245.34 | .00 | 944.90 | 3701.12 | .00 | .00 | 4710.00 | 5640.00 | .00 |
| 7.134 | 1460.98 | .00 | 1461.03 | 2207.12 | 113.94 | 3302.86 | 4015.19 | .00 | .00 | 4545.00 | 5400.00 | .00 |
| 7.134 | 1461.94 | .96 | 1461.99 | 1208.00 | .00 | 4466.21 | 2363.79 | 1208.00 | 4650.00 | 4545.00 | 5400.00 | 5859.00 |
| 7.134 | 1460.65 | .00 | 1460.69 | 1969.19 | 49.19 | 2545.67 | 3155.14 | .00 | .00 | 4545.00 | 5400.00 | .00 |
| 7.134 | 1459.99 | .00 | 1460.02 | 1732.23 | .00 | 1353.62 | 1711.37 | .00 | .00 | 4545.00 | 5400.00 | .00 |

05/05/88 15:24:47 PAGE 126

| SECND | CWSEL | DIFKWS | ES | TOPWID | QLOB | QCH | QROB | PERENC | STENCL | STCHL | STCHR | STENCR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7.252 | 1464.60 | .00 | 1464.67 | 893.64 | 20.59 | 2886.83 | 454.58 | .00 | .00 | 4910.00 | 5405.00 | .00 |
| 7.252 | 1464.93 | .33 | 1465.24 | 240.00 | .00 | 3362.00 | .00 | 240.00 | 4910.00 | 4910.00 | 5405.00 | 5150.00 |
| 7.252 | 1464.35 | .00 | 1464.41 | 833.00 | 8.86 | 2404.51 | 314.53 | .00 | .00 | 4910.00 | 5405.00 | .00 |
| 7.252 | 1463.77 | .00 | 1463.80 | 639.81 | .27 | 1372.04 | 115.69 | .00 | .00 | 4910.00 | 5405.00 | .00 |
| 7.410 | 1468.71 | .00 | 1468.76 | 1053.52 | 167.46 | 2798.52 | 396.02 | .00 | .00 | 4670.00 | 5310.00 | .00 |
| 7.410 | 1469.60 | .89 | 1469.64 | 640.00 | .00 | 3362.23 | .00 | 640.00 | 4670.00 | 4670.00 | 5310.00 | 5312.00 |
| 7.410 | 1468.46 | .00 | 1468.50 | 1022.46 | 124.94 | 2333.91 | 269.15 | .00 | .00 | 4670.00 | 5310.00 | .00 |
| 7.410 | 1467.73 | .00 | 1467.77 | 780.49 | 46.26 | 1400.83 | 40.90 | .00 | .00 | 4670.00 | 5310.00 | .00 |
| 7.520 | 1471.97 | .00 | 1472.03 | 942.47 | 293.24 | 3099.77 | 27.00 | .00 | .00 | 4435.00 | 5165.00 | .00 |
| 7.520 | 1472.12 | .14 | 1472.21 | 610.00 | .00 | 3373.74 | 46.26 | 610.00 | 4600.00 | 4435.00 | 5165.00 | 5210.00 |
| 7.520 | 1471.72 | .00 | 1471.77 | 912.21 | 227.34 | 2535.27 | 12.39 | .00 | .00 | 4435.00 | 5165.00 | .00 |
| 7.520 | 1471.14 | .00 | 1471.17 | 840.70 | 109.64 | 1415.19 | .18 | .00 | .00 | 4435.00 | 5165.00 | .00 |
| 7.643 | 1475.15 | .00 | 1475.23 | 1007.40 | 1111.16 | 1465.66 | 342.19 | .00 | .00 | 4980.00 | 5110.00 | .00 |
| 7.643 | 1475.64 | .49 | 1475.68 | 635.00 | 1219.52 | 1775.69 | 424.59 | 635.00 | 4615.00 | 4980.00 | 5110.00 | 5250.00 |
| 7.643 | 1474.91 | .00 | 1475.03 | 974.50 | 853.18 | 1270.30 | 651.52 | .00 | .00 | 4980.00 | 5110.00 | .00 |
| 7.643 | 1474.36 | .00 | 1474.45 | 899.16 | 371.60 | 846.98 | 306.42 | .00 | .00 | 4980.00 | 5110.00 | .00 |
| 7.764 | 1478.29 | .00 | 1478.54 | 991.00 | 1033.13 | 1622.88 | 763.98 | .00 | .00 | 4955.00 | 5012.00 | .00 |
| 7.764 | 1478.50 | .21 | 1478.89 | 515.00 | 804.98 | 1738.54 | 876.48 | 515.00 | 4775.00 | 4955.00 | 5012.00 | 5290.00 |
| 7.764 | 1478.06 | .00 | 1478.41 | 925.20 | 762.13 | 1476.24 | 536.62 | .00 | .00 | 4955.00 | 5012.00 | .00 |
| 7.764 | 1477.43 | .00 | 1477.78 | 673.42 | 248.71 | 1091.74 | 184.55 | .00 | .00 | 4955.00 | 5012.00 | .00 |
| 7.868 | 1482.09 | .00 | 1482.26 | 587.59 | 1447.01 | 1164.22 | 908.77 | .00 | .00 | 4955.00 | 5025.00 | .00 |
| 7.868 | 1482.43 | .34 | 1482.68 | 424.00 | 1037.70 | 1440.34 | 941.96 | 424.00 | 4746.00 | 4955.00 | 5025.00 | 5150.00 |
| 7.868 | 1481.82 | .00 | 1481.97 | 579.70 | 1126.05 | 994.64 | 654.31 | .00 | .00 | 4955.00 | 5025.00 | .00 |
| 7.868 | 1481.11 | .00 | 1481.23 | 563.16 | 517.93 | 652.62 | 354.25 | .00 | .00 | 4955.00 | 5025.00 | .00 |
| 7.969 | 1484.40 | .00 | 1484.51 | 835.49 | 533.27 | 1677.54 | 1279.19 | .00 | .00 | 4925.00 | 5095.00 | .00 |
| 7.969 | 1484.92 | .52 | 1485.11 | 395.00 | 623.55 | 2322.47 | 533.99 | 395.00 | 4795.00 | 4925.00 | 5095.00 | 5190.00 |
| 7.969 | 1484.11 | .00 | 1484.21 | 855.94 | 385.25 | 1428.79 | 1010.96 | .00 | .00 | 4925.00 | 5095.00 | .00 |
| 7.969 | 1483.47 | .00 | 1483.55 | 762.92 | 162.07 | 926.68 | 491.23 | .00 | .00 | 4925.00 | 5095.00 | .00 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5.099 | 1280. | 4013. | 3.3 | 1405.2 | 1404.8 | .4 |
| 5.217 | 1160. | 3363. | 3.5 | 1408.3 | 1407.5 | .8 |
| 5.346 | 860. | 2307. | 4.0 | 1412.1 | 1411.6 | .5 |
| 5.490 | 910. | 2634. | 4.3 | 1416.3 | 1416.0 | .3 |
| 5.544 | 850. | 3468. | 3.3 | 1418.1 | 1417.5 | .6 |
| 5.579 | 453. | 1390. | 8.4 | 1419.4 | 1419.0 | .4 |
| 5.645 | 920. | 4433. | 2.6 | 1420.5 | 1420.1 | .4 |
| 5.717 | 1013. | 3139. | 3.7 | 1421.9 | 1421.6 | .3 |
| 5.777 | 1080. | 3378. | 3.4 | 1423.9 | 1423.8 | .1 |
| 5.840 | 1135. | 3694. | 3.1 | 1425.2 | 1425.9 | .3 |
| 5.961 | 1165. | 3443. | 3.4 | 1429.7 | 1429.3 | .4 |
| 6.082 | 1190. | 3554. | 3.3 | 1433.6 | 1432.9 | .7 |
| 6.200 | 1460. | 4479. | 2.6 | 1437.5 | 1437.1 | .4 |
| 6.293 | 1555. | 4982. | 2.3 | 1440.4 | 1440.2 | .2 |
| 6.395 | 1720. | 5208. | 2.2 | 1443.1 | 1442.7 | .4 |
| 6.520 | 1790. | 5910. | 2.0 | 1446.0 | 1445.5 | .5 |
| 6.645 | 1990. | 5825. | 2.0 | 1448.5 | 1448.2 | .3 |
| 6.787 | 2200. | 6515. | 1.8 | 1451.3 | 1451.0 | .3 |
| 6.906 | 2220. | 5273. | 2.2 | 1454.2 | 1453.8 | .4 |
| 7.020 | 1920. | 4755. | 2.4 | 1458.7 | 1457.8 | .9 |
| 7.134 | 1208. | 4025. | 1.8 | 1462.0 | 1461.0 | 1.0 |
| 7.262 | 240. | 754. | 4.5 | 1464.9 | 1464.6 | .3 |
| 7.410 | 640. | 2055. | 1.6 | 1469.6 | 1468.7 | .9 |
| 7.520 | 510. | 1391. | 2.5 | 1472.1 | 1472.0 | .1 |



FLOODWAY DATA, TRILBY WASH (CAP TO MCMI
PROFILE NO. 2

| STATION | FLOODWAY WIDTH | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WATER SURFACE ELEVATION WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 7.643 | 635. | 1439. | 2.4 | 1475.7 | 1475.2 | .5 |
| 7.764 | 515. | 1077. | 3.2 | 1478.5 | 1478.3 | .2 |
| 7.868 | 404. | 1112. | 3.1 | 1482.4 | 1482.1 | .3 |
| 7.969 | 395. | 1170. | 3.0 | 1484.9 | 1484.4 | .5 |
| 8.073 | 420. | 1004. | 3.5 | 1487.4 | 1486.9 | .5 |
| 8.173 | 490. | 1343. | 2.6 | 1490.2 | 1489.6 | .6 |
| 8.298 | 395. | 967. | 3.6 | 1492.7 | 1492.3 | .4 |
| 8.421 | 380. | 1059. | 3.3 | 1496.0 | 1495.8 | .2 |
| 8.535 | 240. | 976. | 3.6 | 1498.8 | 1498.3 | .5 |
| 8.639 | 235. | 774. | 4.6 | 1501.5 | 1500.9 | .6 |
| 8.735 | 270. | 980. | 3.6 | 1504.6 | 1503.6 | 1.0 |
| 8.851 | 305. | 1031. | 3.4 | 1507.0 | 1506.6 | .4 |
| 8.950 | 260. | 897. | 3.9 | 1509.5 | 1509.2 | .3 |
| 9.043 | 235. | 910. | 3.9 | 1511.7 | 1511.2 | .5 |
| 9.113 | 225. | 880. | 4.0 | 1513.2 | 1512.7 | .5 |
| 9.211 | 240. | 906. | 4.0 | 1515.6 | 1515.1 | .5 |
| 9.317 | 208. | 766. | 4.8 | 1518.4 | 1518.0 | .4 |
| 9.402 | 285. | 765. | 4.8 | 1521.3 | 1520.8 | .5 |
| 9.473 | 215. | 854. | 4.3 | 1523.7 | 1523.3 | .4 |
| 9.567 | 230. | 1035. | 3.6 | 1525.8 | 1525.2 | .6 |
| 9.649 | 190. | 935. | 4.0 | 1527.1 | 1526.7 | .4 |
| 9.726 | 180. | 575. | 6.5 | 1529.0 | 1528.8 | .2 |
| 9.791 | 220. | 931. | 4.0 | 1531.7 | 1531.0 | .7 |
| 9.899 | 205. | 934. | 4.5 | 1534.1 | 1533.5 | .6 |
| 9.980 | 230. | 911. | 4.1 | 1536.3 | 1535.6 | .7 |
| 10.020 | 165. | 554. | 5.8 | 1537.2 | 1535.6 | .6 |

CH2M HILL SUBJECT _____ BY JEF DATE 2/22

IONA WASH PROJECT NO. PAX34747.FF SHT 1 OF ___

CROSS SECTIONS

(1) RENAME RAW FILES

IONA1.DAT
IONA2.DAT

(2) REVIEW # PTS & SLOPE Δ TO FIND "UNNECESSARY" PTS.

XNS > 100 PTS (METHOD 3) O = METHOD

| NONE IN IONA1.DAT | AFTER 0.1% | .2% | .3% | .4% |
|---|---|---|---|---|
| 7264 | | | | |
| 8374 | 8374 | 8374 | | |
| 8465 | | | | |
| 8560 | | | | |
| 8844 | 8844 | | | |
| 9032 | 9032 | 9032 | 9032 | |
| 9202 | | | | |
| 9387 | | | | |
| 9588 | 9588 | 9588 | | |
| 9865 | | | | |
| 9963 | 9963 | 9963 | 9963 | |
| 10054 | 10054 | 10054 | 10054 | |
| 10139 | 10139 | | | |
| 10232 | | | | |
| 10320 | 10320 | 10320 | | |
| 10516 | | | | |
| 10620 | 10620 | 10620 | | |

FINAL VERSIONS:

IONA1.GR
IONA2.GR

(3) DETERMINE Q'S

| | | BEGIN XN | END XN | QT FACTOR (XN#-RM) X |
|---|---|---|---|---|
| $Q_{100}$ = 5001 | | 0.001 | 3.617 | NO Δ |
| $Q_{100}$ = 5309 | 5 cfs | 3.713 | ~~9.709~~ | scale Q's |
| $Q_{100}$ = 5360 | 7 445 cfs | 7.709 ~~7.680~~ | ~~9.202~~ | scale Q's |
| $Q_{100}$ = 4915 | | 9.289 ~~9.289~~ | ~~7.680~~ ~~9.289~~ 7. | scale Q's |
| $Q_{100}$ = 2371 | | 13.499 | 9.387 | No Δ |

5/3.996 = 1.9 x

REV 9/90 FORM 18C

(4) N VALUES — SEE FIELD RECON. REPORT

SIX REACHES + BREAKOUT

| REACH | CHL N | F/P N | RIPARIAN | BEGIN XN | END XN |
|---|---|---|---|---|---|
| 1 | .082 | .064 | 0.105 | | |
| 2 | .072 | | | | |
| 3 | .082 | | | | |
| 4 | .040 | | | | |
| 5 | .072 | | | | |
| 6 | .039 | | | | |

(5) CONVERT TO FRIEND
Line 271
IONA1.HC2
IONA2.HC2

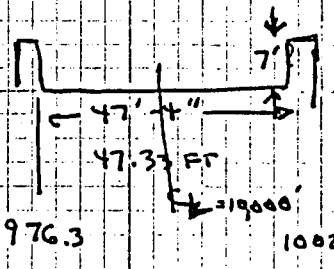
(6) ~~N VALUES~~

| ~~XN~~ | ~~REACH~~ | NCH |
|---|---|---|
| ~~13.499~~ | ~~6~~ | .039 |
| 0.001 | 1 | .082 |

(7) ADD REACH LENGTHS
$(XI.1_{(1)} - XI.1_{(2)}) \times 5280 = \underline{XCHL}$ (FT)

MEASURE XROB & XLOB ON TOPO

(8) ADD CAP OVERCHUTE




n = .013

2 SECTIONS — GET BASE ELEVATION FROM TOPO
ASSUME 1% X STRUCTURE

③ DETERMINE Q'S

a) SCALE BETWEEN XN 3.651 (Q = 5309) & XN 7.709 (Q = 5360 CFS)

OR $\frac{51 \text{ CFS}}{3.996 \text{ mi}} = \frac{10 \text{ CFS}}{x \text{ mi}}$

$x = 0.796$ mi

INCREASE Q ON QT RECORD BY 10 CFS EVERY 0.796 MILE

| DIST | XN | Q |
|---|---|---|
| 3.651 | – CAP | 5309 |
| 4.447 | 4.497 | 5320 |
| 5.242 | 5.287 | 5330 |
| 6.038 | 6.026 | 5340 |
| 6.834 | 6.801 | 5350 |
| 7.629 | 7.709 | 5360 |

b) SCALE BETWEEN XN 7.709 (Q = 5360 CFS) & XN 9.289 (Q = 4915 CFS)

$\Delta Q = 445$ CFS

$\frac{445 \text{ CFS}}{1.580 \text{ mi}} = \frac{10 \text{ CFS}}{x \text{ mi}}$

$x = .036$ mi = 187 FT < 500 FT INTERVAL

∴ SCALE BY EACH SECTION DISTANCE

STO 1 445 CFS

STO 2 1.580 mi

STO 3 7.709

STO 4 5360 CFS

$$5360 - \left( \frac{(XN - RCL\ 3)}{RCL\ 2} \times RCL\ 1 \right)$$

# Section 4: Hydraulic Analysis

*4.7 Final Results/Computer Runs*

By: CH2M Hill

**Iona Wash F.I.S.**
**Hydraulic Analysis Index**

**For: Unincorporated Maricopa County/Surprise, AZ**

Flooding Source/Stream Name: Iona Wash

| Subject | Model Used | Analysis Date | Description |
|---|---|---|---|
| IONA.HC2 | HEC-2 | 7/1/93 | Floodplain/natural run |
| IONA-EN.HC2 | HEC-2 | 7/1/93 | Floodway/encroachment run |
| Cross-section Plots | | | From IONA-EN.HC2 |
| IONASF1.HC2 | HEC-2 | 7/8/93 | Split flow run for floodplain/floodway |
| IONASF2.HC2 | HEC-2 | 7/8/93 | Split flow run for floodplain/floodway |
| IONASF3.HC2 | HEC-2 | 7/8/93 | Split flow run for floodplain/floodway |
| IONASF4.HC2 | HEC-2 | 7/8/93 | Split flow run for floodplain/floodway |
| IONASF5.HC2 | HEC-2 | 7/8/93 | Split flow run for floodplain/floodway |
| IONADIST.HC2 | HEC-2 | March,1993 | Flow trace for historic diversion at SECNO 2.827 (SPR #8) |
| 5945DIST.HC2 | HEC-2 | 7/1/93 | Flow trace at SECNO 5.945 for breakout analyses in this area |
| IONABO??.HC2 | HEC-2 | see run | Breakout analyses |
| IONA.INP | HY-8 | 3/22/93 | Output for HY-8 analysis of culverts under Patton Road |

# IONA.HC2

# Floodplain/Natural Run

HEC2 S/N: 1916530021 HMVersion: 6.50 Data File: iona.hc2

```
*******************************************
*  HEC-2 WATER SURFACE PROFILES           *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE     1JUL93    TIME    9:01:33 *
*******************************************
```

```
****************************************
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::
:::                                     :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION  :::
:::                                     :::
:::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::
```

```
============================
H A E S T A D   M E T H O D S
============================
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 1JUL93 9:01:33

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

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

T1Flood Control District of Maricopa County. S. Story/Project Manager
T2HEC2 Model for Iona Wash FIS. By CH2M Hill. PHX34747.FF. 1993. Fuller
T3 Iona Wash FIS - FCDMC 93 IONAFW.HC2

Flooway profiles using Method 1

This run extends from confluence with Trilby Wash to Grand avenue

HEC2 cross sections prepared directly from DTM prepared by Kenney Aerial
Discharges provided by FCDMC from Wittman ADMS (WLB, 1989)
Discharges between known concentration points (from Wittman ADMS) are scaled in 50 cfs increments relative to reach length where discharge difference reflects routing losses. No scaling between concentration points is used where tributaries cause increases in the base flood.
ography from DTM, 2-foot contour interval, 1" = 200', Flight on November 92
y extends from Trilby Wash confluence to Rt. 89 Bridge (Grand Avenue)

Starting water surface elevation obtained from Wittmann ADMS performed by others, and provided by the FCDMC (Trilby Wash FIS). Section 0.640 of this study matches alignment of section #7.134 of Trilby Wash FIS. Water surface elevation from Trilby Wash FIS section 7.134 = 1460.98 (Q100, without encroachment). With encroachment water surface elevation = 1461.94 (Q100)

| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | | | | | | | 1460.98 | |

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

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 38 | 43 | 1 | 8 | 26 | 5 | 33 | 42 | 4 | 17 |
| 58 | 25 | 62 | | | | | | | |
| 38 | 43 | 1 | 8 | 42 | 39 | 4 | 53 | 54 | |
| 200 | | | | | | | | | |

J LEQ ICOPY SUBDIV STRTDS RMILE

1

Discharge = 5,001 cfs from CAP Overchute to Trilby Wash per Wittmann ADMS

QT 1 3692

Begin Sheet 1
Begin Subreach 1
End section at right effective flow boundary

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NC | .055 | .055 | .082 | .1 | .3 | | | | | |
| NH | 3 | .055 | 9432.3 | .082 | 10122.3 | .055 | 10204.8 | | | |
| X1 | 0.640 | 32 | 9894.8 | 10028.5 | 490 | 450 | 502 | | | |
| GR | 1462.3 | 9103.1 | 1462.1 | 9152.3 | 1461.3 | 9213.1 | 1460.3 | 9261.5 | 1459.8 | 9300.0 |
| GR | 1459.9 | 9323.4 | 1459.8 | 9359.8 | 1459.5 | 9404.3 | 1459.4 | 9432.3 | 1459.6 | 9481.2 |
| GR | 1459.7 | 9522.3 | 1459.9 | 9557.5 | 1460.2 | 9603.4 | 1460.1 | 9633.4 | 1459.9 | 9687.7 |
| GR | 1459.5 | 9740.9 | 1459.6 | 9784.1 | 1459.2 | 9846.2 | 1459.1 | 9894.8 | 1458.9 | 9916.1 |
| GR | 1458.5 | 9920.4 | 1458.6 | 9991.8 | 1458.8 | 9994.7 | 1458.1 | 10000.0 | 1459.0 | 10009.4 |
| GR | 1459.3 | 10028.5 | 1459.1 | 10065.8 | 1459.3 | 10116.0 | 1458.7 | 10122.3 | 1460.3 | 10146.4 |
| GR | 1461.3 | 10174.7 | 1461.4 | 10204.8 | | | | | | |

Q 1 3692

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 3 | .055 | 9544.3 | .082 | 10125 | .055 | 10215 | | | |
| X1 | 0.734 | 37 | 9974.8 | 10125. | 380 | 530 | 496 | | | |
| GR | 1464.9 | 9137.9 | 1465.0 | 9179.0 | 1464.5 | 9239.1 | 1464.1 | 9257.9 | 1464.1 | 9293.4 |
| GR | 1464.7 | 9325.7 | 1464.9 | 9374.1 | 1464.3 | 9426.4 | 1463.3 | 9490.0 | 1462.4 | 9530.3 |
| GR | 1462.7 | 9544.3 | 1461.9 | 9600.5 | 1460.8 | 9603.2 | 1461.9 | 9609.1 | 1462.4 | 9636.0 |
| GR | 1462.2 | 9685.3 | 1462.3 | 9731.3 | 1462.2 | 9794.1 | 1461.6 | 9802.8 | 1462.2 | 9816.7 |
| GR | 1461.9 | 9839.0 | 1461.1 | 9845.3 | 1462.1 | 9853.3 | 1462.3 | 9890.5 | 1462.3 | 9937.2 |
| GR | 1462.0 | 9953.1 | 1462.4 | 9974.8 | 1462.2 | 10000. | 1461.9 | 10027. | 1461.0 | 10032. |
| GR | 1461.8 | 10039. | 1461.8 | 10081. | 1463.4 | 10125. | 1463.8 | 10164. | 1463.2 | 10175. |
| GR | 1463.9 | 10184. | 1464.3 | 10215. | | | | | | |

End Sheet 1/Begin Sheet 2

QT 1 3857

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 3 | .055 | 9616 | .082 | 10083 | .055 | 10274.3 | | | |
| X1 | 0.819 | 31 | 9891.7 | 10083. | 420 | 460 | 449 | | | |
| GR | 1468.0 | 9196.5 | 1467.0 | 9262.9 | 1467.4 | 9307.7 | 1467.4 | 9362.5 | 1466.6 | 9414.5 |
| GR | 1466.0 | 9456.3 | 1465.2 | 9494.2 | 1464.8 | 9540.0 | 1464.8 | 9616.0 | 1465.2 | 9650.8 |
| GR | 1464.8 | 9706.0 | 1463.3 | 9711.0 | 1464.8 | 9715.2 | 1465.3 | 9749.7 | 1465.1 | 9802.2 |
| G | 1464.2 | 9808.4 | 1465.3 | 9818.5 | 1464.6 | 9850.8 | 1465.0 | 9891.7 | 1464.7 | 9937.8 |
| | 1463.9 | 9994.2 | 1463.1 | 10000.0 | 1464.4 | 10008. | 1464.1 | 10057. | 1465.3 | 10083. |
| GR | 1465.2 | 10107.3 | 1464.3 | 10145.2 | 1465.3 | 10170. | 1465.5 | 10197. | 1466.4 | 10236. |
| GR | 1466.4 | 10274.3 | | | | | | | | |

```
QT      1      4352

NH      5      .055      9512.      .088      9707.5      .064      9901.4      .088      10045.      .055
NH   10173.
X1   0.912        34    9872.2    10063.        410       500        491
GR   1471.1    8947.9    1470.4    9062.3    1469.3    9110.5    1469.1    9170.3    1469.1    9210.8
GR   1469.5    9250.5    1468.7    9314.3    1468.2    9367.1    1467.8    9403.2    1467.8    9464.6
GR   1467.5    9512.0    1467.6    9582.0    1466.3    9589.6    1467.7    9598.2    1467.6    9615.0
GR   1467.6    9628.4    1466.0    9634.2    1467.6    9640.1    1467.6    9665.7    1467.4    9707.5
GR   1467.7    9748.9    1467.7    9805.2    1467.3    9872.2    1466.2    9893.5    1466.8    9901.4
GR   1466.7    9945.9    1467.2    9990.8    1464.8    10000.    1466.9    10010.    1467.1    10045.
GR   1466.3    10053.    1467.3    10063.    1468.5    10113.    1468.9    10173.


QT      1      4854

NH      5      .055      9467.5    .082      9620.2      .064      9896.5    .082      10063.      .055
NH   10440.
X1   0.999        41    9929.9    10271        460       430        459
GR   1472.5    9248.6    1471.2    9271.1    1470.6    9308.8    1470.3    9349.2    1471.0    9364.7
GR   1470.6    9411.7    1470.2    9467.5    1469.0    9478.2    1469.9    9489.1    1470.2    9518.1
GR   1468.8    9526.5    1470.6    9535.2    1470.5    9568.1    1468.9    9575.3    1470.5    9587.6
GR   1470.3    9620.2    1470.5    9664.2    1470.1    9744.7    1470.0    9759.6    1469.8    9804.7
GR   1469.3    9866.9    1468.6    9881.1    1469.3    9896.5    1469.2    9929.9    1468.6    9947.6
GR   1468.9    9969.6    1468.8    9994.3    1467.3    10000.    1468.7    10006.    1468.8    10037.
GR   1467.8    10044.    1468.9    10054.    1467.9    10063.    1468.3    10084.    1468.7    10089.
GR   1469.1    10146.    1469.5    10203.    1470.0    10271.    1470.6    10326.    1470.8    10381.
GR   1471.0    10440.


QT      1      5001

NH      5      .055      9387.7    .082      9473.6      .064      9935.7      .082      10134.      .055
NH   10366.
X1   1.101        38    9597.8    10134.        310       630        539
GR   1476.4    9184.5    1475.9    9221.0    1474.4    9264.2    1472.6    9326.1    1471.8    9387.7
GR   1470.8    9400.3    1470.8    9412.7    1471.9    9423.8    1470.3    9439.9    1471.5    9451.5
GR   1470.1    9462.8    1471.8    9473.6    1471.8    9514.3    1472.2    9553.0    1472.6    9597.8
GR   1471.9    9658.9    1471.9    9679.6    1471.7    9736.3    1471.7    9778.6    1470.7    9786.1
GR   1471.8    9791.4    1471.2    9811.0    1471.4    9818.5    1471.7    9872.2    1471.6    9910.5
GR   1472.1    9935.7    1471.3    9943.5    1472.0    9950.7    1471.6    10000.    1471.6    10045.
GR   1471.9    10103.    1472.1    10134.    1474.9    10182.    1475.1    10221.    1474.1    10241.
GR   1475.9    10274.    1476.3    10308.    1476.3    10366.
```

```
NH      5      .055     9472.    .082     9646.    .064     9908.4    .082     10059.    .055
NH   10710.
X1   1.189       45     9769.3   10059.    350     480      465
GR   1477.9   9357.5    1477.6   9388.7   1476.6   9416.0   1474.7   9447.0   1474.1   9472.0
GR   1473.7   9514.1    1472.4   9520.0   1473.5   9527.4   1473.7   9552.1   1474.1   9588.8
GR   1472.2   9597.8    1474.2   9611.7   1474.2   9646.0   1474.4   9707.0   1474.6   9769.3
GR   1474.2   9830.1    1473.8   9892.5   1472.6   9900.4   1473.6   9908.4   1473.5   9962.4
GR   1472.3   9966.9    1473.1   9973.2   1473.2   9983.5   1472.6   10000.   1473.2   10006.
GR   1473.2   10019.    1475.0   10037.   1475.2   10059.   1474.6   10107.   1473.8   10145.
GR   1473.5   10170.    1474.6   10198.   1476.0   10224.   1476.3   10244.   1475.9   10281.
GR   1475.3   10319.    1475.3   10365.   1475.7   10411.   1476.2   10435.   1477.4   10489.
GR   1478.3   10538.    1478.9   10574.   1479.4   10609.   1479.5   10682.   1479.5   10710.

NH      3      .055     9525.6    .082    10216     .055    10631
X1   1.285       35     9785.1   10035     470     510      507
GR   1479.9   9344.7    1479.7   9386.8   1479.3   9424.1   1478.5   9457.1   1477.5   9475.0
GR   1476.3   9525.6    1476.4   9547.3   1475.9   9555.7   1476.3   9599.2   1475.1   9603.3
GR   1476.1   9611.1    1476.1   9674.1   1475.6   9687.1   1476.4   9735.8   1474.7   9743.9
GR   1475.9   9751.7    1476.8   9785.1   1476.6   9822.4   1475.9   9858.5   1474.7   9861.5
GR   1476.0   9919.1    1476.3   9953.8   1476.1   9994.0   1474.8   10000.   1475.9   10006.
GR   1476.3   10035.    1476.6   10145.   1476.8   10216.   1477.2   10259.   1478.1   10309.
GR   1479.0   10375.    1480.1   10446.   1481.1   10512.   1481.7   10574.   1482.0   10631.
```

Left encroachment at effective flow boundary, 4:1 expansion from upstream
section and minor divide

```
ET                7.1                                        9446.    10513
NH      3      .055     9642.3    .082    10258     .055    10514
X1   1.386       35     9949.3   10049     470     510      533
GR   1481.9   9072.4    1481.1   9144.7   1481.2   9161.0   1481.0   9233.5   1480.7   9303.2
GR   1480.8   9365.4    1481.2   9412.8   1481.4   9446.1   1481.3   9474.6   1480.3   9506.2
GR   1478.8   9551.8    1478.7   9580.8   1478.9   9642.3   1478.3   9649.8   1478.9   9660.4
GR   1478.5   9718.2    1478.6   9767.1   1478.1   9774.5   1478.7   9782.4   1478.8   9823.8
GR   1478.9   9858.3    1478.7   9901.8   1479.3   9949.3   1479.0   9958.1   1479.3   9988.3
GR   1478.2   10000.    1478.9   10010.   1479.3   10049.   1479.1   10113.   1478.8   10193.
GR   1479.1   10258.    1480.3   10321.   1480.9   10385.   1482.6   10445.   1483.4   10514.
```

Right encroachment at effective flow boundary along divide
End Reach 1/Begin Reach 2

```
NH      7      .055     9812.3    .072     9942.5    .105     9982.8    .038     10014.    .105
NH   10100.    .082     10190.    .055     10826.
ET                7.1                                        9396.    10285.
X1   1.480       40     9858.5   10174.    460     440      496
GR   1483.8   9395.2    1483.5   9463.7   1482.8   9543.2   1482.2   9606.9   1480.9   9688.9
GR   1481.3   9721.5    1481.8   9766.0   1481.1   9788.8   1479.8   9812.3   1480.7   9825.1
GR   1481.1   9858.5    1479.5   9871.1   1481.0   9879.2   1480.6   9895.7   1481.2   9942.5
GR   1481.6   9982.8    1480.6   10000.   1481.3   10014.   1481.2   10100.   1480.8   10127.
GR   1481.2   10161.    1479.9   10168.   1480.8   10174.   1480.7   10190.   1482.1   10227.
GR   1483.5   10258.    1483.9   10285.   1483.5   10324.   1482.4   10382.   1481.7   10438.
```

```
G  1481.8    10483.    1482.8    10555.    1483.3    10608.    1483.9    10647.    1483.7    10652.
G  1483.7    10670.    1484.1    10676.    1484.3    10712.    1484.9    10763.    1485.5    10826.
```

Right encroachment at effective flow boundary along divide

```
NH      6      .055    9810.9      .065    9977.4      .038   10019.8      .105   10066.      .072
NH  10151.     .055    11038.
ET             7.1                                           9181.     10319
X1   1.578       50    9977.4     10227      590      480      517
GR  1487.2   9180.2    1487.1    9264.3    1486.8    9319.2    1485.9    9384.6    1484.8    9444.8
GR  1484.3   9494.5    1483.8    9552.3    1483.6    9641.2    1484.1    9669.4    1483.7    9709.1
GR  1483.8   9735.8    1482.8    9741.6    1483.9    9755.6    1483.9    9793.7    1482.4    9800.6
GR  1483.9   9810.9    1484.0    9868.8    1482.5    9882.3    1483.9    9892.6    1484.4    9977.4
GR  1482.7  10000.0    1483.9   10019.8    1483.3   10054.     1483.8   10066.     1483.9   10144.
GR  1482.6  10151.     1483.5   10161.2    1483.2   10199.     1484.0   10227.     1485.7   10270.
GR  1486.5  10318.8    1486.3   10374.0    1485.4   10443.     1485.4   10494.     1485.1   10501.
GR  1484.9  10518.5    1485.3   10527.4    1485.2   10562.     1484.6   10617.     1485.4   10629.
GR  1486.1  10711.9    1486.5   10766.2    1484.7   10783.     1486.4   10796.     1487.2   10838.
GR  1485.5  10849.1    1487.2   10863.2    1487.8   10935.     1488.0   10992.     1488.6   11038.
```

Right and left encroachments at effective flow boundaries along divides
End Sheet 2/Begin Sheet 3

```
NH      6      .055    9939.2      .105    9984.1      .038   10012.      .105   10063.      .072
NH  10222.     .055    11266.
E              7.1                                           9709.6    10626.
X1   1.670       50    9984.1     10272      530      465      486
GR  1491.9   9127.2    1491.3    9188.4    1490.4    9298.1    1489.2    9391.5    1488.4    9450.3
GR  1488.2   9489.5    1488.2    9527.1    1488.9    9553.5    1489.2    9601.9    1489.1    9667.4
GR  1489.3   9709.6    1488.8    9755.5    1487.2    9794.7    1486.6    9834.4    1485.1    9838.1
GR  1486.5   9845.7    1486.8    9912.0    1485.4    9924.8    1486.9    9939.2    1487.1    9984.1
GR  1485.2   9992.3    1485.3   10000.     1485.2   10002.     1486.8   10012.     1486.9   10063.
GR  1487.0  10154.     1485.7   10165.     1486.9   10182.     1486.6   10210.     1485.8   10222.
GR  1486.4  10246.     1487.7   10272.     1487.6   10276.     1487.6   10294.     1488.1   10300.
GR  1488.7  10340.     1488.3   10430.     1488.2   10509.     1488.5   10564.     1488.9   10626.
GR  1488.7  10686.     1488.6   10739.     1488.8   10779.     1488.2   10789.     1488.8   10802.
GR  1489.4  10907.     1490.4   10994.     1490.8   11074.     1491.1   11156.     1491.4   11266.
```

N values account for obstructions around buildings

```
NH      5      .055    9943.3      .082    9971.3      .038   10010.      .082   10271.      .055
NH  11003.
X1   1.764       33    9943.3     10064.      490      470      496
GR  1493.8   9417.2    1493.4    9453.6    1492.1    9497.1    1491.3    9632.9    1490.0    9690.2
GR  1489.1   9722.4    1489.1    9781.8    1488.7    9841.0    1488.6    9851.5    1489.1    9890.8
GR  1488.5   9897.5    1489.0    9907.2    1489.6    9943.3    1488.1    9954.5    1488.0    9971.3
GR  1487.0  10000.     1488.9   10010.     1488.6   10029.     1489.1   10064.     1488.9   10151.
GR  1488.7  10216.     1488.2   10271.     1488.6   10319.     1488.5   10379.     1489.1   10420.
G  1489.8  10474.     1491.4   10549.     1491.7   10614.     1491.6   10688.     1491.4   10772.
G  1491.7  10847.     1492.3   10930.     1492.7   11003.
```

osite n value used in this reach: .038 for channel, .082 to .105 for bank
nd riparian vegetation. Composites .062 to .082

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NC | .055 | .055 | .065 | | | | | | | |
| X1 | 1.866 | 40 | 9844.2 | 10065.6 | 520 | 490 | 539 | | | |
| GR | 1496.3 | 9446.3 | 1496.3 | 9477.8 | 1495.9 | 9487.3 | 1495.8 | 9502.5 | 1496.1 | 9517.4 |
| GR | 1495.4 | 9577.0 | 1494.2 | 9656.4 | 1493.2 | 9686.3 | 1492.5 | 9761.0 | 1491.4 | 9844.2 |
| GR | 1489.9 | 9853.1 | 1491.9 | 9864.4 | 1489.9 | 9871.2 | 1490.0 | 9880.4 | 1491.7 | 9889.0 |
| GR | 1492.0 | 9922.5 | 1491.1 | 9939.1 | 1491.8 | 9956.3 | 1492.4 | 9986.2 | 1490.7 | 10000.0 |
| GR | 1492.0 | 10010.6 | 1492.1 | 10065.6 | 1491.9 | 10132.9 | 1492.3 | 10186.8 | 1492.1 | 10253.7 |
| GR | 1492.3 | 10310.0 | 1492.3 | 10385.4 | 1492.6 | 10405.2 | 1492.9 | 10465.8 | 1493.5 | 10532.0 |
| GR | 1493.4 | 10570.5 | 1492.0 | 10585.4 | 1493.5 | 10590.7 | 1494.1 | 10661.3 | 1494.7 | 10728.8 |
| GR | 1495.1 | 10809.8 | 1495.4 | 10857.2 | 1495.9 | 10906.3 | 1495.8 | 10973.4 | 1495.8 | 11109.0 |
| NH | 5 | .055 | 9960.1 | .095 | 9996.3 | .038 | 10004.4 | .095 | 10053 | .055 |
| NH | 10913. | | | | | | | | | |
| X1 | 1.967 | 44 | 9960.1 | 10053. | 650 | 340 | 533 | | | |
| X3 | 10 | | | | | | | | | |
| GR | 1500.0 | 9111.7 | 1499.7 | 9117.7 | 1499.9 | 9172.0 | 1499.2 | 9261.2 | 1498.0 | 9351.0 |
| GR | 1496.5 | 9419.3 | 1495.4 | 9473.4 | 1496.0 | 9542.5 | 1494.9 | 9589.8 | 1494.9 | 9642.6 |
| GR | 1494.8 | 9698.2 | 1494.7 | 9740.6 | 1494.9 | 9859.5 | 1496.0 | 9960.1 | 1495.2 | 9985.3 |
| GR | 1492.6 | 9996.3 | 1492.6 | 10000.0 | 1492.9 | 10004.4 | 1495.9 | 10027.3 | 1496.3 | 10053. |
| GR | 1495.4 | 10110.8 | 1494.8 | 10202.3 | 1493.8 | 10209.5 | 1494.6 | 10219.5 | 1494.3 | 10247. |
| GR | 1495.7 | 10308.3 | 1496.4 | 10344.4 | 1496.0 | 10377.9 | 1496.0 | 10400.7 | 1495.8 | 10461. |
| G | 1495.3 | 10512.9 | 1494.9 | 10560.3 | 1495.4 | 10582.4 | 1496.1 | 10621.6 | 1494.9 | 10627. |
| G | 496.1 | 10633.4 | 1496.4 | 10655.5 | 1495.7 | 10662.1 | 1496.1 | 10669.8 | 1496.7 | 10727. |
| GR | 1497.4 | 10770.7 | 1497.5 | 10900.5 | 1496.7 | 10904.6 | 1497.7 | 10913. | | |
| ET | | 7.1 | | | | | 9031.5 | 10764 | | |
| NH | 5 | .055 | 9945.6 | .095 | 9992.4 | .038 | 10010 | .095 | 10073.3 | .055 |
| NH | 10764 | | | | | | | | | |
| X1 | 2.064 | 47 | 9945.6 | 10073.3 | 420 | 475 | 512 | | | |
| GR | 1502.1 | 8574.7 | 1500.9 | 8671.6 | 1499.8 | 8733.9 | 1499.0 | 8819.8 | 1498.2 | 8880.3 |
| GR | 1498.2 | 8939.8 | 1499.0 | 8989.9 | 1499.6 | 9031.5 | 1497.8 | 9069.7 | 1496.5 | 9072.3 |
| GR | 1497.6 | 9076.1 | 1497.7 | 9092.4 | 1496.3 | 9098.1 | 1496.9 | 9102.0 | 1496.1 | 9131.5 |
| GR | 1496.8 | 9205.2 | 1497.4 | 9313.2 | 1496.7 | 9329.9 | 1496.5 | 9409.0 | 1496.5 | 9464.3 |
| GR | 1496.3 | 9514.1 | 1496.6 | 9562.1 | 1496.8 | 9624.5 | 1497.8 | 9673.0 | 1497.8 | 9690.2 |
| GR | 1497.1 | 9747.0 | 1497.1 | 9811.8 | 1497.0 | 9850.6 | 1496.2 | 9854.7 | 1497.2 | 9865.7 |
| GR | 1497.4 | 9945.6 | 1497.4 | 9984.8 | 1495.1 | 9992.4 | 1495.1 | 10010.0 | 1497.7 | 10026.9 |
| GR | 1497.9 | 10073.3 | 1498.4 | 10096.4 | 1498.8 | 10173.8 | 1498.7 | 10218.2 | 1497.8 | 10299.9 |
| GR | 1497.6 | 10382.3 | 1498.1 | 10453.3 | 1498.2 | 10463.4 | 1498.8 | 10576.0 | 1498.7 | 10605. |
| GR | 1499.1 | 10665.5 | 1499.2 | 10764. | | | | | | |
| NH | 5 | .055 | 9984.3 | .075 | 9993.1 | .038 | 10006 | .095 | 10014 | .055 |
| NH | 10592 | | | | | | | | | |
| X1 | 2.159 | 35 | 9984.3 | 10014. | 450 | 530 | 502 | | | |
| GR | 1501.3 | 9069.4 | 1502.0 | 9097.4 | 1501.7 | 9163.7 | 1501.1 | 9211.1 | 1499.1 | 9315.3 |
| G | 1499.2 | 9334.5 | 1498.3 | 9341.8 | 1498.9 | 9348.7 | 1499.2 | 9399.0 | 1498.1 | 9402.2 |
| GR | 499.0 | 9406.8 | 1499.1 | 9422.1 | 1498.9 | 9429.4 | 1499.1 | 9492.5 | 1499.2 | 9577.1 |
| GR | 499.0 | 9644.9 | 1499.1 | 9703.2 | 1499.8 | 9753.9 | 1500.2 | 9837.3 | 1500.1 | 9854.8 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| G | 1499.7 | 9934.4 | 1500.1 | 9984.3 | 1497.6 | 9993.1 | 1497.5 | 10000. | 1497.5 | 10006. |
| G | 1500.4 | 10014. | 1499.5 | 10049. | 1500.0 | 10141. | 1499.8 | 10164. | 1500.2 | 10231. |
| GR | 1500.2 | 10241. | 1500.7 | 10304. | 1501.5 | 10439. | 1502.4 | 10532. | 1502.8 | 10592. |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 5 | .055 | 9968.2 | .075 | 9988.5 | .038 | 10007.8 | .095 | 10024.3 | .055 |
| NH | 10525 | | | | | | | | | |
| X1 | 2.251 | 43 | 9968.2 | 10024.3 | 370 | 510 | 486 | | | |
| GR | 1504.9 | 8895.7 | 1504.5 | 8975.6 | 1504.0 | 9041.0 | 1502.6 | 9106.5 | 1501.6 | 9155.0 |
| GR | 1501.6 | 9203.9 | 1501.3 | 9266.0 | 1501.3 | 9308.7 | 1501.2 | 9367.3 | 1500.4 | 9379.4 |
| GR | 1500.4 | 9392.9 | 1501.6 | 9399.0 | 1501.5 | 9421.2 | 1500.2 | 9431.0 | 1501.6 | 9447.7 |
| GR | 1501.8 | 9474.2 | 1502.0 | 9522.4 | 1501.9 | 9598.7 | 1501.9 | 9655.7 | 1500.6 | 9660.6 |
| GR | 1501.7 | 9666.2 | 1502.1 | 9689.3 | 1501.8 | 9696.5 | 1502.1 | 9774.8 | 1501.9 | 9858.4 |
| GR | 1502.7 | 9901.6 | 1503.0 | 9968.2 | 1502.7 | 9979.5 | 1500.0 | 9988.5 | 1500.1 | 10000. |
| GR | 1500.1 | 10007.8 | 1503.4 | 10024.3 | 1502.7 | 10058.0 | 1502.8 | 10101. | 1502.0 | 10105. |
| GR | 1502.9 | 10115.3 | 1501.0 | 10146.2 | 1502.3 | 10158.6 | 1502.6 | 10180. | 1504.0 | 10250. |
| GR | 1505.7 | 10370.5 | 1506.8 | 10499.6 | 1507.0 | 10525.0 | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 5 | .055 | 9984.3 | .105 | 9991.4 | .038 | 10007. | .105 | 10043. | .055 |
| NH | 10425. | | | | | | | | | |
| X1 | 2.346 | 35 | 9984.3 | 10043 | 400 | 530 | 502 | | | |
| GR | 1507.1 | 8837.3 | 1506.6 | 8922.2 | 1505.4 | 9011.2 | 1505.1 | 9056.7 | 1504.5 | 9143.1 |
| GR | 1504.5 | 9179.3 | 1505.2 | 9219.5 | 1505.1 | 9261.4 | 1504.6 | 9312.4 | 1504.0 | 9360.0 |
| GR | 1503.9 | 9393.2 | 1504.1 | 9433.1 | 1504.4 | 9495.8 | 1505.5 | 9539.5 | 1505.7 | 9568.3 |
| GR | 1505.4 | 9588.2 | 1503.8 | 9612.9 | 1502.7 | 9647.5 | 1503.8 | 9657.6 | 1504.6 | 9743.0 |
| G | 1505.1 | 9826.1 | 1505.5 | 9915.1 | 1505.7 | 9984.3 | 1503.1 | 9991.4 | 1503.1 | 10000. |
| G | 1503.0 | 10007. | 1504.5 | 10018. | 1505.4 | 10043. | 1505.3 | 10109. | 1505.0 | 10170. |
| GR | 1504.6 | 10222. | 1505.5 | 10248. | 1508.0 | 10310. | 1509.4 | 10368. | 1509.3 | 10425. |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 5 | .055 | 9940.6 | .105 | 9992.5 | .038 | 10008.9 | .105 | 10020. | .055 |
| NH | 10582. | | | | | | | | | |
| X1 | 2.442 | 40 | 9940.6 | 10020. | 460 | 525 | 507 | | | |
| GR | 1510.1 | 8718.9 | 1510.4 | 8773.8 | 1509.7 | 8878.6 | 1508.7 | 8976.8 | 1508.5 | 9036.3 |
| GR | 1508.7 | 9114.2 | 1508.6 | 9211.5 | 1508.6 | 9321.4 | 1508.2 | 9390.4 | 1507.4 | 9449.3 |
| GR | 1507.7 | 9499.6 | 1508.2 | 9571.6 | 1508.9 | 9615.7 | 1508.9 | 9646.0 | 1507.5 | 9716.3 |
| GR | 1507.3 | 9756.8 | 1507.4 | 9791.5 | 1507.8 | 9833.6 | 1508.0 | 9940.6 | 1507.9 | 9982.5 |
| GR | 1505.8 | 9992.5 | 1505.6 | 10000.0 | 1505.4 | 10008.9 | 1507.5 | 10020.0 | 1507.5 | 10126.2 |
| GR | 1507.6 | 10175.4 | 1507.1 | 10186.7 | 1507.4 | 10208.5 | 1507.4 | 10273.4 | 1506.3 | 10281.7 |
| GR | 1507.4 | 10298.0 | 1507.3 | 10320.3 | 1506.4 | 10326.9 | 1507.2 | 10340.4 | 1507.4 | 10377.8 |
| GR | 1507.2 | 10393.7 | 1507.8 | 10437.6 | 1509.1 | 10484.7 | 1510.5 | 10525.6 | 1512.0 | 10582.0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 5 | .055 | 9980.3 | .105 | 9986.3 | .038 | 10006. | .105 | 10040. | .055 |
| NH | 10951. | | | | | | | | | |
| X1 | 2.537 | 35 | 9901.2 | 10119. | 450 | 500 | 502 | | | |
| GR | 1512.3 | 9175.6 | 1512.1 | 9294.8 | 1511.5 | 9382.2 | 1511.5 | 9458.8 | 1511.2 | 9560.9 |
| GR | 1511.3 | 9621.6 | 1511.4 | 9712.4 | 1511.2 | 9753.2 | 1511.4 | 9803.3 | 1510.8 | 9876.2 |
| GR | 1510.7 | 9901.2 | 1509.8 | 9980.3 | 1507.8 | 9986.3 | 1507.9 | 10000. | 1508.0 | 10006. |
| GR | 1509.9 | 10018. | 1510.3 | 10040. | 1510.2 | 10093. | 1510.7 | 10119. | 1510.7 | 10170. |
| G | 1511.8 | 10206. | 1512.2 | 10259. | 1511.8 | 10339. | 1511.4 | 10373. | 1510.7 | 10462. |
| G | 1510.3 | 10541. | 1510.0 | 10608. | 1509.9 | 10685. | 1509.2 | 10711. | 1509.8 | 10739. |
| GR | 1510.7 | 10799. | 1512.0 | 10825. | 1512.6 | 10884. | 1513.0 | 10917. | 1513.6 | 10951. |

Sheet 3/Begin Sheet 4

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 5 | .055 | 9617.1 | .105 | 9992.7 | .038 | 10007 | .105 | 10037. | .055 |
| NH | 11446. | | | | | | | | | |
| X1 | 2.631 | 50 | 9889.3 | 10073. | 650 | 360 | 496 | | | |
| GR | 1516.6 | 9169.2 | 1516.2 | 9270.9 | 1515.8 | 9381.4 | 1515.7 | 9465.3 | 1515.2 | 9562.0 |
| GR | 1514.6 | 9591.9 | 1513.4 | 9617.1 | 1512.9 | 9668.9 | 1512.4 | 9688.3 | 1512.8 | 9738.1 |
| GR | 1513.1 | 9787.5 | 1513.1 | 9889.3 | 1512.6 | 9911.3 | 1512.3 | 9954.7 | 1513.0 | 9984.7 |
| GR | 1510.0 | 9992.7 | 1510.0 | 10000. | 1509.9 | 10007. | 1513.0 | 10018. | 1512.5 | 10037. |
| GR | 1514.3 | 10073. | 1514.1 | 10107. | 1514.1 | 10126. | 1514.3 | 10158. | 1513.6 | 10255. |
| GR | 1513.7 | 10346. | 1513.6 | 10416. | 1512.6 | 10469. | 1512.7 | 10532. | 1512.3 | 10604. |
| GR | 1511.8 | 10610. | 1512.3 | 10622. | 1512.4 | 10630. | 1512.8 | 10668. | 1512.9 | 10762. |
| GR | 1513.1 | 10857. | 1513.3 | 10901. | 1519.8 | 10916. | 1519.9 | 10924. | 1514.3 | 10931. |
| GR | 1515.1 | 10963. | 1515.0 | 10987. | 1513.7 | 10992. | 1514.7 | 11001. | 1515.3 | 11045. |
| GR | 1516.1 | 11097. | 1517.0 | 11148. | 1518.6 | 11209. | 1519.5 | 11319. | 1519.5 | 11446. |

Right encroachment at effective flow boundary on divide above diversion

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | | | | | 9156 | 10392. | | |
| NH | 6 | .064 | 9613.5 | .055 | 9859.4 | .105 | 9993 | .038 | 10005 | .105 |
| NH | 10038. | .055 | 11436. | | | | | | | |
| X1 | 2.727 | 58 | 9859.4 | 10038. | 535 | 400 | 507 | | | |
| GR | 1519.0 | 9155.5 | 1518.3 | 9198.2 | 1517.3 | 9261.5 | 1516.8 | 9299.8 | 1516.7 | 9347.3 |
| G | 1516.0 | 9359.3 | 1516.6 | 9405.0 | 1516.2 | 9494.4 | 1516.1 | 9553.3 | 1516.0 | 9613.5 |
| [illegible] | 1516.1 | 9693.3 | 1515.9 | 9773.3 | 1516.2 | 9859.4 | 1514.1 | 9866.2 | 1515.0 | 9873.7 |
| GR | 1516.1 | 9901.7 | 1515.5 | 9952.1 | 1514.4 | 9965.2 | 1514.3 | 9983.6 | 1512.7 | 9993.0 |
| GR | 1512.3 | 10000. | 1512.3 | 10005. | 1515.6 | 10017. | 1516.3 | 10038. | 1516.4 | 10094. |
| GR | 1516.2 | 10140. | 1516.5 | 10174. | 1516.5 | 10230. | 1516.4 | 10310. | 1516.4 | 10310. |
| GR | 1516.8 | 10323. | 1517.1 | 10392. | 1516.5 | 10428. | 1513.6 | 10468. | 1513.8 | 10480. |
| GR | 1519.8 | 10500. | 1519.8 | 10506. | 1516.3 | 10514. | 1515.8 | 10536. | 1516.5 | 10553. |
| GR | 1516.5 | 10575.4 | 1517.8 | 10587.3 | 1516.7 | 10593.5 | 1516.7 | 10651.0 | 1516.9 | 10696.3 |
| GR | 1517.1 | 10738.6 | 1517.0 | 10797.6 | 1515.9 | 10853.0 | 1515.8 | 10892.7 | 1518.8 | 10938.3 |
| GR | 1519.7 | 10971.3 | 1520.2 | 11007.5 | 1520.9 | 11064.2 | 1521.4 | 11108.5 | 1521.8 | 11162.9 |
| GR | 1521.7 | 11210.9 | 1521.3 | 11286.5 | 1521.6 | 11436. | | | | |

Historical diversion to stock pond. No structure at diversion. Divided Flow.
Right encroachment at effective flow boundary on divide above diversion

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 7 | .055 | 9098.1 | .082 | 9463.6 | .055 | 9925.5 | .105 | 9992.8 | .038 |
| NH | 10010. | .105 | 10103. | .055 | 11326 | | | | | |
| ET | | 7.1 | | | | | 8926 | 10127.1 | | |
| X1 | 2.827 | 62 | 9925.5 | 10127 | 340 | 560 | 528 | | | |
| GR | 1521.8 | 8925.2 | 1521.4 | 9008.7 | 1520.4 | 9047.7 | 1519.0 | 9098.1 | 1519.2 | 9125.1 |
| GR | 1518.6 | 9156.4 | 1518.7 | 9168.3 | 1518.3 | 9251.8 | 1518.4 | 9332.6 | 1518.0 | 9416.3 |
| GR | 1518.2 | 9463.6 | 1518.6 | 9507.5 | 1519.5 | 9555.7 | 1519.9 | 9585.6 | 1519.9 | 9667.7 |
| GR | 1519.8 | 9691.3 | 1519.4 | 9744.7 | 1519.3 | 9854.4 | 1518.3 | 9863.0 | 1518.3 | 9879.5 |
| GR | 1517.4 | 9883.3 | 1519.0 | 9900.5 | 1519.3 | 9925.5 | 1518.9 | 9985.4 | 1515.7 | 9992.8 |
| G | 1516.1 | 10000. | 1516.2 | 10010. | 1517.1 | 10023. | 1518.1 | 10039. | 1518.3 | 10060. |
| [illegible] | 1515.9 | 10083. | 1519.3 | 10103. | 1521.6 | 10127. | 1518.9 | 10140. | 1518.9 | 10180. |
| GR | 1519.1 | 10211. | 1519.4 | 10290. | 1519.2 | 10351. | 1518.5 | 10390. | 1518.4 | 10423. |

```
G    1518.4    10470.    1518.5    10506.    1518.3    10541.    1518.3    10576.    1518.7    10615.
G    1518.4    10662.    1518.7    10705.    1518.7    10775.    1518.5    10802.    1518.9    10840.
GR   1519.1    10876.    1519.3    10917.    1519.2    10951.    1520.1    10995.    1520.7    11034.
GR   1521.3    11077.    1521.6    11122.    1523.0    11158.    1523.5    11198.    1524.1    11246.
GR   1524.9    11281.    1525.0    11326.
```

Left encroachment at effective flow boundary at minor tributary confluence

```
NH       5      .055    9162.7     .082    9520.9     .055    9912.6     .072    10084.     .055
NH   10486.
ET              7.1                                          9129.2    10485
X1   2.927       57    9970.4    10139.     360     600      528
X3      10
GR   1523.6    8729.0    1523.5    8766.5    1523.3    8793.1    1523.1    8824.6    1522.9    8855.7
GR   1522.8    8891.6    1523.0    8919.1    1522.7    8942.5    1522.3    8967.1    1522.1    8991.0
GR   1522.6    9045.2    1522.5    9077.9    1522.7    9107.1    1522.3    9129.2    1521.9    9162.7
GR   1521.6    9195.3    1520.0    9237.8    1520.6    9246.4    1520.2    9282.1    1520.1    9310.8
GR   1520.3    9350.3    1520.5    9380.3    1520.9    9416.6    1520.5    9450.5    1520.6    9486.2
GR   1520.3    9520.9    1520.7    9553.3    1520.6    9584.0    1520.7    9611.5    1520.7    9667.9
GR   1521.7    9701.5    1522.4    9730.0    1523.1    9775.3    1523.2    9793.6    1523.2    9820.9
GR   1522.9    9865.9    1522.4    9912.6    1522.5    9970.4    1519.5    9988.9    1519.5    10000.
GR   1519.9    10011.    1522.2    10022.    1522.0    10056.    1520.8    10069.    1522.1    10084.
GR   1521.8    10107.    1522.7    10139.    1522.4    10175.    1521.9    10208.    1522.1    10241.
GR   1522.5    10280.    1522.5    10316.    1522.4    10350.    1522.5    10389.    1523.0    10420.
GR   1523.3    10454.    1523.4    10486.

NH       5      .055    9956.0     .095    9966.1     .038    10015.     .105    10054.     .055
NH   10596.
X1   3.027       41    9956.0    10054.     510     430      528
X3      10
GR   1526.7    9249.5    1526.2    9281.7    1525.4    9314.8    1525.0    9352.9    1524.6    9391.6
GR   1523.8    9408.7    1523.8    9476.7    1523.4    9507.2    1523.8    9543.7    1524.0    9579.8
GR   1523.9    9588.2    1524.6    9638.8    1524.6    9685.0    1522.7    9719.5    1524.7    9743.0
GR   1524.6    9772.8    1524.8    9811.6    1525.3    9846.4    1524.8    9895.3    1524.4    9956.0
GR   1522.8    9966.1    1521.9    10000.    1524.7    10015.    1522.8    10032.    1525.8    10054.
GR   1525.5    10080.    1526.1    10115.    1526.3    10145.    1525.7    10174.    1524.9    10209.
GR   1524.5    10239.    1524.6    10278.    1524.7    10306.    1524.7    10359.    1524.7    10388.
GR   1525.0    10420.    1525.4    10447.    1525.6    10482.    1525.2    10514.    1525.6    10520.
GR   1525.9    10596.

NH       5      .055    9943.0     .072    9965.3     .038    10026.5     .105    10084.0     .055
NH   10514.
X1   3.137       30    9943.0    10084.0     580     525      581
GR   1529.5    9395.5    1529.2    9442.2    1529.0    9498.1    1528.2    9547.8    1527.7    9592.1
GR   1527.6    9628.6    1527.5    9665.6    1527.3    9695.8    1526.5    9704.4    1527.4    9714.3
GR   1527.0    9731.8    1528.2    9759.6    1527.2    9786.7    1527.6    9842.2    1527.7    9890.9
GR   1528.3    9943.0    1525.7    9965.3    1525.5    10000.0    1525.9    10026.5    1525.9    10056.
GR   1527.7    10084.0    1527.7    10128.8    1527.5    10184.1    1527.7    10229.8    1527.6    10279.
G    1527.6    10329.8    1527.8    10372.5    1528.9    10417.1    1529.6    10462.8    1529.8    10514.
```

section at effective flow boundary on divide

composite n values for channel + bank/riparian vegetation

```
NC     .055      .055      .072
X1    3.224        26    9974.1    10060.       450       460       459
GR   1532.8    9460.5    1532.7    9505.5    1532.5    9546.4    1531.6    9580.4    1530.1    9633.7
GR   1530.4    9667.0    1530.3    9704.8    1529.7    9746.2    1529.6    9785.0    1529.9    9809.6
GR   1528.5    9833.8    1530.5    9863.4    1530.3    9916.5    1530.7    9974.1    1524.9    10000.
GR   1529.7    10027.    1530.1    10060.    1530.4    10111.    1530.3    10149.    1530.2    10188.
GR   1530.1    10233.    1530.5    10279.    1531.0    10329.    1531.2    10363.    1531.9    10398.
GR   1532.5    10484.

X1    3.321        20    9953.1    10025.       510       520       512
GR   1536.0    9596.9    1535.4    9651.5    1533.3    9686.3    1533.0    9727.8    1532.7    9759.5
GR   1531.3    9803.2    1532.1    9840.2    1532.8    9886.4    1533.2    9926.8    1532.7    9953.1
GR   1532.0    9975.0    1527.0    10000.    1533.4    10025.    1532.3    10070.    1532.6    10129.
GR   1532.9    10169.    1533.0    10213.    1533.2    10250.    1534.2    10292.    1535.1    10420.

X1    3.413        17    9972.9    10031.       490       500       486
GR   1538.4    9801.5    1538.3    9832.0    1537.1    9857.5    1536.3    9888.5    1532.9    9929.3
GR   1534.8    9972.9    1534.6    9980.7    1528.8    10000.    1530.5    10017.    1534.8    10031.
GR   1535.2    10075.    1535.2    10119.    1535.4    10160.    1535.4    10208.    1538.5    10255.
GR   1539.2    10293.    1539.6    10323.
```

Sheet 4/Begin Sheet 5

```
NH        5      .055    9978.3      .105    9989.7      .038    10012.      .095    10154.      .055
NH    10419.
X1    3.514        25    9978.3     10076       520       470       533
GR   1542.4    9464.9    1542.3    9512.9    1541.9    9575.3    1541.2    9623.1    1541.2    9679.9
GR   1540.6    9730.1    1539.6    9757.0    1540.3    9788.3    1539.1    9851.8    1536.3    9901.1
GR   1537.0    9978.3    1530.9    9989.7    1531.3    10000.    1531.6    10012.    1537.3    10044.
GR   1536.9    10076.    1535.5    10114.    1535.2    10136.    1536.9    10154.    1537.0    10182.
GR   1537.8    10265.    1539.2    10304.    1541.2    10357.    1542.3    10397.    1542.5    10419.
```

Left effective flow boundary at 4:1 expansion from CAP structure and divide

```
NC     .055      .055      .038
X1    3.617        14    9946.9    10030.       560       460       544
GR   1540.3    9791.2    1539.8    9814.3    1540.0    9848.8    1539.5    9914.1    1538.6    9946.9
GR   1537.3    9969.0    1533.7    9990.6    1533.5    10000.    1534.0    10012.    1539.3    10030.
GR   1540.1    10074.    1540.9    10118.    1543.8    10164.    1545.2    10190.
```

Base of CAP overchute drop structure

```
QT        2      5101      5101

  Insert two cross sections for CAP, at inlet and outlet.  Outlet at critical.
  Increase contraction coefficient due to CAP Overchute

  Reach 2/Sheet 5
  First CAP Cross Section.  Downstream End.  Geometry from BuRec as-builts.

NC     .033      .033      .013        .1        .3
X1    3.651         8    9976.3   10023.8       180       180       180
GR     1553      8900      1552      9000      1552    9976.3      1545   9976.31      1545   10023.7
GR     1552   10023.8      1552     11000      1553     11200

  Second CAP Cross Section.  Upstream End.  Duplicate downstream geometry.

X1    3.670                                     100       100       100                   .5

  Contraction and Expansion coefficients reflect CAP overchute contraction

NC                                               .3        .5
  Discharge = 5,309 cfs per Wittman ADMS at inflow to CAP overchute

QT        2      5309      5309

  Right and Left encroachment at effective flow boundary from upstream expansion

ET                 7.1                                      9100     10600
NH       5        .08    9976.8      .105     10000      .038   10075.8      .105   10212.8      .085
NH   11300
X1   3.713         34      9543   10130.9       290       180       230
GR   1556.       8940    1553.7    8949.8    1553.0    8966.0    1550.4    8985.6    1547.0    9024.5
GR  1545.7     9080.2    1545.4    9185.3    1545.3    9244.9    1545.7    9293.2    1544.9    9316.5
GR  1545.1     9343.7    1544.4    9410.4    1544.4    9452.8    1544.0    9462.3    1544.8    9473.3
GR  1544.6     9485.4    1544.9    9509.0    1545.1    9543.0    1544.7    9618.0    1544.2    9716.2
GR  1544.0     9779.2    1543.4    9828.7    1543.4    9882.0    1543.6    9941.6    1544.4    9976.8
GR  1544.4     10000.    1544.1   10040.3    1544.2   10075.8    1544.8   10130.9    1547.4   10163.6
GR  1548.1     10187.    1548.2   10212.8    1548.0     10600      1550     11300

  Left encroachment at effective flow boundary - expansion and contraction
  End right side of section at effective flow boundary

ET                 7.1                                    9039.5     10466
NH       5       .063    9905.3      .095    9991.9      .038   10074.7      .105   10194.4      .055
NH   10466
X1   3.821         52      9985   10088.3       390       565       570
GR  1553.8     8360.8    1552.4    8437.6    1551.6    8492.0    1551.4    8538.9    1550.1    8642.7
GR  1549.5     8678.5    1549.5    8720.6    1549.3    8781.5    1549.1    8837.0    1548.9    8881.2
GR  1547.4     8887.8    1549.1    8894.9    1549.0    8909.3    1548.2    8914.7    1548.8    8926.0
GR  1548.4     8960.7    1548.9    8981.5    1548.9    9039.5    1548.6    9073.5    1547.7    9101.4
GR  1547.2     9195.7    1547.2    9286.9    1547.6    9353.5    1547.5    9425.9    1546.9    9473.9
```

```
GR   1546.7    9533.4    1546.6    9601.4    1546.4    9672.4    1546.4    9809.4    1547.0    9838.6
GR   1547.3    9892.8    1547.1    9905.3    1547.3    9944.4    1547.1    9985.0    1544.0    9991.9
GR   1544.0   10000.0    1545.7   10020.0    1545.8   10048.1    1544.3   10060.4    1544.3   10074.7
GR   1546.9   10088.3    1546.5   10110.3    1545.5   10153.5    1545.9   10194.4    1546.5   10235.8
GR   1548.1   10255.4    1549.8   10288.8    1549.8   10328.5    1549.6   10365.5    1549.9   10397.9
GR   1551.1   10440.1    1551.9   10466.
```

Right end section at effective flow boundary, expansion from upstream section
Left encroachment at expansion effective flow boundary on divide

```
ET              7.1                                        9140     10629
NH        5     .055    9807.7     .085    9946.2     .038  10016.5     .095   10072.4     .055
NH    10629
X1    3.917       68    9756.2   10016.5     460       430      507
GR   1563.9   7754.7    1564.0    7823.5    1554.8    7869.5    1554.9    7903.8    1555.2    7965.3
GR   1555.3   8033.9    1555.1    8083.5    1554.2    8114.0    1553.6    8164.7    1552.7    8205.3
GR   1552.5   8247.9    1552.0    8310.4    1553.2    8333.0    1553.2    8362.4    1552.5    8444.2
GR   1551.7   8480.3    1551.9    8515.5    1551.8    8549.9    1551.2    8577.2    1549.8    8583.3
GR   1551.4   8594.6    1551.8    8630.4    1553.2    8655.6    1553.4    8680.6    1551.4    8720.6
GR   1550.9   8775.9    1550.7    8830.3    1549.3    8837.6    1550.8    8848.8    1550.8    8892.0
GR   1550.7   8983.0    1551.4    9051.2    1551.3    9140.0    1550.7    9220.3    1550.2    9315.7
GR   1550.7   9370.8    1550.4    9461.0    1549.8    9510.7    1549.2    9556.4    1549.1    9624.0
GR   1547.8   9689.9    1548.6    9712.7    1547.3    9719.6    1548.8    9729.8    1549.3    9756.2
GR   1548.8   9807.7    1547.2    9832.2    1547.9    9841.6    1548.0    9880.5    1547.1    9899.7
GR   1547.5   9946.2    1547.2    9983.8    1546.1   10000.0    1549.1   10016.5    1549.0   10045.0
GR   1547.7  10058.1    1548.5   10072.4    1550.0   10112.8    1551.4   10143.0    1555.0   10175.7
GR   1554.4  10225.8    1553.5   10290.8    1553.0   10353.0    1552.8   10402.2    1553.3   10456.4
GR   1553.6  10486.9    1553.8   10528.5    1554.2     10629
```

decrease contraction and expansion coefficients to default values

```
NC                                   .1        .3
```

Left encroachment at effective flow boundary on divide & expansion

```
ET              7.1                                        9274.3     10648
NH        5     .055    9912.2     .085    9981.1     .038  10015.8     .075   10081.8     .055
NH    10648
X1    4.010       62    9967.3   10081.8     320       530      491
GR   1564.2   7901.8    1564.1    7919.8    1555.3    7964.3    1555.2    8031.7    1555.4    8112.4
GR   1555.5   8195.9    1555.4    8230.2    1553.6    8289.1    1553.2    8333.2    1553.2    8375.6
GR   1553.0   8428.4    1554.6    8469.5    1554.9    8496.6    1553.8    8536.5    1553.1    8571.8
GR   1553.0   8610.1    1551.0    8633.8    1552.8    8649.9    1553.0    8664.8    1551.9    8676.3
GR   1552.5   8686.7    1552.8    8714.2    1555.2    8756.1    1555.5    8780.2    1554.8    8835.4
GR   1553.3   8870.8    1551.8    8930.2    1551.9    8975.5    1549.9    8990.2    1551.6    9006.2
GR   1551.5   9053.6    1551.5    9090.0    1552.6    9135.5    1552.8    9192.4    1553.0    9274.3
GR   1552.9   9347.6    1552.4    9411.1    1552.3    9485.3    1552.6    9547.7    1552.5    9611.6
GR   1552.1   9664.7    1551.6    9749.2    1551.3    9787.0    1550.9    9839.7    1551.0    9912.2
GR   1551.0   9967.3    1548.2    9981.1    1548.3   10000.0    1548.7   10015.8    1548.8   10060.8
GR   1552.1  10081.8    1551.8   10149.7    1552.2   10242.9    1552.3   10325.9    1553.2   10369.5
GR   1553.6  10398.4    1553.7   10436.3    1554.7   10494.3    1555.6   10534.1    1557.6   10575.5
GR   1558.6  10605.2    1558.9   10648.
```

```
NH      5      .055    9922.5      .085    9987.3      .038   10016.4      .075   10031.3      .055
NH  10605
X1  4.119        35    9922.5   10031.3       590       420       576
GR 1557.9    8858.7    1557.5    8960.7    1557.2    9062.5    1557.2    9162.7    1556.7    9216.6
GR 1556.2    9313.6    1555.8    9417.4    1555.6    9458.5    1555.8    9503.8    1555.4    9585.0
GR 1554.8    9660.5    1554.3    9731.9    1554.0    9837.4    1553.6    9861.7    1552.5    9867.7
GR 1553.9    9876.3    1553.9    9922.5    1550.7    9954.9    1550.6    9976.1    1550.0    9987.3
GR 1549.4   10000.0    1549.2   10016.4    1554.6   10031.3    1554.8   10086.6    1553.9   10108.3
GR 1554.1   10124.0    1554.3   10180.3    1554.1   10230.9    1554.8   10257.4    1554.6   10295.8
GR 1554.9   10342.4    1557.0   10418.3    1557.2   10470.1    1556.8   10551.5    1556.7   10605.
```

Left encroachment at effective flow boundary near minor tributary confluence

```
ET                7.1                                     9486     10918
NH      5      .055    9905.9       .08    9969       .038   10013.2       .08   10035.5      .055
NH  10918
X1  4.214        40    9891.3   10035.5       470       510       502
GR 1561.3    8900.0    1561.4    8946.0    1561.2    9039.7    1560.2    9119.3    1559.3    9185.5
GR 1559.1    9268.5    1559.0    9327.7    1558.7    9365.2    1558.8    9400.5    1559.9    9442.8
GR 1560.4    9485.7    1560.3    9525.2    1558.2    9584.6    1557.6    9609.9    1557.8    9635.6
GR 1557.6    9693.8    1557.6    9778.5    1557.2    9840.5    1557.9    9891.3    1557.1    9905.9
GR 1554.0    9923.0    1554.2    9934.1    1552.8    9969.0    1551.9    9978.0    1551.9   10000.0
GR 1551.8   10013.2    1556.8   10035.5    1556.8   10099.9    1556.9   10139.2    1557.7   10231.5
GR 1558.9   10311.7    1559.1   10361.3    1559.5   10423.2    1560.4   10495.6    1561.3   10539.6
GR 1561.5   10606.9    1562.1   10670.9    1563.0   10757.5    1563.4   10818.8    1563.8   10918.
```

End Sheet 5/Begin Sheet 6

Right encroachment at effective flow boundary at minor tributary confluence

```
ET                7.1                                     9382     10472
NH      5      .055    9899.7      .085    9990.8      .038   10043      .085   10064      .055
NH  10854
X1  4.306        40    9973.8   10064       510       480       486
GR 1564.1    9382.0    1563.7    9432.0    1563.6    9480.1    1563.4    9532.7    1563.5    9559.6
GR 1561.6    9586.3    1563.0    9620.0    1561.9    9669.0    1561.5    9693.9    1560.6    9748.3
GR 1559.9    9821.0    1557.4    9830.7    1559.2    9839.0    1560.1    9858.4    1559.8    9899.7
GR 1559.3    9930.5    1560.1    9973.8    1554.1    9990.8    1553.6   10000.0    1555.4   10029.
GR 1553.8   10043.0    1561.0   10064.     1559.8   10097.3    1560.5   10118.8    1560.5   10174.6
GR 1560.4   10237.9    1560.4   10284.9    1561.2   10347.9    1561.3   10398.2    1561.7   10472.1
GR 1561.4   10504.8    1561.3   10527.1    1560.3   10535.5    1561.2   10542.1    1562.0   10606.0
GR 1563.0   10661.5    1564.0   10725.2    1565.0   10789.7    1565.5   10823.7    1566.6   10854.
```

Left encroachment at effective flow boundary at minor tributary confluence

```
ET                7.1                                     9715.7     10460
NH      5      .055    9934.1      .075    9990.2      .038   10011.8      .075   10053      .055
NH  10460
```

```
X     4.403       41     9934.1    10029.      490      530      512
GR    1568.1   8992.8     1566.9   9060.3   1566.2   9116.9   1565.8   9185.7   1565.3   9238.7
GR    1564.0   9342.1     1562.3   9349.2   1564.0   9366.3   1564.2   9393.3   1566.9   9434.5
GR    1566.8   9452.5     1565.5   9498.7   1564.3   9547.3   1562.8   9598.5   1561.9   9642.1
GR    1561.2   9669.4     1562.3   9688.2   1562.7   9715.7   1561.7   9737.0   1562.1   9782.1
GR    1562.3   9805.5     1561.3   9839.6   1559.4   9850.7   1562.0   9867.2   1562.8   9895.1
GR    1563.0   9934.1     1560.5   9956.9   1558.1   9974.3   1555.4   9990.2   1555.3  10000.0
GR    1555.3  10011.8     1561.9  10029.    1561.9  10053.    1564.2  10099.8   1565.0  10135.2
GR    1565.0  10188.3     1565.7  10250.4   1566.4  10307.8   1567.3  10358.7   1568.5  10416.8
GR    1568.8     10460

QT         2      5320       5320
ET                7.1                                        9887.2     11040
NH         5      .055     9933.4      .068   9989.9      .038    10007      .068    10027      .055
NH     11040
X1     4.497        49     9969.7    10027      490      500      496
GR    1570.6   8950.1     1569.5   9002.8   1568.8   9058.6   1568.5   9088.3   1566.8   9100.5
GR    1567.9   9110.7     1568.3   9172.8   1568.9   9234.2   1569.3   9278.2   1569.5   9330.8
GR    1569.7   9410.0     1569.1   9457.3   1568.3   9509.2   1567.2   9561.3   1566.5   9580.3
GR    1566.5   9606.4     1565.5   9618.4   1566.2   9628.7   1565.9   9670.2   1565.7   9692.6
GR    1565.8   9753.4     1565.3   9801.6   1564.8   9845.0   1563.2   9856.4   1565.1   9872.2
GR    1565.4   9887.2     1564.5   9933.4   1564.3   9969.7   1556.5   9989.9   1556.5  10000.0
GR    1555.9  10007.      1563.7  10027.    1564.6  10102.9   1564.5  10130.0   1565.2  10160.7
GR    1565.6  10206.1     1564.0  10214.9   1565.5  10223.9   1566.6  10251.0   1568.8  10322.1
GR    1569.7  10364.1     1570.9  10391.1   1572.3  10454.0   1573.0  10511.9   1573.3  10573.3
GR    1573.1  10641.6     1572.8  10745.6   1572.7  10844.8   1573.5  11040.
```

Left encroachment at effective flow boundary at expansion/contraction point

```
ET                7.1                                        9883.8    10115.5
NH         5      .055     9958.8      .088   9974.5      .038   10014.3      .088   10040.8      .055
NH     10519
X1     4.596        38     9915.3   10040.8      510      500      523
GR    1571.0   9512.4     1570.7   9529.4   1571.2   9544.1   1570.7   9576.1   1569.2   9624.0
GR    1568.4   9636.0     1569.4   9653.7   1569.4   9688.8   1568.3   9736.1   1566.8   9784.0
GR    1566.6   9808.3     1565.1   9816.7   1566.2   9830.0   1566.8   9857.9   1566.7   9883.8
GR    1565.3   9896.6     1566.3   9915.3   1565.3   9940.3   1563.5   9958.8   1559.7   9974.5
GR    1559.0  10000.0     1559.3  10014.3   1566.4  10040.8   1566.3  10067.4   1567.0  10115.5
GR    1566.8  10159.3     1564.4  10168.7   1566.5  10185.1   1568.0  10245.7   1570.3  10304.0
GR    1570.6  10333.2     1569.2  10378.0   1569.6  10417.2   1568.8  10436.0   1570.1  10446.2
GR    1568.9  10456.2     1570.7  10476.5   1571.9  10519.
```

Left encroachment at effective flow boundary on divide near minor tributary confluence

```
ET                7.1                                         9812     10426
NH         5      .055     9969.4      .062   9994.3      .038    10012      .062    10079      .055
NH     10426
```

```
X1    4.694      35    9969.4    10079      490      510      517
GR   1574.4  9356.2    1573.1   9425.3   1571.7   9485.8   1570.4   9545.4   1569.4   9600.1
GR   1567.6  9615.2    1568.7   9634.5   1568.4   9657.0   1564.6   9672.8   1567.6   9683.6
GR   1567.5  9700.0    1568.2   9711.5   1566.4   9723.8   1569.5   9742.4   1572.3   9764.0
GR   1572.9  9812.3    1572.6   9835.6   1574.1   9872.7   1574.2   9891.2   1571.2   9929.3
GR   1569.0  9969.4    1559.8   9994.3   1559.8   10000.   1560.0   10004.   1563.8   10012.
GR   1566.2  10031.    1565.8   10041.   1569.3   10079.   1571.1   10121.   1574.8   10178.
GR   1575.9  10210.    1576.0   10247.   1575.3   10293.   1574.9   10334.   1575.6   10426.
```

Left encroachment at effective flow boundary on divide

```
ET              7.1                                        9926.8    10469
NH     5       .055    9901.7     .072   9995.1     .038    10020     .072    10135     .055
NH 10469
X1   4.789      30    9926.8    10042      500      510      502
GR   1574.7  9459.4    1574.4   9469.8   1575.5   9506.6   1573.9   9535.7   1575.7   9552.4
GR   1576.1  9576.2    1575.5   9591.2   1575.6   9624.3   1576.5   9668.5   1576.6   9683.8
GR   1575.8  9765.0    1575.5   9809.2   1574.1   9878.8   1571.0   9892.5   1573.6   9901.7
GR   1573.8  9926.8    1568.8   9951.9   1568.8   9971.2   1561.6   9995.1   1561.9   10000.
GR   1562.2  10020.    1572.1   10042.   1573.0   10135.   1575.7   10172.   1575.8   10208.
GR   1578.3  10239.    1579.2   10279.   1579.4   10315.   1580.0   10395.   1580.4   10469.
```

Right and left encroachments at effective flow boundaries near minor
tributary confluences beyond local divides

```
NH     5       .055     9881.     .065   10000      .038  10022.2     .062  10102.2     .055
NH 10245
ET              7.1                                         9881.   10102.2
X1   4.893      25    9931.2   10047.5      390      620      549
GR   1575.9  9469.8    1577.4   9487.8   1578.1   9529.2   1578.3   9629.1   1578.4   9700.7
GR   1578.4  9760.5    1577.8   9800.0   1576.2   9823.3   1577.8   9844.5   1578.3   9881.
GR   1576.9  9921.5    1577.5   9931.2   1576.9   9947.3   1571.8   9963.8   1570.4   10000.
GR   1570.2  10022.2   1578.3   10047.5  1578.2   10102.2  1573.4   10111.7  1576.3   10126.
GR   1573.9  10152.4   1577.5   10171.1  1575.3   10184.1  1578.7   10201.3  1579.4   10245.
```

Right encroachment at effective flow boundary in overbank area

```
ET              7.1                                         9878.    10106
NH     5        .08    9822.8     .068   9988.2     .038  10024.6     .068    10043     .055
NH 10309
X1   4.988      26    9893.5    10043      500      505      502
GR   1581.0  9286.8    1582.7   9343.9   1583.0   9390.3   1582.5   9446.1   1581.7   9472.6
GR   1581.3  9515.1    1581.4   9598.3   1582.2   9668.3   1581.4   9743.5   1581.2   9822.8
GR   1579.4  9843.4    1581.1   9878.    1581.0   9893.5   1577.8   9939.2   1576.3   9975.4
GR   1573.9  9988.2    1573.4   10000.0  1574.5   10024.6  1581.2   10043.   1582.4   10106.
GR   1582.6  10144.0   1581.3   10163.5  1581.9   10184.4  1579.2   10210.   1582.0   10231.
GR   1583.1  10309.
```

: encroachment at effective flow boundary at minor tributary confluence

```
ET                7.1                                          9896.     10121
NH      5       .055      9896.      .068    9976.1      .038  10004.4      .070     10084      .055
NH  10345
X1  5.095         38    9965.6     10084       570       560      565
GR  1585.3    9565.1    1585.3    9627.3    1579.6    9639.5   1581.6    9647.0    1578.1    9654.3
GR  1584.0    9670.9    1581.7    9676.8    1583.6    9685.2   1584.9    9704.6    1582.2    9709.7
GR  1585.4    9719.1    1586.0    9752.1    1585.3    9798.9   1580.2    9830.2    1580.6    9851.5
GR  1584.3    9860.3    1584.7     9896.    1580.0    9902.5   1585.1    9917.8    1582.3    9928.0
GR  1584.8    9949.7    1584.8    9965.6    1576.0    9976.1   1575.9   10000.0    1576.0   10004.4
GR  1579.2   10016.0    1580.1   10036.0    1579.9   10055.6   1577.0   10069.3    1585.4    10084.
GR  1584.3   10108.4    1584.8    10121.    1582.8   10130.6   1585.1   10142.5    1585.2   10173.3
GR  1585.6   10238.9    1585.4   10291.0    1585.2    10345.
```

End Sheet 6/Begin Sheet 7

```
NH      4        .08    9480.3      .075    9970.3      .038  10014.6      .085     10668
X1  5.189         35    9957.7     10163       490       500      496
GR  1588.1    9350.0    1588.1    9414.2    1588.6    9480.3   1588.9    9549.6    1588.8    9638.8
GR  1588.7    9719.8    1588.3    9809.9    1587.5    9829.4   1584.2    9838.2    1586.7    9851.5
GR  1587.6    9869.8    1587.2    9894.2    1581.8    9906.3   1587.9    9921.7    1587.9    9931.0
GR  1582.8    9940.3    1587.7    9957.7    1586.9    9970.3   1577.4   10000.0    1580.3   10014.6
GR  1581.9   10033.5    1582.9   10077.1    1582.2   10109.3   1581.5   10152.3    1588.7    10163.
GR  1588.7   10211.3    1589.4   10335.5    1589.8   10360.7   1589.2   10415.3    1588.9   10458.3
GR  1588.3   10469.2    1588.7   10483.7    1588.6   10541.3   1588.8    10615.    1589.4    10668.
```

Increase contraction coefficient to reflect flow contraction

```
NC                                   .3        .5

QT      2       5330      5330
NH      7        .08    8504.2      .055    9123.4       .09   9345.6      .095    9995.2      .058
NH  10007       .095     10118      .065     10456
X1  5.287         51    9920.3     10068       470       540      517
GR  1594.2    8368.2    1593.9    8444.9    1594.6    8504.2   1595.2    8560.9    1595.3    8593.9
GR  1594.9    8641.7    1593.8    8704.3    1592.2    8767.6   1591.6    8833.8    1591.4    8887.6
GR  1591.4    8948.0    1591.9    9043.5    1591.8    9064.9   1590.7    9084.7    1591.3    9097.7
GR  1591.4    9117.8    1591.0    9123.4    1591.2    9150.3   1591.0    9161.4    1591.1    9223.2
GR  1591.3    9279.7    1591.6    9311.0    1592.1    9345.6   1591.7    9389.7    1592.0    9426.4
GR  1592.2    9502.0    1592.0    9558.9    1591.6    9637.3   1591.7    9689.4    1590.2    9694.4
GR  1591.7    9709.8    1591.7    9762.6    1592.0    9839.9   1591.9    9920.3    1591.2    9983.8
GR  1580.6    9995.2    1580.6    10007.    1590.8    10023.   1590.8    10036.    1587.5    10039.
GR  1591.1    10049.    1591.8    10068.    1591.9    10118.   1591.8    10184.    1591.8    10306.
GR  1592.2    10340.    1591.8    10360.    1591.7    10373.   1593.5    10405.    1594.4    10431.
GR  1594.6    10456.
```

Return contraction coefficient to normal

```
NC                                  .1        .3

NH      5      .055    9183.4     .085    9450.2     .080    9970.6     .058   10014.9     .065
NH  10428
X1  5.386        45    9970.6   10014.9     510      480       523
GR  1598.0   8730.9    1598.4    8772.0  1598.4   8818.8    1597.9   8876.7    1597.0   8924.4
GR  1596.3   8973.4    1595.7    9016.6  1595.6   9062.9    1595.8   9114.5    1595.7   9151.6
GR  1595.4   9183.4    1595.1    9236.2  1595.5   9266.5    1594.5   9275.3    1595.3   9287.4
GR  1595.7   9340.6    1595.5    9370.1  1595.2   9423.2    1595.5   9450.2    1595.4   9508.9
GR  1595.0   9548.9    1595.0    9594.2  1595.2   9624.1    1595.2   9657.6    1595.1   9681.3
GR  1594.5   9692.2    1595.3    9710.5  1595.2   9737.0    1596.0   9756.9    1596.0   9797.3
GR  1595.8   9844.8    1595.8    9905.2  1595.0   9970.6    1581.4  10000.0    1593.9  10014.9
GR  1594.8  10086.     1596.4   10103.4  1596.8  10142.8    1596.4  10192.0    1596.1  10244.1
GR  1596.1  10261.5    1596.8   10297.9  1596.9  10337.8    1596.9  10385.4    1597.5  10428.

NH      5      .055    9166.7     .085    9693.8     .060    9996.0     .038   10006      .055
NH  10379
X1  5.485        40    9971.9   10079     570      440       523
GR  1601.2   8674.7    1601.4    8723.3  1601.6   8788.3    1601.8   8820.3    1600.9   8864.2
GR  1600.4   8926.8    1599.6    8985.4  1599.1   9053.5    1598.4   9059.0    1598.8   9069.7
GR  1598.8   9141.4    1597.5    9153.6  1598.6   9166.7    1598.9   9222.6    1598.4   9273.7
GR  1598.4   9317.0    1599.0    9356.3  1599.0   9419.3    1598.9   9509.1    1599.0   9557.1
GR  1598.7   9615.9    1598.3    9693.8  1598.2   9768.5    1598.2   9809.7    1598.0   9861.6
GR  1598.9   9915.1    1599.4    9971.9  1587.1   9996.0    1587.2  10000.     1587.2  10006.
G   1597.3  10018.     1593.0   10029.   1597.0  10044.     1597.7  10079.     1598.0  10143.
GR  1598.2  10184.     1597.8   10257.   1598.4  10283.     1600.4  10345.     1600.9  10379.

NH      4      .105    9229.6     .055    9982       .038   10038      .055   10449
X1  5.577        43    9982     10113     400      570       486
GR  1604.3   8667.1    1604.1    8722.7  1603.4   8762.9    1602.7   8774.0    1603.0   8795.4
GR  1602.7   8838.8    1601.6    8864.4  1601.2   8883.0    1600.8   8929.0    1601.3   9003.9
GR  1601.3   9038.9    1601.8    9073.0  1601.9   9102.4    1601.9   9133.2    1601.6   9193.4
GR  1601.1   9229.6    1601.6    9249.8  1601.7   9283.5    1601.4   9319.8    1601.3   9369.7
GR  1601.2   9429.0    1601.3    9500.5  1601.4   9567.9    1601.3   9626.3    1600.5   9631.3
GR  1601.3   9646.5    1601.3    9790.4  1601.4   9870.9    1601.6   9982.0    1599.5   9991.4
GR  1592.3  10000.     1597.3   10010.   1597.4  10038.     1596.9  10049.     1596.9  10079.
GR  1600.7  10113.     1601.2   10166.   1601.8  10192.     1602.1  10239.     1603.8  10306.
GR  1604.3  10339.     1604.2   10358.   1603.6  10449.
```

Major headcut and defined channel begins downstream of section 5.668
End Reach 2/Begin Reach 3

```
NH      3      .055    9938.7     .09    10481.2     .055   11128.3
X1  5.668        38    9764.4   10215     345      545       480
GR  1607.4   8800.7    1606.8    8876.7  1604.2   8947.4    1602.8   8995.1    1603.7   9007.2
GR  1603.2   9062.8    1603.8    9146.5  1603.1   9243.3    1602.5   9256.2    1603.1   9271.3
GR  1603.3   9318.3    1602.2    9351.3  1603.8   9391.9    1603.3   9474.4    1603.2   9520.3
G   1603.1   9585.1    1603.1    9664.7  1603.8   9764.4    1603.4   9857.4    1603.8   9938.7
G   1603.9  10000.0    1603.5   10058.1  1603.6  10139.1    1603.8  10215.0    1603.5  10290.
GR  1603.2  10354.4    1605.0   10415.2  1604.7  10481.2    1606.5  10572.2    1607.0  10655.
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| G | 1608.2 | 10716.2 | 1608.8 | 10776.2 | 1609.2 | 10837.2 | 1609.3 | 10910.2 | 1609.6 | 10984. |
| G | 1610.3 | 11040.2 | 1611.4 | 11116.0 | 1612.2 | 11128.3 | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 3 | .055 | 9842 | .095 | 10759 | .055 | 11230.8 | | | |
| X1 | 5.765 | 36 | 9842 | 10242 | 410 | 610 | 512 | | | |
| GR | 1610.3 | 8978.1 | 1609.0 | 9037.8 | 1606.7 | 9098.6 | 1606.3 | 9170.8 | 1605.5 | 9191.2 |
| GR | 1606.7 | 9222.4 | 1607.3 | 9287.5 | 1607.3 | 9365.2 | 1606.5 | 9411.0 | 1604.8 | 9419.2 |
| GR | 1605.9 | 9428.6 | 1606.5 | 9467.5 | 1606.5 | 9514.0 | 1607.1 | 9565.4 | 1606.6 | 9628.4 |
| GR | 1606.2 | 9685.3 | 1606.1 | 9774.3 | 1606.7 | 9842.0 | 1606.6 | 9929.2 | 1606.0 | 10000. |
| GR | 1606.4 | 10055.1 | 1606.5 | 10113.8 | 1606.7 | 10166. | 1606.8 | 10242. | 1606.6 | 10303. |
| GR | 1606.4 | 10376.2 | 1606.4 | 10449.9 | 1606.2 | 10523. | 1605.9 | 10634. | 1607.0 | 10759. |
| GR | 1609.6 | 10832.1 | 1608.4 | 10900.2 | 1609.2 | 10985. | 1610.4 | 11052. | 1612.1 | 11139. |
| GR | 1612.9 | 11230.8 | | | | | | | | |

Right encroachment at effective flow boundary at tributary confluence

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | | | | | 9238 | 10750 | | |
| NH | 3 | .055 | 9420.2 | .08 | 9861.5 | .095 | 11309 | | | |
| X1 | 5.858 | 40 | 9861.5 | 10504.8 | 380 | 490 | 491 | | | |
| GR | 1612.3 | 9237.3 | 1611.5 | 9284.8 | 1610.0 | 9313.9 | 1610.1 | 9364.1 | 1609.6 | 9420.2 |
| GR | 1609.3 | 9470.7 | 1609.6 | 9509.3 | 1610.3 | 9540.7 | 1610.0 | 9559.9 | 1610.1 | 9608.3 |
| GR | 1609.7 | 9688.5 | 1609.9 | 9710.9 | 1609.7 | 9774.3 | 1609.8 | 9830.6 | 1610.3 | 9861.5 |
| GR | 1609.4 | 9907.0 | 1609.3 | 9950.6 | 1609.2 | 10000.0 | 1609.4 | 10052. | 1609.3 | 10126. |
| GR | 1609.3 | 10189.0 | 1609.1 | 10236.6 | 1608.8 | 10295.6 | 1608.2 | 10357. | 1609.0 | 10406. |
| G | 1609.2 | 10446.3 | 1607.9 | 10480.0 | 1609.4 | 10504.8 | 1609.1 | 10625. | 1608.4 | 10694. |
| GR | 1608.6 | 10768.9 | 1608.8 | 10854.2 | 1609.1 | 10919.7 | 1609.0 | 10971. | 1608.0 | 11022. |
| GR | 1609.6 | 11068.0 | 1609.3 | 11120.8 | 1609.2 | 11177.7 | 1609.9 | 11227. | 1614.9 | 11309. |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| QT | 2 | 5340 | 5340 | | | | | | | |
| NH | 3 | .055 | 9837 | .105 | 10499 | .055 | 10895.8 | | | |
| X1 | 5.945 | 38 | 9961.7 | 10678.4 | 470 | 440 | 459 | | | |
| GR | 1614.5 | 8153 | 1614.0 | 8190.0 | 1612.9 | 8326.7 | 1612.3 | 8494 | 1612.3 | 8740.0 |
| GR | 1612.7 | 8801 | 1612.2 | 8858. | 1612.5 | 9017 | 1612.5 | 9151 | 1612.7 | 9291 |
| GR | 1612.8 | 9374.7 | 1612.7 | 9428.5 | 1612.8 | 9490.7 | 1612.4 | 9553.4 | 1612.5 | 9589.7 |
| GR | 1611.3 | 9598.3 | 1612.4 | 9639.1 | 1612.7 | 9713.0 | 1611.7 | 9774.3 | 1612.6 | 9837.0 |
| GR | 1612.5 | 9914.3 | 1613.4 | 9961.7 | 1612.5 | 10000. | 1612.2 | 10031.5 | 1613.1 | 10050.5 |
| GR | 1612.5 | 10115.2 | 1612.6 | 10166.5 | 1611.9 | 10248.3 | 1611.9 | 10321.2 | 1611.9 | 10390. |
| GR | 1611.9 | 10435.6 | 1611.9 | 10499. | 1612.5 | 10554.8 | 1612.4 | 10617.2 | 1612.3 | 10669.4 |
| GR | 1613.1 | 10678.4 | 1613.1 | 10794.6 | 1614.1 | 10895.8 | | | | |

Patton Road profile superimposed on natural ground GR points, to outline effective flow over road. There are 4-42 inch RCP culverts at station 10000 with maximum combined capacity per HY-8 analysis of about 200 cfs. Special culvert routine not used because of low road profile east of culverts, and because road does not act like weir. Culverts have sedimentation and debris blockage problems. Roadway frequently overtops, especially to east of culvert crossing according to County road maintenance crews.

N values at section reflect heavy upstream and downstream vegetation

: encroachment at effective flow boundary on divide

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| QT | 2 | 5340 | 5340 | | | | | | | |
| ET | | 7.1 | | | | | 8230 | 10978 | | |
| NH | 3 | .055 | 9965.7 | .095 | 10156 | .075 | 10978 | | | |
| X1 | 6.026 | 37 | 9965.7 | 10440 | 350 | 445 | 428 | | | |
| GR | 1616.2 | 7542.8 | 1616.0 | 7608.1 | 1615.7 | 7683.5 | 1614.9 | 7755.8 | 1615.2 | 7807.4 |
| GR | 1614.7 | 7865.7 | 1614.1 | 7916.4 | 1614.3 | 7967.4 | 1614.1 | 8024.5 | 1613.9 | 8070.8 |
| GR | 1614.3 | 8132.8 | 1615.2 | 8230.4 | 1613.7 | 8283.7 | 1614.1 | 8351.9 | 1613.9 | 8413.5 |
| GR | 1613.7 | 8492.9 | 1613.7 | 8571.4 | 1613.9 | 8652.7 | 1614.1 | 8745.0 | 1614.2 | 8809.4 |
| GR | 1613.6 | 8879.8 | 1613.8 | 8947.7 | 1614.0 | 9320.0 | 1614.0 | 9628.2 | 1614.6 | 9701.5 |
| GR | 1614.7 | 9789.3 | 1615.2 | 9886.2 | 1615.8 | 9965.7 | 1615.3 | 10000. | 1615.3 | 10070. |
| GR | 1614.7 | 10156. | 1615.3 | 10440. | 1616.0 | 10775. | 1616.1 | 10790. | 1616.8 | 10860. |
| GR | 1617.3 | 10929. | 1617.2 | 10978. | | | | | | |

End Sheet 7/Begin Sheets 8 & 9

Right encroachment at effective flow boundary, flow expansion

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | | | | | 7989 | 10501 | | |
| NH | 5 | .055 | 9228.2 | .06 | 9940.9 | .095 | 10086 | .06 | 10501 | .055 |
| NH | 10986 | | | | | | | | | |
| X1 | 6.067 | 59 | 9911.5 | 10086 | 335 | 210 | 216 | | | |
| GR | 1618.7 | 7988.5 | 1618.5 | 8008.1 | 1618.3 | 8030.5 | 1617.9 | 8102.8 | 1617.7 | 8166.5 |
| GR | 1617.4 | 8231.0 | 1618.2 | 8282.1 | 1617.6 | 8344.2 | 1617.0 | 8403.2 | 1616.6 | 8473.8 |
| GR | 1616.8 | 8534.5 | 1616.6 | 8610.6 | 1616.3 | 8683.2 | 1616.3 | 8759.0 | 1616.6 | 8815.9 |
| GR | 1616.7 | 8881.0 | 1616.7 | 8970.2 | 1615.8 | 9046.8 | 1616.6 | 9111.3 | 1616.1 | 9176.5 |
| GR | 1615.5 | 9228.2 | 1615.2 | 9272.3 | 1614.9 | 9292.9 | 1616.0 | 9307.7 | 1615.3 | 9373.6 |
| GR | 1615.0 | 9432.3 | 1615.0 | 9479.5 | 1615.4 | 9554.5 | 1615.4 | 9629.2 | 1615.3 | 9661.2 |
| GR | 1615.0 | 9717.1 | 1615.2 | 9782.5 | 1615.4 | 9847.7 | 1615.0 | 9883.3 | 1616.4 | 9911.5 |
| GR | 1614.7 | 9940.9 | 1615.0 | 9985.3 | 1611.1 | 10000. | 1615.1 | 10015. | 1615.3 | 10086. |
| GR | 1615.6 | 10147. | 1615.9 | 10193. | 1616.5 | 10256. | 1616.7 | 10308. | 1616.9 | 10339. |
| GR | 1616.4 | 10379. | 1616.0 | 10418. | 1617.1 | 10444. | 1617.1 | 10501. | 1617.3 | 10554. |
| GR | 1617.2 | 10607. | 1617.0 | 10688. | 1616.6 | 10730. | 1615.8 | 10736. | 1617.1 | 10743. |
| GR | 1617.0 | 10798. | 1617.2 | 10869. | 1617.9 | 10930. | 1618.0 | 10986. | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 6 | .055 | 9185.9 | .08 | 9731.5 | .055 | 9925.6 | .08 | 10039.5 | .065 |
| NH | 10338 | .055 | 10615.8 | | | | | | | |
| X1 | 6.135 | 59 | 9984.5 | 10065.4 | 230 | 340 | 359 | | | |
| GR | 1621.8 | 7984.9 | 1620.8 | 8027.6 | 1621.1 | 8103.3 | 1620.3 | 8168.8 | 1620.1 | 8228.5 |
| GR | 1619.6 | 8275.7 | 1619.5 | 8335.1 | 1619.1 | 8384.9 | 1619.0 | 8451.6 | 1618.7 | 8518.8 |
| GR | 1618.2 | 8588.7 | 1618.3 | 8646.9 | 1618.3 | 8708.7 | 1617.9 | 8764.8 | 1618.2 | 8850.1 |
| GR | 1618.2 | 8919.1 | 1618.3 | 8973.2 | 1618.4 | 9018.6 | 1619.2 | 9064.1 | 1617.9 | 9126.7 |
| GR | 1617.9 | 9143.8 | 1617.4 | 9185.9 | 1617.0 | 9264.7 | 1616.9 | 9315.0 | 1616.9 | 9337.2 |
| GR | 1615.0 | 9347.6 | 1617.1 | 9359.6 | 1617.2 | 9391.7 | 1616.8 | 9414.2 | 1616.7 | 9463.0 |
| GR | 1617.4 | 9526.8 | 1617.4 | 9564.2 | 1616.9 | 9614.2 | 1615.7 | 9630.2 | 1617.3 | 9642.6 |
| GR | 1616.8 | 9685.2 | 1615.8 | 9691.7 | 1616.5 | 9701.0 | 1617.0 | 9731.5 | 1617.3 | 9780.0 |
| GR | 1616.9 | 9820.6 | 1617.4 | 9877.7 | 1617.4 | 9925.6 | 1617.5 | 9984.5 | 1612.2 | 10000. |
| GR | 1617.8 | 10012.0 | 1616.5 | 10029.6 | 1612.4 | 10039.5 | 1617.2 | 10065.4 | 1618.3 | 10121. |
| GR | 1617.8 | 10163.2 | 1618.4 | 10216.5 | 1618.7 | 10277.5 | 1618.8 | 10338. | 1619.1 | 10398. |
| GR | 1620.0 | 10464.6 | 1620.4 | 10516.3 | 1620.8 | 10563.0 | 1620.8 | 10615.8 | | |

```
NH       3       .09    8931.3      .055    9464.4      .085     10797
X1   6.223        65    9961.3     10099       420       440       465
GR  1623.7    8348.0    1622.8    8401.1    1622.4    8458.1    1621.7    8484.1    1622.5    8500.7
GR  1621.8    8551.5    1620.7    8601.1    1620.4    8677.4    1620.8    8726.7    1620.8    8775.8
GR  1621.1    8824.8    1621.3    8879.8    1620.8    8931.3    1620.7    8994.3    1620.7    9045.2
GR  1620.4    9091.3    1620.1    9137.2    1620.2    9191.9    1620.4    9241.3    1620.6    9295.7
GR  1620.6    9341.3    1620.5    9368.1    1620.6    9405.8    1620.3    9435.8    1620.5    9452.2
GR  1620.3    9464.4    1620.7    9510.6    1619.6    9562.6    1618.7    9624.2    1619.1    9646.7
GR  1619.2    9686.5    1619.1    9715.9    1619.3    9768.8    1619.4    9814.3    1619.4    9856.4
GR  1619.8    9913.2    1620.3    9961.3    1620.1    9987.2    1616.1    10000.    1620.1    10018.
GR  1618.8    10032.    1618.1    10048.    1616.3    10054.    1619.0    10065.    1620.4    10099.
GR  1619.5    10130.    1618.6    10152.    1619.6    10167.    1617.8    10176.    1620.6    10195.
GR  1621.1    10242.    1621.0    10287.    1616.9    10306.    1620.9    10322.    1617.9    10356.
GR  1621.1    10378.    1620.8    10414.    1620.9    10454.    1621.2    10497.    1621.7    10542.
GR  1622.0    10591.    1621.8    10645.    1622.1    10688.    1622.6    10738.    1623.2    10797.

NH       5      .055    8759.7      .095    9297.4      .055    9591.4       .08    9913.9      .095
NH   10764
X1   6.321        45    9988.2     10014       350       480       517
GR  1626.1    8654.6    1625.2    8695.3    1624.5    8759.7    1623.7    8814.2    1623.4    8871.7
GR  1623.4    8924.1    1623.3    8984.4    1623.3    9029.5    1622.6    9079.9    1622.7    9130.6
GR  1622.5    9190.0    1622.6    9251.6    1622.2    9297.4    1622.0    9343.3    1621.9    9410.6
GR  1622.5    9461.0    1622.4    9517.0    1622.2    9565.0    1622.4    9580.8    1621.8    9591.4
GP  1622.5    9649.7    1622.4    9704.6    1622.2    9788.3    1622.2    9844.0    1622.4    9913.9
G   1622.5    9988.2    1621.4    10000.    1622.9    10014.    1622.7    10060.    1622.8    10090.
GR  1621.2    10098.    1621.9    10106.    1622.7    10146.    1623.4    10187.    1622.2    10232.
GR  1622.0    10272.    1622.4    10321.    1622.3    10363.    1622.9    10403.    1623.3    10444.
GR  1623.7    10508.    1624.8    10577.    1624.2    10632.    1624.1    10709.    1624.5    10764.
```

Right encroachment at effective flow boundary, expansion point

```
ET                7.1                                          9259     10921
NH       3      .055    9764.7      .095   10063.5      .055   10989.1
X1   6.413        48    9964.9    10013.6       490       480       486
GR  1628.3    9259.0    1627.0    9303.7    1625.8    9325.9    1626.0    9355.7    1625.5    9405.0
GR  1625.1    9439.0    1624.7    9453.2    1625.5    9474.6    1625.1    9519.0    1625.3    9546.3
GR  1625.5    9589.9    1625.4    9614.8    1626.0    9635.7    1625.9    9667.2    1625.3    9720.6
GR  1625.1    9764.7    1625.0    9808.9    1625.6    9852.4    1625.5    9895.3    1625.8    9930.3
GR  1625.9    9964.9    1625.8    9989.3    1624.7   10000.0    1626.2   10013.6    1625.3   10063.5
GR  1625.9   10120.2    1626.0   10172.2    1627.0   10223.5    1627.7   10255.8    1628.0   10297.9
GR  1628.2   10336.4    1628.4   10376.4    1627.2   10422.6    1626.4   10431.4    1627.4   10444.5
GR  1627.8   10497.5    1627.7   10542.1    1627.9   10580.9    1628.2   10610.3    1627.9   10653.0
GR  1626.8   10716.5    1627.4   10776.9    1627.4   10837.5    1627.7   10884.2    1627.7   10921.3
GR  1625.9   10936.6    1627.7   10942.5    1628.0   10989.1
```

Right encroachment at effective flow boundary on divide

```
ET                7.1                                                  9849      10909
NH        3      .055      9880      .095   10069.7      .055     11259
X1    6.511        35    9992.9   10193.6       530       310       517
GR   1633.7    9849.0    1631.2    9880.0    1627.8    9929.3    1628.0    9992.9    1625.5   10000.
GR   1627.9   10005.7    1627.1   10069.7    1627.4   10137.2    1628.0   10193.6    1628.3   10249.
GR   1628.6   10307.7    1628.9   10365.9    1629.3   10410.1    1629.1   10446.3    1627.9   10455.
GR   1629.0   10472.7    1629.1   10531.9    1629.5   10581.2    1629.5   10644.7    1628.9   10692.
GR   1628.6   10751.1    1628.3   10814.6    1628.6   10844.5    1629.8   10868.9    1628.9   10885.
GR   1630.6   10909.7    1630.5   10947.5    1628.9   10989.7    1628.4   11023.5    1629.9   11053.
GR   1628.8   11080.6    1629.5   11104.2    1629.0   11150.3    1629.6   11194.0    1630.2   11259.
```

Right end section on effective flow boundary on divide
Stock pond removed, overtopped in base flood

```
NH        3      .055    9963.2      .095     10150      .055     10841
X1    6.603        33    9910.1   10150.0       530       510       486
GR   1637.9    9542.4    1638.9    9562.1    1638.3    9585.7    1634.4    9636.0    1633.4    9677.2
GR   1632.3    9746.3    1631.1    9760.8    1632.0    9774.2    1632.5    9826.0    1631.5    9856.5
GR   1631.3    9910.1    1630.5    9963.2    1630.5    9988.6    1628.9   10000.0    1628.8   10017.1
GR   1630.3   10067.5    1628.6   10084.4    1629.3   10113.8    1632.2   10150.     1631.8   10318.
GR   1632.1   10354.     1632.2   10422.     1632.0   10458.     1632.2   10495.     1632.1   10520.
GR   1632.2   10555.     1632.3   10603.     1633.1   10645.     1634.7   10718.     1635.2   10751.
GR   1635.4   10789.     1635.3   10831.     1635.5   10841.
```

t end section at effective flow boundary on divide

```
NH        2      .055    9954.6      .095   10541.1
X1    6.704        41    9907.3   10119.2       510       330       533
GR   1642.6    9095.5    1641.4    9141.8    1641.1    9172.1    1639.1    9212.1    1638.2    9269.7
GR   1637.8    9332.1    1637.3    9373.3    1637.8    9396.7    1639.5    9425.3    1639.4    9456.2
GR   1638.0    9495.2    1637.2    9520.5    1637.0    9557.9    1636.7    9606.2    1635.2    9636.2
GR   1634.8    9654.9    1635.2    9672.7    1634.0    9685.2    1632.9    9715.4    1632.7    9762.2
GR   1632.5    9819.6    1633.2    9840.4    1634.0    9907.3    1633.0    9922.3    1633.6    9931.7
GR   1633.7    9954.6    1633.8   10000.0    1633.6   10029.0    1632.2   10037.7    1633.6   10047.4
GR   1634.4   10097.2    1631.6   10107.7    1634.6   10119.2    1634.7   10167.5    1634.3   10226.8
GR   1634.3   10276.7    1634.5   10329.3    1634.3   10389.7    1634.7   10439.3    1635.9   10471.0
GR   1637.0   10541.1
```

Realigned section, center station (10000) stays constant
Right encroachment at effective flow boundary on divide

```
QT        2       5350       5350
ET                7.1                                                  8620      10276
NH        3      .055    9486.0      .095     10195      .055     10420
X1    6.801        21      9594     10098       390       450       512
GR   1644.0    8620.0    1642.0    8680.0    1640.0    8790.0    1638.0    9005.0    1637.7    9082.0
GR   1638.0      9145      1636      9260    1635.8      9281      1636      9303      1638      9382
G    638.8      9486     1638.      9594      1636      9748    1635.7      9770      1636      9808
G    635.6     10000      1638     10098    1639.2     10195    1639.6     10276    1638.3     10370
GR     1638     10420
```

[illegible]igned section
Right encroachment at effective flow boundary on divide

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | | | | | 8486 | 10202 | | |
| NH | 3 | .055 | 9350 | .095 | 10101 | .055 | 10382 | | | |
| X1 | 6.897 | 25 | 9954 | 10101 | 400 | 440 | 507 | | | |
| GR | 1644 | 8486 | 1642 | 8521 | 1640 | 8627 | 1639.7 | 8670 | 1639.5 | 8770 |
| GR | 1639.8 | 8850 | 1640 | 8911 | 1640.5 | 8974 | 1641 | 9025 | 1642 | 9080 |
| GR | 1642.2 | 9179 | 1642 | 9220 | 1640 | 9350 | 1639 | 9415 | 1638.6 | 9452 |
| GR | 1639.2 | 9522 | 1639.4 | 9571 | 1640 | 9666 | 1641.2 | 9829 | 1641.7 | 9954 |
| GR | 1641 | 10000 | 1642 | 10101 | 1642 | 10202 | 1641.8 | 10289 | 1641.5 | 10382 |

Realinged portion of section
Right encroachment at effective flow boundary on divide

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | | | | | 8226 | 10156 | | |
| NH | 3 | .055 | 9582 | .095 | 10047 | .055 | 10350 | | | |
| X1 | 6.986 | 28 | 9927.2 | 10047 | 370 | 440 | 470 | | | |
| GR | 1644 | 8226 | 1643.9 | 8415 | 1643.3 | 8555 | 1643.2 | 8650 | 1643. | 8770 |
| GR | 1644 | 8878 | 1644.7 | 9005 | 1644 | 9110 | 1642.6 | 9208 | 1642.8 | 9285 |
| GR | 1642.5 | 9405 | 1643.0 | 9477 | 1643.8 | 9582 | 1643.1 | 9609.7 | 1644.2 | 9719.6 |
| GR | 1644.8 | 9773.5 | 1644.7 | 9852.2 | 1644.8 | 9927.2 | 1644.1 | 9991.4 | 1642.7 | 10000.0 |
| GR | 1644.4 | 10011. | 1645.0 | 10047. | 1644.4 | 10088. | 1644.6 | 10106. | 1645.0 | 10156. |
| G[illegible] | [illegible]644.8 | 10217. | 1644.7 | 10290.0 | 1644.4 | 10350. | | | | |

Realigned portion of section
Right encroachment at effective flow boundary on divide, expansion

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | | | | | 7900 | 10114.1 | | |
| NH | 6 | .055 | 9088 | .095 | 9222 | .055 | 9690 | .095 | 10013 | .055 |
| NH | 10475 | .072 | 10732 | | | | | | | |
| X1 | 7.077 | 38 | 9925.6 | 10114.1 | 480 | 460 | 480 | | | |
| GR | 1648 | 7900 | 1647.7 | 8050 | 1647.1 | 8317 | 1647.1 | 8469 | 1646.4 | 8512 |
| GR | 1646 | 8616 | 1645.8 | 8702 | 1646 | 8760 | 1646.3 | 8901 | 1646 | 9088 |
| GR | 1645.8 | 9172 | 1646 | 9222 | 1646.5 | 9310 | 1646.7 | 9479.7 | 1646.7 | 9538.1 |
| GR | 1647.0 | 9610.3 | 1647.2 | 9648.2 | 1647.6 | 9690.0 | 1647.4 | 9742.6 | 1647.6 | 9796.5 |
| GR | 1646.6 | 9802.6 | 1647.7 | 9810.3 | 1647.7 | 9878.4 | 1648.1 | 9925.6 | 1647.9 | 9990.2 |
| GR | 1647.0 | 10000. | 1647.5 | 10013. | 1648.1 | 10057. | 1648.2 | 10114.1 | 1648.0 | 10171.2 |
| GR | 1647.7 | 10206. | 1647.6 | 10261. | 1647.4 | 10344. | 1646.9 | 10420.4 | 1647.4 | 10435.7 |
| GR | 1647.5 | 10475. | 1648 | 10700 | 1648.3 | 10732 | | | | |

Begin Kenney 2nd Part (North 1/2)
Left encroachment at effective flow boundary on divide

```
ET              7.1                                          8166     10717
NH      5      .055     9421.3      .08     9562.4      .055     9930      .095    10227.2      .055
NH  10717
X1  7.167        59      9930  10011.8       630       460      475
GR  1654.0    7186.1    1654.0   7328.4    1654.9    7379.3   1654.6    7407.7    1653.7    7448.6
GR  1653.2    7508.6    1653.1   7574.4    1651.8    7680.3   1650.2    7687.8    1651.6    7695.7
GR  1651.5    7787.8    1652.3   7823.3    1652.4    7850.0   1651.6    7902.2    1651.1    7984.6
GR  1651.0    8110.1    1652.3   8141.0    1653.0    8166.5   1652.3    8214.3    1652.2    8237.5
GR  1652.2    8311.3    1651.1   8500.9    1651.1    8611.9   1650.8    8675.2    1650.8    8705.7
GR  1650.8    8819.8    1650.6   9023.1    1650.4    9170.8   1651.6    9212.1    1651.6    9229.4
GR  1650.8    9242.9    1651.0   9368.0    1650.8    9421.3   1649.6    9430.3    1650.8    9441.8
GR  1650.8    9475.5    1651.1   9562.4    1651.1    9690.0   1650.9    9744.6    1650.2    9753.0
GR  1650.7    9761.6    1651.2   9850.4    1650.1    9854.5   1651.0    9864.4    1651.4    9930.0
GR  1650.0    9937.5    1651.3   9950.2    1651.0    9991.7   1649.7   10000.0    1651.4   10011.8
GR  1651.5   10227.2    1650.6  10437.3    1650.3   10498.3   1647.9   10505.5    1649.5   10518.8
GR  1649.9   10554.5    1649.9  10604.5    1652.8   10661.3   1653.2   10717.
```

End Sheets 8 & 9/Begin Sheets 10 & 11

```
NH      4      .055      9290.      .08     9336.8      .095  10177.2      .055     10507
X1  7.264        56     9714.5  10177.2       490       480      512
GR  1656.9    7752.1    1655.7   7799.2    1655.3    7844.4   1656.1    7864.3    1656.3    7979.7
GR  1655.8    8056.9    1655.8   8083.9    1656.6    8119.9   1656.2    8152.2    1655.3    8180.7
GR  1654.4    8258.6    1653.6   8378.2    1653.4    8444.1   1654.1    8548.8    1653.8    8638.0
GR  1653.8    8801.2    1653.6   8985.9    1654.2    9056.7   1654.5    9138.6    1654.1    9178.5
GR  1654.3    9222.1    1654.3   9290.0    1653.6    9297.2   1654.2    9315.0    1652.9    9326.9
GR  1654.3    9336.8    1654.1   9374.2    1653.6    9382.6   1654.8    9412.8    1654.9    9471.4
GR  1654.4    9520.7    1654.2   9569.7    1654.9    9601.9   1654.8    9629.5    1653.2    9639.7
GR  1654.8    9648.7    1654.5   9714.5    1652.2    9728.5   1654.2    9742.2    1654.2    9768.0
GR  1652.7    9774.4    1654.2   9784.0    1654.4    9863.7   1654.3    9944.0    1653.2    9951.5
GR  1654.2    9961.0    1654.2   9994.0    1652.2   10000.0   1654.2   10009.7    1654.5   10177.2
GR  1653.7   10237.0    1652.9  10245.0    1653.7   10255.3   1654.5   10369.2    1656.2   10436.8
GR  1656.9   10507.
```

Left encroachment at effective flow boundary on divide, expansion point

```
ET              7.1                                          8528     10637
NH      3      .055     9562.5      .095    10019       .055 10637.7
X1  7.352        65     9578.3  10154.9       420       480      465
GR  1658.9    7374.8    1660.1   7426.4    1659.3    7520.2   1660.1    7551.8    1660.1    7581.6
GR  1658.7    7619.6    1657.9   7692.7    1658.0    7888.2   1659.1    7930.0    1659.3    7962.1
GR  1658.2    8071.8    1657.3   8127.4    1656.5    8342.4   1656.7    8476.3    1656.4    8495.2
GR  1657.3    8528.4    1656.8   8711.0    1656.6    8824.2   1656.9    8871.4    1656.8    8936.5
GR  1657.2    8967.4    1656.8   9056.4    1658.2    9092.1   1658.5    9132.1    1657.4    9156.0
GR  1656.7    9275.7    1654.4   9289.3    1657.2    9303.8   1657.2    9396.8    1655.1    9402.4
GR  1657.0    9411.9    1657.1   9451.5    1656.5    9466.0   1657.4    9487.6    1657.1    9562.5
GR  1655.5    9571.0    1657.4   9578.3    1657.2    9603.1   1654.5    9611.8    1656.7    9629.8
GR  1657.3    9670.2    1657.7   9707.5    1657.0    9717.1   1657.9    9754.3    1656.5    9765.5
GR  1657.6    9776.8    1657.2   9838.4    1657.3    9860.4   1655.8    9870.4    1657.3    9889.9
GR  1656.5    9910.0    1657.8   9923.4    1657.3    9992.3   1655.3   10000.0    1657.2   10019.0
GR  1657.2   10086.5    1657.6  10154.9    1657.3   10236.5   1656.3   10342.8    1656.4   10415.9
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| G | 656.7 | 10441.8 | 1658.5 | 10487.3 | 1659.3 | 10528.5 | 1660.0 | 10580.6 | 1660.0 | 10637.7 |

RIGHT AND LEFT ENCROACHMENTS AT EFFECTIVE FLOW BOUNDARIES ON DIVIDES AT EXPANSION POINTS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | | | | | 9157 | 10348 | | |
| NC | .055 | .055 | .085 | | | | | | | |
| X1 | 7.438 | 59 | 9524.7 | 10010 | 420 | 450 | 454 | | | |
| GR | 1663.1 | 8056.9 | 1661.3 | 8112.7 | 1660.1 | 8178.7 | 1659.5 | 8333.9 | 1657.7 | 8344.5 |
| GR | 1659.2 | 8350.6 | 1659.2 | 8379.7 | 1657.8 | 8385.3 | 1659.5 | 8397.8 | 1659.6 | 8453.2 |
| GR | 1660.3 | 8642.4 | 1660.0 | 8807.4 | 1659.5 | 8906.2 | 1660.2 | 8974.3 | 1661.0 | 9011.3 |
| GR | 1660.7 | 9027.6 | 1660.1 | 9119.5 | 1660.9 | 9157.5 | 1660.7 | 9177.8 | 1659.6 | 9218.3 |
| GR | 1659.4 | 9298.3 | 1659.3 | 9455.6 | 1658.9 | 9467.3 | 1659.5 | 9524.7 | 1658.2 | 9528.4 |
| GR | 1660.0 | 9541.3 | 1658.2 | 9556.5 | 1660.0 | 9582.5 | 1659.9 | 9591.2 | 1657.8 | 9598.8 |
| GR | 1659.5 | 9614.5 | 1656.8 | 9630.1 | 1659.3 | 9652.6 | 1659.7 | 9723.9 | 1657.8 | 9734.3 |
| GR | 1659.7 | 9748.0 | 1660.0 | 9829.8 | 1658.7 | 9848.3 | 1660.1 | 9866.4 | 1660.0 | 9926.6 |
| GR | 1658.7 | 9935.9 | 1660.2 | 9947.9 | 1660.1 | 9991.2 | 1658.1 | 10000. | 1660.2 | 10010. |
| GR | 1660.2 | 10099. | 1659.4 | 10118. | 1660.0 | 10132. | 1660.0 | 10182. | 1659.3 | 10262. |
| GR | 1659.7 | 10287. | 1660.3 | 10348. | 1659.8 | 10449. | 1659.7 | 10511. | 1660.6 | 10665. |
| GR | 1661.1 | 10710. | 1662.2 | 10748. | 1662.7 | 10786. | 1663.9 | 10902. | | |

RIGHT ENCROACHMENT AT EFFECTIVE FLOW BOUNDARY ON DIVIDE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | | | | | 9401 | 10164.8 | | |
| NH | 3 | .055 | 9586.8 | .085 | 10097.4 | .055 | 11006.5 | | | |
| X1 | 7.533 | 44 | 9586.8 | 10029.2 | 410 | 490 | 502 | | | |
| GR | 1665.5 | 9400.2 | 1663.9 | 9422.0 | 1662.9 | 9459.7 | 1662.0 | 9474.8 | 1662.0 | 9512.9 |
| GR | 1659.7 | 9521.5 | 1661.6 | 9531.7 | 1662.4 | 9548.4 | 1662.4 | 9586.8 | 1659.6 | 9597.0 |
| GR | 1662.3 | 9611.4 | 1660.8 | 9627.5 | 1662.1 | 9634.4 | 1662.2 | 9657.0 | 1661.6 | 9664.3 |
| GR | 1662.4 | 9679.5 | 1662.3 | 9710.2 | 1661.6 | 9717.1 | 1662.8 | 9731.0 | 1662.0 | 9747.8 |
| GR | 1662.8 | 9762.0 | 1663.1 | 9806.9 | 1662.7 | 9924.4 | 1660.9 | 9931.6 | 1662.4 | 9941.3 |
| GR | 1662.5 | 9979.0 | 1661.1 | 10000.0 | 1662.6 | 10029.2 | 1662.6 | 10064.8 | 1664.0 | 10097.4 |
| GR | 1665.7 | 10124.2 | 1666.2 | 10164.8 | 1665.2 | 10304.5 | 1664.8 | 10364.7 | 1664.8 | 10416.0 |
| GR | 1664.6 | 10482.3 | 1664.8 | 10548.7 | 1665.4 | 10601.5 | 1665.9 | 10663.9 | 1666.0 | 10733.1 |
| GR | 1665.4 | 10802.3 | 1665.4 | 10898.4 | 1665.8 | 10969.3 | 1665.9 | 11006.5 | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | | | | | 9700.3 | 10508. | | |
| NH | 3 | .055 | 9824.7 | .082 | 10256 | .055 | 10508 | | | |
| X1 | 7.624 | 44 | 9824.7 | 10017.8 | 510 | 390 | 480 | | | |
| GR | 1670.7 | 9068.0 | 1670.6 | 9113.3 | 1668.4 | 9178.3 | 1668.2 | 9226.3 | 1667.7 | 9275.1 |
| GR | 1668.3 | 9307.7 | 1669.4 | 9333.0 | 1669.1 | 9354.2 | 1667.7 | 9376.7 | 1667.2 | 9431.0 |
| GR | 1666.2 | 9467.9 | 1665.8 | 9521.1 | 1666.0 | 9560.5 | 1667.3 | 9591.4 | 1665.0 | 9621.3 |
| GR | 1664.7 | 9680.4 | 1665.6 | 9700.3 | 1664.3 | 9718.3 | 1664.1 | 9766.2 | 1665.9 | 9790.0 |
| GR | 1666.1 | 9824.7 | 1662.9 | 9861.9 | 1662.9 | 9869.8 | 1665.2 | 9879.7 | 1664.7 | 9894.7 |
| GR | 1665.7 | 9914.2 | 1666.0 | 9981.7 | 1664.6 | 9990.2 | 1664.6 | 10000. | 1664.7 | 10009. |
| GR | 1665.9 | 10017.8 | 1665.9 | 10065. | 1665.6 | 10140. | 1664.9 | 10179. | 1665.5 | 10199. |
| GR | 1665.4 | 10237.3 | 1663.7 | 10244. | 1665.0 | 10256. | 1665.6 | 10299. | 1667.4 | 10345. |
| GR | 1668.2 | 10374.7 | 1668.8 | 10422. | 1669.6 | 10468. | 1669.8 | 10508. | | |

```
QT       2      5360      5360

 Begin scaling Q's between XN 7.709 (Q100=5360) and XN 9.289 (Q100=4915) using
   ratio of distance
 left encroachment at effective flow boundary on divide

ET              7.1                                          9755.     10571
NC     .055     .055      .082
X1    7.709       41    9827.0     10257       470       410       449
GR   1671.0   9114.5    1670.9    9199.0    1670.3    9291.5    1669.3    9306.1    1669.7    9325.9
GR   1670.2   9369.3    1670.8    9417.2    1670.5    9432.1    1669.1    9469.2    1668.8    9525.1
GR   1668.5   9601.1    1668.7    9647.9    1669.0    9696.8    1672.2    9736.2    1672.9    9755.0
GR   1672.6   9771.6    1670.9    9791.2    1667.1    9827.0    1664.3    9837.6    1667.8    9848.7
GR   1667.4   9866.7    1667.8    9921.4    1667.8    9983.7    1666.2   10000.0    1666.2   10006.
GR   1668.4   10015.    1668.1    10085.    1668.1   10146.0    1666.3   10159.1    1667.6   10174.
GR   1666.6   10180.    1667.7    10189.    1667.5   10244.0    1666.0   10249.4    1667.7   10257.
GR   1668.0   10299.    1668.5    10340.    1670.1   10381.1    1671.5   10477.7    1671.5   10522.
GR   1671.8   10571.

 Left encroachment at effective flow boundary on divide

QT       2      5334      5334
ET              7.1                                          9595.     10458
NH       3      .055      9796      .082   10209.1      .055   10458.2
X1    7.800       32    9781.3   10125.3       505       460       480
GR   1678.0   9392.3    1671.5    9448.8    1670.8    9553.9    1671.7    9577.1    1672.9    9595.8
GR   1672.6   9613.9    1670.7    9639.6    1670.3    9679.0    1670.1    9736.4    1670.5    9751.7
GR   1670.8   9781.3    1670.5     9796.    1668.9    9802.8    1671.0    9809.1    1671.1    9852.2
GR   1668.3   9860.3    1671.1    9871.5    1671.0    9942.9    1669.2    9949.6    1671.1    9958.2
GR   1671.1   9991.1    1669.2   10000.0    1671.0   10012.0    1671.3    10034.    1671.4    10098.
GR   1669.5   10117.2   1671.7   10125.3    1671.5   10209.1    1671.6    10338.    1672.4    10367.
GR   1674.2   10408.6   1674.8   10458.2


QT       2      5307      5307
NH       4      .055      9563.8     .08    9887.1      .085     10078      .055     10194
X1    7.896       35    9887.1    10078       460       455       507
GR   1679.8   9164.0    1678.2    9207.3    1677.1    9256.8    1675.1    9301.9    1675.9    9336.3
GR   1674.9   9374.0    1673.6    9411.1    1673.2    9458.4    1673.0    9519.3    1672.5    9563.8
GR   1669.9   9572.0    1672.3    9584.6    1670.4    9603.7    1673.1    9623.3    1673.5    9666.7
GR   1673.5   9721.4    1674.0    9808.9    1673.1    9814.9    1674.0    9821.3    1674.8    9887.1
GR   1673.4   9893.6    1674.2    9899.7    1674.4    9954.2    1673.4    9961.8    1674.4    9973.7
GR   1674.4   9989.1    1673.3    10000.    1673.3    10009.    1674.7    10020.    1674.4    10052.
GR   1672.6   10064.7   1674.3    10078.    1676.9    10119.    1678.3    10163.    1679.2    10194.

 End Reach 3/Begin Reach 4
 Left effective flow boundary on expansion line
```

```
QT        2      5279      5279
ET               7.1                                          9371.5     10470.
NH        3      .055     9923.3      .085    10122.2       .055     10470.
X1    7.995        50     9923.3   10025.6       490        500       523
GR   1684.3    8771.1    1677.7    8836.7    1677.0    8878.2    1676.8    8943.4    1676.8    9032.6
GR   1676.1    9077.3    1672.9    9090.9    1675.2    9102.1    1675.5    9130.4    1673.3    9153.7
GR   1674.5    9170.9    1673.3    9185.8    1674.9    9196.9    1675.6    9222.5    1675.2    9267.2
GR   1671.6    9289.9    1675.1    9304.9    1676.1    9338.0    1676.3    9371.5    1676.3    9445.8
GR   1676.5    9504.5    1676.7    9535.6    1676.2    9719.9    1676.7    9735.3    1675.3    9765.6
GR   1676.0    9771.9    1677.0    9826.6    1675.7    9835.2    1677.0    9846.3    1676.9    9886.5
GR   1677.4    9923.3    1677.5    9979.5    1676.1    9991.3    1676.1   10000.0    1676.0   10012.0
GR   1677.8   10025.6    1677.9   10059.7    1677.7   10101.7    1676.3   10122.2    1677.1   10134.4
GR   1679.1   10187.1    1678.3   10221.8    1679.1   10241.0    1678.4   10279.6    1679.1   10302.4
GR   1680.4   10331.3    1681.8   10374.3    1682.4   10407.0    1682.8   10437.3    1682.7   10470.


QT        2      5253      5253
```

Left encroachment at effective flow boundary, expansion point

```
ET               7.1                                           9565      10235
NH        5      .055      9910      .075     10000       .038     10045      .080     10102       .055
NH    10235
X1    8.088        22      9729     10069       500        500       491
GR   1688.0      8075    1686.0      8130    1684.0      8279    1682.0      8403    1681.4      8470
GR   1682.0      8535    1680.0      8580    1680.4      8756    1680.0      9035    1679.8      9050
GR   1680.0      9085    1680.0      9148    1680.7      9565    1680.0      9729    1678.0      9910
GR   1677.6     10000    1678.0     10045    1679.8     10069    1678.2     10102    1680.0     10157
GR   1684.0     10172    1686.2     10235
```

End Sheet 10 & Begin Sheet 12 & 13

```
QT        2      5227      5227
```

left encroachment at effective flow boundary, flow expansion point

```
ET               7.1                                          9565.3      10218
NH        5      .055     9876.3      .085     9978.8       .038    10011.0      .080    10140.4       .055
NH    10218
X1    8.182        23     9944.7   10025.5       420        510       496
GR   1685.0    9320.7    1684.4    9565.3    1683.7    9661.4    1683.8    9721.7    1683.2    9780.8
GR   1682.4    9812.0    1682.2    9846.1    1686.1    9876.3    1685.9    9897.6    1684.3    9924.6
GR   1681.2    9944.7    1680.7    9978.8    1680.0    9990.8    1680.2   10000.     1680.0   10011.
GR   1682.1   10025.5    1682.0   10049.     1680.0   10060.     1681.9   10073.     1684.7   10100.
GR   1686.9   10140.4    1687.7   10168.     1688.1   10218.
```

Right and Left encroachments at effective flow boundary on divide, tributary

```
QT        2      5201      5201
ET               7.1                                           9720      10150
NH        5      .055     9887.3      .105     9989.0       .038    10015.2      .105    10121.8       .055
NH    10580
```

```
X  8.273      39    9979.6   10024.3     460     490     480
GR 1690.9   9019.1  1689.4    9061.4  1689.7  9129.8  1689.4  9253.0  1688.6  9414.8
GR 1688.0   9553.7  1687.6    9607.7  1688.4  9633.0  1688.3  9654.2  1687.1  9671.8
GR 1687.0   9695.3  1687.6    9719.5  1687.0  9739.8  1685.2  9769.8  1684.6  9816.4
GR 1684.2   9887.3  1684.3    9930.8  1684.8  9948.9  1684.8  9979.6  1682.7  9989.0
GR 1682.7  10000.0  1682.5   10015.2  1684.2 10024.3  1684.2 10060.6  1686.0 10088.5
GR 1687.1  10121.8  1687.3   10150.   1686.2 10191.5  1685.9 10249.2  1686.7 10265.8
GR 1686.4  10286.0  1685.3   10307.5  1685.3 10351.5  1687.9 10372.2  1689.2 10395.6
GR 1689.9  10427.7  1691.9   10477.9  1692.8 10511.4  1693.9 10580.


QT     2    5172    5172
  Right encroachment at effective flow boundary on divide near trib confluence
ET          7.1                                     9552   10160
NH     5    .055    9911.2    .105  9991.5    .038 10015.9    .105 10155.4    .055
NH 10537
X1 8.374      29    9979.7   10027     510     540     533
GR 1695.1   9551.5  1693.8    9560.1  1695.5  9575.9  1696.4  9601.9  1695.8  9640.8
GR 1694.1   9667.0  1693.3    9723.0  1692.1  9744.3  1693.6  9771.0  1693.1  9797.1
GR 1690.3   9848.5  1687.8    9879.0  1687.2  9911.2  1686.9  9979.7  1685.1  9991.5
GR 1685.1  10015.9  1687.3   10027.0  1687.1 10060.9  1687.2 10097.9  1684.0  10105.
GR 1686.8  10116.7  1686.4   10126.0  1690.6 10155.4  1690.6 10196.7  1690.7   10301
GR 1690.6  10321.2  1690.7    10421  1691.2   10459  1694.0   10537


QT     2    5147    5147
  [illegible]t effective flow boundary encroachment near tributary confluence
ET          7.1                                     9462   10193.6
NH     5    .055    9898.6    .105  9966.5    .038 10027.4    .085 10157.5    .055
NH 10497
X1 8.465      31    9966.5   10054.3     425     560     480
GR 1696.7   9428.4  1697.1    9462.4  1697.8  9485.3  1697.9  9520.4  1698.5  9557.8
GR 1698.6   9591.9  1697.5    9604.8  1697.5  9640.3  1696.6  9685.7  1692.7  9717.1
GR 1692.4   9759.5  1693.6    9781.7  1694.3  9809.3  1694.2  9823.5  1694.8  9853.2
GR 1695.8   9872.2  1695.5    9898.6  1689.1  9925.7  1689.1  9966.5  1688.2  9981.1
GR 1688.2  10013.2  1689.9   10027.4  1690.2 10054.3  1690.2 10111.1  1689.6 10121.8
GR 1690.2  10135.6  1693.2   10157.5  1693.6 10193.6  1692.6 10240.9  1693.8   10474
GR 1694.1   10497


QT     2    5120    5120
NH     5    .055    9811.9    .105 10000.    .038 10039.7    .105 10115.0    .055
NH 10553.
X1 8.560      17    9977.9   10039.7     500     420     502
GR 1698.9   9411.7  1700.7    9460.7  1700.6  9490.4  1699.3  9531.8  1695.9  9549.8
GR 1698.7   9586.3  1692.6    9628.0  1693.8  9681.5  1691.0  9811.9  1691.8  9977.9
GR 1688.9  10000.0  1690.9   10039.7  1691.1 10086.0  1698.1 10115.0  1697.6 10226.4
GR 1698.5  10472.5  1698.8    10553
```

```
QT       2      5094      5094
NH       5      .055    9913.8      .105    10000.      .038   10041.1      .105   10199.3      .055
NH   10585
X1   8.654        17    9954.7   10041.1       500       480       496
GR  1705.2    9287.8    1704.9    9349.5    1703.6    9414.8    1698.6    9484.7    1695.8    9641.3
GR  1696.0    9658.3    1694.9    9719.6    1693.9    9913.8    1692.9    9932.6    1695.2    9954.7
GR  1692.2     10000    1694.0   10041.1    1694.9   10128.2    1701.6   10199.3    1701.0     10393
GR  1701.8   10496.7    1704.4     10585


QT       2      5070      5070
ET              7.1                                   9642.1     10632.
NH       5      .055    9860.3      .105    9966.5      .038   10032.4      .105   10088.3      .055
NH   10632
X1   8.740        22    9860.3   10032.4       480       410       454
GR  1705.4    9051.0    1702.5    9107.9    1700.8    9113.5    1702.6    9119.3    1702.0    9167.2
GR  1700.3    9173.0    1702.3    9179.0    1700.9    9365.1    1703.5    9408.0    1699.7    9556.5
GR  1702.3    9642.1    1700.1    9779.3    1696.8    9860.3    1695.5    9966.5    1693.0   10000.0
GR  1696.9   10032.4    1697.5   10088.3    1704.4   10136.5    1707.4   10177.9    1703.6   10389.8
GR  1707.1   10556.1    1706.4     10632.


QT       2      5040      5040
NH       4      .055    9767.2      .095    9972.5      .045   10025.4      .080   10101.8
X1   8.844         8    9972.5   10025.4       500       530       549
GR  [illegible]710.1    9399.0    1703.9    9489.8    1705.2    9678.2    1700.6    9767.2    1700.3    9972.5
GR  [illegible]95.9    10000.0    1700.4   10025.4    1709.0   10101.8


QT       2      5013      5013
ET              7.1                                   9728.8     10473
NH       5      .055    9901.0      .105    9980.0      .045     10026      .105     10086      .055
NH   10473
X1   8.940        20    9980.0     10026       480       500       507
GR  1713.4    9128.8    1713.4    9175.8    1706.5    9355.3    1707.1    9373.8    1708.4    9483.8
GR  1706.3    9632.6    1706.4    9691.5    1707.3    9728.8    1704.7    9834.4    1702.3    9901.0
GR  1702.8    9980.0    1699.1    10000.    1703.1    10026.    1705.8    10086.    1711.3    10148.
GR  1710.6   10179.8    1708.1    10213.    1710.5    10247.    1709.9    10324.    1711.3    10473.
```

Discharge downstream unaffected by split flows, controlled by tributary inflow
Right end of section 9.032 represents effective flow boundary at tributary
confluence

```
QT       2      4987      4987
ET              7.1                                   9664.5     10164
NH       4      .055    9860.3      .105    9973.4      .055   10031.3      .105   10164.0
X1   9.032        18    9931.5   10031.3       300       600       486
GR  1715.0    9058.7    1713.0    9148.3    1710.9    9157.7    1712.5    9194.9    1712.6    9239.7
GR  1710.7    9294.6    1711.1    9338.0    1707.9    9402.0    1707.2    9515.5    1706.7    9626.6
GR  1707.3    9664.5    1706.6    9744.9    1705.7    9860.3    1706.4    9931.5    1704.1    9973.4
GR  1701.6   10000.0    1706.2   10031.3    1706.3   10164.0
```

Right end of section 9.119 represents effective flow boundary near tributary

luence to west (4:1 flow expansion)

```
QT        2      4962      4962
ET               7.1                                          9842.7     10274
NH        5      .055     9842.7      .085     9986.5      .054     10030      .085    10111.2      .055
NH    10274
X1    9.119        13     9986.5     10030       450       320       459
GR   1717.4    9453.1     1714.1    9574.5    1712.6    9656.6    1712.8    9679.5    1709.6    9722.5
GR   1711.8    9776.8     1711.5    9842.7    1707.3    9986.5    1703.7    10000.    1709.1    10030.
GR   1712.0   10111.2     1707.9   10180.5    1711.1    10274.


QT        2      4940      4940
ET               7.1                                          9850.8     10188
NH        5      .055     9915.3      .085     9983.7      .045     10048      .080     10082      .055
NH    10188
X1    9.202        15     9965.2   10063.6       400       475       438
GR   1718.7    9389.8     1718.2    9587.4    1716.9    9631.3    1715.6    9653.8    1714.0    9726.3
GR   1713.4    9802.5     1718.0    9850.8    1716.1    9915.3    1712.9    9965.2    1706.6    9983.7
GR   1706.7   10000.0     1709.5   10048.0    1712.9   10063.6    1716.9   10082.0    1718.2    10188.
```

End Sheet 12 & 13/Begin Sheet 14 & 15
Discharge = 4915 cfs per Wittmann ADMS.

```
QT        2      4915      4915
NH        5      .055     9925.6      .095     9974.6      .045     10024      .095     10071      .055
NH    10328
X1    9.289        14     9974.6     10024       510       450       459
GR   1722.0    9582.5     1722.3    9712.5    1718.4    9759.7    1720.3    9790.7    1716.8    9826.1
GR   1716.3    9925.6     1716.0    9974.6    1709.9   10000.0    1715.3    10024.    1716.1    10071.
GR   1721.2   10110.8     1723.2   10180.2    1724.5   10240.1    1723.7    10328.
```

Discharge decreases to 669 cfs (2,371 cfs minus upstream split flow) upstream of tributary confluence

```
QT        2       669       669
```

Right end of cross section at effective flow boundary near tributrary confluence

```
NH        4      .055     9944.0      .072     9981.6      .045     10045      .065     10088
X1    9.387        13     9981.6     10045       510       500       517
GR   1726.1    9478.6     1723.7    9566.8    1726.1    9589.6    1724.4    9616.1    1719.8    9704.9
GR   1720.3    9832.3     1719.7    9944.0    1714.7    9953.7    1718.7    9965.0    1718.7    9981.6
GR   1713.8   10000.0     1719.6    10045.    1722.1    10088.


NC      .065      .075      .045
X1    9.480        12     9937.6     10020       490       490       491
GR   1727.5    9566.8     1727.9    9721.4    1727.3    9844.0    1724.6    9905.8    1719.6    9920.4
GR   1722.8    9937.6     1719.3    9953.5    1718.6    10000.    1720.7    10020.    1722.1    10047.
GR   1722.1    10083.     1725.7    10121.
```

```
NC                .065      .038
X1    9.588         20    9944.9     10018        50       540       570
GR   1734.5     9653.0    1732.2    9705.7    1730.6    9750.7    1728.8    9773.6    1728.2    9944.9
GR   1724.2     9957.2    1722.7   10000.     1728.6   10018.     1728.1   10030.     1725.1   10036.
GR   1727.7    10043.     1727.7   10054.     1723.5   10059.     1728.9   10066.     1727.7   10108.
GR   1725.7    10121.     1728.4   10132.     1730.1   10211.     1728.5   10336.     1730.9   10434.


NC                          .054
X1    9.677         14    9964.1     10021       450       470       470
GR   1736.4     9682.9    1736.0    9756.3    1736.5    9831.5    1732.9    9949.3    1729.2    9964.1
GR   1727.3    10000.0    1729.3   10021.     1730.1   10059.     1732.8   10069.     1732.8   10236.
GR   1733.3    10407.4    1733.6   10417.     1733.7   10509.     1734.4   10566.


NC                          .045
X1    9.770         14    9978.3     10038       480       490       491
GR   1745.6     9711.8    1738.2    9789.1    1737.8    9978.3    1733.1    9994.1    1731.9   10000.
GR   1735.3    10038.     1733.4   10093.     1733.8   10152.     1735.8   10185.     1733.6   10194.
GR   1737.2    10201.     1736.4   10388.     1738.2   10923.     1739.4   10973.

  End Subreach 4/Begin Subreach 5

NH        4      .105    9741.5      .055    9894.8      .040     10091      .055     10327
X1    9.865         13    9894.8     10091       490       470       502
GR   1747.6     9710.9    1742.8    9741.5    1742.5    9894.8    1740.3    9912.6    1740.3    9951.2
GR   1738.4    10000.0    1739.4   10036.8    1742.9   10091.     1742.8   10155.     1744.0   10209.
GR   1741.2    10232.3    1743.6   10246.0    1745.4   10327.


NH        5      .055    9463.8      .072    9622.2      .065    9895.7      .052     10039      .065
NH    10409
X1    9.963         19    9895.7     10039       465       480       517
GR   1748.4     9311.3    1746.0    9463.8    1742.4    9467.4    1746.2    9486.9    1747.6    9515.3
GR   1746.5     9605.6    1744.3    9609.4    1746.3    9622.2    1747.2    9769.2    1746.8    9895.7
GR   1744.5     9910.1    1742.9   10000.0    1747.7   10039.     1747.8   10125.     1749.9   10183.
GR   1750.4    10289.2    1748.8   10305.4    1750.3   10371.     1751.9   10409.


NH        7      .055    9513.4      .095    9882.8      .055    9989.0      .045   10066.4      .055
NH    10256      .038   10306.2      .055     10585
X1   10.054         25    9989.0   10066.4       370       380       480
GR   1754.1     9244.1    1751.3    9352.5    1751.7    9464.4    1750.7    9513.4    1751.7    9535.1
GR   1751.5     9567.3    1749.9    9594.7    1749.8    9626.6    1747.3    9640.4    1747.4    9653.7
GR   1749.9     9670.5    1750.3    9882.8    1750.9    9946.0    1749.4    9957.5    1750.9    9970.2
GR   1750.9     9989.0    1746.9   10000.0    1748.2   10050.7    1750.8   10066.4    1751.1   10256.
GR   1748.0    10271.4    1748.0   10290.7    1752.1   10306.2    1753.8   10325.7    1753.5   10585.
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 3 | .105 | 9966.2 | .045 | 10075 | .055 | 10730.5 | | | |
| X1 | 10.139 | 17 | 9966.2 | 10018.7 | 450 | 415 | 449 | | | |
| GR | 1757.3 | 9543.2 | 1756.9 | 9574.7 | 1754.1 | 9609.6 | 1754.4 | 9966.2 | 1751.2 | 10000. |
| GR | 1754.8 | 10018.7 | 1754.8 | 10042.6 | 1750.5 | 10061. | 1754.0 | 10075. | 1756.4 | 10148. |
| GR | 1754.2 | 10170.5 | 1757.6 | 10199.5 | 1756.3 | 10336. | 1757.3 | 10386. | 1756.2 | 10480. |
| GR | 1756.8 | 10547.5 | 1754.8 | 10730.5 | | | | | | |

End Sheets 14 & 15/Begin Sheets 16 & 17

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 5 | .055 | 9579.7 | .072 | 9665.5 | .055 | 9988.7 | .045 | 10109 | .055 |
| NH | 10182 | | | | | | | | | |
| X1 | 10.232 | 17 | 9988.7 | 10109 | 450 | 480 | 491 | | | |
| GR | 1761.8 | 8701.1 | 1760.8 | 8774.0 | 1759.4 | 9268.0 | 1760.1 | 9379.9 | 1759.4 | 9428.6 |
| GR | 1759.1 | 9579.7 | 1759.8 | 9621.6 | 1758.9 | 9646.0 | 1759.2 | 9665.5 | 1758.7 | 9815.0 |
| GR | 1758.8 | 9988.7 | 1753.9 | 10000. | 1758.8 | 10016. | 1758.3 | 10092. | 1756.1 | 10102. |
| GR | 1758.6 | 10109. | 1760.8 | 10182. | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 3 | .055 | 9707.1 | .06 | 10115.4 | .055 | 10515.9 | | | |
| X1 | 10.320 | 25 | 9933.4 | 10012.6 | 450 | 490 | 465 | | | |
| GR | 1765.9 | 8703.8 | 1764.9 | 8848.8 | 1764.9 | 8986.6 | 1764.6 | 9113.6 | 1764.7 | 9319.4 |
| GR | 1763.7 | 9523.7 | 1763.0 | 9674.5 | 1760.2 | 9690.4 | 1763.4 | 9707.1 | 1763.3 | 9861.8 |
| GR | 1761.1 | 9892.3 | 1762.4 | 9903.1 | 1762.4 | 9933.4 | 1758.1 | 9944.2 | 1762.2 | 9959.3 |
| GR | 1762.6 | 9987.2 | 1757.4 | 10000.0 | 1762.7 | 10012.6 | 1761.6 | 10115.4 | 1763.3 | 10161.3 |
| GR | 1762.6 | 10255.0 | 1761.9 | 10272.4 | 1763.0 | 10371.3 | 1763.0 | 10455.1 | 1763.9 | 10515.9 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | | | | | 8986.8 | 10565 | | |
| NH | 3 | .055 | 9640.7 | .06 | 10027 | .055 | 10565 | | | |
| X1 | 10.426 | 25 | 9898.6 | 10027 | 450 | 510 | 560 | | | |
| GR | 1770.6 | 8280.0 | 1769.3 | 8641.5 | 1770.0 | 8757.2 | 1769.0 | 8859.8 | 1768.8 | 8972.6 |
| GR | 1766.8 | 8980.6 | 1768.3 | 8986.8 | 1768.1 | 9428.6 | 1767.3 | 9564.8 | 1767.6 | 9640.7 |
| GR | 1763.3 | 9648.2 | 1765.4 | 9659.3 | 1767.1 | 9706.8 | 1766.9 | 9898.6 | 1763.0 | 9909.1 |
| GR | 1766.5 | 9925.4 | 1766.7 | 9989.8 | 1761.9 | 10000. | 1768.5 | 10027. | 1768.7 | 10073. |
| GR | 1766.8 | 10112.4 | 1767.8 | 10200. | 1768.1 | 10372. | 1768.0 | 10514. | 1769.4 | 10565. |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NC | .055 | .055 | .06 | | | | | | | |
| X1 | 10.516 | 31 | 9916.3 | 10098 | 470 | 490 | 475 | | | |
| GR | 1775.9 | 8121.5 | 1775.3 | 8155.7 | 1775.2 | 8366.7 | 1774.5 | 8685.3 | 1775.3 | 8765.9 |
| GR | 1774.6 | 8902.2 | 1773.9 | 9143.6 | 1772.1 | 9307.2 | 1772.7 | 9416.3 | 1772.1 | 9621.6 |
| GR | 1773.0 | 9740.6 | 1772.1 | 9811.9 | 1767.7 | 9823.7 | 1772.3 | 9839.6 | 1771.1 | 9855.4 |
| GR | 1768.3 | 9867.8 | 1774.8 | 9892.5 | 1771.6 | 9916.3 | 1770.9 | 9991.4 | 1768.9 | 10000. |
| GR | 1772.1 | 10012.0 | 1772.2 | 10078.9 | 1769.7 | 10088. | 1772.4 | 10098. | 1771.5 | 10198. |
| GR | 1769.9 | 10207.3 | 1773.1 | 10218.4 | 1773.4 | 10352. | 1772.7 | 10604. | 1773.4 | 10687. |
| GR | 1775.1 | 10741.8 | | | | | | | | |

```
ET              7.1                                          9347.0    10442.7
NC    .065      .055      .072
X1  10.620        27    9988.8   10026.5       550       500       549
GR  1780.1    8653.3    1780.4    8729.0    1780.0    8815.3    1779.6    8920.7    1780.2    9006.3
GR  1780.2    9065.8    1779.7    9140.5    1778.7    9300.0    1776.7    9327.9    1777.9    9345.2
GR  1778.8    9347.0    1777.7    9517.0    1776.9    9586.9    1776.8    9644.4    1774.1    9653.6
GR  1775.8    9686.5    1777.0    9711.4    1777.3    9747.5    1776.3    9836.7    1776.5    9988.8
GR  1772.7   10000.     1777.1   10026.5    1778.2   10060.2    1776.9   10203.5    1776.9   10285.3
GR  1778.7   10338.8    1779.1   10442.7
```

End split flow reach described by IONASF3.HC2
Change QT to reflect split flow; see IONASF4.HC2

```
QT        2       669       669

ET              7.1                                          9150.2    10624.0
NC    .055      .055      .060
X1  10.710        28    9814.4      10009       430       480       475
GR  1783.1    8720.2    1782.2    8974.8    1781.3    9068.4    1781.8    9150.2    1781.7    9297.4
GR  1781.0    9399.1    1781.0    9444.4    1776.7    9456.3    1780.9    9468.9    1780.8    9591.6
GR  1778.8    9597.3    1781.3    9603.7    1781.9    9678.8    1781.6    9814.4    1778.3    9828.6
GR  1781.2    9841.1    1781.2    9991.1    1778.3   10000.0    1781.3   10009.     1781.2   10107.
GR  1782.0   10179.6    1782.2   10329.2    1783.4   10381.6    1782.0   10442.     1783.7   10489.
GR  1784.1   10522.0    1783.4   10563.1    1783.6   10624.1

ET              7.1                                          9521.6    10760
NH        3     .055    9988.9      .072     10155      .065     10760
X1  10.802        20    9988.9     10042       500       480       486
GR  1786.8    9123.8    1786.3    9259.9    1785.4    9340.7    1786.0    9417.1    1786.0    9521.6
GR  1783.3    9546.9    1783.4    9581.3    1785.7    9594.7    1786.2    9670.5    1785.9    9776.7
GR  1784.7    9988.9    1783.8   10000.     1784.8   10042.     1785.1   10155.     1786.4   10266.
GR  1786.3   10468.     1786.2   10523.     1787.4   10571.     1787.2   10661.     1788.1   10760.


NH        4     .072    8953.9      .055    9892.6      .072   10125.8      .055     10565
ET              7.1                                          8994.4     10565
X1  10.891        25    9870.7   10125.8       470       450       470
GR  1790.6    8794.2    1790.2    8878.7    1789.8    8924.2    1790.6    8953.9    1791.3    8994.4
GR  1790.1    9143.0    1790.1    9227.9    1789.7    9431.8    1788.3    9444.6    1789.3    9456.6
GR  1791.0    9594.5    1790.0    9675.6    1789.5    9870.7    1787.6    9881.5    1789.1    9892.6
GR  1788.9    9993.4    1787.6   10000.0    1788.8   10006.5    1789.7   10104.1    1789.0   10113.
GR  1789.8   10125.8    1790.3   10221.8    1790.9   10277.4    1790.6   10469.4    1791.3   10565.
```

LEFT END OF SECTION AT EFFECTIVE FLOW BOUNDARY

```
NC    .055      .065      .075
X1  10.982        18    9931.0   10026.4       450       480       480
GR  1794.1    9170.1    1793.6    9328.7    1793.9    9501.8    1794.7    9608.3    1795.2    9709.0
GR  1794.2    9798.2    1794.1    9931.0    1792.4    9935.6    1794.1    9941.9    1793.6    9990.4
GR  1791.7   10000.0    1793.7   10026.4    1795.0   10185.6    1794.7   10273.     1795.2   10294.
GR  1795.5   10369.1    1795.2   10519.0    1795.5   10689.5
```

```
ET              7.1                                          9981.2     10378
NH      3      .055     9902.4      .062     10132      .055     11440
X1   11.079       28     9981.2   10023.9       410       400       512
GR   1799.6    8694.3     1799.5    8709.8    1797.4    8790.7    1796.3    8847.6    1796.1    8962.7
GR   1796.5    8994.4     1797.7    9029.5    1796.8    9146.9    1793.0    9158.0    1797.1    9170.2
GR   1796.9    9254.9     1796.0    9391.9    1796.1    9464.5    1797.1    9502.3    1796.6    9590.4
GR   1796.9    9650.4     1797.0    9755.6    1798.7    9902.4    1799.0    9981.2    1796.9    10000.
GR   1798.4   10023.9     1798.3   10132.0    1797.6   10339.3    1798.5    10378.    1798.5    10681.
GR   1798.7   11123.0     1798.3   11281.0    1799.2   11440.0
```

Change QT to reflect split flow; see IONASF3.HC2

```
QT      2       699       699
ET              7.1                                           9974    10462.7
NH      3      .055     9974.1      .072     10071      .055    11348.9
X1   11.174       36     9974.1     10048       490       510       502
GR   1804.8    8814.4     1801.6    8982.8    1801.4    9031.5    1802.4    9056.7    1802.2    9089.4
GR   1801.3    9144.4     1800.5    9227.3    1803.0    9249.7    1803.3    9300.8    1801.9    9350.7
GR   1801.3    9403.2     1797.2    9413.6    1801.7    9424.9    1802.4    9474.9    1799.8    9488.6
GR   1802.4    9502.9     1802.1    9566.1    1802.0    9670.8    1803.4    9790.1    1803.4    9839.7
GR   1803.9    9974.1     1801.5   10000.0    1803.8    10017.    1804.1    10048.    1803.3    10071.
GR   1803.5   10093.7     1803.2   10252.3    1803.3    10361.    1803.1    10448.    1802.2    10455.
GR   1803.3   10462.7     1803.8   10822.8    1804.0    10970.    1803.8    11142.    1804.4    11230.
GR   1804.7   11348.9
```

Change QT to reflect split flow; see IONASF3.HC2

```
QT      2       709       709
ET              7.1                                          9970.8     10393
NH      3      .055     9843.7      .072     10125      .055    11355.5
X1   11.264       37     9970.8   10019.5       450       430       475
GR   1808.5    8675.1     1808.2    8699.6    1806.1    8748.6    1805.7    8845.0    1805.8    8921.6
GR   1804.4    8946.3     1805.5    8973.2    1805.3    9071.5    1804.6    9112.3    1806.0    9147.4
GR   1806.1    9186.3     1804.8    9229.5    1801.6    9245.5    1804.1    9257.4    1804.6    9384.3
GR   1807.2    9425.5     1805.8    9461.0    1805.9    9557.3    1804.3    9571.5    1804.3    9588.5
GR   1806.3    9615.5     1807.1    9843.7    1807.8    9970.8    1804.3    9990.8    1804.3    10000.
GR   1804.2   10009.4     1807.8   10019.5    1806.7    10088.    1806.9    10125.    1808.3    10297.
GR   1808.2   10333.3     1806.7   10339.6    1808.5    10351.    1807.9    10393.    1808.1    10683.
GR   1807.6   10858.2     1808.2   11355.5
```

End Sheets 16 & 17/Start Sheets 18 & 19
Encroachment along left effective flow boundary/split flow weir

Change QT to reflect split flow; see IONASF3.HC2

```
QT        2      1922      1992
ET               7.1                                      9978.9     10537
NH        3      .055    9859.3      .072     10288      .055     10537
X1   11.368        29    9978.9   10015.4       530       550       549
GR   1812.5    9561.4    1812.4    9581.9    1811.1    9609.6    1811.2    9673.9    1810.7    9730.4
GR   1813.3    9783.6    1812.4    9838.5    1813.2    9859.3    1812.3    9896.5    1809.6    9929.0
GR   1810.8    9941.3    1811.9    9978.9    1808.7    9991.6    1808.6    10000.    1808.7    10006.
GR   1811.9   10015.4    1811.7   10071.9    1810.7   10085.2    1811.7    10098.    1811.6    10194.
GR   1808.8   10204.3    1811.0   10215.9    1811.9   10244.2    1812.0    10288.    1811.1    10308.
GR   1812.8   10378.9    1812.8   10444.1    1813.0   10529.0    1813.8    10537.
```

End section on effective flow boundary/split flow weir
Change QT to reflect split flow; see IONASF3.HC2

```
QT        2      2162      2162
NH        3      .055    9947.9      .072     10277      .055     10635
X1   11.469        15    9986.8    10007       500       530       533
GR   1818.3    9901.3    1815.1    9947.9    1815.4    9986.8    1811.2    10000.    1815.0    10007.
GR   1815.4    10096.    1816.7    10154.    1813.0    10189.    1815.3    10215.    1815.2    10277.
GR   1816.1    10346.    1816.4    10427.    1817.0    10548.    1817.6    10569.    1818.3    10635.

ET               7.1                                      9912.     10740
NH        5      .072    10000       .055     10009      .082     10344      .095     10634      .055
NH    10800
X1   11.570        16    9991.7    10009       510       500       533
GR   1823.2    9912.     1821.4    9949.0    1821.5    9991.7    1818.9    10000.    1821.7    10009.
GR   1821.6    10079.    1821.0    10250.    1821.3    10277.    1821.6    10315.    1821.0    10344.
GR   1817.7    10352.    1817.5    10377.    1820.8    10393.    1821.0    10634.    1821.4    10740.
GR   1822.1    10800.
```

Ineffective flow downstream of stockpond Stn 10068 to 10408, n = 99
Begin split flow reach described by IONASF3.HC2
Change QT to reflect split flow; see IONASF3.HC2

```
QT        2      2371      2371
ET               7.1                                      9911.6    10841.9
NH        7      .055    9911.6      .082     9968.5      .045    10018.0      .082    10068.4      .150
NH    10408      .082   10618.5      .055     10955
X1   11.666        25    9968.5    10018.       480       500       507
GR   1828.8    9672.0    1827.3    9715.0    1826.9    9762.0    1827.7    9837.6    1826.9    9881.0
GR   1827.5    9911.6    1826.8    9968.5    1824.9    10000.0   1827.0    10018.    1827.1    10052.
GR   1829.8    10068.4   1827.9    10082.3   1826.8    10136.1   1827.0    10174.    1826.5    10249.
GR   1825.2    10286.0   1825.7    10408.    1825.2    10469.6   1826.7    10478.    1825.1    10490.
GR   1825.1    10618.5   1825.5    10717.6   1825.7    10841.9   1826.2    10921.    1826.7    10955.
```

```
ET              7.1                                                 9540     10661.
NH        6     .055     9934.6      .080     9986.7      .038   10014.0      .072   10054.9      .150
NH    10409     .055    11660.
X1   11.750       35     9972.2     10021       450       430       444
GR   1833.1   9539.7     1832.3    9564.2    1832.2    9628.2    1833.0    9648.9    1831.8    9702.5
GR   1830.8   9772.5     1830.7    9875.3    1829.9    9934.6    1830.4    9972.2    1828.4    9986.7
GR   1828.5  10000.0     1828.5   10014.0    1830.7     10021    1841.0   10054.9    1829.3   10077.7
GR   1828.9   10127.     1829.0   10195.6    1827.7   10272.3    1828.1   10294.4    1826.9   10352.8
GR   1828.3   10382.     1837.7   10409.0    1830.1   10433.8    1830.1   10529.0    1830.3   10661.1
GR   1829.9   10797.     1829.9   10980.8    1830.6   11009.5    1826.9   11021.0    1830.2   11035.4
GR   1830.0   11106.     1830.4   11219.2    1831.3   11372.6    1831.8   11453.3    1831.8   11660.0

ET              7.1                                                 9828.5   10589.6
NH        6     .055     9980.2      .080     9988.3      .038     10017      .072     10071      .150
NH    10373     .055    11841.0
X1   11.847       45     9828.5     10071       490       480       512
GR   1840.5   9344.0     1837.7    9501.7    1837.7    9551.8    1837.9    9613.2    1836.7    9675.2
GR   1835.2   9725.7     1835.9    9740.1    1835.7    9779.0    1838.4    9807.8    1838.9    9828.5
GR   1837.6   9894.9     1836.5    9980.2    1831.9    9988.3    1831.8    10000.    1831.8    10017.
GR   1833.3  10031.6     1840.6   10071.0    1833.5    10092.    1832.7    10135.    1833.6    10146.
GR   1831.7  10266.7     1830.0   10352.5    1840.2    10373.    1839.8    10395.    1834.2    10411.
GR   1834.1  10472.3     1833.9   10589.6    1834.2    10720.    1834.8    10844.    1834.8    10964.
GR   1837.7  10977.2     1837.7   10993.0    1831.7    11022.    1830.0    11056.    1829.7    11092.
GR   1831.1  11135.9     1837.6   11173.6    1837.8    11249.    1837.4    11321.    1836.0    11335.
GR   1835.8  11420.6     1836.1   11524.0    1836.0    11584.    1835.7    11653.    1836.1    11841.

ET              7.1                                                 9885.4   10907.4
NC     .065     .072      .072
X1   11.920       22     9885.4    10425.5       240       200       385
GR   1841.4   9643.4     1840.5    9702.2    1839.6    9742.2    1838.2    9762.1    1837.7    9797.8
GR   1838.2   9848.6     1834.7    9859.1    1834.0    9871.5    1836.7    9885.4    1835.3    9943.7
GR   1834.8  10000.0     1834.9   10100.1    1835.3    10164.    1835.7    10266.    1835.8    10346.
GR   1836.9  10425.5     1837.4   10534.3    1837.9    10644.    1838.0    10753.    1838.2    10807.
GR   1837.7  10895.9     1840.1   10907.4
```

Left encroachment at 4:1 expansion effective flow boundary from upstream sec'n
Split flow discharge returns from upstream split at this section, Q = 2371 cfs
End split flow reach described by IONASF4.HC2

```
ET              7.1                                                 9589.5     10613
NH        3     .055     9962.5      .072    10533.6      .055   10641.0
X1   12.010       32     9621.5    10183.7       350       325       475
GR   1843.2   9205.0     1842.2    9238.4    1842.1    9264.9    1841.3    9287.0    1840.5    9380.1
GR   1836.5   9393.9     1836.7    9413.3    1839.8    9425.8    1840.6    9455.7    1839.5    9512.5
GR   1838.2   9558.0     1840.1    9589.5    1839.9    9621.5    1838.5    9651.0    1839.1    9674.8
GR   1837.8   9711.0     1837.2    9788.3    1837.8    9881.5    1837.7    9962.5    1837.3    10000.
GR   1838.2  10012.5     1839.3   10099.3    1840.2   10183.7    1839.9   10233.9    1840.6   10345.5
GR   1840.7  10413.4     1841.0   10470.0    1841.1   10533.6    1842.4   10560.6    1842.6    10613.
GR   1840.1  10626.6     1841.7   10641.0
```

and right encroachments at flow expansion effective flow boundaries
st QT to reflect split flow, See IONASF4.HC2

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| QT | 2 | 849 | 849 | | | | | | | |
| NH | 5 | .055 | 9520.2 | .072 | 9731.9 | .055 | 9854.3 | .072 | 10275 | .055 |
| NH | 10862 | | | | | | | | | |
| ET | | 7.1 | | | | | 9685.2 | 10265 | | |
| X1 | 12.101 | 35 | 10000 | 10257 | 280 | 300 | 480 | | | |
| GR | 1842.1 | 9133.4 | 1840.7 | 9176.1 | 1840.2 | 9227.8 | 1843.5 | 9260.8 | 1844.6 | 9305.1 |
| GR | 1843.2 | 9367.6 | 1840.4 | 9408.3 | 1841.1 | 9453.9 | 1840.8 | 9520.2 | 1840.8 | 9646.6 |
| GR | 1839.9 | 9660.4 | 1842.8 | 9685.2 | 1843.6 | 9731.9 | 1843.7 | 9796.4 | 1842.9 | 9816.2 |
| GR | 1842.9 | 9854.3 | 1842.8 | 9879.8 | 1844.2 | 9919.6 | 1844.2 | 9980.6 | 1845.5 | 10000.0 |
| GR | 1844.6 | 10021. | 1845.0 | 10069. | 1844.6 | 10134. | 1843.5 | 10250.0 | 1845.2 | 10257. |
| GR | 1845.2 | 10265. | 1843.2 | 10275. | 1843.3 | 10356. | 1843.2 | 10462. | 1843.6 | 10558. |
| GR | 1843.1 | 10643. | 1844.1 | 10661. | 1845.0 | 10720 | 1844.9 | 10784 | 1844.0 | 10862 |

Right encroachment - no effective flow in overbank stockpond backwater area

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | | | | | 9871.2 | 10271.6 | | |
| NH | 5 | .055 | 9367.8 | .072 | 9584.6 | .055 | 9962 | .072 | 10248.2 | .055 |
| NH | 10973 | | | | | | | | | |
| X1 | 12.191 | 40 | 9910.8 | 10248.2 | 415 | 430 | 475 | | | |
| GR | 1848.3 | 9213.7 | 1847.9 | 9291.8 | 1847.0 | 9367.8 | 1845.2 | 9392.4 | 1844.9 | 9455.1 |
| GR | 1843.4 | 9469.0 | 1844.8 | 9478.0 | 1845.4 | 9551.0 | 1846.6 | 9584.6 | 1847.3 | 9629.4 |
| GR | 1848.7 | 9664.6 | 1848.6 | 9701.1 | 1845.7 | 9759.1 | 1846.9 | 9792.0 | 1850.1 | 9826.6 |
| GR | 1851.4 | 9871.2 | 1851.3 | 9910.8 | 1850.4 | 9940.2 | 1848.0 | 9962.0 | 1848.3 | 9987.5 |
| GR | 1847.5 | 10000.0 | 1848.1 | 10011.5 | 1848.3 | 10064.2 | 1848.2 | 10163.1 | 1848.4 | 10224.0 |
| GR | 1849.2 | 10248.2 | 1858.8 | 10271.6 | 1852.4 | 10289.1 | 1852.5 | 10321.6 | 1850.8 | 10450.3 |
| GR | 1850.5 | 10529.6 | 1850.5 | 10612.9 | 1856.8 | 10647.8 | 1856.8 | 10656.8 | 1848.5 | 10685.1 |
| GR | 1847.6 | 10770.2 | 1848.4 | 10837.6 | 1849.3 | 10914.5 | 1848.4 | 10943.9 | 1848.4 | 10973. |

Right encroachment - no effective flow in overbank stockpond backwater area
Adjust QT to reflect split flow, See IONASF4.HC2

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| QT | 2 | 979 | 979 | | | | | | | |
| ET | | 7.1 | | | | | 9901.5 | 10412 | | |
| NH | 6 | .055 | 9295.7 | .072 | 9624.5 | .055 | 9956.5 | .072 | 10392.9 | .105 |
| NH | 10412 | .055 | 11172 | | | | | | | |
| X1 | 12.281 | 52 | 9926.3 | 10392.9 | 460 | 450 | 475 | | | |
| GR | 1853.9 | 9015.2 | 1854.6 | 9065.5 | 1853.8 | 9137.5 | 1853.3 | 9176.8 | 1852.9 | 9233.4 |
| GR | 1850.8 | 9295.7 | 1850.3 | 9340.1 | 1849.4 | 9352.7 | 1849.7 | 9399.8 | 1848.6 | 9482.2 |
| GR | 1851.7 | 9501.0 | 1851.7 | 9518.6 | 1848.8 | 9550.3 | 1848.2 | 9569.3 | 1846.3 | 9587.7 |
| GR | 1846.4 | 9599.7 | 1851.7 | 9624.5 | 1852.4 | 9644.4 | 1851.9 | 9664.4 | 1850.2 | 9692.3 |
| GR | 1848.7 | 9749.7 | 1848.9 | 9786.7 | 1851.2 | 9843.7 | 1853.6 | 9874.1 | 1854.8 | 9901.5 |
| GR | 1854.5 | 9926.3 | 1852.1 | 9956.5 | 1852.2 | 9986.8 | 1851.1 | 9993.5 | 1851.1 | 10000.0 |
| GR | 1851.9 | 10012.9 | 1852.1 | 10070.9 | 1852.1 | 10135.2 | 1852.2 | 10178.4 | 1851.4 | 10188.7 |
| GR | 1852.1 | 10197.7 | 1852.4 | 10303.3 | 1853.1 | 10392.9 | 1861.5 | 10412. | 1855.3 | 10430.8 |
| GR | 1855.3 | 10456.6 | 1854.5 | 10469.9 | 1854.9 | 10491.8 | 1854.4 | 10627.3 | 1853.3 | 10751.4 |
| GR | 1853.3 | 10760.4 | 1859.5 | 10784.3 | 1852.4 | 10797.8 | 1853.3 | 10882.6 | 1853.9 | 11000.8 |
| GR | 1854.8 | 11122.0 | 1855.5 | 11172. | | | | | | |

Adjust QT to reflect split flow. See IONASF4.HC2

| | | | |
|---|---|---|---|
| QT | 2 | 1812 | 1812 |

Realign section west (right) of station 10600
Left encroachment at effective flow boundary near minor tributary confluence

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | | | | | 9748.8 | 11002 | | |
| NH | 5 | .055 | 9339 | .065 | 9423.5 | .055 | 9789.3 | .065 | 10771 | .055 |
| NH | 11002 | | | | | | | | | |
| X1 | 12.369 | 57 | 9748.8 | 10098 | 430 | 590 | 465 | | | |
| GR | 1861.0 | 8607.0 | 1861.0 | 8661.5 | 1859.7 | 8739.4 | 1859.2 | 8814.0 | 1855.3 | 8873.4 |
| GR | 1855.2 | 8958.9 | 1853.1 | 8969.2 | 1854.9 | 8988.7 | 1857.7 | 9044.1 | 1858.1 | 9139.4 |
| GR | 1856.1 | 9202.4 | 1857.1 | 9222.5 | 1857.6 | 9252.3 | 1859.3 | 9292.6 | 1858.9 | 9339.0 |
| GR | 1857.6 | 9367.3 | 1852.0 | 9401.0 | 1849.9 | 9412.3 | 1851.7 | 9423.5 | 1853.4 | 9487.2 |
| GR | 1855.8 | 9525.4 | 1859.1 | 9558.4 | 1859.0 | 9589.2 | 1855.7 | 9636.7 | 1856.7 | 9671.1 |
| GR | 1858.4 | 9719.4 | 1859.0 | 9748.8 | 1856.0 | 9789.3 | 1856.1 | 9823.3 | 1853.3 | 9836.8 |
| GR | 1853.3 | 9844.8 | 1855.9 | 9855.1 | 1856.3 | 9934.6 | 1856.6 | 9986.1 | 1856.3 | 10000.0 |
| GR | 1857.0 | 10023. | 1857.7 | 10098.0 | 1857.1 | 10142. | 1857.9 | 10168.0 | 1856.1 | 10211. |
| GR | 1860.2 | 10234. | 1860.7 | 10306.3 | 1860.6 | 10319. | 1857.0 | 10340. | 1856.3 | 10421. |
| GR | 1856.4 | 10487.5 | 1857.1 | 10586.2 | 1857.9 | 10600 | 1858.4 | 10661 | 1858 | 10710 |
| GR | 1857.2 | 10722 | 1858 | 10738 | 1860 | 10752 | 1860.5 | 10765 | 1860 | 10771 |
| GR | 1862 | 10782 | 1862.5 | 11002 | | | | | | |

End Subreach 5/Begin Subreach 6
Effective flow boundary at left 4:1 expansion from upstream cross section
Realign section west (right) of station 10500

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | | | | | 9633.4 | 11400 | | |
| NH | 7 | .055 | 9976.7 | .038 | 10019. | .045 | 10690 | .055 | 10791 | .045 |
| NH | 11001 | .065 | 11041 | .055 | 11400 | | | | | |
| X1 | 12.464 | 51 | 9976.7 | 10019 | 440 | 510 | 502 | | | |
| GR | 1865.6 | 8940.5 | 1865.8 | 9000.4 | 1862.4 | 9077.3 | 1863.1 | 9116.6 | 1862.1 | 9191.3 |
| GR | 1857.9 | 9242.1 | 1856.0 | 9250.8 | 1857.6 | 9260.2 | 1856.5 | 9309.9 | 1854.5 | 9336.4 |
| GR | 1855.9 | 9357.9 | 1858.4 | 9398.3 | 1859.5 | 9440.7 | 1859.4 | 9477.2 | 1859.8 | 9543.0 |
| GR | 1860.7 | 9579.7 | 1859.0 | 9622.7 | 1860.3 | 9633.4 | 1859.1 | 9654.3 | 1860.6 | 9663.3 |
| GR | 1861.3 | 9710.7 | 1861.7 | 9764.4 | 1860.6 | 9841.2 | 1861.4 | 9878.5 | 1862.5 | 9976.7 |
| GR | 1860.5 | 9992.9 | 1860.3 | 10000.0 | 1860.6 | 10009.1 | 1863.1 | 10019.0 | 1862.1 | 10072. |
| GR | 1863.3 | 10091.5 | 1862.7 | 10117.0 | 1862.4 | 10133.5 | 1862.0 | 10194.6 | 1862.6 | 10237. |
| GR | 1862.4 | 10263.9 | 1858.2 | 10296.0 | 1862.1 | 10318.4 | 1862.2 | 10368.1 | 1862.8 | 10425. |
| GR | 1863.6 | 10466.5 | 1863.2 | 10509.9 | 1862 | 10690 | 1862 | 10791 | 1862.3 | 10805 |
| GR | 1863 | 10950 | 1862.3 | 10982 | 1862 | 11001 | 1861 | 11032 | 1862 | 11041 |
| GR | 1864 | 11400 | | | | | | | | |

End Sheets 18 & 19/Begin Sheet 20
Realigned section 12.566. Centerline now at station 9989
Left encroachment at effective flow boundary near tributary confluence
Begin split flow reach described by IONASF4.HC2
Adjust QT to reflect split flow

```
Q1      2      2371      2371

ET             7.1                                        9829      11450
NH      6      .055      9902      .065      9976      .038      9995      .055      11191      .065
NH  11281      .055     11450
X1  12.614       31      9902     10024       615       540       781
GR  1876.5     9600      1876      9634      1874      9698      1872      9728      1872      9752
GR    1874     9829      1872      9889      1870      9902      1868      9976    1867.5      9989
GR    1868     9995      1870     10024      1870     10272    1870.8     10370      1870     10410
GR    1869    10465      1870     10535      1868     10582      1866     10608      1868     10632
GR    1870    10689    1868.3     10780      1868     10802      1868     10848    1867.5     10875
GR    1868    10914    1869.8     11058      1869     11154    1868.6     11191    1868.5     11281
GR    1870    11450
```

Realigned section east (left) of station 10350. Centerline now at 10091
Left encroachment at effective flow boundary at divide near tributary confl.

```
ET             7.1                                        9972      11477
NH      5      .055      9972      .072     10075      .038     10104      .065     10129      .055
NH  11478
X1  12.692       47      9972     10129       430       480       405
GR  1884.5     9480      1884      9535      1882      9622      1880      9660      1878      9675
GR    1876     9689      1874      9721      1872      9811      1872      9895      1874      9935
GR  1874.5     9972      1874     10008      1872     10075      1870     10091      1872     10104
GR    1874    10111      1876     10129    1876.2     10182      1876     10191    1875.3     10350
GR  1875.8    10373    1875.4     10438    1873.4     10500    1874.1     10533    1874.5     10554
GR  1874.1    10635    1874.5     10743    1872.9     10757      1875     10769    1875.7     10798
GR  1875.9    10818    1874.6   10829.2    1874.5     10845    1875.8    10858.    1875.1     10911
GR    1875    10994    1874.8     11060.    1874.4    11091.    1874.9    11114.    1873.9    11185.
GR  1871.8   11202.    1874.5   11228.1    1874.0    11283.    1874.1    11333.    1875.0    11365.
GR  1877.3   11401.    1877.9    11478.


NH      8      .085    9729.9      .055    9968.9      .072    9994.7      .038    10008.      .065
NH  10067      .055     10807      .040     10868      .055     11088
X1  12.752       47    9968.9     10067       290       300       317
GR  1884.7   9252.0    1883.0    9361.6    1880.0    9400.9    1880.3    9464.5    1878.5    9729.9
GR  1879.8   9760.1    1878.3    9885.9    1876.6    9913.5    1874.4    9929.7    1876.8    9941.0
GR  1876.9   9968.9    1876.0    9983.4    1873.6    9994.7    1873.5    10000.    1873.6    10008.
GR  1876.6  10026.3    1878.2    10067.    1878.0    10118.    1878.4    10191.    1878.6    10322.
GR  1877.9  10337.0    1878.7    10362.    1879.1    10432.    1878.5    10445.    1878.9    10457.
GR  1878.7  10495.1    1878.0    10501.    1877.9    10525.    1878.7    10538.    1877.8    10609.
GR  1877.1  10623.2    1877.6    10651.    1876.7    10669.    1877.8    10689.    1877.9    10718.
GR  1876.3  10742.2    1877.7    10774.    1878.4    10807.    1874.5    10830.    1877.3    10847.
GR  1878.6    10868    1877.7    10889.    1878.7    10907.    1879.1    10957.    1877.9    10973.
GR  1880.0  11002.2    1881.3    11088.
```

```
NH      5      .06    9973.7     .038    10023      .05    10668     .038    10741     .055
NH  10897
X1  12.849       30    9973.7    10023      520      520      512
GR  1885.1   9854.5    1883.3   9929.0   1881.8   9973.7   1878.1   9991.7   1877.9   10000.
GR  1877.7   10009.    1882.7  10023.0   1884.3   10057.   1879.7   10075.   1881.1   10086.
GR  1881.8   10102.    1884.6   10122.   1884.6   10164.   1883.6   10225.   1881.2   10239.
GR  1881.3   10261.    1882.5   10282.   1882.1   10307.   1883.2   10328.   1883.1   10345.
GR  1882.9   10429.    1881.9   10480.   1882.9   10547.   1883.4   10605.   1882.1   10668.
GR  1878.3  10692.0    1880.9   10705.   1883.3   10741.   1884.4   10832.   1884.9   10897.
```

Effective flow boundary along right overbank modeled with ET record
Historical stock pond diversion difluence, not maintained, no structure
at bifurcation point. Modeled as divided flow.

```
ET              7.1                                      9459  10399.6
NH      4      .055    9770.4      .07   9962.4     .038  10066.3     .055  10639.9
X1  12.942       35    9901.5  10066.3      470      460      491
GR  1890.6   9458.6    1890.6   9510.4   1889.5   9540.5   1890.0   9562.2   1890.2   9634.5
GR  1889.6   9669.5    1890.0   9739.8   1889.9   9770.4   1886.7   9796.4   1887.0   9845.4
GR  1886.2   9855.4    1887.0   9865.2   1887.2   9901.5   1886.6   9962.4   1884.8   9974.5
GR  1885.1  10000.0    1886.1  10040.0   1886.0  10056.6   1888.6  10066.3   1888.4  10151.4
GR  1886.6  10186.2    1886.6  10202.8   1885.1  10213.4   1886.9  10224.1   1886.8  10239.7
GR  1884.4  10251.4    1887.0  10274.3   1887.9  10316.0   1887.1  10339.4   1887.6  10399.6
GR  1886.7  10494.7    1885.5  10537.8   1886.8  10552.7   1888.4  10592.4   1890.2  10639.9
```

Right encroachment at effective flow boundary at divide

```
ET              7.1                                      9596  10117
NH      4      .055    9817.5      .07     9931     .038  10030     .055  10713
X1  13.025       23      9931    10030      360      470      438
GR  1894.4   9595.2    1894.7   9671.0   1894.6   9734.6   1895.0   9817.5   1890.7   9851.4
GR  1889.4   9874.1    1891.9   9891.5   1892.4   9931.0   1890.8   9961.8   1889.7  10000.0
GR  1889.0  10019.5    1894.4  10030.0   1894.0  10117.0   1893.3   10205.   1892.2  10294.0
GR  1890.5  10299.4    1892.2   10312.   1894.4   10418.   1892.9  10479.0   1891.8   10528.
GR  1893.7  10583.1    1894.5  10654.0   1896.9   10713.
```

Effective flow boundaries on ET records prevent flow in tributaries u/s confl.

```
ET              7.1                                      9900  10402
NC     .055     .055     .045
X1  13.127       23      9967    10080      460      450      539
GR  1899.8   9580.2    1899.6   9622.4   1898.7   9676.1   1897.4   9722.3   1898.3   9739.7
GR  1898.1   9789.3    1896.7   9831.8   1898.8   9860.4   1900.1   9893.4   1898.8   9967.0
GR  1895.3   9983.1    1895.2  10000.0   1896.3  10039.8   1895.2   10067.   1897.4   10080.
GR  1897.9  10144.5    1897.3  10189.7   1897.6  10270.6   1897.1   10310.   1896.0   10320.
GR  1897.4  10337.3    1897.0  10380.5   1899.3  10402.4
```

Right encroachment at minor tributary effective flow boundary

```
ET                7.1                                          9582      10370
NC                          .05
X1    13.221        22     9959.1    10137       480       490       496
GR    1908.0    9581.6     1907.6   9620.0    1907.3    9679.8    1907.3    9729.0    1904.0    9909.3
GR    1905.8    9959.1     1904.9   9969.2    1898.9    9989.8    1899.3    10000.    1900.8    10017.
GR    1902.3    10060.     1902.2   10088.    1899.9    10105.    1900.0    10129.    1903.0    10137.
GR    1903.5    10246.     1903.8   10370.    1902.5    10379.    1903.3    10393.    1903.8    10493.
GR    1906.1    10595.     1906.3   10647.


NH        6      .055     9890.7      .065    9981.7      .038   10010.7      .045    10058.      .038
NH    10080      .075      10139
X1    13.325        16     9971.2   10080.       500       500       549
GR    1913.8    9550.6     1911.9   9619.6    1910.4    9639.5    1912.3    9684.7    1910.5    9745.4
GR    1910.0    9796.8     1908.1   9890.7    1907.1    9971.2    1904.9    9981.7    1904.8    10000.
GR    1904.8   10010.7     1906.7   10025.    1904.4    10058.    1905.6    10080.    1913.3    10111.
GR    1914.4    10139.


NH        5      .055     9795.9       .08    9938.      .038     10076      .065     10220      .055
NH    10572
X1    13.419        26      9894    10076       490       560       496
X3        10
GR    1918.5    9626.3     1918.3   9705.1    1917.7    9750.5    1914.6    9795.9    1913.7    9846.8
GR    1914.1    9871.9     1914.8   9894.0    1911.1    9911.6    1912.6    9938.0    1911.5    9967.6
GR    1909.6    10000.     1911.8   10019.    1910.6    10058.    1914.0    10076.    1913.4    10121.
GR    1912.2    10136.     1913.5   10144.    1913.8    10220.    1914.2    10237.    1915.4    10295.
GR    1917.2    10319.     1917.2   10371.    1918.6    10396.    1918.7    10449.    1919.7    10514.
GR    1919.8    10572.
```

Add ET to reflect 4:1 expansion of effective flow downstream of bridge at
Grand Ave. (bridge outside study limits)

```
NC      .082      .082       .042
ET                7.1                                          9960.2      10038
X1    13.499        14     9986.1   10038       380       480       422
GR    1923.8    9799.2     1923.5   9841.8    1916.9    9883.3    1917.9    9930.7    1915.6    9960.2
GR    1915.7    9986.1     1914.8   10000.    1915.0    10024.    1916.4    10038.    1917.6    10072.
GR    1918.8   10116.2     1920.8   10167.    1922.7    10233.    1923.4    10311.
```

End Sheet 20
End Reach 6

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

*PROF 1

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CCHV= 0.100 CEHV= 0.300
1490 NH CARD USED
*SECNO 0.640

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.640 | 2.88 | 1460.98 | 0.00 | 1460.98 | 1461.10 | 0.12 | 0.00 | 0.00 | 1459.10 |
| 3692.0 | 2092.7 | 990.0 | 609.3 | 822.9 | 303.3 | 210.4 | 0.0 | 0.0 | 1459.30 |
| 0.00 | 2.54 | 3.26 | 2.90 | 0.073 | 0.082 | 0.076 | 0.000 | 1458.10 | 9228.59 |
| 0.010897 | 490. | 502. | 450. | 0 | 0 | 0 | 0.00 | 937.05 | 10165.64 |

1490 NH CARD USED
*SECNO 0.734

3[illegible]IVIDED FLOW

3280 CROSS SECTION 0.73 EXTENDED 0.12 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.734 | 3.61 | 1464.41 | 0.00 | 0.00 | 1464.51 | 0.09 | 3.40 | 0.00 | 1462.40 |
| 3692.0 | 2728.1 | 858.7 | 105.3 | 1107.1 | 342.9 | 59.5 | 13.7 | 8.6 | 1463.40 |
| 0.05 | 2.46 | 2.50 | 1.77 | 0.079 | 0.082 | 0.055 | 0.000 | 1460.80 | 9243.06 |
| 0.006363 | 380. | 496. | 530. | 5 | 0 | 0 | 0.00 | 866.01 | 10215.00 |

1490 NH CARD USED
*SECNO 0.819
3280 CROSS SECTION 0.82 EXTENDED 0.49 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.819 | 3.79 | 1466.89 | 0.00 | 0.00 | 1466.98 | 0.09 | 2.48 | 0.00 | 1465.00 |
| 3857.0 | 2000.6 | 1125.3 | 731.1 | 854.8 | 471.6 | 268.8 | 29.1 | 17.3 | 1465.30 |
| 0.10 | 2.34 | 2.39 | 2.72 | 0.070 | 0.082 | 0.055 | 0.000 | 1463.10 | 9395.51 |
| 0.005213 | 420. | 449. | 460. | 4 | 0 | 0 | 0.00 | 878.79 | 10274.30 |

1490 NH CARD USED
*SECNO 0.912

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

3265 DIVIDED FLOW

3280 CROSS SECTION 0.91 EXTENDED 0.55 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.912 | 4.65 | 1469.45 | 0.00 | 0.00 | 1469.55 | 0.11 | 2.56 | 0.00 | 1467.30 |
| 4352.0 | 2564.3 | 1487.6 | 300.1 | 1042.7 | 514.5 | 122.1 | 45.9 | 27.1 | 1467.30 |
| 0.15 | 2.46 | 2.89 | 2.46 | 0.069 | 0.079 | 0.055 | 0.000 | 1464.80 | 9104.10 |
| 0.006299 | 410. | 491. | 500. | 3 | 0 | 0 | 0.00 | 1059.24 | 10173.00 |

1490 NH CARD USED
*SECNO 0.999
3280 CROSS SECTION 1.00 EXTENDED 0.68 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.41

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.999 | 4.37 | 1471.67 | 0.00 | 0.00 | 1471.76 | 0.09 | 2.21 | 0.00 | 1469.20 |
| 854.0 | 1992.1 | 2549.8 | 312.1 | 1019.9 | 918.4 | 175.0 | 65.8 | 38.8 | 1470.00 |
| 0.20 | 1.95 | 2.78 | 1.78 | 0.067 | 0.065 | 0.055 | 0.000 | 1467.30 | 9262.88 |
| 03916 | 460. | 459. | 430. | 3 | 0 | 0 | 0.00 | 1177.13 | 10440.00 |

1490 NH CARD USED
*SECNO 1.101

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.101 | 3.83 | 1473.93 | 0.00 | 0.00 | 1474.05 | 0.12 | 2.28 | 0.01 | 1472.60 |
| 5001.0 | 1721.1 | 3222.9 | 57.0 | 616.0 | 1159.8 | 28.7 | 85.9 | 49.2 | 1472.10 |
| 0.24 | 2.79 | 2.78 | 1.98 | 0.070 | 0.070 | 0.055 | 0.000 | 1470.10 | 9280.33 |
| 0.006075 | 310. | 539. | 630. | 4 | 0 | 0 | 0.00 | 885.05 | 10165.39 |

1490 NH CARD USED
*SECNO 1.189

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.189 | 4.13 | 1476.33 | 0.00 | 0.00 | 1476.43 | 0.11 | 2.38 | 0.00 | 1474.60 |
| 5001.0 | 1907.6 | 1924.3 | 1169.1 | 755.2 | 718.7 | 441.0 | 104.0 | 58.5 | 1475.20 |
| 0.29 | 2.53 | 2.68 | 2.65 | 0.074 | 0.073 | 0.055 | 0.000 | 1472.20 | 9420.45 |
| 0.005201 | 350. | 465. | 480. | 3 | 0 | 0 | 0.00 | 1020.27 | 10440.72 |

1490 NH CARD USED
*SECNO 1.285

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.285 | 4.10 | 1478.80 | 0.00 | 0.00 | 1478.89 | 0.09 | 2.46 | 0.00 | 1476.80 |
| 5001.0 | 2049.4 | 1722.4 | 1229.2 | 823.7 | 695.6 | 561.0 | 126.7 | 69.5 | 1476.30 |
| 0.35 | 2.49 | 2.48 | 2.19 | 0.078 | 0.082 | 0.074 | 0.000 | 1474.70 | 9444.66 |
| 4781 | 470. | 507. | 510. | 3 | 0 | 0 | 0.00 | 915.80 | 10360.45 |

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

1490 NH CARD USED
*SECNO 1.386

3470 ENCROACHMENT STATIONS= 9446.0 10513.0 TYPE= 1 TARGET= 1067.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.386 | 3.20 | 1481.30 | 0.00 | 0.00 | 1481.40 | 0.10 | 2.51 | 0.00 | 1479.30 |
| 5001.0 | 3042.1 | 521.3 | 1437.6 | 1110.4 | 227.1 | 624.0 | 149.7 | 80.0 | 1479.30 |
| 0.40 | 2.74 | 2.30 | 2.30 | 0.072 | 0.082 | 0.076 | 0.000 | 1478.10 | 9474.25 |
| 0.005359 | 470. | 533. | 510. | 2 | 0 | 0 | 0.00 | 924.91 | 10399.16 |

1490 NH CARD USED
*SECNO 1.480

3470 ENCROACHMENT STATIONS= 9396.0 10285.0 TYPE= 1 TARGET= 889.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.480 | 4.19 | 1483.69 | 0.00 | 0.00 | 1483.82 | 0.13 | 2.41 | 0.01 | 1481.10 |
| 5001.0 | 2289.9 | 2255.5 | 455.6 | 744.4 | 841.4 | 161.0 | 169.5 | 89.5 | 1480.80 |
| 0.44 | 3.08 | 2.68 | 2.83 | 0.058 | 0.075 | 0.062 | 0.000 | 1479.50 | 9419.30 |
| 0.004997 | 460. | 496. | 440. | 2 | 0 | 0 | 0.00 | 851.82 | 10271.13 |

1490 NH CARD USED
*SECNO 1.578

3470 ENCROACHMENT STATIONS= 9181.0 10319.0 TYPE= 1 TARGET= 1138.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.578 | 3.68 | 1486.08 | 0.00 | 0.00 | 1486.19 | 0.11 | 2.36 | 0.00 | 1484.40 |
| 5001.0 | 3142.6 | 1756.6 | 101.8 | 1202.3 | 623.9 | 57.1 | 192.6 | 100.8 | 1484.00 |
| 0.50 | 2.61 | 2.82 | 1.78 | 0.058 | 0.059 | 0.055 | 0.000 | 1482.40 | 9371.76 |
| 0.003711 | 590. | 517. | 480. | 3 | 0 | 0 | 0.00 | 921.21 | 10292.98 |

1490 NH CARD USED
*SECNO 1.670

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.63

3470 ENCROACHMENT STATIONS= 9709.6 10626.0 TYPE= 1 TARGET= 916.400

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.670 | 3.86 | 1488.96 | 0.00 | 0.00 | 1489.19 | 0.24 | 2.97 | 0.04 | 1487.10 |
| 5001.0 | 1911.2 | 2680.2 | 409.6 | 473.8 | 665.7 | 205.1 | 211.4 | 111.2 | 1487.70 |
| 0.54 | 4.03 | 4.03 | 2.00 | 0.060 | 0.062 | 0.055 | 0.000 | 1485.10 | 9741.03 |
| 0.009239 | 530. | 486. | 465. | 5 | 0 | 0 | 0.00 | 884.97 | 10626.00 |

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

1490 NH CARD USED
*SECNO 1.764

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.76

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.764 | 4.30 | 1491.30 | 0.00 | 0.00 | 1491.39 | 0.10 | 2.19 | 0.01 | 1489.60 |
| 5001.0 | 1473.9 | 1127.6 | 2399.5 | 602.6 | 358.2 | 1076.2 | 230.2 | 121.1 | 1489.10 |
| 0.59 | 2.45 | 3.15 | 2.23 | 0.055 | 0.053 | 0.066 | 0.000 | 1487.00 | 9633.13 |
| 0.002968 | 490. | 496. | 470. | 4 | 0 | 0 | 0.00 | 910.95 | 10544.07 |

*SECNO 1.866

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.58

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.866 | 3.95 | 1493.85 | 0.00 | 0.00 | 1494.03 | 0.18 | 2.61 | 0.03 | 1491.40 |
| 5001.0 | 806.8 | 1830.0 | 2364.1 | 238.3 | 498.6 | 719.5 | 250.6 | 132.0 | 1492.10 |
| 0.63 | 3.39 | 3.67 | 3.29 | 0.055 | 0.065 | 0.055 | 0.000 | 1489.90 | 9667.00 |
| 0.008783 | 520. | 539. | 490. | 4 | 0 | 0 | 0.00 | 964.37 | 10631.37 |

1490 NH CARD USED
*SECNO 1.967

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.967 | 4.27 | 1496.87 | 0.00 | 0.00 | 1496.97 | 0.10 | 2.93 | 0.01 | 1496.00 |
| 5001.0 | 2399.6 | 447.5 | 2153.9 | 900.6 | 175.7 | 888.2 | 269.5 | 144.3 | 1496.30 |
| 0.69 | 2.66 | 2.55 | 2.42 | 0.055 | 0.061 | 0.055 | 0.000 | 1492.60 | 9402.09 |
| 0.004637 | 650. | 533. | 340. | 2 | 0 | 0 | 0.00 | 1338.44 | 10906.10 |

1490 NH CARD USED
*SECNO 2.064

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9031.5 10764.0 TYPE= 1 TARGET= 1732.500

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.064 | 3.63 | 1498.73 | 0.00 | 0.00 | 1498.83 | 0.10 | 1.86 | 0.00 | 1497.40 |
| 5001.0 | 4121.2 | 551.2 | 328.5 | 1613.9 | 217.7 | 244.3 | 290.1 | 158.9 | 1497.90 |
| 0.74 | 2.55 | 2.53 | 1.34 | 0.055 | 0.052 | 0.055 | 0.000 | 1495.10 | 9049.91 |
| 0.003824 | 420. | 512. | 475. | 3 | 0 | 0 | 0.00 | 1484.95 | 10609.95 |

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

1490 NH CARD USED
*SECNO 2.159
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.159 | 3.58 | 1501.08 | 0.00 | 0.00 | 1501.23 | 0.15 | 2.38 | 0.02 | 1500.10 |
| 5001.0 | 3946.7 | 294.2 | 760.1 | 1228.9 | 82.5 | 321.6 | 310.0 | 173.4 | 1500.40 |
| 0.78 | 3.21 | 3.57 | 2.36 | 0.055 | 0.067 | 0.055 | 0.000 | 1497.50 | 9212.21 |
| 0.006932 | 450. | 502. | 530. | 4 | 0 | 0 | 0.00 | 1155.68 | 10367.90 |

1490 NH CARD USED
*SECNO 2.251
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.251 | 3.49 | 1503.49 | 0.00 | 0.00 | 1503.62 | 0.13 | 2.39 | 0.00 | 1503.00 |
| 5001.0 | 4325.4 | 312.5 | 363.1 | 1477.1 | 121.3 | 174.7 | 325.5 | 184.2 | 1503.40 |
| 0.82 | 2.93 | 2.58 | 2.08 | 0.055 | 0.070 | 0.055 | 0.000 | 1500.00 | 9064.74 |
| 0.005407 | 370. | 486. | 510. | 2 | 0 | 0 | 0.00 | 1159.89 | 10224.63 |

1490 NH CARD USED
*SECNO 2.346
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.346 | 3.41 | 1506.11 | 0.00 | 0.00 | 1506.25 | 0.14 | 2.63 | 0.00 | 1505.70 |
| 5001.0 | 4259.0 | 251.5 | 490.5 | 1361.5 | 114.5 | 209.3 | 342.2 | 196.3 | 1505.40 |
| 0.86 | 3.13 | 2.20 | 2.34 | 0.055 | 0.090 | 0.055 | 0.000 | 1502.70 | 8958.43 |
| 0.007366 | 400. | 502. | 530. | 4 | 0 | 0 | 0.00 | 1304.73 | 10263.16 |

1490 NH CARD USED
*SECNO 2.442

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.442 | 3.78 | 1509.18 | 0.00 | 0.00 | 1509.30 | 0.11 | 3.04 | 0.00 | 1508.00 |
| 5001.0 | 2104.8 | 563.2 | 2333.0 | 959.5 | 164.2 | 792.5 | 362.1 | 212.0 | 1507.50 |
| 0.91 | 2.19 | 3.43 | 2.94 | 0.055 | 0.052 | 0.055 | 0.000 | 1505.40 | 8929.34 |
| 0.005514 | 460. | 507. | 525. | 3 | 0 | 0 | 0.00 | 1557.79 | 10487.13 |

1490 NH CARD USED
*SECNO 2.537
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.537 | 4.27 | 1512.07 | 0.00 | 0.00 | 1512.20 | 0.13 | 2.90 | 0.01 | 1510.70 |
| 5001.0 | 785.1 | 1428.7 | 2787.3 | 428.5 | 465.0 | 898.5 | 382.6 | 228.6 | 1510.70 |
| 0.95 | 1.83 | 3.07 | 3.10 | 0.055 | 0.064 | 0.055 | 0.000 | 1507.80 | 9299.46 |
| 0.006454 | 450. | 502. | 500. | 4 | 0 | 0 | 0.00 | 1488.34 | 10831.69 |

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


1490 NH CARD USED
*SECNO 2.631

3265 DIVIDED FLOW

    2.631      4.74   1514.64      0.00      0.00   1514.75      0.10      2.54      0.00   1513.10
   5001.0     702.3    1136.4    3162.3     477.2     403.7    1176.6     402.9     243.9   1514.30
     1.00      1.47      2.82      2.69     0.103     0.065     0.055     0.000   1509.90   9589.33
 0.005269      650.      496.      360.         3         0         0      0.00   1341.51  11000.56


1490 NH CARD USED
*SECNO 2.727

3470 ENCROACHMENT STATIONS=     9156.0   10392.0  TYPE=      1  TARGET=     1236.000
    2.727      5.34   1517.64      0.00      0.00   1517.78      0.14      3.02      0.01   1516.20
   5001.0    2374.2    1571.3    1055.5     835.9     468.9     398.7     423.3     257.2   1516.30
     1.04      2.84      3.35      2.65     0.059     0.074     0.055     0.000   1512.30   9239.84
 0.007836      535.      507.      400.         4         0         0      0.00   1152.16  10392.00


1490 NH CARD USED
*SECNO 2.827

3470 ENCROACHMENT STATIONS=     8926.0   10127.1  TYPE=      1  TARGET=     1201.100
    2.827      4.86   1520.56      0.00      0.00   1520.67      0.11      2.89      0.00   1519.30
   5001.0    3504.1    1496.9       0.0    1406.1     483.4       0.0     440.4     267.6   1521.60
     1.09      2.49      3.10      0.00     0.069     0.069     0.000     0.000   1515.70   9041.60
 0.006095      340.      528.      560.         3         0         0      0.00   1074.51  10116.11


1490 NH CARD USED
*SECNO 2.927

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=     9129.2   10485.0  TYPE=      1  TARGET=     1355.800
    2.927      3.54   1523.04      0.00      0.00   1523.16      0.12      2.49      0.00   1522.50
   5001.0    4062.0     629.2     309.8    1416.1     263.5     182.4     457.8     278.6   1522.70
     1.13      2.87      2.39      1.70     0.070     0.066     0.055     0.000   1519.50   9129.20
 0.006262      360.      528.      600.         4         0         0      0.00   1222.59  10424.79
```

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

1490 NH CARD USED
*SECNO 3.027

3265 DIVIDED FLOW

3280 CROSS SECTION 3.03 EXTENDED 0.06 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.027 | 4.06 | 1525.96 | 0.00 | 0.00 | 1526.13 | 0.17 | 2.95 | 0.02 | 1524.40 |
| 5001.0 | 3012.7 | 1210.8 | 777.5 | 1037.7 | 260.5 | 382.8 | 478.2 | 292.4 | 1525.80 |
| 1.17 | 2.90 | 4.65 | 2.03 | 0.055 | 0.045 | 0.055 | 0.000 | 1521.90 | 9291.49 |
| 0.005482 | 510. | 528. | 430. | 2 | 0 | 0 | 0.00 | 1250.27 | 10596.00 |

1490 NH CARD USED
*SECNO 3.137

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.137 | 3.66 | 1529.16 | 0.00 | 0.00 | 1529.36 | 0.20 | 3.23 | 0.01 | 1528.30 |
| 5001.0 | 1763.7 | 1968.1 | 1269.1 | 643.9 | 425.9 | 477.8 | 499.1 | 306.7 | 1527.70 |
| 1.22 | 2.74 | 4.62 | 2.66 | 0.055 | 0.051 | 0.055 | 0.000 | 1525.50 | 9452.88 |
| 0.005854 | 580. | 581. | 525. | 3 | 0 | 0 | 0.00 | 981.31 | 10434.19 |

*SECNO 3.224

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.224 | 7.09 | 1531.99 | 0.00 | 0.00 | 1532.16 | 0.17 | 2.80 | 0.00 | 1530.70 |
| 5001.0 | 2420.3 | 1160.5 | 1420.2 | 721.9 | 303.8 | 486.5 | 515.1 | 316.3 | 1530.10 |
| 1.26 | 3.35 | 3.82 | 2.92 | 0.055 | 0.072 | 0.055 | 0.000 | 1524.90 | 9565.80 |
| 0.006461 | 450. | 459. | 460. | 3 | 0 | 0 | 0.00 | 844.61 | 10410.41 |

*SECNO 3.321

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.321 | 7.89 | 1534.89 | 0.00 | 0.00 | 1535.07 | 0.18 | 2.90 | 0.00 | 1532.70 |
| 5001.0 | 2186.6 | 1173.8 | 1640.6 | 643.2 | 307.9 | 558.0 | 532.9 | 325.6 | 1533.40 |
| 1.30 | 3.40 | 3.81 | 2.94 | 0.055 | 0.072 | 0.055 | 0.000 | 1527.00 | 9659.90 |
| 0.005027 | 510. | 512. | 520. | 3 | 0 | 0 | 0.00 | 730.71 | 10390.61 |

*SECNO 3.413

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.413 | 8.80 | 1537.60 | 0.00 | 0.00 | 1537.93 | 0.33 | 2.82 | 0.05 | 1534.80 |
| 5001.0 | 1471.6 | 1813.9 | 1715.5 | 316.3 | 340.9 | 456.3 | 547.8 | 332.0 | 1534.80 |
| 1.33 | 4.65 | 5.32 | 3.76 | 0.055 | 0.072 | 0.055 | 0.000 | 1528.80 | 9846.90 |
| 0.006512 | 490. | 486. | 500. | 2 | 0 | 0 | 0.00 | 394.43 | 10241.33 |

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

1490 NH CARD USED
*SECNO 3.514
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.514 | 9.20 | 1540.10 | 0.00 | 0.00 | 1540.24 | 0.14 | 2.29 | 0.02 | 1537.00 |
| 5001.0 | 1344.5 | 1727.2 | 1929.2 | 422.0 | 544.3 | 713.3 | 563.9 | 337.4 | 1536.90 |
| 1.38 | 3.19 | 3.17 | 2.70 | 0.055 | 0.086 | 0.071 | 0.000 | 1530.90 | 9743.31 |
| 0.003470 | 520. | 533. | 470. | 2 | 0 | 0 | 0.00 | 566.13 | 10328.09 |

*SECNO 3.617
3280 CROSS SECTION 3.62 EXTENDED 1.36 FEET

3301 HV CHANGED MORE THAN HVINS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.617 | 8.17 | 1541.67 | 0.00 | 0.00 | 1542.45 | 0.78 | 2.01 | 0.19 | 1538.60 |
| 001.0 | 857.4 | 3805.7 | 337.9 | 308.5 | 476.1 | 142.0 | 579.5 | 342.8 | 1539.30 |
| 1.40 | 2.78 | 7.99 | 2.38 | 0.055 | 0.038 | 0.055 | 0.000 | 1533.50 | 9791.20 |
| 0.004149 | 560. | 544. | 460. | 2 | 0 | 0 | 0.00 | 338.88 | 10130.08 |

CCHV= 0.100 CEHV= 0.300
*SECNO 3.651
3280 CROSS SECTION 3.65 EXTENDED 0.08 FEET

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

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.651 | 8.08 | 1553.08 | 1553.08 | 0.00 | 1553.64 | 0.55 | 0.07 | 0.08 | 1552.00 |
| 5101.0 | 1043.6 | 2977.1 | 1080.3 | 1117.1 | 383.6 | 1175.4 | 586.9 | 348.3 | 1552.00 |
| 1.41 | 0.93 | 7.76 | 0.92 | 0.033 | 0.013 | 0.033 | 0.000 | 1545.00 | 8900.00 |
| 0.000400 | 180. | 180. | 180. | 20 | 6 | 0 | 0.00 | 2300.00 | 11200.00 |

*SECNO 3.670
3280 CROSS SECTION 3.67 EXTENDED 0.06 FEET

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

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

   3.670      8.06   1553.56   1553.56      0.00   1554.14      0.58      0.04      0.01   1552.50
  5101.0    1025.2    3015.5    1060.3    1093.4     382.6    1149.6     593.0     353.6   1552.50
    1.41      0.94      7.88      0.92     0.033     0.013     0.033     0.000   1545.50   8900.00
0.000415      100.      100.      100.        20         6         0      0.00   2300.00  11200.00

CCHV=    0.300 CEHV=    0.500
1490 NH CARD USED
*SECNO 3.713
3280 CROSS SECTION      3.71 EXTENDED      4.32 FEET

3301 HV CHANGED MORE THAN HVINS

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  4.32

3470 ENCROACHMENT STATIONS=     9100.0   10600.0  TYPE=      1  TARGET=     1500.000
     .713     10.92   1554.32      0.00      0.00   1554.32      0.00      0.01      0.17   1545.10
     09.0    1629.1    2838.4     841.4    4097.1    5972.2    2989.0     635.6     363.7   1544.80
     1.57      0.40      0.48      0.28     0.080     0.072     0.089     0.000   1543.40   9100.00
 0.000024      290.      230.      180.         2         0         0      0.00   1500.00  10600.00

1490 NH CARD USED
*SECNO 3.821
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED
3280 CROSS SECTION      3.82 EXTENDED      2.43 FEET

3470 ENCROACHMENT STATIONS=     9039.5   10466.0  TYPE=      1  TARGET=     1426.500
    3.821     10.33   1554.33      0.00      0.00   1554.34      0.00      0.01      0.00   1547.10
   5309.0    3584.3     698.3    1026.4    6839.6     951.4    2269.9     764.0     379.9   1546.90
     1.82      0.52      0.73      0.45     0.065     0.054     0.070     0.000   1544.00   9039.50
 0.000037      390.      570.      565.         2         0         0      0.00   1426.50  10466.00

1490 NH CARD USED
*SECNO 3.917

3265 DIVIDED FLOW
```

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

3280 CROSS SECTION 3.92 EXTENDED 0.17 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.47

3470 ENCROACHMENT STATIONS= 9140.0 10629.0 TYPE= 1 TARGET= 1489.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.917 | 8.27 | 1554.37 | 0.00 | 0.00 | 1554.39 | 0.02 | 0.05 | 0.01 | 1549.30 |
| 5309.0 | 2689.2 | 1969.9 | 649.9 | 2775.1 | 1705.3 | 1013.9 | 846.4 | 394.9 | 1549.10 |
| 1.95 | 0.97 | 1.16 | 0.64 | 0.055 | 0.058 | 0.068 | 0.000 | 1546.10 | 9140.00 |
| 0.000166 | 460. | 507. | 430. | 2 | 0 | 0 | 0.00 | 1431.31 | 10629.00 |

CCHV= 0.100 CEHV= 0.300
1490 NH CARD USED
*SECNO 4.010
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.41

3470 ENCROACHMENT STATIONS= 9274.3 10648.0 TYPE= 1 TARGET= 1373.700

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.010 | 6.39 | 1554.59 | 0.00 | 0.00 | 1554.63 | 0.05 | 0.23 | 0.01 | 1551.00 |
| 5309.0 | 2800.5 | 1380.1 | 1128.4 | 1786.4 | 633.9 | 785.4 | 887.3 | 407.6 | 1552.10 |
| 2.01 | 1.57 | 2.18 | 1.44 | 0.058 | 0.066 | 0.055 | 0.000 | 1548.20 | 9274.30 |
| 0.000971 | 320. | 491. | 530. | 2 | 0 | 0 | 0.00 | 1213.25 | 10487.54 |

1490 NH CARD USED
*SECNO 4.119
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.38

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.119 | 6.64 | 1555.84 | 0.00 | 0.00 | 1556.07 | 0.23 | 1.39 | 0.06 | 1553.90 |
| 5309.0 | 1567.6 | 2521.7 | 1219.7 | 536.9 | 530.7 | 447.1 | 916.7 | 420.9 | 1554.60 |
| 2.05 | 2.92 | 4.75 | 2.73 | 0.055 | 0.073 | 0.055 | 0.000 | 1549.20 | 9406.94 |
| 0.006606 | 590. | 576. | 420. | 3 | 0 | 0 | 0.00 | 969.44 | 10376.39 |

1490 NH CARD USED
*SECNO 4.214

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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 |

1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9486.0 10918.0 TYPE= 1 TARGET= 1432.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.214 | 6.99 | 1558.79 | 0.00 | 0.00 | 1559.06 | 0.27 | 2.97 | 0.01 | 1557.90 |
| 5309.0 | 828.7 | 3423.5 | 1056.8 | 369.5 | 712.5 | 382.2 | 933.6 | 430.5 | 1556.80 |
| 2.09 | 2.24 | 4.80 | 2.77 | 0.055 | 0.066 | 0.055 | 0.000 | 1551.80 | 9567.85 |
| 0.005480 | 470. | 502. | 510. | 4 | 0 | 0 | 0.00 | 736.64 | 10304.49 |

1490 NH CARD USED
*SECNO 4.306
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9382.0 10472.0 TYPE= 1 TARGET= 1090.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.306 | 7.97 | 1561.57 | 0.00 | 0.00 | 1562.01 | 0.44 | 2.90 | 0.05 | 1560.10 |
| 5309.0 | 1180.7 | 3404.0 | 724.3 | 428.8 | 537.7 | 328.6 | 949.1 | 439.0 | 1561.00 |
| 2.12 | 2.75 | 6.33 | 2.20 | 0.063 | 0.061 | 0.055 | 0.000 | 1553.60 | 9689.19 |
| 0.006406 | 510. | 486. | 480. | 2 | 0 | 0 | 0.00 | 759.94 | 10449.13 |

1490 NH CARD USED
*SECNO 4.403
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9715.7 10460.0 TYPE= 1 TARGET= 744.300

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.403 | 9.24 | 1564.54 | 0.00 | 0.00 | 1564.85 | 0.31 | 2.83 | 0.01 | 1563.00 |
| 5309.0 | 2004.0 | 2960.8 | 344.2 | 551.5 | 580.3 | 136.0 | 964.1 | 445.8 | 1561.90 |
| 2.15 | 3.63 | 5.10 | 2.53 | 0.055 | 0.068 | 0.065 | 0.000 | 1555.30 | 9715.70 |
| 0.004947 | 490. | 512. | 530. | 2 | 0 | 0 | 0.00 | 399.33 | 10115.03 |

1490 NH CARD USED
*SECNO 4.497
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9887.2 11040.0 TYPE= 1 TARGET= 1152.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.497 | 11.04 | 1566.94 | 0.00 | 0.00 | 1567.45 | 0.51 | 2.54 | 0.06 | 1564.30 |
| 5320.0 | 553.4 | 3151.7 | 1614.9 | 184.2 | 455.6 | 475.3 | 977.6 | 450.2 | 1563.70 |
| 2.17 | 3.00 | 6.92 | 3.40 | 0.061 | 0.060 | 0.055 | 0.000 | 1555.90 | 9887.20 |
| 0.005304 | 490. | 496. | 500. | 2 | 0 | 0 | 0.00 | 374.81 | 10262.01 |

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

1490 NH CARD USED
*SECNO 4.596
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9883.8 10115.5 TYPE= 1 TARGET= 231.700

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.596 | 10.28 | 1569.28 | 0.00 | 0.00 | 1569.63 | 0.35 | 2.16 | 0.02 | 1566.30 |
| 5320.0 | 366.1 | 4330.7 | 623.2 | 107.0 | 866.2 | 204.4 | 991.1 | 453.7 | 1566.40 |
| 2.20 | 3.42 | 5.00 | 3.05 | 0.055 | 0.063 | 0.055 | 0.000 | 1559.00 | 9883.80 |
| 0.003443 | 510. | 523. | 500. | 2 | 0 | 0 | 0.00 | 231.70 | 10115.50 |

1490 NH CARD USED
*SECNO 4.694
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9812.0 10426.0 TYPE= 1 TARGET= 614.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.694 | 11.72 | 1571.52 | 0.00 | 0.00 | 1572.28 | 0.76 | 2.53 | 0.13 | 1569.00 |
| 5320.0 | 161.4 | 5008.3 | 150.3 | 57.2 | 696.5 | 56.4 | 1002.9 | 456.2 | 1569.30 |
| 2.23 | 2.82 | 7.19 | 2.67 | 0.055 | 0.058 | 0.055 | 0.000 | 1559.80 | 9925.34 |
| [illegible]07016 | 490. | 517. | 510. | 1 | 0 | 0 | 0.00 | 202.00 | 10127.34 |

1490 NH CARD USED
*SECNO 4.789
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9926.8 10469.0 TYPE= 1 TARGET= 542.200

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.789 | 12.90 | 1574.50 | 0.00 | 0.00 | 1574.95 | 0.45 | 2.63 | 0.03 | 1573.80 |
| 5320.0 | 0.0 | 4921.4 | 398.6 | 0.0 | 885.4 | 196.4 | 1013.8 | 458.7 | 1572.10 |
| 2.25 | 0.00 | 5.56 | 2.03 | 0.000 | 0.066 | 0.071 | 0.000 | 1561.60 | 9926.80 |
| 0.004180 | 500. | 502. | 510. | 2 | 0 | 0 | 0.00 | 228.71 | 10155.51 |

1490 NH CARD USED
*SECNO 4.893
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.60

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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= 9881.0 10102.2 TYPE= 1 TARGET= 221.200

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.893 | 8.21 | 1578.41 | 0.00 | 0.00 | 1579.43 | 1.02 | 4.31 | 0.17 | 1577.50 |
| 5320.0 | 102.5 | 5210.8 | 6.7 | 44.6 | 636.5 | 8.8 | 1025.0 | 461.6 | 1578.30 |
| 2.27 | 2.30 | 8.19 | 0.76 | 0.065 | 0.060 | 0.062 | 0.000 | 1570.20 | 9881.00 |
| 0.011494 | 390. | 549. | 620. | 4 | 0 | 0 | 0.00 | 221.20 | 10102.20 |

1490 NH CARD USED
*SECNO 4.988
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3301 HV CHANGED MORE THAN HVINS

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

3470 ENCROACHMENT STATIONS= 9878.0 10106.0 TYPE= 1 TARGET= 228.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [illegible].988 | 9.37 | 1582.77 | 0.00 | 0.00 | 1583.29 | 0.52 | 3.81 | 0.05 | 1581.00 |
| [illegible]20.0 | 59.2 | 5137.9 | 122.9 | 26.8 | 875.5 | 61.6 | 1034.6 | 464.2 | 1581.20 |
| 2.29 | 2.21 | 5.87 | 1.99 | 0.068 | 0.061 | 0.055 | 0.000 | 1573.40 | 9878.00 |
| 0.005661 | 500. | 502. | 505. | 2 | 0 | 0 | 0.00 | 228.00 | 10106.00 |

1490 NH CARD USED
*SECNO 5.095
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED
3280 CROSS SECTION 5.09 EXTENDED 0.56 FEET

3470 ENCROACHMENT STATIONS= 9896.0 10121.0 TYPE= 1 TARGET= 225.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.095 | 9.86 | 1585.76 | 0.00 | 0.00 | 1586.25 | 0.49 | 2.96 | 0.00 | 1584.80 |
| 5320.0 | 416.9 | 4832.2 | 70.9 | 155.8 | 831.4 | 37.6 | 1047.5 | 467.2 | 1585.40 |
| 2.32 | 2.68 | 5.81 | 1.88 | 0.068 | 0.063 | 0.055 | 0.000 | 1575.90 | 9896.00 |
| 0.004872 | 570. | 565. | 560. | 3 | 0 | 0 | 0.00 | 225.00 | 10121.00 |

1490 NH CARD USED
*SECNO 5.189

3265 DIVIDED FLOW

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

   5.189     10.49   1587.89      0.00      0.00   1588.16      0.26      1.88      0.02   1587.70
  5320.0     455.6    4864.4       0.0     235.2    1139.7       0.0    1061.1     470.3   1588.70
    2.36      1.94      4.27      0.00     0.075     0.060     0.000     0.000   1577.40   9819.88
0.003118      490.      496.      500.         2         0         0      0.00    332.58  10161.80

CCHV=    0.300 CEHV=    0.500
1490 NH CARD USED
*SECNO 5.287
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   5.287     11.92   1592.52   1592.52      0.00   1592.88      0.37      5.60     -2.58   1591.90
  5330.0    2015.9    2953.3     360.7     991.8     471.2     208.1    1078.6     481.4   1591.80
    2.39      2.03      6.27      1.73     0.075     0.052     0.068     0.000   1580.60   8755.12
0.011055      470.      517.      540.         5        11         0      0.00   1632.38  10387.50

CCHV=    0.100 CEHV=    0.300
1490 NH CARD USED
*SECNO 5.386

3265 DIVIDED FLOW

   5.386     15.16   1596.56      0.00      0.00   1597.09      0.53      4.16      0.05   1595.00
  5330.0    1866.7    2918.0     545.3    1093.5     378.7     207.1    1098.2     498.2   1593.90
    2.42      1.71      7.71      2.63     0.077     0.058     0.065     0.000   1581.40   8954.96
0.006380      510.      523.      480.         4         0         0      0.00   1278.24  10285.60

1490 NH CARD USED
*SECNO 5.485
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED
   5.485     12.55   1599.65      0.00      0.00   1599.92      0.27      2.80      0.03   1599.40
  5330.0    1430.6    3000.8     898.7     936.6     567.0     362.6    1120.0     514.6   1597.70
    2.46      1.53      5.29      2.48     0.068     0.055     0.055     0.000   1587.10   8982.07
0.004551      570.      523.      440.         3         0         0      0.00   1339.53  10321.61

1490 NH CARD USED
*SECNO 5.577
   5.577      9.72   1602.02   1602.00      0.00   1602.61      0.59      2.60      0.10   1601.60
  5330.0    1077.8    4099.9     152.3     735.1     587.5      75.3    1137.0     528.0   1600.70
    2.48      1.47      6.98      2.02     0.065     0.045     0.055     0.000   1592.30   8854.37
0.006419      400.      486.      570.         5        17         0      0.00   1373.78  10228.15
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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 |

1490 NH CARD USED
*SECNO 5.668

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.668 | 2.79 | 1604.99 | 0.00 | 0.00 | 1605.09 | 0.10 | 2.43 | 0.05 | 1603.80 |
| 5330.0 | 3842.9 | 1101.5 | 385.6 | 1382.1 | 601.6 | 271.6 | 1154.1 | 541.4 | 1603.80 |
| 2.53 | 2.78 | 1.83 | 1.42 | 0.055 | 0.071 | 0.090 | 0.000 | 1602.20 | 8925.92 |
| 0.005235 | 345. | 480. | 545. | 5 | 0 | 0 | 0.00 | 1567.41 | 10495.86 |

1490 NH CARD USED
*SECNO 5.765

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.765 | 3.09 | 1607.89 | 0.00 | 0.00 | 1607.99 | 0.10 | 2.90 | 0.00 | 1606.70 |
| 5330.0 | 2958.0 | 932.8 | 1439.1 | 1003.8 | 554.6 | 798.9 | 1179.6 | 559.8 | 1606.80 |
| 2.58 | 2.95 | 1.68 | 1.80 | 0.055 | 0.095 | 0.095 | 0.000 | 1604.80 | 9066.99 |
| 0.007477 | 410. | 512. | 610. | 3 | 0 | 0 | 0.00 | 1717.20 | 10784.18 |

1490 NH CARD USED
*SECNO 5.858

3470 ENCROACHMENT STATIONS= 9238.0 10750.0 TYPE= 1 TARGET= 1512.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.858 | 3.23 | 1611.13 | 0.00 | 0.00 | 1611.19 | 0.07 | 3.20 | 0.00 | 1610.30 |
| 5330.0 | 1425.8 | 2719.0 | 1185.2 | 717.8 | 1304.5 | 537.9 | 1205.1 | 576.0 | 1609.40 |
| 2.64 | 1.99 | 2.08 | 2.20 | 0.074 | 0.095 | 0.095 | 0.000 | 1607.90 | 9292.06 |
| 0.006919 | 380. | 491. | 490. | 4 | 0 | 0 | 0.00 | 1457.94 | 10750.00 |

1490 NH CARD USED
*SECNO 5.945

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.945 | 2.35 | 1613.65 | 0.00 | 0.00 | 1613.70 | 0.05 | 2.51 | 0.00 | 1613.40 |
| 5340.0 | 3857.7 | 1392.0 | 90.2 | 1955.9 | 986.4 | 79.9 | 1234.7 | 597.6 | 1613.10 |
| 2.71 | 1.97 | 1.41 | 1.13 | 0.056 | 0.087 | 0.055 | 0.000 | 1611.30 | 8233.01 |
| 0.004458 | 470. | 459. | 440. | 5 | 0 | 0 | 0.00 | 2617.65 | 10850.66 |

1490 NH CARD USED
*SECNO 6.026

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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= 8230.0 10978.0 TYPE= 1 TARGET= 2748.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.026 | 1.76 | 1615.36 | 0.00 | 0.00 | 1615.44 | 0.09 | 1.73 | 0.01 | 1615.80 |
| 5340.0 | 5249.6 | 90.2 | 0.1 | 2185.0 | 139.9 | 1.0 | 1257.3 | 618.1 | 1615.30 |
| 2.75 | 2.40 | 0.64 | 0.14 | 0.055 | 0.076 | 0.075 | 0.000 | 1613.60 | 8230.00 |
| 0.005127 | 350. | 428. | 445. | 3 | 0 | 0 | 0.00 | 2153.85 | 10471.26 |

1490 NH CARD USED
*SECNO 6.067

3470 ENCROACHMENT STATIONS= 7989.0 10501.0 TYPE= 1 TARGET= 2512.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.067 | 5.94 | 1617.04 | 0.00 | 0.00 | 1617.12 | 0.08 | 1.68 | 0.00 | 1616.40 |
| 5340.0 | 3957.0 | 812.4 | 570.6 | 1682.1 | 390.0 | 301.9 | 1274.2 | 632.8 | 1615.30 |
| 2.79 | 2.35 | 2.08 | 1.89 | 0.059 | 0.089 | 0.060 | 0.000 | 1611.10 | 8398.95 |
| 0.005417 | 335. | 216. | 210. | 4 | 0 | 0 | 0.00 | 2043.71 | 10442.66 |

1490 NH CARD USED
*SECNO 6.135

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.135 | 6.52 | 1618.72 | 0.00 | 0.00 | 1618.84 | 0.12 | 1.71 | 0.01 | 1617.50 |
| 5340.0 | 4020.8 | 1110.5 | 208.7 | 1662.3 | 276.4 | 126.6 | 1287.5 | 643.9 | 1617.20 |
| 2.82 | 2.42 | 4.02 | 1.65 | 0.071 | 0.073 | 0.065 | 0.000 | 1612.20 | 8513.44 |
| 0.007908 | 230. | 359. | 340. | 2 | 0 | 0 | 0.00 | 1728.51 | 10291.96 |

1490 NH CARD USED
*SECNO 6.223

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.223 | 5.44 | 1621.54 | 0.00 | 0.00 | 1621.60 | 0.06 | 2.75 | 0.01 | 1620.30 |
| 5340.0 | 3471.8 | 828.2 | 1040.0 | 1794.4 | 350.4 | 548.3 | 1310.9 | 661.9 | 1620.40 |
| 2.88 | 1.93 | 2.36 | 1.90 | 0.075 | 0.085 | 0.085 | 0.000 | 1616.10 | 8563.34 |
| 0.005350 | 420. | 465. | 440. | 3 | 0 | 0 | 0.00 | 1964.04 | 10527.38 |

1490 NH CARD USED
*SECNO 6.321

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.321 | 2.81 | 1624.01 | 0.00 | 0.00 | 1624.09 | 0.08 | 2.49 | 0.01 | 1622.50 |
| 5340.0 | 4103.1 | 105.4 | 1131.5 | 1712.9 | 50.4 | 656.4 | 1334.0 | 678.5 | 1622.90 |
| 2.93 | 2.40 | 2.09 | 1.72 | 0.072 | 0.095 | 0.095 | 0.000 | 1621.20 | 8792.97 |
| 0.007371 | 350. | 517. | 480. | 5 | 0 | 0 | 0.00 | 1734.58 | 10527.55 |

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

1490 NH CARD USED
*SECNO 6.413

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9259.0 10921.0 TYPE= 1 TARGET= 1662.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.413 | 2.79 | 1627.49 | 0.00 | 0.00 | 1627.63 | 0.14 | 3.52 | 0.02 | 1625.90 |
| 5340.0 | 4183.0 | 184.0 | 973.0 | 1322.1 | 91.8 | 390.6 | 1357.6 | 694.8 | 1626.20 |
| 2.97 | 3.16 | 2.00 | 2.49 | 0.063 | 0.095 | 0.062 | 0.000 | 1624.70 | 9286.79 |
| 0.007076 | 490. | 486. | 480. | 4 | 0 | 0 | 0.00 | 1179.93 | 10851.79 |

1490 NH CARD USED
*SECNO 6.511
3280 CROSS SECTION 6.51 EXTENDED 0.15 FEET

3470 ENCROACHMENT STATIONS= 9849.0 10909.0 TYPE= 1 TARGET= 1060.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .511 | 4.85 | 1630.35 | 0.00 | 0.00 | 1630.49 | 0.14 | 2.86 | 0.00 | 1628.00 |
| 40.0 | 402.6 | 2056.5 | 2881.0 | 202.7 | 586.9 | 1039.5 | 1376.0 | 705.2 | 1628.00 |
| 3.01 | 1.99 | 3.50 | 2.77 | 0.095 | 0.066 | 0.055 | 0.000 | 1625.50 | 9892.37 |
| 0.005806 | 530. | 517. | 310. | 4 | 0 | 0 | 0.00 | 1013.65 | 10906.02 |

1490 NH CARD USED
*SECNO 6.603

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.603 | 4.86 | 1633.46 | 0.00 | 0.00 | 1633.60 | 0.14 | 3.11 | 0.00 | 1631.30 |
| 5340.0 | 909.9 | 2664.1 | 1766.0 | 311.4 | 828.7 | 660.4 | 1397.0 | 716.8 | 1632.20 |
| 3.06 | 2.92 | 3.21 | 2.67 | 0.055 | 0.086 | 0.055 | 0.000 | 1628.60 | 9674.66 |
| 0.006593 | 530. | 486. | 510. | 3 | 0 | 0 | 0.00 | 986.84 | 10661.50 |

1490 NH CARD USED
*SECNO 6.704

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.704 | 4.59 | 1636.19 | 0.00 | 0.00 | 1636.36 | 0.17 | 2.75 | 0.01 | 1634.00 |
| 5340.0 | 3050.3 | 1355.0 | 934.7 | 763.2 | 547.2 | 585.8 | 1416.4 | 726.0 | 1634.60 |
| 3.10 | 4.00 | 2.48 | 1.60 | 0.055 | 0.081 | 0.095 | 0.000 | 1631.60 | 9616.41 |
| 0.005192 | 510. | 533. | 330. | 2 | 0 | 0 | 0.00 | 873.05 | 10489.46 |

1490 NH CARD USED

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

*SECNO 6.801
3280 CROSS SECTION 6.80 EXTENDED 0.89 FEET

3470 ENCROACHMENT STATIONS= 8620.0 10276.0 TYPE= 1 TARGET= 1656.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.801 | 3.29 | 1638.89 | 0.00 | 0.00 | 1639.00 | 0.11 | 2.63 | 0.01 | 1638.00 |
| 5350.0 | 2320.9 | 3005.1 | 24.0 | 789.5 | 1273.2 | 32.2 | 1437.3 | 736.9 | 1638.00 |
| 3.15 | 2.94 | 2.36 | 0.74 | 0.056 | 0.095 | 0.095 | 0.000 | 1635.60 | 8908.98 |
| 0.006619 | 390. | 512. | 450. | 2 | 0 | 0 | 0.00 | 1261.22 | 10170.20 |

1490 NH CARD USED
*SECNO 6.897

3265 DIVIDED FLOW

3280 CROSS SECTION 6.90 EXTENDED 0.31 FEET

3470 ENCROACHMENT STATIONS= 8486.0 10202.0 TYPE= 1 TARGET= 1716.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.897 | 3.22 | 1641.82 | 0.00 | 0.00 | 1641.93 | 0.11 | 2.93 | 0.00 | 1641.70 |
| 5350.0 | 5309.6 | 40.4 | 0.0 | 1991.1 | 54.5 | 0.0 | 1457.9 | 749.8 | 1642.00 |
| 3.19 | 2.67 | 0.74 | 0.00 | 0.072 | 0.095 | 0.000 | 0.000 | 1638.60 | 8530.99 |
| 0.006997 | 400. | 507. | 440. | 3 | 0 | 0 | 0.00 | 1388.36 | 10081.96 |

1490 NH CARD USED
*SECNO 6.986

3265 DIVIDED FLOW

3280 CROSS SECTION 6.99 EXTENDED 0.27 FEET

3470 ENCROACHMENT STATIONS= 8226.0 10156.0 TYPE= 1 TARGET= 1930.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.986 | 2.18 | 1644.68 | 0.00 | 0.00 | 1644.82 | 0.14 | 2.88 | 0.01 | 1644.80 |
| 5350.0 | 5311.0 | 34.8 | 4.2 | 1769.8 | 40.6 | 6.0 | 1474.4 | 763.1 | 1645.00 |
| 3.23 | 3.00 | 0.86 | 0.70 | 0.057 | 0.095 | 0.055 | 0.000 | 1642.50 | 8226.00 |
| 0.008553 | 370. | 470. | 440. | 2 | 0 | 0 | 0.00 | 1661.26 | 10115.09 |

1490 NH CARD USED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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 7.077
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 7900.0 10114.1 TYPE= 1 TARGET= 2214.100

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.077 | 2.09 | 1647.89 | 0.00 | 0.00 | 1647.98 | 0.09 | 3.16 | 0.01 | 1648.10 |
| 5350.0 | 5336.4 | 13.6 | 0.0 | 2242.9 | 18.4 | 0.0 | 1496.9 | 783.2 | 100000.00 |
| 3.28 | 2.38 | 0.74 | 0.00 | 0.059 | 0.074 | 0.000 | 0.000 | 1645.80 | 7952.73 |
| 0.005349 | 480. | 480. | 460. | 5 | 0 | 0 | 0.00 | 2000.31 | 10041.93 |

1490 NH CARD USED
*SECNO 7.167

3470 ENCROACHMENT STATIONS= 8166.0 10717.0 TYPE= 1 TARGET= 2551.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.167 | 3.96 | 1651.86 | 0.00 | 0.00 | 1651.96 | 0.10 | 3.97 | 0.00 | 1651.40 |
| 5350.0 | 3450.1 | 114.5 | 1785.5 | 1457.0 | 81.4 | 618.0 | 1527.5 | 812.7 | 1651.40 |
| 3.35 | 2.37 | 1.41 | 2.89 | 0.057 | 0.095 | 0.057 | 0.000 | 1647.90 | 8370.21 |
| 8199 | 630. | 475. | 460. | 7 | 0 | 0 | 0.00 | 2272.64 | 10642.85 |

1490 NH CARD USED
*SECNO 7.264

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.264 | 3.07 | 1655.27 | 0.00 | 0.00 | 1655.34 | 0.08 | 3.38 | 0.00 | 1654.50 |
| 5350.0 | 4098.2 | 654.1 | 597.7 | 1780.9 | 508.8 | 249.8 | 1553.9 | 838.0 | 1654.50 |
| 3.41 | 2.30 | 1.29 | 2.39 | 0.059 | 0.095 | 0.055 | 0.000 | 1652.20 | 8183.79 |
| 0.005973 | 490. | 512. | 480. | 3 | 0 | 0 | 0.00 | 2215.81 | 10399.60 |

1490 NH CARD USED
*SECNO 7.352

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 8528.0 10637.0 TYPE= 1 TARGET= 2109.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.352 | 3.77 | 1658.17 | 0.00 | 0.00 | 1658.28 | 0.11 | 2.93 | 0.01 | 1657.40 |
| 5350.0 | 3270.4 | 901.9 | 1177.7 | 1203.8 | 582.1 | 405.2 | 1577.8 | 858.7 | 1657.60 |
| 3.46 | 2.72 | 1.55 | 2.91 | 0.056 | 0.084 | 0.055 | 0.000 | 1654.40 | 8528.00 |
| 0.007528 | 420. | 465. | 480. | 4 | 0 | 0 | 0.00 | 1902.68 | 10478.84 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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 7.438

3470 ENCROACHMENT STATIONS= 9157.0 10348.0 TYPE= 1 TARGET= 1191.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.438 | 4.47 | 1661.27 | 0.00 | 0.00 | 1661.40 | 0.12 | 3.11 | 0.01 | 1659.50 |
| 5350.0 | 2147.0 | 1926.0 | 1277.0 | 643.1 | 893.1 | 460.1 | 1598.8 | 874.3 | 1660.20 |
| 3.50 | 3.34 | 2.16 | 2.78 | 0.055 | 0.085 | 0.055 | 0.000 | 1656.80 | 9157.00 |
| 0.006789 | 420. | 454. | 450. | 3 | 0 | 0 | 0.00 | 1191.00 | 10348.00 |

1490 NH CARD USED
*SECNO 7.533

3470 ENCROACHMENT STATIONS= 9401.0 10164.8 TYPE= 1 TARGET= 763.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.533 | 5.15 | 1664.75 | 0.00 | 0.00 | 1664.96 | 0.21 | 3.54 | 0.02 | 1662.40 |
| 5350.0 | 1917.5 | 3122.7 | 309.8 | 407.2 | 1073.7 | 128.4 | 1618.4 | 884.5 | 1662.60 |
| 3.54 | 4.71 | 2.91 | 2.41 | 0.055 | 0.085 | 0.084 | 0.000 | 1659.60 | 9410.39 |
| 0.008520 | 410. | 502. | 490. | 3 | 0 | 0 | 0.00 | 698.87 | 10109.26 |

14[illegible] NH CARD USED
*[illegible] 7.624

3470 ENCROACHMENT STATIONS= 9700.3 10508.0 TYPE= 1 TARGET= 807.700

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.624 | 5.09 | 1667.99 | 0.00 | 0.00 | 1668.16 | 0.17 | 3.20 | 0.00 | 1666.10 |
| 5350.0 | 1634.8 | 1566.0 | 2149.2 | 376.3 | 563.1 | 783.6 | 1636.1 | 891.7 | 1665.90 |
| 3.58 | 4.34 | 2.78 | 2.74 | 0.055 | 0.082 | 0.074 | 0.000 | 1662.90 | 9700.30 |
| 0.005678 | 510. | 480. | 390. | 3 | 0 | 0 | 0.00 | 666.56 | 10366.86 |

*SECNO 7.709

3470 ENCROACHMENT STATIONS= 9755.0 10571.0 TYPE= 1 TARGET= 816.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.709 | 6.38 | 1670.68 | 0.00 | 0.00 | 1670.84 | 0.16 | 2.68 | 0.00 | 1667.10 |
| 5360.0 | 193.0 | 4093.2 | 1073.7 | 60.3 | 1325.7 | 286.5 | 1653.2 | 898.2 | 1667.70 |
| 3.62 | 3.20 | 3.09 | 3.75 | 0.055 | 0.082 | 0.055 | 0.000 | 1664.30 | 9793.29 |
| 0.006509 | 470. | 449. | 410. | 3 | 0 | 0 | 0.00 | 627.71 | 10421.00 |

1490 NH CARD USED
*SECNO 7.800

3470 ENCROACHMENT STATIONS= 9595.0 10458.0 TYPE= 1 TARGET= 863.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.800 | 5.15 | 1673.45 | 0.00 | 0.00 | 1673.59 | 0.15 | 2.75 | 0.00 | 1670.80 |
| 5334.0 | 1925.5 | 2256.9 | 1151.6 | 493.8 | 900.3 | 455.5 | 1672.6 | 906.0 | 1671.70 |
| 3.66 | 3.90 | 2.51 | 2.53 | 0.055 | 0.080 | 0.062 | 0.000 | 1668.30 | 9595.00 |
| [illegible]5111 | 505. | 480. | 460. | 2 | 0 | 0 | 0.00 | 796.34 | 10391.34 |

```
 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


1490 NH CARD USED
*SECNO 7.896
    7.896      6.08   1675.98      0.00      0.00   1676.13      0.15      2.53      0.00   1674.80
   5307.0    4533.3     732.9      40.8    1412.5     364.2      22.6    1692.5     914.8   1674.30
     3.71      3.21      2.01      1.81     0.068     0.085     0.055     0.000   1669.90   9281.80
 0.005629      460.      507.      455.         2         0         0      0.00    822.87  10104.67


1490 NH CARD USED
*SECNO 7.995

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=     9371.5   10470.0  TYPE=      1  TARGET=     1098.500
    7.995      7.18   1678.78      0.00      0.00   1678.97      0.18      2.83      0.01   1677.40
   5279.0    4593.6     351.5     333.8    1272.2     180.7     188.0    1712.1     924.5   1677.80
     3.75      3.61      1.95      1.78     0.055     0.085     0.070     0.000   1671.60   9371.50
 0.005817      490.      523.      500.         2         0         0      0.00    874.48  10292.27


1490 NH CARD USED
*SECNO 8.088

3470 ENCROACHMENT STATIONS=     9565.0   10235.0  TYPE=      1  TARGET=      670.000
    8.088      3.92   1681.52      0.00      0.00   1681.75      0.23      2.77      0.01   1680.00
   5253.0     419.1    4144.2     689.7     191.7    1020.9     220.5    1729.6     932.9   1679.80
     3.78      2.19      4.06      3.13     0.055     0.056     0.063     0.000   1677.60   9565.00
 0.005351      500.      491.      500.         2         0         0      0.00    597.70  10162.70


1490 NH CARD USED
*SECNO 8.182

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=     9565.3   10218.0  TYPE=      1  TARGET=      652.700
    8.182      4.93   1684.93      0.00      0.00   1685.50      0.57      3.65      0.10   1681.20
   5227.0    1765.2    2626.6     835.2     473.7     344.8     207.5    1743.1     938.7   1682.10
     3.81      3.73      7.62      4.03     0.057     0.053     0.080     0.000   1680.00   9565.30
 0.010715      420.      496.      510.         4         0         0      0.00    492.37  10104.30
```

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

1490 NH CARD USED
*SECNO 8.273
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

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

3470 ENCROACHMENT STATIONS= 9720.0 10150.0 TYPE= 1 TARGET= 430.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8.273 | 5.97 | 1688.47 | 0.00 | 0.00 | 1688.68 | 0.21 | 3.15 | 0.04 | 1684.80 |
| 5201.0 | 3309.6 | 1107.2 | 784.2 | 916.9 | 243.7 | 349.0 | 1756.8 | 943.7 | 1684.20 |
| 3.84 | 3.61 | 4.54 | 2.25 | 0.069 | 0.070 | 0.100 | 0.000 | 1682.50 | 9720.00 |
| 0.004840 | 460. | 480. | 490. | 3 | 0 | 0 | 0.00 | 430.00 | 10150.00 |

1490 NH CARD USED
*SECNO 8.374

3470 ENCROACHMENT STATIONS= 9552.0 10160.0 TYPE= 1 TARGET= 608.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8.374 | 7.23 | 1691.23 | 0.00 | 0.00 | 1691.64 | 0.42 | 2.90 | 0.06 | 1686.90 |
| 172.0 | 1707.0 | 1949.2 | 1515.8 | 480.5 | 267.0 | 521.6 | 1773.5 | 948.2 | 1687.30 |
| 3.87 | 3.55 | 7.30 | 2.91 | 0.080 | 0.051 | 0.105 | 0.000 | 1684.00 | 9831.48 |
| 0.006342 | 510. | 533. | 540. | 3 | 0 | 0 | 0.00 | 328.52 | 10160.00 |

1490 NH CARD USED
*SECNO 8.465

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9462.0 10193.6 TYPE= 1 TARGET= 731.600

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8.465 | 5.72 | 1693.92 | 0.00 | 0.00 | 1694.49 | 0.57 | 2.80 | 0.05 | 1689.10 |
| 5147.0 | 853.1 | 3206.9 | 1087.0 | 332.1 | 433.7 | 376.9 | 1787.1 | 952.2 | 1690.20 |
| 3.90 | 2.57 | 7.40 | 2.88 | 0.094 | 0.042 | 0.084 | 0.000 | 1688.20 | 9707.29 |
| 0.005273 | 425. | 480. | 560. | 1 | 0 | 0 | 0.00 | 375.26 | 10193.60 |

1490 NH CARD USED
*SECNO 8.560

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.57

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8.560 | 6.96 | 1695.86 | 0.00 | 0.00 | 1696.01 | 0.15 | 1.48 | 0.04 | 1691.80 |
| 5120.0 | 2997.4 | 1647.7 | 474.9 | 1370.4 | 358.4 | 272.0 | 1804.6 | 957.0 | 1690.90 |
| 3.94 | 2.19 | 4.60 | 1.75 | 0.077 | 0.048 | 0.105 | 0.000 | 1688.90 | 9605.71 |
| 02125 | 500. | 502. | 420. | 3 | 0 | 0 | 0.00 | 500.01 | 10105.72 |

```
 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


1490 NH CARD USED
*SECNO 8.654
    8.654      5.22   1697.42      0.00      0.00   1697.61      0.19      1.59      0.01   1695.20
   5094.0    2992.4    1572.7     528.9     954.9     345.7     291.9    1825.1     963.3   1694.00
     3.98      3.13      4.55      1.81     0.061     0.054     0.105     0.000   1692.20   9550.92
 0.004264      500.      496.      480.         2         0         0      0.00    603.98  10154.90


1490 NH CARD USED
*SECNO 8.740

3470 ENCROACHMENT STATIONS=     9642.1   10632.0  TYPE=      1  TARGET=     989.900
    8.740      6.73   1699.73      0.00      0.00   1700.25      0.52      2.54      0.10   1696.80
   5070.0     312.2    4399.4     358.4     105.7     719.5     159.2    1838.6     968.2   1696.90
     4.01      2.95      6.11      2.25     0.055     0.053     0.099     0.000   1693.00   9788.25
 0.007169      480.      454.      410.         2         0         0      0.00    315.66  10103.91


1490 NH CARD USED
*SECNO 8.844
    8.844      7.73   1703.63      0.00      0.00   1704.39      0.76      4.07      0.07   1700.30
   5040.0    2266.2    2667.9     105.9     741.4     291.2      46.3    1851.1     972.1   1700.40
     4.03      3.06      9.16      2.29     0.090     0.045     0.080     0.000   1695.90   9708.60
 0.008067      500.      549.      530.         3         0         0      0.00    345.49  10054.08


1490 NH CARD USED
*SECNO 8.940

3470 ENCROACHMENT STATIONS=     9728.8   10473.0  TYPE=      1  TARGET=     744.200
    8.940      8.00   1707.10      0.00      0.00   1707.64      0.54      3.23      0.02   1702.80
   5013.0    2428.0    2251.4     333.5     716.0     279.0     168.5    1863.6     976.1   1703.10
     4.05      3.39      8.07      1.98     0.076     0.045     0.103     0.000   1699.10   9736.96
 0.005502      480.      507.      500.         2         0         0      0.00    363.69  10100.65


1490 NH CARD USED
*SECNO 9.032
3280 CROSS SECTION      9.03 EXTENDED      2.98 FEET


3470 ENCROACHMENT STATIONS=     9664.5   10164.0  TYPE=      1  TARGET=     499.500
    9.032      7.68   1709.28      0.00      0.00   1709.45      0.17      1.77      0.04   1706.40
   4987.0    2175.6    2116.2     695.2     777.5     507.9     401.6    1877.1     980.1   1706.20
     4.09      2.80      4.17      1.73     0.065     0.062     0.105     0.000   1701.60   9664.50
   13520       300.      486.      600.         3         0         0      0.00    499.50  10164.00
```

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

1490 NH CARD USED
*SECNO 9.119

3265 DIVIDED FLOW

3280 CROSS SECTION 9.12 EXTENDED 0.54 FEET

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.54

3470 ENCROACHMENT STATIONS= 9842.7 10274.0 TYPE= 1 TARGET= 431.300

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.119 | 7.93 | 1711.63 | 0.00 | 0.00 | 1712.35 | 0.72 | 2.73 | 0.16 | 1707.30 |
| 4962.0 | 1047.2 | 2215.5 | 1699.3 | 321.5 | 239.9 | 407.6 | 1889.7 | 984.3 | 1709.10 |
| 4.11 | 3.26 | 9.24 | 4.17 | 0.085 | 0.054 | 0.059 | 0.000 | 1703.70 | 9842.70 |
| 0.011897 | 450. | 459. | 320. | 2 | 0 | 0 | 0.00 | 414.94 | 10274.00 |

1490 NH CARD USED
*SECNO 9.202
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9850.8 10188.0 TYPE= 1 TARGET= 337.200

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.202 | 8.80 | 1715.40 | 0.00 | 0.00 | 1716.21 | 0.81 | 3.84 | 0.03 | 1712.90 |
| 4940.0 | 82.2 | 4832.4 | 25.4 | 48.9 | 663.5 | 14.4 | 1898.2 | 987.1 | 1712.90 |
| 4.13 | 1.68 | 7.28 | 1.76 | 0.085 | 0.060 | 0.080 | 0.000 | 1706.60 | 9926.15 |
| 0.006875 | 400. | 438. | 475. | 2 | 0 | 0 | 0.00 | 148.97 | 10075.12 |

1490 NH CARD USED
*SECNO 9.289

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.289 | 8.93 | 1718.83 | 0.00 | 0.00 | 1719.83 | 1.00 | 3.57 | 0.06 | 1716.00 |
| 4915.0 | 1400.8 | 2970.9 | 543.2 | 381.9 | 298.9 | 176.3 | 1906.8 | 989.6 | 1715.30 |
| 4.14 | 3.67 | 9.94 | 3.08 | 0.065 | 0.045 | 0.088 | 0.000 | 1709.90 | 9754.48 |
| 0.008507 | 510. | 459. | 450. | 3 | 0 | 0 | 0.00 | 299.02 | 10092.32 |

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

1490 NH CARD USED
*SECNO 9.387

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.50

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.387 | 6.69 | 1720.49 | 0.00 | 0.00 | 1720.54 | 0.05 | 0.61 | 0.10 | 1718.70 |
| 669.0 | 156.3 | 510.4 | 2.3 | 220.3 | 248.7 | 6.8 | 1914.6 | 993.5 | 1719.60 |
| 4.23 | 0.71 | 2.05 | 0.34 | 0.067 | 0.045 | 0.065 | 0.000 | 1713.80 | 9691.55 |
| 0.000638 | 510. | 517. | 500. | 4 | 0 | 0 | 0.00 | 368.79 | 10060.34 |

*SECNO 9.480

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.39

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.480 | 2.98 | 1721.58 | 0.00 | 0.00 | 1721.79 | 0.20 | 1.20 | 0.05 | 1722.80 |
| 669.0 | 23.8 | 639.5 | 5.7 | 16.4 | 173.1 | 7.6 | 1918.4 | 996.2 | 1720.70 |
| 4.26 | 1.46 | 3.69 | 0.75 | 0.065 | 0.045 | 0.075 | 0.000 | 1718.60 | 9914.60 |
| 0.004264 | 490. | 491. | 490. | 4 | 0 | 0 | 0.00 | 110.44 | 10037.08 |

*SECNO 9.588

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.57

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.588 | 2.76 | 1725.46 | 0.00 | 0.00 | 1726.12 | 0.67 | 4.20 | 0.14 | 1728.20 |
| 669.0 | 0.0 | 658.4 | 10.6 | 0.0 | 99.6 | 5.0 | 1920.3 | 997.2 | 1728.60 |
| 4.29 | 0.00 | 6.61 | 2.10 | 0.000 | 0.038 | 0.065 | 0.000 | 1722.70 | 9953.35 |
| 0.013155 | 50. | 570. | 540. | 7 | 0 | 0 | 0.00 | 61.55 | 10061.53 |

*SECNO 9.677

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.677 | 3.33 | 1730.63 | 0.00 | 0.00 | 1730.91 | 0.27 | 4.74 | 0.04 | 1729.20 |
| 669.0 | 6.6 | 592.3 | 70.1 | 4.1 | 134.4 | 35.9 | 1921.8 | 998.1 | 1729.30 |
| 4.32 | 1.62 | 4.41 | 1.95 | 0.065 | 0.054 | 0.065 | 0.000 | 1727.30 | 9958.38 |
| 0.008184 | 450. | 470. | 470. | 3 | 0 | 0 | 0.00 | 102.58 | 10060.96 |

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

*SECNO 9.770

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.770 | 3.12 | 1735.02 | 0.00 | 0.00 | 1735.21 | 0.19 | 4.30 | 0.01 | 1737.80 |
| 669.0 | 0.0 | 328.9 | 340.1 | 0.0 | 75.8 | 141.2 | 1924.0 | 999.7 | 1735.30 |
| 4.36 | 0.00 | 4.34 | 2.41 | 0.000 | 0.045 | 0.065 | 0.000 | 1731.90 | 9987.62 |
| 0.009339 | 480. | 491. | 490. | 5 | 0 | 0 | 0.00 | 182.34 | 10196.78 |

1490 NH CARD USED
*SECNO 9.865

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.865 | 2.22 | 1740.62 | 0.00 | 0.00 | 1740.92 | 0.31 | 5.68 | 0.03 | 1742.50 |
| 669.0 | 0.0 | 669.0 | 0.0 | 0.0 | 150.8 | 0.0 | 1926.1 | 1001.6 | 1742.90 |
| 4.39 | 0.00 | 4.44 | 0.00 | 0.000 | 0.040 | 0.000 | 0.000 | 1738.40 | 9909.94 |
| 0.013652 | 490. | 502. | 470. | 8 | 0 | 0 | 0.00 | 145.89 | 10055.83 |

1490 NH CARD USED
*SECNO 9.963

3265 DIVIDED FLOW

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

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.963 | 3.05 | 1745.45 | 0.00 | 0.00 | 1745.60 | 0.15 | 4.66 | 0.02 | 1746.80 |
| 669.0 | 67.7 | 601.3 | 0.0 | 34.0 | 186.8 | 0.0 | 1928.3 | 1003.3 | 1747.70 |
| 4.44 | 1.99 | 3.22 | 0.00 | 0.072 | 0.052 | 0.000 | 0.000 | 1742.40 | 9464.35 |
| 0.006785 | 465. | 517. | 480. | 4 | 0 | 0 | 0.00 | 144.68 | 10020.74 |

1490 NH CARD USED
*SECNO 10.054

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.054 | 2.38 | 1749.28 | 0.00 | 0.00 | 1749.54 | 0.27 | 3.91 | 0.04 | 1750.90 |
| 669.0 | 96.9 | 437.9 | 134.2 | 47.9 | 98.2 | 31.5 | 1930.3 | 1004.7 | 1750.80 |
| 4.47 | 2.02 | 4.46 | 4.26 | 0.095 | 0.045 | 0.038 | 0.000 | 1746.90 | 9629.54 |
| 0.010328 | 370. | 480. | 380. | 4 | 0 | 0 | 0.00 | 130.77 | 10295.49 |

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

1490 NH CARD USED
*SECNO 10.139

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.139 | 3.71 | 1754.21 | 1753.78 | 0.00 | 1754.63 | 0.42 | 5.04 | 0.05 | 1754.40 |
| 669.0 | 1.5 | 347.2 | 320.3 | 6.5 | 71.1 | 57.4 | 1931.9 | 1006.4 | 1754.80 |
| 4.49 | 0.22 | 4.88 | 5.58 | 0.105 | 0.045 | 0.045 | 0.000 | 1750.50 | 9608.30 |
| 0.012862 | 450. | 449. | 415. | 6 | 14 | 0 | 0.00 | 208.83 | 10170.54 |

1490 NH CARD USED
*SECNO 10.232

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.232 | 5.27 | 1759.17 | 0.00 | 0.00 | 1759.32 | 0.15 | 4.66 | 0.03 | 1758.80 |
| 669.0 | 129.6 | 533.9 | 5.6 | 111.4 | 156.8 | 5.4 | 1934.1 | 1010.3 | 1758.60 |
| 4.54 | 1.16 | 3.41 | 1.03 | 0.055 | 0.045 | 0.055 | 0.000 | 1753.90 | 9543.55 |
| 007675 | 450. | 491. | 480. | 4 | 0 | 0 | 0.00 | 519.52 | 10127.97 |

1490 NH CARD USED
*SECNO 10.320

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.320 | 5.24 | 1762.64 | 0.00 | 0.00 | 1762.74 | 0.10 | 3.42 | 0.00 | 1762.40 |
| 669.0 | 138.1 | 401.2 | 129.7 | 66.5 | 137.2 | 98.4 | 1937.2 | 1015.1 | 1762.70 |
| 4.59 | 2.08 | 2.92 | 1.32 | 0.057 | 0.060 | 0.058 | 0.000 | 1757.40 | 9676.50 |
| 0.007081 | 450. | 465. | 490. | 4 | 0 | 0 | 0.00 | 385.71 | 10339.67 |

1490 NH CARD USED
*SECNO 10.426

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 8986.8 10565.0 TYPE= 1 TARGET= 1578.200

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.426 | 5.02 | 1766.92 | 0.00 | 0.00 | 1767.06 | 0.13 | 4.30 | 0.01 | 1766.90 |
| 669.0 | 231.7 | 436.9 | 0.4 | 73.1 | 156.0 | 0.9 | 1940.4 | 1018.6 | 1768.50 |
| 4.64 | 3.17 | 2.80 | 0.42 | 0.060 | 0.060 | 0.055 | 0.000 | 1761.90 | 9641.87 |
| 0.009495 | 450. | 560. | 510. | 4 | 0 | 0 | 0.00 | 223.30 | 10123.65 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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 10.516

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.516 | 4.05 | 1771.75 | 0.00 | 0.00 | 1771.97 | 0.21 | 4.89 | 0.02 | 1771.60 |
| 669.0 | 434.8 | 186.7 | 47.5 | 101.7 | 85.0 | 19.5 | 1942.8 | 1021.0 | 1772.40 |
| 4.68 | 4.27 | 2.20 | 2.43 | 0.055 | 0.060 | 0.055 | 0.000 | 1767.70 | 9812.82 |
| 0.011166 | 470. | 475. | 490. | 5 | 0 | 0 | 0.00 | 214.29 | 10213.75 |

*SECNO 10.620

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9347.0 10442.7 TYPE= 1 TARGET= 1095.700

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.620 | 4.27 | 1776.97 | 0.00 | 0.00 | 1777.06 | 0.09 | 5.08 | 0.01 | 1776.50 |
| 669.0 | 417.2 | 249.4 | 2.4 | 208.3 | 81.4 | 6.0 | 1945.9 | 1025.3 | 1777.10 |
| 4.74 | 2.00 | 3.06 | 0.40 | 0.065 | 0.072 | 0.055 | 0.000 | 1772.70 | 9580.83 |
| 007942 | 550. | 549. | 500. | 4 | 0 | 0 | 0.00 | 470.19 | 10287.36 |

*SECNO 10.710

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9150.2 10624.0 TYPE= 1 TARGET= 1473.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.710 | 4.63 | 1781.33 | 0.00 | 0.00 | 1781.47 | 0.14 | 4.39 | 0.01 | 1781.60 |
| 669.0 | 525.2 | 139.1 | 4.7 | 159.9 | 86.7 | 8.5 | 1948.7 | 1030.6 | 1781.30 |
| 4.78 | 3.28 | 1.60 | 0.55 | 0.055 | 0.060 | 0.055 | 0.000 | 1776.70 | 9351.25 |
| 0.012362 | 430. | 475. | 480. | 6 | 0 | 0 | 0.00 | 559.30 | 10118.74 |

1490 NH CARD USED
*SECNO 10.802

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9521.6 10760.0 TYPE= 1 TARGET= 1238.400

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.802 | 2.27 | 1785.57 | 0.00 | 0.00 | 1785.65 | 0.08 | 4.17 | 0.01 | 1784.70 |
| 669.0 | 448.3 | 131.3 | 89.4 | 180.2 | 67.8 | 78.9 | 1952.0 | 1036.1 | 1784.80 |
| 4.85 | 2.49 | 1.94 | 1.13 | 0.055 | 0.072 | 0.071 | 0.000 | 1783.30 | 9525.67 |
| 0.006374 | 500. | 486. | 480. | 4 | 0 | 0 | 0.00 | 427.26 | 10194.78 |

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

1490 NH CARD USED
*SECNO 10.891

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.69

3470 ENCROACHMENT STATIONS= 8994.4 10565.0 TYPE= 1 TARGET= 1570.600

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.891 | 2.31 | 1789.91 | 0.00 | 0.00 | 1789.99 | 0.08 | 4.34 | 0.00 | 1789.50 |
| 669.0 | 144.1 | 524.3 | 0.5 | 84.3 | 221.9 | 1.2 | 1955.4 | 1041.7 | 1789.80 |
| 4.90 | 1.71 | 2.36 | 0.45 | 0.055 | 0.066 | 0.055 | 0.000 | 1787.60 | 9324.47 |
| 0.013465 | 470. | 470. | 450. | 2 | 0 | 0 | 0.00 | 618.15 | 10147.01 |

*SECNO 10.982

3265 DIVIDED FLOW

3[illegible]ROSS SECTION 10.98 EXTENDED 0.35 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.982 | 2.75 | 1794.45 | 0.00 | 0.00 | 1794.49 | 0.04 | 4.50 | 0.00 | 1794.10 |
| 669.0 | 441.6 | 192.3 | 35.1 | 277.6 | 105.4 | 34.2 | 1959.3 | 1048.9 | 1793.70 |
| 4.98 | 1.59 | 1.82 | 1.03 | 0.055 | 0.075 | 0.065 | 0.000 | 1791.70 | 9170.10 |
| 0.007500 | 450. | 480. | 480. | 6 | 0 | 0 | 0.00 | 746.37 | 10117.93 |

1490 NH CARD USED
*SECNO 11.079

3470 ENCROACHMENT STATIONS= 9981.2 10378.0 TYPE= 1 TARGET= 396.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.079 | 5.73 | 1798.73 | 0.00 | 0.00 | 1798.83 | 0.10 | 4.32 | 0.02 | 1799.00 |
| 669.0 | 0.0 | 114.5 | 554.5 | 0.0 | 40.8 | 229.0 | 1962.7 | 1054.4 | 1798.40 |
| 5.03 | 0.00 | 2.81 | 2.42 | 0.000 | 0.062 | 0.056 | 0.000 | 1793.00 | 9983.62 |
| 0.013548 | 410. | 512. | 400. | 7 | 0 | 0 | 0.00 | 394.38 | 10378.00 |

1490 NH CARD USED
*SECNO 11.174

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | L-BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | R-BANK ELEV |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |

3470 ENCROACHMENT STATIONS= 9974.0 10462.7 TYPE= 1 TARGET= 488.700

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.174 | 6.80 | 1804.00 | 0.00 | 0.00 | 1804.06 | 0.06 | 5.23 | 0.00 | 1803.90 |
| 699.0 | 0.0 | 104.6 | 594.4 | 0.0 | 59.0 | 296.0 | 1966.3 | 1059.5 | 1804.10 |
| 5.10 | 0.02 | 1.77 | 2.01 | 0.055 | 0.072 | 0.055 | 0.000 | 1797.20 | 9974.00 |
| 0.008288 | 490. | 502. | 510. | 2 | 0 | 0 | 0.00 | 476.15 | 10462.70 |

1490 NH CARD USED
*SECNO 11.264

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9970.8 10393.0 TYPE= 1 TARGET= 422.200

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.264 | 6.28 | 1807.88 | 0.00 | 0.00 | 1808.03 | 0.15 | 3.94 | 0.03 | 1807.80 |
| 709.0 | 0.0 | 448.3 | 260.7 | 0.0 | 123.1 | 151.5 | 1969.5 | 1063.3 | 1807.80 |
| 5.15 | 0.00 | 3.64 | 1.72 | 0.000 | 0.072 | 0.065 | 0.000 | 1801.60 | 9970.80 |
| 0.009305 | 450. | 475. | 430. | 5 | 0 | 0 | 0.00 | 288.15 | 10347.13 |

1490 NH CARD USED
*SECNO 11.368

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.70

3470 ENCROACHMENT STATIONS= 9978.9 10537.0 TYPE= 1 TARGET= 558.100

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.368 | 4.40 | 1813.00 | 0.00 | 0.00 | 1813.16 | 0.16 | 5.13 | 0.00 | 1811.90 |
| 1922.0 | 0.0 | 527.1 | 1394.9 | 0.0 | 122.3 | 523.6 | 1975.3 | 1068.6 | 1811.90 |
| 5.19 | 0.00 | 4.31 | 2.66 | 0.000 | 0.072 | 0.068 | 0.000 | 1808.60 | 9978.90 |
| 0.009352 | 530. | 549. | 550. | 5 | 0 | 0 | 0.00 | 549.79 | 10528.69 |

1490 NH CARD USED
*SECNO 11.469

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.469 | 5.84 | 1817.04 | 0.00 | 0.00 | 1817.15 | 0.11 | 3.98 | 0.01 | 1815.40 |
| 2162.0 | 226.0 | 292.3 | 1643.7 | 97.1 | 77.0 | 685.9 | 1984.5 | 1075.8 | 1815.00 |
| 5.25 | 2.33 | 3.80 | 2.40 | 0.068 | 0.072 | 0.068 | 0.000 | 1811.20 | 9919.63 |
| 0.006299 | 500. | 533. | 530. | 5 | 0 | 0 | 0.00 | 629.83 | 10549.46 |

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

1490 NH CARD USED
*SECNO 11.570
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.68

3470 ENCROACHMENT STATIONS= 9912.0 10740.0 TYPE= 1 TARGET= 828.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.570 | 4.55 | 1822.05 | 0.00 | 0.00 | 1822.16 | 0.11 | 5.01 | 0.00 | 1821.50 |
| 2162.0 | 49.6 | 122.4 | 1990.0 | 30.3 | 31.2 | 775.5 | 1994.3 | 1084.0 | 1821.70 |
| 5.30 | 1.64 | 3.92 | 2.57 | 0.072 | 0.063 | 0.087 | 0.000 | 1817.50 | 9935.53 |
| 0.013608 | 510. | 533. | 500. | 6 | 0 | 0 | 0.00 | 804.47 | 10740.00 |

1490 NH CARD USED
*SECNO 11.666

3265 DIVIDED FLOW

3282 CROSS SECTION 11.67 EXTENDED 0.30 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.46

3470 ENCROACHMENT STATIONS= 9911.6 10841.9 TYPE= 1 TARGET= 930.301

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.666 | 2.10 | 1827.00 | 0.00 | 0.00 | 1827.09 | 0.09 | 4.92 | 0.00 | 1826.80 |
| 2371.0 | 0.6 | 172.5 | 2197.9 | 1.7 | 55.4 | 962.6 | 2004.9 | 1093.1 | 1827.00 |
| 5.36 | 0.35 | 3.12 | 2.28 | 0.082 | 0.045 | 0.077 | 0.000 | 1824.90 | 9951.87 |
| 0.007712 | 480. | 507. | 500. | 2 | 0 | 0 | 0.00 | 783.52 | 10841.90 |

1490 NH CARD USED
*SECNO 11.750
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9540.0 10661.0 TYPE= 1 TARGET= 1121.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.750 | 3.97 | 1830.87 | 0.00 | 0.00 | 1830.96 | 0.09 | 3.87 | 0.00 | 1830.40 |
| 2371.0 | 113.8 | 393.6 | 1863.6 | 73.5 | 95.6 | 945.1 | 2015.5 | 1101.0 | 1830.70 |
| 5.42 | 1.55 | 4.12 | 1.97 | 0.064 | 0.057 | 0.132 | 0.000 | 1826.90 | 9767.57 |
| 0.010405 | 450. | 444. | 430. | 5 | 0 | 0 | 0.00 | 798.45 | 10661.00 |

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

1490 NH CARD USED
*SECNO 11.847
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9828.5 10589.6 TYPE= 1 TARGET= 761.100

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.847 | 5.33 | 1835.03 | 0.00 | 0.00 | 1835.13 | 0.10 | 4.16 | 0.00 | 1838.90 |
| 2371.0 | 0.0 | 578.0 | 1793.0 | 0.0 | 145.2 | 955.5 | 2027.8 | 1108.3 | 1840.60 |
| 5.47 | 0.00 | 3.98 | 1.88 | 0.000 | 0.058 | 0.129 | 0.000 | 1829.70 | 9982.78 |
| 0.007258 | 490. | 512. | 480. | 3 | 0 | 0 | 0.00 | 514.30 | 10589.60 |

*SECNO 11.920

3470 ENCROACHMENT STATIONS= 9885.4 10907.4 TYPE= 1 TARGET= 1022.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.920 | 3.26 | 1837.26 | 0.00 | 0.00 | 1837.35 | 0.10 | 2.23 | 0.00 | 1836.70 |
| 2371.0 | 0.0 | 2363.5 | 7.5 | 0.0 | 948.4 | 13.9 | 2034.8 | 1112.2 | 1836.90 |
| 5.51 | 0.00 | 2.49 | 0.54 | 0.000 | 0.072 | 0.072 | 0.000 | 1834.00 | 9885.40 |
| 6893 | 240. | 385. | 200. | 3 | 0 | 0 | 0.00 | 617.85 | 10503.25 |

1490 NH CARD USED
*SECNO 12.010

3470 ENCROACHMENT STATIONS= 9589.5 10613.0 TYPE= 1 TARGET= 1023.500

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.010 | 3.40 | 1839.90 | 0.00 | 0.00 | 1840.00 | 0.10 | 2.65 | 0.00 | 1839.90 |
| 2371.0 | 0.0 | 2371.0 | 0.0 | 0.0 | 914.5 | 0.0 | 2045.0 | 1118.3 | 1840.20 |
| 5.56 | 0.00 | 2.59 | 0.00 | 0.000 | 0.056 | 0.000 | 0.000 | 1836.50 | 9621.57 |
| 0.004676 | 350. | 475. | 325. | 2 | 0 | 0 | 0.00 | 533.69 | 10155.26 |

1490 NH CARD USED
*SECNO 12.101

3265 DIVIDED FLOW

3280 CROSS SECTION 12.10 EXTENDED 0.19 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.15

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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 |

3470 ENCROACHMENT STATIONS= 9685.2 10265.0 TYPE= 1 TARGET= 579.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.101 | 4.28 | 1844.18 | 0.00 | 0.00 | 1844.40 | 0.22 | 4.37 | 0.03 | 1845.50 |
| 849.0 | 805.4 | 43.6 | 0.0 | 209.1 | 26.0 | 0.0 | 2050.9 | 1122.4 | 1845.20 |
| 5.59 | 3.85 | 1.68 | 0.00 | 0.063 | 0.072 | 0.000 | 0.000 | 1839.90 | 9685.20 |
| 0.027514 | 280. | 480. | 300. | 5 | 0 | 0 | 0.00 | 309.50 | 10252.83 |

1490 NH CARD USED
*SECNO 12.191
3280 CROSS SECTION 12.19 EXTENDED 1.19 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.92

3470 ENCROACHMENT STATIONS= 9871.2 10271.6 TYPE= 1 TARGET= 400.399

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.191 | 6.20 | 1849.60 | 0.00 | 0.00 | 1849.67 | 0.07 | 5.25 | 0.01 | 1851.30 |
| 849.0 | 0.0 | 848.9 | 0.1 | 0.0 | 393.5 | 0.2 | 2054.2 | 1125.6 | 1849.20 |
| 5.64 | 0.00 | 2.16 | 0.75 | 0.000 | 0.071 | 0.055 | 0.000 | 1843.40 | 9947.55 |
| 7474 | 415. | 475. | 430. | 10 | 0 | 0 | 0.00 | 301.60 | 10249.15 |

1490 NH CARD USED
*SECNO 12.281

3470 ENCROACHMENT STATIONS= 9901.5 10412.0 TYPE= 1 TARGET= 510.500

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.281 | 7.02 | 1853.32 | 0.00 | 0.00 | 1853.38 | 0.06 | 3.71 | 0.00 | 1854.50 |
| 979.0 | 0.0 | 979.0 | 0.0 | 0.0 | 492.4 | 0.1 | 2059.0 | 1129.7 | 1853.10 |
| 5.71 | 0.00 | 1.99 | 0.01 | 0.000 | 0.071 | 0.105 | 0.000 | 1846.30 | 9941.17 |
| 0.008155 | 460. | 475. | 450. | 7 | 0 | 0 | 0.00 | 452.22 | 10393.40 |

1490 NH CARD USED
*SECNO 12.369
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3265 DIVIDED FLOW

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

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

3470 ENCROACHMENT STATIONS= 9748.8 11002.0 TYPE= 1 TARGET= 1253.200

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.369 | 7.73 | 1857.63 | 0.00 | 0.00 | 1857.73 | 0.10 | 4.34 | 0.01 | 1859.00 |
| 1812.0 | 0.0 | 1139.9 | 672.1 | 0.0 | 421.3 | 309.5 | 2066.0 | 1136.4 | 1857.70 |
| 5.77 | 0.00 | 2.71 | 2.17 | 0.000 | 0.064 | 0.065 | 0.000 | 1849.90 | 9767.23 |
| 0.009689 | 430. | 465. | 590. | 6 | 0 | 0 | 0.00 | 700.12 | 10730.70 |

1490 NH CARD USED
*SECNO 12.464

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9633.4 11400.0 TYPE= 1 TARGET= 1766.600

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.464 | 7.71 | 1862.21 | 0.00 | 0.00 | 1862.39 | 0.18 | 4.63 | 0.02 | 1862.50 |
| 1812.0 | 988.4 | 199.9 | 623.8 | 326.4 | 45.7 | 174.1 | 2073.2 | 1144.6 | 1863.10 |
| 5.81 | 3.03 | 4.37 | 3.58 | 0.055 | 0.038 | 0.047 | 0.000 | 1854.50 | 9633.40 |
| 0.009315 | 440. | 502. | 510. | 4 | 0 | 0 | 0.00 | 742.60 | 11078.16 |

1490 NH CARD USED
*SECNO 12.614

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9829.0 11450.0 TYPE= 1 TARGET= 1621.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.614 | 3.31 | 1869.31 | 0.00 | 0.00 | 1869.51 | 0.20 | 7.12 | 0.01 | 1870.00 |
| 2371.0 | 0.0 | 289.7 | 2081.3 | 0.0 | 74.3 | 584.6 | 2081.2 | 1154.7 | 1870.00 |
| 5.85 | 0.00 | 3.90 | 3.56 | 0.000 | 0.042 | 0.056 | 0.000 | 1866.00 | 9927.33 |
| 0.014874 | 615. | 781. | 540. | 5 | 0 | 0 | 0.00 | 794.88 | 11372.87 |

1490 NH CARD USED
*SECNO 12.692

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9972.0 11477.0 TYPE= 1 TARGET= 1505.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.692 | 4.79 | 1874.79 | 0.00 | 0.00 | 1875.11 | 0.32 | 5.56 | 0.04 | 1874.50 |
| 2371.0 | 0.0 | 1455.4 | 915.6 | 0.0 | 264.0 | 382.7 | 2088.1 | 1163.1 | 1876.00 |
| 5.88 | 0.00 | 5.51 | 2.39 | 0.000 | 0.041 | 0.055 | 0.000 | 1870.00 | 9972.00 |
| 0.010477 | 430. | 405. | 480. | 4 | 0 | 0 | 0.00 | 759.94 | 11357.38 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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 |

1490 NH CARD USED
*SECNO 12.752

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.752 | 4.54 | 1878.04 | 0.00 | 0.00 | 1878.39 | 0.35 | 3.28 | 0.01 | 1876.90 |
| 2371.0 | 493.7 | 1125.1 | 752.2 | 118.7 | 199.5 | 209.0 | 2092.3 | 1167.4 | 1878.20 |
| 5.90 | 4.16 | 5.64 | 3.60 | 0.055 | 0.045 | 0.046 | 0.000 | 1873.50 | 9890.14 |
| 0.010775 | 290. | 317. | 300. | 4 | 0 | 0 | 0.00 | 491.23 | 10974.93 |

1490 NH CARD USED
*SECNO 12.849

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.849 | 4.90 | 1882.60 | 1882.47 | 0.00 | 1883.20 | 0.60 | 4.73 | 0.07 | 1881.80 |
| 2371.0 | 11.4 | 1242.3 | 1117.3 | 9.5 | 162.6 | 274.1 | 2098.0 | 1172.6 | 1882.70 |
| 5.92 | 1.20 | 7.64 | 4.08 | 0.060 | 0.038 | 0.042 | 0.000 | 1877.70 | 9949.91 |
| 7973 | 520. | 512. | 520. | 7 | 8 | 0 | 0.00 | 371.53 | 10730.47 |

1490 NH CARD USED
*SECNO 12.942
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9459.0 10399.6 TYPE= 1 TARGET= 940.600

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.942 | 3.26 | 1887.66 | 0.00 | 0.00 | 1888.10 | 0.44 | 4.89 | 0.02 | 1887.20 |
| 2371.0 | 172.0 | 1554.8 | 644.2 | 84.9 | 253.6 | 180.6 | 2103.3 | 1177.2 | 1888.60 |
| 5.95 | 2.03 | 6.13 | 3.57 | 0.070 | 0.037 | 0.055 | 0.000 | 1884.40 | 9788.59 |
| 0.012468 | 470. | 491. | 460. | 6 | 0 | 0 | 0.00 | 490.08 | 10399.60 |

1490 NH CARD USED
*SECNO 13.025

3470 ENCROACHMENT STATIONS= 9596.0 10117.0 TYPE= 1 TARGET= 521.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13.025 | 3.91 | 1892.91 | 0.00 | 0.00 | 1893.69 | 0.78 | 5.48 | 0.10 | 1892.40 |
| 2371.0 | 591.6 | 1779.4 | 0.0 | 153.8 | 226.5 | 0.0 | 2107.7 | 1180.5 | 1894.40 |
| 5.97 | 3.85 | 7.86 | 0.00 | 0.070 | 0.038 | 0.000 | 0.000 | 1889.00 | 9833.96 |
| 0.013049 | 360. | 438. | 470. | 4 | 0 | 0 | 0.00 | 193.15 | 10027.11 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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 13.127

3470 ENCROACHMENT STATIONS= 9900.0 10402.0 TYPE= 1 TARGET= 502.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13.127 | 3.24 | 1898.44 | 0.00 | 0.00 | 1898.77 | 0.34 | 5.04 | 0.04 | 1898.80 |
| 2371.0 | 0.0 | 1550.1 | 820.9 | 0.0 | 284.3 | 323.3 | 2113.3 | 1183.9 | 1897.40 |
| 6.00 | 0.00 | 5.45 | 2.54 | 0.000 | 0.045 | 0.055 | 0.000 | 1895.20 | 9968.67 |
| 0.007866 | 460. | 539. | 450. | 5 | 0 | 0 | 0.00 | 425.51 | 10394.18 |

*SECNO 13.221

3470 ENCROACHMENT STATIONS= 9582.0 10370.0 TYPE= 1 TARGET= 788.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13.221 | 4.49 | 1903.39 | 0.00 | 0.00 | 1903.97 | 0.58 | 5.13 | 0.07 | 1905.80 |
| 2371.0 | 0.0 | 2352.9 | 18.1 | 0.0 | 384.4 | 17.0 | 2119.0 | 1187.8 | 1903.00 |
| 6.02 | 0.00 | 6.12 | 1.07 | 0.000 | 0.050 | 0.055 | 0.000 | 1898.90 | 9974.37 |
| 0.013633 | 480. | 496. | 490. | 3 | 0 | 0 | 0.00 | 248.64 | 10223.01 |

1490 NH CARD USED
*SECNO 13.325
1[illegible] MANNINGS N VALUES FOR CHANNEL COMPOSITED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13.325 | 4.15 | 1908.55 | 0.00 | 0.00 | 1909.11 | 0.56 | 5.13 | 0.00 | 1907.10 |
| 2371.0 | 146.4 | 2187.4 | 37.2 | 81.2 | 351.4 | 17.5 | 2124.3 | 1190.6 | 1905.60 |
| 6.05 | 1.80 | 6.22 | 2.13 | 0.065 | 0.044 | 0.075 | 0.000 | 1904.40 | 9868.60 |
| 0.007160 | 500. | 549. | 500. | 4 | 0 | 0 | 0.00 | 223.27 | 10091.87 |

1490 NH CARD USED
*SECNO 13.419

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 1914.80 ELREA= 1914.00

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13.419 | 3.84 | 1913.44 | 0.00 | 0.00 | 1914.15 | 0.71 | 5.00 | 0.04 | 1914.80 |
| 2371.0 | 0.0 | 2371.0 | 0.0 | 0.0 | 351.2 | 0.0 | 2128.9 | 1192.9 | 1914.00 |
| 6.07 | 0.00 | 6.75 | 0.00 | 0.000 | 0.040 | 0.000 | 0.000 | 1909.60 | 9900.45 |
| 0.012988 | 490. | 496. | 560. | 4 | 0 | 0 | 0.00 | 172.60 | 10073.05 |

*SECNO 13.499

3301 HV CHANGED MORE THAN HVINS

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

3470 ENCROACHMENT STATIONS= 9960.2 10038.0 TYPE= 1 TARGET= 77.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13.499 | 4.12 | 1918.92 | 0.00 | 0.00 | 1920.34 | 1.43 | 5.98 | 0.22 | 1915.70 |
| 2371.0 | 390.9 | 1980.1 | 0.0 | 84.7 | 192.5 | 0.0 | 2131.9 | 1194.1 | 100000.00 |
| 6.08 | 4.62 | 10.28 | 0.00 | 0.082 | 0.042 | 0.000 | 0.000 | 1914.80 | 9960.20 |
| 0.015711 | 380. | 422. | 480. | 4 | 0 | 0 | 0.00 | 77.80 | 10038.00 |

THIS RUN EXECUTED 1JUL93 9:02:34

**********
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

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| | SECNO | Q | CWSEL | DEPTH | VCH | 10*KS | K*CHSL | ELMIN | TOPWID | K*XNCH | KRATIO | AREA | IHLEQ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.640 | 3692.00 | 1460.98 | 2.88 | 3.26 | 108.97 | 0.00 | 1458.10 | 937.05 | 82.00 | 0.00 | 1336.61 | 4.00 |
| | 0.734 | 3692.00 | 1464.41 | 3.61 | 2.50 | 63.63 | 5.44 | 1460.80 | 866.01 | 82.00 | 1.31 | 1509.46 | 4.00 |
| | 0.819 | 3857.00 | 1466.89 | 3.79 | 2.39 | 52.13 | 5.12 | 1463.10 | 878.79 | 82.00 | 1.15 | 1595.25 | 4.00 |
| | 0.912 | 4352.00 | 1469.45 | 4.65 | 2.89 | 62.99 | 3.46 | 1464.80 | 1059.24 | 78.83 | 1.03 | 1679.23 | 3.00 |
| * | 0.999 | 4854.00 | 1471.67 | 4.37 | 2.78 | 39.16 | 5.45 | 1467.30 | 1177.13 | 64.76 | 1.41 | 2113.38 | 4.00 |
| | 1.101 | 5001.00 | 1473.93 | 3.83 | 2.78 | 60.75 | 5.19 | 1470.10 | 885.05 | 69.68 | 0.83 | 1804.56 | 2.00 |
| | 1.189 | 5001.00 | 1476.33 | 4.13 | 2.68 | 52.01 | 4.52 | 1472.20 | 1020.27 | 73.27 | 1.08 | 1914.99 | 4.00 |
| | 1.285 | 5001.00 | 1478.80 | 4.10 | 2.48 | 47.81 | 4.93 | 1474.70 | 915.80 | 82.00 | 1.04 | 2080.27 | 4.00 |
| | 1.386 | 5001.00 | 1481.30 | 3.20 | 2.30 | 53.59 | 6.38 | 1478.10 | 924.91 | 82.00 | 0.94 | 1961.48 | 2.00 |
| | 1.480 | 5001.00 | 1483.69 | 4.19 | 2.68 | 49.97 | 2.82 | 1479.50 | 851.82 | 75.28 | 1.04 | 1746.78 | 4.00 |
| | 1.578 | 5001.00 | 1486.08 | 3.68 | 2.82 | 37.11 | 5.61 | 1482.40 | 921.21 | 59.16 | 1.16 | 1883.27 | 4.00 |
| * | 1.670 | 5001.00 | 1488.96 | 3.86 | 4.03 | 92.39 | 5.56 | 1485.10 | 884.97 | 61.96 | 0.63 | 1344.57 | 3.00 |
| * | 1.764 | 5001.00 | 1491.30 | 4.30 | 3.15 | 29.68 | 3.83 | 1487.00 | 910.95 | 53.02 | 1.76 | 2037.02 | 4.00 |
| * | 1.866 | 5001.00 | 1493.85 | 3.95 | 3.67 | 87.83 | 5.38 | 1489.90 | 964.37 | 65.00 | 0.58 | 1456.37 | 3.00 |
| | 1.967 | 5001.00 | 1496.87 | 4.27 | 2.55 | 46.37 | 5.07 | 1492.60 | 1338.44 | 60.54 | 1.38 | 1964.53 | 4.00 |
| | 2.064 | 5001.00 | 1498.73 | 3.63 | 2.53 | 38.24 | 4.88 | 1495.10 | 1484.95 | 51.66 | 1.10 | 2075.96 | 4.00 |
| | 2.159 | 5001.00 | 1501.08 | 3.58 | 3.57 | 69.32 | 4.78 | 1497.50 | 1155.68 | 67.22 | 0.74 | 1632.99 | 3.00 |

| | SECNO | Q | CWSEL | DEPTH | VCH | 10*KS | K*CHSL | ELMIN | TOPWID | K*XNCH | KRATIO | AREA | IHLEQ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2.251 | 5001.00 | 1503.49 | 3.49 | 2.58 | 54.07 | 5.14 | 1500.00 | 1159.89 | 70.37 | 1.13 | 1773.10 | 4.00 |
| | 2.346 | 5001.00 | 1506.11 | 3.41 | 2.20 | 73.66 | 5.38 | 1502.70 | 1304.73 | 90.04 | 0.86 | 1685.29 | 3.00 |
| | 2.442 | 5001.00 | 1509.18 | 3.78 | 3.43 | 55.14 | 5.33 | 1505.40 | 1557.79 | 52.06 | 1.16 | 1916.18 | 4.00 |
| | 2.537 | 5001.00 | 1512.07 | 4.27 | 3.07 | 64.54 | 4.78 | 1507.80 | 1488.34 | 64.34 | 0.92 | 1792.00 | 3.00 |
| | 2.631 | 5001.00 | 1514.64 | 4.74 | 2.82 | 52.69 | 4.23 | 1509.90 | 1341.51 | 64.53 | 1.11 | 2057.50 | 4.00 |
| | 2.727 | 5001.00 | 1517.64 | 5.34 | 3.35 | 78.36 | 4.73 | 1512.30 | 1152.16 | 74.41 | 0.82 | 1703.53 | 3.00 |
| | 2.827 | 5001.00 | 1520.56 | 4.86 | 3.10 | 60.95 | 6.44 | 1515.70 | 1074.51 | 69.37 | 1.13 | 1889.40 | 4.00 |
| | 2.927 | 5001.00 | 1523.04 | 3.54 | 2.39 | 62.62 | 7.20 | 1519.50 | 1222.59 | 66.17 | 0.99 | 1862.02 | 2.00 |
| | 3.027 | 5001.00 | 1525.96 | 4.06 | 4.65 | 54.82 | 4.55 | 1521.90 | 1250.27 | 45.22 | 1.07 | 1681.05 | 4.00 |
| | 3.137 | 5001.00 | 1529.16 | 3.66 | 4.62 | 58.54 | 6.20 | 1525.50 | 981.31 | 51.36 | 0.97 | 1547.60 | 2.00 |
| | 3.224 | 5001.00 | 1531.99 | 7.09 | 3.82 | 64.61 | -1.31 | 1524.90 | 844.61 | 72.00 | 0.95 | 1512.26 | 3.00 |
| | 3.321 | 5001.00 | 1534.89 | 7.89 | 3.81 | 50.27 | 4.10 | 1527.00 | 730.71 | 72.00 | 1.13 | 1509.09 | 4.00 |
| | 3.413 | 5001.00 | 1537.60 | 8.80 | 5.32 | 65.12 | 3.70 | 1528.80 | 394.43 | 72.00 | 0.88 | 1113.44 | 3.00 |
| | 3.514 | 5001.00 | 1540.10 | 9.20 | 3.17 | 34.70 | 3.94 | 1530.90 | 566.13 | 85.50 | 1.37 | 1679.60 | 4.00 |
| | 3.617 | 5001.00 | 1541.67 | 8.17 | 7.99 | 41.49 | 4.78 | 1533.50 | 338.88 | 38.00 | 0.91 | 926.60 | 2.00 |
| * | 3.651 | 5101.00 | 1553.08 | 8.08 | 7.76 | 4.00 | 63.89 | 1545.00 | 2300.00 | 13.00 | 3.28 | 2676.12 | 4.00 |
| * | 3.670 | 5101.00 | 1553.56 | 8.06 | 7.88 | 4.15 | 5.00 | 1545.50 | 2300.00 | 13.00 | 0.98 | 2625.59 | 4.00 |
| * | 3.713 | 5309.00 | 1554.32 | 10.92 | 0.48 | 0.24 | -9.13 | 1543.40 | 1500.00 | 71.98 | 4.32 | 13058.37 | 4.00 |
| | 3.821 | 5309.00 | 1554.33 | 10.33 | 0.73 | 0.37 | 1.05 | 1544.00 | 1426.50 | 53.93 | 0.80 | 10060.97 | 2.00 |
| * | 3.917 | 5309.00 | 1554.37 | 8.27 | 1.16 | 1.66 | 4.14 | 1546.10 | 1431.31 | 58.01 | 0.47 | 5494.21 | 2.00 |
| * | 4.010 | 5309.00 | 1554.59 | 6.39 | 2.18 | 9.71 | 4.28 | 1548.20 | 1213.25 | 66.37 | 0.41 | 3205.79 | 2.00 |
| * | 4.119 | 5309.00 | 1555.84 | 6.64 | 4.75 | 66.06 | 1.74 | 1549.20 | 969.44 | 72.62 | 0.38 | 1514.68 | 3.00 |
| | 4.214 | 5309.00 | 1558.79 | 6.99 | 4.80 | 54.80 | 5.18 | 1551.80 | 736.64 | 66.13 | 1.10 | 1464.24 | 4.00 |
| | 4.306 | 5309.00 | 1561.57 | 7.97 | 6.33 | 64.06 | 3.70 | 1553.60 | 759.94 | 60.70 | 0.92 | 1295.14 | 3.00 |
| | 4.403 | 5309.00 | 1564.54 | 9.24 | 5.10 | 49.47 | 3.32 | 1555.30 | 399.33 | 67.67 | 1.14 | 1267.81 | 4.00 |
| | 4.497 | 5320.00 | 1566.94 | 11.04 | 6.92 | 53.04 | 1.21 | 1555.90 | 374.81 | 60.27 | 0.97 | 1115.02 | 3.00 |

| | SECNO | Q | CWSEL | DEPTH | VCH | 10*KS | K*CHSL | ELMIN | TOPWID | K*XNCH | KRATIO | AREA | IHLEQ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4.596 | 5320.00 | 1569.28 | 10.28 | 5.00 | 34.43 | 5.93 | 1559.00 | 231.70 | 62.72 | 1.24 | 1177.66 | 4.00 |
| | 4.694 | 5320.00 | 1571.52 | 11.72 | 7.19 | 70.16 | 1.55 | 1559.80 | 202.00 | 58.40 | 0.70 | 810.14 | 3.00 |
| | 4.789 | 5320.00 | 1574.50 | 12.90 | 5.56 | 41.80 | 3.59 | 1561.60 | 228.71 | 65.66 | 1.30 | 1081.73 | 4.00 |
| * | 4.893 | 5320.00 | 1578.41 | 8.21 | 8.19 | 114.94 | 15.66 | 1570.20 | 221.20 | 59.73 | 0.60 | 689.90 | 2.00 |
| * | 4.988 | 5320.00 | 1582.77 | 9.37 | 5.87 | 56.61 | 6.37 | 1573.40 | 228.00 | 61.47 | 1.42 | 963.91 | 4.00 |
| | 5.095 | 5320.00 | 1585.76 | 9.86 | 5.81 | 48.72 | 4.42 | 1575.90 | 225.00 | 63.25 | 1.08 | 1024.87 | 4.00 |
| | 5.189 | 5320.00 | 1587.89 | 10.49 | 4.27 | 31.18 | 3.02 | 1577.40 | 332.58 | 60.44 | 1.25 | 1374.95 | 4.00 |
| * | 5.287 | 5330.00 | 1592.52 | 11.92 | 6.27 | 110.55 | 6.19 | 1580.60 | 1632.38 | 51.87 | 0.53 | 1671.12 | 4.00 |
| | 5.386 | 5330.00 | 1596.56 | 15.16 | 7.71 | 63.80 | 1.53 | 1581.40 | 1278.24 | 58.00 | 1.32 | 1679.32 | 4.00 |
| | 5.485 | 5330.00 | 1599.65 | 12.55 | 5.29 | 45.51 | 10.90 | 1587.10 | 1339.53 | 54.84 | 1.18 | 1866.20 | 4.00 |
| | 5.577 | 5330.00 | 1602.02 | 9.72 | 6.98 | 64.19 | 10.70 | 1592.30 | 1373.78 | 45.42 | 0.84 | 1397.86 | 2.00 |
| | 5.668 | 5330.00 | 1604.99 | 2.79 | 1.83 | 52.35 | 20.62 | 1602.20 | 1567.41 | 71.21 | 1.11 | 2255.31 | 4.00 |
| | 5.765 | 5330.00 | 1607.89 | 3.09 | 1.68 | 74.77 | 5.08 | 1604.80 | 1717.20 | 95.00 | 0.84 | 2357.29 | 3.00 |
| | 5.858 | 5330.00 | 1611.13 | 3.23 | 2.08 | 69.19 | 6.31 | 1607.90 | 1457.94 | 95.00 | 1.04 | 2560.17 | 4.00 |
| | 5.945 | 5340.00 | 1613.65 | 2.35 | 1.41 | 44.58 | 7.41 | 1611.30 | 2617.65 | 86.99 | 1.25 | 3022.24 | 4.00 |
| | 6.026 | 5340.00 | 1615.36 | 1.76 | 0.64 | 51.27 | 5.37 | 1613.60 | 2153.85 | 76.35 | 0.93 | 2325.96 | 2.00 |
| | 6.067 | 5340.00 | 1617.04 | 5.94 | 2.08 | 54.17 | -11.57 | 1611.10 | 2043.71 | 89.38 | 0.97 | 2373.99 | 3.00 |
| | 6.135 | 5340.00 | 1618.72 | 6.52 | 4.02 | 79.08 | 3.06 | 1612.20 | 1728.51 | 72.56 | 0.83 | 2065.32 | 3.00 |
| | 6.223 | 5340.00 | 1621.54 | 5.44 | 2.36 | 53.50 | 8.39 | 1616.10 | 1964.04 | 85.00 | 1.22 | 2693.12 | 4.00 |
| | 6.321 | 5340.00 | 1624.01 | 2.81 | 2.09 | 73.71 | 9.86 | 1621.20 | 1734.58 | 95.00 | 0.85 | 2419.73 | 2.00 |
| | 6.413 | 5340.00 | 1627.49 | 2.79 | 2.00 | 70.76 | 7.20 | 1624.70 | 1179.93 | 95.00 | 1.02 | 1804.46 | 4.00 |
| | 6.511 | 5340.00 | 1630.35 | 4.85 | 3.50 | 58.06 | 1.55 | 1625.50 | 1013.65 | 65.87 | 1.10 | 1829.00 | 4.00 |
| | 6.603 | 5340.00 | 1633.46 | 4.86 | 3.21 | 65.93 | 6.38 | 1628.60 | 986.84 | 85.70 | 0.94 | 1800.51 | 2.00 |
| | 6.704 | 5340.00 | 1636.19 | 4.59 | 2.48 | 51.92 | 5.63 | 1631.60 | 873.05 | 81.14 | 1.13 | 1896.25 | 4.00 |
| | 6.801 | 5350.00 | 1638.89 | 3.29 | 2.36 | 66.19 | 7.81 | 1635.60 | 1261.22 | 95.00 | 0.89 | 2094.88 | 2.00 |
| | 6.897 | 5350.00 | 1641.82 | 3.22 | 0.74 | 69.97 | 5.92 | 1638.60 | 1388.36 | 95.00 | 0.97 | 2045.57 | 3.00 |

| | SECNO | Q | CWSEL | DEPTH | VCH | 10*KS | K*CHSL | ELMIN | TOPWID | K*XNCH | KRATIO | AREA | IHLEQ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 6.986 | 5350.00 | 1644.68 | 2.18 | 0.86 | 85.53 | 8.30 | 1642.50 | 1661.26 | 95.00 | 0.90 | 1816.40 | 2.00 |
| | 7.077 | 5350.00 | 1647.89 | 2.09 | 0.74 | 53.49 | 6.88 | 1645.80 | 2000.31 | 73.96 | 1.26 | 2261.30 | 4.00 |
| | 7.167 | 5350.00 | 1651.86 | 3.96 | 1.41 | 81.99 | 4.42 | 1647.90 | 2272.64 | 95.00 | 0.81 | 2156.29 | 3.00 |
| | 7.264 | 5350.00 | 1655.27 | 3.07 | 1.29 | 59.73 | 8.40 | 1652.20 | 2215.81 | 95.00 | 1.17 | 2539.48 | 4.00 |
| | 7.352 | 5350.00 | 1658.17 | 3.77 | 1.55 | 75.28 | 4.73 | 1654.40 | 1902.68 | 83.62 | 0.89 | 2191.09 | 3.00 |
| | 7.438 | 5350.00 | 1661.27 | 4.47 | 2.16 | 67.89 | 5.29 | 1656.80 | 1191.00 | 85.00 | 1.05 | 1996.35 | 4.00 |
| | 7.533 | 5350.00 | 1664.75 | 5.15 | 2.91 | 85.20 | 5.58 | 1659.60 | 698.87 | 85.00 | 0.89 | 1609.39 | 3.00 |
| | 7.624 | 5350.00 | 1667.99 | 5.09 | 2.78 | 56.78 | 6.88 | 1662.90 | 666.56 | 82.00 | 1.22 | 1722.97 | 4.00 |
| | 7.709 | 5360.00 | 1670.68 | 6.38 | 3.09 | 65.09 | 3.12 | 1664.30 | 627.71 | 82.00 | 0.94 | 1672.50 | 3.00 |
| | 7.800 | 5334.00 | 1673.45 | 5.15 | 2.51 | 51.11 | 8.33 | 1668.30 | 796.34 | 80.10 | 1.12 | 1849.65 | 4.00 |
| | 7.896 | 5307.00 | 1675.98 | 6.08 | 2.01 | 56.29 | 3.16 | 1669.90 | 822.87 | 85.00 | 0.95 | 1799.24 | 3.00 |
| | 7.995 | 5279.00 | 1678.78 | 7.18 | 1.95 | 58.17 | 3.25 | 1671.60 | 874.48 | 85.00 | 0.98 | 1640.85 | 3.00 |
| | 8.088 | 5253.00 | 1681.52 | 3.92 | 4.06 | 53.51 | 12.22 | 1677.60 | 597.70 | 55.73 | 1.04 | 1433.11 | 4.00 |
| | 8.182 | 5227.00 | 1684.93 | 4.93 | 7.62 | 107.15 | 4.84 | 1680.00 | 492.37 | 53.05 | 0.70 | 1026.00 | 3.00 |
| * | 8.273 | 5201.00 | 1688.47 | 5.97 | 4.54 | 48.40 | 5.21 | 1682.50 | 430.00 | 70.09 | 1.48 | 1509.58 | 4.00 |
| | 8.374 | 5172.00 | 1691.23 | 7.23 | 7.30 | 63.42 | 2.81 | 1684.00 | 328.52 | 51.14 | 0.87 | 1269.11 | 3.00 |
| | 8.465 | 5147.00 | 1693.92 | 5.72 | 7.40 | 52.73 | 8.75 | 1688.20 | 375.26 | 42.28 | 1.09 | 1142.69 | 4.00 |
| * | 8.560 | 5120.00 | 1695.86 | 6.96 | 4.60 | 21.25 | 1.39 | 1688.90 | 500.01 | 47.98 | 1.57 | 2000.86 | 4.00 |
| | 8.654 | 5094.00 | 1697.42 | 5.22 | 4.55 | 42.64 | 6.65 | 1692.20 | 603.98 | 53.71 | 0.70 | 1592.56 | 2.00 |
| | 8.740 | 5070.00 | 1699.73 | 6.73 | 6.11 | 71.69 | 1.76 | 1693.00 | 315.66 | 53.34 | 0.77 | 984.45 | 3.00 |
| | 8.844 | 5040.00 | 1703.63 | 7.73 | 9.16 | 80.67 | 5.28 | 1695.90 | 345.49 | 45.00 | 0.94 | 1078.90 | 3.00 |
| | 8.940 | 5013.00 | 1707.10 | 8.00 | 8.07 | 55.02 | 6.31 | 1699.10 | 363.69 | 45.00 | 1.20 | 1163.43 | 4.00 |
| | 9.032 | 4987.00 | 1709.28 | 7.68 | 4.17 | 35.20 | 5.14 | 1701.60 | 499.50 | 62.40 | 1.24 | 1687.07 | 4.00 |
| * | 9.119 | 4962.00 | 1711.63 | 7.93 | 9.24 | 118.97 | 4.58 | 1703.70 | 414.94 | 54.00 | 0.54 | 969.00 | 3.00 |
| | 9.202 | 4940.00 | 1715.40 | 8.80 | 7.28 | 68.75 | 6.62 | 1706.60 | 148.97 | 59.78 | 1.31 | 726.81 | 4.00 |
| | 9.289 | 4915.00 | 1718.83 | 8.93 | 9.94 | 85.07 | 7.19 | 1709.90 | 299.02 | 45.00 | 0.89 | 857.09 | 3.00 |

| | SECNO | Q | CWSEL | DEPTH | VCH | 10*KS | K*CHSL | ELMIN | TOPWID | K*XNCH | KRATIO | AREA | IHLEQ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | 9.387 | 669.00 | 1720.49 | 6.69 | 2.05 | 6.38 | 7.54 | 1713.80 | 368.79 | 45.00 | 0.50 | 475.84 | 4.00 |
| * | 9.480 | 669.00 | 1721.58 | 2.98 | 3.69 | 42.64 | 9.78 | 1718.60 | 110.44 | 45.00 | 0.39 | 197.07 | 2.00 |
| * | 9.588 | 669.00 | 1725.46 | 2.76 | 6.61 | 131.55 | 7.19 | 1722.70 | 61.55 | 38.00 | 0.57 | 104.66 | 3.00 |
| | 9.677 | 669.00 | 1730.63 | 3.33 | 4.41 | 81.84 | 9.79 | 1727.30 | 102.58 | 54.00 | 1.27 | 174.33 | 4.00 |
| | 9.770 | 669.00 | 1735.02 | 3.12 | 4.34 | 93.39 | 9.37 | 1731.90 | 182.34 | 45.00 | 0.94 | 217.04 | 2.00 |
| | 9.865 | 669.00 | 1740.62 | 2.22 | 4.44 | 136.52 | 12.95 | 1738.40 | 145.89 | 40.00 | 0.83 | 150.82 | 2.00 |
| * | 9.963 | 669.00 | 1745.45 | 3.05 | 3.22 | 67.85 | 7.74 | 1742.40 | 144.68 | 52.00 | 1.42 | 220.77 | 4.00 |
| | 10.054 | 669.00 | 1749.28 | 2.38 | 4.46 | 103.28 | 9.38 | 1746.90 | 130.77 | 45.00 | 0.81 | 177.66 | 2.00 |
| | 10.139 | 669.00 | 1754.21 | 3.71 | 4.88 | 128.62 | 8.02 | 1750.50 | 208.83 | 45.00 | 0.90 | 135.01 | 3.00 |
| | 10.232 | 669.00 | 1759.17 | 5.27 | 3.41 | 76.75 | 6.92 | 1753.90 | 519.52 | 45.00 | 1.29 | 273.56 | 4.00 |
| | 10.320 | 669.00 | 1762.64 | 5.24 | 2.92 | 70.81 | 7.53 | 1757.40 | 385.71 | 60.00 | 1.04 | 302.10 | 4.00 |
| | 10.426 | 669.00 | 1766.92 | 5.02 | 2.80 | 94.95 | 8.04 | 1761.90 | 223.30 | 60.00 | 0.86 | 229.99 | 3.00 |
| | 10.516 | 669.00 | 1771.75 | 4.05 | 2.20 | 111.66 | 12.21 | 1767.70 | 214.29 | 60.00 | 0.92 | 206.33 | 2.00 |
| | 10.620 | 669.00 | 1776.97 | 4.27 | 3.06 | 79.42 | 9.11 | 1772.70 | 470.19 | 72.00 | 1.19 | 295.74 | 4.00 |
| | 10.710 | 669.00 | 1781.33 | 4.63 | 1.60 | 123.62 | 8.42 | 1776.70 | 559.30 | 60.00 | 0.80 | 255.19 | 3.00 |
| | 10.802 | 669.00 | 1785.57 | 2.27 | 1.94 | 63.74 | 13.58 | 1783.30 | 427.26 | 72.00 | 1.39 | 326.89 | 4.00 |
| * | 10.891 | 669.00 | 1789.91 | 2.31 | 2.36 | 134.65 | 9.15 | 1787.60 | 618.15 | 66.38 | 0.69 | 307.31 | 3.00 |
| | 10.982 | 669.00 | 1794.45 | 2.75 | 1.82 | 75.00 | 8.54 | 1791.70 | 746.37 | 75.00 | 1.34 | 417.26 | 4.00 |
| | 11.079 | 669.00 | 1798.73 | 5.73 | 2.81 | 135.48 | 2.54 | 1793.00 | 394.38 | 62.00 | 0.74 | 269.83 | 3.00 |
| | 11.174 | 699.00 | 1804.00 | 6.80 | 1.77 | 82.88 | 8.37 | 1797.20 | 476.15 | 72.00 | 1.34 | 355.03 | 4.00 |
| | 11.264 | 709.00 | 1807.88 | 6.28 | 3.64 | 93.05 | 9.26 | 1801.60 | 288.15 | 72.00 | 0.96 | 274.51 | 2.00 |
| * | 11.368 | 1922.00 | 1813.00 | 4.40 | 4.31 | 93.52 | 12.75 | 1808.60 | 549.79 | 72.00 | 2.70 | 645.92 | 2.00 |
| | 11.469 | 2162.00 | 1817.04 | 5.84 | 3.80 | 62.99 | 4.88 | 1811.20 | 629.83 | 72.00 | 1.37 | 860.03 | 4.00 |
| * | 11.570 | 2162.00 | 1822.05 | 4.55 | 3.92 | 136.08 | 11.82 | 1817.50 | 804.47 | 63.44 | 0.68 | 836.92 | 2.00 |
| * | 11.666 | 2371.00 | 1827.00 | 2.10 | 3.12 | 77.12 | 14.60 | 1824.90 | 783.52 | 45.00 | 1.46 | 1019.70 | 4.00 |
| | 11.750 | 2371.00 | 1830.87 | 3.97 | 4.12 | 104.05 | 4.50 | 1826.90 | 798.45 | 57.26 | 0.86 | 1114.18 | 3.00 |

| | SECNO | Q | CWSEL | DEPTH | VCH | 10*KS | K*CHSL | ELMIN | TOPWID | K*XNCH | KRATIO | AREA | IHLEQ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 11.847 | 2371.00 | 1835.03 | 5.33 | 3.98 | 72.58 | 5.47 | 1829.70 | 514.30 | 57.82 | 1.20 | 1100.71 | 4.00 |
| | 11.920 | 2371.00 | 1837.26 | 3.26 | 2.49 | 68.93 | 11.17 | 1834.00 | 617.85 | 72.00 | 1.03 | 962.24 | 4.00 |
| | 12.010 | 2371.00 | 1839.90 | 3.40 | 2.59 | 46.76 | 5.26 | 1836.50 | 533.69 | 56.12 | 1.21 | 914.50 | 4.00 |
| * | 12.101 | 849.00 | 1844.18 | 4.28 | 1.68 | 275.14 | 7.08 | 1839.90 | 309.50 | 72.00 | 0.15 | 235.04 | 3.00 |
| * | 12.191 | 849.00 | 1849.60 | 6.20 | 2.16 | 74.74 | 7.37 | 1843.40 | 301.60 | 71.23 | 1.92 | 393.65 | 4.00 |
| | 12.281 | 979.00 | 1853.32 | 7.02 | 1.99 | 81.55 | 6.11 | 1846.30 | 452.22 | 71.46 | 1.10 | 492.41 | 3.00 |
| * | 12.369 | 1812.00 | 1857.63 | 7.73 | 2.71 | 96.89 | 7.74 | 1849.90 | 700.12 | 64.34 | 1.70 | 730.81 | 3.00 |
| | 12.464 | 1812.00 | 1862.21 | 7.71 | 4.37 | 93.15 | 9.16 | 1854.50 | 742.60 | 38.00 | 1.02 | 546.24 | 4.00 |
| | 12.614 | 2371.00 | 1869.31 | 3.31 | 3.90 | 148.74 | 14.72 | 1866.00 | 794.88 | 41.88 | 1.04 | 658.94 | 2.00 |
| | 12.692 | 2371.00 | 1874.79 | 4.79 | 5.51 | 104.77 | 9.88 | 1870.00 | 759.94 | 40.76 | 1.19 | 646.71 | 4.00 |
| | 12.752 | 2371.00 | 1878.04 | 4.54 | 5.64 | 107.75 | 11.04 | 1873.50 | 491.23 | 44.98 | 0.99 | 527.16 | 2.00 |
| | 12.849 | 2371.00 | 1882.60 | 4.90 | 7.64 | 79.73 | 8.20 | 1877.70 | 371.53 | 38.00 | 1.16 | 446.17 | 4.00 |
| | 12.942 | 2371.00 | 1887.66 | 3.26 | 6.13 | 124.68 | 13.65 | 1884.40 | 490.08 | 36.53 | 0.80 | 519.11 | 2.00 |
| | 13.025 | 2371.00 | 1892.91 | 3.91 | 7.86 | 130.49 | 10.50 | 1889.00 | 193.15 | 38.00 | 0.98 | 380.29 | 3.00 |
| | 13.127 | 2371.00 | 1898.44 | 3.24 | 5.45 | 78.66 | 11.50 | 1895.20 | 425.51 | 45.00 | 1.29 | 607.61 | 4.00 |
| | 13.221 | 2371.00 | 1903.39 | 4.49 | 6.12 | 136.33 | 7.46 | 1898.90 | 248.64 | 50.00 | 0.76 | 401.35 | 3.00 |
| | 13.325 | 2371.00 | 1908.55 | 4.15 | 6.22 | 71.60 | 10.02 | 1904.40 | 223.27 | 44.02 | 1.38 | 450.13 | 4.00 |
| | 13.419 | 2371.00 | 1913.44 | 3.84 | 6.75 | 129.88 | 10.48 | 1909.60 | 172.60 | 40.16 | 0.74 | 351.17 | 2.00 |
| | 13.499 | 2371.00 | 1918.92 | 4.12 | 10.28 | 157.11 | 12.32 | 1914.80 | 77.80 | 42.00 | 0.91 | 277.20 | 3.00 |

Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| | SECNO | Q | CWSEL | DEPTH | ELMIN | XLCH | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| | 0.640 | 3692.00 | 1460.98 | 2.88 | 1458.10 | 0.00 | 937.05 | 9228.59 | 10165.64 |
| | 0.734 | 3692.00 | 1464.41 | 3.61 | 1460.80 | 496.00 | 866.01 | 9243.06 | 10215.00 |
| | 0.819 | 3857.00 | 1466.89 | 3.79 | 1463.10 | 449.00 | 878.79 | 9395.51 | 10274.30 |
| | 0.912 | 4352.00 | 1469.45 | 4.65 | 1464.80 | 491.00 | 1059.24 | 9104.10 | 10173.00 |
| * | 0.999 | 4854.00 | 1471.67 | 4.37 | 1467.30 | 459.00 | 1177.13 | 9262.88 | 10440.00 |
| | 1.101 | 5001.00 | 1473.93 | 3.83 | 1470.10 | 539.00 | 885.05 | 9280.33 | 10165.39 |
| | 1.189 | 5001.00 | 1476.33 | 4.13 | 1472.20 | 465.00 | 1020.27 | 9420.45 | 10440.72 |
| | 1.285 | 5001.00 | 1478.80 | 4.10 | 1474.70 | 507.00 | 915.80 | 9444.66 | 10360.45 |
| | 1.386 | 5001.00 | 1481.30 | 3.20 | 1478.10 | 533.00 | 924.91 | 9474.25 | 10399.16 |
| | 1.480 | 5001.00 | 1483.69 | 4.19 | 1479.50 | 496.00 | 851.82 | 9419.30 | 10271.13 |
| | 1.578 | 5001.00 | 1486.08 | 3.68 | 1482.40 | 517.00 | 921.21 | 9371.76 | 10292.98 |
| * | 1.670 | 5001.00 | 1488.96 | 3.86 | 1485.10 | 486.00 | 884.97 | 9741.03 | 10626.00 |
| * | 1.764 | 5001.00 | 1491.30 | 4.30 | 1487.00 | 496.00 | 910.95 | 9633.13 | 10544.07 |
| * | 1.866 | 5001.00 | 1493.85 | 3.95 | 1489.90 | 539.00 | 964.37 | 9667.00 | 10631.37 |
| | 1.967 | 5001.00 | 1496.87 | 4.27 | 1492.60 | 533.00 | 1338.44 | 9402.09 | 10906.10 |
| | 2.064 | 5001.00 | 1498.73 | 3.63 | 1495.10 | 512.00 | 1484.95 | 9049.91 | 10609.95 |
| | 2.159 | 5001.00 | 1501.08 | 3.58 | 1497.50 | 502.00 | 1155.68 | 9212.21 | 10367.90 |
| | 2.251 | 5001.00 | 1503.49 | 3.49 | 1500.00 | 486.00 | 1159.89 | 9064.74 | 10224.63 |
| | 2.346 | 5001.00 | 1506.11 | 3.41 | 1502.70 | 502.00 | 1304.73 | 8958.43 | 10263.16 |
| | 2.442 | 5001.00 | 1509.18 | 3.78 | 1505.40 | 507.00 | 1557.79 | 8929.34 | 10487.13 |
| | 2.537 | 5001.00 | 1512.07 | 4.27 | 1507.80 | 502.00 | 1488.34 | 9299.46 | 10831.69 |
| | 2.631 | 5001.00 | 1514.64 | 4.74 | 1509.90 | 496.00 | 1341.51 | 9589.33 | 11000.56 |
| | 2.727 | 5001.00 | 1517.64 | 5.34 | 1512.30 | 507.00 | 1152.16 | 9239.84 | 10392.00 |
| | 2.827 | 5001.00 | 1520.56 | 4.86 | 1515.70 | 528.00 | 1074.51 | 9041.60 | 10116.11 |

| | SECNO | Q | CWSEL | DEPTH | ELMIN | XLCH | TOPWID | SSTA | ENDST | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2.927 | 5001.00 | 1523.04 | 3.54 | 1519.50 | 528.00 | 1222.59 | 9129.20 | 10424.79 | |
| | 3.027 | 5001.00 | 1525.96 | 4.06 | 1521.90 | 528.00 | 1250.27 | 9291.49 | 10596.00 | |
| | 3.137 | 5001.00 | 1529.16 | 3.66 | 1525.50 | 581.00 | 981.31 | 9452.88 | 10434.19 | |
| | 3.224 | 5001.00 | 1531.99 | 7.09 | 1524.90 | 459.00 | 844.61 | 9565.80 | 10410.41 | |
| | 3.321 | 5001.00 | 1534.89 | 7.89 | 1527.00 | 512.00 | 730.71 | 9659.90 | 10390.61 | |
| | 3.413 | 5001.00 | 1537.60 | 8.80 | 1528.80 | 486.00 | 394.43 | 9846.90 | 10241.33 | |
| | 3.514 | 5001.00 | 1540.10 | 9.20 | 1530.90 | 533.00 | 566.13 | 9743.31 | 10328.09 | |
| | 3.617 | 5001.00 | 1541.67 | 8.17 | 1533.50 | 544.00 | 338.88 | 9791.20 | 10130.08 | |
| * | 3.651 | 5101.00 | 1551.18 1553.08 | 8.08 | 1545.00 | 180.00 | 2300.00 | 8900.00 | 11200.00 | |
| * | 3.670 | 5101.00 | 1551.63 1553.56 | 8.06 | 1545.50 | 100.00 | 2300.00 | 8900.00 | 11200.00 | Upstr CAP. |
| * | 3.713 | 5309.00 | 1552.94 1554.32 | 10.92 | 1543.40 | 230.00 | 1500.00 | 9100.00 | 10600.00 | |
| | 3.821 | 5309.00 | 1552.97 1554.33 | 10.33 | 1544.00 | 570.00 | 1426.50 | 9039.50 | 10466.00 | |
| * | 3.917 | 5309.00 | 1553.08 1554.37 | 8.27 | 1546.10 | 507.00 | 1431.31 | 9140.00 | 10629.00 | |
| * | 4.010 | 5309.00 | 1553.13 1554.59 | 6.39 | 1548.20 | 491.00 | 1213.25 | 9274.30 | 10487.54 | → |
| * | 4.119 | 5309.00 | 1555.93 1555.84 | 6.64 | 1549.20 | 576.00 | 969.44 | 9406.94 | 10376.39 | |
| | 4.214 | 5309.00 | 1558.75 1558.79 | 6.99 | 1551.80 | 502.00 | 736.64 | 9567.85 | 10304.49 | |
| | 4.306 | 5309.00 | 1561.6 1561.57 | 7.97 | 1553.60 | 486.00 | 759.94 | 9689.19 | 10449.13 | |
| | 4.403 | 5309.00 | 1564.54 | 9.24 | 1555.30 | 512.00 | 399.33 | 9715.70 | 10115.03 | |
| | 4.497 | 5320.00 | 1566.94 | 11.04 | 1555.90 | 496.00 | 374.81 | 9887.20 | 10262.01 | |
| | 4.596 | 5320.00 | 1569.28 | 10.28 | 1559.00 | 523.00 | 231.70 | 9883.80 | 10115.50 | |
| | 4.694 | 5320.00 | 1571.52 | 11.72 | 1559.80 | 517.00 | 202.00 | 9925.34 | 10127.34 | |
| | 4.789 | 5320.00 | 1574.50 | 12.90 | 1561.60 | 502.00 | 228.71 | 9926.80 | 10155.51 | |
| * | 4.893 | 5320.00 | 1578.41 | 8.21 | 1570.20 | 549.00 | 221.20 | 9881.00 | 10102.20 | |
| * | 4.988 | 5320.00 | 1582.77 | 9.37 | 1573.40 | 502.00 | 228.00 | 9878.00 | 10106.00 | |
| | 5.095 | 5320.00 | 1585.76 | 9.86 | 1575.90 | 565.00 | 225.00 | 9896.00 | 10121.00 | |
| | 5.189 | 5320.00 | 1587.89 | 10.49 | 1577.40 | 496.00 | 332.58 | 9819.88 | 10161.80 | |

| | SECNO | Q | CWSEL | DEPTH | ELMIN | XLCH | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| * | 5.287 | 5330.00 | 1592.52 | 11.92 | 1580.60 | 517.00 | 1632.38 | 8755.12 | 10387.50 |
| | 5.386 | 5330.00 | 1596.56 | 15.16 | 1581.40 | 523.00 | 1278.24 | 8954.96 | 10285.60 |
| | 5.485 | 5330.00 | 1599.65 | 12.55 | 1587.10 | 523.00 | 1339.53 | 8982.07 | 10321.61 |
| | 5.577 | 5330.00 | 1602.02 | 9.72 | 1592.30 | 486.00 | 1373.78 | 8854.37 | 10228.15 |
| | 5.668 | 5330.00 | 1604.99 | 2.79 | 1602.20 | 480.00 | 1567.41 | 8925.92 | 10495.86 |
| | 5.765 | 5330.00 | 1607.89 | 3.09 | 1604.80 | 512.00 | 1717.20 | 9066.99 | 10784.18 |
| | 5.858 | 5330.00 | 1611.13 | 3.23 | 1607.90 | 491.00 | 1457.94 | 9292.06 | 10750.00 |
| | 5.945 | 5340.00 | 1613.65 | 2.35 | 1611.30 | 459.00 | 2617.65 | 8233.01 | 10850.66 |
| | 6.026 | 5340.00 | 1615.36 | 1.76 | 1613.60 | 428.00 | 2153.85 | 8230.00 | 10471.26 |
| | 6.067 | 5340.00 | 1617.04 | 5.94 | 1611.10 | 216.00 | 2043.71 | 8398.95 | 10442.66 |
| | 6.135 | 5340.00 | 1618.72 | 6.52 | 1612.20 | 359.00 | 1728.51 | 8513.44 | 10291.96 |
| | 6.223 | 5340.00 | 1621.54 | 5.44 | 1616.10 | 465.00 | 1964.04 | 8563.34 | 10527.38 |
| | 6.321 | 5340.00 | 1624.01 | 2.81 | 1621.20 | 517.00 | 1734.58 | 8792.97 | 10527.55 |
| | 6.413 | 5340.00 | 1627.49 | 2.79 | 1624.70 | 486.00 | 1179.93 | 9286.79 | 10851.79 |
| | 6.511 | 5340.00 | 1630.35 | 4.85 | 1625.50 | 517.00 | 1013.65 | 9892.37 | 10906.02 |
| | 6.603 | 5340.00 | 1633.46 | 4.86 | 1628.60 | 486.00 | 986.84 | 9674.66 | 10661.50 |
| | 6.704 | 5340.00 | 1636.19 | 4.59 | 1631.60 | 533.00 | 873.05 | 9616.41 | 10489.46 |
| | 6.801 | 5350.00 | 1638.89 | 3.29 | 1635.60 | 512.00 | 1261.22 | 8908.98 | 10170.20 |
| | 6.897 | 5350.00 | 1641.82 | 3.22 | 1638.60 | 507.00 | 1388.36 | 8530.99 | 10081.96 |
| | 6.986 | 5350.00 | 1644.68 | 2.18 | 1642.50 | 470.00 | 1661.26 | 8226.00 | 10115.09 |
| | 7.077 | 5350.00 | 1647.89 | 2.09 | 1645.80 | 480.00 | 2000.31 | 7952.73 | 10041.93 |
| | 7.167 | 5350.00 | 1651.86 | 3.96 | 1647.90 | 475.00 | 2272.64 | 8370.21 | 10642.85 |
| | 7.264 | 5350.00 | 1655.27 | 3.07 | 1652.20 | 512.00 | 2215.81 | 8183.79 | 10399.60 |
| | 7.352 | 5350.00 | 1658.17 | 3.77 | 1654.40 | 465.00 | 1902.68 | 8528.00 | 10478.84 |
| | 7.438 | 5350.00 | 1661.27 | 4.47 | 1656.80 | 454.00 | 1191.00 | 9157.00 | 10348.00 |
| | 7.533 | 5350.00 | 1664.75 | 5.15 | 1659.60 | 502.00 | 698.87 | 9410.39 | 10109.26 |

| | SECNO | Q | CWSEL | DEPTH | ELMIN | XLCH | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| | 7.624 | 5350.00 | 1667.99 | 5.09 | 1662.90 | 480.00 | 666.56 | 9700.30 | 10366.86 |
| | 7.709 | 5360.00 | 1670.68 | 6.38 | 1664.30 | 449.00 | 627.71 | 9793.29 | 10421.00 |
| | 7.800 | 5334.00 | 1673.45 | 5.15 | 1668.30 | 480.00 | 796.34 | 9595.00 | 10391.34 |
| | 7.896 | 5307.00 | 1675.98 | 6.08 | 1669.90 | 507.00 | 822.87 | 9281.80 | 10104.67 |
| | 7.995 | 5279.00 | 1678.78 | 7.18 | 1671.60 | 523.00 | 874.48 | 9371.50 | 10292.27 |
| | 8.088 | 5253.00 | 1681.52 | 3.92 | 1677.60 | 491.00 | 597.70 | 9565.00 | 10162.70 |
| | 8.182 | 5227.00 | 1684.93 | 4.93 | 1680.00 | 496.00 | 492.37 | 9565.30 | 10104.30 |
| * | 8.273 | 5201.00 | 1688.47 | 5.97 | 1682.50 | 480.00 | 430.00 | 9720.00 | 10150.00 |
| | 8.374 | 5172.00 | 1691.23 | 7.23 | 1684.00 | 533.00 | 328.52 | 9831.48 | 10160.00 |
| | 8.465 | 5147.00 | 1693.92 | 5.72 | 1688.20 | 480.00 | 375.26 | 9707.29 | 10193.60 |
| * | 8.560 | 5120.00 | 1695.86 | 6.96 | 1688.90 | 502.00 | 500.01 | 9605.71 | 10105.72 |
| | 8.654 | 5094.00 | 1697.42 | 5.22 | 1692.20 | 496.00 | 603.98 | 9550.92 | 10154.90 |
| | 8.740 | 5070.00 | 1699.73 | 6.73 | 1693.00 | 454.00 | 315.66 | 9788.25 | 10103.91 |
| | 8.844 | 5040.00 | 1703.63 | 7.73 | 1695.90 | 549.00 | 345.49 | 9708.60 | 10054.08 |
| | 8.940 | 5013.00 | 1707.10 | 8.00 | 1699.10 | 507.00 | 363.69 | 9736.96 | 10100.65 |
| | 9.032 | 4987.00 | 1709.28 | 7.68 | 1701.60 | 486.00 | 499.50 | 9664.50 | 10164.00 |
| * | 9.119 | 4962.00 | 1711.63 | 7.93 | 1703.70 | 459.00 | 414.94 | 9842.70 | 10274.00 |
| | 9.202 | 4940.00 | 1715.40 | 8.80 | 1706.60 | 438.00 | 148.97 | 9926.15 | 10075.12 |
| | 9.289 | 4915.00 | 1718.83 | 8.93 | 1709.90 | 459.00 | 299.02 | 9754.48 | 10092.32 |
| * | 9.387 | 669.00 | 1720.49 | 6.69 | 1713.80 | 517.00 | 368.79 | 9691.55 | 10060.34 |
| * | 9.480 | 669.00 | 1721.58 | 2.98 | 1718.60 | 491.00 | 110.44 | 9914.60 | 10037.08 |
| * | 9.588 | 669.00 | 1725.46 | 2.76 | 1722.70 | 570.00 | 61.55 | 9953.35 | 10061.53 |
| | 9.677 | 669.00 | 1730.63 | 3.33 | 1727.30 | 470.00 | 102.58 | 9958.38 | 10060.96 |
| | 9.770 | 669.00 | 1735.02 | 3.12 | 1731.90 | 491.00 | 182.34 | 9987.62 | 10196.78 |
| | 9.865 | 669.00 | 1740.62 | 2.22 | 1738.40 | 502.00 | 145.89 | 9909.94 | 10055.83 |
| * | 9.963 | 669.00 | 1745.45 | 3.05 | 1742.40 | 517.00 | 144.68 | 9464.35 | 10020.74 |

| | SECNO | Q | CWSEL | DEPTH | ELMIN | XLCH | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| | 10.054 | 669.00 | 1749.28 | 2.38 | 1746.90 | 480.00 | 130.77 | 9629.54 | 10295.49 |
| | 10.139 | 669.00 | 1754.21 | 3.71 | 1750.50 | 449.00 | 208.83 | 9608.30 | 10170.54 |
| | 10.232 | 669.00 | 1759.17 | 5.27 | 1753.90 | 491.00 | 519.52 | 9543.55 | 10127.97 |
| | 10.320 | 669.00 | 1762.64 | 5.24 | 1757.40 | 465.00 | 385.71 | 9676.50 | 10339.67 |
| | 10.426 | 669.00 | 1766.92 | 5.02 | 1761.90 | 560.00 | 223.30 | 9641.87 | 10123.65 |
| | 10.516 | 669.00 | 1771.75 | 4.05 | 1767.70 | 475.00 | 214.29 | 9812.82 | 10213.75 |
| | 10.620 | 669.00 | 1776.97 | 4.27 | 1772.70 | 549.00 | 470.19 | 9580.83 | 10287.36 |
| | 10.710 | 669.00 | 1781.33 | 4.63 | 1776.70 | 475.00 | 559.30 | 9351.25 | 10118.74 |
| | 10.802 | 669.00 | 1785.57 | 2.27 | 1783.30 | 486.00 | 427.26 | 9525.67 | 10194.78 |
| * | 10.891 | 669.00 | 1789.91 | 2.31 | 1787.60 | 470.00 | 618.15 | 9324.47 | 10147.01 |
| | 10.982 | 669.00 | 1794.45 | 2.75 | 1791.70 | 480.00 | 746.37 | 9170.10 | 10117.93 |
| | 11.079 | 669.00 | 1798.73 | 5.73 | 1793.00 | 512.00 | 394.38 | 9983.62 | 10378.00 |
| | 11.174 | 699.00 | 1804.00 | 6.80 | 1797.20 | 502.00 | 476.15 | 9974.00 | 10462.70 |
| | 11.264 | 709.00 | 1807.88 | 6.28 | 1801.60 | 475.00 | 288.15 | 9970.80 | 10347.13 |
| * | 11.368 | 1922.00 | 1813.00 | 4.40 | 1808.60 | 549.00 | 549.79 | 9978.90 | 10528.69 |
| | 11.469 | 2162.00 | 1817.04 | 5.84 | 1811.20 | 533.00 | 629.83 | 9919.63 | 10549.46 |
| * | 11.570 | 2162.00 | 1822.05 | 4.55 | 1817.50 | 533.00 | 804.47 | 9935.53 | 10740.00 |
| * | 11.666 | 2371.00 | 1827.00 | 2.10 | 1824.90 | 507.00 | 783.52 | 9951.87 | 10841.90 |
| | 11.750 | 2371.00 | 1830.87 | 3.97 | 1826.90 | 444.00 | 798.45 | 9767.57 | 10661.00 |
| | 11.847 | 2371.00 | 1835.03 | 5.33 | 1829.70 | 512.00 | 514.30 | 9982.78 | 10589.60 |
| | 11.920 | 2371.00 | 1837.26 | 3.26 | 1834.00 | 385.00 | 617.85 | 9885.40 | 10503.25 |
| | 12.010 | 2371.00 | 1839.90 | 3.40 | 1836.50 | 475.00 | 533.69 | 9621.57 | 10155.26 |
| * | 12.101 | 849.00 | 1844.18 | 4.28 | 1839.90 | 480.00 | 309.50 | 9685.20 | 10252.83 |
| * | 12.191 | 849.00 | 1849.60 | 6.20 | 1843.40 | 475.00 | 301.60 | 9947.55 | 10249.15 |
| | 12.281 | 979.00 | 1853.32 | 7.02 | 1846.30 | 475.00 | 452.22 | 9941.17 | 10393.40 |
| * | 12.369 | 1812.00 | 1857.63 | 7.73 | 1849.90 | 465.00 | 700.12 | 9767.23 | 10730.70 |

| SECNO | Q | CWSEL | DEPTH | ELMIN | XLCH | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|
| 12.464 | 1812.00 | 1862.21 | 7.71 | 1854.50 | 502.00 | 742.60 | 9633.40 | 11078.16 |
| 12.614 | 2371.00 | 1869.31 | 3.31 | 1866.00 | 781.00 | 794.88 | 9927.33 | 11372.87 |
| 12.692 | 2371.00 | 1874.79 | 4.79 | 1870.00 | 405.00 | 759.94 | 9972.00 | 11357.38 |
| 12.752 | 2371.00 | 1878.04 | 4.54 | 1873.50 | 317.00 | 491.23 | 9890.14 | 10974.93 |
| 12.849 | 2371.00 | 1882.60 | 4.90 | 1877.70 | 512.00 | 371.53 | 9949.91 | 10730.47 |
| 12.942 | 2371.00 | 1887.66 | 3.26 | 1884.40 | 491.00 | 490.08 | 9788.59 | 10399.60 |
| 13.025 | 2371.00 | 1892.91 | 3.91 | 1889.00 | 438.00 | 193.15 | 9833.96 | 10027.11 |
| 13.127 | 2371.00 | 1898.44 | 3.24 | 1895.20 | 539.00 | 425.51 | 9968.67 | 10394.18 |
| 13.221 | 2371.00 | 1903.39 | 4.49 | 1898.90 | 496.00 | 248.64 | 9974.37 | 10223.01 |
| 13.325 | 2371.00 | 1908.55 | 4.15 | 1904.40 | 549.00 | 223.27 | 9868.60 | 10091.87 |
| 13.419 | 2371.00 | 1913.44 | 3.84 | 1909.60 | 496.00 | 172.60 | 9900.45 | 10073.05 |
| 13.499 | 2371.00 | 1918.92 | 4.12 | 1914.80 | 422.00 | 77.80 | 9960.20 | 10038.00 |

SUMMARY OF ERRORS AND SPECIAL NOTES

```
WARNING SECNO=      0.999  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      1.670  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      1.764  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      1.866  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=      3.651  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      3.651  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=      3.651  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=      3.670  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      3.670  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=      3.670  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO=      3.713  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      3.917  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      4.010  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      4.119  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      4.893  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      4.988  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=      5.287  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      5.287  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=      8.273  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      8.560  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      9.119  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      9.387  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      9.480  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      9.588  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      9.963  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     10.891  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     11.368  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     11.570  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
```

WARNING SECNO= 11.666 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 12.101 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 12.191 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 12.369 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

# IONA-EN.HC2

# Floodway/Encroachment Run

HEC2 S/N: 1916530021 HMVersion: 6.50 Data File: iona-en.hc2

```
*******************************************
*  HEC-2 WATER SURFACE PROFILES           *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE    29SEP93    TIME   11:09:22 *
*******************************************
```

```
****************************************
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```

```
============================
H A E S T A D   M E T H O D S
============================
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 29SEP93 11:09:22

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

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

T1 Flood Control District of Maricopa County. S. Story/Project Manager
T2 HEC2 Model for Iona Wash FIS. By CH2M Hill. PHX34747.FF 1993 Fuller
T3 Iona Wash FIS - FCDMC 93 IONA-EN.HC2

Flooway profiles using Method 1

This run extends from confluence with Trilby Wash to Grand Avenue

HEC2 cross sections prepared directly from DTM prepared by Kenney Aerial
Discharges provided by FCDMC from Wittman ADMS (WLB, 1989)
Discharges between known concentration points (from Wittman ADMS) are scaled in 50 cfs increments relative to reach length where discharge difference reflects routing losses. No scaling between concentration points is used where tributaries cause increases in the base flood.
Topography from DTM, 2-foot contour interval, 1" = 200', Flight on November 92
Study extends from Trilby Wash confluence to Rt. 89 Bridge (Grand Avenue)

Starting water surface elevation obtained from Wittmann ADMS performed by others, and provided by the FCDMC (Trilby Wash FIS). Section 0.640 of this study matches alignment of section #7.134 of Trilby Wash FIS. Water surface elevation from Trilby Wash FIS section 7.134 = 1460.98 (Q100, without encroachment). With encroachment water surface elevation = 1461.94 (Q100)

| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | | | | | | | 1460.98 | |

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

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 38 | 43 | 1 | 8 | 26 | 5 | 33 | 42 | 4 | 17 |
| 58 | 25 | 62 | | | | | | | |
| 38 | 43 | 1 | 39 | 4 | 53 | 54 | | | |
| 150 | 200 | | | | | | | | |

```
JO  IHLEQ     ICOPY     SUBDIV    STRTDS     RMILE

     1


 Discharge = 5,001 cfs from CAP Overchute to Trilby Wash per Wittmann ADMS


QT        2       5001       5001

 Begin Sheet 1
 Begin Subreach 1
 End section at right effective flow boundary

NC     .055       .055       .082        .1        .3
NH        3       .055     9432.3       .082   10122.3       .055   10204.8
ET                           9.1                                              9643.5    10098.5
X1    0.640         32     9894.8   10028.5       490       450       502
GR   1462.3     9103.1     1462.1    9152.3    1461.3    9213.1    1460.3    9261.5    1459.8    9300.0
GR   1459.9     9323.4     1459.8    9359.8    1459.5    9404.3    1459.4    9432.3    1459.6    9481.2
GR   1459.7     9522.3     1459.9    9557.5    1460.2    9603.4    1460.1    9633.4    1459.9    9687.7
GR   1459.5     9740.9     1459.6    9784.1    1459.2    9846.2    1459.1    9894.8    1458.9    9916.1
GR   1458.5     9920.4     1458.6    9991.8    1458.8    9994.7    1458.1   10000.0    1459.0   10009.4
GR   1459.3    10028.5     1459.1   10065.8    1459.3   10116.0    1458.7   10122.3    1460.3   10146.4
GR   1461.3    10174.7     1461.4   10204.8


NH        3       .055     9544.3       .082     10125       .055     10215
ET                           9.1                                              9620.0    10175.0
X1    0.734         37     9974.8    10125.       380       530       496
GR   1464.9     9137.9     1465.0    9179.0    1464.5    9239.1    1464.1    9257.9    1464.1    9293.4
GR   1464.7     9325.7     1464.9    9374.1    1464.3    9426.4    1463.3    9490.0    1462.4    9530.3
GR   1462.7     9544.3     1461.9    9600.5    1460.8    9603.2    1461.9    9609.1    1462.4    9636.0
GR   1462.2     9685.3     1462.3    9731.3    1462.2    9794.1    1461.6    9802.8    1462.2    9816.7
GR   1461.9     9839.0     1461.1    9845.3    1462.1    9853.3    1462.3    9890.5    1462.3    9937.2
GR   1462.0     9953.1     1462.4    9974.8    1462.2    10000.    1461.9    10027.    1461.0    10032.
GR   1461.8    10039.      1461.8    10081.    1463.4    10125.    1463.8    10164.    1463.2    10175.
GR   1463.9    10184.      1464.3    10215.

 End Sheet 1/Begin Sheet 2


NH        3       .055       9616       .082     10083       .055   10274.3
ET                           9.1                                              9557.0    10133.0
X1    0.819         31     9891.7    10083.       420       460       449
GR   1468.0     9196.5     1467.0    9262.9    1467.4    9307.7    1467.4    9362.5    1466.6    9414.5
GR   1466.0     9456.3     1465.2    9494.2    1464.8    9540.0    1464.8    9616.0    1465.2    9650.8
GR   1464.8     9706.0     1463.3    9711.0    1464.8    9715.2    1465.3    9749.7    1465.1    9802.2
GR   1464.2     9808.4     1465.3    9818.5    1464.6    9850.8    1465.0    9891.7    1464.7    9937.8
GR   1463.9     9994.2     1463.1   10000.0    1464.4    10008.    1464.1    10057.    1465.3    10083.
GR   1465.2    10107.3     1464.3   10145.2    1465.3    10170.    1465.5    10197.    1466.4    10236.
GR   1466.4    10274.3
```

```
NH      5      .055     9512.     .088     9707.5     .064     9901.4     .088     10045.     .055
NH   10173.
ET                       9.1                                                        9657.0    10073.3
X1   0.912       34     9872.2   10063.      410       500       491
GR   1471.1   8947.9    1470.4   9062.3    1469.3    9110.5    1469.1    9170.3    1469.1    9210.8
GR   1469.5   9250.5    1468.7   9314.3    1468.2    9367.1    1467.8    9403.2    1467.8    9464.6
GR   1467.5   9512.0    1467.6   9582.0    1466.3    9589.6    1467.7    9598.2    1467.6    9615.0
GR   1467.6   9628.4    1466.0   9634.2    1467.6    9640.1    1467.6    9665.7    1467.4    9707.5
GR   1467.7   9748.9    1467.7   9805.2    1467.3    9872.2    1466.2    9893.5    1466.8    9901.4
GR   1466.7   9945.9    1467.2   9990.8    1464.8    10000.    1466.9    10010.    1467.1    10045.
GR   1466.3   10053.    1467.3   10063.    1468.5    10113.    1468.9    10173.

NH      5      .055     9467.5    .082     9620.2     .064     9896.5     .082     10063.     .055
NH   10440.
ET                       9.1                                                        9880.0    10271.0
X1   0.999       41     9929.9   10271       460       430       459
GR   1472.5   9248.6    1471.2   9271.1    1470.6    9308.8    1470.3    9349.2    1471.0    9364.7
GR   1470.6   9411.7    1470.2   9467.5    1469.0    9478.2    1469.9    9489.1    1470.2    9518.1
GR   1468.8   9526.5    1470.6   9535.2    1470.5    9568.1    1468.9    9575.3    1470.5    9587.6
GR   1470.3   9620.2    1470.5   9664.2    1470.1    9744.7    1470.0    9759.6    1469.8    9804.7
GR   1469.3   9866.9    1468.6   9881.1    1469.3    9896.5    1469.2    9929.9    1468.6    9947.6
GR   1468.9   9969.6    1468.8   9994.3    1467.3    10000.    1468.7    10006.    1468.8    10037.
GR   1467.8   10044.    1468.9   10054.    1467.9    10063.    1468.3    10084.    1468.7    10089.
GR   1469.1   10146.    1469.5   10203.    1470.0    10271.    1470.6    10326.    1470.8    10381.
GR   1471.0   10440.

NH      5      .055     9387.7    .082     9473.6     .064     9935.7     .082     10134.     .055
NH   10366.
ET                       9.1                                                        9630.9    10134.0
X1   1.101       38     9597.8   10134.      310       630       539
GR   1476.4   9184.5    1475.9   9221.0    1474.4    9264.2    1472.6    9326.1    1471.8    9387.7
GR   1470.8   9400.3    1470.8   9412.7    1471.9    9423.8    1470.3    9439.9    1471.5    9451.5
GR   1470.1   9462.8    1471.8   9473.6    1471.8    9514.3    1472.2    9553.0    1472.6    9597.8
GR   1471.9   9658.9    1471.9   9679.6    1471.7    9736.3    1471.7    9778.6    1470.7    9786.1
GR   1471.8   9791.4    1471.2   9811.0    1471.4    9818.5    1471.7    9872.2    1471.6    9910.5
GR   1472.1   9935.7    1471.3   9943.5    1472.0    9950.7    1471.6    10000.    1471.6    10045.
GR   1471.9   10103.    1472.1   10134.    1474.9    10182.    1475.1    10221.    1474.1    10241.
GR   1475.9   10274.    1476.3   10308.    1476.3    10366.

NH      5      .055     9472.     .082     9646.     .064     9908.4     .082     10059.     .055
NH   10710.
ET                       9.1                                                        9651.5    10111.1
X1   1.189       45     9769.3   10059.      350       480       465
GR   1477.9   9357.5    1477.6   9388.7    1476.6    9416.0    1474.7    9447.0    1474.1    9472.0
GR   1473.7   9514.1    1472.4   9520.0    1473.5    9527.4    1473.7    9552.1    1474.1    9588.8
GR   1472.2   9597.8    1474.2   9611.7    1474.2    9646.0    1474.4    9707.0    1474.6    9769.3
GR   1474.2   9830.1    1473.8   9892.5    1472.6    9900.4    1473.6    9908.4    1473.5    9962.4
GR   1472.3   9966.9    1473.1   9973.2    1473.2    9983.5    1472.6    10000.    1473.2    10006.
GR   1473.2   10019.    1475.0   10037.    1475.2    10059.    1474.6    10107.    1473.8    10145.
GR   1473.5   10170.    1474.6   10198.    1476.0    10224.    1476.3    10244.    1475.9    10281.
```

```
GR  1475.3    10319.   1475.3    10365.   1475.7    10411.   1476.2    10435.   1477.4    10489.
GR  1478.3    10538.   1478.9    10574.   1479.4    10609.   1479.5    10682.   1479.5    10710.

NH      3      .055   9525.6      .082    10216      .055    10631
ET                     9.1                                              9645.2   10093.3
X1  1.285        35   9785.1     10035      470      510      507
GR  1479.9   9344.7   1479.7    9386.8   1479.3    9424.1   1478.5    9457.1   1477.5    9475.0
GR  1476.3   9525.6   1476.4    9547.3   1475.9    9555.7   1476.3    9599.2   1475.1    9603.3
GR  1476.1   9611.1   1476.1    9674.1   1475.6    9687.1   1476.4    9735.8   1474.7    9743.9
GR  1475.9   9751.7   1476.8    9785.1   1476.6    9822.4   1475.9    9858.5   1474.7    9861.5
GR  1476.0   9919.1   1476.3    9953.8   1476.1    9994.0   1474.8   10000.    1475.9   10006.
GR  1476.3  10035.    1476.6   10145.    1476.8   10216.   1477.2   10259.    1478.1   10309.
GR  1479.0  10375.    1480.1   10446.    1481.1   10512.   1481.7   10574.    1482.0   10631.
```

Left encroachment at effective flow boundary, 4:1 expansion from upstream
section and minor divide

```
ET                7.1      9.1                                   9446.     10513    9660.1   10135.5
NH      3      .055   9642.3      .082    10258      .055    10514
X1  1.386        35   9949.3     10049      470      510      533
GR  1481.9   9072.4   1481.1    9144.7   1481.2    9161.0   1481.0    9233.5   1480.7    9303.2
GR  1480.8   9365.4   1481.2    9412.8   1481.4    9446.1   1481.3    9474.6   1480.3    9506.2
GR  1478.8   9551.8   1478.7    9580.8   1478.9    9642.3   1478.3    9649.8   1478.9    9660.4
GR  1478.5   9718.2   1478.6    9767.1   1478.1    9774.5   1478.7    9782.4   1478.8    9823.8
GR  1478.9   9858.3   1478.7    9901.8   1479.3    9949.3   1479.0    9958.1   1479.3    9988.3
GR  1478.2  10000.    1478.9   10010.    1479.3   10049.   1479.1   10113.    1478.8   10193.
GR  1479.1  10258.    1480.3   10321.    1480.9   10385.   1482.6   10445.    1483.4   10514.
```

Right encroachment at effective flow boundary along divide
End Reach 1/Begin Reach 2

```
NH      7      .055   9812.3      .072    9942.5      .105    9982.8      .038   10014.      .105
NH  10100.     .082  10190.      .055   10826.
ET                7.1      9.1                                   9396.     10285    9775.1   10178.0
X1  1.480        40   9858.5     10174      460      440      496
GR  1483.8   9395.2   1483.5    9463.7   1482.8    9543.2   1482.2    9606.9   1480.9    9688.9
GR  1481.3   9721.5   1481.8    9766.0   1481.1    9788.8   1479.8    9812.3   1480.7    9825.1
GR  1481.1   9858.5   1479.5    9871.1   1481.0    9879.2   1480.6    9895.7   1481.2    9942.5
GR  1481.6   9982.8   1480.6   10000.    1481.3   10014.   1481.2   10100.    1480.8   10127.
GR  1481.2  10161.    1479.9   10168.    1480.8   10174.   1480.7   10190.    1482.1   10227.
GR  1483.5  10258.    1483.9   10285.    1483.5   10324.   1482.4   10382.    1481.7   10438.
GR  1481.8  10483.    1482.8   10555.    1483.3   10608.   1483.9   10647.    1483.7   10652.
GR  1483.7  10670.    1484.1   10676.    1484.3   10712.   1484.9   10763.    1485.5   10826.
```

Right encroachment at effective flow boundary along divide

```
NH      6      .055    9810.9     .065    9977.4     .038   10019.8     .105   10066.     .072
NH  10151.     .055    11038.
ET             7.1       9.1                                9181.    10319    9800.1   10210.0
X1   1.578      50    9977.4    10227     590      480      517
GR  1487.2   9180.2   1487.1   9264.3   1486.8   9319.2   1485.9   9384.6   1484.8   9444.8
GR  1484.3   9494.5   1483.8   9552.3   1483.6   9641.2   1484.1   9669.4   1483.7   9709.1
GR  1483.8   9735.8   1482.8   9741.6   1483.9   9755.6   1483.9   9793.7   1482.4   9800.6
GR  1483.9   9810.9   1484.0   9868.8   1482.5   9882.3   1483.9   9892.6   1484.4   9977.4
GR  1482.7  10000.0   1483.9  10019.8   1483.3   10054.   1483.8   10066.   1483.9   10144.
GR  1482.6   10151.   1483.5  10161.2   1483.2   10199.   1484.0   10227.   1485.7   10270.
GR  1486.5  10318.8   1486.3  10374.0   1485.4   10443.   1485.4   10494.   1485.1   10501.
GR  1484.9  10518.5   1485.3  10527.4   1485.2   10562.   1484.6   10617.   1485.4   10629.
GR  1486.1  10711.9   1486.5  10766.2   1484.7   10783.   1486.4   10796.   1487.2   10838.
GR  1485.5  10849.1   1487.2  10863.2   1487.8   10935.   1488.0   10992.   1488.6   11038.
```

Right and left encroachments at effective flow boundaries along divides
End Sheet 2/Begin Sheet 3

```
NH      6      .055    9939.2     .105    9984.1     .038   10012.     .105   10063.     .072
NH  10222.     .055    11266.
ET             7.1       9.1                                9709.6   10626.   9923.4   10299.0
X1   1.670      50    9984.1    10272     530      465      486
GR  1491.9   9127.2   1491.3   9188.4   1490.4   9298.1   1489.2   9391.5   1488.4   9450.3
GR  1488.2   9489.5   1488.2   9527.1   1488.9   9553.5   1489.2   9601.9   1489.1   9667.4
GR  1489.3   9709.6   1488.8   9755.5   1487.2   9794.7   1486.6   9834.4   1485.1   9838.1
GR  1486.5   9845.7   1486.8   9912.0   1485.4   9924.8   1486.9   9939.2   1487.1   9984.1
GR  1485.2   9992.3   1485.3   10000.   1485.2   10002.   1486.8   10012.   1486.9   10063.
GR  1487.0   10154.   1485.7   10165.   1486.9   10182.   1486.6   10210.   1485.8   10222.
GR  1486.4   10246.   1487.7   10272.   1487.6   10276.   1487.6   10294.   1488.1   10300.
GR  1488.7   10340.   1488.3   10430.   1488.2   10509.   1488.5   10564.   1488.9   10626.
GR  1488.7   10686.   1488.6   10739.   1488.8   10779.   1488.2   10789.   1488.8   10802.
GR  1489.4   10907.   1490.4   10994.   1490.8   11074.   1491.1   11156.   1491.4   11266.
```

N values account for obstructions around buildings

```
NH      5      .055    9943.3     .082    9971.3     .038   10010.     .082   10271.     .055
NH  11003.
ET                      9.1                                                   9873.3   10309.0
X1   1.764      33    9943.3   10064.     490      470      496
GR  1493.8   9417.2   1493.4   9453.6   1492.1   9497.1   1491.3   9632.9   1490.0   9690.2
GR  1489.1   9722.4   1489.1   9781.8   1488.7   9841.0   1488.6   9851.5   1489.1   9890.8
GR  1488.5   9897.5   1489.0   9907.2   1489.6   9943.3   1488.1   9954.5   1488.0   9971.3
GR  1487.0   10000.   1488.9   10010.   1488.6   10029.   1489.1   10064.   1488.9   10151.
GR  1488.7   10216.   1488.2   10271.   1488.6   10319.   1488.5   10379.   1489.1   10420.
GR  1489.8   10474.   1491.4   10549.   1491.7   10614.   1491.6   10688.   1491.4   10772.
GR  1491.7   10847.   1492.3   10930.   1492.7   11003.
```

Composite n value used in this reach: .038 for channel, .082 to .105 for bank
and riparian vegetation. Composites .062 to .082

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NC | .055 | .055 | .065 | | | | | | | |
| ET | | | 9.1 | | | | | | 9824.2 | 10191.8 |
| X1 | 1.866 | 40 | 9844.2 | 10065.6 | 520 | 490 | 539 | | | |
| GR | 1496.3 | 9446.3 | 1496.3 | 9477.8 | 1495.9 | 9487.3 | 1495.8 | 9502.5 | 1496.1 | 9517.4 |
| GR | 1495.4 | 9577.0 | 1494.2 | 9656.4 | 1493.2 | 9686.3 | 1492.5 | 9761.0 | 1491.4 | 9844.2 |
| GR | 1489.9 | 9853.1 | 1491.9 | 9864.4 | 1489.9 | 9871.2 | 1490.0 | 9880.4 | 1491.7 | 9889.0 |
| GR | 1492.0 | 9922.5 | 1491.1 | 9939.1 | 1491.8 | 9956.3 | 1492.4 | 9986.2 | 1490.7 | 10000.0 |
| GR | 1492.0 | 10010.6 | 1492.1 | 10065.6 | 1491.9 | 10132.9 | 1492.3 | 10186.8 | 1492.1 | 10253.7 |
| GR | 1492.3 | 10310.0 | 1492.3 | 10385.4 | 1492.6 | 10405.2 | 1492.9 | 10465.8 | 1493.5 | 10532.0 |
| GR | 1493.4 | 10570.5 | 1492.0 | 10585.4 | 1493.5 | 10590.7 | 1494.1 | 10661.3 | 1494.7 | 10728.8 |
| GR | 1495.1 | 10809.8 | 1495.4 | 10857.2 | 1495.9 | 10906.3 | 1495.8 | 10973.4 | 1495.8 | 11109.0 |
| NH | 5 | .055 | 9960.1 | .095 | 9996.3 | .038 | 10004.4 | .095 | 10053 | .055 |
| NH | 10913. | | | | | | | | | |
| ET | | | 9.1 | | | | | | 9752.5 | 10264.4 |
| X1 | 1.967 | 44 | 9960.1 | 10053. | 650 | 340 | 533 | | | |
| X3 | 10 | | | | | | | | | |
| GR | 1500.0 | 9111.7 | 1499.7 | 9117.7 | 1499.9 | 9172.0 | 1499.2 | 9261.2 | 1498.0 | 9351.0 |
| GR | 1496.5 | 9419.3 | 1495.4 | 9473.4 | 1496.0 | 9542.5 | 1494.9 | 9589.8 | 1494.9 | 9642.6 |
| GR | 1494.8 | 9698.2 | 1494.7 | 9740.6 | 1494.9 | 9859.5 | 1496.0 | 9960.1 | 1495.2 | 9985.3 |
| GR | 1492.6 | 9996.3 | 1492.6 | 10000.0 | 1492.9 | 10004.4 | 1495.9 | 10027.3 | 1496.3 | 10053. |
| GR | 1495.4 | 10110.8 | 1494.8 | 10202.3 | 1493.8 | 10209.5 | 1494.6 | 10219.5 | 1494.3 | 10247. |
| GR | 1495.7 | 10308.3 | 1496.4 | 10344.4 | 1496.0 | 10377.9 | 1496.0 | 10400.7 | 1495.8 | 10461. |
| GR | 1495.3 | 10512.9 | 1494.9 | 10560.3 | 1495.4 | 10582.4 | 1496.1 | 10621.6 | 1494.9 | 10627. |
| GR | 1496.1 | 10633.4 | 1496.4 | 10655.5 | 1495.7 | 10662.1 | 1496.1 | 10669.8 | 1496.7 | 10727. |
| GR | 1497.4 | 10770.7 | 1497.5 | 10900.5 | 1496.7 | 10904.6 | 1497.7 | 10913. | | |
| ET | | 7.1 | 9.1 | | | | 9031.5 | 10764 | 9488.0 | 10093.3 |
| NH | 5 | .055 | 9945.6 | .095 | 9992.4 | .038 | 10010 | .095 | 10073.3 | .055 |
| NH | 10764 | | | | | | | | | |
| X1 | 2.064 | 47 | 9945.6 | 10073.3 | 420 | 475 | 512 | | | |
| GR | 1502.1 | 8574.7 | 1500.9 | 8671.6 | 1499.8 | 8733.9 | 1499.0 | 8819.8 | 1498.2 | 8880.3 |
| GR | 1498.2 | 8939.8 | 1499.0 | 8989.9 | 1499.6 | 9031.5 | 1497.8 | 9069.7 | 1496.5 | 9072.3 |
| GR | 1497.6 | 9076.1 | 1497.7 | 9092.4 | 1496.3 | 9098.1 | 1496.9 | 9102.0 | 1496.1 | 9131.5 |
| GR | 1496.8 | 9205.2 | 1497.4 | 9313.2 | 1496.7 | 9329.9 | 1496.5 | 9409.0 | 1496.5 | 9464.3 |
| GR | 1496.3 | 9514.1 | 1496.6 | 9562.1 | 1496.8 | 9624.5 | 1497.8 | 9673.0 | 1497.8 | 9690.2 |
| GR | 1497.1 | 9747.0 | 1497.1 | 9811.8 | 1497.0 | 9850.6 | 1496.2 | 9854.7 | 1497.2 | 9865.7 |
| GR | 1497.4 | 9945.6 | 1497.4 | 9984.8 | 1495.1 | 9992.4 | 1495.1 | 10010.0 | 1497.7 | 10026.9 |
| GR | 1497.9 | 10073.3 | 1498.4 | 10096.4 | 1498.8 | 10173.8 | 1498.7 | 10218.2 | 1497.8 | 10299.9 |
| GR | 1497.6 | 10382.3 | 1498.1 | 10453.3 | 1498.2 | 10463.4 | 1498.8 | 10576.0 | 1498.7 | 10605. |
| GR | 1499.1 | 10665.5 | 1499.2 | 10764. | | | | | | |
| NH | 5 | .055 | 9984.3 | .075 | 9993.1 | .038 | 10006 | .095 | 10014 | .055 |
| NH | 10592 | | | | | | | | | |
| ET | | | 9.1 | | | | | | 9549.4 | 10014.0 |
| X1 | 2.159 | 35 | 9984.3 | 10014. | 450 | 530 | 502 | | | |
| GR | 1501.3 | 9069.4 | 1502.0 | 9097.4 | 1501.7 | 9163.7 | 1501.1 | 9211.1 | 1499.1 | 9315.3 |
| GR | 1499.2 | 9334.5 | 1498.3 | 9341.8 | 1498.9 | 9348.7 | 1499.2 | 9399.0 | 1498.1 | 9402.2 |
| GR | 1499.0 | 9406.8 | 1499.1 | 9422.1 | 1498.9 | 9429.4 | 1499.1 | 9492.5 | 1499.2 | 9577.1 |
| GR | 1499.0 | 9644.9 | 1499.1 | 9703.2 | 1499.8 | 9753.9 | 1500.2 | 9837.3 | 1500.1 | 9854.8 |

```
G   1499.7    9934.4    1500.1    9984.3    1497.6    9993.1    1497.5    10000.    1497.5    10006.
GR  1500.4    10014.    1499.5    10049.    1500.0    10141.    1499.8    10164.    1500.2    10231.
GR  1500.2    10241.    1500.7    10304.    1501.5    10439.    1502.4    10532.    1502.8    10592.


NH      5     .055      9968.2    .075      9988.5    .038      10007.8   .095      10024.3   .055
NH  10525
ET                      9.1                                                         9462.1    10024.3
X1  2.251     43        9968.2    10024.3   370       510       486
GR  1504.9    8895.7    1504.5    8975.6    1504.0    9041.0    1502.6    9106.5    1501.6    9155.0
GR  1501.6    9203.9    1501.3    9266.0    1501.3    9308.7    1501.2    9367.3    1500.4    9379.4
GR  1500.4    9392.9    1501.6    9399.0    1501.5    9421.2    1500.2    9431.0    1501.6    9447.7
GR  1501.8    9474.2    1502.0    9522.4    1501.9    9598.7    1501.9    9655.7    1500.6    9660.6
GR  1501.7    9666.2    1502.1    9689.3    1501.8    9696.5    1502.1    9774.8    1501.9    9858.4
GR  1502.7    9901.6    1503.0    9968.2    1502.7    9979.5    1500.0    9988.5    1500.1    10000.
GR  1500.1    10007.8   1503.4    10024.3   1502.7    10058.0   1502.8    10101.    1502.0    10105.
GR  1502.9    10115.3   1501.0    10146.2   1502.3    10158.6   1502.6    10180.    1504.0    10250.
GR  1505.7    10370.5   1506.8    10499.6   1507.0    10525.0


NH      5     .055      9984.3    .105      9991.4    .038      10007.    .105      10043.    .055
NH  10425.
ET                      9.1                                                         9508.4    10043.0
X1  2.346     35        9984.3    10043     400       530       502
GR  1507.1    8837.3    1506.6    8922.2    1505.4    9011.2    1505.1    9056.7    1504.5    9143.1
GR  1504.5    9179.3    1505.2    9219.5    1505.1    9261.4    1504.6    9312.4    1504.0    9360.0
G   1503.9    9393.2    1504.1    9433.1    1504.4    9495.8    1505.5    9539.5    1505.7    9568.3
GR  1505.4    9588.2    1503.8    9612.9    1502.7    9647.5    1503.8    9657.6    1504.6    9743.0
GR  1505.1    9826.1    1505.5    9915.1    1505.7    9984.3    1503.1    9991.4    1503.1    10000.
GR  1503.0    10007.    1504.5    10018.    1505.4    10043.    1505.3    10109.    1505.0    10170.
GR  1504.6    10222.    1505.5    10248.    1508.0    10310.    1509.4    10368.    1509.3    10425.


NH      5     .055      9940.6    .105      9992.5    .038      10008.9   .105      10020.    .055
NH  10582.
ET                      9.1                                                         9585.1    10146.6
X1  2.442     40        9940.6    10020.    460       525       507
GR  1510.1    8718.9    1510.4    8773.8    1509.7    8878.6    1508.7    8976.8    1508.5    9036.3
GR  1508.7    9114.2    1508.6    9211.5    1508.6    9321.4    1508.2    9390.4    1507.4    9449.3
GR  1507.7    9499.6    1508.2    9571.6    1508.9    9615.7    1508.9    9646.0    1507.5    9716.3
GR  1507.3    9756.8    1507.4    9791.5    1507.8    9833.6    1508.0    9940.6    1507.9    9982.5
GR  1505.8    9992.5    1505.6    10000.0   1505.4    10008.9   1507.5    10020.0   1507.5    10126.2
GR  1507.6    10175.4   1507.1    10186.7   1507.4    10208.5   1507.4    10273.4   1506.3    10281.7
GR  1507.4    10298.0   1507.3    10320.3   1506.4    10326.9   1507.2    10340.4   1507.4    10377.8
GR  1507.2    10393.7   1507.8    10437.6   1509.1    10484.7   1510.5    10525.6   1512.0    10582.0


NH      5     .055      9980.3    .105      9986.3    .038      10006.    .105      10040.    .055
NH  10951.
ET                      9.1                                                         9901.2    10516.5
```

```
X1    2.537       35    9901.2    10119.      450      500      502
GR    1512.3    9175.6    1512.1    9294.8    1511.5    9382.2    1511.5    9458.8    1511.2    9560.9
GR    1511.3    9621.6    1511.4    9712.4    1511.2    9753.2    1511.4    9803.3    1510.8    9876.2
GR    1510.7    9901.2    1509.8    9980.3    1507.8    9986.3    1507.9    10000.    1508.0    10006.
GR    1509.9    10018.    1510.3    10040.    1510.2    10093.    1510.7    10119.    1510.7    10170.
GR    1511.8    10206.    1512.2    10259.    1511.8    10339.    1511.4    10373.    1510.7    10462.
GR    1510.3    10541.    1510.0    10608.    1509.9    10685.    1509.2    10711.    1509.8    10739.
GR    1510.7    10799.    1512.0    10825.    1512.6    10884.    1513.0    10917.    1513.6    10951.
```

End Sheet 3/Begin Sheet 4

```
NH       5      .055    9617.1      .105    9992.7      .038    10007      .105    10037.      .055
NH   11446.
ET                       9.1                                                        9889.3    10535.0
X1    2.631       50    9889.3    10073.      650      360      496
GR    1516.6    9169.2    1516.2    9270.9    1515.8    9381.4    1515.7    9465.3    1515.2    9562.0
GR    1514.6    9591.9    1513.4    9617.1    1512.9    9668.9    1512.4    9688.3    1512.8    9738.1
GR    1513.1    9787.5    1513.1    9889.3    1512.6    9911.3    1512.3    9954.7    1513.0    9984.7
GR    1510.0    9992.7    1510.0    10000.    1509.9    10007.    1513.0    10018.    1512.5    10037.
GR    1514.3    10073.    1514.1    10107.    1514.1    10126.    1514.3    10158.    1513.6    10255.
GR    1513.7    10346.    1513.6    10416.    1512.6    10469.    1512.7    10532.    1512.3    10604.
GR    1511.8    10610.    1512.3    10622.    1512.4    10630.    1512.8    10668.    1512.9    10762.
GR    1513.1    10857.    1513.3    10901.    1519.8    10916.    1519.9    10924.    1514.3    10931.
GR    1515.1    10963.    1515.0    10987.    1513.7    10992.    1514.7    11001.    1515.3    11045.
GR    1516.1    11097.    1517.0    11148.    1518.6    11209.    1519.5    11319.    1519.5    11446.
```

Right encroachment at effective flow boundary on divide above diversion

```
ET                 7.1       9.1                                    9156    10392.    9606.0    10088.0
NH       6     .064      9613.5      .055    9859.4      .105    9993      .038    10005      .105
NH   10038.      .055    11436.
X1    2.727       58    9859.4    10038.      535      400      507
GR    1519.0    9155.5    1518.3    9198.2    1517.3    9261.5    1516.8    9299.8    1516.7    9347.3
GR    1516.0    9359.3    1516.6    9405.0    1516.2    9494.4    1516.1    9553.3    1516.0    9613.5
GR    1516.1    9693.3    1515.9    9773.3    1516.2    9859.4    1514.1    9866.2    1515.0    9873.7
GR    1516.1    9901.7    1515.5    9952.1    1514.4    9965.2    1514.3    9983.6    1512.7    9993.0
GR    1512.3    10000.    1512.3    10005.    1515.6    10017.    1516.3    10038.    1516.4    10094.
GR    1516.2    10140.    1516.5    10174.    1516.5    10230.    1516.4    10310.    1516.4    10310.
GR    1516.8    10323.    1517.1    10392.    1516.5    10428.    1513.6    10468.    1513.8    10480.
GR    1519.8    10500.    1519.8    10506.    1516.3    10514.    1515.8    10536.    1516.5    10553.
GR    1516.5    10575.4   1517.8    10587.3   1516.7    10593.5   1516.7    10651.0   1516.9    10696.3
GR    1517.1    10738.6   1517.0    10797.6   1515.9    10853.0   1515.8    10892.7   1518.8    10938.3
GR    1519.7    10971.3   1520.2    11007.5   1520.9    11064.2   1521.4    11108.5   1521.8    11162.9
GR    1521.7    11210.9   1521.3    11286.5   1521.6    11436.
```

Historical diversion to stock pond. No structure at diversion. Divided Flow.
Right encroachment at effective flow boundary on divide above diversion

```
NH       7      .055    9098.1     .082    9463.6      .055    9925.5      .105    9992.8      .038
NH   10010.      .105   10103.     .055     11326
ET               7.1       9.1                                 8926   10127.1    9574.9   10127.0
X1    2.827       62    9925.5    10127       340       560     528
GR   1521.8    8925.2   1521.4    9008.7   1520.4    9047.7  1519.0    9098.1   1519.2    9125.1
GR   1518.6    9156.4   1518.7    9168.3   1518.3    9251.8  1518.4    9332.6   1518.0    9416.3
GR   1518.2    9463.6   1518.6    9507.5   1519.5    9555.7  1519.9    9585.6   1519.9    9667.7
GR   1519.8    9691.3   1519.4    9744.7   1519.3    9854.4  1518.3    9863.0   1518.3    9879.5
GR   1517.4    9883.3   1519.0    9900.5   1519.3    9925.5  1518.9    9985.4   1515.7    9992.8
GR   1516.1    10000.   1516.2    10010.   1517.1    10023.  1518.1    10039.   1518.3    10060.
GR   1515.9    10083.   1519.3    10103.   1521.6    10127.  1518.9    10140.   1518.9    10180.
GR   1519.1    10211.   1519.4    10290.   1519.2    10351.  1518.5    10390.   1518.4    10423.
GR   1518.4    10470.   1518.5    10506.   1518.3    10541.  1518.3    10576.   1518.7    10615.
GR   1518.4    10662.   1518.7    10705.   1518.7    10775.  1518.5    10802.   1518.9    10840.
GR   1519.1    10876.   1519.3    10917.   1519.2    10951.  1520.1    10995.   1520.7    11034.
GR   1521.3    11077.   1521.6    11122.   1523.0    11158.  1523.5    11198.   1524.1    11246.
GR   1524.9    11281.   1525.0    11326.
```

Left encroachment at effective flow boundary at minor tributary confluence

```
NH       5      .055    9162.7     .082    9520.9      .055    9912.6      .072   10084.      .055
NH   10486.
ET               7.1       9.1                                 9129.2     10485    9516.5   10200.0
X1    2.927       57    9970.4    10139.       360       600     528
X3       10
GR   1523.6    8729.0   1523.5    8766.5   1523.3    8793.1  1523.1    8824.6   1522.9    8855.7
GR   1522.8    8891.6   1523.0    8919.1   1522.7    8942.5  1522.3    8967.1   1522.1    8991.0
GR   1522.6    9045.2   1522.5    9077.9   1522.7    9107.1  1522.3    9129.2   1521.9    9162.7
GR   1521.6    9195.3   1520.0    9237.8   1520.6    9246.4  1520.2    9282.1   1520.1    9310.8
GR   1520.3    9350.3   1520.5    9380.3   1520.9    9416.6  1520.5    9450.5   1520.6    9486.2
GR   1520.3    9520.9   1520.7    9553.3   1520.6    9584.0  1520.7    9611.5   1520.7    9667.9
GR   1521.7    9701.5   1522.4    9730.0   1523.1    9775.3  1523.2    9793.6   1523.2    9820.9
GR   1522.9    9865.9   1522.4    9912.6   1522.5    9970.4  1519.5    9988.9   1519.5    10000.
GR   1519.9    10011.   1522.2    10022.   1522.0    10056.  1520.8    10069.   1522.1    10084.
GR   1521.8    10107.   1522.7    10139.   1522.4    10175.  1521.9    10208.   1522.1    10241.
GR   1522.5    10280.   1522.5    10316.   1522.4    10350.  1522.5    10389.   1523.0    10420.
GR   1523.3    10454.   1523.4    10486.


NH       5      .055    9956.0     .095    9966.1      .038   10015.      .105   10054.      .055
NH   10596.
ET                       9.1                                                     9596.4   10064.0
X1    3.027       41    9956.0    10054.       510       430     528
X3       10
GR   1526.7    9249.5   1526.2    9281.7   1525.4    9314.8  1525.0    9352.9   1524.6    9391.6
GR   1523.8    9408.7   1523.8    9476.7   1523.4    9507.2  1523.8    9543.7   1524.0    9579.8
GR   1523.9    9588.2   1524.6    9638.8   1524.6    9685.0  1522.7    9719.5   1524.7    9743.0
GR   1524.6    9772.8   1524.8    9811.6   1525.3    9846.4  1524.8    9895.3   1524.4    9956.0
GR   1522.8    9966.1   1521.9    10000.   1524.7    10015.  1522.8    10032.   1525.8    10054.
GR   1525.5    10080.   1526.1    10115.   1526.3    10145.  1525.7    10174.   1524.9    10209.
GR   1524.5    10239.   1524.6    10278.   1524.7    10306.  1524.7    10359.   1524.7    10388.
GR   1525.0    10420.   1525.4    10447.   1525.6    10482.  1525.2    10514.   1525.6    10520.
```

```
1525.9     10596.

NH      5      .055    9943.0      .072    9965.3      .038   10026.5      .105   10084.0      .055
NH  10514.
ET                      9.1                                                      9780.1   10125.9
X1  3.137        30    9943.0   10084.0       580       525       581
GR  1529.5    9395.5   1529.2    9442.2    1529.0    9498.1    1528.2    9547.8    1527.7    9592.1
GR  1527.6    9628.6   1527.5    9665.6    1527.3    9695.8    1526.5    9704.4    1527.4    9714.3
GR  1527.0    9731.8   1528.2    9759.6    1527.2    9786.7    1527.6    9842.2    1527.7    9890.9
GR  1528.3    9943.0   1525.7    9965.3    1525.5   10000.0    1525.9   10026.5    1525.9   10056.
GR  1527.7   10084.0   1527.7   10128.8    1527.5   10184.1    1527.7   10229.8    1527.6   10279.
GR  1527.6   10329.8   1527.8   10372.5    1528.9   10417.1    1529.6   10462.8    1529.8   10514.

 End section at effective flow boundary on divide
 Use composite n values for channel + bank/riparian vegetation

NC     .055      .055      .072
ET                      9.1                                                      9789.6   10135.0
X1  3.224        26    9974.1   10060.       450       460       459
GR  1532.8    9460.5   1532.7    9505.5    1532.5    9546.4    1531.6    9580.4    1530.1    9633.7
GR  1530.4    9667.0   1530.3    9704.8    1529.7    9746.2    1529.6    9785.0    1529.9    9809.6
GR  1528.5    9833.8   1530.5    9863.4    1530.3    9916.5    1530.7    9974.1    1524.9   10000.
GR  1529.7   10027.    1530.1   10060.    1530.4   10111.     1530.3   10149.     1530.2   10188.
GR  1530.1   10233.    1530.5   10279.    1531.0   10329.     1531.2   10363.     1531.9   10398.
    1532.5   10484.

ET                      9.1                                                      9814.4   10130.2
X1  3.321        20    9953.1   10025.       510       520       512
GR  1536.0    9596.9   1535.4    9651.5    1533.3    9686.3    1533.0    9727.8    1532.7    9759.5
GR  1531.3    9803.2   1532.1    9840.2    1532.8    9886.4    1533.2    9926.8    1532.7    9953.1
GR  1532.0    9975.0   1527.0   10000.    1533.4   10025.     1532.3   10070.     1532.6   10129.
GR  1532.9   10169.    1533.0   10213.    1533.2   10250.     1534.2   10292.     1535.1   10420.

ET                      9.1                                                      9935.5   10139.1
X1  3.413        17    9972.9   10031.       490       500       486
GR  1538.4    9801.5   1538.3    9832.0    1537.1    9857.5    1536.3    9888.5    1532.9    9929.3
GR  1534.8    9972.9   1534.6    9980.7    1528.8   10000.     1530.5   10017.     1534.8   10031.
GR  1535.2   10075.    1535.2   10119.    1535.4   10160.     1535.4   10208.     1538.5   10255.
GR  1539.2   10293.    1539.6   10323.

 End Sheet 4/Begin Sheet 5

NH      5      .055    9978.3      .105    9989.7      .038   10012.       .095   10154.       .055
NH  10419.
ET                      9.1                                                      9922.2   10192.2
```

```
X1    3.514        25     9978.3    10076      520      470      533
GR   1542.4    9464.9     1542.3    9512.9   1541.9   9575.3   1541.2   9623.1   1541.2   9679.9
GR   1540.6    9730.1     1539.6    9757.0   1540.3   9788.3   1539.1   9851.8   1536.3   9901.1
GR   1537.0    9978.3     1530.9    9989.7   1531.3   10000.   1531.6   10012.   1537.3   10044.
GR   1536.9    10076.     1535.5    10114.   1535.2   10136.   1536.9   10154.   1537.0   10182.
GR   1537.8    10265.     1539.2    10304.   1541.2   10357.   1542.3   10397.   1542.5   10419.
```

Left effective flow boundary at 4:1 expansion from CAP structure and divide

```
NC     .055      .055      .038
ET                         9.1                                                   9945.7   10030.0
X1    3.617        14     9946.9    10030.     560      460      544
GR   1540.3    9791.2     1539.8    9814.3   1540.0   9848.8   1539.5   9914.1   1538.6   9946.9
GR   1537.3    9969.0     1533.7    9990.6   1533.5   10000.   1534.0   10012.   1539.3   10030.
GR   1540.1    10074.     1540.9    10118.   1543.8   10164.   1545.2   10190.
```

Base of CAP overchute drop structure

```
QT        2      5101      5101
```

Insert two cross sections for CAP, at inlet and outlet. Outlet at critical.
Increase contraction coefficient due to CAP Overchute

Reach 2/Sheet 5
[illegible] CAP Cross Section. Downstream End. Geometry from BuRec as-builts.

```
NC     .033      .033      .013       .1       .3
ET                         9.1                                                   9751.0   10313.13
X1    3.651         8     9976.3   10023.8      180      180      180
GR     1553      8900      1552      9000     1552   9976.3     1545   9976.31     1545   10023.7
GR     1552   10023.8      1552     11000     1553    11200
```

Second CAP Cross Section. Upstream End. Duplicate downstream geometry.

```
ET                         9.1                                                      9700     10370
X1    3.670                                     100      100      100                 .5
```

Contraction and Expansion coefficients reflect CAP overchute contraction

```
NC                                        .3       .5
```

Discharge = 5,309 cfs per Wittman ADMS at inflow to CAP overchute

```
QT        2      5309      5309
```

Right and Left encroachment at effective flow boundary from upstream expansion

```
ET                 7.1       9.1                                  9100    10600     9224    10383
NI[illegible]      5       .08    9976.8      .105    10000      .038  10075.8     .105  10212.8     .085
NI[illegible]1300
```

```
X[illegible]3.713      34      9543   10130.9     290     180     230
GR    1556.     8940   1553.7    8949.8   1553.0   8966.0   1550.4   8985.6   1547.0   9024.5
GR   1545.7   9080.2   1545.4   9185.3   1545.3   9244.9   1545.7   9293.2   1544.9   9316.5
GR   1545.1   9343.7   1544.4   9410.4   1544.4   9452.8   1544.0   9462.3   1544.8   9473.3
GR   1544.6   9485.4   1544.9   9509.0   1545.1   9543.0   1544.7   9618.0   1544.2   9716.2
GR   1544.0   9779.2   1543.4   9828.7   1543.4   9882.0   1543.6   9941.6   1544.4   9976.8
GR   1544.4   10000.   1544.1   10040.3  1544.2   10075.8  1544.8   10130.9  1547.4   10163.6
GR   1548.1   10187.   1548.2   10212.8  1548.0   10600    1550     11300
```

Left encroachment at effective flow boundary - expansion and contraction
End right side of section at effective flow boundary

```
ET              7.1      9.1                                9039.5    10466   9193.1  10243.51
NH      5      .063   9905.3     .095   9991.9     .038  10074.7     .105  10194.4      .055
NH  10466
X1  3.821       52     9985  10088.3     390     565     570
GR  1553.8   8360.8   1552.4   8437.6   1551.6   8492.0   1551.4   8538.9   1550.1   8642.7
GR  1549.5   8678.5   1549.5   8720.6   1549.3   8781.5   1549.1   8837.0   1548.9   8881.2
GR  1547.4   8887.8   1549.1   8894.9   1549.0   8909.3   1548.2   8914.7   1548.8   8926.0
GR  1548.4   8960.7   1548.9   8981.5   1548.9   9039.5   1548.6   9073.5   1547.7   9101.4
GR  1547.2   9195.7   1547.2   9286.9   1547.6   9353.5   1547.5   9425.9   1546.9   9473.9
GR  1546.7   9533.4   1546.6   9601.4   1546.4   9672.4   1546.4   9809.4   1547.0   9838.6
GR  1547.3   9892.8   1547.1   9905.3   1547.3   9944.4   1547.1   9985.0   1544.0   9991.9
GR  1544.0  10000.0   1545.7  10020.0   1545.8  10048.1   1544.3  10060.4   1544.3  10074.7
GR  1546.9  10088.3   1546.5  10110.3   1545.5  10153.5   1545.9  10194.4   1546.5  10235.8
G[illegible]548.1  10255.4   1549.8  10288.8   1549.8  10328.5   1549.6  10365.5   1549.9  10397.9
GR  1551.1  10440.1   1551.9  10466.
```

Right end section at effective flow boundary, expansion from upstream section
Left encroachment at expansion effective flow boundary on divide

```
ET              7.1      9.1                                 9140    10629  9361.22  10046.77
NH      5      .055   9807.7     .085   9946.2     .038  10016.5     .095  10072.4      .055
NH  10629
X1  3.917       68     9756.2  10016.5     460     430     507
GR  1563.9   7754.7   1564.0   7823.5   1554.8   7869.5   1554.9   7903.8   1555.2   7965.3
GR  1555.3   8033.9   1555.1   8083.5   1554.2   8114.0   1553.6   8164.7   1552.7   8205.3
GR  1552.5   8247.9   1552.0   8310.4   1553.2   8333.0   1553.2   8362.4   1552.5   8444.2
GR  1551.7   8480.3   1551.9   8515.5   1551.8   8549.9   1551.2   8577.2   1549.8   8583.3
GR  1551.4   8594.6   1551.8   8630.4   1553.2   8655.6   1553.4   8680.6   1551.4   8720.6
GR  1550.9   8775.9   1550.7   8830.3   1549.3   8837.6   1550.8   8848.8   1550.8   8892.0
GR  1550.7   8983.0   1551.4   9051.2   1551.3   9140.0   1550.7   9220.3   1550.2   9315.7
GR  1550.7   9370.8   1550.4   9461.0   1549.8   9510.7   1549.2   9556.4   1549.1   9624.0
GR  1547.8   9689.9   1548.6   9712.7   1547.3   9719.6   1548.8   9729.8   1549.3   9756.2
GR  1548.8   9807.7   1547.2   9832.2   1547.9   9841.6   1548.0   9880.5   1547.1   9899.7
GR  1547.5   9946.2   1547.2   9983.8   1546.1  10000.0   1549.1  10016.5   1549.0  10045.0
GR  1547.7  10058.1   1548.5  10072.4   1550.0  10112.8   1551.4  10143.0   1555.0  10175.7
GR  1554.4  10225.8   1553.5  10290.8   1553.0  10353.0   1552.8  10402.2   1553.3  10456.4
GR  1553.6  10486.9   1553.8  10528.5   1554.2  10629
```

[illegible]ease contraction and expansion coefficients to default values

```
NC                                      .1        .3
  Left encroachment at effective flow boundary on divide & expansion

ET              7.1       9.1                                 9274.3     10648    9603.85   10144.12
NH      5      .055    9912.2      .085    9981.1      .038   10015.8      .075   10081.8      .055
NH  10648
X1  4.010        62    9967.3   10081.8       320       530       491
GR 1564.2    7901.8    1564.1    7919.8    1555.3    7964.3    1555.2    8031.7    1555.4    8112.4
GR 1555.5    8195.9    1555.4    8230.2    1553.6    8289.1    1553.2    8333.2    1553.2    8375.6
GR 1553.0    8428.4    1554.6    8469.5    1554.9    8496.6    1553.8    8536.5    1553.1    8571.8
GR 1553.0    8610.1    1551.0    8633.8    1552.8    8649.9    1553.0    8664.8    1551.9    8676.3
GR 1552.5    8686.7    1552.8    8714.2    1555.2    8756.1    1555.5    8780.2    1554.8    8835.4
GR 1553.3    8870.8    1551.8    8930.2    1551.9    8975.5    1549.9    8990.2    1551.6    9006.2
GR 1551.5    9053.6    1551.5    9090.0    1552.6    9135.5    1552.8    9192.4    1553.0    9274.3
GR 1552.9    9347.6    1552.4    9411.1    1552.3    9485.3    1552.6    9547.7    1552.5    9611.6
GR 1552.1    9664.7    1551.6    9749.2    1551.3    9787.0    1550.9    9839.7    1551.0    9912.2
GR 1551.0    9967.3    1548.2    9981.1    1548.3   10000.0    1548.7   10015.8    1548.8   10060.8
GR 1552.1   10081.8    1551.8   10149.7    1552.2   10242.9    1552.3   10325.9    1553.2   10369.5
GR 1553.6   10398.4    1553.7   10436.3    1554.7   10494.3    1555.6   10534.1    1557.6   10575.5
GR 1558.6   10605.2    1558.9   10648.


NH      5      .055    9922.5      .085    9987.3      .038   10016.4      .075   10031.3      .055
NH  10605
ET                      9.1                                                       9815.77   10080.6
X1  4.119        35    9922.5   10031.3       590       420       576
GR 1557.9    8858.7    1557.5    8960.7    1557.2    9062.5    1557.2    9162.7    1556.7    9216.6
GR 1556.2    9313.6    1555.8    9417.4    1555.6    9458.5    1555.8    9503.8    1555.4    9585.0
GR 1554.8    9660.5    1554.3    9731.9    1554.0    9837.4    1553.6    9861.7    1552.5    9867.7
GR 1553.9    9876.3    1553.9    9922.5    1550.7    9954.9    1550.6    9976.1    1550.0    9987.3
GR 1549.4   10000.0    1549.2   10016.4    1554.6   10031.3    1554.8   10086.6    1553.9   10108.3
GR 1554.1   10124.0    1554.3   10180.3    1554.1   10230.9    1554.8   10257.4    1554.6   10295.8
GR 1554.9   10342.4    1557.0   10418.3    1557.2   10470.1    1556.8   10551.5    1556.7   10605.

  Left encroachment at effective flow boundary near minor tributary confluence


ET              7.1       9.1                                    9486      10918    9857.95   10072.35
NH      5      .055    9905.9       .08    9969      .038   10013.2       .08   10035.5      .055
NH  10918
X1  4.214        40    9891.3   10035.5       470       510       502
GR 1561.3    8900.0    1561.4    8946.0    1561.2    9039.7    1560.2    9119.3    1559.3    9185.5
GR 1559.1    9268.5    1559.0    9327.7    1558.7    9365.2    1558.8    9400.5    1559.9    9442.8
GR 1560.4    9485.7    1560.3    9525.2    1558.2    9584.6    1557.6    9609.9    1557.8    9635.6
GR 1557.6    9693.8    1557.6    9778.5    1557.2    9840.5    1557.9    9891.3    1557.1    9905.9
GR 1554.0    9923.0    1554.2    9934.1    1552.8    9969.0    1551.9    9978.0    1551.9   10000.0
GR 1551.8   10013.2    1556.8   10035.5    1556.8   10099.9    1556.9   10139.2    1557.7   10231.5
GR 1558.9   10311.7    1559.1   10361.3    1559.5   10423.2    1560.4   10495.6    1561.3   10539.6
GR 1561.5   10606.9    1562.1   10670.9    1563.0   10757.5    1563.4   10818.8    1563.8   10918.

  Sheet 5/Begin Sheet 6
  t encroachment at effective flow boundary at minor tributary confluence
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | 9.1 | | | | 9382 | 10472 | 9903.87 | 10104.28 |
| NH | 5 | .055 | 9899.7 | .085 | 9990.8 | .038 | 10043 | .085 | 10064 | .055 |
| NH | 10854 | | | | | | | | | |
| X1 | 4.306 | 40 | 9973.8 | 10064 | 510 | 480 | 486 | | | |
| GR | 1564.1 | 9382.0 | 1563.7 | 9432.0 | 1563.6 | 9480.1 | 1563.4 | 9532.7 | 1563.5 | 9559.6 |
| GR | 1561.6 | 9586.3 | 1563.0 | 9620.0 | 1561.9 | 9669.0 | 1561.5 | 9693.9 | 1560.6 | 9748.3 |
| GR | 1559.9 | 9821.0 | 1557.4 | 9830.7 | 1559.2 | 9839.0 | 1560.1 | 9858.4 | 1559.8 | 9899.7 |
| GR | 1559.3 | 9930.5 | 1560.1 | 9973.8 | 1554.1 | 9990.8 | 1553.6 | 10000.0 | 1555.4 | 10029. |
| GR | 1553.8 | 10043.0 | 1561.0 | 10064. | 1559.8 | 10097.3 | 1560.5 | 10118.8 | 1560.5 | 10174.6 |
| GR | 1560.4 | 10237.9 | 1560.4 | 10284.9 | 1561.2 | 10347.9 | 1561.3 | 10398.2 | 1561.7 | 10472.1 |
| GR | 1561.4 | 10504.8 | 1561.3 | 10527.1 | 1560.3 | 10535.5 | 1561.2 | 10542.1 | 1562.0 | 10606.0 |
| GR | 1563.0 | 10661.5 | 1564.0 | 10725.2 | 1565.0 | 10789.7 | 1565.5 | 10823.7 | 1566.6 | 10854. |

Left encroachment at effective flow boundary at minor tributary confluence

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | 9.1 | | | | 9715.7 | 10460 | 9825 | 10030 |
| NH | 5 | .055 | 9934.1 | .075 | 9990.2 | .038 | 10011.8 | .075 | 10053 | .055 |
| NH | 10460 | | | | | | | | | |
| X1 | 4.403 | 41 | 9934.1 | 10029. | 490 | 530 | 512 | | | |
| GR | 1568.1 | 8992.8 | 1566.9 | 9060.3 | 1566.2 | 9116.9 | 1565.8 | 9185.7 | 1565.3 | 9238.7 |
| GR | 1564.0 | 9342.1 | 1562.3 | 9349.2 | 1564.0 | 9366.3 | 1564.2 | 9393.3 | 1566.9 | 9434.5 |
| GR | 1566.8 | 9452.5 | 1565.5 | 9498.7 | 1564.3 | 9547.3 | 1562.8 | 9598.5 | 1561.9 | 9642.1 |
| GR | 1561.2 | 9669.4 | 1562.3 | 9688.2 | 1562.7 | 9715.7 | 1561.7 | 9737.0 | 1562.1 | 9782.1 |
| GR | 1562.3 | 9805.5 | 1561.3 | 9839.6 | 1559.4 | 9850.7 | 1562.0 | 9867.2 | 1562.8 | 9895.1 |
| GR | 1563.0 | 9934.1 | 1560.5 | 9956.9 | 1558.1 | 9974.3 | 1555.4 | 9990.2 | 1555.3 | 10000.0 |
| GR | 1555.3 | 10011.8 | 1561.9 | 10029. | 1561.9 | 10053. | 1564.2 | 10099.8 | 1565.0 | 10135.2 |
| GR | 1565.0 | 10188.3 | 1565.7 | 10250.4 | 1566.4 | 10307.8 | 1567.3 | 10358.7 | 1568.5 | 10416.8 |
| GR | 1568.8 | 10460 | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| QT | 2 | 5320 | 5320 | | | | | | | |
| ET | | 7.1 | 9.1 | | | | 9887.2 | 11040 | 9969.7 | 10111.24 |
| NH | 5 | .055 | 9933.4 | .068 | 9989.9 | .038 | 10007 | .068 | 10027 | .055 |
| NH | 11040 | | | | | | | | | |
| X1 | 4.497 | 49 | 9969.7 | 10027 | 490 | 500 | 496 | | | |
| GR | 1570.6 | 8950.1 | 1569.5 | 9002.8 | 1568.8 | 9058.6 | 1568.5 | 9088.3 | 1566.8 | 9100.5 |
| GR | 1567.9 | 9110.7 | 1568.3 | 9172.8 | 1568.9 | 9234.2 | 1569.3 | 9278.2 | 1569.5 | 9330.8 |
| GR | 1569.7 | 9410.0 | 1569.1 | 9457.3 | 1568.3 | 9509.2 | 1567.2 | 9561.3 | 1566.5 | 9580.3 |
| GR | 1566.5 | 9606.4 | 1565.5 | 9618.4 | 1566.2 | 9628.7 | 1565.9 | 9670.2 | 1565.7 | 9692.6 |
| GR | 1565.8 | 9753.4 | 1565.3 | 9801.6 | 1564.8 | 9845.0 | 1563.2 | 9856.4 | 1565.1 | 9872.2 |
| GR | 1565.4 | 9887.2 | 1564.5 | 9933.4 | 1564.3 | 9969.7 | 1556.5 | 9989.9 | 1556.5 | 10000.0 |
| GR | 1555.9 | 10007. | 1563.7 | 10027. | 1564.6 | 10102.9 | 1564.5 | 10130.0 | 1565.2 | 10160.7 |
| GR | 1565.6 | 10206.1 | 1564.0 | 10214.9 | 1565.5 | 10223.9 | 1566.6 | 10251.0 | 1568.8 | 10322.1 |
| GR | 1569.7 | 10364.1 | 1570.9 | 10391.1 | 1572.3 | 10454.0 | 1573.0 | 10511.9 | 1573.3 | 10573.3 |
| GR | 1573.1 | 10641.6 | 1572.8 | 10745.6 | 1572.7 | 10844.8 | 1573.5 | 11040. | | |

Left encroachment at effective flow boundary at expansion/contraction point

```
ET                7.1       9.1                                  9883.8    10115.5      9905     10051
NH      5       .055    9958.8      .088    9974.5      .038   10014.3      .088   10040.8      .055
NH  10519
X1  4.596        38    9915.3   10040.8       510       500       523
GR 1571.0    9512.4    1570.7    9529.4    1571.2    9544.1    1570.7    9576.1    1569.2    9624.0
GR 1568.4    9636.0    1569.4    9653.7    1569.4    9688.8    1568.3    9736.1    1566.8    9784.0
GR 1566.6    9808.3    1565.1    9816.7    1566.2    9830.0    1566.8    9857.9    1566.7    9883.8
GR 1565.3    9896.6    1566.3    9915.3    1565.3    9940.3    1563.5    9958.8    1559.7    9974.5
GR 1559.0   10000.0    1559.3   10014.3    1566.4   10040.8    1566.3   10067.4    1567.0   10115.5
GR 1566.8   10159.3    1564.4   10168.7    1566.5   10185.1    1568.0   10245.7    1570.3   10304.0
GR 1570.6   10333.2    1569.2   10378.0    1569.6   10417.2    1568.8   10436.0    1570.1   10446.2
GR 1568.9   10456.2    1570.7   10476.5    1571.9   10519.
```

Left encroachment at effective flow boundary on divide near minor tributary confluence

```
ET                7.1       9.1                                   9812     10426      9969     10080
NH      5       .055    9969.4      .062    9994.3      .038     10012      .062    10079      .055
NH  10426
X1  4.694        35    9969.4    10079       490       510       517
GR 1574.4    9356.2    1573.1    9425.3    1571.7    9485.8    1570.4    9545.4    1569.4    9600.1
GR 1567.6    9615.2    1568.7    9634.5    1568.4    9657.0    1564.6    9672.8    1567.6    9683.6
GR 1567.5    9700.0    1568.2    9711.5    1566.4    9723.8    1569.5    9742.4    1572.3    9764.0
GR 1572.9    9812.3    1572.6    9835.6    1574.1    9872.7    1574.2    9891.2    1571.2    9929.3
GR 1569.0    9969.4    1559.8    9994.3    1559.8   10000.    1560.0   10004.    1563.8   10012.
GR 1566.2   10031.     1565.8   10041.     1569.3   10079.    1571.1   10121.    1574.8   10178.
GR 1575.9   10210.     1576.0   10247.     1575.3   10293.    1574.9   10334.    1575.6   10426.
```

Left encroachment at effective flow boundary on divide

```
ET                7.1       9.1                                  9926.8     10469    9926.8   10042.0
NH      5       .055    9901.7      .072    9995.1      .038     10020      .072    10135      .055
NH  10469
X1  4.789        30    9926.8    10042       500       510       502
GR 1574.7    9459.4    1574.4    9469.8    1575.5    9506.6    1573.9    9535.7    1575.7    9552.4
GR 1576.1    9576.2    1575.5    9591.2    1575.6    9624.3    1576.5    9668.5    1576.6    9683.8
GR 1575.8    9765.0    1575.5    9809.2    1574.1    9878.8    1571.0    9892.5    1573.6    9901.7
GR 1573.8    9926.8    1568.8    9951.9    1568.8    9971.2    1561.6    9995.1    1561.9   10000.
GR 1562.2   10020.     1572.1   10042.     1573.0   10135.    1575.7   10172.    1575.8   10208.
GR 1578.3   10239.     1579.2   10279.     1579.4   10315.    1580.0   10395.    1580.4   10469.
```

Right and left encroachments at effective flow boundaries near minor tributary confluences beyond local divides

```
NH      5       .055    9881.       .065   10000       .038   10022.2      .062   10102.2      .055
NH  10245
ET                7.1       9.1                                   9881.   10102.2    9931.2   10047.5
```

```
X1    4.893        25    9931.2   10047.5       390       620       549
GR   1575.9    9469.8    1577.4    9487.8    1578.1    9529.2    1578.3    9629.1    1578.4    9700.7
GR   1578.4    9760.5    1577.8    9800.0    1576.2    9823.3    1577.8    9844.5    1578.3     9881.
GR   1576.9    9921.5    1577.5    9931.2    1576.9    9947.3    1571.8    9963.8    1570.4    10000.
GR   1570.2   10022.2    1578.3   10047.5    1578.2   10102.2    1573.4   10111.7    1576.3    10126.
GR   1573.9   10152.4    1577.5   10171.1    1575.3   10184.1    1578.7   10201.3    1579.4    10245.
```

Right encroachment at effective flow boundary in overbank area

```
ET                7.1       9.1                                 9878.     10106    9893.5   10043.0
NH      5        .08    9822.8      .068    9988.2      .038   10024.6      .068     10043      .055
NH  10309
X1  4.988         26    9893.5     10043       500       505       502
GR  1581.0    9286.8    1582.7    9343.9    1583.0    9390.3    1582.5    9446.1    1581.7    9472.6
GR  1581.3    9515.1    1581.4    9598.3    1582.2    9668.3    1581.4    9743.5    1581.2    9822.8
GR  1579.4    9843.4    1581.1     9878.    1581.0    9893.5    1577.8    9939.2    1576.3    9975.4
GR  1573.9    9988.2    1573.4   10000.0    1574.5   10024.6    1581.2    10043.    1582.4    10106.
GR  1582.6   10144.0    1581.3   10163.5    1581.9   10184.4    1579.2    10210.    1582.0    10231.
GR  1583.1    10309.
```

Left encroachment at effective flow boundary at minor tributary confluence

```
ET                7.1       9.1                                 9896.     10121    9965.6   10084.0
NH      5       .055     9896.      .068    9976.1      .038   10004.4      .070     10084      .055
NH  10345
X1  5.095         38    9965.6     10084       570       560       565
GR  1585.3    9565.1    1585.3    9627.3    1579.6    9639.5    1581.6    9647.0    1578.1    9654.3
GR  1584.0    9670.9    1581.7    9676.8    1583.6    9685.2    1584.9    9704.6    1582.2    9709.7
GR  1585.4    9719.1    1586.0    9752.1    1585.3    9798.9    1580.2    9830.2    1580.6    9851.5
GR  1584.3    9860.3    1584.7     9896.    1580.0    9902.5    1585.1    9917.8    1582.3    9928.0
GR  1584.8    9949.7    1584.8    9965.6    1576.0    9976.1    1575.9    10000.0   1576.0    10004.4
GR  1579.2   10016.0    1580.1   10036.0    1579.9   10055.6    1577.0    10069.3   1585.4    10084.
GR  1584.3   10108.4    1584.8    10121.    1582.8   10130.6    1585.1    10142.5   1585.2    10173.3
GR  1585.6   10238.9    1585.4   10291.0    1585.2    10345.
```

End Sheet 6/Begin Sheet 7

```
NH      4        .08    9480.3      .075    9970.3      .038   10014.6      .085     10668
ET                        9.1                                                        9957    10163.1
X1  5.189         35    9957.7     10163       490       500       496
GR  1588.1    9350.0    1588.1    9414.2    1588.6    9480.3    1588.9    9549.6    1588.8    9638.8
GR  1588.7    9719.8    1588.3    9809.9    1587.5    9829.4    1584.2    9838.2    1586.7    9851.5
GR  1587.6    9869.8    1587.2    9894.2    1581.8    9906.3    1587.9    9921.7    1587.9    9931.0
GR  1582.8    9940.3    1587.7    9957.7    1586.9    9970.3    1577.4    10000.0   1580.3    10014.6
GR  1581.9   10033.5    1582.9   10077.1    1582.2   10109.3    1581.5    10152.3   1588.7    10163.
GR  1588.7   10211.3    1589.4   10335.5    1589.8   10360.7    1589.2    10415.3   1588.9    10458.3
GR  1588.3   10469.2    1588.7   10483.7    1588.6   10541.3    1588.8    10615.    1589.4    10668.
```

ease contraction coefficient to reflect flow contraction

```
NC                                  .3        .5

QT      2      5330      5330
NH      7       .08    8504.2      .055    9123.4       .09    9345.6      .095    9995.2      .058
NH  10007      .095     10118      .065     10456
ET                        9.1                                                    9601.75    10068.0
X1  5.287        51    9920.3     10068       470       540       517
GR  1594.2    8368.2   1593.9    8444.9    1594.6    8504.2    1595.2    8560.9    1595.3    8593.9
GR  1594.9    8641.7   1593.8    8704.3    1592.2    8767.6    1591.6    8833.8    1591.4    8887.6
GR  1591.4    8948.0   1591.9    9043.5    1591.8    9064.9    1590.7    9084.7    1591.3    9097.7
GR  1591.4    9117.8   1591.0    9123.4    1591.2    9150.3    1591.0    9161.4    1591.1    9223.2
GR  1591.3    9279.7   1591.6    9311.0    1592.1    9345.6    1591.7    9389.7    1592.0    9426.4
GR  1592.2    9502.0   1592.0    9558.9    1591.6    9637.3    1591.7    9689.4    1590.2    9694.4
GR  1591.7    9709.8   1591.7    9762.6    1592.0    9839.9    1591.9    9920.3    1591.2    9983.8
GR  1580.6    9995.2   1580.6    10007.    1590.8    10023.    1590.8    10036.    1587.5    10039.
GR  1591.1    10049.   1591.8    10068.    1591.9    10118.    1591.8    10184.    1591.8    10306.
GR  1592.2    10340.   1591.8    10360.    1591.7    10373.    1593.5    10405.    1594.4    10431.
GR  1594.6    10456.
```

Return contraction coefficient to normal

```
NC                                  .1        .3

NH      5       .055    9183.4      .085    9450.2       .080    9970.6      .058   10014.9      .065
NH  10428
E                         9.1                                                     9550     10035
X1  5.386        45    9970.6    10014.9       510       480       523
GR  1598.0    8730.9   1598.4    8772.0    1598.4    8818.8    1597.9    8876.7    1597.0    8924.4
GR  1596.3    8973.4   1595.7    9016.6    1595.6    9062.9    1595.8    9114.5    1595.7    9151.6
GR  1595.4    9183.4   1595.1    9236.2    1595.5    9266.5    1594.5    9275.3    1595.3    9287.4
GR  1595.7    9340.6   1595.5    9370.1    1595.2    9423.2    1595.5    9450.2    1595.4    9508.9
GR  1595.0    9548.9   1595.0    9594.2    1595.2    9624.1    1595.2    9657.6    1595.1    9681.3
GR  1594.5    9692.2   1595.3    9710.5    1595.2    9737.0    1596.0    9756.9    1596.0    9797.3
GR  1595.8    9844.8   1595.8    9905.2    1595.0    9970.6    1581.4   10000.0    1593.9   10014.9
GR  1594.8    10086.   1596.4   10103.4    1596.8   10142.8    1596.4   10192.0    1596.1   10244.1
GR  1596.1   10261.5   1596.8   10297.9    1596.9   10337.8    1596.9   10385.4    1597.5    10428.


NH      5       .055    9166.7      .085    9693.8       .060    9996.0      .038     10006      .055
NH  10379
ET                        9.1                                                   9755.36    10079.0
X1  5.485        40    9971.9     10079       570       440       523
GR  1601.2    8674.7   1601.4    8723.3    1601.6    8788.3    1601.8    8820.3    1600.9    8864.2
GR  1600.4    8926.8   1599.6    8985.4    1599.1    9053.5    1598.4    9059.0    1598.8    9069.7
GR  1598.8    9141.4   1597.5    9153.6    1598.6    9166.7    1598.9    9222.6    1598.4    9273.7
GR  1598.4    9317.0   1599.0    9356.3    1599.0    9419.3    1598.9    9509.1    1599.0    9557.1
GR  1598.7    9615.9   1598.3    9693.8    1598.2    9768.5    1598.2    9809.7    1598.0    9861.6
GR  1598.9    9915.1   1599.4    9971.9    1587.1    9996.0    1587.2    10000.    1587.2    10006.
GR  1597.3    10018.   1593.0    10029.    1597.0    10044.    1597.7    10079.    1598.0    10143.
GR  1598.2    10184.   1597.8    10257.    1598.4    10283.    1600.4    10345.    1600.9    10379.
```

```
NH      4      .105    9229.6      .055      9982      .038     10038      .055     10449
ET                      9.1                                                     9981.5   10113.5
X1  5.577        43      9982     10113       400       570       486
GR  1604.3    8667.1   1604.1    8722.7    1603.4    8762.9    1602.7    8774.0    1603.0    8795.4
GR  1602.7    8838.8   1601.6    8864.4    1601.2    8883.0    1600.8    8929.0    1601.3    9003.9
GR  1601.3    9038.9   1601.8    9073.0    1601.9    9102.4    1601.9    9133.2    1601.6    9193.4
GR  1601.1    9229.6   1601.6    9249.8    1601.7    9283.5    1601.4    9319.8    1601.3    9369.7
GR  1601.2    9429.0   1601.3    9500.5    1601.4    9567.9    1601.3    9626.3    1600.5    9631.3
GR  1601.3    9646.5   1601.3    9790.4    1601.4    9870.9    1601.6    9982.0    1599.5    9991.4
GR  1592.3    10000.   1597.3    10010.    1597.4    10038.    1596.9    10049.    1596.9    10079.
GR  1600.7    10113.   1601.2    10166.    1601.8    10192.    1602.1    10239.    1603.8    10306.
GR  1604.3    10339.   1604.2    10358.    1603.6    10449.
```

Major headcut and defined channel begins downstream of section 5.668
End Reach 2/Begin Reach 3

```
NH      3      .055    9938.7       .09   10481.2      .055   11128.3
ET                      9.1                                                      9490     10230
X1  5.668        38    9764.4     10215       345       545       480
GR  1607.4    8800.7   1606.8    8876.7    1604.2    8947.4    1602.8    8995.1    1603.7    9007.2
GR  1603.2    9062.8   1603.8    9146.5    1603.1    9243.3    1602.5    9256.2    1603.1    9271.3
GR  1603.3    9318.3   1602.2    9351.3    1603.8    9391.9    1603.3    9474.4    1603.2    9520.3
GR  1603.1    9585.1   1603.1    9664.7    1603.8    9764.4    1603.4    9857.4    1603.8    9938.7
GR  1603.9    10000.0  1603.5    10058.1   1603.6    10139.1   1603.8    10215.0   1603.5    10290.
GR  1603.2    10354.4  1605.0    10415.2   1604.7    10481.2   1606.5    10572.2   1607.0    10655.
GR  1608.2    10716.2  1608.8    10776.2   1609.2    10837.2   1609.3    10910.2   1609.6    10984.
GR  1610.3    11040.2  1611.4    11116.0   1612.2    11128.3

NH      3      .055     9842       .095    10759      .055   11230.8
ET                      9.1                                                     9551.5   10242.0
X1  5.765        36     9842     10242       410       610       512
GR  1610.3    8978.1   1609.0    9037.8    1606.7    9098.6    1606.3    9170.8    1605.5    9191.2
GR  1606.7    9222.4   1607.3    9287.5    1607.3    9365.2    1606.5    9411.0    1604.8    9419.2
GR  1605.9    9428.6   1606.5    9467.5    1606.5    9514.0    1607.1    9565.4    1606.6    9628.4
GR  1606.2    9685.3   1606.1    9774.3    1606.7    9842.0    1606.6    9929.2    1606.0    10000.
GR  1606.4    10055.1  1606.5    10113.8   1606.7    10166.    1606.8    10242.    1606.6    10303.
GR  1606.4    10376.2  1606.4    10449.9   1606.2    10523.    1605.9    10634.    1607.0    10759.
GR  1609.6    10832.1  1608.4    10900.2   1609.2    10985.    1610.4    11052.    1612.1    11139.
GR  1612.9    11230.8
```

Right encroachment at effective flow boundary at tributary confluence

```
ET                7.1      9.1                                   9238     10750      9835     10525
NH      3      .055    9420.2       .08    9861.5      .095   11309
X1  5.858        40    9861.5    10504.8       380       490       491
GR  1612.3    9237.3   1611.5    9284.8    1610.0    9313.9    1610.1    9364.1    1609.6    9420.2
GR  1609.3    9470.7   1609.6    9509.3    1610.3    9540.7    1610.0    9559.9    1610.1    9608.3
GR  1609.7    9688.5   1609.9    9710.9    1609.7    9774.3    1609.8    9830.6    1610.3    9861.5
GR  1609.4    9907.0   1609.3    9950.6    1609.2    10000.0   1609.4    10052.    1609.3    10126.
GR  1609.3    10189.0  1609.1    10236.6   1608.8    10295.6   1608.2    10357.    1609.0    10406.
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 1609.2 | 10446.3 | 1607.9 | 10480.0 | 1609.4 | 10504.8 | 1609.1 | 10625. | 1608.4 | 10694. |
| GR | 1608.6 | 10768.9 | 1608.8 | 10854.2 | 1609.1 | 10919.7 | 1609.0 | 10971. | 1608.0 | 11022. |
| GR | 1609.6 | 11068.0 | 1609.3 | 11120.8 | 1609.2 | 11177.7 | 1609.9 | 11227. | 1614.9 | 11309. |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| QT | 2 | 5340 | 5340 | | | | | | | |
| NH | 3 | .055 | 9837 | .105 | 10499 | .055 | 10895.8 | | | |
| ET | | | 9.1 | | | | | | 9632.81 | 10678.4 |
| X1 | 5.945 | 38 | 9961.7 | 10678.4 | 470 | 440 | 459 | | | |
| GR | 1614.5 | 8153 | 1614.0 | 8190.0 | 1612.9 | 8326.7 | 1612.3 | 8494 | 1612.3 | 8740.0 |
| GR | 1612.7 | 8801 | 1612.2 | 8858. | 1612.5 | 9017 | 1612.5 | 9151 | 1612.7 | 9291 |
| GR | 1612.8 | 9374.7 | 1612.7 | 9428.5 | 1612.8 | 9490.7 | 1612.4 | 9553.4 | 1612.5 | 9589.7 |
| GR | 1611.3 | 9598.3 | 1612.4 | 9639.1 | 1612.7 | 9713.0 | 1611.7 | 9774.3 | 1612.6 | 9837.0 |
| GR | 1612.5 | 9914.3 | 1613.4 | 9961.7 | 1612.5 | 10000. | 1612.2 | 10031.5 | 1613.1 | 10050.5 |
| GR | 1612.5 | 10115.2 | 1612.6 | 10166.5 | 1611.9 | 10248.3 | 1611.9 | 10321.2 | 1611.9 | 10390. |
| GR | 1611.9 | 10435.6 | 1611.9 | 10499. | 1612.5 | 10554.8 | 1612.4 | 10617.2 | 1612.3 | 10669.4 |
| GR | 1613.1 | 10678.4 | 1613.1 | 10794.6 | 1614.1 | 10895.8 | | | | |

Patton Road profile superimposed on natural ground GR points, to outline effective flow over road. There are 4-42 inch RCP culverts at station 10000 with maximum combined capacity per HY-8 analysis of about 200 cfs. Special culvert routine not used because of low road profile east of culverts, and because road does not act like weir. Culverts have sedimentation and debris blockage problems. Roadway frequently overtops, especially to east of culvert crossing according to County road maintenance crews.
N values at section reflect heavy upstream and downstream vegetation
t encroachment at effective flow boundary on divide

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| QT | 2 | 5340 | 5340 | | | | | | | |
| ET | | 7.1 | 9.1 | | | | 8230 | 10978 | 9248.36 | 10440.0 |
| NH | 3 | .055 | 9965.7 | .095 | 10156 | .075 | 10978 | | | |
| X1 | 6.026 | 37 | 9965.7 | 10440 | 350 | 445 | 428 | | | |
| GR | 1616.2 | 7542.8 | 1616.0 | 7608.1 | 1615.7 | 7683.5 | 1614.9 | 7755.8 | 1615.2 | 7807.4 |
| GR | 1614.7 | 7865.7 | 1614.1 | 7916.4 | 1614.3 | 7967.4 | 1614.1 | 8024.5 | 1613.9 | 8070.8 |
| GR | 1614.3 | 8132.8 | 1615.2 | 8230.4 | 1613.7 | 8283.7 | 1614.1 | 8351.9 | 1613.9 | 8413.5 |
| GR | 1613.7 | 8492.9 | 1613.7 | 8571.4 | 1613.9 | 8652.7 | 1614.1 | 8745.0 | 1614.2 | 8809.4 |
| GR | 1613.6 | 8879.8 | 1613.8 | 8947.7 | 1614.0 | 9320.0 | 1614.0 | 9628.2 | 1614.6 | 9701.5 |
| GR | 1614.7 | 9789.3 | 1615.2 | 9886.2 | 1615.8 | 9965.7 | 1615.3 | 10000. | 1615.3 | 10070. |
| GR | 1614.7 | 10156. | 1615.3 | 10440. | 1616.0 | 10775. | 1616.1 | 10790. | 1616.8 | 10860. |
| GR | 1617.3 | 10929. | 1617.2 | 10978. | | | | | | |

End Sheet 7/Begin Sheets 8 & 9
Right encroachment at effective flow boundary, flow expansion

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | 9.1 | | | | 7989 | 10501 | 9522.33 | 10086.0 |
| NH | 5 | .055 | 9228.2 | .06 | 9940.9 | .095 | 10086 | .06 | 10501 | .055 |
| NH | 10986 | | | | | | | | | |
| X1 | 6.067 | 59 | 9911.5 | 10086 | 335 | 210 | 216 | | | |
| GR | 1618.7 | 7988.5 | 1618.5 | 8008.1 | 1618.3 | 8030.5 | 1617.9 | 8102.8 | 1617.7 | 8166.5 |
| GR | 1617.4 | 8231.0 | 1618.2 | 8282.1 | 1617.6 | 8344.2 | 1617.0 | 8403.2 | 1616.6 | 8473.8 |
| GR | 1616.8 | 8534.5 | 1616.6 | 8610.6 | 1616.3 | 8683.2 | 1616.3 | 8759.0 | 1616.6 | 8815.9 |
| GR | 1616.7 | 8881.0 | 1616.7 | 8970.2 | 1615.8 | 9046.8 | 1616.6 | 9111.3 | 1616.1 | 9176.5 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| G | 615.5 | 9228.2 | 1615.2 | 9272.3 | 1614.9 | 9292.9 | 1616.0 | 9307.7 | 1615.3 | 9373.6 |
| GR | 1615.0 | 9432.3 | 1615.0 | 9479.5 | 1615.4 | 9554.5 | 1615.4 | 9629.2 | 1615.3 | 9661.2 |
| GR | 1615.0 | 9717.1 | 1615.2 | 9782.5 | 1615.4 | 9847.7 | 1615.0 | 9883.3 | 1616.4 | 9911.5 |
| GR | 1614.7 | 9940.9 | 1615.0 | 9985.3 | 1611.1 | 10000. | 1615.1 | 10015. | 1615.3 | 10086. |
| GR | 1615.6 | 10147. | 1615.9 | 10193. | 1616.5 | 10256. | 1616.7 | 10308. | 1616.9 | 10339. |
| GR | 1616.4 | 10379. | 1616.0 | 10418. | 1617.1 | 10444. | 1617.1 | 10501. | 1617.3 | 10554. |
| GR | 1617.2 | 10607. | 1617.0 | 10688. | 1616.6 | 10730. | 1615.8 | 10736. | 1617.1 | 10743. |
| GR | 1617.0 | 10798. | 1617.2 | 10869. | 1617.9 | 10930. | 1618.0 | 10986. | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 6 | .055 | 9185.9 | .08 | 9731.5 | .055 | 9925.6 | .08 | 10039.5 | .065 |
| NH | 10338 | .055 | 10615.8 | | | | | | | |
| ET | | | 9.1 | | | | | | 9625.14 | 10065.4 |
| X1 | 6.135 | 59 | 9984.5 | 10065.4 | 230 | 340 | 359 | | | |
| GR | 1621.8 | 7984.9 | 1620.8 | 8027.6 | 1621.1 | 8103.3 | 1620.3 | 8168.8 | 1620.1 | 8228.5 |
| GR | 1619.6 | 8275.7 | 1619.5 | 8335.1 | 1619.1 | 8384.9 | 1619.0 | 8451.6 | 1618.7 | 8518.8 |
| GR | 1618.2 | 8588.7 | 1618.3 | 8646.9 | 1618.3 | 8708.7 | 1617.9 | 8764.8 | 1618.2 | 8850.1 |
| GR | 1618.2 | 8919.1 | 1618.3 | 8973.2 | 1618.4 | 9018.6 | 1619.2 | 9064.1 | 1617.9 | 9126.7 |
| GR | 1617.9 | 9143.8 | 1617.4 | 9185.9 | 1617.0 | 9264.7 | 1616.9 | 9315.0 | 1616.9 | 9337.2 |
| GR | 1615.0 | 9347.6 | 1617.1 | 9359.6 | 1617.2 | 9391.7 | 1616.8 | 9414.2 | 1616.7 | 9463.0 |
| GR | 1617.4 | 9526.8 | 1617.4 | 9564.2 | 1616.9 | 9614.2 | 1615.7 | 9630.2 | 1617.3 | 9642.6 |
| GR | 1616.8 | 9685.2 | 1615.8 | 9691.7 | 1616.5 | 9701.0 | 1617.0 | 9731.5 | 1617.3 | 9780.0 |
| GR | 1616.9 | 9820.6 | 1617.4 | 9877.7 | 1617.4 | 9925.6 | 1617.5 | 9984.5 | 1612.2 | 10000. |
| GR | 1617.8 | 10012.0 | 1616.5 | 10029.6 | 1612.4 | 10039.5 | 1617.2 | 10065.4 | 1618.3 | 10121. |
| GR | 1617.8 | 10163.2 | 1618.4 | 10216.5 | 1618.7 | 10277.5 | 1618.8 | 10338. | 1619.1 | 10398. |
| GR | 1620.0 | 10464.6 | 1620.4 | 10516.3 | 1620.8 | 10563.0 | 1620.8 | 10615.8 | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 3 | .09 | 8931.3 | .055 | 9464.4 | .085 | 10797 | | | |
| ET | | | 9.1 | | | | | | 9481.87 | 10099.0 |
| X1 | 6.223 | 65 | 9961.3 | 10099 | 420 | 440 | 465 | | | |
| GR | 1623.7 | 8348.0 | 1622.8 | 8401.1 | 1622.4 | 8458.1 | 1621.7 | 8484.1 | 1622.5 | 8500.7 |
| GR | 1621.8 | 8551.5 | 1620.7 | 8601.1 | 1620.4 | 8677.4 | 1620.8 | 8726.7 | 1620.8 | 8775.8 |
| GR | 1621.1 | 8824.8 | 1621.3 | 8879.8 | 1620.8 | 8931.3 | 1620.7 | 8994.3 | 1620.7 | 9045.2 |
| GR | 1620.4 | 9091.3 | 1620.1 | 9137.2 | 1620.2 | 9191.9 | 1620.4 | 9241.3 | 1620.6 | 9295.7 |
| GR | 1620.6 | 9341.3 | 1620.5 | 9368.1 | 1620.6 | 9405.8 | 1620.3 | 9435.8 | 1620.5 | 9452.2 |
| GR | 1620.3 | 9464.4 | 1620.7 | 9510.6 | 1619.6 | 9562.6 | 1618.7 | 9624.2 | 1619.1 | 9646.7 |
| GR | 1619.2 | 9686.5 | 1619.1 | 9715.9 | 1619.3 | 9768.8 | 1619.4 | 9814.3 | 1619.4 | 9856.4 |
| GR | 1619.8 | 9913.2 | 1620.3 | 9961.3 | 1620.1 | 9987.2 | 1616.1 | 10000. | 1620.1 | 10018. |
| GR | 1618.8 | 10032. | 1618.1 | 10048. | 1616.3 | 10054. | 1619.0 | 10065. | 1620.4 | 10099. |
| GR | 1619.5 | 10130. | 1618.6 | 10152. | 1619.6 | 10167. | 1617.8 | 10176. | 1620.6 | 10195. |
| GR | 1621.1 | 10242. | 1621.0 | 10287. | 1616.9 | 10306. | 1620.9 | 10322. | 1617.9 | 10356. |
| GR | 1621.1 | 10378. | 1620.8 | 10414. | 1620.9 | 10454. | 1621.2 | 10497. | 1621.7 | 10542. |
| GR | 1622.0 | 10591. | 1621.8 | 10645. | 1622.1 | 10688. | 1622.6 | 10738. | 1623.2 | 10797. |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 5 | .055 | 8759.7 | .095 | 9297.4 | .055 | 9591.4 | .08 | 9913.9 | .095 |
| NH | 10764 | | | | | | | | | |
| ET | | | 9.1 | | | | | | 9432.6 | 10014.0 |
| X1 | 6.321 | 45 | 9988.2 | 10014 | 350 | 480 | 517 | | | |
| GR | 1626.1 | 8654.6 | 1625.2 | 8695.3 | 1624.5 | 8759.7 | 1623.7 | 8814.2 | 1623.4 | 8871.7 |
| GR | 1623.4 | 8924.1 | 1623.3 | 8984.4 | 1623.3 | 9029.5 | 1622.6 | 9079.9 | 1622.7 | 9130.6 |
| GR | 1622.5 | 9190.0 | 1622.6 | 9251.6 | 1622.2 | 9297.4 | 1622.0 | 9343.3 | 1621.9 | 9410.6 |
| GR | 1622.5 | 9461.0 | 1622.4 | 9517.0 | 1622.2 | 9565.0 | 1622.4 | 9580.8 | 1621.8 | 9591.4 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 1622.5 | 9649.7 | 1622.4 | 9704.6 | 1622.2 | 9788.3 | 1622.2 | 9844.0 | 1622.4 | 9913.9 |
| GR | 1622.5 | 9988.2 | 1621.4 | 10000. | 1622.9 | 10014. | 1622.7 | 10060. | 1622.8 | 10090. |
| GR | 1621.2 | 10098. | 1621.9 | 10106. | 1622.7 | 10146. | 1623.4 | 10187. | 1622.2 | 10232. |
| GR | 1622.0 | 10272. | 1622.4 | 10321. | 1622.3 | 10363. | 1622.9 | 10403. | 1623.3 | 10444. |
| GR | 1623.7 | 10508. | 1624.8 | 10577. | 1624.2 | 10632. | 1624.1 | 10709. | 1624.5 | 10764. |

Right encroachment at effective flow boundary, expansion point

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | 9.1 | | | | 9259 | 10921 | 9532.37 | 10021.25 |
| NH | 3 | .055 | 9764.7 | .095 | 10063.5 | .055 | 10989.1 | | | |
| X1 | 6.413 | 48 | 9964.9 | 10013.6 | 490 | 480 | 486 | | | |
| GR | 1628.3 | 9259.0 | 1627.0 | 9303.7 | 1625.8 | 9325.9 | 1626.0 | 9355.7 | 1625.5 | 9405.0 |
| GR | 1625.1 | 9439.0 | 1624.7 | 9453.2 | 1625.5 | 9474.6 | 1625.1 | 9519.0 | 1625.3 | 9546.3 |
| GR | 1625.5 | 9589.9 | 1625.4 | 9614.8 | 1626.0 | 9635.7 | 1625.9 | 9667.2 | 1625.3 | 9720.6 |
| GR | 1625.1 | 9764.7 | 1625.0 | 9808.9 | 1625.6 | 9852.4 | 1625.5 | 9895.3 | 1625.8 | 9930.3 |
| GR | 1625.9 | 9964.9 | 1625.8 | 9989.3 | 1624.7 | 10000.0 | 1626.2 | 10013.6 | 1625.3 | 10063.5 |
| GR | 1625.9 | 10120.2 | 1626.0 | 10172.2 | 1627.0 | 10223.5 | 1627.7 | 10255.8 | 1628.0 | 10297.9 |
| GR | 1628.2 | 10336.4 | 1628.4 | 10376.4 | 1627.2 | 10422.6 | 1626.4 | 10431.4 | 1627.4 | 10444.5 |
| GR | 1627.8 | 10497.5 | 1627.7 | 10542.1 | 1627.9 | 10580.9 | 1628.2 | 10610.3 | 1627.9 | 10653.0 |
| GR | 1626.8 | 10716.5 | 1627.4 | 10776.9 | 1627.4 | 10837.5 | 1627.7 | 10884.2 | 1627.7 | 10921.3 |
| GR | 1625.9 | 10936.6 | 1627.7 | 10942.5 | 1628.0 | 10989.1 | | | | |

Right encroachment at effective flow boundary on divide

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | 9.1 | | | | 9849 | 10909 | 9980 | 10370 |
| NH | 3 | .055 | 9880 | .095 | 10069.7 | .055 | 11259 | | | |
| X1 | 6.511 | 35 | 9992.9 | 10193.6 | 530 | 310 | 517 | | | |
| GR | 1633.7 | 9849.0 | 1631.2 | 9880.0 | 1627.8 | 9929.3 | 1628.0 | 9992.9 | 1625.5 | 10000. |
| GR | 1627.9 | 10005.7 | 1627.1 | 10069.7 | 1627.4 | 10137.2 | 1628.0 | 10193.6 | 1628.3 | 10249. |
| GR | 1628.6 | 10307.7 | 1628.9 | 10365.9 | 1629.3 | 10410.1 | 1629.1 | 10446.3 | 1627.9 | 10455. |
| GR | 1629.0 | 10472.7 | 1629.1 | 10531.9 | 1629.5 | 10581.2 | 1629.5 | 10644.7 | 1628.9 | 10692. |
| GR | 1628.6 | 10751.1 | 1628.3 | 10814.6 | 1628.6 | 10844.5 | 1629.8 | 10868.9 | 1628.9 | 10885. |
| GR | 1630.6 | 10909.7 | 1630.5 | 10947.5 | 1628.9 | 10989.7 | 1628.4 | 11023.5 | 1629.9 | 11053. |
| GR | 1628.8 | 11080.6 | 1629.5 | 11104.2 | 1629.0 | 11150.3 | 1629.6 | 11194.0 | 1630.2 | 11259. |

Right end section on effective flow boundary on divide
Stock pond removed, overtopped in base flood

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 3 | .055 | 9963.2 | .095 | 10150 | .055 | 10841 | | | |
| ET | | | 9.1 | | | | | | 9910.1 | 10281.53 |
| X1 | 6.603 | 33 | 9910.1 | 10150.0 | 530 | 510 | 486 | | | |
| GR | 1637.9 | 9542.4 | 1638.9 | 9562.1 | 1638.3 | 9585.7 | 1634.4 | 9636.0 | 1633.4 | 9677.2 |
| GR | 1632.3 | 9746.3 | 1631.1 | 9760.8 | 1632.0 | 9774.2 | 1632.5 | 9826.0 | 1631.5 | 9856.5 |
| GR | 1631.3 | 9910.1 | 1630.5 | 9963.2 | 1630.5 | 9988.6 | 1628.9 | 10000.0 | 1628.8 | 10017.1 |
| GR | 1630.3 | 10067.5 | 1628.6 | 10084.4 | 1629.3 | 10113.8 | 1632.2 | 10150. | 1631.8 | 10318. |
| GR | 1632.1 | 10354. | 1632.2 | 10422. | 1632.0 | 10458. | 1632.2 | 10495. | 1632.1 | 10520. |
| GR | 1632.2 | 10555. | 1632.3 | 10603. | 1633.1 | 10645. | 1634.7 | 10718. | 1635.2 | 10751. |
| GR | 1635.4 | 10789. | 1635.3 | 10831. | 1635.5 | 10841. | | | | |

t end section at effective flow boundary on divide

```
NH      2      .055    9954.6     .095   10541.1
ET                     9.1                                                  9750     10150
X1   6.704        41   9907.3  10119.2       510       330       533
GR  1642.6    9095.5  1641.4   9141.8    1641.1    9172.1    1639.1    9212.1    1638.2    9269.7
GR  1637.8    9332.1  1637.3   9373.3    1637.8    9396.7    1639.5    9425.3    1639.4    9456.2
GR  1638.0    9495.2  1637.2   9520.5    1637.0    9557.9    1636.7    9606.2    1635.2    9636.2
GR  1634.8    9654.9  1635.2   9672.7    1634.0    9685.2    1632.9    9715.4    1632.7    9762.2
GR  1632.5    9819.6  1633.2   9840.4    1634.0    9907.3    1633.0    9922.3    1633.6    9931.7
GR  1633.7    9954.6  1633.8  10000.0    1633.6   10029.0    1632.2   10037.7    1633.6   10047.4
GR  1634.4   10097.2  1631.6  10107.7    1634.6   10119.2    1634.7   10167.5    1634.3   10226.8
GR  1634.3   10276.7  1634.5  10329.3    1634.3   10389.7    1634.7   10439.3    1635.9   10471.0
GR  1637.0   10541.1
```

Realigned section, center station (10000) stays constant
Right encroachment at effective flow boundary on divide

```
QT      2       5350     5350
ET                7.1      9.1                                   8620     10276      9554     10100
NH      3      .055   9486.0     .095    10195      .055     10420
X1  6.801        21     9594    10098      390       450       512
GR 1644.0    8620.0   1642.0   8680.0   1640.0    8790.0    1638.0    9005.0    1637.7    9082.0
GR 1638.0      9145     1636     9260   1635.8      9281      1636      9303      1638      9382
GR 1638.8      9486    1638.     9594     1636      9748    1635.7      9770      1636      9808
GR 1635.6     10000     1638    10098   1639.2     10195    1639.6     10276    1638.3     10370
GR    1638    10420
```

Realigned section
Right encroachment at effective flow boundary on divide

```
ET                7.1      9.1                                   8486     10202      9250  10081.95
NH      3      .055     9350     .095    10101      .055     10382
X1  6.897        25     9954    10101      400       440       507
GR   1644      8486     1642     8521     1640      8627    1639.7      8670    1639.5      8770
GR 1639.8      8850     1640     8911   1640.5      8974      1641      9025      1642      9080
GR 1642.2      9179     1642     9220     1640      9350      1639      9415    1638.6      9452
GR 1639.2      9522   1639.4     9571     1640      9666    1641.2      9829    1641.7      9954
GR   1641     10000     1642    10101     1642     10202    1641.8     10289    1641.5     10382
```

Realinged portion of section
Right encroachment at effective flow boundary on divide

```
ET                7.1      9.1                                   8226     10156   9277.86   10047.0
NH      3      .055     9582     .095    10047      .055     10350
X1  6.986        28   9927.2    10047      370       440       470
GR   1644      8226   1643.9     8415   1643.3      8555    1643.2      8650     1643.      8770
GR   1644      8878   1644.7     9005     1644      9110    1642.6      9208    1642.8      9285
GR 1642.5      9405   1643.0     9477   1643.8      9582    1643.1    9609.7    1644.2    9719.6
GR 1644.8    9773.5   1644.7   9852.2   1644.8    9927.2    1644.1    9991.4    1642.7   10000.0
GR 1644.4     10011.   1645.0    10047.   1644.4     10088.   1644.6     10106.   1645.0     10156.
GR 1644.8     10217.   1644.7   10290.0   1644.4     10350.
```

Realigned portion of section
Right encroachment at effective flow boundary on divide, expansion

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | 9.1 | | | | 7900 | 10114.1 | 9067.04 | 10041.92 |
| NH | 6 | .055 | 9088 | .095 | 9222 | .055 | 9690 | .095 | 10013 | .055 |
| NH | 10475 | .072 | 10732 | | | | | | | |
| X1 | 7.077 | 38 | 9925.6 | 10114.1 | 480 | 460 | 480 | | | |
| GR | 1648 | 7900 | 1647.7 | 8050 | 1647.1 | 8317 | 1647.1 | 8469 | 1646.4 | 8512 |
| GR | 1646 | 8616 | 1645.8 | 8702 | 1646 | 8760 | 1646.3 | 8901 | 1646 | 9088 |
| GR | 1645.8 | 9172 | 1646 | 9222 | 1646.5 | 9310 | 1646.7 | 9479.7 | 1646.7 | 9538.1 |
| GR | 1647.0 | 9610.3 | 1647.2 | 9648.2 | 1647.6 | 9690.0 | 1647.4 | 9742.6 | 1647.6 | 9796.5 |
| GR | 1646.6 | 9802.6 | 1647.7 | 9810.3 | 1647.7 | 9878.4 | 1648.1 | 9925.6 | 1647.9 | 9990.2 |
| GR | 1647.0 | 10000. | 1647.5 | 10013. | 1648.1 | 10057. | 1648.2 | 10114.1 | 1648.0 | 10171.2 |
| GR | 1647.7 | 10206. | 1647.6 | 10261. | 1647.4 | 10344. | 1646.9 | 10420.4 | 1647.4 | 10435.7 |
| GR | 1647.5 | 10475. | 1648 | 10700 | 1648.3 | 10732 | | | | |

Begin Kenney 2nd Part (North 1/2)
Left encroachment at effective flow boundary on divide

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | 9.1 | | | | 8166 | 10717 | 9175.33 | 10011.8 |
| NH | 5 | .055 | 9421.3 | .08 | 9562.4 | .055 | 9930 | .095 | 10227.2 | .055 |
| NH | 10717 | | | | | | | | | |
| X1 | 7.167 | 59 | 9930 | 10011.8 | 630 | 460 | 475 | | | |
| GR | 1654.0 | 7186.1 | 1654.0 | 7328.4 | 1654.9 | 7379.3 | 1654.6 | 7407.7 | 1653.7 | 7448.6 |
| GR | 1653.2 | 7508.6 | 1653.1 | 7574.4 | 1651.8 | 7680.3 | 1650.2 | 7687.8 | 1651.6 | 7695.7 |
| GR | 1651.5 | 7787.8 | 1652.3 | 7823.3 | 1652.4 | 7850.0 | 1651.6 | 7902.2 | 1651.1 | 7984.6 |
| GR | 1651.0 | 8110.1 | 1652.3 | 8141.0 | 1653.0 | 8166.5 | 1652.3 | 8214.3 | 1652.2 | 8237.5 |
| GR | 1652.2 | 8311.3 | 1651.1 | 8500.9 | 1651.1 | 8611.9 | 1650.8 | 8675.2 | 1650.8 | 8705.7 |
| GR | 1650.8 | 8819.8 | 1650.6 | 9023.1 | 1650.4 | 9170.8 | 1651.6 | 9212.1 | 1651.6 | 9229.4 |
| GR | 1650.8 | 9242.9 | 1651.0 | 9368.0 | 1650.8 | 9421.3 | 1649.6 | 9430.3 | 1650.8 | 9441.8 |
| GR | 1650.8 | 9475.5 | 1651.1 | 9562.4 | 1651.1 | 9690.0 | 1650.9 | 9744.6 | 1650.2 | 9753.0 |
| GR | 1650.7 | 9761.6 | 1651.2 | 9850.4 | 1650.1 | 9854.5 | 1651.0 | 9864.4 | 1651.4 | 9930.0 |
| GR | 1650.0 | 9937.5 | 1651.3 | 9950.2 | 1651.0 | 9991.7 | 1649.7 | 10000.0 | 1651.4 | 10011.8 |
| GR | 1651.5 | 10227.2 | 1650.6 | 10437.3 | 1650.3 | 10498.3 | 1647.9 | 10505.5 | 1649.5 | 10518.8 |
| GR | 1649.9 | 10554.5 | 1649.9 | 10604.5 | 1652.8 | 10661.3 | 1653.2 | 10717. | | |

End Sheets 8 & 9/Begin Sheets 10 & 11

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 4 | .055 | 9290. | .08 | 9336.8 | .095 | 10177.2 | .055 | 10507 | |
| ET | | | 9.1 | | | | | | 9003.58 | 10177.2 |
| X1 | 7.264 | 56 | 9714.5 | 10177.2 | 490 | 480 | 512 | | | |
| GR | 1656.9 | 7752.1 | 1655.7 | 7799.2 | 1655.3 | 7844.4 | 1656.1 | 7864.3 | 1656.3 | 7979.7 |
| GR | 1655.8 | 8056.9 | 1655.8 | 8083.9 | 1656.6 | 8119.9 | 1656.2 | 8152.2 | 1655.3 | 8180.7 |
| GR | 1654.4 | 8258.6 | 1653.6 | 8378.2 | 1653.4 | 8444.1 | 1654.1 | 8548.8 | 1653.8 | 8638.0 |
| GR | 1653.8 | 8801.2 | 1653.6 | 8985.9 | 1654.2 | 9056.7 | 1654.5 | 9138.6 | 1654.1 | 9178.5 |
| GR | 1654.3 | 9222.1 | 1654.3 | 9290.0 | 1653.6 | 9297.2 | 1654.2 | 9315.0 | 1652.9 | 9326.9 |
| GR | 1654.3 | 9336.8 | 1654.1 | 9374.2 | 1653.6 | 9382.6 | 1654.8 | 9412.8 | 1654.9 | 9471.4 |
| GR | 1654.4 | 9520.7 | 1654.2 | 9569.7 | 1654.9 | 9601.9 | 1654.8 | 9629.5 | 1653.2 | 9639.7 |
| GR | 1654.8 | 9648.7 | 1654.5 | 9714.5 | 1652.2 | 9728.5 | 1654.2 | 9742.2 | 1654.2 | 9768.0 |
| GR | 1652.7 | 9774.4 | 1654.2 | 9784.0 | 1654.4 | 9863.7 | 1654.3 | 9944.0 | 1653.2 | 9951.5 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 1654.2 | 9961.0 | 1654.2 | 9994.0 | 1652.2 | 10000.0 | 1654.2 | 10009.7 | 1654.5 | 10177.2 |
| GR | 1653.7 | 10237.0 | 1652.9 | 10245.0 | 1653.7 | 10255.3 | 1654.5 | 10369.2 | 1656.2 | 10436.8 |
| GR | 1656.9 | 10507. | | | | | | | | |

Left encroachment at effective flow boundary on divide, expansion point

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | 9.1 | | | | 8528 | 10637 | 9287.83 | 10154.9 |
| NH | 3 | .055 | 9562.5 | .095 | 10019 | .055 | 10637.7 | | | |
| X1 | 7.352 | 65 | 9578.3 | 10154.9 | 420 | 480 | 465 | | | |
| GR | 1658.9 | 7374.8 | 1660.1 | 7426.4 | 1659.3 | 7520.2 | 1660.1 | 7551.8 | 1660.1 | 7581.6 |
| GR | 1658.7 | 7619.6 | 1657.9 | 7692.7 | 1658.0 | 7888.2 | 1659.1 | 7930.0 | 1659.3 | 7962.1 |
| GR | 1658.2 | 8071.8 | 1657.3 | 8127.4 | 1656.5 | 8342.4 | 1656.7 | 8476.3 | 1656.4 | 8495.2 |
| GR | 1657.3 | 8528.4 | 1656.8 | 8711.0 | 1656.6 | 8824.2 | 1656.9 | 8871.4 | 1656.8 | 8936.5 |
| GR | 1657.2 | 8967.4 | 1656.8 | 9056.4 | 1658.2 | 9092.1 | 1658.5 | 9132.1 | 1657.4 | 9156.0 |
| GR | 1656.7 | 9275.7 | 1654.4 | 9289.3 | 1657.2 | 9303.8 | 1657.2 | 9396.8 | 1655.1 | 9402.4 |
| GR | 1657.0 | 9411.9 | 1657.1 | 9451.5 | 1656.5 | 9466.0 | 1657.4 | 9487.6 | 1657.1 | 9562.5 |
| GR | 1655.5 | 9571.0 | 1657.4 | 9578.3 | 1657.2 | 9603.1 | 1654.5 | 9611.8 | 1656.7 | 9629.8 |
| GR | 1657.3 | 9670.2 | 1657.7 | 9707.5 | 1657.0 | 9717.1 | 1657.9 | 9754.3 | 1656.5 | 9765.5 |
| GR | 1657.6 | 9776.8 | 1657.2 | 9838.4 | 1657.3 | 9860.4 | 1655.8 | 9870.4 | 1657.3 | 9889.9 |
| GR | 1656.5 | 9910.0 | 1657.8 | 9923.4 | 1657.3 | 9992.3 | 1655.3 | 10000.0 | 1657.2 | 10019.0 |
| GR | 1657.2 | 10086.5 | 1657.6 | 10154.9 | 1657.3 | 10236.5 | 1656.3 | 10342.8 | 1656.4 | 10415.9 |
| GR | 1656.7 | 10441.8 | 1658.5 | 10487.3 | 1659.3 | 10528.5 | 1660.0 | 10580.6 | 1660.0 | 10637.7 |

RIGHT AND LEFT ENCROACHMENTS AT EFFECTIVE FLOW BOUNDARIES ON DIVIDES AT EXPANSION POINTS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | 9.1 | | | | 9157 | 10348 | 9430.04 | 10014.59 |
| NC | .055 | .055 | .085 | | | | | | | |
| X1 | 7.438 | 59 | 9524.7 | 10010 | 420 | 450 | 454 | | | |
| GR | 1663.1 | 8056.9 | 1661.3 | 8112.7 | 1660.1 | 8178.7 | 1659.5 | 8333.9 | 1657.7 | 8344.5 |
| GR | 1659.2 | 8350.6 | 1659.2 | 8379.7 | 1657.8 | 8385.3 | 1659.5 | 8397.8 | 1659.6 | 8453.2 |
| GR | 1660.3 | 8642.4 | 1660.0 | 8807.4 | 1659.5 | 8906.2 | 1660.2 | 8974.3 | 1661.0 | 9011.3 |
| GR | 1660.7 | 9027.6 | 1660.1 | 9119.5 | 1660.9 | 9157.5 | 1660.7 | 9177.8 | 1659.6 | 9218.3 |
| GR | 1659.4 | 9298.3 | 1659.3 | 9455.6 | 1658.9 | 9467.3 | 1659.5 | 9524.7 | 1658.2 | 9528.4 |
| GR | 1660.0 | 9541.3 | 1658.2 | 9556.5 | 1660.0 | 9582.5 | 1659.9 | 9591.2 | 1657.8 | 9598.8 |
| GR | 1659.5 | 9614.5 | 1656.8 | 9630.1 | 1659.3 | 9652.6 | 1659.7 | 9723.9 | 1657.8 | 9734.3 |
| GR | 1659.7 | 9748.0 | 1660.0 | 9829.8 | 1658.7 | 9848.3 | 1660.1 | 9866.4 | 1660.0 | 9926.6 |
| GR | 1658.7 | 9935.9 | 1660.2 | 9947.9 | 1660.1 | 9991.2 | 1658.1 | 10000. | 1660.2 | 10010. |
| GR | 1660.2 | 10099. | 1659.4 | 10118. | 1660.0 | 10132. | 1660.0 | 10182. | 1659.3 | 10262. |
| GR | 1659.7 | 10287. | 1660.3 | 10348. | 1659.8 | 10449. | 1659.7 | 10511. | 1660.6 | 10665. |
| GR | 1661.1 | 10710. | 1662.2 | 10748. | 1662.7 | 10786. | 1663.9 | 10902. | | |

RIGHT ENCROACHMENT AT EFFECTIVE FLOW BOUNDARY ON DIVIDE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | 9.1 | | | | 9401 | 10164.8 | 9565 | 10050 |
| NH | 3 | .055 | 9586.8 | .085 | 10097.4 | .055 | 11006.5 | | | |
| X1 | 7.533 | 44 | 9586.8 | 10029.2 | 410 | 490 | 502 | | | |
| GR | 1665.5 | 9400.2 | 1663.9 | 9422.0 | 1662.9 | 9459.7 | 1662.0 | 9474.8 | 1662.0 | 9512.9 |
| GR | 1659.7 | 9521.5 | 1661.6 | 9531.7 | 1662.4 | 9548.4 | 1662.4 | 9586.8 | 1659.6 | 9597.0 |
| GR | 1662.3 | 9611.4 | 1660.8 | 9627.5 | 1662.1 | 9634.4 | 1662.2 | 9657.0 | 1661.6 | 9664.3 |
| GR | 1662.4 | 9679.5 | 1662.3 | 9710.2 | 1661.6 | 9717.1 | 1662.8 | 9731.0 | 1662.0 | 9747.8 |

```
GR   1662.8    9762.0    1663.1    9806.9    1662.7    9924.4    1660.9    9931.6    1662.4    9941.3
GR   1662.5    9979.0    1661.1   10000.0    1662.6   10029.2    1662.6   10064.8    1664.0   10097.4
GR   1665.7   10124.2    1666.2   10164.8    1665.2   10304.5    1664.8   10364.7    1664.8   10416.0
GR   1664.6   10482.3    1664.8   10548.7    1665.4   10601.5    1665.9   10663.9    1666.0   10733.1
GR   1665.4   10802.3    1665.4   10898.4    1665.8   10969.3    1665.9   11006.5


ET              7.1       9.1                                    9700.3    10508.    9772.2   10218.46
NH        3     .055    9824.7      .082     10256      .055     10508
X1    7.624       44    9824.7   10017.8       510       390       480
GR   1670.7    9068.0    1670.6    9113.3    1668.4    9178.3    1668.2    9226.3    1667.7    9275.1
GR   1668.3    9307.7    1669.4    9333.0    1669.1    9354.2    1667.7    9376.7    1667.2    9431.0
GR   1666.2    9467.9    1665.8    9521.1    1666.0    9560.5    1667.3    9591.4    1665.0    9621.3
GR   1664.7    9680.4    1665.6    9700.3    1664.3    9718.3    1664.1    9766.2    1665.9    9790.0
GR   1666.1    9824.7    1662.9    9861.9    1662.9    9869.8    1665.2    9879.7    1664.7    9894.7
GR   1665.7    9914.2    1666.0    9981.7    1664.6    9990.2    1664.6    10000.    1664.7    10009.
GR   1665.9   10017.8    1665.9    10065.    1665.6    10140.    1664.9    10179.    1665.5    10199.
GR   1665.4   10237.3    1663.7    10244.    1665.0    10256.    1665.6    10299.    1667.4    10345.
GR   1668.2   10374.7    1668.8    10422.    1669.6    10468.    1669.8    10508.


QT        2      5360      5360

  Begin scaling Q's between XN 7.709 (Q100=5360) and XN 9.289 (Q100=4915) using
    ratio of distance
  Left encroachment at effective flow boundary on divide

ET              7.1       9.1                                     9755.    10571    9827.0   10257.0
NC     .055     .055      .082
X1    7.709       41    9827.0     10257       470       410       449
GR   1671.0    9114.5    1670.9    9199.0    1670.3    9291.5    1669.3    9306.1    1669.7    9325.9
GR   1670.2    9369.3    1670.8    9417.2    1670.5    9432.1    1669.1    9469.2    1668.8    9525.1
GR   1668.5    9601.1    1668.7    9647.9    1669.0    9696.8    1672.2    9736.2    1672.9    9755.0
GR   1672.6    9771.6    1670.9    9791.2    1667.1    9827.0    1664.3    9837.6    1667.8    9848.7
GR   1667.4    9866.7    1667.8    9921.4    1667.8    9983.7    1666.2    10000.0   1666.2    10006.
GR   1668.4   10015.     1668.1    10085.    1668.1    10146.0   1666.3    10159.1   1667.6    10174.
GR   1666.6   10180.     1667.7    10189.    1667.5    10244.0   1666.0    10249.4   1667.7    10257.
GR   1668.0   10299.     1668.5    10340.    1670.1    10381.1   1671.5    10477.7   1671.5    10522.
GR   1671.8   10571.

  Left encroachment at effective flow boundary on divide

QT        2      5334      5334
ET              7.1       9.1                                     9595.    10458    9722.84  10177.47
NH        3     .055      9796      .082    10209.1      .055    10458.2
X1    7.800       32    9781.3   10125.3       505       460       480
GR   1678.0    9392.3    1671.5    9448.8    1670.8    9553.9    1671.7    9577.1    1672.9    9595.8
GR   1672.6    9613.9    1670.7    9639.6    1670.3    9679.0    1670.1    9736.4    1670.5    9751.7
GR   1670.8    9781.3    1670.5    9796.     1668.9    9802.8    1671.0    9809.1    1671.1    9852.2
GR   1668.3    9860.3    1671.1    9871.5    1671.0    9942.9    1669.2    9949.6    1671.1    9958.2
GR   1671.1    9991.1    1669.2   10000.0    1671.0   10012.0    1671.3    10034.    1671.4    10098.
GR   1669.5   10117.2    1671.7   10125.3    1671.5   10209.1    1671.6    10338.    1672.4    10367.
GR   1674.2   10408.6    1674.8   10458.2
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| QT | 2 | 5307 | 5307 | | | | | | | |
| ET | | | 9.1 | | | | | | 9560 | 10080 |
| NH | 4 | .055 | 9563.8 | .08 | 9887.1 | .085 | 10078 | .055 | 10194 | |
| X1 | 7.896 | 35 | 9887.1 | 10078 | 460 | 455 | 507 | | | |
| GR | 1679.8 | 9164.0 | 1678.2 | 9207.3 | 1677.1 | 9256.8 | 1675.1 | 9301.9 | 1675.9 | 9336.3 |
| GR | 1674.9 | 9374.0 | 1673.6 | 9411.1 | 1673.2 | 9458.4 | 1673.0 | 9519.3 | 1672.5 | 9563.8 |
| GR | 1669.9 | 9572.0 | 1672.3 | 9584.6 | 1670.4 | 9603.7 | 1673.1 | 9623.3 | 1673.5 | 9666.7 |
| GR | 1673.5 | 9721.4 | 1674.0 | 9808.9 | 1673.1 | 9814.9 | 1674.0 | 9821.3 | 1674.8 | 9887.1 |
| GR | 1673.4 | 9893.6 | 1674.2 | 9899.7 | 1674.4 | 9954.2 | 1673.4 | 9961.8 | 1674.4 | 9973.7 |
| GR | 1674.4 | 9989.1 | 1673.3 | 10000. | 1673.3 | 10009. | 1674.7 | 10020. | 1674.4 | 10052. |
| GR | 1672.6 | 10064.7 | 1674.3 | 10078. | 1676.9 | 10119. | 1678.3 | 10163. | 1679.2 | 10194. |

End Reach 3/Begin Reach 4

Left effective flow boundary on expansion line

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| QT | 2 | 5279 | 5279 | | | | | | | |
| ET | | 7.1 | 9.1 | | | | 9371.5 | 10470. | 9619.6 | 10025.6 |
| NH | 3 | .055 | 9923.3 | .085 | 10122.2 | .055 | 10470.1 | | | |
| X1 | 7.995 | 50 | 9923.3 | 10025.6 | 490 | 500 | 523 | | | |
| GR | 1684.3 | 8771.1 | 1677.7 | 8836.7 | 1677.0 | 8878.2 | 1676.8 | 8943.4 | 1676.8 | 9032.6 |
| GR | 1676.1 | 9077.3 | 1672.9 | 9090.9 | 1675.2 | 9102.1 | 1675.5 | 9130.4 | 1673.3 | 9153.7 |
| GR | 1674.5 | 9170.9 | 1673.3 | 9185.8 | 1674.9 | 9196.9 | 1675.6 | 9222.5 | 1675.2 | 9267.2 |
| GR | 1671.6 | 9289.9 | 1675.1 | 9304.9 | 1676.1 | 9338.0 | 1676.3 | 9371.5 | 1676.3 | 9445.8 |
| GR | 1676.5 | 9504.5 | 1676.7 | 9535.6 | 1676.2 | 9719.9 | 1676.7 | 9735.3 | 1675.3 | 9765.6 |
| GR | 1676.0 | 9771.9 | 1677.0 | 9826.6 | 1675.7 | 9835.2 | 1677.0 | 9846.3 | 1676.9 | 9886.5 |
| GR | 1677.4 | 9923.3 | 1677.5 | 9979.5 | 1676.1 | 9991.3 | 1676.1 | 10000.0 | 1676.0 | 10012.0 |
| GR | 1677.8 | 10025.6 | 1677.9 | 10059.7 | 1677.7 | 10101.7 | 1676.3 | 10122.2 | 1677.1 | 10134.4 |
| GR | 1679.1 | 10187.1 | 1678.3 | 10221.8 | 1679.1 | 10241.0 | 1678.4 | 10279.6 | 1679.1 | 10302.4 |
| GR | 1680.4 | 10331.3 | 1681.8 | 10374.3 | 1682.4 | 10407.0 | 1682.8 | 10437.3 | 1682.7 | 10470.1 |

| | | | |
|---|---|---|---|
| QT | 2 | 5253 | 5253 |

Left encroachment at effective flow boundary, expansion point

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | 9.1 | | | | 9565 | 10235 | 9728.9 | 10069.1 |
| NH | 5 | .055 | 9910 | .075 | 10000 | .038 | 10045 | .080 | 10102 | .055 |
| NH | 10235 | | | | | | | | | |
| X1 | 8.088 | 22 | 9729 | 10069 | 500 | 500 | 491 | | | |
| GR | 1688.0 | 8075 | 1686.0 | 8130 | 1684.0 | 8279 | 1682.0 | 8403 | 1681.4 | 8470 |
| GR | 1682.0 | 8535 | 1680.0 | 8580 | 1680.4 | 8756 | 1680.0 | 9035 | 1679.8 | 9050 |
| GR | 1680.0 | 9085 | 1680.0 | 9148 | 1680.7 | 9565 | 1680.0 | 9729 | 1678.0 | 9910 |
| GR | 1677.6 | 10000 | 1678.0 | 10045 | 1679.8 | 10069 | 1678.2 | 10102 | 1680.0 | 10157 |
| GR | 1684.0 | 10172 | 1686.2 | 10235 | | | | | | |

End Sheet 10 & Begin Sheet 12 & 13

```
QT        2      5227      5227
  left encroachment at effective flow boundary, flow expansion point
ET                7.1       9.1                                  9565.3     10218   9800.66   10025.6
NH        5      .055    9876.3      .085    9978.8      .038   10011.0      .080   10140.4      .055
NH    10218
X1    8.182        23    9944.7   10025.5       420       510       496
GR   1685.0    9320.7    1684.4    9565.3    1683.7    9661.4    1683.8    9721.7    1683.2    9780.8
GR   1682.4    9812.0    1682.2    9846.1    1686.1    9876.3    1685.9    9897.6    1684.3    9924.6
GR   1681.2    9944.7    1680.7    9978.8    1680.0    9990.8    1680.2    10000.    1680.0    10011.
GR   1682.1   10025.5    1682.0    10049.    1680.0    10060.    1681.9    10073.    1684.7    10100.
GR   1686.9   10140.4    1687.7    10168.    1688.1    10218.

  Right and Left encroachments at effective flow boundary on divide, tributary


QT        2      5201      5201
ET                7.1       9.1                                   9720     10150      9780     10045
NH        5      .055    9887.3      .105    9989.0      .038   10015.2      .105   10121.8      .055
NH    10580
X1    8.273        39    9979.6   10024.3       460       490       480
GR   1690.9    9019.1    1689.4    9061.4    1689.7    9129.8    1689.4    9253.0    1688.6    9414.8
GR   1688.0    9553.7    1687.6    9607.7    1688.4    9633.0    1688.3    9654.2    1687.1    9671.8
GR   1687.0    9695.3    1687.6    9719.5    1687.0    9739.8    1685.2    9769.8    1684.6    9816.4
GR   1684.2    9887.3    1684.3    9930.8    1684.8    9948.9    1684.8    9979.6    1682.7    9989.0
GR   1682.7   10000.0    1682.5    10015.2   1684.2    10024.3   1684.2    10060.6   1686.0    10088.5
GR   1687.1   10121.8    1687.3    10150.    1686.2    10191.5   1685.9    10249.2   1686.7    10265.8
GR   1686.4   10286.0    1685.3    10307.5   1685.3    10351.5   1687.9    10372.2   1689.2    10395.6
GR   1689.9   10427.7    1691.9    10477.9   1692.8    10511.4   1693.9    10580.


QT        2      5172      5172
  Right encroachment at effective flow boundary on divide near trib confluence
ET                7.1       9.1                                   9552     10160   9897.24   10095.28
NH        5      .055    9911.2      .105    9991.5      .038   10015.9      .105   10155.4      .055
NH    10537
X1    8.374        29    9979.7    10027       510       540       533
GR   1695.1    9551.5    1693.8    9560.1    1695.5    9575.9    1696.4    9601.9    1695.8    9640.8
GR   1694.1    9667.0    1693.3    9723.0    1692.1    9744.3    1693.6    9771.0    1693.1    9797.1
GR   1690.3    9848.5    1687.8    9879.0    1687.2    9911.2    1686.9    9979.7    1685.1    9991.5
GR   1685.1   10015.9    1687.3    10027.0   1687.1    10060.9   1687.2    10097.9   1684.0    10105.
GR   1686.8   10116.7    1686.4    10126.0   1690.6    10155.4   1690.6    10196.7   1690.7    10301
GR   1690.6   10321.2    1690.7    10421     1691.2    10459     1694.0    10537


QT        2      5147      5147
  Right effective flow boundary encroachment near tributary confluence
ET                7.1       9.1                                   9462    10193.6   9946.85   10088.33
NH        5      .055    9898.6      .105    9966.5      .038   10027.4      .085   10157.5      .055
NH    10497
```

```
X[illegible]  8.465      31   9966.5  10054.3     425     560     480
GR   1696.7  9428.4  1697.1   9462.4  1697.8  9485.3  1697.9  9520.4  1698.5  9557.8
GR   1698.6  9591.9  1697.5   9604.8  1697.5  9640.3  1696.6  9685.7  1692.7  9717.1
GR   1692.4  9759.5  1693.6   9781.7  1694.3  9809.3  1694.2  9823.5  1694.8  9853.2
GR   1695.8  9872.2  1695.5   9898.6  1689.1  9925.7  1689.1  9966.5  1688.2  9981.1
GR   1688.2 10013.2  1689.9  10027.4  1690.2 10054.3  1690.2 10111.1  1689.6 10121.8
GR   1690.2 10135.6  1693.2  10157.5  1693.6 10193.6  1692.6 10240.9  1693.8   10474
GR   1694.1   10497


QT        2     5120     5120
NH        5     .055   9811.9     .105   10000.     .038 10039.7     .105 10115.0     .055
NH    10553
ET                       9.1                                          9750.0 10039.7
X1    8.560       17   9977.9  10039.7     500     420     502
GR   1698.9  9411.7  1700.7   9460.7  1700.6  9490.4  1699.3  9531.8  1695.9  9549.8
GR   1698.7  9586.3  1692.6   9628.0  1693.8  9681.5  1691.0  9811.9  1691.8  9977.9
GR   1688.9 10000.0  1690.9  10039.7  1691.1 10086.0  1698.1 10115.0  1697.6 10226.4
GR   1698.5 10472.5  1698.8    10553


QT        2     5094     5094
NH        5     .055   9913.8     .105   10000.     .038 10041.1     .105 10199.3     .055
NH    10585
ET                       9.1                                          9789.27 10041.1
X1    8.654       17   9954.7  10041.1     500     480     496
G[illegible]  1705.2  9287.8  1704.9   9349.5  1703.6  9414.8  1698.6  9484.7  1695.8  9641.3
GR   1696.0  9658.3  1694.9   9719.6  1693.9  9913.8  1692.9  9932.6  1695.2  9954.7
GR   1692.2   10000  1694.0  10041.1  1694.9 10128.2  1701.6 10199.3  1701.0   10393
GR   1701.8 10496.7  1704.4    10585


QT        2     5070     5070
ET                 7.1     9.1                         9642.1   10632.  9860.3 10032.4
NH        5     .055   9860.3     .105   9966.5     .038 10032.4     .105 10088.3     .055
NH    10632
X1    8.740       22   9860.3  10032.4     480     410     454
GR   1705.4  9051.0  1702.5   9107.9  1700.8  9113.5  1702.6  9119.3  1702.0  9167.2
GR   1700.3  9173.0  1702.3   9179.0  1700.9  9365.1  1703.5  9408.0  1699.7  9556.5
GR   1702.3  9642.1  1700.1   9779.3  1696.8  9860.3  1695.5  9966.5  1693.0 10000.0
GR   1696.9 10032.4  1697.5  10088.3  1704.4 10136.5  1707.4 10177.9  1703.6 10389.8
GR   1707.1 10556.1  1706.4   10632.


QT        2     5040     5040
NH        4     .055   9767.2     .095   9972.5     .045 10025.4     .080 10101.8
ET                       9.1                                          9872.5 10025.4
X1    8.844        8   9972.5  10025.4     500     530     549
GR   1710.1  9399.0  1703.9   9489.8  1705.2  9678.2  1700.6  9767.2  1700.3  9972.5
GR   1695.9 10000.0  1700.4  10025.4  1709.0 10101.8
```

```
QT        2      5013      5013
ET               7.1       9.1                                9728.8     10473      9840      10045
NH        5      .055    9901.0      .105    9980.0      .045    10026      .105     10086       .055
NH    10473
X1    8.940        20    9980.0     10026       480       500      507
GR   1713.4    9128.8    1713.4    9175.8    1706.5    9355.3   1707.1    9373.8    1708.4    9483.8
GR   1706.3    9632.6    1706.4    9691.5    1707.3    9728.8   1704.7    9834.4    1702.3    9901.0
GR   1702.8    9980.0    1699.1    10000.    1703.1    10026.   1705.8    10086.    1711.3    10148.
GR   1710.6   10179.8    1708.1    10213.    1710.5    10247.   1709.9    10324.    1711.3    10473.
```

Discharge downstream unaffected by split flows, controlled by tributary inflow
Right end of section 9.032 represents effective flow boundary at tributary confluence

```
QT        2      4987      4987
ET               7.1       9.1                                9664.5     10164    9771.62    10031.3
NH        4      .055    9860.3      .105    9973.4      .055   10031.3      .105    10164.0
X1    9.032        18    9931.5   10031.3       300       600      486
GR   1715.0    9058.7    1713.0    9148.3    1710.9    9157.7   1712.5    9194.9    1712.6    9239.7
GR   1710.7    9294.6    1711.1    9338.0    1707.9    9402.0   1707.2    9515.5    1706.7    9626.6
GR   1707.3    9664.5    1706.6    9744.9    1705.7    9860.3   1706.4    9931.5    1704.1    9973.4
GR   1701.6   10000.0    1706.2   10031.3    1706.3   10164.0
```

Right end of section 9.119 represents effective flow boundary near tributary confluence to west (4:1 flow expansion)

```
QT        2      4962      4962
ET               7.1       9.1                                9842.7     10274    9976.2    10185.72
NH        5      .055    9842.7      .085    9986.5      .054    10030      .085    10111.2       .055
NH    10274
X1    9.119        13    9986.5    10030       450       320      459
GR   1717.4    9453.1    1714.1    9574.5    1712.6    9656.6   1712.8    9679.5    1709.6    9722.5
GR   1711.8    9776.8    1711.5    9842.7    1707.3    9986.5   1703.7    10000.    1709.1    10030.
GR   1712.0   10111.2    1707.9   10180.5    1711.1    10274.


QT        2      4940      4940
ET               7.1       9.1                                9850.8     10188      9965      10064
NH        5      .055    9915.3      .085    9983.7      .045    10048      .080     10082       .055
NH    10188
X1    9.202        15    9965.2   10063.6       400       475      438
GR   1718.7    9389.8    1718.2    9587.4    1716.9    9631.3   1715.6    9653.8    1714.0    9726.3
GR   1713.4    9802.5    1718.0    9850.8    1716.1    9915.3   1712.9    9965.2    1706.6    9983.7
GR   1706.7   10000.0    1709.5   10048.0    1712.9   10063.6   1716.9   10082.0    1718.2    10188.
```

End Sheet 12 & 13/Begin Sheet 14 & 15
Discharge = 4915 cfs per Wittmann ADMS.

```
QT        2      4915      4915
NH        5      .055    9925.6      .095    9974.6      .045     10024      .095     10071      .055
NH    10328
ET                         9.1                                                          9890     10025
X1    9.289        14    9974.6     10024       510       450       459
GR   1722.0    9582.5    1722.3    9712.5    1718.4    9759.7    1720.3    9790.7    1716.8    9826.1
GR   1716.3    9925.6    1716.0    9974.6    1709.9   10000.0    1715.3    10024.    1716.1    10071.
GR   1721.2   10110.8    1723.2   10180.2    1724.5   10240.1    1723.7    10328.
```

Discharge decreases to 669 cfs (2,371 cfs minus upstream split flow) upstream of tributary confluence

```
QT        2       669       669
```

Right end of cross section at effective flow boundary near tributrary confluence

```
NH        4      .055    9944.0      .072    9981.6      .045     10045      .065     10088
ET                         9.1                                                          9890     10052
X1    9.387        13    9981.6     10045       510       500       517
GR   1726.1    9478.6    1723.7    9566.8    1726.1    9589.6    1724.4    9616.1    1719.8    9704.9
GR   1720.3    9832.3    1719.7    9944.0    1714.7    9953.7    1718.7    9965.0    1718.7    9981.6
GR   1713.8   10000.0    1719.6    10045.    1722.1    10088.


NC     .065      .075      .045
ET                         9.1                                                       9939.77   10020.0
X1    9.480        12    9937.6     10020       490       490       491
GR   1727.5    9566.8    1727.9    9721.4    1727.3    9844.0    1724.6    9905.8    1719.6    9920.4
GR   1722.8    9937.6    1719.3    9953.5    1718.6    10000.    1720.7    10020.    1722.1    10047.
GR   1722.1    10083.    1725.7    10121.


NC               .065      .038
ET                         9.1                                                       9953.89   10007.86
X1    9.588        20    9944.9     10018        50       540       570
GR   1734.5    9653.0    1732.2    9705.7    1730.6    9750.7    1728.8    9773.6    1728.2    9944.9
GR   1724.2    9957.2    1722.7    10000.    1728.6    10018.    1728.1    10030.    1725.1    10036.
GR   1727.7    10043.    1727.7    10054.    1723.5    10059.    1728.9    10066.    1727.7    10108.
GR   1725.7    10121.    1728.4    10132.    1730.1    10211.    1728.5    10336.    1730.9    10434.


NC                         .054
ET                         9.1                                                       9964.1    10021.0
X1    9.677        14    9964.1     10021       450       470       470
GR   1736.4    9682.9    1736.0    9756.3    1736.5    9831.5    1732.9    9949.3    1729.2    9964.1
GR   1727.3   10000.0    1729.3    10021.    1730.1    10059.    1732.8    10069.    1732.8    10236.
GR   1733.3   10407.4    1733.6    10417.    1733.7    10509.    1734.4    10566.
```

```
NC                        .045
ET                         9.1                                                    9987.62     10038.0
X1    9.770        14    9978.3     10038       480       490       491
GR   1745.6    9711.8    1738.2    9789.1    1737.8    9978.3    1733.1    9994.1    1731.9     10000.
GR   1735.3    10038.    1733.4    10093.    1733.8    10152.    1735.8    10185.    1733.6     10194.
GR   1737.2    10201.    1736.4    10388.    1738.2    10923.    1739.4    10973.

  End Subreach 4/Begin Subreach 5

NH       4      .105    9741.5      .055    9894.8      .040     10091      .055     10327
ET                         9.1                                                    9909.94    10055.83
X1    9.865        13    9894.8     10091       490       470       502
GR   1747.6    9710.9    1742.8    9741.5    1742.5    9894.8    1740.3    9912.6    1740.3     9951.2
GR   1738.4   10000.0    1739.4   10036.8    1742.9    10091.    1742.8    10155.    1744.0     10209.
GR   1741.2   10232.3    1743.6   10246.0    1745.4    10327.


NH       5      .055    9463.8      .072    9622.2      .065    9895.7      .052     10039      .065
NH   10409
ET                         9.1                                                    9904.81    10019.86
X1    9.963        19    9895.7     10039       465       480       517
GR   1748.4    9311.3    1746.0    9463.8    1742.4    9467.4    1746.2    9486.9    1747.6     9515.3
GR   1746.5    9605.6    1744.3    9609.4    1746.3    9622.2    1747.2    9769.2    1746.8     9895.7
GR   1744.5    9910.1    1742.9   10000.0    1747.7    10039.    1747.8    10125.    1749.9     10183.
GR   1750.4   10289.2    1748.8   10305.4    1750.3    10371.    1751.9    10409.


NH       7      .055    9513.4      .095    9882.8      .055    9989.0      .045    10066.4      .055
NH   10256      .038   10306.2      .055    10585
ET                         9.1                                                    9991.89    10060.66
X1   10.054        25    9989.0    10066.4       370       380       480
GR   1754.1    9244.1    1751.3    9352.5    1751.7    9464.4    1750.7    9513.4    1751.7     9535.1
GR   1751.5    9567.3    1749.9    9594.7    1749.8    9626.6    1747.3    9640.4    1747.4     9653.7
GR   1749.9    9670.5    1750.3    9882.8    1750.9    9946.0    1749.4    9957.5    1750.9     9970.2
GR   1750.9    9989.0    1746.9   10000.0    1748.2   10050.7    1750.8   10066.4    1751.1     10256.
GR   1748.0   10271.4    1748.0   10290.7    1752.1   10306.2    1753.8   10325.7    1753.5     10585.


NH       3      .105    9966.2      .045    10075      .055   10730.5
ET                         9.1                                                    9966.2     10018.7
X1   10.139        17    9966.2    10018.7       450       415       449
GR   1757.3    9543.2    1756.9    9574.7    1754.1    9609.6    1754.4    9966.2    1751.2     10000.
GR   1754.8   10018.7    1754.8   10042.6    1750.5    10061.    1754.0    10075.    1756.4     10148.
GR   1754.2   10170.5    1757.6   10199.5    1756.3    10336.    1757.3    10386.    1756.2     10480.
GR   1756.8   10547.5    1754.8   10730.5

  End Sheets 14 & 15/Begin Sheets 16 & 17
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 5 | .055 | 9579.7 | .072 | 9665.5 | .055 | 9988.7 | .045 | 10109 | .055 |
| NH | 10182 | | | | | | | | | |
| ET | | | 9.1 | | | | | | 9988.7 | 10109.0 |
| X1 | 10.232 | 17 | 9988.7 | 10109 | 450 | 480 | 491 | | | |
| GR | 1761.8 | 8701.1 | 1760.8 | 8774.0 | 1759.4 | 9268.0 | 1760.1 | 9379.9 | 1759.4 | 9428.6 |
| GR | 1759.1 | 9579.7 | 1759.8 | 9621.6 | 1758.9 | 9646.0 | 1759.2 | 9665.5 | 1758.7 | 9815.0 |
| GR | 1758.8 | 9988.7 | 1753.9 | 10000. | 1758.8 | 10016. | 1758.3 | 10092. | 1756.1 | 10102. |
| GR | 1758.6 | 10109. | 1760.8 | 10182. | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 3 | .055 | 9707.1 | .06 | 10115.4 | .055 | 10515.9 | | | |
| ET | | | 9.1 | | | | | | 9933.4 | 10012.6 |
| X1 | 10.320 | 25 | 9933.4 | 10012.6 | 450 | 490 | 465 | | | |
| GR | 1765.9 | 8703.8 | 1764.9 | 8848.8 | 1764.9 | 8986.6 | 1764.6 | 9113.6 | 1764.7 | 9319.4 |
| GR | 1763.7 | 9523.7 | 1763.0 | 9674.5 | 1760.2 | 9690.4 | 1763.4 | 9707.1 | 1763.3 | 9861.8 |
| GR | 1761.1 | 9892.3 | 1762.4 | 9903.1 | 1762.4 | 9933.4 | 1758.1 | 9944.2 | 1762.2 | 9959.3 |
| GR | 1762.6 | 9987.2 | 1757.4 | 10000.0 | 1762.7 | 10012.6 | 1761.6 | 10115.4 | 1763.3 | 10161.3 |
| GR | 1762.6 | 10255.0 | 1761.9 | 10272.4 | 1763.0 | 10371.3 | 1763.0 | 10455.1 | 1763.9 | 10515.9 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | 9.1 | | | | 8986.8 | 10565 | 9898.6 | 10023.03 |
| NH | 3 | .055 | 9640.7 | .06 | 10027 | .055 | 10565 | | | |
| X1 | 10.426 | 25 | 9898.6 | 10027 | 450 | 510 | 560 | | | |
| GR | 1770.6 | 8280.0 | 1769.3 | 8641.5 | 1770.0 | 8757.2 | 1769.0 | 8859.8 | 1768.8 | 8972.6 |
| GR | 1766.8 | 8980.6 | 1768.3 | 8986.8 | 1768.1 | 9428.6 | 1767.3 | 9564.8 | 1767.6 | 9640.7 |
| GR | 1763.3 | 9648.2 | 1765.4 | 9659.3 | 1767.1 | 9706.8 | 1766.9 | 9898.6 | 1763.0 | 9909.1 |
| GR | 1766.5 | 9925.4 | 1766.7 | 9989.8 | 1761.9 | 10000. | 1768.5 | 10027. | 1768.7 | 10073. |
| GR | 1766.8 | 10112.4 | 1767.8 | 10200. | 1768.1 | 10372. | 1768.0 | 10514. | 1769.4 | 10565. |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NC | .055 | .055 | .06 | | | | | | | |
| ET | | | 9.1 | | | | | | 9916.3 | 10096.94 |
| X1 | 10.516 | 31 | 9916.3 | 10098 | 470 | 490 | 475 | | | |
| GR | 1775.9 | 8121.5 | 1775.3 | 8155.7 | 1775.2 | 8366.7 | 1774.5 | 8685.3 | 1775.3 | 8765.9 |
| GR | 1774.6 | 8902.2 | 1773.9 | 9143.6 | 1772.1 | 9307.2 | 1772.7 | 9416.3 | 1772.1 | 9621.6 |
| GR | 1773.0 | 9740.6 | 1772.1 | 9811.9 | 1767.7 | 9823.7 | 1772.3 | 9839.6 | 1771.1 | 9855.4 |
| GR | 1768.3 | 9867.8 | 1774.8 | 9892.5 | 1771.6 | 9916.3 | 1770.9 | 9991.4 | 1768.9 | 10000. |
| GR | 1772.1 | 10012.0 | 1772.2 | 10078.9 | 1769.7 | 10088. | 1772.4 | 10098. | 1771.5 | 10198. |
| GR | 1769.9 | 10207.3 | 1773.1 | 10218.4 | 1773.4 | 10352. | 1772.7 | 10604. | 1773.4 | 10687. |
| GR | 1775.1 | 10741.8 | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | 9.1 | | | | 9347.0 | 10442.7 | 9936.86 | 10026.6 |
| NC | .065 | .055 | .072 | | | | | | | |
| X1 | 10.620 | 27 | 9988.8 | 10026.5 | 550 | 500 | 549 | | | |
| GR | 1780.1 | 8653.3 | 1780.4 | 8729.0 | 1780.0 | 8815.3 | 1779.6 | 8920.7 | 1780.2 | 9006.3 |
| GR | 1780.2 | 9065.8 | 1779.7 | 9140.5 | 1778.7 | 9300.0 | 1776.7 | 9327.9 | 1777.9 | 9345.2 |
| GR | 1778.8 | 9347.0 | 1777.7 | 9517.0 | 1776.9 | 9586.9 | 1776.8 | 9644.4 | 1774.1 | 9653.6 |
| GR | 1775.8 | 9686.5 | 1777.0 | 9711.4 | 1777.3 | 9747.5 | 1776.3 | 9836.7 | 1776.5 | 9988.8 |
| GR | 1772.7 | 10000. | 1777.1 | 10026.5 | 1778.2 | 10060.2 | 1776.9 | 10203.5 | 1776.9 | 10285.3 |
| GR | 1778.7 | 10338.8 | 1779.1 | 10442.7 | | | | | | |

split flow reach described by IONASF3.HC2
change QT to reflect split flow; see IONASF4.HC2

```
QT        2       669       669

ET                7.1       9.1                                  9150.2    10624.0     9814.4    10009.0
NC     .055      .055      .060
X1   10.710        28    9814.4     10009       430       480       475
GR   1783.1    8720.2    1782.2    8974.8    1781.3    9068.4    1781.8    9150.2    1781.7    9297.4
GR   1781.0    9399.1    1781.0    9444.4    1776.7    9456.3    1780.9    9468.9    1780.8    9591.6
GR   1778.8    9597.3    1781.3    9603.7    1781.9    9678.8    1781.6    9814.4    1778.3    9828.6
GR   1781.2    9841.1    1781.2    9991.1    1778.3   10000.0    1781.3   10009.     1781.2   10107.
GR   1782.0   10179.6    1782.2   10329.2    1783.4   10381.6    1782.0   10442.     1783.7   10489.
GR   1784.1   10522.0    1783.4   10563.1    1783.6   10624.1

ET                7.1       9.1                                  9521.6     10760    9924.66    10042.0
NH        3      .055    9988.9      .072     10155      .065     10760
X1   10.802        20    9988.9     10042       500       480       486
GR   1786.8    9123.8    1786.3    9259.9    1785.4    9340.7    1786.0    9417.1    1786.0    9521.6
GR   1783.3    9546.9    1783.4    9581.3    1785.7    9594.7    1786.2    9670.5    1785.9    9776.7
GR   1784.7    9988.9    1783.8   10000.     1784.8   10042.     1785.1   10155.     1786.4   10266.
GR   1786.3   10468.     1786.2   10523.     1787.4   10571.     1787.2   10661.     1788.1   10760.

NH        4      .072    8953.9      .055    9892.6      .072   10125.8      .055     10565
ET                7.1       9.1                                  8994.4     10565    9870.7    10125.8
X1   10.891        25    9870.7   10125.8       470       450       470
GR   1790.6    8794.2    1790.2    8878.7    1789.8    8924.2    1790.6    8953.9    1791.3    8994.4
GR   1790.1    9143.0    1790.1    9227.9    1789.7    9431.8    1788.3    9444.6    1789.3    9456.6
GR   1791.0    9594.5    1790.0    9675.6    1789.5    9870.7    1787.6    9881.5    1789.1    9892.6
GR   1788.9    9993.4    1787.6   10000.0    1788.8   10006.5    1789.7   10104.1    1789.0   10113.
GR   1789.8   10125.8    1790.3   10221.8    1790.9   10277.4    1790.6   10469.4    1791.3   10565.

  LEFT END OF SECTION AT EFFECTIVE FLOW BOUNDARY

NC     .055      .065      .075
ET                          9.1                                                    9902.39    10026.4
X1   10.982        18    9931.0    10026.4       450       480       480
GR   1794.1    9170.1    1793.6    9328.7    1793.9    9501.8    1794.7    9608.3    1795.2    9709.0
GR   1794.2    9798.2    1794.1    9931.0    1792.4    9935.6    1794.1    9941.9    1793.6    9990.4
GR   1791.7   10000.0    1793.7   10026.4    1795.0   10185.6    1794.7   10273.     1795.2   10294.
GR   1795.5   10369.1    1795.2   10519.0    1795.5   10689.5

ET                7.1       9.1                                  9981.2     10378    9983.62      10130
NH        3      .055    9902.4      .062     10132      .055     11440
X1   11.079        28    9981.2    10023.9       410       400       512
GR   1799.6    8694.3    1799.5    8709.8    1797.4    8790.7    1796.3    8847.6    1796.1    8962.7
GR   1796.5    8994.4    1797.7    9029.5    1796.8    9146.9    1793.0    9158.0    1797.1    9170.2
GR   1796.9    9254.9    1796.0    9391.9    1796.1    9464.5    1797.1    9502.3    1796.6    9590.4
GR   1796.9    9650.4    1797.0    9755.6    1798.7    9902.4    1799.0    9981.2    1796.9   10000.
GR   1798.4   10023.9    1798.3   10132.0    1797.6   10339.3    1798.5   10378.     1798.5   10681.
GR   1798.7   11123.0    1798.3   11281.0    1799.2   11440.0
```

Change QT to reflect split flow; see IONASF3.HC2

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| QT | 2 | 699 | 699 | | | | | | | |
| ET | | 7.1 | 9.1 | | | | 9974 | 10462.7 | 9974.1 | 10124.2 |
| NH | 3 | .055 | 9974.1 | .072 | 10071 | .055 | 11348.9 | | | |
| X1 | 11.174 | 36 | 9974.1 | 10048 | 490 | 510 | 502 | | | |
| GR | 1804.8 | 8814.4 | 1801.6 | 8982.8 | 1801.4 | 9031.5 | 1802.4 | 9056.7 | 1802.2 | 9089.4 |
| GR | 1801.3 | 9144.4 | 1800.5 | 9227.3 | 1803.0 | 9249.7 | 1803.3 | 9300.8 | 1801.9 | 9350.7 |
| GR | 1801.3 | 9403.2 | 1797.2 | 9413.6 | 1801.7 | 9424.9 | 1802.4 | 9474.9 | 1799.8 | 9488.6 |
| GR | 1802.4 | 9502.9 | 1802.1 | 9566.1 | 1802.0 | 9670.8 | 1803.4 | 9790.1 | 1803.4 | 9839.7 |
| GR | 1803.9 | 9974.1 | 1801.5 | 10000.0 | 1803.8 | 10017. | 1804.1 | 10048. | 1803.3 | 10071. |
| GR | 1803.5 | 10093.7 | 1803.2 | 10252.3 | 1803.3 | 10361. | 1803.1 | 10448. | 1802.2 | 10455. |
| GR | 1803.3 | 10462.7 | 1803.8 | 10822.8 | 1804.0 | 10970. | 1803.8 | 11142. | 1804.4 | 11230. |
| GR | 1804.7 | 11348.9 | | | | | | | | |

Change QT to reflect split flow; see IONASF3.HC2

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| QT | 2 | 709 | 709 | | | | | | | |
| ET | | 7.1 | 9.1 | | | | 9970.8 | 10393 | 9970.7 | 10050 |
| NH | 3 | .055 | 9843.7 | .072 | 10125 | .055 | 11355.5 | | | |
| X1 | 11.264 | 37 | 9970.8 | 10019.5 | 450 | 430 | 475 | | | |
| GR | 1808.5 | 8675.1 | 1808.2 | 8699.6 | 1806.1 | 8748.6 | 1805.7 | 8845.0 | 1805.8 | 8921.6 |
| GR | 1804.4 | 8946.3 | 1805.5 | 8973.2 | 1805.3 | 9071.5 | 1804.6 | 9112.3 | 1806.0 | 9147.4 |
| GR | 1806.1 | 9186.3 | 1804.8 | 9229.5 | 1801.6 | 9245.5 | 1804.1 | 9257.4 | 1804.6 | 9384.3 |
| GR | 1807.2 | 9425.5 | 1805.8 | 9461.0 | 1805.9 | 9557.3 | 1804.3 | 9571.5 | 1804.3 | 9588.5 |
| GR | 1806.3 | 9615.5 | 1807.1 | 9843.7 | 1807.8 | 9970.8 | 1804.3 | 9990.8 | 1804.3 | 10000. |
| GR | 1804.2 | 10009.4 | 1807.8 | 10019.5 | 1806.7 | 10088. | 1806.9 | 10125. | 1808.3 | 10297. |
| GR | 1808.2 | 10333.3 | 1806.7 | 10339.6 | 1808.5 | 10351. | 1807.9 | 10393. | 1808.1 | 10683. |
| GR | 1807.6 | 10858.2 | 1808.2 | 11355.5 | | | | | | |

End Sheets 16 & 17/Start Sheets 18 & 19
Encroachment along left effective flow boundary/split flow weir

Change QT to reflect split flow; see IONASF3.HC2

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| QT | 2 | 1922 | 1992 | | | | | | | |
| ET | | 7.1 | 9.1 | | | | 9978.9 | 10537 | 9978.9 | 10151.35 |
| NH | 3 | .055 | 9859.3 | .072 | 10288 | .055 | 10537 | | | |
| X1 | 11.368 | 29 | 9978.9 | 10015.4 | 530 | 550 | 549 | | | |
| GR | 1812.5 | 9561.4 | 1812.4 | 9581.9 | 1811.1 | 9609.6 | 1811.2 | 9673.9 | 1810.7 | 9730.4 |
| GR | 1813.3 | 9783.6 | 1812.4 | 9838.5 | 1813.2 | 9859.3 | 1812.3 | 9896.5 | 1809.6 | 9929.0 |
| GR | 1810.8 | 9941.3 | 1811.9 | 9978.9 | 1808.7 | 9991.6 | 1808.6 | 10000. | 1808.7 | 10006. |
| GR | 1811.9 | 10015.4 | 1811.7 | 10071.9 | 1810.7 | 10085.2 | 1811.7 | 10098. | 1811.6 | 10194. |
| GR | 1808.8 | 10204.3 | 1811.0 | 10215.9 | 1811.9 | 10244.2 | 1812.0 | 10288. | 1811.1 | 10308. |
| GR | 1812.8 | 10378.9 | 1812.8 | 10444.1 | 1813.0 | 10529.0 | 1813.8 | 10537. | | |

End section on effective flow boundary/split flow weir
Change QT to reflect split flow; see IONASF3.HC2

```
QT        2      2162      2162
NH        3      .055    9947.9      .072     10277      .055     10635
ET                         9.1                                                    9986     10230
X1   11.469        15    9986.8     10007       500       530       533
GR   1818.3    9901.3    1815.1    9947.9    1815.4    9986.8    1811.2    10000.    1815.0    10007.
GR   1815.4    10096.    1816.7    10154.    1813.0    10189.    1815.3    10215.    1815.2    10277.
GR   1816.1    10346.    1816.4    10427.    1817.0    10548.    1817.6    10569.    1818.3    10635.


ET                7.1       9.1                                   9912.     10740    9991.7   10356.73
NH        5      .072     10000      .055     10009      .082     10344      .095     10634      .055
NH    10800
X1   11.570        16    9991.7     10009       510       500       533
GR   1823.2     9912.    1821.4    9949.0    1821.5    9991.7    1818.9    10000.    1821.7    10009.
GR   1821.6    10079.    1821.0    10250.    1821.3    10277.    1821.6    10315.    1821.0    10344.
GR   1817.7    10352.    1817.5    10377.    1820.8    10393.    1821.0    10634.    1821.4    10740.
GR   1822.1    10800.
```

Ineffective flow downstream of stockpond Stn 10068 to 10408, n = 99
Begin split flow reach described by IONASF3.HC2
Change QT to reflect split flow; see IONASF3.HC2

```
QT        2      2371      2371
ET                7.1       9.1                                   9911.6    10841.9    9968.5   10540.79
NH        7      .055    9911.6      .082    9968.5      .045   10018.0      .082   10068.4      .150
NH    10408      .082   10618.5      .055     10955
X1   11.666        25    9968.5     10018.       480       500       507
GR   1828.8    9672.0    1827.3    9715.0    1826.9    9762.0    1827.7    9837.6    1826.9    9881.0
GR   1827.5    9911.6    1826.8    9968.5    1824.9    10000.0   1827.0    10018.    1827.1    10052.
GR   1829.8    10068.4   1827.9    10082.3   1826.8    10136.1   1827.0    10174.    1826.5    10249.
GR   1825.2    10286.0   1825.7    10408.    1825.2    10469.6   1826.7    10478.    1825.1    10490.
GR   1825.1    10618.5   1825.5    10717.6   1825.7    10841.9   1826.2    10921.    1826.7    10955.


ET                7.1       9.1                                     9540     10661.    9972.2   10299.47
NH        6      .055    9934.6      .080    9986.7      .038   10014.0      .072   10054.9      .150
NH    10409      .055    11660.
X1   11.750        35    9972.2     10021       450       430       444
GR   1833.1    9539.7    1832.3    9564.2    1832.2    9628.2    1833.0    9648.9    1831.8    9702.5
GR   1830.8    9772.5    1830.7    9875.3    1829.9    9934.6    1830.4    9972.2    1828.4    9986.7
GR   1828.5    10000.0   1828.5    10014.0   1830.7    10021     1841.0    10054.9   1829.3    10077.7
GR   1828.9    10127.    1829.0    10195.6   1827.7    10272.3   1828.1    10294.4   1826.9    10352.8
GR   1828.3    10382.    1837.7    10409.0   1830.1    10433.8   1830.1    10529.0   1830.3    10661.1
GR   1829.9    10797.    1829.9    10980.8   1830.6    11009.5   1826.9    11021.0   1830.2    11035.4
GR   1830.0    11106.    1830.4    11219.2   1831.3    11372.6   1831.8    11453.3   1831.8    11660.0
```

```
ET                7.1       9.1                                  9828.5    10589.6     9828.5     10315
NH      6        .055    9980.2      .080    9988.3       .038    10017       .072     10071      .150
NH  10373        .055   11841.0
X1  11.847          45    9828.5    10071       490        480      512
GR  1840.5      9344.0    1837.7   9501.7    1837.7     9551.8   1837.9     9613.2    1836.7    9675.2
GR  1835.2      9725.7    1835.9   9740.1    1835.7     9779.0   1838.4     9807.8    1838.9    9828.5
GR  1837.6      9894.9    1836.5   9980.2    1831.9     9988.3   1831.8     10000.    1831.8    10017.
GR  1833.3     10031.6    1840.6  10071.0    1833.5     10092.   1832.7     10135.    1833.6    10146.
GR  1831.7     10266.7    1830.0  10352.5    1840.2     10373.   1839.8     10395.    1834.2    10411.
GR  1834.1     10472.3    1833.9  10589.6    1834.2     10720.   1834.8     10844.    1834.8    10964.
GR  1837.7     10977.2    1837.7  10993.0    1831.7     11022.   1830.0     11056.    1829.7    11092.
GR  1831.1     11135.9    1837.6  11173.6    1837.8     11249.   1837.4     11321.    1836.0    11335.
GR  1835.8     11420.6    1836.1  11524.0    1836.0     11584.   1835.7     11653.    1836.1    11841.


ET                7.1       9.1                                  9885.4    10907.4     9885.4    10425.5
NC    .065        .072      .072
X1  11.920          22    9885.4   10425.5       240        200      385
GR  1841.4      9643.4    1840.5   9702.2    1839.6     9742.2   1838.2     9762.1    1837.7    9797.8
GR  1838.2      9848.6    1834.7   9859.1    1834.0     9871.5   1836.7     9885.4    1835.3    9943.7
GR  1834.8     10000.0    1834.9  10100.1    1835.3     10164.   1835.7     10266.    1835.8    10346.
GR  1836.9     10425.5    1837.4  10534.3    1837.9     10644.   1838.0     10753.    1838.2    10807.
GR  1837.7     10895.9    1840.1  10907.4
```

Left encroachment at 4:1 expansion effective flow boundary from upstream sec'n
Split flow discharge returns from upstream split at this section, Q = 2371 cfs
End split flow reach described by IONASF4.HC2

```
ET                7.1       9.1                                  9589.5      10613     9623.83   10145.19
NH      3        .055    9962.5      .072   10533.6       .055   10641.0
X1  12.010          32    9621.5   10183.7       350        325      475
GR  1843.2      9205.0    1842.2   9238.4    1842.1     9264.9   1841.3     9287.0    1840.5    9380.1
GR  1836.5      9393.9    1836.7   9413.3    1839.8     9425.8   1840.6     9455.7    1839.5    9512.5
GR  1838.2      9558.0    1840.1   9589.5    1839.9     9621.5   1838.5     9651.0    1839.1    9674.8
GR  1837.8      9711.0    1837.2   9788.3    1837.8     9881.5   1837.7     9962.5    1837.3    10000.
GR  1838.2     10012.5    1839.3  10099.3    1840.2     10183.7  1839.9     10233.9   1840.6    10345.5
GR  1840.7     10413.4    1841.0  10470.0    1841.1     10533.6  1842.4     10560.6   1842.6    10613.
GR  1840.1     10626.6    1841.7  10641.0
```

Left and right encroachments at flow expansion effective flow boundaries
Adjust QT to reflect split flow, See IONASF4.HC2

```
QT       2         849       849
NH       5        .055    9520.2      .072    9731.9       .055    9854.3       .072     10275      .055
NH   10862
ET                7.1       9.1                                  9685.2      10265    9899.24     10257
X1  12.101          35     10000    10257       280        300      480
GR  1842.1      9133.4    1840.7   9176.1    1840.2     9227.8   1843.5     9260.8    1844.6    9305.1
GR  1843.2      9367.6    1840.4   9408.3    1841.1     9453.9   1840.8     9520.2    1840.8    9646.6
GR  1839.9      9660.4    1842.8   9685.2    1843.6     9731.9   1843.7     9796.4    1842.9    9816.2
GR  1842.9      9854.3    1842.8   9879.8    1844.2     9919.6   1844.2     9980.6    1845.5    10000.0
GR  1844.6      10021.    1845.0   10069.    1844.6     10134.   1843.5     10250.0   1845.2    10257.
```

```
GR   1845.2    10265.    1843.2    10275.    1843.3    10356.    1843.2    10462.    1843.6    10558.
GR   1843.1    10643.    1844.1    10661.    1845.0    10720     1844.9    10784     1844.0    10862
```

Right encroachment - no effective flow in overbank stockpond backwater area

```
ET              7.1       9.1                                     9871.2    10271.6   9947.77   10248.2
NH      5      .055    9367.8      .072    9584.6      .055      9962      .072    10248.2      .055
NH  10973
X1  12.191      40     9910.8   10248.2      415       430       475
GR  1848.3   9213.7    1847.9    9291.8    1847.0    9367.8    1845.2    9392.4    1844.9    9455.1
GR  1843.4   9469.0    1844.8    9478.0    1845.4    9551.0    1846.6    9584.6    1847.3    9629.4
GR  1848.7   9664.6    1848.6    9701.1    1845.7    9759.1    1846.9    9792.0    1850.1    9826.6
GR  1851.4   9871.2    1851.3    9910.8    1850.4    9940.2    1848.0    9962.0    1848.3    9987.5
GR  1847.5  10000.0    1848.1   10011.5    1848.3   10064.2    1848.2   10163.1    1848.4   10224.0
GR  1849.2  10248.2    1858.8   10271.6    1852.4   10289.1    1852.5   10321.6    1850.8   10450.3
GR  1850.5  10529.6    1850.5   10612.9    1856.8   10647.8    1856.8   10656.8    1848.5   10685.1
GR  1847.6  10770.2    1848.4   10837.6    1849.3   10914.5    1848.4   10943.9    1848.4   10973.
```

Right encroachment - no effective flow in overbank stockpond backwater area
Adjust QT to reflect split flow, See IONASF4.HC2

```
QT      2       979       979
ET              7.1       9.1                                     9901.5      10412   9948.84   10342.82
NH      6      .055    9295.7      .072    9624.5      .055      9956.5      .072    10392.9      .105
NH  10412      .055     11172
X1  12.281      52     9926.3   10392.9      460       450       475
GR  1853.9   9015.2    1854.6    9065.5    1853.8    9137.5    1853.3    9176.8    1852.9    9233.4
GR  1850.8   9295.7    1850.3    9340.1    1849.4    9352.7    1849.7    9399.8    1848.6    9482.2
GR  1851.7   9501.0    1851.7    9518.6    1848.8    9550.3    1848.2    9569.3    1846.3    9587.7
GR  1846.4   9599.7    1851.7    9624.5    1852.4    9644.4    1851.9    9664.4    1850.2    9692.3
GR  1848.7   9749.7    1848.9    9786.7    1851.2    9843.7    1853.6    9874.1    1854.8    9901.5
GR  1854.5   9926.3    1852.1    9956.5    1852.2    9986.8    1851.1    9993.5    1851.1   10000.0
GR  1851.9  10012.9    1852.1   10070.9    1852.1   10135.2    1852.2   10178.4    1851.4   10188.7
GR  1852.1  10197.7    1852.4   10303.3    1853.1   10392.9    1861.5    10412.    1855.3   10430.8
GR  1855.3  10456.6    1854.5   10469.9    1854.9   10491.8    1854.4   10627.3    1853.3   10751.4
GR  1853.3  10760.4    1859.5   10784.3    1852.4   10797.8    1853.3   10882.6    1853.9   11000.8
GR  1854.8  11122.0    1855.5    11172.
```

Adjust QT to reflect split flow. See IONASF4.HC2

```
QT      2      1812      1812
```

Realign section west (right) of station 10600
Left encroachment at effective flow boundary near minor tributary confluence

```
ET              7.1       9.1                                     9748.8      11002   9758.16   10098.0
NH      5      .055      9339      .065    9423.5      .055      9789.3      .065     10771      .055
NH  11002
```

```
X[illegible]2.369      57    9748.8    10098      430      590      465
GR[illegible]1861.0  8607.0   1861.0   8661.5   1859.7   8739.4   1859.2   8814.0   1855.3   8873.4
GR  1855.2  8958.9   1853.1   8969.2   1854.9   8988.7   1857.7   9044.1   1858.1   9139.4
GR  1856.1  9202.4   1857.1   9222.5   1857.6   9252.3   1859.3   9292.6   1858.9   9339.0
GR  1857.6  9367.3   1852.0   9401.0   1849.9   9412.3   1851.7   9423.5   1853.4   9487.2
GR  1855.8  9525.4   1859.1   9558.4   1859.0   9589.2   1855.7   9636.7   1856.7   9671.1
GR  1858.4  9719.4   1859.0   9748.8   1856.0   9789.3   1856.1   9823.3   1853.3   9836.8
GR  1853.3  9844.8   1855.9   9855.1   1856.3   9934.6   1856.6   9986.1   1856.3  10000.0
GR  1857.0 10023.    1857.7  10098.0   1857.1  10142.    1857.9  10168.0   1856.1  10211.
GR  1860.2 10234.    1860.7  10306.3   1860.6  10319.    1857.0  10340.    1856.3  10421.
GR  1856.4 10487.5   1857.1  10586.2   1857.9  10600     1858.4  10661     1858    10710
GR  1857.2 10722     1858    10738     1860    10752     1860.5  10765     1860    10771
GR     1862 10782    1862.5  11002
```

End Subreach 5/Begin Subreach 6
Effective flow boundary at left 4:1 expansion from upstream cross section
Realign section west (right) of station 10500

```
ET              7.1      9.1                                9633.4    11400  9870.63  10290.61
NH        7    .055   9976.7     .038   10019.     .045    10690     .055    10791     .045
NH    11001    .065    11041     .055    11400
X1   12.464      51   9976.7    10019      440      510      502
GR   1865.6  8940.5   1865.8   9000.4   1862.4   9077.3   1863.1   9116.6   1862.1   9191.3
GR   1857.9  9242.1   1856.0   9250.8   1857.6   9260.2   1856.5   9309.9   1854.5   9336.4
GR   1855.9  9357.9   1858.4   9398.3   1859.5   9440.7   1859.4   9477.2   1859.8   9543.0
G[illegible]860.7  9579.7   1859.0   9622.7   1860.3   9633.4   1859.1   9654.3   1860.6   9663.3
GR   1861.3  9710.7   1861.7   9764.4   1860.6   9841.2   1861.4   9878.5   1862.5   9976.7
GR   1860.5  9992.9   1860.3  10000.0   1860.6  10009.1   1863.1  10019.0   1862.1  10072.
GR   1863.3 10091.5   1862.7  10117.0   1862.4  10133.5   1862.0  10194.6   1862.6  10237.
GR   1862.4 10263.9   1858.2  10296.0   1862.1  10318.4   1862.2  10368.1   1862.8  10425.
GR   1863.6 10466.5   1863.2  10509.9     1862     10690     1862     10791   1862.3    10805
GR     1863    10950   1862.3    10982     1862     11001     1861     11032     1862    11041
GR     1864    11400
```

End Sheets 18 & 19/Begin Sheet 20
Realigned section 12.566. Centerline now at station 9989
Left encroachment at effective flow boundary near tributary confluence
Begin split flow reach described by IONASF4.HC2
Adjust QT to reflect split flow

```
QT        2     2371     2371

ET              7.1      9.1                                 9829    11450  9928.3    10640
NH        6    .055     9902     .065     9976     .038     9995     .055    11191     .065
NH    11281    .055    11450
X1   12.614      31     9902    10024      615      540      781
GR   1876.5    9600     1876     9634     1874     9698     1872     9728     1872     9752
GR     1874    9829     1872     9889     1870     9902     1868     9976   1867.5     9989
GR     1868    9995     1870    10024     1870    10272   1870.8    10370     1870    10410
GR     1869   10465     1870    10535     1868    10582     1866    10608     1868    10632
GR     1870   10689   1868.3    10780     1868    10802     1868    10848   1867.5    10875
G[illegible]1868   10914   1869.8    11058     1869    11154   1868.6    11191   1868.5    11281
GR     1870   11450
```

[illegible]igned section east (left) of station 10350. Centerline now at 10091
Left encroachment at effective flow boundary at divide near tributary confl.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | 9.1 | | | | 9972 | 11477 | 9972.0 | 10500 |
| NH | 5 | .055 | 9972 | .072 | 10075 | .038 | 10104 | .065 | 10129 | .055 |
| NH | 11477 | | | | | | | | | |
| X1 | 12.692 | 47 | 9972 | 10129 | 430 | 480 | 405 | | | |
| GR | 1884.5 | 9480 | 1884 | 9535 | 1882 | 9622 | 1880 | 9660 | 1878 | 9675 |
| GR | 1876 | 9689 | 1874 | 9721 | 1872 | 9811 | 1872 | 9895 | 1874 | 9935 |
| GR | 1874.5 | 9972 | 1874 | 10008 | 1872 | 10075 | 1870 | 10091 | 1872 | 10104 |
| GR | 1874 | 10111 | 1876 | 10129 | 1876.2 | 10182 | 1876 | 10191 | 1875.3 | 10350 |
| GR | 1875.8 | 10373 | 1875.4 | 10438 | 1873.4 | 10500 | 1874.1 | 10533 | 1874.5 | 10554 |
| GR | 1874.1 | 10635 | 1874.5 | 10743 | 1872.9 | 10757 | 1875 | 10769 | 1875.7 | 10798 |
| GR | 1875.9 | 10818 | 1874.6 | 10829.2 | 1874.5 | 10845 | 1875.8 | 10858. | 1875.1 | 10911 |
| GR | 1875 | 10994 | 1874.8 | 11060. | 1874.4 | 11091. | 1874.9 | 11114. | 1873.9 | 11185. |
| GR | 1871.8 | 11202. | 1874.5 | 11228.1 | 1874.0 | 11283. | 1874.1 | 11333. | 1875.0 | 11365. |
| GR | 1877.3 | 11401. | 1877.9 | 11477. | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 8 | .085 | 9729.9 | .055 | 9968.9 | .072 | 9994.7 | .038 | 10008. | .065 |
| NH | 10067 | .055 | 10807 | .040 | 10868 | .055 | 11088 | | | |
| ET | | | 9.1 | | | | | | 9950 | 10350 |
| X1 | 12.752 | 47 | 9968.9 | 10067 | 290 | 300 | 317 | | | |
| GR | 1884.7 | 9252.0 | 1883.0 | 9361.6 | 1880.0 | 9400.9 | 1880.3 | 9464.5 | 1878.5 | 9729.9 |
| G[illegible] | 1879.8 | 9760.1 | 1878.3 | 9885.9 | 1876.6 | 9913.5 | 1874.4 | 9929.7 | 1876.8 | 9941.0 |
| GR | 1876.9 | 9968.9 | 1876.0 | 9983.4 | 1873.6 | 9994.7 | 1873.5 | 10000. | 1873.6 | 10008. |
| GR | 1876.6 | 10026.3 | 1878.2 | 10067. | 1878.0 | 10118. | 1878.4 | 10191. | 1878.6 | 10322. |
| GR | 1877.9 | 10337.0 | 1878.7 | 10362. | 1879.1 | 10432. | 1878.5 | 10445. | 1878.9 | 10457. |
| GR | 1878.7 | 10495.1 | 1878.0 | 10501. | 1877.9 | 10525. | 1878.7 | 10538. | 1877.8 | 10609. |
| GR | 1877.1 | 10623.2 | 1877.6 | 10651. | 1876.7 | 10669. | 1877.8 | 10689. | 1877.9 | 10718. |
| GR | 1876.3 | 10742.2 | 1877.7 | 10774. | 1878.4 | 10807. | 1874.5 | 10830. | 1877.3 | 10847. |
| GR | 1878.6 | 10868 | 1877.7 | 10889. | 1878.7 | 10907. | 1879.1 | 10957. | 1877.9 | 10973. |
| GR | 1880.0 | 11002.2 | 1881.3 | 11088. | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 5 | .06 | 9973.7 | .038 | 10023 | .05 | 10668 | .038 | 10741 | .055 |
| NH | 10897 | | | | | | | | | |
| ET | | | 9.1 | | | | | | 9973.7 | 10099.45 |
| X1 | 12.849 | 30 | 9973.7 | 10023 | 520 | 520 | 512 | | | |
| GR | 1885.1 | 9854.5 | 1883.3 | 9929.0 | 1881.8 | 9973.7 | 1878.1 | 9991.7 | 1877.9 | 10000. |
| GR | 1877.7 | 10009. | 1882.7 | 10023.0 | 1884.3 | 10057. | 1879.7 | 10075. | 1881.1 | 10086. |
| GR | 1881.8 | 10102. | 1884.6 | 10122. | 1884.6 | 10164. | 1883.6 | 10225. | 1881.2 | 10239. |
| GR | 1881.3 | 10261. | 1882.5 | 10282. | 1882.1 | 10307. | 1883.2 | 10328. | 1883.1 | 10345. |
| GR | 1882.9 | 10429. | 1881.9 | 10480. | 1882.9 | 10547. | 1883.4 | 10605. | 1882.1 | 10668. |
| GR | 1878.3 | 10692.0 | 1880.9 | 10705. | 1883.3 | 10741. | 1884.4 | 10832. | 1884.9 | 10897. |

Effective flow boundary along right overbank modeled with ET record
Historical stock pond diversion difluence, not maintained, no structure
at bifurcation point. Modeled as divided flow.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | 9.1 | | | | 9459 | 10399.6 | 9901.5 | 10066.3 |
| NH | 4 | .055 | 9770.4 | .07 | 9962.4 | .038 | 10066.3 | .055 | 10639.9 | |
| X1 | 12.942 | 35 | 9901.5 | 10066.3 | 470 | 460 | 491 | | | |
| GR | 1890.6 | 9458.6 | 1890.6 | 9510.4 | 1889.5 | 9540.5 | 1890.0 | 9562.2 | 1890.2 | 9634.5 |
| GR | 1889.6 | 9669.5 | 1890.0 | 9739.8 | 1889.9 | 9770.4 | 1886.7 | 9796.4 | 1887.0 | 9845.4 |
| GR | 1886.2 | 9855.4 | 1887.0 | 9865.2 | 1887.2 | 9901.5 | 1886.6 | 9962.4 | 1884.8 | 9974.5 |
| GR | 1885.1 | 10000.0 | 1886.1 | 10040.0 | 1886.0 | 10056.6 | 1888.6 | 10066.3 | 1888.4 | 10151.4 |
| GR | 1886.6 | 10186.2 | 1886.6 | 10202.8 | 1885.1 | 10213.4 | 1886.9 | 10224.1 | 1886.8 | 10239.7 |
| GR | 1884.4 | 10251.4 | 1887.0 | 10274.3 | 1887.9 | 10316.0 | 1887.1 | 10339.4 | 1887.6 | 10399.6 |
| GR | 1886.7 | 10494.7 | 1885.5 | 10537.8 | 1886.8 | 10552.7 | 1888.4 | 10592.4 | 1890.2 | 10639.9 |

Right encroachment at effective flow boundary at divide

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | 9.1 | | | | 9596 | 10117 | 9931.0 | 10027.12 |
| NH | 4 | .055 | 9817.5 | .07 | 9931 | .038 | 10030 | .055 | 10713 | |
| X1 | 13.025 | 23 | 9931 | 10030 | 360 | 470 | 438 | | | |
| GR | 1894.4 | 9595.2 | 1894.7 | 9671.0 | 1894.6 | 9734.6 | 1895.0 | 9817.5 | 1890.7 | 9851.4 |
| GR | 1889.4 | 9874.1 | 1891.9 | 9891.5 | 1892.4 | 9931.0 | 1890.8 | 9961.8 | 1889.7 | 10000.0 |
| GR | 1889.0 | 10019.5 | 1894.4 | 10030.0 | 1894.0 | 10117.0 | 1893.3 | 10205. | 1892.2 | 10294.0 |
| GR | 1890.5 | 10299.4 | 1892.2 | 10312. | 1894.4 | 10418. | 1892.9 | 10479.0 | 1891.8 | 10528. |
| GR | 1893.7 | 10583.1 | 1894.5 | 10654.0 | 1896.9 | 10713. | | | | |

Effective flow boundaries on ET records prevent flow in tributaries u/s confl.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | 9.1 | | | | 9900 | 10402 | 9967.0 | 10080.0 |
| NC | .055 | .055 | .045 | | | | | | | |
| X1 | 13.127 | 23 | 9967 | 10080 | 460 | 450 | 539 | | | |
| GR | 1899.8 | 9580.2 | 1899.6 | 9622.4 | 1898.7 | 9676.1 | 1897.4 | 9722.3 | 1898.3 | 9739.7 |
| GR | 1898.1 | 9789.3 | 1896.7 | 9831.8 | 1898.8 | 9860.4 | 1900.1 | 9893.4 | 1898.8 | 9967.0 |
| GR | 1895.3 | 9983.1 | 1895.2 | 10000.0 | 1896.3 | 10039.8 | 1895.2 | 10067. | 1897.4 | 10080. |
| GR | 1897.9 | 10144.5 | 1897.3 | 10189.7 | 1897.6 | 10270.6 | 1897.1 | 10310. | 1896.0 | 10320. |
| GR | 1897.4 | 10337.3 | 1897.0 | 10380.5 | 1899.3 | 10402.4 | | | | |

Right encroachment at minor tributary effective flow boundary

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | 9.1 | | | | 9582 | 10370 | 9974.36 | 10137.0 |
| NC | | | .05 | | | | | | | |
| X1 | 13.221 | 22 | 9959.1 | 10137 | 480 | 490 | 496 | | | |
| GR | 1908.0 | 9581.6 | 1907.6 | 9620.0 | 1907.3 | 9679.8 | 1907.3 | 9729.0 | 1904.0 | 9909.3 |
| GR | 1905.8 | 9959.1 | 1904.9 | 9969.2 | 1898.9 | 9989.8 | 1899.3 | 10000. | 1900.8 | 10017. |
| GR | 1902.3 | 10060. | 1902.2 | 10088. | 1899.9 | 10105. | 1900.0 | 10129. | 1903.0 | 10137. |
| GR | 1903.5 | 10246. | 1903.8 | 10370. | 1902.5 | 10379. | 1903.3 | 10393. | 1903.8 | 10493. |
| GR | 1906.1 | 10595. | 1906.3 | 10647. | | | | | | |

```
NH      6      .055    9890.7     .065    9981.7     .038   10010.7     .045   10058.     .038
NH  10080      .075    10139
ET                      9.1                                                   9971.2   10080.0
X1  13.325        16   9971.2   10080.      500      500       549
GR  1913.8    9550.6   1911.9   9619.6   1910.4   9639.5    1912.3   9684.7   1910.5   9745.4
GR  1910.0    9796.8   1908.1   9890.7   1907.1   9971.2    1904.9   9981.7   1904.8   10000.
GR  1904.8   10010.7   1906.7   10025.   1904.4   10058.    1905.6   10080.   1913.3   10111.
GR  1914.4   10139.


NH      5      .055    9795.9      .08    9938.     .038    10076     .065    10220     .055
NH  10572
ET                      9.1                                                   9899.98  10073.58
X1  13.419        26    9894    10076      490      560       496
X3      10
GR  1918.5    9626.3   1918.3   9705.1   1917.7   9750.5    1914.6   9795.9   1913.7   9846.8
GR  1914.1    9871.9   1914.8   9894.0   1911.1   9911.6    1912.6   9938.0   1911.5   9967.6
GR  1909.6    10000.   1911.8   10019.   1910.6   10058.    1914.0   10076.   1913.4   10121.
GR  1912.2    10136.   1913.5   10144.   1913.8   10220.    1914.2   10237.   1915.4   10295.
GR  1917.2    10319.   1917.2   10371.   1918.6   10396.    1918.7   10449.   1919.7   10514.
GR  1919.8    10572.
```

Add ET to reflect 4:1 expansion of effective flow downstream of bridge at
Grand Ave. (bridge outside study limits)

```
NC    .082      .082      .042
ET                7.1       9.1                                   9960.2    10038    9986.1   10038.0
X1  13.499        14    9986.1    10038      380      480       422
GR  1923.8    9799.2   1923.5   9841.8   1916.9   9883.3    1917.9   9930.7   1915.6   9960.2
GR  1915.7    9986.1   1914.8   10000.   1915.0   10024.    1916.4   10038.   1917.6   10072.
GR  1918.8   10116.2   1920.8   10167.   1922.7   10233.    1923.4   10311.
```

End Sheet 20
End Reach 6

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

*PROF 1

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CCHV= 0.100 CEHV= 0.300
1490 NH CARD USED
*SECNO 0.640

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.640 | 2.88 | 1460.98 | 0.00 | 1460.98 | 1461.21 | 0.23 | 0.00 | 0.00 | 1459.10 |
| 5001.0 | 2834.7 | 1341.0 | 825.3 | 822.9 | 303.3 | 210.4 | 0.0 | 0.0 | 1459.30 |
| 0.00 | 3.44 | 4.42 | 3.92 | 0.073 | 0.082 | 0.076 | 0.000 | 1458.10 | 9228.59 |
| 0.019993 | 490. | 502. | 450. | 0 | 0 | 0 | 0.00 | 937.05 | 10165.64 |

1490 NH CARD USED
*SECNO 0.734

3265 DIVIDED FLOW

3280 CROSS SECTION 0.73 EXTENDED 0.56 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.87

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.734 | 4.07 | 1464.87 | 0.00 | 0.00 | 1464.98 | 0.11 | 3.76 | 0.01 | 1462.40 |
| 5001.0 | 3680.4 | 1096.4 | 224.2 | 1414.8 | 410.4 | 99.9 | 15.7 | 9.3 | 1463.40 |
| 0.05 | 2.60 | 2.67 | 2.24 | 0.077 | 0.082 | 0.055 | 0.000 | 1460.80 | 9195.23 |
| 0.005699 | 380. | 496. | 530. | 6 | 0 | 0 | 0.00 | 1008.24 | 10215.00 |

1490 NH CARD USED
*SECNO 0.819

3265 DIVIDED FLOW

3280 CROSS SECTION 0.82 EXTENDED 0.82 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.819 | 4.12 | 1467.22 | 0.00 | 0.00 | 1467.33 | 0.11 | 2.35 | 0.00 | 1465.00 |
| 5001.0 | 2627.0 | 1379.4 | 994.6 | 1023.0 | 533.5 | 330.8 | 34.6 | 18.9 | 1465.30 |
| 0.09 | 2.57 | 2.59 | 3.01 | 0.069 | 0.082 | 0.055 | 0.000 | 1463.10 | 9248.57 |
| 0.005191 | 420. | 449. | 460. | 5 | 0 | 0 | 0.00 | 938.33 | 10274.30 |

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

1490 NH CARD USED
*SECNO 0.912
3280 CROSS SECTION 0.91 EXTENDED 0.76 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.912 | 4.85 | 1469.65 | 0.00 | 0.00 | 1469.76 | 0.11 | 2.43 | 0.00 | 1467.30 |
| 5001.0 | 3017.9 | 1608.2 | 374.9 | 1206.4 | 554.9 | 145.4 | 54.0 | 29.0 | 1467.30 |
| 0.14 | 2.50 | 2.90 | 2.58 | 0.068 | 0.079 | 0.055 | 0.000 | 1464.80 | 9094.81 |
| 0.005721 | 410. | 491. | 500. | 2 | 0 | 0 | 0.00 | 1078.19 | 10173.00 |

1490 NH CARD USED
*SECNO 0.999
3280 CROSS SECTION 1.00 EXTENDED 0.74 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.999 | 4.44 | 1471.74 | 0.00 | 0.00 | 1471.83 | 0.09 | 2.07 | 0.00 | 1469.20 |
| 5001.0 | 2075.4 | 2589.9 | 335.7 | 1063.2 | 940.6 | 186.0 | 75.5 | 40.8 | 1470.00 |
| 0.19 | 1.95 | 2.75 | 1.81 | 0.067 | 0.065 | 0.055 | 0.000 | 1467.30 | 9261.75 |
| 0.003729 | 460. | 459. | 430. | 3 | 0 | 0 | 0.00 | 1178.25 | 10440.00 |

1490 NH CARD USED
*SECNO 1.101

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.101 | 3.84 | 1473.94 | 0.00 | 0.00 | 1474.06 | 0.12 | 2.22 | 0.01 | 1472.60 |
| 5001.0 | 1721.3 | 3222.5 | 57.2 | 618.1 | 1163.3 | 28.9 | 96.0 | 51.2 | 1472.10 |
| 0.24 | 2.78 | 2.77 | 1.98 | 0.070 | 0.070 | 0.055 | 0.000 | 1470.10 | 9280.11 |
| 0.006012 | 310. | 539. | 630. | 3 | 0 | 0 | 0.00 | 885.39 | 10165.50 |

1490 NH CARD USED
*SECNO 1.189

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.189 | 4.13 | 1476.33 | 0.00 | 0.00 | 1476.43 | 0.11 | 2.38 | 0.00 | 1474.60 |
| 5001.0 | 1907.8 | 1924.9 | 1168.3 | 754.5 | 718.1 | 440.2 | 114.2 | 60.6 | 1475.20 |
| 0.28 | 2.53 | 2.68 | 2.65 | 0.074 | 0.073 | 0.055 | 0.000 | 1472.20 | 9420.49 |
| 0.005219 | 350. | 465. | 480. | 3 | 0 | 0 | 0.00 | 1020.14 | 10440.63 |

1490 NH CARD USED
*SECNO 1.285

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.285 | 4.10 | 1478.80 | 0.00 | 0.00 | 1478.89 | 0.09 | 2.46 | 0.00 | 1476.80 |
| 5001.0 | 2049.3 | 1722.3 | 1229.4 | 824.0 | 695.8 | 561.3 | 136.8 | 71.6 | 1476.30 |
| 0.34 | 2.49 | 2.48 | 2.19 | 0.078 | 0.082 | 0.074 | 0.000 | 1474.70 | 9444.62 |
| 0.004774 | 470. | 507. | 510. | 3 | 0 | 0 | 0.00 | 915.91 | 10360.53 |

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

1490 NH CARD USED
*SECNO 1.386

3470 ENCROACHMENT STATIONS= 9446.0 10513.0 TYPE= 1 TARGET= 1067.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.386 | 3.20 | 1481.30 | 0.00 | 0.00 | 1481.40 | 0.10 | 2.51 | 0.00 | 1479.30 |
| 5001.0 | 3042.1 | 521.3 | 1437.5 | 1110.3 | 227.1 | 624.0 | 159.8 | 82.1 | 1479.30 |
| 0.39 | 2.74 | 2.30 | 2.30 | 0.072 | 0.082 | 0.076 | 0.000 | 1478.10 | 9474.29 |
| 0.005360 | 470. | 533. | 510. | 2 | 0 | 0 | 0.00 | 924.87 | 10399.16 |

1490 NH CARD USED
*SECNO 1.480

3470 ENCROACHMENT STATIONS= 9396.0 10285.0 TYPE= 1 TARGET= 889.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.480 | 4.19 | 1483.69 | 0.00 | 0.00 | 1483.82 | 0.13 | 2.41 | 0.01 | 1481.10 |
| 5001.0 | 2289.9 | 2255.5 | 455.6 | 744.3 | 841.4 | 161.0 | 179.6 | 91.5 | 1480.80 |
| 0.44 | 3.08 | 2.68 | 2.83 | 0.058 | 0.075 | 0.062 | 0.000 | 1479.50 | 9419.33 |
| 0.004998 | 460. | 496. | 440. | 2 | 0 | 0 | 0.00 | 851.79 | 10271.12 |

14 H CARD USED
*SECNO 1.578

3470 ENCROACHMENT STATIONS= 9181.0 10319.0 TYPE= 1 TARGET= 1138.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.578 | 3.68 | 1486.08 | 0.00 | 0.00 | 1486.19 | 0.11 | 2.36 | 0.00 | 1484.40 |
| 5001.0 | 3142.6 | 1756.6 | 101.8 | 1202.4 | 623.9 | 57.1 | 202.7 | 102.9 | 1484.00 |
| 0.50 | 2.61 | 2.82 | 1.78 | 0.058 | 0.059 | 0.055 | 0.000 | 1482.40 | 9371.76 |
| 0.003710 | 590. | 517. | 480. | 3 | 0 | 0 | 0.00 | 921.23 | 10292.99 |

1490 NH CARD USED
*SECNO 1.670

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.63

3470 ENCROACHMENT STATIONS= 9709.6 10626.0 TYPE= 1 TARGET= 916.400

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.670 | 3.86 | 1488.96 | 0.00 | 0.00 | 1489.19 | 0.24 | 2.97 | 0.04 | 1487.10 |
| 5001.0 | 1911.2 | 2680.3 | 409.5 | 473.7 | 665.7 | 205.1 | 221.5 | 113.3 | 1487.70 |
| 0.53 | 4.03 | 4.03 | 2.00 | 0.060 | 0.062 | 0.055 | 0.000 | 1485.10 | 9741.04 |
| 0.009241 | 530. | 486. | 465. | 5 | 0 | 0 | 0.00 | 884.96 | 10626.00 |

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

1490 NH CARD USED
*SECNO 1.764

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.76

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.764 | 4.30 | 1491.30 | 0.00 | 0.00 | 1491.39 | 0.10 | 2.19 | 0.01 | 1489.60 |
| 5001.0 | 1473.9 | 1127.6 | 2399.5 | 602.6 | 358.2 | 1076.2 | 240.3 | 123.2 | 1489.10 |
| 0.59 | 2.45 | 3.15 | 2.23 | 0.055 | 0.053 | 0.066 | 0.000 | 1487.00 | 9633.13 |
| 0.002968 | 490. | 496. | 470. | 4 | 0 | 0 | 0.00 | 910.95 | 10544.07 |

*SECNO 1.866

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.58

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.866 | 3.95 | 1493.85 | 0.00 | 0.00 | 1494.03 | 0.18 | 2.61 | 0.03 | 1491.40 |
| 5001.0 | 806.8 | 1830.0 | 2364.1 | 238.3 | 498.6 | 719.5 | 260.7 | 134.1 | 1492.10 |
| 0.63 | 3.39 | 3.67 | 3.29 | 0.055 | 0.065 | 0.055 | 0.000 | 1489.90 | 9667.00 |
| 0.008783 | 520. | 539. | 490. | 4 | 0 | 0 | 0.00 | 964.37 | 10631.37 |

1490 NH CARD USED
*SECNO 1.967

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.967 | 4.27 | 1496.87 | 0.00 | 0.00 | 1496.97 | 0.10 | 2.93 | 0.01 | 1496.00 |
| 5001.0 | 2399.6 | 447.5 | 2153.9 | 900.6 | 175.7 | 888.2 | 279.6 | 146.4 | 1496.30 |
| 0.68 | 2.66 | 2.55 | 2.42 | 0.055 | 0.061 | 0.055 | 0.000 | 1492.60 | 9402.09 |
| 0.004637 | 650. | 533. | 340. | 2 | 0 | 0 | 0.00 | 1338.44 | 10906.10 |

1490 NH CARD USED
*SECNO 2.064

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9031.5 10764.0 TYPE= 1 TARGET= 1732.500

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.064 | 3.63 | 1498.73 | 0.00 | 0.00 | 1498.83 | 0.10 | 1.86 | 0.00 | 1497.40 |
| 5001.0 | 4121.2 | 551.2 | 328.6 | 1614.0 | 217.8 | 244.4 | 300.2 | 161.0 | 1497.90 |
| 0.73 | 2.55 | 2.53 | 1.34 | 0.055 | 0.052 | 0.055 | 0.000 | 1495.10 | 9049.90 |
| 0.003823 | 420. | 512. | 475. | 3 | 0 | 0 | 0.00 | 1485.11 | 10609.97 |

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

1490 NH CARD USED
*SECNO 2.159
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.159 | 3.58 | 1501.08 | 0.00 | 0.00 | 1501.23 | 0.15 | 2.38 | 0.02 | 1500.10 |
| 5001.0 | 3946.8 | 294.2 | 760.1 | 1228.8 | 82.5 | 321.6 | 320.1 | 175.5 | 1500.40 |
| 0.77 | 3.21 | 3.57 | 2.36 | 0.055 | 0.067 | 0.055 | 0.000 | 1497.50 | 9212.22 |
| 0.006934 | 450. | 502. | 530. | 4 | 0 | 0 | 0.00 | 1155.66 | 10367.88 |

1490 NH CARD USED
*SECNO 2.251
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.251 | 3.49 | 1503.49 | 0.00 | 0.00 | 1503.62 | 0.13 | 2.39 | 0.00 | 1503.00 |
| 5001.0 | 4325.4 | 312.5 | 363.1 | 1477.1 | 121.3 | 174.7 | 335.6 | 186.3 | 1503.40 |
| 0.81 | 2.93 | 2.58 | 2.08 | 0.055 | 0.070 | 0.055 | 0.000 | 1500.00 | 9064.74 |
| 0.005407 | 370. | 486. | 510. | 2 | 0 | 0 | 0.00 | 1159.89 | 10224.63 |

1490 NH CARD USED
*SECNO 2.346
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.346 | 3.41 | 1506.11 | 0.00 | 0.00 | 1506.25 | 0.14 | 2.63 | 0.00 | 1505.70 |
| 5001.0 | 4258.9 | 251.5 | 490.6 | 1361.6 | 114.5 | 209.4 | 352.3 | 198.4 | 1505.40 |
| 0.85 | 3.13 | 2.20 | 2.34 | 0.055 | 0.090 | 0.055 | 0.000 | 1502.70 | 8958.42 |
| 0.007364 | 400. | 502. | 530. | 4 | 0 | 0 | 0.00 | 1304.74 | 10263.17 |

1490 NH CARD USED
*SECNO 2.442

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.442 | 3.78 | 1509.18 | 0.00 | 0.00 | 1509.30 | 0.11 | 3.04 | 0.00 | 1508.00 |
| 5001.0 | 2104.7 | 563.2 | 2333.0 | 959.3 | 164.2 | 792.4 | 372.2 | 214.1 | 1507.50 |
| 0.90 | 2.19 | 3.43 | 2.94 | 0.055 | 0.052 | 0.055 | 0.000 | 1505.40 | 8929.35 |
| 0.005515 | 460. | 507. | 525. | 3 | 0 | 0 | 0.00 | 1557.78 | 10487.13 |

1490 NH CARD USED
*SECNO 2.537
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.537 | 4.27 | 1512.07 | 0.00 | 0.00 | 1512.20 | 0.13 | 2.90 | 0.01 | 1510.70 |
| 5001.0 | 785.2 | 1428.6 | 2787.2 | 428.6 | 465.1 | 898.6 | 392.7 | 230.7 | 1510.70 |
| 0.94 | 1.83 | 3.07 | 3.10 | 0.055 | 0.064 | 0.055 | 0.000 | 1507.80 | 9299.44 |
| 0.006453 | 450. | 502. | 500. | 4 | 0 | 0 | 0.00 | 1488.41 | 10831.70 |

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

1490 NH CARD USED
*SECNO 2.631

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.631 | 4.74 | 1514.64 | 0.00 | 0.00 | 1514.75 | 0.10 | 2.54 | 0.00 | 1513.10 |
| 5001.0 | 702.3 | 1136.5 | 3162.3 | 477.2 | 403.7 | 1176.4 | 413.0 | 246.0 | 1514.30 |
| 0.99 | 1.47 | 2.82 | 2.69 | 0.103 | 0.065 | 0.055 | 0.000 | 1509.90 | 9589.34 |
| 0.005271 | 650. | 496. | 360. | 3 | 0 | 0 | 0.00 | 1341.49 | 11000.56 |

1490 NH CARD USED
*SECNO 2.727

3470 ENCROACHMENT STATIONS= 9156.0 10392.0 TYPE= 1 TARGET= 1236.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.727 | 5.34 | 1517.64 | 0.00 | 0.00 | 1517.78 | 0.14 | 3.02 | 0.01 | 1516.20 |
| 5001.0 | 2374.2 | 1571.2 | 1055.5 | 836.0 | 468.9 | 398.7 | 433.4 | 259.3 | 1516.30 |
| 1.04 | 2.84 | 3.35 | 2.65 | 0.059 | 0.074 | 0.055 | 0.000 | 1512.30 | 9239.83 |
| 0.007834 | 535. | 507. | 400. | 4 | 0 | 0 | 0.00 | 1152.17 | 10392.00 |

1490 NH CARD USED
*SECNO 2.827

3470 ENCROACHMENT STATIONS= 8926.0 10127.1 TYPE= 1 TARGET= 1201.100

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.827 | 4.86 | 1520.56 | 0.00 | 0.00 | 1520.67 | 0.11 | 2.89 | 0.00 | 1519.30 |
| 5001.0 | 3504.0 | 1497.0 | 0.0 | 1405.9 | 483.3 | 0.0 | 450.5 | 269.7 | 1521.60 |
| 1.08 | 2.49 | 3.10 | 0.00 | 0.069 | 0.069 | 0.000 | 0.000 | 1515.70 | 9041.61 |
| 0.006096 | 340. | 528. | 560. | 3 | 0 | 0 | 0.00 | 1074.50 | 10116.11 |

1490 NH CARD USED
*SECNO 2.927

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9129.2 10485.0 TYPE= 1 TARGET= 1355.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.927 | 3.54 | 1523.04 | 0.00 | 0.00 | 1523.16 | 0.12 | 2.49 | 0.00 | 1522.50 |
| 5001.0 | 4062.0 | 629.2 | 309.8 | 1416.1 | 263.5 | 182.4 | 467.9 | 280.6 | 1522.70 |
| 1.12 | 2.87 | 2.39 | 1.70 | 0.070 | 0.066 | 0.055 | 0.000 | 1519.50 | 9129.20 |
| 0.006262 | 360. | 528. | 600. | 4 | 0 | 0 | 0.00 | 1222.59 | 10424.79 |

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

1490 NH CARD USED
*SECNO 3.027

3265 DIVIDED FLOW

3280 CROSS SECTION 3.03 EXTENDED 0.06 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.027 | 4.06 | 1525.96 | 0.00 | 0.00 | 1526.13 | 0.17 | 2.95 | 0.02 | 1524.40 |
| 5001.0 | 3012.7 | 1210.8 | 777.5 | 1037.7 | 260.5 | 382.8 | 488.3 | 294.5 | 1525.80 |
| 1.17 | 2.90 | 4.65 | 2.03 | 0.055 | 0.045 | 0.055 | 0.000 | 1521.90 | 9291.49 |
| 0.005482 | 510. | 528. | 430. | 2 | 0 | 0 | 0.00 | 1250.27 | 10596.00 |

1490 NH CARD USED
*SECNO 3.137

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.137 | 3.66 | 1529.16 | 0.00 | 0.00 | 1529.36 | 0.20 | 3.23 | 0.01 | 1528.30 |
| 5001.0 | 1763.7 | 1968.1 | 1269.1 | 643.9 | 425.9 | 477.8 | 509.2 | 308.8 | 1527.70 |
| 1.21 | 2.74 | 4.62 | 2.66 | 0.055 | 0.051 | 0.055 | 0.000 | 1525.50 | 9452.88 |
| 0.005854 | 580. | 581. | 525. | 3 | 0 | 0 | 0.00 | 981.31 | 10434.19 |

*SECNO 3.224

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.224 | 7.09 | 1531.99 | 0.00 | 0.00 | 1532.16 | 0.17 | 2.80 | 0.00 | 1530.70 |
| 5001.0 | 2420.3 | 1160.5 | 1420.2 | 721.9 | 303.8 | 486.5 | 525.2 | 318.3 | 1530.10 |
| 1.25 | 3.35 | 3.82 | 2.92 | 0.055 | 0.072 | 0.055 | 0.000 | 1524.90 | 9565.80 |
| 0.006461 | 450. | 459. | 460. | 3 | 0 | 0 | 0.00 | 844.61 | 10410.41 |

*SECNO 3.321

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.321 | 7.89 | 1534.89 | 0.00 | 0.00 | 1535.07 | 0.18 | 2.90 | 0.00 | 1532.70 |
| 5001.0 | 2186.6 | 1173.8 | 1640.6 | 643.2 | 307.9 | 558.0 | 543.0 | 327.6 | 1533.40 |
| 1.29 | 3.40 | 3.81 | 2.94 | 0.055 | 0.072 | 0.055 | 0.000 | 1527.00 | 9659.90 |
| 0.005027 | 510. | 512. | 520. | 3 | 0 | 0 | 0.00 | 730.71 | 10390.61 |

*SECNO 3.413

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.413 | 8.80 | 1537.60 | 0.00 | 0.00 | 1537.93 | 0.33 | 2.82 | 0.05 | 1534.80 |
| 5001.0 | 1471.6 | 1813.9 | 1715.5 | 316.3 | 340.9 | 456.3 | 557.9 | 334.0 | 1534.80 |
| 1.32 | 4.65 | 5.32 | 3.76 | 0.055 | 0.072 | 0.055 | 0.000 | 1528.80 | 9846.90 |
| 0.006512 | 490. | 486. | 500. | 2 | 0 | 0 | 0.00 | 394.43 | 10241.33 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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 |

1490 NH CARD USED
*SECNO 3.514
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.514 | 9.20 | 1540.10 | 0.00 | 0.00 | 1540.24 | 0.14 | 2.29 | 0.02 | 1537.00 |
| 5001.0 | 1344.5 | 1727.2 | 1929.2 | 422.0 | 544.3 | 713.3 | 574.0 | 339.5 | 1536.90 |
| 1.37 | 3.19 | 3.17 | 2.70 | 0.055 | 0.086 | 0.071 | 0.000 | 1530.90 | 9743.31 |
| 0.003470 | 520. | 533. | 470. | 2 | 0 | 0 | 0.00 | 566.13 | 10328.09 |

*SECNO 3.617
3280 CROSS SECTION 3.62 EXTENDED 1.36 FEET

3301 HV CHANGED MORE THAN HVINS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.617 | 8.17 | 1541.67 | 0.00 | 0.00 | 1542.45 | 0.78 | 2.01 | 0.19 | 1538.60 |
| 5001.0 | 857.4 | 3805.7 | 337.9 | 308.5 | 476.1 | 142.0 | 589.6 | 344.9 | 1539.30 |
| 1.39 | 2.78 | 7.99 | 2.38 | 0.055 | 0.038 | 0.055 | 0.000 | 1533.50 | 9791.20 |
| 0.004149 | 560. | 544. | 460. | 2 | 0 | 0 | 0.00 | 338.88 | 10130.08 |

CCHV= 0.100 CEHV= 0.300
*SECNO 3.651
3280 CROSS SECTION 3.65 EXTENDED 0.08 FEET

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

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.651 | 8.08 | 1553.08 | 1553.08 | 0.00 | 1553.64 | 0.55 | 0.07 | 0.08 | 1552.00 |
| 5101.0 | 1043.6 | 2977.1 | 1080.3 | 1117.1 | 383.6 | 1175.4 | 597.0 | 350.4 | 1552.00 |
| 1.40 | 0.93 | 7.76 | 0.92 | 0.033 | 0.013 | 0.033 | 0.000 | 1545.00 | 8900.00 |
| 0.000400 | 180. | 180. | 180. | 20 | 6 | 0 | 0.00 | 2300.00 | 11200.00 |

*SECNO 3.670
3280 CROSS SECTION 3.67 EXTENDED 0.06 FEET

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

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

   3.670       8.06    1553.56    1553.56       0.00    1554.14       0.58       0.04       0.01    1552.50
  5101.0     1025.2     3015.5     1060.3     1093.4      382.6     1149.6      603.1      355.6    1552.50
    1.41       0.94       7.88       0.92      0.033      0.013      0.033      0.000    1545.50    8900.00
0.000415       100.       100.       100.         20          6          0       0.00    2300.00   11200.00

CCHV=    0.300 CEHV=    0.500
1490 NH CARD USED
*SECNO 3.713
3280 CROSS SECTION      3.71 EXTENDED      4.32 FEET

3301 HV CHANGED MORE THAN HVINS

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  4.32

3470 ENCROACHMENT STATIONS=     9100.0   10600.0  TYPE=      1  TARGET=     1500.000
   3.713      10.92    1554.32       0.00       0.00    1554.32       0.00       0.01       0.17    1545.10
  [illegible]09.0     1629.1     2838.4      841.4     4097.1     5972.2     2989.0      645.7      365.8    1544.80
    1.56       0.40       0.48       0.28      0.080      0.072      0.089      0.000    1543.40    9100.00
0.000024       290.       230.       180.          2          0          0       0.00    1500.00   10600.00

1490 NH CARD USED
*SECNO 3.821
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED
3280 CROSS SECTION      3.82 EXTENDED      2.43 FEET

3470 ENCROACHMENT STATIONS=     9039.5   10466.0  TYPE=      1  TARGET=     1426.500
   3.821      10.33    1554.33       0.00       0.00    1554.34       0.00       0.01       0.00    1547.10
  5309.0     3584.3      698.3     1026.4     6839.6      951.4     2269.9      774.1      382.0    1546.90
    1.81       0.52       0.73       0.45      0.065      0.054      0.070      0.000    1544.00    9039.50
0.000037       390.       570.       565.          2          0          0       0.00    1426.50   10466.00

1490 NH CARD USED
*SECNO 3.917

3265 DIVIDED FLOW
```

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

3280 CROSS SECTION 3.92 EXTENDED 0.17 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.47

3470 ENCROACHMENT STATIONS= 9140.0 10629.0 TYPE= 1 TARGET= 1489.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.917 | 8.27 | 1554.37 | 0.00 | 0.00 | 1554.39 | 0.02 | 0.05 | 0.01 | 1549.30 |
| 5309.0 | 2689.2 | 1969.9 | 649.9 | 2775.1 | 1705.3 | 1013.9 | 856.5 | 397.0 | 1549.10 |
| 1.94 | 0.97 | 1.16 | 0.64 | 0.055 | 0.058 | 0.068 | 0.000 | 1546.10 | 9140.00 |
| 0.000166 | 460. | 507. | 430. | 2 | 0 | 0 | 0.00 | 1431.31 | 10629.00 |

CCHV= 0.100 CEHV= 0.300
1490 NH CARD USED
*SECNO 4.010
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.41

3470 ENCROACHMENT STATIONS= 9274.3 10648.0 TYPE= 1 TARGET= 1373.700

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.010 | 6.39 | 1554.59 | 0.00 | 0.00 | 1554.63 | 0.05 | 0.23 | 0.01 | 1551.00 |
| 5309.0 | 2800.5 | 1380.1 4.5 | 1128.4 | 1786.4 | 633.9 | 785.4 | 897.4 | 409.7 | 1552.10 |
| 2.01 | 1.57 | 2.18 | 1.44 | 0.058 | 0.066 | 0.055 | 0.000 | 1548.20 | 9274.30 |
| 0.000971 | 320. | 491. | 530. | 2 | 0 | 0 | 0.00 | 1213.25 | 10487.54 |

1490 NH CARD USED
*SECNO 4.119
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.38

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.119 | 6.64 | 1555.84 | 0.00 | 0.00 | 1556.07 | 0.23 | 1.39 | 0.06 | 1553.90 |
| 5309.0 | 1567.6 | 2521.7 | 1219.7 | 536.9 | 530.7 | 447.1 | 926.8 | 423.0 | 1554.60 |
| 2.05 | 2.92 | 4.75 | 2.73 | 0.055 | 0.073 | 0.055 | 0.000 | 1549.20 | 9406.94 |
| 0.006606 | 590. | 576. | 420. | 3 | 0 | 0 | 0.00 | 969.44 | 10376.39 |
| | | | | | | | | 1040 | |

1490 NH CARD USED
*SECNO 4.214

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

1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9486.0 10918.0 TYPE= 1 TARGET= 1432.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.214 | 6.99 | 1558.79 | 0.00 | 0.00 | 1559.06 | 0.27 | 2.97 | 0.01 | 1557.90 |
| 5309.0 | 828.7 | 3423.5 | 1056.8 | 369.5 | 712.5 | 382.2 | 943.7 | 432.6 | 1556.80 |
| 2.08 | 2.24 | 4.80 | 2.77 | 0.055 | 0.066 | 0.055 | 0.000 | 1551.80 | 9567.85 |
| 0.005480 | 470. | 502. | 510. | 4 | 0 | 0 | 0.00 | 736.64 | 10304.49 |

1490 NH CARD USED
*SECNO 4.306
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9382.0 10472.0 TYPE= 1 TARGET= 1090.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.306 | 7.97 | 1561.57 | 0.00 | 0.00 | 1562.01 | 0.44 | 2.90 | 0.05 | 1560.10 |
| 5309.0 | 1180.7 | 3404.0 | 724.3 | 428.8 | 537.7 | 328.6 | 959.2 | 441.1 | 1561.00 |
| 2.11 | 2.75 | 6.33 | 2.20 | 0.063 | 0.061 | 0.055 | 0.000 | 1553.60 | 9689.19 |
| 0.006406 | 510. | 486. | 480. | 2 | 0 | 0 | 0.00 | 759.94 | 10449.13 |

14 H CARD USED
*SECNO 4.403
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9715.7 10460.0 TYPE= 1 TARGET= 744.300

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.403 | 9.24 | 1564.54 | 0.00 | 0.00 | 1564.85 | 0.31 | 2.83 | 0.01 | 1563.00 |
| 5309.0 | 2004.0 | 2960.8 | 344.2 | 551.5 | 580.3 | 136.0 | 974.2 | 447.8 | 1561.90 |
| 2.14 | 3.63 | 5.10 | 2.53 | 0.055 | 0.068 | 0.065 | 0.000 | 1555.30 | 9715.70 |
| 0.004947 | 490. | 512. | 530. | 2 | 0 | 0 | 0.00 | 399.33 | 10115.03 |

1490 NH CARD USED
*SECNO 4.497
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9887.2 11040.0 TYPE= 1 TARGET= 1152.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.497 | 11.04 | 1566.94 | 0.00 | 0.00 | 1567.45 | 0.51 | 2.54 | 0.06 | 1564.30 |
| 5320.0 | 553.4 | 3151.7 | 1614.9 | 184.2 | 455.6 | 475.3 | 987.7 | 452.2 | 1563.70 |
| 2.17 | 3.00 | 6.92 | 3.40 | 0.061 | 0.060 | 0.055 | 0.000 | 1555.90 | 9887.20 |
| 0.005304 | 490. | 496. | 500. | 2 | 0 | 0 | 0.00 | 374.81 | 10262.01 |

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

1490 NH CARD USED
*SECNO 4.596
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9883.8 10115.5 TYPE= 1 TARGET= 231.700

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.596 | 10.28 | 1569.28 | 0.00 | 0.00 | 1569.63 | 0.35 | 2.16 | 0.02 | 1566.30 |
| 5320.0 | 366.1 | 4330.7 | 623.2 | 107.0 | 866.2 | 204.4 | 1001.2 | 455.8 | 1566.40 |
| 2.20 | 3.42 | 5.00 | 3.05 | 0.055 | 0.063 | 0.055 | 0.000 | 1559.00 | 9883.80 |
| 0.003443 | 510. | 523. | 500. | 2 | 0 | 0 | 0.00 | 231.70 | 10115.50 |

1490 NH CARD USED
*SECNO 4.694
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9812.0 10426.0 TYPE= 1 TARGET= 614.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.694 | 11.72 | 1571.52 | 0.00 | 0.00 | 1572.28 | 0.76 | 2.53 | 0.13 | 1569.00 |
| 5320.0 | 161.4 | 5008.3 | 150.3 | 57.2 | 696.5 | 56.4 | 1013.0 | 458.3 | 1569.30 |
| 2.22 | 2.82 | 7.19 | 2.67 | 0.055 | 0.058 | 0.055 | 0.000 | 1559.80 | 9925.34 |
| 0.007016 | 490. | 517. | 510. | 1 | 0 | 0 | 0.00 | 202.00 | 10127.34 |

1490 NH CARD USED
*SECNO 4.789
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9926.8 10469.0 TYPE= 1 TARGET= 542.200

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.789 | 12.90 | 1574.50 | 0.00 | 0.00 | 1574.95 | 0.45 | 2.63 | 0.03 | 1573.80 |
| 5320.0 | 0.0 | 4921.4 | 398.6 | 0.0 | 885.4 | 196.4 | 1023.9 | 460.8 | 1572.10 |
| 2.24 | 0.00 | 5.56 | 2.03 | 0.000 | 0.066 | 0.071 | 0.000 | 1561.60 | 9926.80 |
| 0.004180 | 500. | 502. | 510. | 2 | 0 | 0 | 0.00 | 228.71 | 10155.51 |

1490 NH CARD USED
*SECNO 4.893
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.60

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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= 9881.0 10102.2 TYPE= 1 TARGET= 221.200

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.893 | 8.21 | 1578.41 | 0.00 | 0.00 | 1579.43 | 1.02 | 4.31 | 0.17 | 1577.50 |
| 5320.0 | 102.5 | 5210.8 | 6.7 | 44.6 | 636.5 | 8.8 | 1035.1 | 463.7 | 1578.30 |
| 2.26 | 2.30 | 8.19 | 0.76 | 0.065 | 0.060 | 0.062 | 0.000 | 1570.20 | 9881.00 |
| 0.011494 | 390. | 549. | 620. | 4 | 0 | 0 | 0.00 | 221.20 | 10102.20 |

1490 NH CARD USED
*SECNO 4.988
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3301 HV CHANGED MORE THAN HVINS

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

3470 ENCROACHMENT STATIONS= 9878.0 10106.0 TYPE= 1 TARGET= 228.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.988 | 9.37 | 1582.77 | 0.00 | 0.00 | 1583.29 | 0.52 | 3.81 | 0.05 | 1581.00 |
| 20.0 | 59.2 | 5137.9 | 122.9 | 26.8 | 875.5 | 61.6 | 1044.7 | 466.3 | 1581.20 |
| 2.29 | 2.21 | 5.87 | 1.99 | 0.068 | 0.061 | 0.055 | 0.000 | 1573.40 | 9878.00 |
| 0.005661 | 500. | 502. | 505. | 2 | 0 | 0 | 0.00 | 228.00 | 10106.00 |

1490 NH CARD USED
*SECNO 5.095
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED
3280 CROSS SECTION 5.09 EXTENDED 0.56 FEET

3470 ENCROACHMENT STATIONS= 9896.0 10121.0 TYPE= 1 TARGET= 225.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.095 | 9.86 | 1585.76 | 0.00 | 0.00 | 1586.25 | 0.49 | 2.96 | 0.00 | 1584.80 |
| 5320.0 | 416.9 | 4832.2 | 70.9 | 155.8 | 831.4 | 37.6 | 1057.6 | 469.2 | 1585.40 |
| 2.32 | 2.68 | 5.81 | 1.88 | 0.068 | 0.063 | 0.055 | 0.000 | 1575.90 | 9896.00 |
| 0.004872 | 570. | 565. | 560. | 3 | 0 | 0 | 0.00 | 225.00 | 10121.00 |

1490 NH CARD USED
*SECNO 5.189

3265 DIVIDED FLOW

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


   5.189     10.49   1587.89      0.00      0.00   1588.16      0.26      1.88      0.02   1587.70
  5320.0     455.6    4864.4       0.0     235.2    1139.7       0.0    1071.2     472.4   1588.70
    2.35      1.94      4.27      0.00     0.075     0.060     0.000     0.000   1577.40   9819.88
0.003118      490.      496.      500.         2         0         0      0.00    332.58  10161.80


CCHV=    0.300 CEHV=    0.500
1490 NH CARD USED
*SECNO 5.287
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   5.287     11.92   1592.52   1592.52      0.00   1592.88      0.37      5.60     -2.58   1591.90
  5330.0    2015.9    2953.3     360.7     991.8     471.2     208.1    1088.7     483.4   1591.80
    2.38      2.03      6.27      1.73     0.075     0.052     0.068     0.000   1580.60   8755.12
0.011055      470.      517.      540.         5        11         0      0.00   1632.38  10387.50


CCHV=    0.100 CEHV=    0.300
1490 NH CARD USED
*SECNO 5.386

3265 DIVIDED FLOW

   5.386     15.16   1596.56      0.00      0.00   1597.09      0.53      4.16      0.05   1595.00
  5330.0    1866.7    2918.0     545.3    1093.5     378.7     207.1    1108.3     500.3   1593.90
    2.41      1.71      7.71      2.63     0.077     0.058     0.065     0.000   1581.40   8954.96
0.006380      510.      523.      480.         4         0         0      0.00   1278.24  10285.60


1490 NH CARD USED
*SECNO 5.485
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED
   5.485     12.55   1599.65      0.00      0.00   1599.92      0.27      2.80      0.03   1599.40
  5330.0    1430.6    3000.8     898.7     936.6     567.0     362.6    1130.1     516.7   1597.70
    2.45      1.53      5.29      2.48     0.068     0.055     0.055     0.000   1587.10   8982.07
0.004551      570.      523.      440.         3         0         0      0.00   1339.53  10321.61


1490 NH CARD USED
*SECNO 5.577
   5.577      9.72   1602.02   1602.00      0.00   1602.61      0.59      2.60      0.10   1601.60
  5330.0    1077.8    4099.9     152.3     735.1     587.5      75.3    1147.1     530.1   1600.70
    2.47      1.47      6.98      2.02     0.065     0.045     0.055     0.000   1592.30   8854.37
0.006419      400.      486.      570.         5        17         0      0.00   1373.78  10228.15
```

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

1490 NH CARD USED
*SECNO 5.668

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.668 | 2.79 | 1604.99 | 0.00 | 0.00 | 1605.09 | 0.10 | 2.43 | 0.05 | 1603.80 |
| 5330.0 | 3842.9 | 1101.5 | 385.6 | 1382.1 | 601.6 | 271.6 | 1164.2 | 543.5 | 1603.80 |
| 2.52 | 2.78 | 1.83 | 1.42 | 0.055 | 0.071 | 0.090 | 0.000 | 1602.20 | 8925.92 |
| 0.005235 | 345. | 480. | 545. | 5 | 0 | 0 | 0.00 | 1567.41 | 10495.86 |

1490 NH CARD USED
*SECNO 5.765

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.765 | 3.09 | 1607.89 | 0.00 | 0.00 | 1607.99 | 0.10 | 2.90 | 0.00 | 1606.70 |
| 5330.0 | 2958.0 | 932.8 | 1439.1 | 1003.8 | 554.6 | 798.9 | 1189.7 | 561.9 | 1606.80 |
| 2.57 | 2.95 | 1.68 | 1.80 | 0.055 | 0.095 | 0.095 | 0.000 | 1604.80 | 9066.99 |
| 0.007477 | 410. | 512. | 610. | 3 | 0 | 0 | 0.00 | 1717.20 | 10784.18 |

1490 NH CARD USED
*SECNO 5.858

3470 ENCROACHMENT STATIONS= 9238.0 10750.0 TYPE= 1 TARGET= 1512.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.858 | 3.23 | 1611.13 | 0.00 | 0.00 | 1611.19 | 0.07 | 3.20 | 0.00 | 1610.30 |
| 5330.0 | 1425.8 | 2719.0 | 1185.2 | 717.8 | 1304.5 | 537.9 | 1215.2 | 578.0 | 1609.40 |
| 2.63 | 1.99 | 2.08 | 2.20 | 0.074 | 0.095 | 0.095 | 0.000 | 1607.90 | 9292.06 |
| 0.006919 | 380. | 491. | 490. | 4 | 0 | 0 | 0.00 | 1457.94 | 10750.00 |

1490 NH CARD USED
*SECNO 5.945

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.945 | 2.35 | 1613.65 | 0.00 | 0.00 | 1613.70 | 0.05 | 2.51 | 0.00 | 1613.40 |
| 5340.0 | 3857.7 | 1392.0 | 90.2 | 1955.9 | 986.4 | 79.9 | 1244.8 | 599.7 | 1613.10 |
| 2.70 | 1.97 | 1.41 | 1.13 | 0.056 | 0.087 | 0.055 | 0.000 | 1611.30 | 8233.01 |
| 0.004458 | 470. | 459. | 440. | 5 | 0 | 0 | 0.00 | 2617.65 | 10850.66 |

1490 NH CARD USED
*SECNO 6.026

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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= 8230.0 10978.0 TYPE= 1 TARGET= 2748.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.026 | 1.76 | 1615.36 | 0.00 | 0.00 | 1615.44 | 0.09 | 1.73 | 0.01 | 1615.80 |
| 5340.0 | 5249.6 | 90.2 | 0.1 | 2185.0 | 139.9 | 1.0 | 1267.4 | 620.1 | 1615.30 |
| 2.74 | 2.40 | 0.64 | 0.14 | 0.055 | 0.076 | 0.075 | 0.000 | 1613.60 | 8230.00 |
| 0.005127 | 350. | 428. | 445. | 3 | 0 | 0 | 0.00 | 2153.85 | 10471.26 |

1490 NH CARD USED
*SECNO 6.067

3470 ENCROACHMENT STATIONS= 7989.0 10501.0 TYPE= 1 TARGET= 2512.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.067 | 5.94 | 1617.04 | 0.00 | 0.00 | 1617.12 | 0.08 | 1.68 | 0.00 | 1616.40 |
| 5340.0 | 3957.0 | 812.4 | 570.6 | 1682.1 | 390.0 | 301.9 | 1284.3 | 634.9 | 1615.30 |
| 2.78 | 2.35 | 2.08 | 1.89 | 0.059 | 0.089 | 0.060 | 0.000 | 1611.10 | 8398.95 |
| 0.005417 | 335. | 216. | 210. | 4 | 0 | 0 | 0.00 | 2043.71 | 10442.66 |

1490 NH CARD USED
*SECNO 6.135

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.135 | 6.52 | 1618.72 | 0.00 | 0.00 | 1618.84 | 0.12 | 1.71 | 0.01 | 1617.50 |
| 5340.0 | 4020.8 | 1110.5 | 208.7 | 1662.3 | 276.4 | 126.6 | 1297.6 | 645.9 | 1617.20 |
| 2.81 | 2.42 | 4.02 | 1.65 | 0.071 | 0.073 | 0.065 | 0.000 | 1612.20 | 8513.44 |
| 0.007908 | 230. | 359. | 340. | 2 | 0 | 0 | 0.00 | 1728.51 | 10291.96 |

1490 NH CARD USED
*SECNO 6.223

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.223 | 5.44 | 1621.54 | 0.00 | 0.00 | 1621.60 | 0.06 | 2.75 | 0.01 | 1620.30 |
| 5340.0 | 3471.8 | 828.2 | 1040.0 | 1794.4 | 350.4 | 548.3 | 1321.0 | 664.0 | 1620.40 |
| 2.87 | 1.93 | 2.36 | 1.90 | 0.075 | 0.085 | 0.085 | 0.000 | 1616.10 | 8563.34 |
| 0.005350 | 420. | 465. | 440. | 3 | 0 | 0 | 0.00 | 1964.04 | 10527.38 |

1490 NH CARD USED
*SECNO 6.321

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.321 | 2.81 | 1624.01 | 0.00 | 0.00 | 1624.09 | 0.08 | 2.49 | 0.01 | 1622.50 |
| 5340.0 | 4103.1 | 105.4 | 1131.5 | 1712.9 | 50.4 | 656.4 | 1344.1 | 680.6 | 1622.90 |
| 2.92 | 2.40 | 2.09 | 1.72 | 0.072 | 0.095 | 0.095 | 0.000 | 1621.20 | 8792.97 |
| 0.007371 | 350. | 517. | 480. | 5 | 0 | 0 | 0.00 | 1734.58 | 10527.55 |

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

1490 NH CARD USED
*SECNO 6.413

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9259.0 10921.0 TYPE= 1 TARGET= 1662.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.413 | 2.79 | 1627.49 | 0.00 | 0.00 | 1627.63 | 0.14 | 3.52 | 0.02 | 1625.90 |
| 5340.0 | 4183.0 | 184.0 | 973.0 | 1322.1 | 91.8 | 390.6 | 1367.7 | 696.9 | 1626.20 |
| 2.96 | 3.16 | 2.00 | 2.49 | 0.063 | 0.095 | 0.062 | 0.000 | 1624.70 | 9286.79 |
| 0.007076 | 490. | 486. | 480. | 4 | 0 | 0 | 0.00 | 1179.93 | 10851.79 |

1490 NH CARD USED
*SECNO 6.511
3280 CROSS SECTION 6.51 EXTENDED 0.15 FEET

3470 ENCROACHMENT STATIONS= 9849.0 10909.0 TYPE= 1 TARGET= 1060.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.511 | 4.85 | 1630.35 | 0.00 | 0.00 | 1630.49 | 0.14 | 2.86 | 0.00 | 1628.00 |
| 40.0 | 402.6 | 2056.5 | 2881.0 | 202.7 | 586.9 | 1039.5 | 1386.1 | 707.2 | 1628.00 |
| 3.01 | 1.99 | 3.50 | 2.77 | 0.095 | 0.066 | 0.055 | 0.000 | 1625.50 | 9892.37 |
| 0.005806 | 530. | 517. | 310. | 4 | 0 | 0 | 0.00 | 1013.65 | 10906.02 |

1490 NH CARD USED
*SECNO 6.603

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.603 | 4.86 | 1633.46 | 0.00 | 0.00 | 1633.60 | 0.14 | 3.11 | 0.00 | 1631.30 |
| 5340.0 | 909.9 | 2664.1 | 1766.0 | 311.4 | 828.7 | 660.4 | 1407.1 | 718.9 | 1632.20 |
| 3.05 | 2.92 | 3.21 | 2.67 | 0.055 | 0.086 | 0.055 | 0.000 | 1628.60 | 9674.66 |
| 0.006593 | 530. | 486. | 510. | 3 | 0 | 0 | 0.00 | 986.84 | 10661.50 |

1490 NH CARD USED
*SECNO 6.704

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.704 | 4.59 | 1636.19 | 0.00 | 0.00 | 1636.36 | 0.17 | 2.75 | 0.01 | 1634.00 |
| 5340.0 | 3050.3 | 1355.0 | 934.7 | 763.2 | 547.2 | 585.8 | 1426.5 | 728.1 | 1634.60 |
| 3.09 | 4.00 | 2.48 | 1.60 | 0.055 | 0.081 | 0.095 | 0.000 | 1631.60 | 9616.41 |
| 0.005192 | 510. | 533. | 330. | 2 | 0 | 0 | 0.00 | 873.05 | 10489.46 |

1490 NH CARD USED

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

*SECNO 6.801
3280 CROSS SECTION 6.80 EXTENDED 0.89 FEET

3470 ENCROACHMENT STATIONS= 8620.0 10276.0 TYPE= 1 TARGET= 1656.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.801 | 3.29 | 1638.89 | 0.00 | 0.00 | 1639.00 | 0.11 | 2.63 | 0.01 | 1638.00 |
| 5350.0 | 2320.9 | 3005.1 | 24.0 | 789.5 | 1273.2 | 32.2 | 1447.4 | 738.9 | 1638.00 |
| 3.14 | 2.94 | 2.36 | 0.74 | 0.056 | 0.095 | 0.095 | 0.000 | 1635.60 | 8908.98 |
| 0.006619 | 390. | 512. | 450. | 2 | 0 | 0 | 0.00 | 1261.22 | 10170.20 |

1490 NH CARD USED
*SECNO 6.897

3265 DIVIDED FLOW

3280 CROSS SECTION 6.90 EXTENDED 0.31 FEET

3470 ENCROACHMENT STATIONS= 8486.0 10202.0 TYPE= 1 TARGET= 1716.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .897 | 3.22 | 1641.82 | 0.00 | 0.00 | 1641.93 | 0.11 | 2.93 | 0.00 | 1641.70 |
| 5350.0 | 5309.6 | 40.4 | 0.0 | 1991.1 | 54.5 | 0.0 | 1468.0 | 751.9 | 1642.00 |
| 3.19 | 2.67 | 0.74 | 0.00 | 0.072 | 0.095 | 0.000 | 0.000 | 1638.60 | 8530.99 |
| 0.006997 | 400. | 507. | 440. | 3 | 0 | 0 | 0.00 | 1388.36 | 10081.96 |

1490 NH CARD USED
*SECNO 6.986

3265 DIVIDED FLOW

3280 CROSS SECTION 6.99 EXTENDED 0.27 FEET

3470 ENCROACHMENT STATIONS= 8226.0 10156.0 TYPE= 1 TARGET= 1930.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.986 | 2.18 | 1644.68 | 0.00 | 0.00 | 1644.82 | 0.14 | 2.88 | 0.01 | 1644.80 |
| 5350.0 | 5311.0 | 34.8 | 4.2 | 1769.8 | 40.6 | 6.0 | 1484.6 | 765.2 | 1645.00 |
| 3.22 | 3.00 | 0.86 | 0.70 | 0.057 | 0.095 | 0.055 | 0.000 | 1642.50 | 8226.00 |
| 0.008553 | 370. | 470. | 440. | 2 | 0 | 0 | 0.00 | 1661.26 | 10115.09 |

1490 NH CARD USED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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 7.077
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 7900.0 10114.1 TYPE= 1 TARGET= 2214.100

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.077 | 2.09 | 1647.89 | 0.00 | 0.00 | 1647.98 | 0.09 | 3.16 | 0.01 | 1648.10 |
| 5350.0 | 5336.4 | 13.6 | 0.0 | 2242.9 | 18.4 | 0.0 | 1507.0 | 785.3 | 100000.00 |
| 3.28 | 2.38 | 0.74 | 0.00 | 0.059 | 0.074 | 0.000 | 0.000 | 1645.80 | 7952.73 |
| 0.005349 | 480. | 480. | 460. | 5 | 0 | 0 | 0.00 | 2000.31 | 10041.93 |

1490 NH CARD USED
*SECNO 7.167

3470 ENCROACHMENT STATIONS= 8166.0 10717.0 TYPE= 1 TARGET= 2551.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.167 | 3.96 | 1651.86 | 0.00 | 0.00 | 1651.96 | 0.10 | 3.97 | 0.00 | 1651.40 |
| 5350.0 | 3450.1 | 114.5 | 1785.5 | 1457.0 | 81.4 | 618.0 | 1537.6 | 814.7 | 1651.40 |
| 3.34 | 2.37 | 1.41 | 2.89 | 0.057 | 0.095 | 0.057 | 0.000 | 1647.90 | 8370.21 |
| 8199 | 630. | 475. | 460. | 7 | 0 | 0 | 0.00 | 2272.64 | 10642.85 |

1490 NH CARD USED
*SECNO 7.264

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.264 | 3.07 | 1655.27 | 0.00 | 0.00 | 1655.34 | 0.08 | 3.38 | 0.00 | 1654.50 |
| 5350.0 | 4098.2 | 654.1 | 597.7 | 1780.9 | 508.8 | 249.8 | 1564.0 | 840.0 | 1654.50 |
| 3.40 | 2.30 | 1.29 | 2.39 | 0.059 | 0.095 | 0.055 | 0.000 | 1652.20 | 8183.79 |
| 0.005973 | 490. | 512. | 480. | 3 | 0 | 0 | 0.00 | 2215.81 | 10399.60 |

1490 NH CARD USED
*SECNO 7.352

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 8528.0 10637.0 TYPE= 1 TARGET= 2109.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.352 | 3.77 | 1658.17 | 0.00 | 0.00 | 1658.28 | 0.11 | 2.93 | 0.01 | 1657.40 |
| 5350.0 | 3270.4 | 901.9 | 1177.7 | 1203.8 | 582.1 | 405.2 | 1587.9 | 860.8 | 1657.60 |
| 3.45 | 2.72 | 1.55 | 2.91 | 0.056 | 0.084 | 0.055 | 0.000 | 1654.40 | 8528.00 |
| 0.007528 | 420. | 465. | 480. | 4 | 0 | 0 | 0.00 | 1902.68 | 10478.84 |

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

*SECNO 7.438

3470 ENCROACHMENT STATIONS= 9157.0 10348.0 TYPE= 1 TARGET= 1191.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.438 | 4.47 | 1661.27 | 0.00 | 0.00 | 1661.40 | 0.12 | 3.11 | 0.01 | 1659.50 |
| 5350.0 | 2147.0 | 1926.0 | 1277.0 | 643.1 | 893.1 | 460.1 | 1608.9 | 876.4 | 1660.20 |
| 3.50 | 3.34 | 2.16 | 2.78 | 0.055 | 0.085 | 0.055 | 0.000 | 1656.80 | 9157.00 |
| 0.006789 | 420. | 454. | 450. | 3 | 0 | 0 | 0.00 | 1191.00 | 10348.00 |

1490 NH CARD USED
*SECNO 7.533

3470 ENCROACHMENT STATIONS= 9401.0 10164.8 TYPE= 1 TARGET= 763.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.533 | 5.15 | 1664.75 | 0.00 | 0.00 | 1664.96 | 0.21 | 3.54 | 0.02 | 1662.40 |
| 5350.0 | 1917.5 | 3122.7 | 309.8 | 407.2 | 1073.7 | 128.4 | 1628.5 | 886.6 | 1662.60 |
| 3.53 | 4.71 | 2.91 | 2.41 | 0.055 | 0.085 | 0.084 | 0.000 | 1659.60 | 9410.39 |
| 0.008520 | 410. | 502. | 490. | 3 | 0 | 0 | 0.00 | 698.87 | 10109.26 |

1490 NH CARD USED
*[illegible] 7.624

3470 ENCROACHMENT STATIONS= 9700.3 10508.0 TYPE= 1 TARGET= 807.700

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.624 | 5.09 | 1667.99 | 0.00 | 0.00 | 1668.16 | 0.17 | 3.20 | 0.00 | 1666.10 |
| 5350.0 | 1634.8 | 1566.0 | 2149.2 | 376.3 | 563.1 | 783.6 | 1646.2 | 893.8 | 1665.90 |
| 3.57 | 4.34 | 2.78 | 2.74 | 0.055 | 0.082 | 0.074 | 0.000 | 1662.90 | 9700.30 |
| 0.005678 | 510. | 480. | 390. | 3 | 0 | 0 | 0.00 | 666.56 | 10366.86 |

*SECNO 7.709

3470 ENCROACHMENT STATIONS= 9755.0 10571.0 TYPE= 1 TARGET= 816.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.709 | 6.38 | 1670.68 | 0.00 | 0.00 | 1670.84 | 0.16 | 2.68 | 0.00 | 1667.10 |
| 5360.0 | 193.0 | 4093.2 | 1073.7 | 60.3 | 1325.7 | 286.5 | 1663.3 | 900.3 | 1667.70 |
| 3.61 | 3.20 | 3.09 | 3.75 | 0.055 | 0.082 | 0.055 | 0.000 | 1664.30 | 9793.29 |
| 0.006509 | 470. | 449. | 410. | 3 | 0 | 0 | 0.00 | 627.71 | 10421.00 |

1490 NH CARD USED
*SECNO 7.800

3470 ENCROACHMENT STATIONS= 9595.0 10458.0 TYPE= 1 TARGET= 863.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.800 | 5.15 | 1673.45 | 0.00 | 0.00 | 1673.59 | 0.15 | 2.75 | 0.00 | 1670.80 |
| 5334.0 | 1925.5 | 2256.9 | 1151.6 | 493.8 | 900.3 | 455.5 | 1682.7 | 908.1 | 1671.70 |
| 3.65 | 3.90 | 2.51 | 2.53 | 0.055 | 0.080 | 0.062 | 0.000 | 1668.30 | 9595.00 |
| 0.005111 | 505. | 480. | 460. | 2 | 0 | 0 | 0.00 | 796.34 | 10391.34 |

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


1490 NH CARD USED
*SECNO 7.896
     7.896      6.08   1675.98      0.00      0.00   1676.13      0.15      2.53      0.00   1674.80
    5307.0    4533.3     732.9      40.8    1412.5     364.2      22.6    1702.6     916.9   1674.30
      3.70      3.21      2.01      1.81     0.068     0.085     0.055     0.000   1669.90   9281.80
  0.005629      460.      507.      455.         2         0         0      0.00    822.87  10104.67


1490 NH CARD USED
*SECNO 7.995

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=     9371.5   10470.0  TYPE=      1  TARGET=     1098.500
     7.995      7.18   1678.78      0.00      0.00   1678.97      0.18      2.83      0.01   1677.40
    5279.0    4593.6     351.5     333.8    1272.2     180.7     188.0    1722.2     926.6   1677.80
      3.74      3.61      1.95      1.78     0.055     0.085     0.070     0.000   1671.60   9371.50
  0.005817      490.      523.      500.         2         0         0      0.00    874.48  10292.27


1490 NH CARD USED
*SECNO 8.088

3470 ENCROACHMENT STATIONS=     9565.0   10235.0  TYPE=      1  TARGET=      670.000
     8.088      3.92   1681.52      0.00      0.00   1681.75      0.23      2.77      0.01   1680.00
    5253.0     419.1    4144.2     689.7     191.7    1020.9     220.5    1739.7     935.0   1679.80
      3.77      2.19      4.06      3.13     0.055     0.056     0.063     0.000   1677.60   9565.00
  0.005351      500.      491.      500.         2         0         0      0.00    597.70  10162.70


1490 NH CARD USED
*SECNO 8.182

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=     9565.3   10218.0  TYPE=      1  TARGET=      652.700
     8.182      4.93   1684.93      0.00      0.00   1685.50      0.57      3.65      0.10   1681.20
    5227.0    1765.2    2626.6     835.2     473.7     344.8     207.5    1753.2     940.8   1682.10
      3.80      3.73      7.62      4.03     0.057     0.053     0.080     0.000   1680.00   9565.30
  0.010715      420.      496.      510.         4         0         0      0.00    492.37  10104.30
```

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

1490 NH CARD USED
*SECNO 8.273
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

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

3470 ENCROACHMENT STATIONS= 9720.0 10150.0 TYPE= 1 TARGET= 430.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8.273 | 5.97 | 1688.47 | 0.00 | 0.00 | 1688.68 | 0.21 | 3.15 | 0.04 | 1684.80 |
| 5201.0 | 3309.6 | 1107.2 | 784.2 | 916.9 | 243.7 | 349.0 | 1766.9 | 945.8 | 1684.20 |
| 3.83 | 3.61 | 4.54 | 2.25 | 0.069 | 0.070 | 0.100 | 0.000 | 1682.50 | 9720.00 |
| 0.004840 | 460. | 480. | 490. | 3 | 0 | 0 | 0.00 | 430.00 | 10150.00 |

1490 NH CARD USED
*SECNO 8.374

3470 ENCROACHMENT STATIONS= 9552.0 10160.0 TYPE= 1 TARGET= 608.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8.374 | 7.23 | 1691.23 | 0.00 | 0.00 | 1691.64 | 0.42 | 2.90 | 0.06 | 1686.90 |
| 5172.0 | 1707.0 | 1949.2 | 1515.8 | 480.5 | 267.0 | 521.6 | 1783.6 | 950.3 | 1687.30 |
| 3.87 | 3.55 | 7.30 | 2.91 | 0.080 | 0.051 | 0.105 | 0.000 | 1684.00 | 9831.48 |
| 0.006342 | 510. | 533. | 540. | 3 | 0 | 0 | 0.00 | 328.52 | 10160.00 |

1490 NH CARD USED
*SECNO 8.465

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9462.0 10193.6 TYPE= 1 TARGET= 731.600

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8.465 | 5.72 | 1693.92 | 0.00 | 0.00 | 1694.49 | 0.57 | 2.80 | 0.05 | 1689.10 |
| 5147.0 | 853.1 | 3206.9 | 1087.0 | 332.1 | 433.7 | 376.9 | 1797.2 | 954.3 | 1690.20 |
| 3.89 | 2.57 | 7.40 | 2.88 | 0.094 | 0.042 | 0.084 | 0.000 | 1688.20 | 9707.29 |
| 0.005273 | 425. | 480. | 560. | 1 | 0 | 0 | 0.00 | 375.26 | 10193.60 |

1490 NH CARD USED
*SECNO 8.560

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.57

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8.560 | 6.96 | 1695.86 | 0.00 | 0.00 | 1696.01 | 0.15 | 1.48 | 0.04 | 1691.80 |
| 5120.0 | 2997.4 | 1647.7 | 474.9 | 1370.4 | 358.4 | 272.0 | 1814.7 | 959.1 | 1690.90 |
| 3.94 | 2.19 | 4.60 | 1.75 | 0.077 | 0.048 | 0.105 | 0.000 | 1688.90 | 9605.71 |
| 0.002125 | 500. | 502. | 420. | 3 | 0 | 0 | 0.00 | 500.01 | 10105.72 |

```
 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


1490 NH CARD USED
*SECNO 8.654
    8.654      5.22   1697.42      0.00      0.00   1697.61      0.19      1.59      0.01   1695.20
   5094.0    2992.4    1572.7     528.9     954.9     345.7     291.9    1835.2     965.4   1694.00
     3.98      3.13      4.55      1.81     0.061     0.054     0.105     0.000   1692.20   9550.92
 0.004264      500.      496.      480.         2         0         0      0.00    603.98  10154.90


1490 NH CARD USED
*SECNO 8.740

3470 ENCROACHMENT STATIONS=     9642.1   10632.0  TYPE=      1  TARGET=      989.900
    8.740      6.73   1699.73      0.00      0.00   1700.25      0.52      2.54      0.10   1696.80
   5070.0     312.2    4399.4     358.4     105.7     719.5     159.2    1848.7     970.2   1696.90
     4.00      2.95      6.11      2.25     0.055     0.053     0.099     0.000   1693.00   9788.25
 0.007169      480.      454.      410.         2         0         0      0.00    315.66  10103.91


1490 NH CARD USED
*SECNO 8.844
    8.844      7.73   1703.63      0.00      0.00   1704.39      0.76      4.07      0.07   1700.30
   5040.0    2266.2    2667.9     105.9     741.4     291.2      46.3    1861.2     974.2   1700.40
     4.02      3.06      9.16      2.29     0.090     0.045     0.080     0.000   1695.90   9708.60
 0.008067      500.      549.      530.         3         0         0      0.00    345.49  10054.08


1490 NH CARD USED
*SECNO 8.940

3470 ENCROACHMENT STATIONS=     9728.8   10473.0  TYPE=      1  TARGET=      744.200
    8.940      8.00   1707.10      0.00      0.00   1707.64      0.54      3.23      0.02   1702.80
   5013.0    2428.0    2251.4     333.5     716.0     279.0     168.5    1873.7     978.1   1703.10
     4.05      3.39      8.07      1.98     0.076     0.045     0.103     0.000   1699.10   9736.96
 0.005502      480.      507.      500.         2         0         0      0.00    363.69  10100.65


1490 NH CARD USED
*SECNO 9.032
3280 CROSS SECTION     9.03 EXTENDED      2.98 FEET


3470 ENCROACHMENT STATIONS=     9664.5   10164.0  TYPE=      1  TARGET=      499.500
    9.032      7.68   1709.28      0.00      0.00   1709.45      0.17      1.77      0.04   1706.40
   4987.0    2175.6    2116.2     695.2     777.5     507.9     401.6    1887.2     982.1   1706.20
     4.08      2.80      4.17      1.73     0.065     0.062     0.105     0.000   1701.60   9664.50
 0.003520      300.      486.      600.         3         0         0      0.00    499.50  10164.00
```

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

1490 NH CARD USED
*SECNO 9.119

3265 DIVIDED FLOW

3280 CROSS SECTION 9.12 EXTENDED 0.54 FEET

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.54

3470 ENCROACHMENT STATIONS= 9842.7 10274.0 TYPE= 1 TARGET= 431.300

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.119 | 7.93 | 1711.63 | 0.00 | 0.00 | 1712.35 | 0.72 | 2.73 | 0.16 | 1707.30 |
| 4962.0 | 1047.2 | 2215.5 | 1699.3 | 321.5 | 239.9 | 407.6 | 1899.8 | 986.3 | 1709.10 |
| 4.10 | 3.26 | 9.24 | 4.17 | 0.085 | 0.054 | 0.059 | 0.000 | 1703.70 | 9842.70 |
| 0.011897 | 450. | 459. | 320. | 2 | 0 | 0 | 0.00 | 414.94 | 10274.00 |

1490 NH CARD USED
*SECNO 9.202
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9850.8 10188.0 TYPE= 1 TARGET= 337.200

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.202 | 8.80 | 1715.40 | 0.00 | 0.00 | 1716.21 | 0.81 | 3.84 | 0.03 | 1712.90 |
| 4940.0 | 82.2 | 4832.4 | 25.4 | 48.9 | 663.5 | 14.4 | 1908.3 | 989.2 | 1712.90 |
| 4.12 | 1.68 | 7.28 | 1.76 | 0.085 | 0.060 | 0.080 | 0.000 | 1706.60 | 9926.15 |
| 0.006875 | 400. | 438. | 475. | 2 | 0 | 0 | 0.00 | 148.97 | 10075.12 |

1490 NH CARD USED
*SECNO 9.289

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.289 | 8.93 | 1718.83 | 0.00 | 0.00 | 1719.83 | 1.00 | 3.57 | 0.06 | 1716.00 |
| 4915.0 | 1400.8 | 2970.9 | 543.2 | 381.9 | 298.9 | 176.3 | 1916.9 | 991.7 | 1715.30 |
| 4.14 | 3.67 | 9.94 | 3.08 | 0.065 | 0.045 | 0.088 | 0.000 | 1709.90 | 9754.48 |
| 0.008507 | 510. | 459. | 450. | 3 | 0 | 0 | 0.00 | 299.02 | 10092.32 |

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

1490 NH CARD USED
*SECNO 9.387

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.50

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.387 | 6.69 | 1720.49 | 0.00 | 0.00 | 1720.54 | 0.05 | 0.61 | 0.10 | 1718.70 |
| 669.0 | 156.3 | 510.4 | 2.3 | 220.3 | 248.7 | 6.8 | 1924.7 | 995.6 | 1719.60 |
| 4.22 | 0.71 | 2.05 | 0.34 | 0.067 | 0.045 | 0.065 | 0.000 | 1713.80 | 9691.55 |
| 0.000638 | 510. | 517. | 500. | 4 | 0 | 0 | 0.00 | 368.79 | 10060.34 |

*SECNO 9.480

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.39

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.480 | 2.98 | 1721.58 | 0.00 | 0.00 | 1721.79 | 0.20 | 1.20 | 0.05 | 1722.80 |
| 669.0 | 23.8 | 639.5 | 5.7 | 16.4 | 173.1 | 7.6 | 1928.5 | 998.3 | 1720.70 |
| 4.26 | 1.46 | 3.69 | 0.75 | 0.065 | 0.045 | 0.075 | 0.000 | 1718.60 | 9914.60 |
| 0.004264 | 490. | 491. | 490. | 4 | 0 | 0 | 0.00 | 110.44 | 10037.08 |

*SECNO 9.588

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.57

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.588 | 2.76 | 1725.46 | 0.00 | 0.00 | 1726.12 | 0.67 | 4.20 | 0.14 | 1728.20 |
| 669.0 | 0.0 | 658.4 | 10.6 | 0.0 | 99.6 | 5.0 | 1930.4 | 999.3 | 1728.60 |
| 4.28 | 0.00 | 6.61 | 2.10 | 0.000 | 0.038 | 0.065 | 0.000 | 1722.70 | 9953.35 |
| 0.013155 | 50. | 570. | 540. | 7 | 0 | 0 | 0.00 | 61.55 | 10061.53 |

*SECNO 9.677

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.677 | 3.33 | 1730.63 | 0.00 | 0.00 | 1730.91 | 0.27 | 4.74 | 0.04 | 1729.20 |
| 669.0 | 6.6 | 592.3 | 70.1 | 4.1 | 134.4 | 35.9 | 1931.9 | 1000.2 | 1729.30 |
| 4.31 | 1.62 | 4.41 | 1.95 | 0.065 | 0.054 | 0.065 | 0.000 | 1727.30 | 9958.38 |
| 0.008184 | 450. | 470. | 470. | 3 | 0 | 0 | 0.00 | 102.58 | 10060.96 |

```
 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 9.770

3265 DIVIDED FLOW

    9.770      3.12   1735.02      0.00      0.00   1735.21      0.19      4.30      0.01   1737.80
    669.0       0.0     328.9     340.1       0.0      75.8     141.2    1934.1    1001.8   1735.30
     4.35      0.00      4.34      2.41     0.000     0.045     0.065     0.000   1731.90   9987.62
 0.009339      480.      491.      490.         5         0         0      0.00    182.34  10196.78


1490 NH CARD USED
*SECNO 9.865
    9.865      2.22   1740.62      0.00      0.00   1740.92      0.31      5.68      0.03   1742.50
    669.0       0.0     669.0       0.0       0.0     150.8       0.0    1936.2    1003.6   1742.90
     4.38      0.00      4.44      0.00     0.000     0.040     0.000     0.000   1738.40   9909.94
 0.013652      490.      502.      470.         8         0         0      0.00    145.89  10055.83


1490 NH CARD USED
*SECNO 9.963

3265 DIVIDED FLOW


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

    9.963      3.05   1745.45      0.00      0.00   1745.60      0.15      4.66      0.02   1746.80
    669.0      67.7     601.3       0.0      34.0     186.8       0.0    1938.4    1005.3   1747.70
     4.43      1.99      3.22      0.00     0.072     0.052     0.000     0.000   1742.40   9464.35
 0.006785      465.      517.      480.         4         0         0      0.00    144.68  10020.74


1490 NH CARD USED
*SECNO 10.054

3265 DIVIDED FLOW

   10.054      2.38   1749.28      0.00      0.00   1749.54      0.27      3.91      0.04   1750.90
    669.0      96.9     437.9     134.2      47.9      98.2      31.5    1940.4    1006.7   1750.80
     4.46      2.02      4.46      4.26     0.095     0.045     0.038     0.000   1746.90   9629.54
 0.010328      370.      480.      380.         4         0         0      0.00    130.77  10295.49
```

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

1490 NH CARD USED
*SECNO 10.139

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.139 | 3.71 | 1754.21 | 1753.78 | 0.00 | 1754.63 | 0.42 | 5.04 | 0.05 | 1754.40 |
| 669.0 | 1.5 | 347.2 | 320.3 | 6.5 | 71.1 | 57.4 | 1942.0 | 1008.5 | 1754.80 |
| 4.48 | 0.22 | 4.88 | 5.58 | 0.105 | 0.045 | 0.045 | 0.000 | 1750.50 | 9608.30 |
| 0.012862 | 450. | 449. | 415. | 6 | 14 | 0 | 0.00 | 208.83 | 10170.54 |

1490 NH CARD USED
*SECNO 10.232

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.232 | 5.27 | 1759.17 | 0.00 | 0.00 | 1759.32 | 0.15 | 4.66 | 0.03 | 1758.80 |
| 669.0 | 129.6 | 533.9 | 5.6 | 111.4 | 156.8 | 5.4 | 1944.2 | 1012.3 | 1758.60 |
| 4.53 | 1.16 | 3.41 | 1.03 | 0.055 | 0.045 | 0.055 | 0.000 | 1753.90 | 9543.55 |
| 0.007675 | 450. | 491. | 480. | 4 | 0 | 0 | 0.00 | 519.52 | 10127.97 |

1490 NH CARD USED
*SECNO 10.320

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.320 | 5.24 | 1762.64 | 0.00 | 0.00 | 1762.74 | 0.10 | 3.42 | 0.00 | 1762.40 |
| 669.0 | 138.1 | 401.2 | 129.7 | 66.5 | 137.2 | 98.4 | 1947.3 | 1017.1 | 1762.70 |
| 4.58 | 2.08 | 2.92 | 1.32 | 0.057 | 0.060 | 0.058 | 0.000 | 1757.40 | 9676.50 |
| 0.007081 | 450. | 465. | 490. | 4 | 0 | 0 | 0.00 | 385.71 | 10339.67 |

1490 NH CARD USED
*SECNO 10.426

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 8986.8 10565.0 TYPE= 1 TARGET= 1578.200

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.426 | 5.02 | 1766.92 | 0.00 | 0.00 | 1767.06 | 0.13 | 4.30 | 0.01 | 1766.90 |
| 669.0 | 231.7 | 436.9 | 0.4 | 73.1 | 156.0 | 0.9 | 1950.5 | 1020.7 | 1768.50 |
| 4.63 | 3.17 | 2.80 | 0.42 | 0.060 | 0.060 | 0.055 | 0.000 | 1761.90 | 9641.87 |
| 0.009495 | 450. | 560. | 510. | 4 | 0 | 0 | 0.00 | 223.30 | 10123.65 |

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

*SECNO 10.516

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.516 | 4.05 | 1771.75 | 0.00 | 0.00 | 1771.97 | 0.21 | 4.89 | 0.02 | 1771.60 |
| 669.0 | 434.8 | 186.7 | 47.5 | 101.7 | 85.0 | 19.5 | 1952.9 | 1023.1 | 1772.40 |
| 4.67 | 4.27 | 2.20 | 2.43 | 0.055 | 0.060 | 0.055 | 0.000 | 1767.70 | 9812.82 |
| 0.011166 | 470. | 475. | 490. | 5 | 0 | 0 | 0.00 | 214.29 | 10213.75 |

*SECNO 10.620

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9347.0 10442.7 TYPE= 1 TARGET= 1095.700

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.620 | 4.27 | 1776.97 | 0.00 | 0.00 | 1777.06 | 0.09 | 5.08 | 0.01 | 1776.50 |
| 669.0 | 417.2 | 249.4 | 2.4 | 208.3 | 81.4 | 6.0 | 1956.0 | 1027.3 | 1777.10 |
| 4.73 | 2.00 | 3.06 | 0.40 | 0.065 | 0.072 | 0.055 | 0.000 | 1772.70 | 9580.83 |
| 0.007942 | 550. | 549. | 500. | 4 | 0 | 0 | 0.00 | 470.19 | 10287.36 |

*SECNO 10.710

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9150.2 10624.0 TYPE= 1 TARGET= 1473.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.710 | 4.63 | 1781.33 | 0.00 | 0.00 | 1781.47 | 0.14 | 4.39 | 0.01 | 1781.60 |
| 669.0 | 525.2 | 139.1 | 4.7 | 159.9 | 86.7 | 8.5 | 1958.8 | 1032.7 | 1781.30 |
| 4.78 | 3.28 | 1.60 | 0.55 | 0.055 | 0.060 | 0.055 | 0.000 | 1776.70 | 9351.25 |
| 0.012362 | 430. | 475. | 480. | 6 | 0 | 0 | 0.00 | 559.30 | 10118.74 |

1490 NH CARD USED
*SECNO 10.802

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9521.6 10760.0 TYPE= 1 TARGET= 1238.400

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.802 | 2.27 | 1785.57 | 0.00 | 0.00 | 1785.65 | 0.08 | 4.17 | 0.01 | 1784.70 |
| 669.0 | 448.3 | 131.3 | 89.4 | 180.2 | 67.8 | 78.9 | 1962.1 | 1038.2 | 1784.80 |
| 4.84 | 2.49 | 1.94 | 1.13 | 0.055 | 0.072 | 0.071 | 0.000 | 1783.30 | 9525.67 |
| 0.006374 | 500. | 486. | 480. | 4 | 0 | 0 | 0.00 | 427.26 | 10194.78 |

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

1490 NH CARD USED
*SECNO 10.891

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.69

3470 ENCROACHMENT STATIONS= 8994.4 10565.0 TYPE= 1 TARGET= 1570.600

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.891 | 2.31 | 1789.91 | 0.00 | 0.00 | 1789.99 | 0.08 | 4.34 | 0.00 | 1789.50 |
| 669.0 | 144.1 | 524.3 | 0.5 | 84.3 | 221.9 | 1.2 | 1965.5 | 1043.8 | 1789.80 |
| 4.90 | 1.71 | 2.36 | 0.45 | 0.055 | 0.066 | 0.055 | 0.000 | 1787.60 | 9324.47 |
| 0.013465 | 470. | 470. | 450. | 2 | 0 | 0 | 0.00 | 618.15 | 10147.01 |

*SECNO 10.982

3265 DIVIDED FLOW

3[illegible]ROSS SECTION 10.98 EXTENDED 0.35 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.982 | 2.75 | 1794.45 | 0.00 | 0.00 | 1794.49 | 0.04 | 4.50 | 0.00 | 1794.10 |
| 669.0 | 441.6 | 192.3 | 35.1 | 277.6 | 105.4 | 34.2 | 1969.4 | 1051.0 | 1793.70 |
| 4.98 | 1.59 | 1.82 | 1.03 | 0.055 | 0.075 | 0.065 | 0.000 | 1791.70 | 9170.10 |
| 0.007500 | 450. | 480. | 480. | 6 | 0 | 0 | 0.00 | 746.37 | 10117.93 |

1490 NH CARD USED
*SECNO 11.079

3470 ENCROACHMENT STATIONS= 9981.2 10378.0 TYPE= 1 TARGET= 396.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.079 | 5.73 | 1798.73 | 0.00 | 0.00 | 1798.83 | 0.10 | 4.32 | 0.02 | 1799.00 |
| 669.0 | 0.0 | 114.5 | 554.5 | 0.0 | 40.8 | 229.0 | 1972.8 | 1056.5 | 1798.40 |
| 5.02 | 0.00 | 2.81 | 2.42 | 0.000 | 0.062 | 0.056 | 0.000 | 1793.00 | 9983.62 |
| 0.013548 | 410. | 512. | 400. | 7 | 0 | 0 | 0.00 | 394.38 | 10378.00 |

1490 NH CARD USED
*SECNO 11.174

3265 DIVIDED FLOW

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


3470 ENCROACHMENT STATIONS=     9974.0   10462.7  TYPE=      1  TARGET=      488.700
   11.174      6.80   1804.00      0.00      0.00   1804.06      0.06      5.23      0.00   1803.90
    699.0       0.0     104.6     594.4       0.0      59.0     296.0    1976.4    1061.6   1804.10
     5.10      0.02      1.77      2.01     0.055     0.072     0.055     0.000   1797.20   9974.00
 0.008288      490.      502.      510.         2         0         0      0.00    476.15  10462.70


1490 NH CARD USED
*SECNO 11.264

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=     9970.8   10393.0  TYPE=      1  TARGET=      422.200
   11.264      6.28   1807.88      0.00      0.00   1808.03      0.15      3.94      0.03   1807.80
    709.0       0.0     448.3     260.7       0.0     123.1     151.5    1979.6    1065.4   1807.80
     5.14      0.00      3.64      1.72     0.000     0.072     0.065     0.000   1801.60   9970.80
 0.009305      450.      475.      430.         5         0         0      0.00    288.15  10347.13


1490 NH CARD USED
*SECNO 11.368

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.70


3470 ENCROACHMENT STATIONS=     9978.9   10537.0  TYPE=      1  TARGET=      558.100
   11.368      4.40   1813.00      0.00      0.00   1813.16      0.16      5.13      0.00   1811.90
   1922.0       0.0     527.1    1394.9       0.0     122.3     523.6    1985.4    1070.7   1811.90
     5.19      0.00      4.31      2.66     0.000     0.072     0.068     0.000   1808.60   9978.90
 0.009352      530.      549.      550.         5         0         0      0.00    549.79  10528.69


1490 NH CARD USED
*SECNO 11.469
   11.469      5.84   1817.04      0.00      0.00   1817.15      0.11      3.98      0.01   1815.40
   2162.0     226.0     292.3    1643.7      97.1      77.0     685.9    1994.6    1077.9   1815.00
     5.24      2.33      3.80      2.40     0.068     0.072     0.068     0.000   1811.20   9919.63
 0.006299      500.      533.      530.         5         0         0      0.00    629.83  10549.46
```

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

1490 NH CARD USED
*SECNO 11.570
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.68

3470 ENCROACHMENT STATIONS= 9912.0 10740.0 TYPE= 1 TARGET= 828.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.570 | 4.55 | 1822.05 | 0.00 | 0.00 | 1822.16 | 0.11 | 5.01 | 0.00 | 1821.50 |
| 2162.0 | 49.6 | 122.4 | 1990.0 | 30.3 | 31.2 | 775.5 | 2004.4 | 1086.1 | 1821.70 |
| 5.30 | 1.64 | 3.92 | 2.57 | 0.072 | 0.063 | 0.087 | 0.000 | 1817.50 | 9935.53 |
| 0.013608 | 510. | 533. | 500. | 6 | 0 | 0 | 0.00 | 804.47 | 10740.00 |

1490 NH CARD USED
*SECNO 11.666

3265 DIVIDED FLOW

3280 CROSS SECTION 11.67 EXTENDED 0.30 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.46

3470 ENCROACHMENT STATIONS= 9911.6 10841.9 TYPE= 1 TARGET= 930.301

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.666 | 2.10 | 1827.00 | 0.00 | 0.00 | 1827.09 | 0.09 | 4.92 | 0.00 | 1826.80 |
| 2371.0 | 0.6 | 172.5 | 2197.9 | 1.7 | 55.4 | 962.6 | 2015.0 | 1095.2 | 1827.00 |
| 5.36 | 0.35 | 3.12 | 2.28 | 0.082 | 0.045 | 0.077 | 0.000 | 1824.90 | 9951.87 |
| 0.007712 | 480. | 507. | 500. | 2 | 0 | 0 | 0.00 | 783.52 | 10841.90 |

1490 NH CARD USED
*SECNO 11.750
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9540.0 10661.0 TYPE= 1 TARGET= 1121.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.750 | 3.97 | 1830.87 | 0.00 | 0.00 | 1830.96 | 0.09 | 3.87 | 0.00 | 1830.40 |
| 2371.0 | 113.8 | 393.6 | 1863.6 | 73.5 | 95.6 | 945.1 | 2025.6 | 1103.1 | 1830.70 |
| 5.41 | 1.55 | 4.12 | 1.97 | 0.064 | 0.057 | 0.132 | 0.000 | 1826.90 | 9767.57 |
| 0.010405 | 450. | 444. | 430. | 5 | 0 | 0 | 0.00 | 798.45 | 10661.00 |

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

1490 NH CARD USED
*SECNO 11.847
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9828.5 10589.6 TYPE= 1 TARGET= 761.100

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.847 | 5.33 | 1835.03 | 0.00 | 0.00 | 1835.13 | 0.10 | 4.16 | 0.00 | 1838.90 |
| 2371.0 | 0.0 | 578.0 | 1793.0 | 0.0 | 145.2 | 955.5 | 2037.9 | 1110.4 | 1840.60 |
| 5.47 | 0.00 | 3.98 | 1.88 | 0.000 | 0.058 | 0.129 | 0.000 | 1829.70 | 9982.78 |
| 0.007258 | 490. | 512. | 480. | 3 | 0 | 0 | 0.00 | 514.30 | 10589.60 |

*SECNO 11.920

3470 ENCROACHMENT STATIONS= 9885.4 10907.4 TYPE= 1 TARGET= 1022.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.920 | 3.26 | 1837.26 | 0.00 | 0.00 | 1837.35 | 0.10 | 2.23 | 0.00 | 1836.70 |
| 2371.0 | 0.0 | 2363.5 | 7.5 | 0.0 | 948.4 | 13.9 | 2044.9 | 1114.3 | 1836.90 |
| 5.50 | 0.00 | 2.49 | 0.54 | 0.000 | 0.072 | 0.072 | 0.000 | 1834.00 | 9885.40 |
| 6893 | 240. | 385. | 200. | 3 | 0 | 0 | 0.00 | 617.85 | 10503.25 |

1490 NH CARD USED
*SECNO 12.010

3470 ENCROACHMENT STATIONS= 9589.5 10613.0 TYPE= 1 TARGET= 1023.500

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.010 | 3.40 | 1839.90 | 0.00 | 0.00 | 1840.00 | 0.10 | 2.65 | 0.00 | 1839.90 |
| 2371.0 | 0.0 | 2371.0 | 0.0 | 0.0 | 914.5 | 0.0 | 2055.2 | 1120.4 | 1840.20 |
| 5.55 | 0.00 | 2.59 | 0.00 | 0.000 | 0.056 | 0.000 | 0.000 | 1836.50 | 9621.57 |
| 0.004676 | 350. | 475. | 325. | 2 | 0 | 0 | 0.00 | 533.69 | 10155.26 |

1490 NH CARD USED
*SECNO 12.101

3265 DIVIDED FLOW

3280 CROSS SECTION 12.10 EXTENDED 0.19 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.15

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

3470 ENCROACHMENT STATIONS= 9685.2 10265.0 TYPE= 1 TARGET= 579.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.101 | 4.28 | 1844.18 | 0.00 | 0.00 | 1844.40 | 0.22 | 4.37 | 0.03 | 1845.50 |
| 849.0 | 805.4 | 43.6 | 0.0 | 209.1 | 26.0 | 0.0 | 2061.0 | 1124.5 | 1845.20 |
| 5.58 | 3.85 | 1.68 | 0.00 | 0.063 | 0.072 | 0.000 | 0.000 | 1839.90 | 9685.20 |
| 0.027514 | 280. | 480. | 300. | 5 | 0 | 0 | 0.00 | 309.50 | 10252.83 |

1490 NH CARD USED
*SECNO 12.191
3280 CROSS SECTION 12.19 EXTENDED 1.19 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.92

3470 ENCROACHMENT STATIONS= 9871.2 10271.6 TYPE= 1 TARGET= 400.399

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.191 | 6.20 | 1849.60 | 0.00 | 0.00 | 1849.67 | 0.07 | 5.25 | 0.01 | 1851.30 |
| 849.0 | 0.0 | 848.9 | 0.1 | 0.0 | 393.5 | 0.2 | 2064.3 | 1127.7 | 1849.20 |
| 5.64 | 0.00 | 2.16 | 0.75 | 0.000 | 0.071 | 0.055 | 0.000 | 1843.40 | 9947.55 |
| [illegible]474 | 415. | 475. | 430. | 10 | 0 | 0 | 0.00 | 301.60 | 10249.15 |

1490 NH CARD USED
*SECNO 12.281

3470 ENCROACHMENT STATIONS= 9901.5 10412.0 TYPE= 1 TARGET= 510.500

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.281 | 7.02 | 1853.32 | 0.00 | 0.00 | 1853.38 | 0.06 | 3.71 | 0.00 | 1854.50 |
| 979.0 | 0.0 | 979.0 | 0.0 | 0.0 | 492.4 | 0.1 | 2069.1 | 1131.8 | 1853.10 |
| 5.70 | 0.00 | 1.99 | 0.01 | 0.000 | 0.071 | 0.105 | 0.000 | 1846.30 | 9941.17 |
| 0.008155 | 460. | 475. | 450. | 7 | 0 | 0 | 0.00 | 452.22 | 10393.40 |

1490 NH CARD USED
*SECNO 12.369
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3265 DIVIDED FLOW

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

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

3470 ENCROACHMENT STATIONS= 9748.8 11002.0 TYPE= 1 TARGET= 1253.200

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.369 | 7.73 | 1857.63 | 0.00 | 0.00 | 1857.73 | 0.10 | 4.34 | 0.01 | 1859.00 |
| 1812.0 | 0.0 | 1139.9 | 672.1 | 0.0 | 421.3 | 309.5 | 2076.1 | 1138.5 | 1857.70 |
| 5.76 | 0.00 | 2.71 | 2.17 | 0.000 | 0.064 | 0.065 | 0.000 | 1849.90 | 9767.23 |
| 0.009689 | 430. | 465. | 590. | 6 | 0 | 0 | 0.00 | 700.12 | 10730.70 |

1490 NH CARD USED
*SECNO 12.464

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9633.4 11400.0 TYPE= 1 TARGET= 1766.600

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.464 | 7.71 | 1862.21 | 0.00 | 0.00 | 1862.39 | 0.18 | 4.63 | 0.02 | 1862.50 |
| 1812.0 | 988.4 | 199.9 | 623.8 | 326.4 | 45.7 | 174.1 | 2083.3 | 1146.6 | 1863.10 |
| 5.80 | 3.03 | 4.37 | 3.58 | 0.055 | 0.038 | 0.047 | 0.000 | 1854.50 | 9633.40 |
| 0.009315 | 440. | 502. | 510. | 4 | 0 | 0 | 0.00 | 742.60 | 11078.16 |

1490 NH CARD USED
*SECNO 12.614

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9829.0 11450.0 TYPE= 1 TARGET= 1621.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.614 | 3.31 | 1869.31 | 0.00 | 0.00 | 1869.51 | 0.20 | 7.12 | 0.01 | 1870.00 |
| 2371.0 | 0.0 | 289.7 | 2081.3 | 0.0 | 74.3 | 584.6 | 2091.4 | 1156.8 | 1870.00 |
| 5.84 | 0.00 | 3.90 | 3.56 | 0.000 | 0.042 | 0.056 | 0.000 | 1866.00 | 9927.33 |
| 0.014874 | 615. | 781. | 540. | 5 | 0 | 0 | 0.00 | 794.88 | 11372.87 |

1490 NH CARD USED
*SECNO 12.692

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9972.0 11477.0 TYPE= 1 TARGET= 1505.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.692 | 4.79 | 1874.79 | 0.00 | 0.00 | 1875.11 | 0.32 | 5.56 | 0.04 | 1874.50 |
| 2371.0 | 0.0 | 1455.4 | 915.6 | 0.0 | 264.0 | 382.7 | 2098.3 | 1165.2 | 1876.00 |
| 5.87 | 0.00 | 5.51 | 2.39 | 0.000 | 0.041 | 0.055 | 0.000 | 1870.00 | 9972.00 |
| 0.010477 | 430. | 405. | 480. | 4 | 0 | 0 | 0.00 | 759.94 | 11357.38 |

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

1490 NH CARD USED
*SECNO 12.752

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.752 | 4.54 | 1878.04 | 0.00 | 0.00 | 1878.39 | 0.35 | 3.28 | 0.01 | 1876.90 |
| 2371.0 | 493.7 | 1125.1 | 752.2 | 118.7 | 199.5 | 209.0 | 2102.4 | 1169.5 | 1878.20 |
| 5.89 | 4.16 | 5.64 | 3.60 | 0.055 | 0.045 | 0.046 | 0.000 | 1873.50 | 9890.14 |
| 0.010775 | 290. | 317. | 300. | 4 | 0 | 0 | 0.00 | 491.23 | 10974.93 |

1490 NH CARD USED
*SECNO 12.849

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.849 | 4.90 | 1882.60 | 1882.47 | 0.00 | 1883.20 | 0.60 | 4.73 | 0.07 | 1881.80 |
| 2371.0 | 11.4 | 1242.3 | 1117.3 | 9.5 | 162.6 | 274.1 | 2108.1 | 1174.6 | 1882.70 |
| 5.92 | 1.20 | 7.64 | 4.08 | 0.060 | 0.038 | 0.042 | 0.000 | 1877.70 | 9949.91 |
| 0.007973 | 520. | 512. | 520. | 7 | 8 | 0 | 0.00 | 371.53 | 10730.47 |

1490 NH CARD USED
*SECNO 12.942
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9459.0 10399.6 TYPE= 1 TARGET= 940.600

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.942 | 3.26 | 1887.66 | 0.00 | 0.00 | 1888.10 | 0.44 | 4.89 | 0.02 | 1887.20 |
| 2371.0 | 172.0 | 1554.8 | 644.2 | 84.9 | 253.6 | 180.6 | 2113.4 | 1179.3 | 1888.60 |
| 5.94 | 2.03 | 6.13 | 3.57 | 0.070 | 0.037 | 0.055 | 0.000 | 1884.40 | 9788.59 |
| 0.012468 | 470. | 491. | 460. | 6 | 0 | 0 | 0.00 | 490.08 | 10399.60 |

1490 NH CARD USED
*SECNO 13.025

3470 ENCROACHMENT STATIONS= 9596.0 10117.0 TYPE= 1 TARGET= 521.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13.025 | 3.91 | 1892.91 | 0.00 | 0.00 | 1893.69 | 0.78 | 5.48 | 0.10 | 1892.40 |
| 2371.0 | 591.6 | 1779.4 | 0.0 | 153.8 | 226.5 | 0.0 | 2117.8 | 1182.6 | 1894.40 |
| 5.96 | 3.85 | 7.86 | 0.00 | 0.070 | 0.038 | 0.000 | 0.000 | 1889.00 | 9833.96 |
| 0.013049 | 360. | 438. | 470. | 4 | 0 | 0 | 0.00 | 193.15 | 10027.11 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [illegible]CNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | L-BANK ELEV |
| [illegible] | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | 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 13.127

3470 ENCROACHMENT STATIONS= 9900.0 10402.0 TYPE= 1 TARGET= 502.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13.127 | 3.24 | 1898.44 | 0.00 | 0.00 | 1898.77 | 0.34 | 5.04 | 0.04 | 1898.80 |
| 2371.0 | 0.0 | 1550.1 | 820.9 | 0.0 | 284.3 | 323.3 | 2123.4 | 1186.0 | 1897.40 |
| 5.99 | 0.00 | 5.45 | 2.54 | 0.000 | 0.045 | 0.055 | 0.000 | 1895.20 | 9968.67 |
| 0.007866 | 460. | 539. | 450. | 5 | 0 | 0 | 0.00 | 425.51 | 10394.18 |

*SECNO 13.221

3470 ENCROACHMENT STATIONS= 9582.0 10370.0 TYPE= 1 TARGET= 788.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13.221 | 4.49 | 1903.39 | 0.00 | 0.00 | 1903.97 | 0.58 | 5.13 | 0.07 | 1905.80 |
| 2371.0 | 0.0 | 2352.9 | 18.1 | 0.0 | 384.4 | 17.0 | 2129.1 | 1189.8 | 1903.00 |
| 6.01 | 0.00 | 6.12 | 1.07 | 0.000 | 0.050 | 0.055 | 0.000 | 1898.90 | 9974.37 |
| 0.013633 | 480. | 496. | 490. | 3 | 0 | 0 | 0.00 | 248.64 | 10223.01 |

1490 NH CARD USED
*SECNO 13.325
15[illegible]ANNINGS N VALUES FOR CHANNEL COMPOSITED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13.325 | 4.15 | 1908.55 | 0.00 | 0.00 | 1909.11 | 0.56 | 5.13 | 0.00 | 1907.10 |
| 2371.0 | 146.4 | 2187.4 | 37.2 | 81.2 | 351.4 | 17.5 | 2134.4 | 1192.7 | 1905.60 |
| 6.04 | 1.80 | 6.22 | 2.13 | 0.065 | 0.044 | 0.075 | 0.000 | 1904.40 | 9868.60 |
| 0.007160 | 500. | 549. | 500. | 4 | 0 | 0 | 0.00 | 223.27 | 10091.87 |

1490 NH CARD USED
*SECNO 13.419

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 1914.80 ELREA= 1914.00

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13.419 | 3.84 | 1913.44 | 0.00 | 0.00 | 1914.15 | 0.71 | 5.00 | 0.04 | 1914.80 |
| 2371.0 | 0.0 | 2371.0 | 0.0 | 0.0 | 351.2 | 0.0 | 2139.0 | 1194.9 | 1914.00 |
| 6.06 | 0.00 | 6.75 | 0.00 | 0.000 | 0.040 | 0.000 | 0.000 | 1909.60 | 9900.45 |
| 0.012988 | 490. | 496. | 560. | 4 | 0 | 0 | 0.00 | 172.60 | 10073.05 |

*SECNO 13.499

3301 HV CHANGED MORE THAN HVINS

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

3470 ENCROACHMENT STATIONS= 9960.2 10038.0 TYPE= 1 TARGET= 77.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13.499 | 4.12 | 1918.92 | 0.00 | 0.00 | 1920.34 | 1.43 | 5.98 | 0.22 | 1915.70 |
| 2371.0 | 390.9 | 1980.1 | 0.0 | 84.7 | 192.5 | 0.0 | 2142.0 | 1196.1 | 100000.00 |
| 6.07 | 4.62 | 10.28 | 0.00 | 0.082 | 0.042 | 0.000 | 0.000 | 1914.80 | 9960.20 |
| 0.015711 | 380. | 422. | 480. | 4 | 0 | 0 | 0.00 | 77.80 | 10038.00 |

```
T1 [illegible]od Control District of Maricopa County.  S. Story/Project Manager
T2 [illegible]2 Model for Iona Wash FIS.  By CH2M Hill.  PHX34747.FF    1993   Fuller
T3      Iona Wash FIS - FCDMC 93  IONA-EN.HC2

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

                3                                                         1461.98

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     2                  -1
```

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

*PROF 2

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CCHV= 0.100 CEHV= 0.300
1490 NH CARD USED
*SECNO 0.640
3280 CROSS SECTION 0.64 EXTENDED 0.58 FEET

3470 ENCROACHMENT STATIONS= 9643.5 10098.5 TYPE= 1 TARGET= 455.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.640 | 3.88 | 1461.98 | 0.00 | 1460.98 | 1462.24 | 0.26 | 0.00 | 0.00 | 1459.10 |
| 5001.0 | 2268.0 | 1960.7 | 772.3 | 612.4 | 437.0 | 195.7 | 0.0 | 0.0 | 1459.30 |
| 0.00 | 3.70 | 4.49 | 3.95 | 0.082 | 0.082 | 0.082 | 0.000 | 1458.10 | 9643.50 |
| 0.012651 | 490. | 502. | 450. | 0 | 0 | 0 | 0.00 | 455.00 | 10098.50 |

1490 NH CARD USED
*SECNO 0.734
3280 CROSS SECTION 0.73 EXTENDED 1.11 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.53

3470 ENCROACHMENT STATIONS= 9620.0 10175.0 TYPE= 1 TARGET= 555.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.734 | 4.61 | 1465.41 | 0.00 | 1464.87 | 1465.54 | 0.13 | 3.29 | 0.01 | 1462.40 |
| 5001.0 | 3296.8 | 1440.5 | 263.7 | 1141.8 | 491.6 | 91.4 | 14.7 | 5.0 | 1463.40 |
| 0.04 | 2.89 | 2.93 | 2.88 | 0.082 | 0.082 | 0.055 | 0.000 | 1460.80 | 9620.00 |
| 0.005387 | 380. | 496. | 530. | 3 | 0 | 0 | 0.00 | 555.00 | 10175.00 |

1490 NH CARD USED
*SECNO 0.819
3280 CROSS SECTION 0.82 EXTENDED 1.32 FEET

3470 ENCROACHMENT STATIONS= 9557.0 10133.0 TYPE= 1 TARGET= 576.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.819 | 4.62 | 1467.72 | 0.00 | 1467.22 | 1467.86 | 0.14 | 2.32 | 0.00 | 1465.00 |
| 5001.0 | 2666.7 | 1850.8 | 483.5 | 934.6 | 630.8 | 132.8 | 31.7 | 10.6 | 1465.30 |
| 0.08 | 2.85 | 2.93 | 3.64 | 0.075 | 0.082 | 0.055 | 0.000 | 1463.10 | 9557.00 |
| 0.005348 | 420. | 449. | 460. | 3 | 0 | 0 | 0.00 | 576.00 | 10133.00 |

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


1490 NH CARD USED
*SECNO 0.912
3280 CROSS SECTION      0.91 EXTENDED      1.53 FEET


3470 ENCROACHMENT STATIONS=     9657.0   10073.3  TYPE=      1  TARGET=      416.300
     0.912      5.63   1470.43      0.00   1469.65   1470.64      0.21      2.76      0.02   1467.30
    5001.0    2245.6    2631.8     123.7     617.1     702.9      31.0      47.4      15.7   1467.30
      0.12      3.64      3.74      3.99     0.068     0.079     0.055     0.000   1464.80   9657.00
  0.006975      410.      491.      500.         2         0         0      0.00    416.30  10073.30


1490 NH CARD USED
*SECNO 0.999
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED
3280 CROSS SECTION      1.00 EXTENDED      1.59 FEET


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


3470 ENCROACHMENT STATIONS=     9880.0   10271.0  TYPE=      1  TARGET=      391.000
     0.999      5.29   1472.59      0.00   1471.74   1472.80      0.20      2.15      0.00   1469.20
    5001.0     457.4    4543.6       0.0     172.1    1231.1       0.0      61.9      19.9 100000.00
      0.15      2.66      3.69      0.00     0.075     0.056     0.000     0.000   1467.30   9880.00
  0.003534      460.      459.      430.         1         0         0      0.00    391.00  10271.00


1490 NH CARD USED
*SECNO 1.101
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS=     9630.9   10134.0  TYPE=      1  TARGET=      503.100
     1.101      4.85   1474.95      0.00   1473.94   1475.10      0.15      2.30      0.01 100000.00
    5001.0       0.0    5001.0       0.0       0.0    1624.0       0.0      80.2      25.3 100000.00
      0.20      0.00      3.08      0.00     0.000     0.075     0.000     0.000   1470.10   9630.90
  0.005158      310.      539.      630.         2         0         0      0.00    503.10  10134.00


1490 NH CARD USED
*SECNO 1.189

3470 ENCROACHMENT STATIONS=     9651.5   10111.1  TYPE=      1  TARGET=      459.600
```

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


   1.189      5.10   1477.30      0.00   1476.33   1477.48      0.18      2.38      0.01   1474.60
  5001.0    1155.8    3405.0     440.1     340.9    1001.7     126.7      96.3      30.3   1475.20
    0.24      3.39      3.40      3.48     0.064     0.073     0.055     0.000   1472.20   9651.50
0.005350      350.      465.      480.         3         0         0      0.00    459.60  10111.10


1490 NH CARD USED
*SECNO 1.285

3470 ENCROACHMENT STATIONS=     9645.2   10093.3  TYPE=      1  TARGET=      448.100
   1.285      5.13   1479.83      0.00   1478.80   1479.97      0.14      2.48      0.00   1476.80
  5001.0    1581.7    2872.0     547.3     531.8     951.7     201.0     114.3      35.5   1476.30
    0.28      2.97      3.02      2.72     0.082     0.082     0.082     0.000   1474.70   9645.20
0.004675      470.      507.      510.         1         0         0      0.00    448.10  10093.30


1490 NH CARD USED
*SECNO 1.386

3470 ENCROACHMENT STATIONS=     9660.1   10135.5  TYPE=      1  TARGET=      475.400
   1.386      4.24   1482.34      0.00   1481.30   1482.49      0.14      2.52      0.00   1479.30
  5001.0    3249.0     979.5     772.5    1039.2     330.7     274.9     133.4      40.8   1479.30
    0.33      3.13      2.96      2.81     0.082     0.082     0.082     0.000   1478.10   9660.10
0.005404      470.      533.      510.         1         0         0      0.00    475.40  10135.50


1490 NH CARD USED
*SECNO 1.480

3470 ENCROACHMENT STATIONS=     9775.1   10178.0  TYPE=      1  TARGET=      402.900
   1.480      5.19   1484.69      0.00   1483.69   1484.87      0.18      2.37      0.01   1481.10
  5001.0    1298.6    3672.1      30.4     329.8    1157.2      15.6     150.6      45.6   1480.80
    0.37      3.94      3.17      1.94     0.064     0.076     0.082     0.000   1479.50   9775.10
0.004645      460.      496.      440.         1         0         0      0.00    402.90  10178.00


1490 NH CARD USED
*SECNO 1.578
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS=     9800.1   10210.0  TYPE=      1  TARGET=      409.900
   1.578      4.64   1487.04      0.00   1486.08   1487.26      0.21      2.37      0.01   1484.40
  5001.0    1798.9    3202.1       0.0     557.7     809.3       0.0     168.3      50.6 100000.00
    0.41      3.23      3.96      0.00     0.064     0.055     0.000     0.000   1482.40   9800.10
0.004178      590.      517.      480.         2         0         0      0.00    409.90  10210.00
```

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


1490 NH CARD USED
*SECNO 1.670

3470 ENCROACHMENT STATIONS=     9923.4   10299.0  TYPE=      1  TARGET=      375.600
     1.670      4.73   1489.83      0.00   1488.96   1490.13      0.29      2.85      0.02   1487.10
    5001.0     636.7    4133.2     231.1     186.3     917.4      59.0     182.8      55.1   1487.70
      0.44      3.42      4.51      3.92     0.080     0.063     0.055     0.000   1485.10   9923.40
  0.007869      530.      486.      465.         4         0         0      0.00    375.60  10299.00


1490 NH CARD USED
*SECNO 1.764

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.52


3470 ENCROACHMENT STATIONS=     9873.3   10309.0  TYPE=      1  TARGET=      435.700
     1.764      5.30   1492.30      0.00   1491.30   1492.47      0.17      2.33      0.01   1489.60
    5001.0     750.2    1909.0    2341.7     224.4     480.0     877.2     198.1      59.7   1489.10
      0.48      3.34      3.98      2.67     0.055     0.055     0.076     0.000   1487.00   9873.30
     3424      490.      496.      470.         2         0         0      0.00    435.70  10309.00


*SECNO 1.866

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  0.68


3470 ENCROACHMENT STATIONS=     9824.2   10191.8  TYPE=      1  TARGET=      367.600
     1.866      4.92   1494.82      0.00   1493.85   1495.13      0.30      2.62      0.04   1491.40
    5001.0     309.4    3088.8    1602.8      65.9     716.4     350.2     214.2      64.4   1492.10
      0.51      4.69      4.31      4.58     0.055     0.065     0.055     0.000   1489.90   9824.20
  0.007477      520.      539.      490.         1         0         0      0.00    367.60  10191.80


1490 NH CARD USED
*SECNO 1.967
3280 CROSS SECTION      1.97 EXTENDED      0.13 FEET


3470 ENCROACHMENT STATIONS=     9752.5   10264.4  TYPE=      1  TARGET=      511.900
     1.967      5.23   1497.83      0.00   1496.87   1498.03      0.20      2.89      0.01   1496.00
    5001.0    2054.7     800.1    2146.1     561.9     263.8     576.2     228.4      69.3   1496.30
      0.55      3.66      3.03      3.72     0.055     0.068     0.055     0.000   1492.60   9752.50
  0.004895      650.      533.      340.         3         0         0      0.00    511.90  10264.40
```

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

1490 NH CARD USED
*SECNO 2.064
3280 CROSS SECTION 2.06 EXTENDED 0.55 FEET

3470 ENCROACHMENT STATIONS= 9488.0 10093.3 TYPE= 1 TARGET= 605.300

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.064 | 4.65 | 1499.75 | 0.00 | 1498.73 | 1499.90 | 0.15 | 1.87 | 0.01 | 1497.40 |
| 5001.0 | 3942.0 | 988.3 | 70.7 | 1240.5 | 348.0 | 32.7 | 244.1 | 75.1 | 1497.90 |
| 0.59 | 3.18 | 2.84 | 2.16 | 0.055 | 0.061 | 0.055 | 0.000 | 1495.10 | 9488.00 |
| 0.003628 | 420. | 512. | 475. | 3 | 0 | 0 | 0.00 | 605.30 | 10093.30 |

1490 NH CARD USED
*SECNO 2.159
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.69

3470 ENCROACHMENT STATIONS= 9549.4 10014.0 TYPE= 1 TARGET= 464.600

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .159 | 4.55 | 1502.05 | 0.00 | 1501.08 | 1502.33 | 0.28 | 2.39 | 0.04 | 1500.10 |
| 5001.0 | 4646.9 | 354.1 | 0.0 | 1074.0 | 111.7 | 0.0 | 258.9 | 80.7 | 100000.00 |
| 0.62 | 4.33 | 3.17 | 0.00 | 0.055 | 0.093 | 0.000 | 0.000 | 1497.50 | 9549.40 |
| 0.007539 | 450. | 502. | 530. | 2 | 0 | 0 | 0.00 | 464.60 | 10014.00 |

1490 NH CARD USED
*SECNO 2.251
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9462.1 10024.3 TYPE= 1 TARGET= 562.200

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.251 | 4.54 | 1504.54 | 0.00 | 1503.49 | 1504.74 | 0.20 | 2.39 | 0.01 | 1503.00 |
| 5001.0 | 4558.6 | 442.4 | 0.0 | 1247.7 | 180.0 | 0.0 | 270.3 | 85.2 | 100000.00 |
| 0.65 | 3.65 | 2.46 | 0.00 | 0.055 | 0.095 | 0.000 | 0.000 | 1500.00 | 9462.10 |
| 0.005422 | 370. | 486. | 510. | 2 | 0 | 0 | 0.00 | 562.20 | 10024.30 |

1490 NH CARD USED
*SECNO 2.346
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9508.4 10043.0 TYPE= 1 TARGET= 534.600

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.346 | 4.41 | 1507.11 | 0.00 | 1506.11 | 1507.38 | 0.26 | 2.62 | 0.02 | 1505.70 |
| 5001.0 | 4570.7 | 430.3 | 0.0 | 1074.8 | 173.3 | 0.0 | 283.0 | 90.4 | 100000.00 |
| 0.68 | 4.25 | 2.48 | 0.00 | 0.055 | 0.105 | 0.000 | 0.000 | 1502.70 | 9508.40 |
| 0.007582 | 400. | 502. | 530. | 3 | 0 | 0 | 0.00 | 534.60 | 10043.00 |

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

1490 NH CARD USED
*SECNO 2.442

3470 ENCROACHMENT STATIONS= 9585.1 10146.6 TYPE= 1 TARGET= 561.500

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.442 | 4.79 | 1510.19 | 0.00 | 1509.18 | 1510.39 | 0.21 | 3.01 | 0.01 | 1508.00 |
| 5001.0 | 2757.7 | 947.0 | 1296.3 | 792.6 | 244.4 | 340.5 | 297.4 | 96.4 | 1507.50 |
| 0.72 | 3.48 | 3.87 | 3.81 | 0.055 | 0.060 | 0.055 | 0.000 | 1505.40 | 9585.10 |
| 0.005442 | 460. | 507. | 525. | 2 | 0 | 0 | 0.00 | 561.50 | 10146.60 |

1490 NH CARD USED
*SECNO 2.537
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9901.2 10516.5 TYPE= 1 TARGET= 615.300

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.537 | 5.27 | 1513.07 | 0.00 | 1512.07 | 1513.28 | 0.21 | 2.89 | 0.00 | 1510.70 |
| 5001.0 | 0.0 | 2698.6 | 2302.4 | 0.0 | 683.8 | 696.2 | 312.8 | 102.9 | 1510.70 |
| 0.75 | 0.00 | 3.95 | 3.31 | 0.000 | 0.064 | 0.055 | 0.000 | 1507.80 | 9901.20 |
| 0.006460 | 450. | 502. | 500. | 3 | 0 | 0 | 0.00 | 615.30 | 10516.50 |

1490 NH CARD USED
*SECNO 2.631

3470 ENCROACHMENT STATIONS= 9889.3 10535.0 TYPE= 1 TARGET= 645.700

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.631 | 5.72 | 1515.62 | 0.00 | 1514.64 | 1515.79 | 0.17 | 2.51 | 0.00 | 1513.10 |
| 5001.0 | 0.0 | 1944.8 | 3056.2 | 0.0 | 581.8 | 931.8 | 326.7 | 108.7 | 1514.30 |
| 0.79 | 0.00 | 3.34 | 3.28 | 0.000 | 0.070 | 0.055 | 0.000 | 1509.90 | 9889.30 |
| 0.005467 | 650. | 496. | 360. | 3 | 0 | 0 | 0.00 | 645.70 | 10535.00 |

1490 NH CARD USED
*SECNO 2.727

3470 ENCROACHMENT STATIONS= 9606.0 10088.0 TYPE= 1 TARGET= 482.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.727 | 6.18 | 1518.48 | 0.00 | 1517.64 | 1518.70 | 0.22 | 2.89 | 0.01 | 1516.20 |
| 5001.0 | 2461.1 | 2160.4 | 379.5 | 618.1 | 617.2 | 106.4 | 342.3 | 114.8 | 1516.30 |
| 0.82 | 3.98 | 3.50 | 3.57 | 0.055 | 0.079 | 0.055 | 0.000 | 1512.30 | 9606.00 |
| 0.006729 | 535. | 507. | 400. | 1 | 0 | 0 | 0.00 | 482.00 | 10088.00 |

1490 NH CARD USED

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


*SECNO 2.827
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS=     9574.9   10127.0  TYPE=      1  TARGET=      552.100
     2.827      5.84   1521.54      0.00   1520.56   1521.74      0.20      3.04      0.00   1519.30
    5001.0    2954.9    2046.1       0.0     743.5     675.1       0.0     356.1     119.7 100000.00
      0.86      3.97      3.03      0.00     0.055     0.095     0.000     0.000   1515.70   9574.90
  0.007527      340.      528.      560.         4         0         0      0.00    551.43  10126.33


1490 NH CARD USED
*SECNO 2.927
3280 CROSS SECTION      2.93 EXTENDED      0.69 FEET


3470 ENCROACHMENT STATIONS=     9516.5   10200.0  TYPE=      1  TARGET=      683.500
     2.927      4.59   1524.09      0.00   1523.04   1524.26      0.17      2.51      0.00   1522.50
    5001.0    3434.7    1298.2     268.1     990.3     440.0     102.4     370.7     125.7   1522.70
      0.89      3.47      2.95      2.62     0.056     0.067     0.055     0.000   1519.50   9516.50
  0.004905      360.      528.      600.         3         0         0      0.00    683.50  10200.00


1490 NH CARD USED
*SECNO 3.027
3280 CROSS SECTION      3.03 EXTENDED      0.91 FEET


3470 ENCROACHMENT STATIONS=     9596.4   10064.0  TYPE=      1  TARGET=      467.600
     3.027      4.91   1526.81      0.00   1525.96   1527.13      0.32      2.83      0.05   1524.40
    5001.0    3044.1    1934.9      22.0     817.1     343.3      10.7     386.6     132.5   1525.80
      0.92      3.73      5.64      2.06     0.055     0.048     0.055     0.000   1521.90   9596.40
  0.006185      510.      528.      430.         3         0         0      0.00    467.60  10064.00


1490 NH CARD USED
*SECNO 3.137
3280 CROSS SECTION      3.14 EXTENDED      0.40 FEET


3470 ENCROACHMENT STATIONS=     9780.1   10125.9  TYPE=      1  TARGET=      345.801
     3.137      4.69   1530.19      0.00   1529.16   1530.55      0.36      3.41      0.01   1528.30
    5001.0    1552.9    3071.2     376.9     413.5     572.5     104.8     401.6     137.8   1527.70
      0.96      3.76      5.36      3.60     0.055     0.053     0.055     0.000   1525.50   9780.10
  0.005634      580.      581.      525.         2         0         0      0.00    345.80  10125.90
```

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

*SECNO 3.224
3280 CROSS SECTION 3.22 EXTENDED 0.49 FEET

3470 ENCROACHMENT STATIONS= 9789.6 10135.0 TYPE= 1 TARGET= 345.400

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.224 | 8.09 | 1532.99 | 0.00 | 1531.99 | 1533.30 | 0.30 | 2.74 | 0.01 | 1530.70 |
| 5001.0 | 2407.4 | 1757.4 | 836.2 | 541.0 | 390.4 | 203.0 | 413.2 | 141.4 | 1530.10 |
| 0.99 | 4.45 | 4.50 | 4.12 | 0.055 | 0.072 | 0.055 | 0.000 | 1524.90 | 9789.60 |
| 0.006424 | 450. | 459. | 460. | 2 | 0 | 0 | 0.00 | 345.40 | 10135.00 |

*SECNO 3.321
3280 CROSS SECTION 3.32 EXTENDED 0.80 FEET

3470 ENCROACHMENT STATIONS= 9814.4 10130.2 TYPE= 1 TARGET= 315.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.321 | 8.89 | 1535.89 | 0.00 | 1534.89 | 1536.17 | 0.28 | 2.87 | 0.00 | 1532.70 |
| 5001.0 | 1906.8 | 1656.3 | 1437.9 | 458.7 | 379.9 | 344.3 | 426.9 | 145.3 | 1533.40 |
| 1.02 | 4.16 | 4.36 | 4.18 | 0.055 | 0.072 | 0.055 | 0.000 | 1527.00 | 9814.40 |
| 0.004966 | 510. | 512. | 520. | 2 | 0 | 0 | 0.00 | 315.80 | 10130.20 |

*SECNO 3.413

3470 ENCROACHMENT STATIONS= 9935.5 10139.1 TYPE= 1 TARGET= 203.600

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.413 | 9.74 | 1538.54 | 0.00 | 1537.60 | 1538.99 | 0.45 | 2.77 | 0.05 | 1534.80 |
| 5001.0 | 923.6 | 2301.7 | 1775.8 | 170.3 | 395.5 | 368.8 | 438.8 | 148.3 | 1534.80 |
| 1.05 | 5.42 | 5.82 | 4.81 | 0.055 | 0.072 | 0.055 | 0.000 | 1528.80 | 9935.50 |
| 0.006386 | 490. | 486. | 500. | 2 | 0 | 0 | 0.00 | 203.60 | 10139.10 |

1490 NH CARD USED
*SECNO 3.514
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9922.2 10192.2 TYPE= 1 TARGET= 270.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.514 | 10.22 | 1541.12 | 0.00 | 1540.10 | 1541.31 | 0.19 | 2.29 | 0.03 | 1537.00 |
| 5001.0 | 988.8 | 2277.2 | 1734.9 | 245.1 | 642.5 | 562.8 | 452.7 | 151.0 | 1536.90 |
| 1.09 | 4.03 | 3.54 | 3.08 | 0.055 | 0.086 | 0.081 | 0.000 | 1530.90 | 9922.20 |
| 0.003469 | 520. | 533. | 470. | 2 | 0 | 0 | 0.00 | 270.00 | 10192.20 |

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


*SECNO 3.617

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=     9945.7   10030.0  TYPE=      1  TARGET=      84.300
     3.617      9.02   1542.52      0.00   1541.67   1543.81      1.29      2.17      0.33   1538.60
    5001.0       8.2    4992.8       0.0       4.7     547.4       0.0     464.7     153.1 100000.00
      1.10      1.76      9.12      0.00     0.055     0.038     0.000     0.000   1533.50   9945.70
  0.004713      560.      544.      460.         3         0         0      0.00     84.30  10030.00


CCHV=    0.100 CEHV=    0.300
*SECNO 3.651
3280 CROSS SECTION      3.65 EXTENDED      0.56 FEET

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

3470 ENCROACHMENT STATIONS=     9751.0   10313.1  TYPE=      1  TARGET=     562.130
     3.651      8.56   1553.56   1553.56   1553.08   1554.69      1.13      0.10      0.10   1552.00
    5101.0     509.0    3937.7     654.3     351.0     406.1     450.8     468.3     154.4   1552.00
      1.11      1.45      9.70      1.45     0.033     0.013     0.033     0.000   1545.00   9751.00
  0.000579      180.      180.      180.        20        10         0      0.00    562.13  10313.13


*SECNO 3.670
3280 CROSS SECTION      3.67 EXTENDED      0.49 FEET

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

3470 ENCROACHMENT STATIONS=     9700.0   10370.0  TYPE=      1  TARGET=     670.000
     3.670      8.49   1553.99   1553.99   1553.56   1555.04      1.05      0.06      0.01   1552.50
    5101.0     567.9    3821.0     712.1     410.4     402.7     514.2     471.2     155.9   1552.50
      1.11      1.38      9.49      1.38     0.033     0.013     0.033     0.000   1545.50   9700.00
  0.000561      100.      100.      100.        20         6         0      0.00    670.00  10370.00


CCHV=    0.300 CEHV=    0.500
```

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


1490 NH CARD USED
*SECNO 3.713
3280 CROSS SECTION      3.71 EXTENDED      5.36 FEET


3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  5.06


3470 ENCROACHMENT STATIONS=     9224.0   10383.0  TYPE=      1  TARGET=     1159.000
     3.713     11.96   1555.36      0.00   1554.32   1555.37      0.00      0.01      0.32   1545.10
    5309.0    1423.5    3318.8     566.7    3333.7    6586.5    1893.6     507.1     160.8   1544.80
      1.25      0.43      0.50      0.30     0.080     0.072     0.092     0.000   1543.40   9224.00
  0.000024      290.      230.      180.         2         0         0      0.00   1159.00  10383.00


1490 NH CARD USED
*SECNO 3.821
1[illegible]ANNINGS N VALUES FOR CHANNEL COMPOSITED
3280 CROSS SECTION      3.82 EXTENDED      3.48 FEET


3470 ENCROACHMENT STATIONS=     9193.1   10243.5  TYPE=      1  TARGET=     1050.410
     3.821     11.38   1555.38      0.00   1554.33   1555.38      0.01      0.01      0.00   1547.10
    5309.0    3807.0     826.3     675.7    6673.9    1059.3    1437.6     623.5     172.9   1546.90
      1.48      0.57      0.78      0.47     0.065     0.054     0.083     0.000   1544.00   9193.10
  0.000036      390.      570.      565.         2         0         0      0.00   1050.41  10243.51


1490 NH CARD USED
*SECNO 3.917
3280 CROSS SECTION      3.92 EXTENDED      1.22 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  0.47


3470 ENCROACHMENT STATIONS=     9361.2   10046.8  TYPE=      1  TARGET=      685.550
     3.917      9.32   1555.42      0.00   1554.37   1555.44      0.02      0.05      0.01   1549.30
    5309.0    2697.5    2484.3     127.1    2360.7    1976.4     192.9     697.0     182.2   1549.10
      1.59      1.14      1.26      0.66     0.055     0.058     0.095     0.000   1546.10   9361.22
  0.000163      460.      507.      430.         2         0         0      0.00    685.55  10046.77
```

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


CCHV=    0.100 CEHV=    0.300
1490 NH CARD USED
*SECNO 4.010
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  0.41


3470 ENCROACHMENT STATIONS=     9603.8   10144.1  TYPE=      1  TARGET=      540.271
     4.010      7.40   1555.60      0.00   1554.59   1555.68      0.07      0.23      0.02   1551.00
    5309.0    3054.7    1821.3     433.0    1502.1     750.8     226.9     729.1     187.7   1552.10
      1.64      2.03      2.43      1.91     0.059     0.066     0.055     0.000   1548.20   9603.85
  0.000963      320.      491.      530.         2         0         0      0.00    540.27  10144.12


1490 NH CARD USED
*SECNO 4.119
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED
3280 CROSS SECTION      4.12 EXTENDED      0.12 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  0.38


3470 ENCROACHMENT STATIONS=     9815.8   10080.6  TYPE=      1  TARGET=      264.830
     4.119      7.62   1556.82      0.00   1555.84   1557.23      0.40      1.45      0.10   1553.90
    5309.0    1478.8    3454.1     376.2     322.8     637.8     105.3     752.2     192.9   1554.60
      1.67      4.58      5.42      3.57     0.055     0.073     0.055     0.000   1549.20   9815.77
  0.006718      590.      576.      420.         3         0         0      0.00    264.83  10080.60


1490 NH CARD USED
*SECNO 4.214
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS=     9858.0   10072.3  TYPE=      1  TARGET=      214.399
     4.214      8.00   1559.80      0.00   1558.79   1560.23      0.43      2.99      0.01   1557.90
    5309.0     223.9    4650.0     435.1      71.0     857.8     110.5     764.2     195.6   1556.80
      1.70      3.15      5.42      3.94     0.055     0.066     0.055     0.000   1551.80   9857.95
  0.005446      470.      502.      510.         3         0         0      0.00    214.40  10072.35
```

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


1490 NH CARD USED
*SECNO 4.306
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS=     9903.9   10104.3  TYPE=      1  TARGET=      200.410
     4.306      8.94   1562.54      0.00   1561.57   1563.21      0.67      2.91      0.07   1560.10
    5309.0     571.0    4417.7     320.3     203.3     624.5      89.5     775.2     197.9   1561.00
      1.72      2.81      7.07      3.58     0.085     0.061     0.055     0.000   1553.60   9903.87
  0.006553      510.      486.      480.         2         0         0      0.00    200.41  10104.28


1490 NH CARD USED
*SECNO 4.403
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS=     9825.0   10030.0  TYPE=      1  TARGET=      205.000
     4.403     10.25   1565.55      0.00   1564.54   1565.95      0.40      2.71      0.03   1563.00
    5309.0    1660.7    3644.2       4.1     388.8     676.5       3.7     786.7     200.3   1561.90
      1.75      4.27      5.39      1.13     0.055     0.068     0.075     0.000   1555.30   9825.00
  0.004494      490.      512.      530.         1         0         0      0.00    205.00  10030.00


1490 NH CARD USED
*SECNO 4.497
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS=     9969.7   10111.2  TYPE=      1  TARGET=      141.540
     4.497     11.96   1567.86      0.00   1566.94   1568.59      0.74      2.55      0.10   1564.30
    5320.0       0.0    3826.6    1493.4       0.0     507.9     308.4     797.5     202.2   1563.70
      1.77      0.00      7.53      4.84     0.000     0.060     0.055     0.000   1555.90   9969.70
  0.005873      490.      496.      500.         2         0         0      0.00    141.54  10111.24


1490 NH CARD USED
*SECNO 4.596
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

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


3470 ENCROACHMENT STATIONS=     9905.0   10051.0  TYPE=      1  TARGET=      146.000
     4.596     11.29   1570.29      0.00   1569.28   1570.69      0.39      2.06      0.03   1566.30
    5320.0     133.8    5068.5     117.7      44.0     993.4      39.9     808.7     203.9   1566.40
      1.80      3.04      5.10      2.95     0.055     0.063     0.055     0.000   1559.00   9905.00
  0.002987      510.      523.      500.         2         0         0      0.00    146.00  10051.00
```

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


1490 NH CARD USED
*SECNO 4.694
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS=     9969.0   10080.0  TYPE=      1  TARGET=      111.000
     4.694     12.38   1572.18      0.00   1571.52   1572.92      0.74      2.13      0.10   1569.00
    5320.0       1.3    5313.9       4.8       1.3     769.1       2.8     819.7     205.4   1569.30
      1.82      1.02      6.91      1.67     0.055     0.058     0.055     0.000   1559.80   9969.00
  0.005676      490.      517.      510.         2         0         0      0.00    111.00  10080.00


1490 NH CARD USED
*SECNO 4.789
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS=     9926.8   10042.0  TYPE=      1  TARGET=      115.200
     4.789     13.47   1575.07      0.00   1574.50   1575.55      0.49      2.61      0.03   1573.80
    5320.0       0.0    5320.0       0.0       0.0     950.6       0.0     829.6     206.7 100000.00
      1.84      0.00      5.60      0.00     0.000     0.072     0.000     0.000   1561.60   9926.80
  0.004800      500.      502.      510.         2         0         0      0.00    115.20  10042.00


1490 NH CARD USED
*SECNO 4.893
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  0.69


3470 ENCROACHMENT STATIONS=     9931.2   10047.5  TYPE=      1  TARGET=      116.300
     4.893      8.66   1578.86      0.00   1578.41   1579.79      0.93      4.10      0.13   1577.50
    5320.0       0.0    5320.0       0.0       0.0     688.0       0.0     840.0     208.2 100000.00
      1.86      0.00      7.73      0.00     0.000     0.062     0.000     0.000   1570.20   9931.20
  0.010150      390.      549.      620.         3         0         0      0.00    116.30  10047.50


1490 NH CARD USED
*SECNO 4.988
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED
3280 CROSS SECTION      4.99 EXTENDED      0.08 FEET


3470 ENCROACHMENT STATIONS=     9893.5   10043.0  TYPE=      1  TARGET=      149.500
```

| CNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | L-BANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | R-BANK ELEV |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |
| 4.988 | 9.78 | 1583.18 | 0.00 | 1582.77 | 1583.68 | 0.50 | 3.85 | 0.04 | 1581.00 |
| 5320.0 | 0.0 | 5320.0 | 0.0 | 0.0 | 935.9 | 0.0 | 849.3 | 209.7 | 100000.00 |
| 1.89 | 0.00 | 5.68 | 0.00 | 0.000 | 0.068 | 0.000 | 0.000 | 1573.40 | 9893.50 |
| 0.006159 | 500. | 502. | 505. | 2 | 0 | 0 | 0.00 | 149.50 | 10043.00 |

1490 NH CARD USED
*SECNO 5.095
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED
3280 CROSS SECTION 5.09 EXTENDED 1.24 FEET

3470 ENCROACHMENT STATIONS= 9965.6 10084.0 TYPE= 1 TARGET= 118.400

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.095 | 10.53 | 1586.43 | 0.00 | 1585.76 | 1586.96 | 0.53 | 3.28 | 0.01 | 1584.80 |
| 5320.0 | 0.0 | 5320.0 | 0.0 | 0.0 | 910.8 | 0.0 | 861.3 | 211.5 | 100000.00 |
| 1.92 | 0.00 | 5.84 | 0.00 | 0.000 | 0.070 | 0.000 | 0.000 | 1575.90 | 9965.60 |
| 0.005474 | 570. | 565. | 560. | 3 | 0 | 0 | 0.00 | 118.40 | 10084.00 |

1490 NH CARD USED
*S 5.189

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

3470 ENCROACHMENT STATIONS= 9957.0 10163.1 TYPE= 1 TARGET= 206.100

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.189 | 11.11 | 1588.51 | 0.00 | 1587.89 | 1588.79 | 0.27 | 1.80 | 0.03 | 1587.70 |
| 5320.0 | 0.3 | 5319.7 | 0.0 | 0.6 | 1266.9 | 0.0 | 873.7 | 213.3 | 1588.70 |
| 1.95 | 0.53 | 4.20 | 0.00 | 0.075 | 0.061 | 0.000 | 0.000 | 1577.40 | 9957.00 |
| 0.002705 | 490. | 496. | 500. | 3 | 0 | 0 | 0.00 | 205.72 | 10162.72 |

CCHV= 0.300 CEHV= 0.500
1490 NH CARD USED
*SECNO 5.287
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.29

3470 ENCROACHMENT STATIONS= 9601.8 10068.0 TYPE= 1 TARGET= 466.250

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.287 | 12.55 | 1593.15 | 0.00 | 1592.52 | 1593.68 | 0.53 | 4.77 | 0.13 | 1591.90 |
| 5330.0 | 1610.4 | 3719.6 | 0.0 | 450.1 | 565.7 | 0.0 | 887.0 | 217.1 | 100000.00 |
| 1.97 | 3.58 | 6.58 | 0.00 | 0.095 | 0.095 | 0.000 | 0.000 | 1580.60 | 9601.75 |
| 0.032289 | 470. | 517. | 540. | 4 | 0 | 0 | 0.00 | 466.25 | 10068.00 |

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

CCHV= 0.100 CEHV= 0.300
1490 NH CARD USED
*SECNO 5.386
3280 CROSS SECTION 5.39 EXTENDED 0.09 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.56

3470 ENCROACHMENT STATIONS= 9550.0 10035.0 TYPE= 1 TARGET= 485.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.386 | 16.19 | 1597.59 | 0.00 | 1596.56 | 1598.11 | 0.52 | 4.43 | 0.00 | 1595.00 |
| 5330.0 | 1988.1 | 3100.3 | 241.6 | 904.6 | 424.2 | 71.6 | 901.3 | 222.7 | 1593.90 |
| 2.00 | 2.20 | 7.31 | 3.37 | 0.080 | 0.058 | 0.065 | 0.000 | 1581.40 | 9550.00 |
| 0.004933 | 510. | 523. | 480. | 5 | 0 | 0 | 0.00 | 485.00 | 10035.00 |

1490 NH CARD USED
*SECNO 5.485
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9755.4 10079.0 TYPE= 1 TARGET= 323.640

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.485 | 13.32 | 1600.42 | 0.00 | 1599.65 | 1600.93 | 0.51 | 2.82 | 0.00 | 1599.40 |
| 5330.0 | 1225.1 | 4104.9 | 0.0 | 418.1 | 649.8 | 0.0 | 916.7 | 227.9 | 100000.00 |
| 2.03 | 2.93 | 6.32 | 0.00 | 0.060 | 0.055 | 0.000 | 0.000 | 1587.10 | 9755.36 |
| 0.005609 | 570. | 523. | 440. | 5 | 0 | 0 | 0.00 | 323.64 | 10079.00 |

1490 NH CARD USED
*SECNO 5.577

3470 ENCROACHMENT STATIONS= 9981.5 10113.5 TYPE= 1 TARGET= 132.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.577 | 10.62 | 1602.92 | 0.00 | 1602.02 | 1603.81 | 0.89 | 2.76 | 0.11 | 1601.60 |
| 5330.0 | 0.7 | 5328.0 | 1.3 | 0.7 | 703.5 | 1.1 | 926.2 | 230.2 | 1600.70 |
| 2.05 | 1.06 | 7.57 | 1.15 | 0.055 | 0.046 | 0.055 | 0.000 | 1592.30 | 9981.50 |
| 0.005986 | 400. | 486. | 570. | 2 | 0 | 0 | 0.00 | 132.00 | 10113.50 |

1490 NH CARD USED
*SECNO 5.668

3301 HV CHANGED MORE THAN HVINS

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


3470 ENCROACHMENT STATIONS=     9490.0   10230.0  TYPE=      1  TARGET=      740.000
     5.668      3.82   1606.02      0.00   1604.99   1606.16      0.14      2.28      0.07   1603.80
    5330.0    2670.1    2602.1      57.7     757.3    1062.9      33.7     939.2     234.6   1603.80
      2.09      3.53      2.45      1.72     0.055     0.072     0.090     0.000   1602.20   9490.00
  0.004439      345.      480.      545.         3         0         0      0.00    740.00  10230.00


1490 NH CARD USED
*SECNO 5.765

3470 ENCROACHMENT STATIONS=     9551.5   10242.0  TYPE=      1  TARGET=      690.500
     5.765      3.99   1608.79      0.00   1607.89   1609.01      0.22      2.83      0.02   1606.70
    5330.0    3032.7    2297.3       0.0     682.0     915.7       0.0     957.8     242.4 100000.00
      2.12      4.45      2.51      0.00     0.055     0.095     0.000     0.000   1604.80   9551.50
  0.008584      410.      512.      610.         2         0         0      0.00    690.50  10242.00


1490 NH CARD USED
*SECNO 5.858

3470 ENCROACHMENT STATIONS=     9835.0   10525.0  TYPE=      1  TARGET=      690.000
     5.858      4.27   1612.17      0.00   1611.13   1612.27      0.10      3.25      0.01   1610.30
    5330.0     123.2    5081.8     125.0      55.2    1975.5      56.4     977.6     249.8   1609.40
      2.17      2.23      2.57      2.21     0.080     0.095     0.095     0.000   1607.90   9835.00
  0.006060      380.      491.      490.         3         0         0      0.00    690.00  10525.00


1490 NH CARD USED
*SECNO 5.945
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED
3280 CROSS SECTION      5.95 EXTENDED      0.30 FEET


3470 ENCROACHMENT STATIONS=     9632.8   10678.4  TYPE=      1  TARGET=     1045.591
     5.945      3.09   1614.39      0.00   1613.65   1614.49      0.10      2.21      0.00   1613.40
    5340.0    1450.6    3889.4       0.0     636.5    1518.9       0.0    1000.1     258.9 100000.00
      2.22      2.28      2.56      0.00     0.064     0.060     0.000     0.000   1611.30   9632.81
  0.003983      470.      459.      440.         3         0         0      0.00   1045.59  10678.40


1490 NH CARD USED
```

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


*SECNO 6.026
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS=     9248.4   10440.0  TYPE=      1  TARGET=     1191.640
     6.026      2.67   1616.27      0.00   1615.36   1616.41      0.15      1.91      0.01   1615.80
    5340.0    4388.8     951.2       0.0    1337.0     560.9       0.0    1018.2     269.0 100000.00
      2.26      3.28      1.70      0.00     0.055     0.075     0.000     0.000   1613.60   9248.36
  0.005927      350.      428.      445.         3         0         0      0.00   1191.64  10440.00


1490 NH CARD USED
*SECNO 6.067
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED
3280 CROSS SECTION      6.07 EXTENDED      0.03 FEET


3470 ENCROACHMENT STATIONS=     9522.3   10086.0  TYPE=      1  TARGET=      563.670
     6.067      6.93   1618.03      0.00   1617.04   1618.21      0.18      1.79      0.01   1616.40
    5340.0    3907.8    1432.2       0.0    1068.6     563.0       0.0    1030.2     274.9 100000.00
      2.28      3.66      2.54      0.00     0.060     0.095     0.000     0.000   1611.10   9522.33
     5701      335.      216.      210.         3         0         0      0.00    563.67  10086.00


1490 NH CARD USED
*SECNO 6.135
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS=     9625.1   10065.4  TYPE=      1  TARGET=      440.261
     6.135      7.53   1619.73      0.00   1618.72   1620.00      0.27      1.76      0.03   1617.50
    5340.0    3565.1    1774.9       0.0     944.4     357.6       0.0    1039.3     277.9 100000.00
      2.30      3.78      4.96      0.00     0.065     0.067     0.000     0.000   1612.20   9625.14
  0.007524      230.      359.      340.         2         0         0      0.00    440.26  10065.40


1490 NH CARD USED
*SECNO 6.223

3470 ENCROACHMENT STATIONS=     9481.9   10099.0  TYPE=      1  TARGET=      617.130
     6.223      6.47   1622.57      0.00   1621.54   1622.68      0.12      2.67      0.02   1620.30
    5340.0    3914.8    1425.2       0.0    1460.7     492.4       0.0    1055.5     283.1 100000.00
      2.35      2.68      2.89      0.00     0.085     0.085     0.000     0.000   1616.10   9481.87
  0.005202      420.      465.      440.         2         0         0      0.00    617.13  10099.00
```

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

1490 NH CARD USED
*SECNO 6.321
3280 CROSS SECTION 6.32 EXTENDED 0.47 FEET

3470 ENCROACHMENT STATIONS= 9432.6 10014.0 TYPE= 1 TARGET= 581.400

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.321 | 3.77 | 1624.97 | 0.00 | 1624.01 | 1625.16 | 0.19 | 2.45 | 0.02 | 1622.50 |
| 5340.0 | 5138.4 | 201.6 | 0.0 | 1473.4 | 75.2 | 0.0 | 1070.6 | 288.2 | 100000.00 |
| 2.38 | 3.49 | 2.68 | 0.00 | 0.072 | 0.095 | 0.000 | 0.000 | 1621.20 | 9432.60 |
| 0.007864 | 350. | 517. | 480. | 3 | 0 | 0 | 0.00 | 581.40 | 10014.00 |

1490 NH CARD USED
*SECNO 6.413
3280 CROSS SECTION 6.41 EXTENDED 0.53 FEET

3470 ENCROACHMENT STATIONS= 9532.4 10021.3 TYPE= 1 TARGET= 488.880

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.413 | 3.83 | 1628.53 | 0.00 | 1627.49 | 1628.74 | 0.21 | 3.57 | 0.01 | 1625.90 |
| 5340.0 | 4931.0 | 373.9 | 35.1 | 1316.6 | 142.2 | 18.3 | 1087.6 | 294.2 | 1626.20 |
| 2.41 | 3.75 | 2.63 | 1.92 | 0.069 | 0.095 | 0.095 | 0.000 | 1624.70 | 9532.37 |
| 0.006799 | 490. | 486. | 480. | 3 | 0 | 0 | 0.00 | 488.88 | 10021.25 |

1490 NH CARD USED
*SECNO 6.511
3280 CROSS SECTION 6.51 EXTENDED 1.16 FEET

3470 ENCROACHMENT STATIONS= 9980.0 10370.0 TYPE= 1 TARGET= 390.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.511 | 5.86 | 1631.36 | 0.00 | 1630.35 | 1631.61 | 0.25 | 2.86 | 0.01 | 1628.00 |
| 5340.0 | 95.2 | 3215.4 | 2029.3 | 43.6 | 790.4 | 510.8 | 1103.3 | 299.1 | 1628.00 |
| 2.45 | 2.18 | 4.07 | 3.97 | 0.095 | 0.066 | 0.055 | 0.000 | 1625.50 | 9980.00 |
| 0.005245 | 530. | 517. | 310. | 3 | 0 | 0 | 0.00 | 390.00 | 10370.00 |

1490 NH CARD USED
*SECNO 6.603

3470 ENCROACHMENT STATIONS= 9910.1 10281.5 TYPE= 1 TARGET= 371.431

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.603 | 5.81 | 1634.41 | 0.00 | 1633.46 | 1634.65 | 0.24 | 3.04 | 0.00 | 1631.30 |
| 5340.0 | 0.0 | 4109.3 | 1230.7 | 0.0 | 1053.9 | 310.0 | 1118.7 | 303.4 | 1632.20 |
| 2.48 | 0.00 | 3.90 | 3.97 | 0.000 | 0.085 | 0.055 | 0.000 | 1628.60 | 9910.10 |
| 0.007058 | 530. | 486. | 510. | 1 | 0 | 0 | 0.00 | 371.43 | 10281.53 |

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


1490 NH CARD USED
*SECNO 6.704
3280 CROSS SECTION      6.70 EXTENDED      0.18 FEET


3470 ENCROACHMENT STATIONS=     9750.0   10150.0  TYPE=      1  TARGET=      400.000
     6.704      5.58   1637.18      0.00   1636.19   1637.43      0.24      2.78      0.00   1634.00
    5340.0    3008.9    2183.8     147.3     647.4     757.8      78.6    1135.0     307.7   1634.60
      2.52      4.65      2.88      1.87     0.055     0.081     0.095     0.000   1631.60   9750.00
  0.004573      510.      533.      330.         2         0         0      0.00    400.00  10150.00


1490 NH CARD USED
*SECNO 6.801
3280 CROSS SECTION      6.80 EXTENDED      1.92 FEET


3470 ENCROACHMENT STATIONS=     9554.0   10100.0  TYPE=      1  TARGET=      546.000
     6.801      4.32   1639.92      0.00   1638.89   1640.05      0.13      2.61      0.01   1638.00
    5350.0     126.5    5218.8       4.7      70.9    1790.6       3.8    1153.7     313.0   1638.00
      2.56      1.78      2.91      1.23     0.095     0.095     0.095     0.000   1635.60   9554.00
  0.006404      390.      512.      450.         2         0         0      0.00    546.00  10100.00


1490 NH CARD USED
*SECNO 6.897
3280 CROSS SECTION      6.90 EXTENDED      1.35 FEET


3470 ENCROACHMENT STATIONS=     9250.0   10082.0  TYPE=      1  TARGET=      831.950
     6.897      4.25   1642.85      0.00   1641.82   1642.96      0.11      2.91      0.00   1641.70
    5350.0    5049.4     300.6       0.0    1867.0     187.3       0.0    1174.1     320.1 100000.00
      2.61      2.70      1.60      0.00     0.089     0.095     0.000     0.000   1638.60   9250.00
  0.006397      400.      507.      440.         3         0         0      0.00    831.95  10081.95


1490 NH CARD USED
*SECNO 6.986
3280 CROSS SECTION      6.99 EXTENDED      1.25 FEET


3470 ENCROACHMENT STATIONS=     9277.9   10047.0  TYPE=      1  TARGET=      769.140
     6.986      3.15   1645.65      0.00   1644.68   1645.87      0.22      2.87      0.03   1644.80
    5350.0    5082.3     267.7       0.0    1308.4     154.0       0.0    1189.4     327.2 100000.00
      2.64      3.88      1.74      0.00     0.063     0.095     0.000     0.000   1642.50   9277.86
  0.008919      370.      470.      440.         2         0         0      0.00    769.14  10047.00
```

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

1490 NH CARD USED
*SECNO 7.077
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED
3280 CROSS SECTION 7.08 EXTENDED 0.62 FEET

3470 ENCROACHMENT STATIONS= 9067.0 10041.9 TYPE= 1 TARGET= 974.880

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.077 | 3.11 | 1648.91 | 0.00 | 1647.89 | 1649.03 | 0.12 | 3.15 | 0.01 | 1648.10 |
| 5350.0 | 5080.0 | 270.0 | 0.0 | 1813.0 | 130.9 | 0.0 | 1208.2 | 336.8 | 100000.00 |
| 2.69 | 2.80 | 2.06 | 0.00 | 0.066 | 0.056 | 0.000 | 0.000 | 1645.80 | 9067.04 |
| 0.005188 | 480. | 480. | 460. | 3 | 0 | 0 | 0.00 | 974.88 | 10041.92 |

1490 NH CARD USED
*SECNO 7.167

3470 ENCROACHMENT STATIONS= 9175.3 10011.8 TYPE= 1 TARGET= 836.470

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.167 | 4.97 | 1652.87 | 0.00 | 1651.86 | 1653.05 | 0.18 | 4.00 | 0.02 | 1651.40 |
| 5350.0 | 4989.6 | 360.4 | 0.0 | 1435.2 | 164.3 | 0.0 | 1233.3 | 349.5 | 100000.00 |
| 2.74 | 3.48 | 2.19 | 0.00 | 0.059 | 0.095 | 0.000 | 0.000 | 1647.90 | 9175.33 |
| 3005 | 630. | 475. | 460. | 4 | 0 | 0 | 0.00 | 836.47 | 10011.80 |

1490 NH CARD USED
*SECNO 7.264

3470 ENCROACHMENT STATIONS= 9003.6 10177.2 TYPE= 1 TARGET= 1173.620

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.264 | 4.09 | 1656.29 | 0.00 | 1655.27 | 1656.37 | 0.08 | 3.31 | 0.01 | 1654.50 |
| 5350.0 | 3430.5 | 1919.5 | 0.0 | 1377.6 | 982.8 | 0.0 | 1255.8 | 361.0 | 100000.00 |
| 2.80 | 2.49 | 1.95 | 0.00 | 0.071 | 0.095 | 0.000 | 0.000 | 1652.20 | 9003.58 |
| 0.005760 | 490. | 512. | 480. | 3 | 0 | 0 | 0.00 | 1173.62 | 10177.20 |

1490 NH CARD USED
*SECNO 7.352
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9287.8 10154.9 TYPE= 1 TARGET= 867.070

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.352 | 4.58 | 1658.98 | 0.00 | 1658.17 | 1659.14 | 0.17 | 2.75 | 0.03 | 1657.40 |
| 5350.0 | 2004.5 | 3345.5 | 0.0 | 583.9 | 1050.5 | 0.0 | 1276.1 | 371.3 | 100000.00 |
| 2.84 | 3.43 | 3.18 | 0.00 | 0.057 | 0.057 | 0.000 | 0.000 | 1654.40 | 9287.83 |
| 0.006696 | 420. | 465. | 480. | 4 | 0 | 0 | 0.00 | 867.07 | 10154.90 |

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

*SECNO 7.438

3470 ENCROACHMENT STATIONS= 9430.0 10014.6 TYPE= 1 TARGET= 584.550

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.438 | 5.36 | 1662.17 | 0.00 | 1661.27 | 1662.36 | 0.20 | 3.21 | 0.01 | 1659.50 |
| 5350.0 | 1341.6 | 3981.9 | 26.5 | 278.4 | 1323.7 | 9.0 | 1292.7 | 378.8 | 1660.20 |
| 2.87 | 4.82 | 3.01 | 2.95 | 0.055 | 0.085 | 0.055 | 0.000 | 1656.80 | 9430.04 |
| 0.007816 | 420. | 454. | 450. | 3 | 0 | 0 | 0.00 | 584.55 | 10014.59 |

1490 NH CARD USED
*SECNO 7.533

3470 ENCROACHMENT STATIONS= 9565.0 10050.0 TYPE= 1 TARGET= 485.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.533 | 6.12 | 1665.72 | 0.00 | 1664.75 | 1665.88 | 0.17 | 3.52 | 0.00 | 1662.40 |
| 5350.0 | 324.2 | 4845.2 | 180.7 | 72.3 | 1501.0 | 64.9 | 1311.1 | 384.8 | 1662.60 |
| 2.91 | 4.48 | 3.23 | 2.79 | 0.055 | 0.085 | 0.085 | 0.000 | 1659.60 | 9565.00 |
| 0.006715 | 410. | 502. | 490. | 2 | 0 | 0 | 0.00 | 485.00 | 10050.00 |

1490 NH CARD USED
*SECNO 7.624

3470 ENCROACHMENT STATIONS= 9772.2 10218.5 TYPE= 1 TARGET= 446.260

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.624 | 5.91 | 1668.81 | 0.00 | 1667.99 | 1669.01 | 0.20 | 3.11 | 0.01 | 1666.10 |
| 5350.0 | 715.9 | 2574.3 | 2059.9 | 161.4 | 722.0 | 643.1 | 1327.9 | 389.7 | 1665.90 |
| 2.95 | 4.44 | 3.57 | 3.20 | 0.055 | 0.082 | 0.082 | 0.000 | 1662.90 | 9772.20 |
| 0.006699 | 510. | 480. | 390. | 2 | 0 | 0 | 0.00 | 446.26 | 10218.46 |

*SECNO 7.709

3470 ENCROACHMENT STATIONS= 9827.0 10257.0 TYPE= 1 TARGET= 430.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.709 | 7.17 | 1671.47 | 0.00 | 1670.68 | 1671.63 | 0.16 | 2.63 | 0.00 | 1667.10 |
| 5360.0 | 0.0 | 5360.0 | 0.0 | 0.0 | 1668.4 | 0.0 | 1344.1 | 394.2 | 100000.00 |
| 2.99 | 0.00 | 3.21 | 0.00 | 0.000 | 0.082 | 0.000 | 0.000 | 1664.30 | 9827.00 |
| 0.005317 | 470. | 449. | 410. | 2 | 0 | 0 | 0.00 | 430.00 | 10257.00 |

1490 NH CARD USED
*SECNO 7.800

3470 ENCROACHMENT STATIONS= 9722.8 10177.5 TYPE= 1 TARGET= 454.630

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.800 | 5.93 | 1674.23 | 0.00 | 1673.45 | 1674.44 | 0.21 | 2.79 | 0.02 | 1670.80 |
| 5334.0 | 1110.9 | 3867.2 | 355.9 | 222.1 | 1169.5 | 135.5 | 1361.7 | 399.0 | 1671.70 |
| 3.02 | 5.00 | 3.31 | 2.63 | 0.055 | 0.080 | 0.082 | 0.000 | 1668.30 | 9722.84 |
| 0.006282 | 505. | 480. | 460. | 2 | 0 | 0 | 0.00 | 454.63 | 10177.47 |

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

1490 NH CARD USED
*SECNO 7.896

3470 ENCROACHMENT STATIONS= 9560.0 10080.0 TYPE= 1 TARGET= 520.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.896 | 7.10 | 1677.00 | 0.00 | 1675.98 | 1677.14 | 0.15 | 2.69 | 0.01 | 1674.80 |
| 5307.0 | 3887.9 | 1408.0 | 11.1 | 1202.1 | 557.9 | 5.3 | 1380.0 | 404.5 | 1674.30 |
| 3.07 | 3.23 | 2.52 | 2.10 | 0.080 | 0.085 | 0.055 | 0.000 | 1669.90 | 9560.00 |
| 0.005010 | 460. | 507. | 455. | 1 | 0 | 0 | 0.00 | 520.00 | 10080.00 |

1490 NH CARD USED
*SECNO 7.995

3470 ENCROACHMENT STATIONS= 9619.6 10025.6 TYPE= 1 TARGET= 406.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.995 | 8.10 | 1679.70 | 0.00 | 1678.78 | 1680.01 | 0.31 | 2.81 | 0.05 | 1677.40 |
| 5279.0 | 4549.8 | 729.2 | 0.0 | 970.6 | 273.9 | 0.0 | 1397.3 | 409.8 | 100000.00 |
| 3.10 | 4.69 | 2.66 | 0.00 | 0.055 | 0.085 | 0.000 | 0.000 | 1671.60 | 9619.60 |
| 0.006409 | 490. | 523. | 500. | 2 | 0 | 0 | 0.00 | 406.00 | 10025.60 |

14[illegible] CARD USED
*SECNO 8.088

3470 ENCROACHMENT STATIONS= 9728.9 10069.1 TYPE= 1 TARGET= 340.199

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8.088 | 4.66 | 1682.26 | 0.00 | 1681.52 | 1682.52 | 0.26 | 2.51 | 0.00 | 1680.00 |
| 5253.0 | 0.1 | 5252.9 | 0.1 | 0.2 | 1271.8 | 0.2 | 1411.5 | 414.0 | 1679.80 |
| 3.13 | 0.37 | 4.13 | 0.25 | 0.055 | 0.056 | 0.080 | 0.000 | 1677.60 | 9728.90 |
| 0.004193 | 500. | 491. | 500. | 2 | 0 | 0 | 0.00 | 340.20 | 10069.10 |

1490 NH CARD USED
*SECNO 8.182

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.52

3470 ENCROACHMENT STATIONS= 9800.7 10025.6 TYPE= 1 TARGET= 224.939

| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | L-BANK ELEV |
|---|---|---|---|---|---|---|---|---|---|
| | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | R-BANK ELEV |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL | XLCH | XLOBR | ITRIAL | IDC | ICONT | CORAR | TOPWID | ENDST |
| 8.182 | 5.48 | 1685.48 | 0.00 | 1684.93 | 1686.70 | 1.22 | 3.89 | 0.29 | 1681.20 |
| 5227.0 | 1420.0 | 3806.9 | 0.2 | 249.8 | 388.8 | 0.3 | 1422.2 | 417.0 | 1682.10 |
| 3.15 | 5.68 | 9.79 | 0.48 | 0.060 | 0.053 | 0.080 | 0.000 | 1680.00 | 9800.66 |
| 0.015309 | 420. | 496. | 510. | 3 | 0 | 0 | 0.00 | 191.71 | 10025.60 |

1490 NH CARD USED
*SECNO 8.273
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.99

3470 ENCROACHMENT STATIONS= 9780.0 10045.0 TYPE= 1 TARGET= 265.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8.273 | 6.95 | 1689.45 | 0.00 | 1688.47 | 1689.68 | 0.23 | 2.89 | 0.10 | 1684.80 |
| 5201.0 | 3655.3 | 1298.2 | 247.6 | 983.9 | 287.5 | 108.7 | 1433.1 | 419.4 | 1684.20 |
| 3.18 | 3.72 | 4.52 | 2.28 | 0.071 | 0.070 | 0.105 | 0.000 | 1682.50 | 9780.00 |
| 3836 | 460. | 480. | 490. | 3 | 0 | 0 | 0.00 | 265.00 | 10045.00 |

1490 NH CARD USED
*SECNO 8.374

3470 ENCROACHMENT STATIONS= 9897.2 10095.3 TYPE= 1 TARGET= 198.040

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8.374 | 7.94 | 1691.94 | 0.00 | 1691.23 | 1692.60 | 0.66 | 2.79 | 0.13 | 1686.90 |
| 5172.0 | 1529.0 | 2560.5 | 1082.4 | 400.3 | 301.3 | 326.3 | 1447.5 | 422.2 | 1687.30 |
| 3.21 | 3.82 | 8.50 | 3.32 | 0.094 | 0.052 | 0.105 | 0.000 | 1684.00 | 9897.24 |
| 0.007436 | 510. | 533. | 540. | 3 | 0 | 0 | 0.00 | 198.04 | 10095.28 |

1490 NH CARD USED
*SECNO 8.465
3280 CROSS SECTION 8.47 EXTENDED 0.72 FEET

3470 ENCROACHMENT STATIONS= 9946.8 10088.3 TYPE= 1 TARGET= 141.480

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8.465 | 6.62 | 1694.82 | 0.00 | 1693.92 | 1695.76 | 0.94 | 3.07 | 0.08 | 1689.10 |
| 5147.0 | 320.3 | 4303.8 | 522.9 | 112.4 | 512.9 | 157.2 | 1457.6 | 424.1 | 1690.20 |
| 3.23 | 2.85 | 8.39 | 3.33 | 0.105 | 0.043 | 0.085 | 0.000 | 1688.20 | 9946.85 |
| 0.005571 | 425. | 480. | 560. | 2 | 0 | 0 | 0.00 | 141.48 | 10088.33 |

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

1490 NH CARD USED
*SECNO 8.560
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.76

3470 ENCROACHMENT STATIONS= 9750.0 10039.7 TYPE= 1 TARGET= 289.700

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8.560 | 8.01 | 1696.91 | 0.00 | 1695.86 | 1697.17 | 0.26 | 1.34 | 0.07 | 1691.80 |
| 5120.0 | 2766.9 | 2353.1 | 0.0 | 1238.7 | 423.1 | 0.0 | 1471.5 | 426.5 | 100000.00 |
| 3.26 | 2.23 | 5.56 | 0.00 | 0.086 | 0.038 | 0.000 | 0.000 | 1688.90 | 9750.00 |
| 0.001780 | 500. | 502. | 420. | 3 | 0 | 0 | 0.00 | 289.70 | 10039.70 |

1490 NH CARD USED
*SECNO 8.654
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.68

3470 ENCROACHMENT STATIONS= 9789.3 10041.1 TYPE= 1 TARGET= 251.830

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8.654 | 5.96 | 1698.16 | 0.00 | 1697.42 | 1698.61 | 0.44 | 1.38 | 0.05 | 1695.20 |
| 5094.0 | 2416.5 | 2677.5 | 0.0 | 671.4 | 410.3 | 0.0 | 1487.2 | 429.6 | 100000.00 |
| 3.29 | 3.60 | 6.53 | 0.00 | 0.064 | 0.038 | 0.000 | 0.000 | 1692.20 | 9789.27 |
| 0.003770 | 500. | 496. | 480. | 3 | 0 | 0 | 0.00 | 251.83 | 10041.10 |

1490 NH CARD USED
*SECNO 8.740
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9860.3 10032.4 TYPE= 1 TARGET= 172.101

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8.740 | 6.89 | 1699.89 | 0.00 | 1699.73 | 1700.61 | 0.72 | 1.92 | 0.08 | 1696.80 |
| 5070.0 | 0.0 | 5070.0 | 0.0 | 0.0 | 744.5 | 0.0 | 1496.9 | 431.9 | 100000.00 |
| 3.31 | 0.00 | 6.81 | 0.00 | 0.000 | 0.038 | 0.000 | 0.000 | 1693.00 | 9860.30 |
| 0.004614 | 480. | 454. | 410. | 2 | 0 | 0 | 0.00 | 172.10 | 10032.40 |

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

1490 NH CARD USED
*SECNO 8.844

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.55

3470 ENCROACHMENT STATIONS= 9872.5 10025.4 TYPE= 1 TARGET= 152.900

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8.844 | 7.82 | 1703.72 | 0.00 | 1703.63 | 1705.47 | 1.75 | 4.56 | 0.31 | 1700.30 |
| 5040.0 | 1415.6 | 3624.4 | 0.0 | 334.3 | 295.8 | 0.0 | 1505.4 | 433.9 | 100000.00 |
| 3.32 | 4.23 | 12.25 | 0.00 | 0.095 | 0.045 | 0.000 | 0.000 | 1695.90 | 9872.50 |
| 0.015306 | 500. | 549. | 530. | 3 | 0 | 0 | 0.00 | 152.90 | 10025.40 |

1490 NH CARD USED
*SECNO 8.940

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.02

3470 ENCROACHMENT STATIONS= 9840.0 10045.0 TYPE= 1 TARGET= 205.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8.940 | 8.98 | 1708.08 | 0.00 | 1707.10 | 1708.57 | 0.49 | 2.97 | 0.13 | 1702.80 |
| 5013.0 | 2452.1 | 2380.6 | 180.3 | 723.6 | 324.5 | 86.7 | 1515.3 | 435.9 | 1703.10 |
| 3.35 | 3.39 | 7.34 | 2.08 | 0.079 | 0.045 | 0.105 | 0.000 | 1699.10 | 9840.00 |
| 0.003717 | 480. | 507. | 500. | 1 | 0 | 0 | 0.00 | 205.00 | 10045.00 |

1490 NH CARD USED
*SECNO 9.032
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED
3280 CROSS SECTION 9.03 EXTENDED 3.55 FEET

3470 ENCROACHMENT STATIONS= 9771.6 10031.3 TYPE= 1 TARGET= 259.680

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.032 | 8.24 | 1709.84 | 0.00 | 1709.28 | 1710.17 | 0.33 | 1.58 | 0.02 | 1706.40 |
| 4987.0 | 1978.2 | 3008.8 | 0.0 | 607.2 | 564.7 | 0.0 | 1525.4 | 437.9 | 100000.00 |
| 3.37 | 3.26 | 5.33 | 0.00 | 0.070 | 0.055 | 0.000 | 0.000 | 1701.60 | 9771.62 |
| 0.004094 | 300. | 486. | 600. | 3 | 0 | 0 | 0.00 | 259.68 | 10031.30 |

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

1490 NH CARD USED
*SECNO 9.119
3280 CROSS SECTION 9.12 EXTENDED 1.36 FEET

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.53

3470 ENCROACHMENT STATIONS= 9976.2 10185.7 TYPE= 1 TARGET= 209.520

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.119 | 8.77 | 1712.46 | 0.00 | 1711.63 | 1713.77 | 1.31 | 3.31 | 0.29 | 1707.30 |
| 4962.0 | 243.2 | 3053.2 | 1665.6 | 51.6 | 275.7 | 352.2 | 1534.6 | 440.1 | 1709.10 |
| 3.39 | 4.71 | 11.07 | 4.73 | 0.085 | 0.054 | 0.064 | 0.000 | 1703.70 | 9976.20 |
| 0.014207 | 450. | 459. | 320. | 2 | 0 | 0 | 0.00 | 209.52 | 10185.72 |

1490 NH CARD USED
*SECNO 9.202
1[illegible]ANNINGS N VALUES FOR CHANNEL COMPOSITED

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.73

3470 ENCROACHMENT STATIONS= 9965.0 10064.0 TYPE= 1 TARGET= 99.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.202 | 9.71 | 1716.31 | 0.00 | 1715.40 | 1716.98 | 0.67 | 3.14 | 0.06 | 1712.90 |
| 4940.0 | 0.3 | 4938.9 | 0.9 | 0.7 | 752.3 | 1.3 | 1541.9 | 441.7 | 1712.90 |
| 3.41 | 0.40 | 6.56 | 0.65 | 0.085 | 0.060 | 0.080 | 0.000 | 1706.60 | 9965.00 |
| 0.004724 | 400. | 438. | 475. | 2 | 0 | 0 | 0.00 | 99.00 | 10064.00 |

1490 NH CARD USED
*SECNO 9.289

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | L-BANK ELEV |
| | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | 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= 9890.0 10025.0 TYPE= 1 TARGET= 135.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.289 | 9.15 | 1719.05 | 1719.05 | 1718.83 | 1721.02 | 1.96 | 5.93 | -1.93 | 1716.00 |
| 4915.0 | 1043.5 | 3865.8 | 5.7 | 237.2 | 310.0 | 3.7 | 1548.9 | 443.0 | 1715.30 |
| 3.42 | 4.40 | 12.47 | 1.51 | 0.075 | 0.045 | 0.095 | 0.000 | 1709.90 | 9890.00 |
| 0.012764 | 510. | 459. | 450. | 4 | 12 | 0 | 0.00 | 135.00 | 10025.00 |

1490 NH CARD USED
*SECNO 9.387

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 9890.0 10052.0 TYPE= 1 TARGET= 162.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.387 | 7.67 | 1721.47 | 0.00 | 1720.49 | 1721.50 | 0.03 | 0.29 | 0.19 | 1718.70 |
| 669.0 | 171.2 | 492.2 | 5.5 | 228.7 | 310.5 | 11.6 | 1555.4 | 444.7 | 1719.60 |
| 3.52 | 0.75 | 1.59 | 0.48 | 0.067 | 0.045 | 0.065 | 0.000 | 1713.80 | 9890.00 |
| 0.000283 | 510. | 517. | 500. | 4 | 0 | 0 | 0.00 | 162.00 | 10052.00 |

*SECNO 9.480

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.33

3470 ENCROACHMENT STATIONS= 9939.8 10020.0 TYPE= 1 TARGET= 80.230

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.480 | 3.47 | 1722.07 | 0.00 | 1721.58 | 1722.23 | 0.15 | 0.69 | 0.04 | 100000.00 |
| 669.0 | 0.0 | 669.0 | 0.0 | 0.0 | 211.8 | 0.0 | 1559.7 | 446.1 | 100000.00 |
| 3.57 | 0.00 | 3.16 | 0.00 | 0.000 | 0.045 | 0.000 | 0.000 | 1718.60 | 9940.87 |
| 0.002539 | 490. | 491. | 490. | 4 | 0 | 0 | 0.00 | 79.13 | 10020.00 |

*SECNO 9.588

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.39

3470 ENCROACHMENT STATIONS= 9953.9 10007.9 TYPE= 1 TARGET= 53.971

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.588 | 2.63 | 1725.33 | 0.00 | 1725.46 | 1726.13 | 0.80 | 3.71 | 0.19 | 100000.00 |
| 669.0 | 0.0 | 669.0 | 0.0 | 0.0 | 92.9 | 0.0 | 1561.7 | 446.9 | 100000.00 |
| 3.59 | 0.00 | 7.20 | 0.00 | 0.000 | 0.038 | 0.000 | 0.000 | 1722.70 | 9953.89 |
| 0.016715 | 50. | 570. | 540. | 7 | 0 | 0 | 0.00 | 53.97 | 10007.86 |

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


*SECNO 9.677

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.46


3470 ENCROACHMENT STATIONS=     9964.1   10021.0  TYPE=      1  TARGET=      56.900
     9.677      3.60   1730.90      0.00   1730.63   1731.21      0.31      5.02      0.05   1729.20
     669.0       0.0     669.0       0.0       0.0     149.7       0.0    1563.0     447.5 100000.00
      3.62      0.00      4.47      0.00     0.000     0.054     0.000     0.000   1727.30   9964.10
  0.007859      450.      470.      470.         4         0         0      0.00     56.90  10021.00


*SECNO 9.770

3470 ENCROACHMENT STATIONS=     9987.6   10038.0  TYPE=      1  TARGET=      50.380
     9.770      3.78   1735.68      0.00   1735.02   1736.27      0.59      4.98      0.08 100000.00
     669.0       0.0     669.0       0.0       0.0     108.4       0.0    1564.5     448.1 100000.00
      3.64      0.00      6.17      0.00     0.000     0.045     0.000     0.000   1731.90   9987.62
  0.013089      480.      491.      490.         5         0         0      0.00     50.38  10038.00


1490 NH CARD USED
*SECNO 9.865

3470 ENCROACHMENT STATIONS=     9909.9   10055.8  TYPE=      1  TARGET=     145.890
     9.865      2.45   1740.85      0.00   1740.62   1741.06      0.21      4.75      0.04 100000.00
     669.0       0.0     669.0       0.0       0.0     181.4       0.0    1566.1     449.3 100000.00
      3.68      0.00      3.69      0.00     0.000     0.040     0.000     0.000   1738.40   9909.94
  0.007404      490.      502.      470.         3         0         0      0.00    145.89  10055.83


1490 NH CARD USED
*SECNO 9.963

3470 ENCROACHMENT STATIONS=     9904.8   10019.9  TYPE=      1  TARGET=     115.051
     9.963      2.95   1745.35      0.00   1745.45   1745.57      0.23      4.51      0.00 100000.00
     669.0       0.0     669.0       0.0       0.0     174.9       0.0    1568.3     450.8 100000.00
      3.72      0.00      3.83      0.00     0.000     0.052     0.000     0.000   1742.40   9904.81
  0.010285      465.      517.      480.         5         0         0      0.00    115.05  10019.86


1490 NH CARD USED
```

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


*SECNO 10.054

3470 ENCROACHMENT STATIONS=     9991.9   10060.7  TYPE=      1  TARGET=      68.771
   10.054      2.95   1749.85      0.00   1749.28   1750.22      0.37      4.61      0.04 100000.00
    669.0       0.0     669.0       0.0       0.0     136.2       0.0    1570.0     451.8 100000.00
     3.74      0.00      4.91      0.00     0.000     0.045     0.000     0.000   1746.90   9991.91
 0.008991      370.      480.      380.         3         0         0      0.00     68.70  10060.61


1490 NH CARD USED
*SECNO 10.139
3280 CROSS SECTION     10.14 EXTENDED      0.08 FEET


3470 ENCROACHMENT STATIONS=     9966.2   10018.7  TYPE=      1  TARGET=      52.500
   10.139      4.38   1754.88      0.00   1754.21   1755.50      0.62      5.20      0.08   1754.40
    669.0       0.0     669.0       0.0       0.0     105.5       0.0    1571.2     452.5 100000.00
     3.76      0.00      6.34      0.00     0.000     0.045     0.000     0.000   1750.50   9966.20
 0.014936      450.      449.      415.         5         0         0      0.00     52.50  10018.70


1490 NH CARD USED
*SECNO 10.232

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


3470 ENCROACHMENT STATIONS=     9988.7   10109.0  TYPE=      1  TARGET=     120.300
   10.232      5.59   1759.49      0.00   1759.17   1759.68      0.18      4.13      0.04   1758.80
    669.0       0.0     669.0       0.0       0.0     195.7       0.0    1572.9     453.4 100000.00
     3.80      0.00      3.42      0.00     0.000     0.045     0.000     0.000   1753.90   9988.70
 0.005851      450.      491.      480.         6         0         0      0.00    120.30  10109.00


1490 NH CARD USED
*SECNO 10.320

3470 ENCROACHMENT STATIONS=     9933.4   10012.6  TYPE=      1  TARGET=      79.199
   10.320      5.64   1763.04      0.00   1762.64   1763.28      0.25      3.59      0.02   1762.40
    669.0       0.0     669.0       0.0       0.0     168.1       0.0    1574.8     454.5 100000.00
     3.83      0.00      3.98      0.00     0.000     0.060     0.000     0.000   1757.40   9933.40
 0.010184      450.      465.      490.         5         0         0      0.00     79.20  10012.60
```

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

1490 NH CARD USED
*SECNO 10.426

3470 ENCROACHMENT STATIONS= 9898.6 10023.0 TYPE= 1 TARGET= 124.431

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.426 | 5.63 | 1767.53 | 0.00 | 1766.92 | 1767.66 | 0.13 | 4.36 | 0.01 | 1766.90 |
| 669.0 | 0.0 | 669.0 | 0.0 | 0.0 | 229.9 | 0.0 | 1577.4 | 455.8 | 100000.00 |
| 3.89 | 0.00 | 2.91 | 0.00 | 0.000 | 0.060 | 0.000 | 0.000 | 1761.90 | 9898.60 |
| 0.006312 | 450. | 560. | 510. | 5 | 0 | 0 | 0.00 | 124.43 | 10023.03 |

*SECNO 10.516

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.65

3470 ENCROACHMENT STATIONS= 9916.3 10096.9 TYPE= 1 TARGET= 180.641

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.516 | 4.87 | 1772.57 | 0.00 | 1771.75 | 1772.74 | 0.17 | 5.07 | 0.01 | 1771.60 |
| 669.0 | 0.0 | 669.0 | 0.0 | 0.0 | 204.8 | 0.0 | 1579.8 | 457.5 | 100000.00 |
| 3.93 | 0.00 | 3.27 | 0.00 | 0.000 | 0.060 | 0.000 | 0.000 | 1767.70 | 9916.30 |
| 0.015016 | 470. | 475. | 490. | 7 | 0 | 0 | 0.00 | 180.64 | 10096.94 |

*SECNO 10.620

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

3470 ENCROACHMENT STATIONS= 9936.9 10026.6 TYPE= 1 TARGET= 89.739

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.620 | 5.32 | 1778.02 | 0.00 | 1776.97 | 1778.21 | 0.19 | 5.46 | 0.01 | 1776.50 |
| 669.0 | 208.9 | 460.1 | 0.0 | 80.6 | 120.9 | 0.1 | 1582.3 | 459.2 | 1777.10 |
| 3.97 | 2.59 | 3.81 | 0.02 | 0.065 | 0.072 | 0.055 | 0.000 | 1772.70 | 9936.86 |
| 0.007438 | 550. | 549. | 500. | 4 | 0 | 0 | 0.00 | 89.74 | 10026.60 |

*SECNO 10.710

3470 ENCROACHMENT STATIONS= 9814.4 10009.0 TYPE= 1 TARGET= 194.600

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.710 | 5.41 | 1782.11 | 0.00 | 1781.33 | 1782.23 | 0.12 | 4.02 | 0.01 | 1781.60 |
| 669.0 | 0.0 | 669.0 | 0.0 | 0.0 | 239.0 | 0.0 | 1584.7 | 460.7 | 100000.00 |
| 4.02 | 0.00 | 2.80 | 0.00 | 0.000 | 0.060 | 0.000 | 0.000 | 1776.70 | 9814.40 |
| 0.009916 | 430. | 475. | 480. | 6 | 0 | 0 | 0.00 | 194.60 | 10009.00 |

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


1490 NH CARD USED
*SECNO 10.802

3470 ENCROACHMENT STATIONS=     9924.7   10042.0  TYPE=      1  TARGET=      117.340
    10.802      3.14   1786.44      0.00   1785.57   1786.59      0.15      4.36      0.01   1784.70
     669.0     322.9     346.1       0.0     100.3     114.3       0.0    1587.2     462.4 100000.00
      4.06      3.22      3.03      0.00     0.055     0.072     0.000     0.000   1783.30   9924.66
  0.008072      500.      486.      480.         3         0         0      0.00    117.34  10042.00


1490 NH CARD USED
*SECNO 10.891
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS=     9870.7   10125.8  TYPE=      1  TARGET=      255.100
    10.891      2.68   1790.28      0.00   1789.91   1790.35      0.07      3.75      0.01   1789.50
     669.0       0.0     669.0       0.0       0.0     317.1       0.0    1590.1     464.5 100000.00
      4.13      0.00      2.11      0.00     0.000     0.072     0.000     0.000   1787.60   9870.70
  0.007884      470.      470.      450.         5         0         0      0.00    255.10  10125.80


*SECNO 10.982

3470 ENCROACHMENT STATIONS=     9902.4   10026.4  TYPE=      1  TARGET=      124.011
    10.982      3.45   1795.15      0.00   1794.45   1795.32      0.17      4.94      0.03   1794.10
     669.0      92.5     576.5       0.0      29.5     171.6       0.0    1593.0     466.5 100000.00
      4.16      3.13      3.36      0.00     0.055     0.075     0.000     0.000   1791.70   9902.39
  0.013546      450.      480.      480.         3         0         0      0.00    124.01  10026.40


1490 NH CARD USED
*SECNO 11.079
3280 CROSS SECTION     11.08 EXTENDED      0.58 FEET


3470 ENCROACHMENT STATIONS=     9983.6   10130.0  TYPE=      1  TARGET=      146.380
    11.079      6.77   1799.77      0.00   1798.73   1799.90      0.13      4.58      0.00 100000.00
     669.0       0.0     274.1     394.9       0.0      82.9     151.2    1595.3     468.0   1798.40
      4.21      0.00      3.31      2.61     0.000     0.062     0.062     0.000   1793.00   9983.62
  0.007550      410.      512.      400.         3         0         0      0.00    146.38  10130.00
```

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


1490 NH CARD USED
*SECNO 11.174
3280 CROSS SECTION     11.17 EXTENDED      0.09 FEET


3470 ENCROACHMENT STATIONS=     9974.1   10124.2  TYPE=      1  TARGET=      150.101
    11.174      7.59   1804.79      0.00   1804.00   1804.96      0.17      5.04      0.01   1803.90
     699.0       0.0     369.4     329.6       0.0     116.5      96.8    1597.9     469.7   1804.10
      4.25      0.00      3.17      3.41     0.000     0.072     0.058     0.000   1797.20   9974.10
  0.013145      490.      502.      510.         5         0         0      0.00    150.10  10124.20


1490 NH CARD USED
*SECNO 11.264
3280 CROSS SECTION     11.26 EXTENDED      0.62 FEET


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


3470 ENCROACHMENT STATIONS=     9970.7   10050.0  TYPE=      1  TARGET=       79.300
    11.264      7.22   1808.82      0.00   1807.88   1809.02      0.20      4.06      0.01   1807.80
     709.0       0.0     636.1      72.9       0.1     168.3      38.5    1600.1     470.9   1807.80
      4.29      0.34      3.78      1.89     0.072     0.072     0.072     0.000   1801.60   9970.70
  0.006587      450.      475.      430.         4         0         0      0.00     79.30  10050.00


1490 NH CARD USED
*SECNO 11.368
3280 CROSS SECTION     11.37 EXTENDED      0.03 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.08


3470 ENCROACHMENT STATIONS=     9978.9   10151.3  TYPE=      1  TARGET=      172.449
    11.368      5.24   1813.84      0.00   1813.00   1814.17      0.34      5.11      0.04   1811.90
    1992.0       0.0     853.6    1138.4       0.0     152.7     299.0    1604.3     472.5   1811.90
      4.32      0.00      5.59      3.81     0.000     0.072     0.072     0.000   1808.60   9978.90
  0.012022      530.      549.      550.         4         0         0      0.00    172.45  10151.35
```

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


1490 NH CARD USED
*SECNO 11.469

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.63


3470 ENCROACHMENT STATIONS=     9986.0   10230.0  TYPE=      1  TARGET=      244.000
   11.469      6.74   1817.94      0.00   1817.04   1818.10      0.16      3.91      0.02   1815.40
   2162.0       2.2     382.0    1777.8       2.0      95.2     600.5    1611.3     475.0   1815.00
     4.37      1.08      4.01      2.96     0.072     0.072     0.072     0.000   1811.20   9986.00
 0.005306      500.      533.      530.         4         0         0      0.00    244.00  10230.00


1490 NH CARD USED
*SECNO 11.570
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED
3280 CROSS SECTION     11.57 EXTENDED      0.92 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  0.60


3470 ENCROACHMENT STATIONS=     9991.7   10356.7  TYPE=      1  TARGET=      365.030
   11.570      5.52   1823.02      0.00   1822.05   1823.21      0.19      5.10      0.01   1821.50
   2162.0       0.0     247.7    1914.3       0.0      47.9     604.2    1619.1     478.5   1821.70
     4.41      0.00      5.18      3.17     0.000     0.063     0.083     0.000   1817.50   9991.70
 0.014889      510.      533.      500.         7         0         0      0.00    365.03  10356.73


1490 NH CARD USED
*SECNO 11.666

3265 DIVIDED FLOW

3280 CROSS SECTION     11.67 EXTENDED      1.34 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.56


3470 ENCROACHMENT STATIONS=     9968.5   10540.8  TYPE=      1  TARGET=      572.290
   11.666      3.14   1828.04      0.00   1827.00   1828.16      0.12      4.94      0.01   1826.80
   2371.0       0.0     494.4    1876.6       0.0     106.6     962.2    1629.0     483.8   1827.00
     4.47      0.00      4.64      1.95     0.000     0.045     0.110     0.000   1824.90   9968.50
 0.007373      480.      507.      500.         2         0         0      0.00    548.71  10540.79
```

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

1490 NH CARD USED
*SECNO 11.750
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3265 DIVIDED FLOW

3280 CROSS SECTION 11.75 EXTENDED 0.05 FEET

3470 ENCROACHMENT STATIONS= 9972.2 10299.5 TYPE= 1 TARGET= 327.270

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.750 | 4.95 | 1831.85 | 0.00 | 1830.87 | 1832.05 | 0.20 | 3.87 | 0.02 | 1830.40 |
| 2371.0 | 0.0 | 774.0 | 1597.0 | 0.0 | 143.5 | 718.4 | 1638.5 | 487.9 | 1830.70 |
| 4.50 | 0.00 | 5.39 | 2.22 | 0.000 | 0.057 | 0.150 | 0.000 | 1826.90 | 9972.20 |
| 0.010803 | 450. | 444. | 430. | 4 | 0 | 0 | 0.00 | 279.33 | 10299.47 |

1490 NH CARD USED
*SECNO 11.847
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

32 VIDED FLOW

3470 ENCROACHMENT STATIONS= 9828.5 10315.0 TYPE= 1 TARGET= 486.500

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.847 | 6.29 | 1835.99 | 0.00 | 1835.03 | 1836.13 | 0.14 | 4.07 | 0.01 | 1838.90 |
| 2371.0 | 0.0 | 880.8 | 1490.2 | 0.0 | 204.1 | 797.9 | 1648.9 | 491.1 | 1840.60 |
| 4.55 | 0.00 | 4.32 | 1.87 | 0.000 | 0.060 | 0.150 | 0.000 | 1829.70 | 9981.10 |
| 0.006729 | 490. | 512. | 480. | 3 | 0 | 0 | 0.00 | 295.37 | 10315.00 |

*SECNO 11.920

3470 ENCROACHMENT STATIONS= 9885.4 10425.5 TYPE= 1 TARGET= 540.100

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.920 | 3.62 | 1837.62 | 0.00 | 1837.26 | 1837.69 | 0.07 | 1.55 | 0.01 | 1836.70 |
| 2371.0 | 0.0 | 2371.0 | 0.0 | 0.0 | 1149.6 | 0.0 | 1656.7 | 494.3 | 100000.00 |
| 4.60 | 0.00 | 2.06 | 0.00 | 0.000 | 0.072 | 0.000 | 0.000 | 1834.00 | 9885.40 |
| 0.003662 | 240. | 385. | 200. | 2 | 0 | 0 | 0.00 | 540.10 | 10425.50 |

1490 NH CARD USED
*SECNO 12.010

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


1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS=     9623.8   10145.2  TYPE=      1  TARGET=      521.360
    12.010      3.42   1839.92      0.00   1839.90   1840.02      0.10      2.32      0.01 100000.00
    2371.0       0.0    2371.0       0.0       0.0     926.4       0.0    1668.1     500.1 100000.00
      4.65      0.00      2.56      0.00     0.000     0.067     0.000     0.000   1836.50   9623.83
  0.006116      350.      475.      325.         3         0         0      0.00    521.36  10145.19


1490 NH CARD USED
*SECNO 12.101

3265 DIVIDED FLOW

3280 CROSS SECTION     12.10 EXTENDED      1.23 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  0.18


3470 ENCROACHMENT STATIONS=     9899.2   10257.0  TYPE=      1  TARGET=      357.760
    12.101      5.32   1845.22      0.00   1844.18   1845.36      0.13      5.33      0.01   1845.50
     849.0     323.7     525.3       0.0      98.6     195.2       0.0    1674.5     504.6 100000.00
      4.69      3.28      2.69      0.00     0.072     0.072     0.000     0.000   1839.90   9899.24
  0.023755      280.      480.      300.         8         0         0      0.00    347.27  10257.00


1490 NH CARD USED
*SECNO 12.191
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED
3280 CROSS SECTION     12.19 EXTENDED      1.29 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.00


3470 ENCROACHMENT STATIONS=     9947.8   10248.2  TYPE=      1  TARGET=      300.431
    12.191      6.29   1849.69      0.00   1849.60   1849.75      0.06      4.39      0.01 100000.00
     849.0       0.0     849.0       0.0       0.0     423.6       0.0    1678.4     508.1 100000.00
      4.75      0.00      2.00      0.00     0.000     0.072     0.000     0.000   1843.40   9947.77
  0.005912      415.      475.      430.        11         0         0      0.00    300.43  10248.20
```

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

1490 NH CARD USED
*SECNO 12.281
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS= 9948.8 10342.8 TYPE= 1 TARGET= 393.980

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.281 | 6.84 | 1853.14 | 0.00 | 1853.32 | 1853.23 | 0.09 | 3.47 | 0.01 | 100000.00 |
| 979.0 | 0.0 | 979.0 | 0.0 | 0.0 | 400.4 | 0.0 | 1682.9 | 511.9 | 100000.00 |
| 4.81 | 0.00 | 2.45 | 0.00 | 0.000 | 0.058 | 0.000 | 0.000 | 1846.30 | 9948.84 |
| 0.009038 | 460. | 475. | 450. | 4 | 0 | 0 | 0.00 | 393.98 | 10342.82 |

1490 NH CARD USED
*SECNO 12.369
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.59

3470 ENCROACHMENT STATIONS= 9758.2 10098.0 TYPE= 1 TARGET= 339.840

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.369 | 8.06 | 1857.96 | 0.00 | 1857.63 | 1858.14 | 0.18 | 4.88 | 0.03 | 100000.00 |
| 1812.0 | 0.0 | 1812.0 | 0.0 | 0.0 | 529.8 | 0.0 | 1687.8 | 515.8 | 100000.00 |
| 4.85 | 0.00 | 3.42 | 0.00 | 0.000 | 0.065 | 0.000 | 0.000 | 1849.90 | 9762.82 |
| 0.012193 | 430. | 465. | 590. | 10 | 0 | 0 | 0.00 | 335.18 | 10098.00 |

1490 NH CARD USED
*SECNO 12.464

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9870.6 10290.6 TYPE= 1 TARGET= 419.980

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.464 | 8.70 | 1863.20 | 0.00 | 1862.21 | 1863.50 | 0.29 | 5.32 | 0.03 | 1862.50 |
| 1812.0 | 429.2 | 523.2 | 859.6 | 137.9 | 85.9 | 244.5 | 1693.5 | 520.0 | 1863.10 |
| 4.88 | 3.11 | 6.09 | 3.52 | 0.055 | 0.038 | 0.045 | 0.000 | 1854.50 | 9870.63 |
| 0.009556 | 440. | 502. | 510. | 4 | 0 | 0 | 0.00 | 414.26 | 10290.61 |

1490 NH CARD USED
*SECNO 12.614

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

1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3265 DIVIDED FLOW

3280 CROSS SECTION 12.61 EXTENDED 0.27 FEET

3470 ENCROACHMENT STATIONS= 9928.3 10640.0 TYPE= 1 TARGET= 711.700

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.614 | 4.27 | 1870.27 | 0.00 | 1869.31 | 1870.54 | 0.27 | 7.04 | 0.00 | 100000.00 |
| 2371.0 | 0.0 | 606.2 | 1764.8 | 0.0 | 162.4 | 410.4 | 1700.8 | 526.9 | 1870.00 |
| 4.92 | 0.00 | 3.73 | 4.30 | 0.000 | 0.065 | 0.055 | 0.000 | 1866.00 | 9928.30 |
| 0.013365 | 615. | 781. | 540. | 4 | 0 | 0 | 0.00 | 620.49 | 10640.00 |

1490 NH CARD USED
*SECNO 12.692

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 9972.0 10500.0 TYPE= 1 TARGET= 528.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.692 | 5.41 | 1875.41 | 0.00 | 1874.79 | 1875.96 | 0.55 | 5.34 | 0.08 | 1874.50 |
| 2371.0 | 0.0 | 2193.1 | 177.9 | 0.0 | 356.9 | 64.2 | 1705.8 | 531.5 | 1876.00 |
| 4.94 | 0.00 | 6.15 | 2.77 | 0.000 | 0.045 | 0.055 | 0.000 | 1870.00 | 9972.00 |
| 0.011314 | 430. | 405. | 480. | 2 | 0 | 0 | 0.00 | 245.20 | 10500.00 |

1490 NH CARD USED
*SECNO 12.752

3470 ENCROACHMENT STATIONS= 9950.0 10350.0 TYPE= 1 TARGET= 400.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.752 | 5.44 | 1878.94 | 0.00 | 1878.04 | 1879.45 | 0.52 | 3.49 | 0.00 | 1876.90 |
| 2371.0 | 167.5 | 1828.7 | 374.8 | 39.2 | 287.5 | 175.6 | 1709.1 | 533.7 | 1878.20 |
| 4.96 | 4.27 | 6.36 | 2.13 | 0.055 | 0.050 | 0.055 | 0.000 | 1873.50 | 9950.00 |
| 0.010893 | 290. | 317. | 300. | 3 | 0 | 0 | 0.00 | 400.00 | 10350.00 |

1490 NH CARD USED
*SECNO 12.849

3265 DIVIDED FLOW

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

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 9973.7 10099.5 TYPE= 1 TARGET= 125.750

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.849 | 5.81 | 1883.51 | 0.00 | 1882.60 | 1884.64 | 1.13 | 5.01 | 0.18 | 1881.80 |
| 2371.0 | 0.0 | 1916.4 | 454.6 | 0.0 | 207.9 | 98.4 | 1713.9 | 536.7 | 1882.70 |
| 4.97 | 0.00 | 9.22 | 4.62 | 0.000 | 0.038 | 0.050 | 0.000 | 1877.70 | 9973.70 |
| 0.008816 | 520. | 512. | 520. | 3 | 0 | 0 | 0.00 | 106.05 | 10099.45 |

1490 NH CARD USED
*SECNO 12.942
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3710 WSEL ASSUMED BASED ON MIN DIFF

3470 ENCROACHMENT STATIONS= 9901.5 10066.3 TYPE= 1 TARGET= 164.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.942 | 4.21 | 1888.61 | 1887.96 | 1887.66 | 1889.13 | 0.52 | 3.28 | 5.00 | 1887.20 |
| 2371.0 | 0.0 | 2371.0 | 0.0 | 0.0 | 408.0 | 0.0 | 1717.9 | 538.3 | 100000.00 |
| 5.00 | 0.00 | 5.81 | 0.00 | 0.000 | 0.038 | 0.000 | 0.000 | 1884.40 | 9901.50 |
| 0.006722 | 470. | 491. | 460. | 20 | 14 | 0 | 0.00 | 164.80 | 10066.30 |

1490 NH CARD USED
*SECNO 13.025

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 9931.0 10027.1 TYPE= 1 TARGET= 96.120

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13.025 | 4.20 | 1893.20 | 1893.20 | 1892.91 | 1894.55 | 1.35 | 7.01 | -2.22 | 1892.40 |
| 2371.0 | 0.0 | 2371.0 | 0.0 | 0.0 | 254.3 | 0.0 | 1721.2 | 539.6 | 100000.00 |
| 5.01 | 0.00 | 9.33 | 0.00 | 0.000 | 0.038 | 0.000 | 0.000 | 1889.00 | 9931.00 |
| 0.015999 | 360. | 438. | 470. | 4 | 5 | 0 | 0.00 | 96.12 | 10027.12 |

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


*SECNO 13.127
3280 CROSS SECTION     13.13 EXTENDED      0.02 FEET


3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.50


3470 ENCROACHMENT STATIONS=     9967.0   10080.0  TYPE=      1  TARGET=      113.000
    13.127      4.12   1899.32      0.00   1898.44   1899.92      0.59      5.29      0.08   1898.80
    2371.0       0.0    2371.0       0.0       0.0     384.3       0.0    1725.2     540.9 100000.00
      5.03      0.00      6.17      0.00     0.000     0.045     0.000     0.000   1895.20   9967.00
  0.007074      460.      539.      450.         5         0         0      0.00    113.00  10080.00


*SECNO 13.221

3470 ENCROACHMENT STATIONS=     9974.4   10137.0  TYPE=      1  TARGET=      162.640
    13.221      4.73   1903.63      0.00   1903.39   1904.12      0.49      4.20      0.01 100000.00
    2371.0       0.0    2371.0       0.0       0.0     423.2       0.0    1729.8     542.4 100000.00
      5.06      0.00      5.60      0.00     0.000     0.050     0.000     0.000   1898.90   9974.36
  0.010119      480.      496.      490.         4         0         0      0.00    162.64  10137.00


1490 NH CARD USED
*SECNO 13.325
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS=     9971.2   10080.0  TYPE=      1  TARGET=      108.800
    13.325      3.96   1908.36      0.00   1908.55   1909.15      0.80      4.94      0.09   1907.10
    2371.0       0.0    2371.0       0.0       0.0     330.4       0.0    1734.5     544.1 100000.00
      5.08      0.00      7.18      0.00     0.000     0.038     0.000     0.000   1904.40   9971.20
  0.008097      500.      549.      500.         3         0         0      0.00    108.80  10080.00


1490 NH CARD USED
*SECNO 13.419
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3470 ENCROACHMENT STATIONS=     9900.0   10073.6  TYPE=      1  TARGET=      173.600
```

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

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

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13.419 | 4.63 | 1914.23 | 0.00 | 1913.44 | 1914.60 | 0.37 | 5.40 | 0.04 | 100000.00 |
| 2371.0 | 0.0 | 2371.0 | 0.0 | 0.0 | 488.4 | 0.0 | 1739.2 | 545.7 | 100000.00 |
| 5.11 | 0.00 | 4.86 | 0.00 | 0.000 | 0.073 | 0.000 | 0.000 | 1909.60 | 9899.98 |
| 0.014650 | 490. | 496. | 560. | 4 | 0 | 0 | 0.00 | 173.60 | 10073.58 |

*SECNO 13.499

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 9986.1 10038.0 TYPE= 1 TARGET= 51.900

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13.499 | 4.73 | 1919.53 | 0.00 | 1918.92 | 1921.27 | 1.73 | 6.26 | 0.41 | 1915.70 |
| 2371.0 | 0.0 | 2371.0 | 0.0 | 0.0 | 224.4 | 0.0 | 1742.6 | 546.8 | 100000.00 |
| 5.12 | 0.00 | 10.57 | 0.00 | 0.000 | 0.042 | 0.000 | 0.000 | 1914.80 | 9986.10 |
| 0.015007 | 380. | 422. | 480. | 3 | 0 | 0 | 0.00 | 51.90 | 10038.00 |

THIS RUN EXECUTED 29SEP93 11:14:21

**********
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

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| | SECNO | Q | CWSEL | DEPTH | VCH | 10*KS | K*CHSL | ELMIN | TOPWID | K*XNCH | KRATIO | AREA | IHLEQ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.640 | 5001.00 | 1460.98 | 2.88 | 4.42 | 199.93 | 0.00 | 1458.10 | 937.05 | 82.00 | 0.00 | 1336.61 | 4.00 |
| | 0.640 | 5001.00 | 1461.98 | 3.88 | 4.49 | 126.51 | 0.00 | 1458.10 | 455.00 | 82.00 | 0.00 | 1245.09 | 4.00 |
| * | 0.734 | 5001.00 | 1464.87 | 4.07 | 2.67 | 56.99 | 5.44 | 1460.80 | 1008.24 | 82.00 | 1.87 | 1925.01 | 4.00 |
| * | 0.734 | 5001.00 | 1465.41 | 4.61 | 2.93 | 53.87 | 5.44 | 1460.80 | 555.00 | 82.00 | 1.53 | 1724.77 | 4.00 |
| | 0.819 | 5001.00 | 1467.22 | 4.12 | 2.59 | 51.91 | 5.12 | 1463.10 | 938.33 | 82.00 | 1.05 | 1887.30 | 4.00 |
| | 0.819 | 5001.00 | 1467.72 | 4.62 | 2.93 | 53.48 | 5.12 | 1463.10 | 576.00 | 82.00 | 1.00 | 1698.24 | 4.00 |
| | 0.912 | 5001.00 | 1469.65 | 4.85 | 2.90 | 57.21 | 3.46 | 1464.80 | 1078.19 | 78.84 | 0.95 | 1906.73 | 3.00 |
| | 0.912 | 5001.00 | 1470.43 | 5.63 | 3.74 | 69.75 | 3.46 | 1464.80 | 416.30 | 78.88 | 0.88 | 1350.94 | 3.00 |
| | 0.999 | 5001.00 | 1471.74 | 4.44 | 2.75 | 37.29 | 5.45 | 1467.30 | 1178.25 | 64.73 | 1.24 | 2189.72 | 4.00 |
| * | 0.999 | 5001.00 | 1472.59 | 5.29 | 3.69 | 35.34 | 5.45 | 1467.30 | 391.00 | 55.98 | 1.40 | 1403.21 | 4.00 |
| | 1.101 | 5001.00 | 1473.94 | 3.84 | 2.77 | 60.12 | 5.19 | 1470.10 | 885.39 | 69.68 | 0.79 | 1810.40 | 2.00 |
| | 1.101 | 5001.00 | 1474.95 | 4.85 | 3.08 | 51.58 | 5.19 | 1470.10 | 503.10 | 75.11 | 0.83 | 1623.97 | 2.00 |
| | 1.189 | 5001.00 | 1476.33 | 4.13 | 2.68 | 52.19 | 4.52 | 1472.20 | 1020.14 | 73.27 | 1.07 | 1912.75 | 4.00 |
| | 1.189 | 5001.00 | 1477.30 | 5.10 | 3.40 | 53.50 | 4.52 | 1472.20 | 459.60 | 73.04 | 0.98 | 1469.32 | 3.00 |
| | 1.285 | 5001.00 | 1478.80 | 4.10 | 2.48 | 47.74 | 4.93 | 1474.70 | 915.91 | 82.00 | 1.05 | 2081.16 | 4.00 |
| | 1.285 | 5001.00 | 1479.83 | 5.13 | 3.02 | 46.75 | 4.93 | 1474.70 | 448.10 | 82.00 | 1.07 | 1684.42 | 4.00 |
| | 1.386 | 5001.00 | 1481.30 | 3.20 | 2.30 | 53.60 | 6.38 | 1478.10 | 924.87 | 82.00 | 0.94 | 1961.37 | 2.00 |
| | 1.386 | 5001.00 | 1482.34 | 4.24 | 2.96 | 54.04 | 6.38 | 1478.10 | 475.40 | 82.00 | 0.93 | 1644.83 | 2.00 |
| | 1.480 | 5001.00 | 1483.69 | 4.19 | 2.68 | 49.98 | 2.82 | 1479.50 | 851.79 | 75.28 | 1.04 | 1746.68 | 4.00 |
| | 1.480 | 5001.00 | 1484.69 | 5.19 | 3.17 | 46.45 | 2.82 | 1479.50 | 402.90 | 75.83 | 1.08 | 1502.59 | 4.00 |
| | 1.578 | 5001.00 | 1486.08 | 3.68 | 2.82 | 37.10 | 5.61 | 1482.40 | 921.23 | 59.16 | 1.16 | 1883.39 | 4.00 |
| | 1.578 | 5001.00 | 1487.04 | 4.64 | 3.96 | 41.78 | 5.61 | 1482.40 | 409.90 | 55.15 | 1.05 | 1367.06 | 4.00 |

| | SECNO | Q | CWSEL | DEPTH | VCH | 10*KS | K*CHSL | ELMIN | TOPWID | K*XNCH | KRATIO | AREA | IHLEQ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | 1.670 | 5001.00 | 1488.96 | 3.86 | 4.03 | 92.41 | 5.56 | 1485.10 | 884.96 | 61.96 | 0.63 | 1344.46 | 3.00 |
| | 1.670 | 5001.00 | 1489.83 | 4.73 | 4.51 | 78.69 | 5.56 | 1485.10 | 375.60 | 63.28 | 0.73 | 1162.64 | 3.00 |
| * | 1.764 | 5001.00 | 1491.30 | 4.30 | 3.15 | 29.68 | 3.83 | 1487.00 | 910.95 | 53.02 | 1.76 | 2037.02 | 4.00 |
| * | 1.764 | 5001.00 | 1492.30 | 5.30 | 3.98 | 34.24 | 3.83 | 1487.00 | 435.70 | 54.79 | 1.52 | 1581.65 | 4.00 |
| * | 1.866 | 5001.00 | 1493.85 | 3.95 | 3.67 | 87.83 | 5.38 | 1489.90 | 964.37 | 65.00 | 0.58 | 1456.37 | 3.00 |
| * | 1.866 | 5001.00 | 1494.82 | 4.92 | 4.31 | 74.77 | 5.38 | 1489.90 | 367.60 | 65.00 | 0.68 | 1132.46 | 3.00 |
| | 1.967 | 5001.00 | 1496.87 | 4.27 | 2.55 | 46.37 | 5.07 | 1492.60 | 1338.44 | 60.54 | 1.38 | 1964.53 | 4.00 |
| | 1.967 | 5001.00 | 1497.83 | 5.23 | 3.03 | 48.95 | 5.07 | 1492.60 | 511.90 | 68.49 | 1.24 | 1401.86 | 4.00 |
| | 2.064 | 5001.00 | 1498.73 | 3.63 | 2.53 | 38.23 | 4.88 | 1495.10 | 1485.11 | 51.66 | 1.10 | 2076.14 | 4.00 |
| | 2.064 | 5001.00 | 1499.75 | 4.65 | 2.84 | 36.28 | 4.88 | 1495.10 | 605.30 | 61.33 | 1.16 | 1621.27 | 4.00 |
| | 2.159 | 5001.00 | 1501.08 | 3.58 | 3.57 | 69.34 | 4.78 | 1497.50 | 1155.66 | 67.22 | 0.74 | 1632.85 | 3.00 |
| * | 2.159 | 5001.00 | 1502.05 | 4.55 | 3.17 | 75.39 | 4.78 | 1497.50 | 464.60 | 93.17 | 0.69 | 1185.61 | 3.00 |
| | 2.251 | 5001.00 | 1503.49 | 3.49 | 2.58 | 54.07 | 5.14 | 1500.00 | 1159.89 | 70.37 | 1.13 | 1773.10 | 4.00 |
| | 2.251 | 5001.00 | 1504.54 | 4.54 | 2.46 | 54.22 | 5.14 | 1500.00 | 562.20 | 94.79 | 1.18 | 1427.69 | 4.00 |
| | 2.346 | 5001.00 | 1506.11 | 3.41 | 2.20 | 73.64 | 5.38 | 1502.70 | 1304.74 | 90.04 | 0.86 | 1685.44 | 3.00 |
| | 2.346 | 5001.00 | 1507.11 | 4.41 | 2.48 | 75.82 | 5.38 | 1502.70 | 534.60 | 104.56 | 0.85 | 1248.14 | 3.00 |
| | 2.442 | 5001.00 | 1509.18 | 3.78 | 3.43 | 55.15 | 5.33 | 1505.40 | 1557.78 | 52.06 | 1.16 | 1915.99 | 4.00 |
| | 2.442 | 5001.00 | 1510.19 | 4.79 | 3.87 | 54.42 | 5.33 | 1505.40 | 561.50 | 59.67 | 1.18 | 1377.49 | 4.00 |
| | 2.537 | 5001.00 | 1512.07 | 4.27 | 3.07 | 64.53 | 4.78 | 1507.80 | 1488.41 | 64.34 | 0.92 | 1792.18 | 3.00 |
| | 2.537 | 5001.00 | 1513.07 | 5.27 | 3.95 | 64.60 | 4.78 | 1507.80 | 615.30 | 64.34 | 0.92 | 1380.04 | 3.00 |
| | 2.631 | 5001.00 | 1514.64 | 4.74 | 2.82 | 52.71 | 4.23 | 1509.90 | 1341.49 | 64.53 | 1.11 | 2057.33 | 4.00 |
| | 2.631 | 5001.00 | 1515.62 | 5.72 | 3.34 | 54.67 | 4.23 | 1509.90 | 645.70 | 70.00 | 1.09 | 1513.62 | 4.00 |
| | 2.727 | 5001.00 | 1517.64 | 5.34 | 3.35 | 78.34 | 4.73 | 1512.30 | 1152.17 | 74.42 | 0.82 | 1703.67 | 3.00 |
| | 2.727 | 5001.00 | 1518.48 | 6.18 | 3.50 | 67.29 | 4.73 | 1512.30 | 482.00 | 79.28 | 0.90 | 1341.67 | 3.00 |
| | 2.827 | 5001.00 | 1520.56 | 4.86 | 3.10 | 60.96 | 6.44 | 1515.70 | 1074.50 | 69.37 | 1.13 | 1889.27 | 4.00 |
| | 2.827 | 5001.00 | 1521.54 | 5.84 | 3.03 | 75.27 | 6.44 | 1515.70 | 551.43 | 95.05 | 0.95 | 1418.60 | 3.00 |
| | 2.927 | 5001.00 | 1523.04 | 3.54 | 2.39 | 62.62 | 7.20 | 1519.50 | 1222.59 | 66.17 | 0.99 | 1862.02 | 2.00 |
| | 2.927 | 5001.00 | 1524.09 | 4.59 | 2.95 | 49.05 | 7.20 | 1519.50 | 683.50 | 66.71 | 1.24 | 1532.68 | 4.00 |
| | 3.027 | 5001.00 | 1525.96 | 4.06 | 4.65 | 54.82 | 4.55 | 1521.90 | 1250.27 | 45.22 | 1.07 | 1681.05 | 4.00 |
| | 3.027 | 5001.00 | 1526.81 | 4.91 | 5.64 | 61.85 | 4.55 | 1521.90 | 467.60 | 47.59 | 0.89 | 1171.05 | 3.00 |
| | 3.137 | 5001.00 | 1529.16 | 3.66 | 4.62 | 58.54 | 6.20 | 1525.50 | 981.31 | 51.36 | 0.97 | 1547.60 | 2.00 |
| | 3.137 | 5001.00 | 1530.19 | 4.69 | 5.36 | 56.34 | 6.20 | 1525.50 | 345.80 | 52.87 | 1.05 | 1090.85 | 4.00 |
| | 3.224 | 5001.00 | 1531.99 | 7.09 | 3.82 | 64.61 | -1.31 | 1524.90 | 844.61 | 72.00 | 0.95 | 1512.26 | 3.00 |
| | 3.224 | 5001.00 | 1532.99 | 8.09 | 4.50 | 64.24 | -1.31 | 1524.90 | 345.40 | 72.00 | 0.94 | 1134.36 | 3.00 |

| | SECNO | Q | CWSEL | DEPTH | VCH | 10*KS | K*CHSL | ELMIN | TOPWID | K*XNCH | KRATIO | AREA | IHLEQ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3.321 | 5001.00 | 1534.89 | 7.89 | 3.81 | 50.27 | 4.10 | 1527.00 | 730.71 | 72.00 | 1.13 | 1509.09 | 4.00 |
| | 3.321 | 5001.00 | 1535.89 | 8.89 | 4.36 | 49.66 | 4.10 | 1527.00 | 315.80 | 72.00 | 1.14 | 1182.87 | 4.00 |
| | 3.413 | 5001.00 | 1537.60 | 8.80 | 5.32 | 65.12 | 3.70 | 1528.80 | 394.43 | 72.00 | 0.88 | 1113.44 | 3.00 |
| | 3.413 | 5001.00 | 1538.54 | 9.74 | 5.82 | 63.86 | 3.70 | 1528.80 | 203.60 | 72.00 | 0.88 | 934.66 | 3.00 |
| | 3.514 | 5001.00 | 1540.10 | 9.20 | 3.17 | 34.70 | 3.94 | 1530.90 | 566.13 | 85.50 | 1.37 | 1679.60 | 4.00 |
| | 3.514 | 5001.00 | 1541.12 | 10.22 | 3.54 | 34.69 | 3.94 | 1530.90 | 270.00 | 85.50 | 1.36 | 1450.48 | 4.00 |
| | 3.617 | 5001.00 | 1541.67 | 8.17 | 7.99 | 41.49 | 4.78 | 1533.50 | 338.88 | 38.00 | 0.91 | 926.60 | 2.00 |
| | 3.617 | 5001.00 | 1542.52 | 9.02 | 9.12 | 47.13 | 4.78 | 1533.50 | 84.30 | 38.00 | 0.86 | 552.11 | 2.00 |
| * | 3.651 | 5101.00 | 1553.08 | 8.08 | 7.76 | 4.00 | 63.89 | 1545.00 | 2300.00 | 13.00 | 3.28 | 2676.12 | 4.00 |
| * | 3.651 | 5101.00 | 1553.56 | 8.56 | 9.70 | 5.79 | 63.89 | 1545.00 | 562.13 | 13.00 | 2.91 | 1207.97 | 4.00 |
| * | 3.670 | 5101.00 | 1553.56 | 8.06 | 7.88 | 4.15 | 5.00 | 1545.50 | 2300.00 | 13.00 | 0.98 | 2625.59 | 4.00 |
| * | 3.670 | 5101.00 | 1553.99 | 8.49 | 9.49 | 5.61 | 5.00 | 1545.50 | 670.00 | 13.00 | 1.02 | 1327.30 | 4.00 |
| * | 3.713 | 5309.00 | 1554.32 | 10.92 | 0.48 | 0.24 | -9.13 | 1543.40 | 1500.00 | 71.98 | 4.32 | 13058.37 | 4.00 |
| * | 3.713 | 5309.00 | 1555.36 | 11.96 | 0.50 | 0.24 | -9.13 | 1543.40 | 1159.00 | 71.98 | 5.06 | 11813.83 | 4.00 |
| | 3.821 | 5309.00 | 1554.33 | 10.33 | 0.73 | 0.37 | 1.05 | 1544.00 | 1426.50 | 53.93 | 0.80 | 10060.97 | 2.00 |
| | 3.821 | 5309.00 | 1555.38 | 11.38 | 0.78 | 0.36 | 1.05 | 1544.00 | 1050.41 | 53.93 | 0.81 | 9170.79 | 2.00 |
| * | 3.917 | 5309.00 | 1554.37 | 8.27 | 1.16 | 1.66 | 4.14 | 1546.10 | 1431.31 | 58.01 | 0.47 | 5494.21 | 2.00 |
| * | 3.917 | 5309.00 | 1555.42 | 9.32 | 1.26 | 1.63 | 4.14 | 1546.10 | 685.55 | 58.18 | 0.47 | 4529.98 | 2.00 |
| * | 4.010 | 5309.00 | 1554.59 | 6.39 | 2.18 | 9.71 | 4.28 | 1548.20 | 1213.25 | 66.37 | 0.41 | 3205.79 | 2.00 |
| * | 4.010 | 5309.00 | 1555.60 | 7.40 | 2.43 | 9.63 | 4.28 | 1548.20 | 540.27 | 66.37 | 0.41 | 2479.84 | 2.00 |
| * | 4.119 | 5309.00 | 1555.84 | 6.64 | 4.75 | 66.06 | 1.74 | 1549.20 | 969.44 | 72.62 | 0.38 | 1514.68 | 3.00 |
| * | 4.119 | 5309.00 | 1556.82 | 7.62 | 5.42 | 67.18 | 1.74 | 1549.20 | 264.83 | 72.62 | 0.38 | 1065.88 | 3.00 |
| | 4.214 | 5309.00 | 1558.79 | 6.99 | 4.80 | 54.80 | 5.18 | 1551.80 | 736.64 | 66.13 | 1.10 | 1464.24 | 4.00 |
| | 4.214 | 5309.00 | 1559.80 | 8.00 | 5.42 | 54.46 | 5.18 | 1551.80 | 214.40 | 66.13 | 1.11 | 1039.34 | 4.00 |
| | 4.306 | 5309.00 | 1561.57 | 7.97 | 6.33 | 64.06 | 3.70 | 1553.60 | 759.94 | 60.70 | 0.92 | 1295.14 | 3.00 |
| | 4.306 | 5309.00 | 1562.54 | 8.94 | 7.07 | 65.53 | 3.70 | 1553.60 | 200.41 | 60.70 | 0.91 | 917.24 | 3.00 |
| | 4.403 | 5309.00 | 1564.54 | 9.24 | 5.10 | 49.47 | 3.32 | 1555.30 | 399.33 | 67.67 | 1.14 | 1267.81 | 4.00 |
| | 4.403 | 5309.00 | 1565.55 | 10.25 | 5.39 | 44.94 | 3.32 | 1555.30 | 205.00 | 67.67 | 1.21 | 1068.97 | 4.00 |
| | 4.497 | 5320.00 | 1566.94 | 11.04 | 6.92 | 53.04 | 1.21 | 1555.90 | 374.81 | 60.27 | 0.97 | 1115.02 | 3.00 |
| | 4.497 | 5320.00 | 1567.86 | 11.96 | 7.53 | 58.73 | 1.21 | 1555.90 | 141.54 | 60.27 | 0.88 | 816.34 | 3.00 |
| | 4.596 | 5320.00 | 1569.28 | 10.28 | 5.00 | 34.43 | 5.93 | 1559.00 | 231.70 | 62.72 | 1.24 | 1177.66 | 4.00 |
| * | 4.596 | 5320.00 | 1570.29 | 11.29 | 5.10 | 29.87 | 5.93 | 1559.00 | 146.00 | 62.72 | 1.40 | 1077.26 | 4.00 |
| | 4.694 | 5320.00 | 1571.52 | 11.72 | 7.19 | 70.16 | 1.55 | 1559.80 | 202.00 | 58.40 | 0.70 | 810.14 | 3.00 |
| | 4.694 | 5320.00 | 1572.18 | 12.38 | 6.91 | 56.76 | 1.55 | 1559.80 | 111.00 | 58.40 | 0.73 | 773.23 | 3.00 |

| | SECNO | Q | CWSEL | DEPTH | VCH | 10*KS | K*CHSL | ELMIN | TOPWID | K*XNCH | KRATIO | AREA | IHLEQ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4.789 | 5320.00 | 1574.50 | 12.90 | 5.56 | 41.80 | 3.59 | 1561.60 | 228.71 | 65.66 | 1.30 | 1081.73 | 4.00 |
| | 4.789 | 5320.00 | 1575.07 | 13.47 | 5.60 | 48.00 | 3.59 | 1561.60 | 115.20 | 71.87 | 1.09 | 950.64 | 4.00 |
| * | 4.893 | 5320.00 | 1578.41 | 8.21 | 8.19 | 114.94 | 15.66 | 1570.20 | 221.20 | 59.73 | 0.60 | 689.90 | 2.00 |
| * | 4.893 | 5320.00 | 1578.86 | 8.66 | 7.73 | 101.50 | 15.66 | 1570.20 | 116.30 | 61.93 | 0.69 | 688.00 | 2.00 |
| * | 4.988 | 5320.00 | 1582.77 | 9.37 | 5.87 | 56.61 | 6.37 | 1573.40 | 228.00 | 61.47 | 1.42 | 963.91 | 4.00 |
| | 4.988 | 5320.00 | 1583.18 | 9.78 | 5.68 | 61.59 | 6.37 | 1573.40 | 149.50 | 67.96 | 1.28 | 935.89 | 4.00 |
| | 5.095 | 5320.00 | 1585.76 | 9.86 | 5.81 | 48.72 | 4.42 | 1575.90 | 225.00 | 63.25 | 1.08 | 1024.87 | 4.00 |
| | 5.095 | 5320.00 | 1586.43 | 10.53 | 5.84 | 54.74 | 4.42 | 1575.90 | 118.40 | 69.91 | 1.06 | 910.76 | 4.00 |
| | 5.189 | 5320.00 | 1587.89 | 10.49 | 4.27 | 31.18 | 3.02 | 1577.40 | 332.58 | 60.44 | 1.25 | 1374.95 | 4.00 |
| * | 5.189 | 5320.00 | 1588.51 | 11.11 | 4.20 | 27.05 | 3.02 | 1577.40 | 205.72 | 61.19 | 1.42 | 1267.54 | 4.00 |
| * | 5.287 | 5330.00 | 1592.52 | 11.92 | 6.27 | 110.55 | 6.19 | 1580.60 | 1632.38 | 51.87 | 0.53 | 1671.12 | 4.00 |
| * | 5.287 | 5330.00 | 1593.15 | 12.55 | 6.58 | 322.89 | 6.19 | 1580.60 | 466.25 | 94.92 | 0.29 | 1015.79 | 3.00 |
| | 5.386 | 5330.00 | 1596.56 | 15.16 | 7.71 | 63.80 | 1.53 | 1581.40 | 1278.24 | 58.00 | 1.32 | 1679.32 | 4.00 |
| * | 5.386 | 5330.00 | 1597.59 | 16.19 | 7.31 | 49.33 | 1.53 | 1581.40 | 485.00 | 58.00 | 2.56 | 1400.46 | 4.00 |
| | 5.485 | 5330.00 | 1599.65 | 12.55 | 5.29 | 45.51 | 10.90 | 1587.10 | 1339.53 | 54.84 | 1.18 | 1866.20 | 4.00 |
| | 5.485 | 5330.00 | 1600.42 | 13.32 | 6.32 | 56.09 | 10.90 | 1587.10 | 323.64 | 55.00 | 0.94 | 1067.91 | 2.00 |
| | 5.577 | 5330.00 | 1602.02 | 9.72 | 6.98 | 64.19 | 10.70 | 1592.30 | 1373.78 | 45.42 | 0.84 | 1397.86 | 2.00 |
| | 5.577 | 5330.00 | 1602.92 | 10.62 | 7.57 | 59.86 | 10.70 | 1592.30 | 132.00 | 45.58 | 0.97 | 705.31 | 2.00 |
| | 5.668 | 5330.00 | 1604.99 | 2.79 | 1.83 | 52.35 | 20.62 | 1602.20 | 1567.41 | 71.21 | 1.11 | 2255.31 | 4.00 |
| | 5.668 | 5330.00 | 1606.02 | 3.82 | 2.45 | 44.39 | 20.62 | 1602.20 | 740.00 | 71.66 | 1.16 | 1853.83 | 4.00 |
| | 5.765 | 5330.00 | 1607.89 | 3.09 | 1.68 | 74.77 | 5.08 | 1604.80 | 1717.20 | 95.00 | 0.84 | 2357.29 | 3.00 |
| | 5.765 | 5330.00 | 1608.79 | 3.99 | 2.51 | 85.84 | 5.08 | 1604.80 | 690.50 | 95.00 | 0.72 | 1597.69 | 3.00 |
| | 5.858 | 5330.00 | 1611.13 | 3.23 | 2.08 | 69.19 | 6.31 | 1607.90 | 1457.94 | 95.00 | 1.04 | 2560.17 | 4.00 |
| | 5.858 | 5330.00 | 1612.17 | 4.27 | 2.57 | 60.60 | 6.31 | 1607.90 | 690.00 | 95.00 | 1.19 | 2087.17 | 4.00 |
| | 5.945 | 5340.00 | 1613.65 | 2.35 | 1.41 | 44.58 | 7.41 | 1611.30 | 2617.65 | 86.99 | 1.25 | 3022.24 | 4.00 |
| | 5.945 | 5340.00 | 1614.39 | 3.09 | 2.56 | 39.83 | 7.41 | 1611.30 | 1045.59 | 60.35 | 1.24 | 2155.36 | 4.00 |
| | 6.026 | 5340.00 | 1615.36 | 1.76 | 0.64 | 51.27 | 5.37 | 1613.60 | 2153.85 | 76.35 | 0.93 | 2325.96 | 2.00 |
| | 6.026 | 5340.00 | 1616.27 | 2.67 | 1.70 | 59.27 | 5.37 | 1613.60 | 1191.64 | 75.34 | 0.82 | 1897.97 | 2.00 |
| | 6.067 | 5340.00 | 1617.04 | 5.94 | 2.08 | 54.17 | -11.57 | 1611.10 | 2043.71 | 89.38 | 0.97 | 2373.99 | 3.00 |
| | 6.067 | 5340.00 | 1618.03 | 6.93 | 2.54 | 57.01 | -11.57 | 1611.10 | 563.67 | 94.93 | 1.02 | 1631.61 | 4.00 |
| | 6.135 | 5340.00 | 1618.72 | 6.52 | 4.02 | 79.08 | 3.06 | 1612.20 | 1728.51 | 72.56 | 0.83 | 2065.32 | 3.00 |
| | 6.135 | 5340.00 | 1619.73 | 7.53 | 4.96 | 75.24 | 3.06 | 1612.20 | 440.26 | 66.70 | 0.87 | 1301.93 | 3.00 |
| | 6.223 | 5340.00 | 1621.54 | 5.44 | 2.36 | 53.50 | 8.39 | 1616.10 | 1964.04 | 85.00 | 1.22 | 2693.12 | 4.00 |
| | 6.223 | 5340.00 | 1622.57 | 6.47 | 2.89 | 52.02 | 8.39 | 1616.10 | 617.13 | 85.00 | 1.20 | 1953.14 | 4.00 |

| SECNO | Q | CWSEL | DEPTH | VCH | 10*KS | K*CHSL | ELMIN | TOPWID | K*XNCH | KRATIO | AREA | IHLEQ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6.321 | 5340.00 | 1624.01 | 2.81 | 2.09 | 73.71 | 9.86 | 1621.20 | 1734.58 | 95.00 | 0.85 | 2419.73 | 2.00 |
| 6.321 | 5340.00 | 1624.97 | 3.77 | 2.68 | 78.64 | 9.86 | 1621.20 | 581.40 | 95.00 | 0.81 | 1548.60 | 2.00 |
| 6.413 | 5340.00 | 1627.49 | 2.79 | 2.00 | 70.76 | 7.20 | 1624.70 | 1179.93 | 95.00 | 1.02 | 1804.46 | 4.00 |
| 6.413 | 5340.00 | 1628.53 | 3.83 | 2.63 | 67.99 | 7.20 | 1624.70 | 488.88 | 95.00 | 1.08 | 1477.11 | 4.00 |
| 6.511 | 5340.00 | 1630.35 | 4.85 | 3.50 | 58.06 | 1.55 | 1625.50 | 1013.65 | 65.87 | 1.10 | 1829.00 | 4.00 |
| 6.511 | 5340.00 | 1631.36 | 5.86 | 4.07 | 52.45 | 1.55 | 1625.50 | 390.00 | 65.78 | 1.14 | 1344.77 | 4.00 |
| 6.603 | 5340.00 | 1633.46 | 4.86 | 3.21 | 65.93 | 6.38 | 1628.60 | 986.84 | 85.70 | 0.94 | 1800.51 | 2.00 |
| 6.603 | 5340.00 | 1634.41 | 5.81 | 3.90 | 70.58 | 6.38 | 1628.60 | 371.43 | 85.07 | 0.86 | 1363.95 | 2.00 |
| 6.704 | 5340.00 | 1636.19 | 4.59 | 2.48 | 51.92 | 5.63 | 1631.60 | 873.05 | 81.14 | 1.13 | 1896.25 | 4.00 |
| 6.704 | 5340.00 | 1637.18 | 5.58 | 2.88 | 45.73 | 5.63 | 1631.60 | 400.00 | 81.30 | 1.24 | 1483.80 | 4.00 |
| 6.801 | 5350.00 | 1638.89 | 3.29 | 2.36 | 66.19 | 7.81 | 1635.60 | 1261.22 | 95.00 | 0.89 | 2094.88 | 2.00 |
| 6.801 | 5350.00 | 1639.92 | 4.32 | 2.91 | 64.04 | 7.81 | 1635.60 | 546.00 | 95.00 | 0.85 | 1865.33 | 2.00 |
| 6.897 | 5350.00 | 1641.82 | 3.22 | 0.74 | 69.97 | 5.92 | 1638.60 | 1388.36 | 95.00 | 0.97 | 2045.57 | 3.00 |
| 6.897 | 5350.00 | 1642.85 | 4.25 | 1.60 | 63.97 | 5.92 | 1638.60 | 831.95 | 95.00 | 1.00 | 2054.38 | 4.00 |
| 6.986 | 5350.00 | 1644.68 | 2.18 | 0.86 | 85.53 | 8.30 | 1642.50 | 1661.26 | 95.00 | 0.90 | 1816.40 | 2.00 |
| 6.986 | 5350.00 | 1645.65 | 3.15 | 1.74 | 89.19 | 8.30 | 1642.50 | 769.14 | 95.00 | 0.85 | 1462.48 | 2.00 |
| 7.077 | 5350.00 | 1647.89 | 2.09 | 0.74 | 53.49 | 6.88 | 1645.80 | 2000.31 | 73.96 | 1.26 | 2261.30 | 4.00 |
| 7.077 | 5350.00 | 1648.91 | 3.11 | 2.06 | 51.88 | 6.88 | 1645.80 | 974.88 | 55.80 | 1.31 | 1943.96 | 4.00 |
| 7.167 | 5350.00 | 1651.86 | 3.96 | 1.41 | 81.99 | 4.42 | 1647.90 | 2272.64 | 95.00 | 0.81 | 2156.29 | 3.00 |
| 7.167 | 5350.00 | 1652.87 | 4.97 | 2.19 | 80.05 | 4.42 | 1647.90 | 836.47 | 95.00 | 0.81 | 1599.48 | 3.00 |
| 7.264 | 5350.00 | 1655.27 | 3.07 | 1.29 | 59.73 | 8.40 | 1652.20 | 2215.81 | 95.00 | 1.17 | 2539.48 | 4.00 |
| 7.264 | 5350.00 | 1656.29 | 4.09 | 1.95 | 57.60 | 8.40 | 1652.20 | 1173.62 | 95.00 | 1.18 | 2360.40 | 4.00 |
| 7.352 | 5350.00 | 1658.17 | 3.77 | 1.55 | 75.28 | 4.73 | 1654.40 | 1902.68 | 83.62 | 0.89 | 2191.09 | 3.00 |
| 7.352 | 5350.00 | 1658.98 | 4.58 | 3.18 | 66.96 | 4.73 | 1654.40 | 867.07 | 56.78 | 0.93 | 1634.37 | 3.00 |
| 7.438 | 5350.00 | 1661.27 | 4.47 | 2.16 | 67.89 | 5.29 | 1656.80 | 1191.00 | 85.00 | 1.05 | 1996.35 | 4.00 |
| 7.438 | 5350.00 | 1662.17 | 5.36 | 3.01 | 78.16 | 5.29 | 1656.80 | 584.55 | 85.00 | 0.93 | 1611.12 | 3.00 |
| 7.533 | 5350.00 | 1664.75 | 5.15 | 2.91 | 85.20 | 5.58 | 1659.60 | 698.87 | 85.00 | 0.89 | 1609.39 | 3.00 |
| 7.533 | 5350.00 | 1665.72 | 6.12 | 3.23 | 67.15 | 5.58 | 1659.60 | 485.00 | 85.00 | 1.08 | 1638.20 | 4.00 |
| 7.624 | 5350.00 | 1667.99 | 5.09 | 2.78 | 56.78 | 6.88 | 1662.90 | 666.56 | 82.00 | 1.22 | 1722.97 | 4.00 |
| 7.624 | 5350.00 | 1668.81 | 5.91 | 3.57 | 66.99 | 6.88 | 1662.90 | 446.26 | 82.00 | 1.00 | 1526.53 | 4.00 |
| 7.709 | 5360.00 | 1670.68 | 6.38 | 3.09 | 65.09 | 3.12 | 1664.30 | 627.71 | 82.00 | 0.94 | 1672.50 | 3.00 |
| 7.709 | 5360.00 | 1671.47 | 7.17 | 3.21 | 53.17 | 3.12 | 1664.30 | 430.00 | 82.00 | 1.12 | 1668.42 | 4.00 |
| 7.800 | 5334.00 | 1673.45 | 5.15 | 2.51 | 51.11 | 8.33 | 1668.30 | 796.34 | 80.10 | 1.12 | 1849.65 | 4.00 |
| 7.800 | 5334.00 | 1674.23 | 5.93 | 3.31 | 62.82 | 8.33 | 1668.30 | 454.63 | 80.15 | 0.92 | 1527.16 | 2.00 |

| | SECNO | Q | CWSEL | DEPTH | VCH | 10*KS | K*CHSL | ELMIN | TOPWID | K*XNCH | KRATIO | AREA | IHLEQ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7.896 | 5307.00 | 1675.98 | 6.08 | 2.01 | 56.29 | 3.16 | 1669.90 | 822.87 | 85.00 | 0.95 | 1799.24 | 3.00 |
| | 7.896 | 5307.00 | 1677.00 | 7.10 | 2.52 | 50.10 | 3.16 | 1669.90 | 520.00 | 85.00 | 1.11 | 1765.34 | 4.00 |
| | 7.995 | 5279.00 | 1678.78 | 7.18 | 1.95 | 58.17 | 3.25 | 1671.60 | 874.48 | 85.00 | 0.98 | 1640.85 | 3.00 |
| | 7.995 | 5279.00 | 1679.70 | 8.10 | 2.66 | 64.09 | 3.25 | 1671.60 | 406.00 | 85.00 | 0.88 | 1244.46 | 3.00 |
| | 8.088 | 5253.00 | 1681.52 | 3.92 | 4.06 | 53.51 | 12.22 | 1677.60 | 597.70 | 55.73 | 1.04 | 1433.11 | 4.00 |
| | 8.088 | 5253.00 | 1682.26 | 4.66 | 4.13 | 41.93 | 12.22 | 1677.60 | 340.20 | 56.14 | 1.23 | 1272.32 | 4.00 |
| | 8.182 | 5227.00 | 1684.93 | 4.93 | 7.62 | 107.15 | 4.84 | 1680.00 | 492.37 | 53.05 | 0.70 | 1026.00 | 3.00 |
| * | 8.182 | 5227.00 | 1685.48 | 5.48 | 9.79 | 153.09 | 4.84 | 1680.00 | 191.71 | 53.45 | 0.52 | 638.96 | 3.00 |
| * | 8.273 | 5201.00 | 1688.47 | 5.97 | 4.54 | 48.40 | 5.21 | 1682.50 | 430.00 | 70.09 | 1.48 | 1509.58 | 4.00 |
| * | 8.273 | 5201.00 | 1689.45 | 6.95 | 4.52 | 38.36 | 5.21 | 1682.50 | 265.00 | 70.09 | 1.99 | 1380.05 | 4.00 |
| | 8.374 | 5172.00 | 1691.23 | 7.23 | 7.30 | 63.42 | 2.81 | 1684.00 | 328.52 | 51.14 | 0.87 | 1269.11 | 3.00 |
| | 8.374 | 5172.00 | 1691.94 | 7.94 | 8.50 | 74.36 | 2.81 | 1684.00 | 198.04 | 51.56 | 0.71 | 1027.94 | 3.00 |
| | 8.465 | 5147.00 | 1693.92 | 5.72 | 7.40 | 52.73 | 8.75 | 1688.20 | 375.26 | 42.28 | 1.09 | 1142.69 | 4.00 |
| | 8.465 | 5147.00 | 1694.82 | 6.62 | 8.39 | 55.71 | 8.75 | 1688.20 | 141.48 | 42.83 | 1.15 | 782.53 | 4.00 |
| * | 8.560 | 5120.00 | 1695.86 | 6.96 | 4.60 | 21.25 | 1.39 | 1688.90 | 500.01 | 47.98 | 1.57 | 2000.86 | 4.00 |
| * | 8.560 | 5120.00 | 1696.91 | 8.01 | 5.56 | 17.80 | 1.39 | 1688.90 | 289.70 | 38.12 | 1.76 | 1661.84 | 4.00 |
| | 8.654 | 5094.00 | 1697.42 | 5.22 | 4.55 | 42.64 | 6.65 | 1692.20 | 603.98 | 53.71 | 0.70 | 1592.56 | 2.00 |
| * | 8.654 | 5094.00 | 1698.16 | 5.96 | 6.53 | 37.70 | 6.65 | 1692.20 | 251.83 | 38.24 | 0.68 | 1081.70 | 2.00 |
| | 8.740 | 5070.00 | 1699.73 | 6.73 | 6.11 | 71.69 | 1.76 | 1693.00 | 315.66 | 53.34 | 0.77 | 984.45 | 3.00 |
| | 8.740 | 5070.00 | 1699.89 | 6.89 | 6.81 | 46.14 | 1.76 | 1693.00 | 172.10 | 38.40 | 0.90 | 744.46 | 3.00 |
| | 8.844 | 5040.00 | 1703.63 | 7.73 | 9.16 | 80.67 | 5.28 | 1695.90 | 345.49 | 45.00 | 0.94 | 1078.90 | 3.00 |
| * | 8.844 | 5040.00 | 1703.72 | 7.82 | 12.25 | 153.06 | 5.28 | 1695.90 | 152.90 | 45.00 | 0.55 | 630.09 | 3.00 |
| | 8.940 | 5013.00 | 1707.10 | 8.00 | 8.07 | 55.02 | 6.31 | 1699.10 | 363.69 | 45.00 | 1.20 | 1163.43 | 4.00 |
| * | 8.940 | 5013.00 | 1708.08 | 8.98 | 7.34 | 37.17 | 6.31 | 1699.10 | 205.00 | 45.00 | 2.02 | 1134.69 | 4.00 |
| | 9.032 | 4987.00 | 1709.28 | 7.68 | 4.17 | 35.20 | 5.14 | 1701.60 | 499.50 | 62.40 | 1.24 | 1687.07 | 4.00 |
| | 9.032 | 4987.00 | 1709.84 | 8.24 | 5.33 | 40.94 | 5.14 | 1701.60 | 259.68 | 55.15 | 0.95 | 1171.91 | 2.00 |
| * | 9.119 | 4962.00 | 1711.63 | 7.93 | 9.24 | 118.97 | 4.58 | 1703.70 | 414.94 | 54.00 | 0.54 | 969.00 | 3.00 |
| * | 9.119 | 4962.00 | 1712.46 | 8.77 | 11.07 | 142.07 | 4.58 | 1703.70 | 209.52 | 54.00 | 0.53 | 679.56 | 3.00 |
| | 9.202 | 4940.00 | 1715.40 | 8.80 | 7.28 | 68.75 | 6.62 | 1706.60 | 148.97 | 59.78 | 1.31 | 726.81 | 4.00 |
| * | 9.202 | 4940.00 | 1716.31 | 9.71 | 6.56 | 47.24 | 6.62 | 1706.60 | 99.00 | 59.78 | 1.73 | 754.37 | 4.00 |
| | 9.289 | 4915.00 | 1718.83 | 8.93 | 9.94 | 85.07 | 7.19 | 1709.90 | 299.02 | 45.00 | 0.89 | 857.09 | 3.00 |
| * | 9.289 | 4915.00 | 1719.05 | 9.15 | 12.47 | 127.64 | 7.19 | 1709.90 | 135.00 | 45.00 | 0.61 | 550.94 | 4.00 |
| * | 9.387 | 669.00 | 1720.49 | 6.69 | 2.05 | 6.38 | 7.54 | 1713.80 | 368.79 | 45.00 | 0.50 | 475.84 | 4.00 |
| | 9.387 | 669.00 | 1721.47 | 7.67 | 1.59 | 2.83 | 7.54 | 1713.80 | 162.00 | 45.00 | 0.91 | 550.80 | 4.00 |

| | SECNO | Q | CWSEL | DEPTH | VCH | 10*KS | K*CHSL | ELMIN | TOPWID | K*XNCH | KRATIO | AREA | IHLEQ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | 9.480 | 669.00 | 1721.58 | 2.98 | 3.69 | 42.64 | 9.78 | 1718.60 | 110.44 | 45.00 | 0.39 | 197.07 | 2.00 |
| * | 9.480 | 669.00 | 1722.07 | 3.47 | 3.16 | 25.39 | 9.78 | 1718.60 | 79.13 | 45.00 | 0.33 | 211.75 | 2.00 |
| * | 9.588 | 669.00 | 1725.46 | 2.76 | 6.61 | 131.55 | 7.19 | 1722.70 | 61.55 | 38.00 | 0.57 | 104.66 | 3.00 |
| * | 9.588 | 669.00 | 1725.33 | 2.63 | 7.20 | 167.15 | 7.19 | 1722.70 | 53.97 | 38.00 | 0.39 | 92.92 | 3.00 |
| | 9.677 | 669.00 | 1730.63 | 3.33 | 4.41 | 81.84 | 9.79 | 1727.30 | 102.58 | 54.00 | 1.27 | 174.33 | 4.00 |
| * | 9.677 | 669.00 | 1730.90 | 3.60 | 4.47 | 78.59 | 9.79 | 1727.30 | 56.90 | 54.00 | 1.46 | 149.66 | 4.00 |
| | 9.770 | 669.00 | 1735.02 | 3.12 | 4.34 | 93.39 | 9.37 | 1731.90 | 182.34 | 45.00 | 0.94 | 217.04 | 2.00 |
| | 9.770 | 669.00 | 1735.68 | 3.78 | 6.17 | 130.89 | 9.37 | 1731.90 | 50.38 | 45.00 | 0.77 | 108.44 | 3.00 |
| | 9.865 | 669.00 | 1740.62 | 2.22 | 4.44 | 136.52 | 12.95 | 1738.40 | 145.89 | 40.00 | 0.83 | 150.82 | 2.00 |
| | 9.865 | 669.00 | 1740.85 | 2.45 | 3.69 | 74.04 | 12.95 | 1738.40 | 145.89 | 40.00 | 1.33 | 181.41 | 4.00 |
| * | 9.963 | 669.00 | 1745.45 | 3.05 | 3.22 | 67.85 | 7.74 | 1742.40 | 144.68 | 52.00 | 1.42 | 220.77 | 4.00 |
| | 9.963 | 669.00 | 1745.35 | 2.95 | 3.83 | 102.85 | 7.74 | 1742.40 | 115.05 | 52.00 | 0.85 | 174.86 | 3.00 |
| | 10.054 | 669.00 | 1749.28 | 2.38 | 4.46 | 103.28 | 9.38 | 1746.90 | 130.77 | 45.00 | 0.81 | 177.66 | 2.00 |
| | 10.054 | 669.00 | 1749.85 | 2.95 | 4.91 | 89.91 | 9.38 | 1746.90 | 68.70 | 45.00 | 1.07 | 136.24 | 4.00 |
| | 10.139 | 669.00 | 1754.21 | 3.71 | 4.88 | 128.62 | 8.02 | 1750.50 | 208.83 | 45.00 | 0.90 | 135.01 | 3.00 |
| | 10.139 | 669.00 | 1754.88 | 4.38 | 6.34 | 149.36 | 8.02 | 1750.50 | 52.50 | 45.00 | 0.78 | 105.49 | 3.00 |
| | 10.232 | 669.00 | 1759.17 | 5.27 | 3.41 | 76.75 | 6.92 | 1753.90 | 519.52 | 45.00 | 1.29 | 273.56 | 4.00 |
| * | 10.232 | 669.00 | 1759.49 | 5.59 | 3.42 | 58.51 | 6.92 | 1753.90 | 120.30 | 45.00 | 1.60 | 195.71 | 4.00 |
| | 10.320 | 669.00 | 1762.64 | 5.24 | 2.92 | 70.81 | 7.53 | 1757.40 | 385.71 | 60.00 | 1.04 | 302.10 | 4.00 |
| | 10.320 | 669.00 | 1763.04 | 5.64 | 3.98 | 101.84 | 7.53 | 1757.40 | 79.20 | 60.00 | 0.76 | 168.08 | 3.00 |
| | 10.426 | 669.00 | 1766.92 | 5.02 | 2.80 | 94.95 | 8.04 | 1761.90 | 223.30 | 60.00 | 0.86 | 229.99 | 3.00 |
| | 10.426 | 669.00 | 1767.53 | 5.63 | 2.91 | 63.12 | 8.04 | 1761.90 | 124.43 | 60.00 | 1.27 | 229.93 | 4.00 |
| | 10.516 | 669.00 | 1771.75 | 4.05 | 2.20 | 111.66 | 12.21 | 1767.70 | 214.29 | 60.00 | 0.92 | 206.33 | 2.00 |
| * | 10.516 | 669.00 | 1772.57 | 4.87 | 3.27 | 150.16 | 12.21 | 1767.70 | 180.64 | 60.00 | 0.65 | 204.79 | 2.00 |
| | 10.620 | 669.00 | 1776.97 | 4.27 | 3.06 | 79.42 | 9.11 | 1772.70 | 470.19 | 72.00 | 1.19 | 295.74 | 4.00 |
| * | 10.620 | 669.00 | 1778.02 | 5.32 | 3.81 | 74.38 | 9.11 | 1772.70 | 89.74 | 72.00 | 1.42 | 201.63 | 4.00 |
| | 10.710 | 669.00 | 1781.33 | 4.63 | 1.60 | 123.62 | 8.42 | 1776.70 | 559.30 | 60.00 | 0.80 | 255.19 | 3.00 |
| | 10.710 | 669.00 | 1782.11 | 5.41 | 2.80 | 99.16 | 8.42 | 1776.70 | 194.60 | 60.00 | 0.87 | 238.97 | 3.00 |
| | 10.802 | 669.00 | 1785.57 | 2.27 | 1.94 | 63.74 | 13.58 | 1783.30 | 427.26 | 72.00 | 1.39 | 326.89 | 4.00 |
| | 10.802 | 669.00 | 1786.44 | 3.14 | 3.03 | 80.72 | 13.58 | 1783.30 | 117.34 | 72.00 | 1.11 | 214.58 | 4.00 |
| * | 10.891 | 669.00 | 1789.91 | 2.31 | 2.36 | 134.65 | 9.15 | 1787.60 | 618.15 | 66.38 | 0.69 | 307.31 | 3.00 |
| | 10.891 | 669.00 | 1790.28 | 2.68 | 2.11 | 78.84 | 9.15 | 1787.60 | 255.10 | 71.97 | 1.01 | 317.12 | 4.00 |
| | 10.982 | 669.00 | 1794.45 | 2.75 | 1.82 | 75.00 | 8.54 | 1791.70 | 746.37 | 75.00 | 1.34 | 417.26 | 4.00 |
| | 10.982 | 669.00 | 1795.15 | 3.45 | 3.36 | 135.46 | 8.54 | 1791.70 | 124.01 | 75.00 | 0.76 | 201.13 | 3.00 |

| | SECNO | Q | CWSEL | DEPTH | VCH | 10*KS | K*CHSL | ELMIN | TOPWID | K*XNCH | KRATIO | AREA | IHLEQ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 11.079 | 669.00 | 1798.73 | 5.73 | 2.81 | 135.48 | 2.54 | 1793.00 | 394.38 | 62.00 | 0.74 | 269.83 | 3.00 |
| | 11.079 | 669.00 | 1799.77 | 6.77 | 3.31 | 75.50 | 2.54 | 1793.00 | 146.38 | 62.00 | 1.34 | 234.08 | 4.00 |
| | 11.174 | 699.00 | 1804.00 | 6.80 | 1.77 | 82.88 | 8.37 | 1797.20 | 476.15 | 72.00 | 1.34 | 355.03 | 4.00 |
| | 11.174 | 699.00 | 1804.79 | 7.59 | 3.17 | 131.45 | 8.37 | 1797.20 | 150.10 | 72.00 | 0.79 | 213.22 | 3.00 |
| | 11.264 | 709.00 | 1807.88 | 6.28 | 3.64 | 93.05 | 9.26 | 1801.60 | 288.15 | 72.00 | 0.96 | 274.51 | 2.00 |
| * | 11.264 | 709.00 | 1808.82 | 7.22 | 3.78 | 65.87 | 9.26 | 1801.60 | 79.30 | 72.00 | 1.43 | 206.84 | 4.00 |
| * | 11.368 | 1922.00 | 1813.00 | 4.40 | 4.31 | 93.52 | 12.75 | 1808.60 | 549.79 | 72.00 | 2.70 | 645.92 | 2.00 |
| * | 11.368 | 1992.00 | 1813.84 | 5.24 | 5.59 | 120.22 | 12.75 | 1808.60 | 172.45 | 72.00 | 2.08 | 451.73 | 2.00 |
| | 11.469 | 2162.00 | 1817.04 | 5.84 | 3.80 | 62.99 | 4.88 | 1811.20 | 629.83 | 72.00 | 1.37 | 860.03 | 4.00 |
| * | 11.469 | 2162.00 | 1817.94 | 6.74 | 4.01 | 53.06 | 4.88 | 1811.20 | 244.00 | 72.00 | 1.63 | 697.66 | 4.00 |
| * | 11.570 | 2162.00 | 1822.05 | 4.55 | 3.92 | 136.08 | 11.82 | 1817.50 | 804.47 | 63.44 | 0.68 | 836.92 | 2.00 |
| * | 11.570 | 2162.00 | 1823.02 | 5.52 | 5.18 | 148.89 | 11.82 | 1817.50 | 365.03 | 63.44 | 0.60 | 652.07 | 2.00 |
| * | 11.666 | 2371.00 | 1827.00 | 2.10 | 3.12 | 77.12 | 14.60 | 1824.90 | 783.52 | 45.00 | 1.46 | 1019.70 | 4.00 |
| * | 11.666 | 2371.00 | 1828.04 | 3.14 | 4.64 | 73.73 | 14.60 | 1824.90 | 548.71 | 45.00 | 1.56 | 1068.77 | 4.00 |
| | 11.750 | 2371.00 | 1830.87 | 3.97 | 4.12 | 104.05 | 4.50 | 1826.90 | 798.45 | 57.26 | 0.86 | 1114.18 | 3.00 |
| | 11.750 | 2371.00 | 1831.85 | 4.95 | 5.39 | 108.03 | 4.50 | 1826.90 | 279.33 | 57.26 | 0.83 | 861.87 | 3.00 |
| | 11.847 | 2371.00 | 1835.03 | 5.33 | 3.98 | 72.58 | 5.47 | 1829.70 | 514.30 | 57.82 | 1.20 | 1100.71 | 4.00 |
| | 11.847 | 2371.00 | 1835.99 | 6.29 | 4.32 | 67.29 | 5.47 | 1829.70 | 295.37 | 59.69 | 1.27 | 1001.95 | 4.00 |
| | 11.920 | 2371.00 | 1837.26 | 3.26 | 2.49 | 68.93 | 11.17 | 1834.00 | 617.85 | 72.00 | 1.03 | 962.24 | 4.00 |
| | 11.920 | 2371.00 | 1837.62 | 3.62 | 2.06 | 36.62 | 11.17 | 1834.00 | 540.10 | 72.00 | 1.36 | 1149.64 | 4.00 |
| | 12.010 | 2371.00 | 1839.90 | 3.40 | 2.59 | 46.76 | 5.26 | 1836.50 | 533.69 | 56.12 | 1.21 | 914.50 | 4.00 |
| | 12.010 | 2371.00 | 1839.92 | 3.42 | 2.56 | 61.16 | 5.26 | 1836.50 | 521.36 | 66.58 | 0.77 | 926.37 | 2.00 |
| * | 12.101 | 849.00 | 1844.18 | 4.28 | 1.68 | 275.14 | 7.08 | 1839.90 | 309.50 | 72.00 | 0.15 | 235.04 | 3.00 |
| * | 12.101 | 849.00 | 1845.22 | 5.32 | 2.69 | 237.55 | 7.08 | 1839.90 | 347.27 | 72.00 | 0.18 | 293.78 | 3.00 |
| * | 12.191 | 849.00 | 1849.60 | 6.20 | 2.16 | 74.74 | 7.37 | 1843.40 | 301.60 | 71.23 | 1.92 | 393.65 | 4.00 |
| * | 12.191 | 849.00 | 1849.69 | 6.29 | 2.00 | 59.12 | 7.37 | 1843.40 | 300.43 | 71.57 | 2.00 | 423.61 | 4.00 |
| | 12.281 | 979.00 | 1853.32 | 7.02 | 1.99 | 81.55 | 6.11 | 1846.30 | 452.22 | 71.46 | 1.10 | 492.41 | 3.00 |
| | 12.281 | 979.00 | 1853.14 | 6.84 | 2.45 | 90.38 | 6.11 | 1846.30 | 393.98 | 58.30 | 0.93 | 400.40 | 3.00 |
| * | 12.369 | 1812.00 | 1857.63 | 7.73 | 2.71 | 96.89 | 7.74 | 1849.90 | 700.12 | 64.34 | 1.70 | 730.81 | 3.00 |
| * | 12.369 | 1812.00 | 1857.96 | 8.06 | 3.42 | 121.93 | 7.74 | 1849.90 | 335.18 | 64.98 | 1.59 | 529.83 | 3.00 |
| | 12.464 | 1812.00 | 1862.21 | 7.71 | 4.37 | 93.15 | 9.16 | 1854.50 | 742.60 | 38.00 | 1.02 | 546.24 | 4.00 |
| | 12.464 | 1812.00 | 1863.20 | 8.70 | 6.09 | 95.56 | 9.16 | 1854.50 | 414.26 | 38.00 | 1.13 | 468.33 | 4.00 |
| | 12.614 | 2371.00 | 1869.31 | 3.31 | 3.90 | 148.74 | 14.72 | 1866.00 | 794.88 | 41.88 | 1.04 | 658.94 | 2.00 |
| | 12.614 | 2371.00 | 1870.27 | 4.27 | 3.73 | 133.65 | 14.72 | 1866.00 | 620.49 | 64.95 | 1.11 | 572.73 | 2.00 |

| | SECNO | Q | CWSEL | DEPTH | VCH | 10*KS | K*CHSL | ELMIN | TOPWID | K*XNCH | KRATIO | AREA | IHLEQ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 12.692 | 2371.00 | 1874.79 | 4.79 | 5.51 | 104.77 | 9.88 | 1870.00 | 759.94 | 40.76 | 1.19 | 646.71 | 4.00 |
| | 12.692 | 2371.00 | 1875.41 | 5.41 | 6.15 | 113.14 | 9.88 | 1870.00 | 245.20 | 45.19 | 1.09 | 421.13 | 4.00 |
| | 12.752 | 2371.00 | 1878.04 | 4.54 | 5.64 | 107.75 | 11.04 | 1873.50 | 491.23 | 44.98 | 0.99 | 527.16 | 2.00 |
| | 12.752 | 2371.00 | 1878.94 | 5.44 | 6.36 | 108.93 | 11.04 | 1873.50 | 400.00 | 49.75 | 1.02 | 502.26 | 4.00 |
| | 12.849 | 2371.00 | 1882.60 | 4.90 | 7.64 | 79.73 | 8.20 | 1877.70 | 371.53 | 38.00 | 1.16 | 446.17 | 4.00 |
| | 12.849 | 2371.00 | 1883.51 | 5.81 | 9.22 | 88.16 | 8.20 | 1877.70 | 106.05 | 38.00 | 1.11 | 306.33 | 4.00 |
| | 12.942 | 2371.00 | 1887.66 | 3.26 | 6.13 | 124.68 | 13.65 | 1884.40 | 490.08 | 36.53 | 0.80 | 519.11 | 2.00 |
| * | 12.942 | 2371.00 | 1888.61 | 4.21 | 5.81 | 67.22 | 13.65 | 1884.40 | 164.80 | 38.08 | 0.52 | 408.00 | 4.00 |
| | 13.025 | 2371.00 | 1892.91 | 3.91 | 7.86 | 130.49 | 10.50 | 1889.00 | 193.15 | 38.00 | 0.98 | 380.29 | 3.00 |
| * | 13.025 | 2371.00 | 1893.20 | 4.20 | 9.33 | 159.99 | 10.50 | 1889.00 | 96.12 | 38.00 | 0.65 | 254.25 | 4.00 |
| | 13.127 | 2371.00 | 1898.44 | 3.24 | 5.45 | 78.66 | 11.50 | 1895.20 | 425.51 | 45.00 | 1.29 | 607.61 | 4.00 |
| * | 13.127 | 2371.00 | 1899.32 | 4.12 | 6.17 | 70.74 | 11.50 | 1895.20 | 113.00 | 45.00 | 1.50 | 384.25 | 4.00 |
| | 13.221 | 2371.00 | 1903.39 | 4.49 | 6.12 | 136.33 | 7.46 | 1898.90 | 248.64 | 50.00 | 0.76 | 401.35 | 3.00 |
| | 13.221 | 2371.00 | 1903.63 | 4.73 | 5.60 | 101.19 | 7.46 | 1898.90 | 162.64 | 50.00 | 0.84 | 423.17 | 3.00 |
| | 13.325 | 2371.00 | 1908.55 | 4.15 | 6.22 | 71.60 | 10.02 | 1904.40 | 223.27 | 44.02 | 1.38 | 450.13 | 4.00 |
| | 13.325 | 2371.00 | 1908.36 | 3.96 | 7.18 | 80.97 | 10.02 | 1904.40 | 108.80 | 38.04 | 1.12 | 330.42 | 4.00 |
| | 13.419 | 2371.00 | 1913.44 | 3.84 | 6.75 | 129.88 | 10.48 | 1909.60 | 172.60 | 40.16 | 0.74 | 351.17 | 2.00 |
| | 13.419 | 2371.00 | 1914.23 | 4.63 | 4.86 | 146.50 | 10.48 | 1909.60 | 173.60 | 73.22 | 0.74 | 488.36 | 3.00 |
| | 13.499 | 2371.00 | 1918.92 | 4.12 | 10.28 | 157.11 | 12.32 | 1914.80 | 77.80 | 42.00 | 0.91 | 277.20 | 3.00 |
| | 13.499 | 2371.00 | 1919.53 | 4.73 | 10.57 | 150.07 | 12.32 | 1914.80 | 51.90 | 42.00 | 0.99 | 224.41 | 3.00 |

Io[illegible]Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| | SECNO | Q | CWSEL | XLCH | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|
| | 0.640 | 5001.00 | 1460.98 | 0.00 | 937.05 | 9228.59 | 10165.64 |
| | 0.640 | 5001.00 | 1461.98 | 0.00 | 455.00 | 9643.50 | 10098.50 |
| * | 0.734 | 5001.00 | 1464.87 | 496.00 | 1008.24 | 9195.23 | 10215.00 |
| * | 0.734 | 5001.00 | 1465.41 | 496.00 | 555.00 | 9620.00 | 10175.00 |
| | 0.819 | 5001.00 | 1467.22 | 449.00 | 938.33 | 9248.57 | 10274.30 |
| | 0.819 | 5001.00 | 1467.72 | 449.00 | 576.00 | 9557.00 | 10133.00 |
| | 0.912 | 5001.00 | 1469.65 | 491.00 | 1078.19 | 9094.81 | 10173.00 |
| | 0.912 | 5001.00 | 1470.43 | 491.00 | 416.30 | 9657.00 | 10073.30 |
| | 0.999 | 5001.00 | 1471.74 | 459.00 | 1178.25 | 9261.75 | 10440.00 |
| * | 0.999 | 5001.00 | 1472.59 | 459.00 | 391.00 | 9880.00 | 10271.00 |
| | 1.101 | 5001.00 | 1473.94 | 539.00 | 885.39 | 9280.11 | 10165.50 |
| | 1.101 | 5001.00 | 1474.95 | 539.00 | 503.10 | 9630.90 | 10134.00 |
| | 1.189 | 5001.00 | 1476.33 | 465.00 | 1020.14 | 9420.49 | 10440.63 |
| | 1.189 | 5001.00 | 1477.30 | 465.00 | 459.60 | 9651.50 | 10111.10 |
| | 1.285 | 5001.00 | 1478.80 | 507.00 | 915.91 | 9444.62 | 10360.53 |
| | 1.285 | 5001.00 | 1479.83 | 507.00 | 448.10 | 9645.20 | 10093.30 |
| | 1.386 | 5001.00 | 1481.30 | 533.00 | 924.87 | 9474.29 | 10399.16 |
| | 1.386 | 5001.00 | 1482.34 | 533.00 | 475.40 | 9660.10 | 10135.50 |
| | 1.480 | 5001.00 | 1483.69 | 496.00 | 851.79 | 9419.33 | 10271.12 |
| | 1.480 | 5001.00 | 1484.69 | 496.00 | 402.90 | 9775.10 | 10178.00 |
| | 1.578 | 5001.00 | 1486.08 | 517.00 | 921.23 | 9371.76 | 10292.99 |
| | 1.578 | 5001.00 | 1487.04 | 517.00 | 409.90 | 9800.10 | 10210.00 |
| * | 1.670 | 5001.00 | 1488.96 | 486.00 | 884.96 | 9741.04 | 10626.00 |
| | 1.670 | 5001.00 | 1489.83 | 486.00 | 375.60 | 9923.40 | 10299.00 |
| * | 1.764 | 5001.00 | 1491.30 | 496.00 | 910.95 | 9633.13 | 10544.07 |
| * | 1.764 | 5001.00 | 1492.30 | 496.00 | 435.70 | 9873.30 | 10309.00 |
| * | 1.866 | 5001.00 | 1493.85 | 539.00 | 964.37 | 9667.00 | 10631.37 |
| * | 1.866 | 5001.00 | 1494.82 | 539.00 | 367.60 | 9824.20 | 10191.80 |
| | 1.967 | 5001.00 | 1496.87 | 533.00 | 1338.44 | 9402.09 | 10906.10 |
| | 1.967 | 5001.00 | 1497.83 | 533.00 | 511.90 | 9752.50 | 10264.40 |
| | 2.064 | 5001.00 | 1498.73 | 512.00 | 1485.11 | 9049.90 | 10609.97 |
| | 2.064 | 5001.00 | 1499.75 | 512.00 | 605.30 | 9488.00 | 10093.30 |

| | SECNO | Q | CWSEL | XLCH | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|
| | 2.159 | 5001.00 | 1501.08 | 502.00 | 1155.66 | 9212.22 | 10367.88 |
| * | 2.159 | 5001.00 | 1502.05 | 502.00 | 464.60 | 9549.40 | 10014.00 |
| | 2.251 | 5001.00 | 1503.49 | 486.00 | 1159.89 | 9064.74 | 10224.63 |
| | 2.251 | 5001.00 | 1504.54 | 486.00 | 562.20 | 9462.10 | 10024.30 |
| | 2.346 | 5001.00 | 1506.11 | 502.00 | 1304.74 | 8958.42 | 10263.17 |
| | 2.346 | 5001.00 | 1507.11 | 502.00 | 534.60 | 9508.40 | 10043.00 |
| | 2.442 | 5001.00 | 1509.18 | 507.00 | 1557.78 | 8929.35 | 10487.13 |
| | 2.442 | 5001.00 | 1510.19 | 507.00 | 561.50 | 9585.10 | 10146.60 |
| | 2.537 | 5001.00 | 1512.07 | 502.00 | 1488.41 | 9299.44 | 10831.70 |
| | 2.537 | 5001.00 | 1513.07 | 502.00 | 615.30 | 9901.20 | 10516.50 |
| | 2.631 | 5001.00 | 1514.64 | 496.00 | 1341.49 | 9589.34 | 11000.56 |
| | 2.631 | 5001.00 | 1515.62 | 496.00 | 645.70 | 9889.30 | 10535.00 |
| | 2.727 | 5001.00 | 1517.64 | 507.00 | 1152.17 | 9239.83 | 10392.00 |
| | 2.727 | 5001.00 | 1518.48 | 507.00 | 482.00 | 9606.00 | 10088.00 |
| | 2.827 | 5001.00 | 1520.56 | 528.00 | 1074.50 | 9041.61 | 10116.11 |
| | 2.827 | 5001.00 | 1521.54 | 528.00 | 551.43 | 9574.90 | 10126.33 |
| | 2.927 | 5001.00 | 1523.04 | 528.00 | 1222.59 | 9129.20 | 10424.79 |
| | 2.927 | 5001.00 | 1524.09 | 528.00 | 683.50 | 9516.50 | 10200.00 |
| | 3.027 | 5001.00 | 1525.96 | 528.00 | 1250.27 | 9291.49 | 10596.00 |
| | 3.027 | 5001.00 | 1526.81 | 528.00 | 467.60 | 9596.40 | 10064.00 |
| | 3.137 | 5001.00 | 1529.16 | 581.00 | 981.31 | 9452.88 | 10434.19 |
| | 3.137 | 5001.00 | 1530.19 | 581.00 | 345.80 | 9780.10 | 10125.90 |
| | 3.224 | 5001.00 | 1531.99 | 459.00 | 844.61 | 9565.80 | 10410.41 |
| | 3.224 | 5001.00 | 1532.99 | 459.00 | 345.40 | 9789.60 | 10135.00 |
| | 3.321 | 5001.00 | 1534.89 | 512.00 | 730.71 | 9659.90 | 10390.61 |
| | 3.321 | 5001.00 | 1535.89 | 512.00 | 315.80 | 9814.40 | 10130.20 |
| | 3.413 | 5001.00 | 1537.60 | 486.00 | 394.43 | 9846.90 | 10241.33 |
| | 3.413 | 5001.00 | 1538.54 | 486.00 | 203.60 | 9935.50 | 10139.10 |
| | 3.514 | 5001.00 | 1540.10 | 533.00 | 566.13 | 9743.31 | 10328.09 |
| | 3.514 | 5001.00 | 1541.12 | 533.00 | 270.00 | 9922.20 | 10192.20 |
| | 3.617 | 5001.00 | 1541.67 | 544.00 | 338.88 | 9791.20 | 10130.08 |
| | 3.617 | 5001.00 | 1542.52 | 544.00 | 84.30 | 9945.70 | 10030.00 |
| * | 3.651 | 5101.00 | 1553.08 | 180.00 | 2300.00 | 8900.00 | 11200.00 |
| * | 3.651 | 5101.00 | 1553.56 | 180.00 | 562.13 | 9751.00 | 10313.13 |

| | SECNO | Q | CWSEL | XLCH | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|
| * | 3.670 | 5101.00 | 1553.56 | 100.00 | 2300.00 | 8900.00 | 11200.00 |
| * | 3.670 | 5101.00 | 1553.99 | 100.00 | 670.00 | 9700.00 | 10370.00 |
| * | 3.713 | 5309.00 | 1554.32 | 230.00 | 1500.00 | 9100.00 | 10600.00 |
| * | 3.713 | 5309.00 | 1555.36 | 230.00 | 1159.00 | 9224.00 | 10383.00 |
| | 3.821 | 5309.00 | 1554.33 | 570.00 | 1426.50 | 9039.50 | 10466.00 |
| | 3.821 | 5309.00 | 1555.38 | 570.00 | 1050.41 | 9193.10 | 10243.51 |
| * | 3.917 | 5309.00 | 1554.37 | 507.00 | 1431.31 | 9140.00 | 10629.00 |
| * | 3.917 | 5309.00 | 1555.42 | 507.00 | 685.55 | 9361.22 | 10046.77 |
| * | 4.010 | 5309.00 | 1554.59 | 491.00 | 1213.25 | 9274.30 | 10487.54 |
| * | 4.010 | 5309.00 | 1555.60 | 491.00 | 540.27 | 9603.85 | 10144.12 |
| * | 4.119 | 5309.00 | 1555.84 | 576.00 | 969.44 | 9406.94 | 10376.39 |
| * | 4.119 | 5309.00 | 1556.82 | 576.00 | 264.83 | 9815.77 | 10080.60 |
| | 4.214 | 5309.00 | 1558.79 | 502.00 | 736.64 | 9567.85 | 10304.49 |
| | 4.214 | 5309.00 | 1559.80 | 502.00 | 214.40 | 9857.95 | 10072.35 |
| | 4.306 | 5309.00 | 1561.57 | 486.00 | 759.94 | 9689.19 | 10449.13 |
| | 4.306 | 5309.00 | 1562.54 | 486.00 | 200.41 | 9903.87 | 10104.28 |
| | 4.403 | 5309.00 | 1564.54 | 512.00 | 399.33 | 9715.70 | 10115.03 |
| | 4.403 | 5309.00 | 1565.55 | 512.00 | 205.00 | 9825.00 | 10030.00 |
| | 4.497 | 5320.00 | 1566.94 | 496.00 | 374.81 | 9887.20 | 10262.01 |
| | 4.497 | 5320.00 | 1567.86 | 496.00 | 141.54 | 9969.70 | 10111.24 |
| | 4.596 | 5320.00 | 1569.28 | 523.00 | 231.70 | 9883.80 | 10115.50 |
| * | 4.596 | 5320.00 | 1570.29 | 523.00 | 146.00 | 9905.00 | 10051.00 |
| | 4.694 | 5320.00 | 1571.52 | 517.00 | 202.00 | 9925.34 | 10127.34 |
| | 4.694 | 5320.00 | 1572.18 | 517.00 | 111.00 | 9969.00 | 10080.00 |
| | 4.789 | 5320.00 | 1574.50 | 502.00 | 228.71 | 9926.80 | 10155.51 |
| | 4.789 | 5320.00 | 1575.07 | 502.00 | 115.20 | 9926.80 | 10042.00 |
| * | 4.893 | 5320.00 | 1578.41 | 549.00 | 221.20 | 9881.00 | 10102.20 |
| * | 4.893 | 5320.00 | 1578.86 | 549.00 | 116.30 | 9931.20 | 10047.50 |
| * | 4.988 | 5320.00 | 1582.77 | 502.00 | 228.00 | 9878.00 | 10106.00 |
| | 4.988 | 5320.00 | 1583.18 | 502.00 | 149.50 | 9893.50 | 10043.00 |
| | 5.095 | 5320.00 | 1585.76 | 565.00 | 225.00 | 9896.00 | 10121.00 |
| | 5.095 | 5320.00 | 1586.43 | 565.00 | 118.40 | 9965.60 | 10084.00 |
| | 5.189 | 5320.00 | 1587.89 | 496.00 | 332.58 | 9819.88 | 10161.80 |
| * | 5.189 | 5320.00 | 1588.51 | 496.00 | 205.72 | 9957.00 | 10162.72 |

| | SECNO | Q | CWSEL | XLCH | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|
| * | 5.287 | 5330.00 | 1592.52 | 517.00 | 1632.38 | 8755.12 | 10387.50 |
| * | 5.287 | 5330.00 | 1593.15 | 517.00 | 466.25 | 9601.75 | 10068.00 |
| | 5.386 | 5330.00 | 1596.56 | 523.00 | 1278.24 | 8954.96 | 10285.60 |
| * | 5.386 | 5330.00 | 1597.59 | 523.00 | 485.00 | 9550.00 | 10035.00 |
| | 5.485 | 5330.00 | 1599.65 | 523.00 | 1339.53 | 8982.07 | 10321.61 |
| | 5.485 | 5330.00 | 1600.42 | 523.00 | 323.64 | 9755.36 | 10079.00 |
| | 5.577 | 5330.00 | 1602.02 | 486.00 | 1373.78 | 8854.37 | 10228.15 |
| | 5.577 | 5330.00 | 1602.92 | 486.00 | 132.00 | 9981.50 | 10113.50 |
| | 5.668 | 5330.00 | 1604.99 | 480.00 | 1567.41 | 8925.92 | 10495.86 |
| | 5.668 | 5330.00 | 1606.02 | 480.00 | 740.00 | 9490.00 | 10230.00 |
| | 5.765 | 5330.00 | 1607.89 | 512.00 | 1717.20 | 9066.99 | 10784.18 |
| | 5.765 | 5330.00 | 1608.79 | 512.00 | 690.50 | 9551.50 | 10242.00 |
| | 5.858 | 5330.00 | 1611.13 | 491.00 | 1457.94 | 9292.06 | 10750.00 |
| | 5.858 | 5330.00 | 1612.17 | 491.00 | 690.00 | 9835.00 | 10525.00 |
| | 5.945 | 5340.00 | 1613.65 | 459.00 | 2617.65 | 8233.01 | 10850.66 |
| | 5.945 | 5340.00 | 1614.39 | 459.00 | 1045.59 | 9632.81 | 10678.40 |
| | 6.026 | 5340.00 | 1615.36 | 428.00 | 2153.85 | 8230.00 | 10471.26 |
| | 6.026 | 5340.00 | 1616.27 | 428.00 | 1191.64 | 9248.36 | 10440.00 |
| | 6.067 | 5340.00 | 1617.04 | 216.00 | 2043.71 | 8398.95 | 10442.66 |
| | 6.067 | 5340.00 | 1618.03 | 216.00 | 563.67 | 9522.33 | 10086.00 |
| | 6.135 | 5340.00 | 1618.72 | 359.00 | 1728.51 | 8513.44 | 10291.96 |
| | 6.135 | 5340.00 | 1619.73 | 359.00 | 440.26 | 9625.14 | 10065.40 |
| | 6.223 | 5340.00 | 1621.54 | 465.00 | 1964.04 | 8563.34 | 10527.38 |
| | 6.223 | 5340.00 | 1622.57 | 465.00 | 617.13 | 9481.87 | 10099.00 |
| | 6.321 | 5340.00 | 1624.01 | 517.00 | 1734.58 | 8792.97 | 10527.55 |
| | 6.321 | 5340.00 | 1624.97 | 517.00 | 581.40 | 9432.60 | 10014.00 |
| | 6.413 | 5340.00 | 1627.49 | 486.00 | 1179.93 | 9286.79 | 10851.79 |
| | 6.413 | 5340.00 | 1628.53 | 486.00 | 488.88 | 9532.37 | 10021.25 |
| | 6.511 | 5340.00 | 1630.35 | 517.00 | 1013.65 | 9892.37 | 10906.02 |
| | 6.511 | 5340.00 | 1631.36 | 517.00 | 390.00 | 9980.00 | 10370.00 |
| | 6.603 | 5340.00 | 1633.46 | 486.00 | 986.84 | 9674.66 | 10661.50 |
| | 6.603 | 5340.00 | 1634.41 | 486.00 | 371.43 | 9910.10 | 10281.53 |
| | 6.704 | 5340.00 | 1636.19 | 533.00 | 873.05 | 9616.41 | 10489.46 |
| | 6.704 | 5340.00 | 1637.18 | 533.00 | 400.00 | 9750.00 | 10150.00 |

| | SECNO | Q | CWSEL | XLCH | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|
| | 6.801 | 5350.00 | 1638.89 | 512.00 | 1261.22 | 8908.98 | 10170.20 |
| | 6.801 | 5350.00 | 1639.92 | 512.00 | 546.00 | 9554.00 | 10100.00 |
| | 6.897 | 5350.00 | 1641.82 | 507.00 | 1388.36 | 8530.99 | 10081.96 |
| | 6.897 | 5350.00 | 1642.85 | 507.00 | 831.95 | 9250.00 | 10081.95 |
| | 6.986 | 5350.00 | 1644.68 | 470.00 | 1661.26 | 8226.00 | 10115.09 |
| | 6.986 | 5350.00 | 1645.65 | 470.00 | 769.14 | 9277.86 | 10047.00 |
| | 7.077 | 5350.00 | 1647.89 | 480.00 | 2000.31 | 7952.73 | 10041.93 |
| | 7.077 | 5350.00 | 1648.91 | 480.00 | 974.88 | 9067.04 | 10041.92 |
| | 7.167 | 5350.00 | 1651.86 | 475.00 | 2272.64 | 8370.21 | 10642.85 |
| | 7.167 | 5350.00 | 1652.87 | 475.00 | 836.47 | 9175.33 | 10011.80 |
| | 7.264 | 5350.00 | 1655.27 | 512.00 | 2215.81 | 8183.79 | 10399.60 |
| | 7.264 | 5350.00 | 1656.29 | 512.00 | 1173.62 | 9003.58 | 10177.20 |
| | 7.352 | 5350.00 | 1658.17 | 465.00 | 1902.68 | 8528.00 | 10478.84 |
| | 7.352 | 5350.00 | 1658.98 | 465.00 | 867.07 | 9287.83 | 10154.90 |
| | 7.438 | 5350.00 | 1661.27 | 454.00 | 1191.00 | 9157.00 | 10348.00 |
| | 7.438 | 5350.00 | 1662.17 | 454.00 | 584.55 | 9430.04 | 10014.59 |
| | 7.533 | 5350.00 | 1664.75 | 502.00 | 698.87 | 9410.39 | 10109.26 |
| | 7.533 | 5350.00 | 1665.72 | 502.00 | 485.00 | 9565.00 | 10050.00 |
| | 7.624 | 5350.00 | 1667.99 | 480.00 | 666.56 | 9700.30 | 10366.86 |
| | 7.624 | 5350.00 | 1668.81 | 480.00 | 446.26 | 9772.20 | 10218.46 |
| | 7.709 | 5360.00 | 1670.68 | 449.00 | 627.71 | 9793.29 | 10421.00 |
| | 7.709 | 5360.00 | 1671.47 | 449.00 | 430.00 | 9827.00 | 10257.00 |
| | 7.800 | 5334.00 | 1673.45 | 480.00 | 796.34 | 9595.00 | 10391.34 |
| | 7.800 | 5334.00 | 1674.23 | 480.00 | 454.63 | 9722.84 | 10177.47 |
| | 7.896 | 5307.00 | 1675.98 | 507.00 | 822.87 | 9281.80 | 10104.67 |
| | 7.896 | 5307.00 | 1677.00 | 507.00 | 520.00 | 9560.00 | 10080.00 |
| | 7.995 | 5279.00 | 1678.78 | 523.00 | 874.48 | 9371.50 | 10292.27 |
| | 7.995 | 5279.00 | 1679.70 | 523.00 | 406.00 | 9619.60 | 10025.60 |
| | 8.088 | 5253.00 | 1681.52 | 491.00 | 597.70 | 9565.00 | 10162.70 |
| | 8.088 | 5253.00 | 1682.26 | 491.00 | 340.20 | 9728.90 | 10069.10 |
| | 8.182 | 5227.00 | 1684.93 | 496.00 | 492.37 | 9565.30 | 10104.30 |
| * | 8.182 | 5227.00 | 1685.48 | 496.00 | 191.71 | 9800.66 | 10025.60 |
| * | 8.273 | 5201.00 | 1688.47 | 480.00 | 430.00 | 9720.00 | 10150.00 |
| * | 8.273 | 5201.00 | 1689.45 | 480.00 | 265.00 | 9780.00 | 10045.00 |

| | SECNO | Q | CWSEL | XLCH | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|
| | 8.374 | 5172.00 | 1691.23 | 533.00 | 328.52 | 9831.48 | 10160.00 |
| | 8.374 | 5172.00 | 1691.94 | 533.00 | 198.04 | 9897.24 | 10095.28 |
| | 8.465 | 5147.00 | 1693.92 | 480.00 | 375.26 | 9707.29 | 10193.60 |
| | 8.465 | 5147.00 | 1694.82 | 480.00 | 141.48 | 9946.85 | 10088.33 |
| * | 8.560 | 5120.00 | 1695.86 | 502.00 | 500.01 | 9605.71 | 10105.72 |
| * | 8.560 | 5120.00 | 1696.91 | 502.00 | 289.70 | 9750.00 | 10039.70 |
| | 8.654 | 5094.00 | 1697.42 | 496.00 | 603.98 | 9550.92 | 10154.90 |
| * | 8.654 | 5094.00 | 1698.16 | 496.00 | 251.83 | 9789.27 | 10041.10 |
| | 8.740 | 5070.00 | 1699.73 | 454.00 | 315.66 | 9788.25 | 10103.91 |
| | 8.740 | 5070.00 | 1699.89 | 454.00 | 172.10 | 9860.30 | 10032.40 |
| | 8.844 | 5040.00 | 1703.63 | 549.00 | 345.49 | 9708.60 | 10054.08 |
| * | 8.844 | 5040.00 | 1703.72 | 549.00 | 152.90 | 9872.50 | 10025.40 |
| | 8.940 | 5013.00 | 1707.10 | 507.00 | 363.69 | 9736.96 | 10100.65 |
| * | 8.940 | 5013.00 | 1708.08 | 507.00 | 205.00 | 9840.00 | 10045.00 |
| | 9.032 | 4987.00 | 1709.28 | 486.00 | 499.50 | 9664.50 | 10164.00 |
| | 9.032 | 4987.00 | 1709.84 | 486.00 | 259.68 | 9771.62 | 10031.30 |
| * | 9.119 | 4962.00 | 1711.63 | 459.00 | 414.94 | 9842.70 | 10274.00 |
| * | 9.119 | 4962.00 | 1712.46 | 459.00 | 209.52 | 9976.20 | 10185.72 |
| | 9.202 | 4940.00 | 1715.40 | 438.00 | 148.97 | 9926.15 | 10075.12 |
| * | 9.202 | 4940.00 | 1716.31 | 438.00 | 99.00 | 9965.00 | 10064.00 |
| | 9.289 | 4915.00 | 1718.83 | 459.00 | 299.02 | 9754.48 | 10092.32 |
| * | 9.289 | 4915.00 | 1719.05 | 459.00 | 135.00 | 9890.00 | 10025.00 |
| * | 9.387 | 669.00 | 1720.49 | 517.00 | 368.79 | 9691.55 | 10060.34 |
| | 9.387 | 669.00 | 1721.47 | 517.00 | 162.00 | 9890.00 | 10052.00 |
| * | 9.480 | 669.00 | 1721.58 | 491.00 | 110.44 | 9914.60 | 10037.08 |
| * | 9.480 | 669.00 | 1722.07 | 491.00 | 79.13 | 9940.87 | 10020.00 |
| * | 9.588 | 669.00 | 1725.46 | 570.00 | 61.55 | 9953.35 | 10061.53 |
| * | 9.588 | 669.00 | 1725.33 | 570.00 | 53.97 | 9953.89 | 10007.86 |
| | 9.677 | 669.00 | 1730.63 | 470.00 | 102.58 | 9958.38 | 10060.96 |
| * | 9.677 | 669.00 | 1730.90 | 470.00 | 56.90 | 9964.10 | 10021.00 |
| | 9.770 | 669.00 | 1735.02 | 491.00 | 182.34 | 9987.62 | 10196.78 |
| | 9.770 | 669.00 | 1735.68 | 491.00 | 50.38 | 9987.62 | 10038.00 |
| | 9.865 | 669.00 | 1740.62 | 502.00 | 145.89 | 9909.94 | 10055.83 |
| | 9.865 | 669.00 | 1740.85 | 502.00 | 145.89 | 9909.94 | 10055.83 |

| | SECNO | Q | CWSEL | XLCH | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|
| * | 9.963 | 669.00 | 1745.45 | 517.00 | 144.68 | 9464.35 | 10020.74 |
| | 9.963 | 669.00 | 1745.35 | 517.00 | 115.05 | 9904.81 | 10019.86 |
| | 10.054 | 669.00 | 1749.28 | 480.00 | 130.77 | 9629.54 | 10295.49 |
| | 10.054 | 669.00 | 1749.85 | 480.00 | 68.70 | 9991.91 | 10060.61 |
| | 10.139 | 669.00 | 1754.21 | 449.00 | 208.83 | 9608.30 | 10170.54 |
| | 10.139 | 669.00 | 1754.88 | 449.00 | 52.50 | 9966.20 | 10018.70 |
| | 10.232 | 669.00 | 1759.17 | 491.00 | 519.52 | 9543.55 | 10127.97 |
| * | 10.232 | 669.00 | 1759.49 | 491.00 | 120.30 | 9988.70 | 10109.00 |
| | 10.320 | 669.00 | 1762.64 | 465.00 | 385.71 | 9676.50 | 10339.67 |
| | 10.320 | 669.00 | 1763.04 | 465.00 | 79.20 | 9933.40 | 10012.60 |
| | 10.426 | 669.00 | 1766.92 | 560.00 | 223.30 | 9641.87 | 10123.65 |
| | 10.426 | 669.00 | 1767.53 | 560.00 | 124.43 | 9898.60 | 10023.03 |
| | 10.516 | 669.00 | 1771.75 | 475.00 | 214.29 | 9812.82 | 10213.75 |
| * | 10.516 | 669.00 | 1772.57 | 475.00 | 180.64 | 9916.30 | 10096.94 |
| | 10.620 | 669.00 | 1776.97 | 549.00 | 470.19 | 9580.83 | 10287.36 |
| * | 10.620 | 669.00 | 1778.02 | 549.00 | 89.74 | 9936.86 | 10026.60 |
| | 10.710 | 669.00 | 1781.33 | 475.00 | 559.30 | 9351.25 | 10118.74 |
| | 10.710 | 669.00 | 1782.11 | 475.00 | 194.60 | 9814.40 | 10009.00 |
| | 10.802 | 669.00 | 1785.57 | 486.00 | 427.26 | 9525.67 | 10194.78 |
| | 10.802 | 669.00 | 1786.44 | 486.00 | 117.34 | 9924.66 | 10042.00 |
| * | 10.891 | 669.00 | 1789.91 | 470.00 | 618.15 | 9324.47 | 10147.01 |
| | 10.891 | 669.00 | 1790.28 | 470.00 | 255.10 | 9870.70 | 10125.80 |
| | 10.982 | 669.00 | 1794.45 | 480.00 | 746.37 | 9170.10 | 10117.93 |
| | 10.982 | 669.00 | 1795.15 | 480.00 | 124.01 | 9902.39 | 10026.40 |
| | 11.079 | 669.00 | 1798.73 | 512.00 | 394.38 | 9983.62 | 10378.00 |
| | 11.079 | 669.00 | 1799.77 | 512.00 | 146.38 | 9983.62 | 10130.00 |
| | 11.174 | 699.00 | 1804.00 | 502.00 | 476.15 | 9974.00 | 10462.70 |
| | 11.174 | 699.00 | 1804.79 | 502.00 | 150.10 | 9974.10 | 10124.20 |
| | 11.264 | 709.00 | 1807.88 | 475.00 | 288.15 | 9970.80 | 10347.13 |
| * | 11.264 | 709.00 | 1808.82 | 475.00 | 79.30 | 9970.70 | 10050.00 |
| * | 11.368 | 1922.00 | 1813.00 | 549.00 | 549.79 | 9978.90 | 10528.69 |
| * | 11.368 | 1992.00 | 1813.84 | 549.00 | 172.45 | 9978.90 | 10151.35 |
| | 11.469 | 2162.00 | 1817.04 | 533.00 | 629.83 | 9919.63 | 10549.46 |
| * | 11.469 | 2162.00 | 1817.94 | 533.00 | 244.00 | 9986.00 | 10230.00 |

| | SECNO | Q | CWSEL | XLCH | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|
| * | 11.570 | 2162.00 | 1822.05 | 533.00 | 804.47 | 9935.53 | 10740.00 |
| * | 11.570 | 2162.00 | 1823.02 | 533.00 | 365.03 | 9991.70 | 10356.73 |
| * | 11.666 | 2371.00 | 1827.00 | 507.00 | 783.52 | 9951.87 | 10841.90 |
| * | 11.666 | 2371.00 | 1828.04 | 507.00 | 548.71 | 9968.50 | 10540.79 |
| | 11.750 | 2371.00 | 1830.87 | 444.00 | 798.45 | 9767.57 | 10661.00 |
| | 11.750 | 2371.00 | 1831.85 | 444.00 | 279.33 | 9972.20 | 10299.47 |
| | 11.847 | 2371.00 | 1835.03 | 512.00 | 514.30 | 9982.78 | 10589.60 |
| | 11.847 | 2371.00 | 1835.99 | 512.00 | 295.37 | 9981.10 | 10315.00 |
| | 11.920 | 2371.00 | 1837.26 | 385.00 | 617.85 | 9885.40 | 10503.25 |
| | 11.920 | 2371.00 | 1837.62 | 385.00 | 540.10 | 9885.40 | 10425.50 |
| | 12.010 | 2371.00 | 1839.90 | 475.00 | 533.69 | 9621.57 | 10155.26 |
| | 12.010 | 2371.00 | 1839.92 | 475.00 | 521.36 | 9623.83 | 10145.19 |
| * | 12.101 | 849.00 | 1844.18 | 480.00 | 309.50 | 9685.20 | 10252.83 |
| * | 12.101 | 849.00 | 1845.22 | 480.00 | 347.27 | 9899.24 | 10257.00 |
| * | 12.191 | 849.00 | 1849.60 | 475.00 | 301.60 | 9947.55 | 10249.15 |
| * | 12.191 | 849.00 | 1849.69 | 475.00 | 300.43 | 9947.77 | 10248.20 |
| | 12.281 | 979.00 | 1853.32 | 475.00 | 452.22 | 9941.17 | 10393.40 |
| | 12.281 | 979.00 | 1853.14 | 475.00 | 393.98 | 9948.84 | 10342.82 |
| * | 12.369 | 1812.00 | 1857.63 | 465.00 | 700.12 | 9767.23 | 10730.70 |
| * | 12.369 | 1812.00 | 1857.96 | 465.00 | 335.18 | 9762.82 | 10098.00 |
| | 12.464 | 1812.00 | 1862.21 | 502.00 | 742.60 | 9633.40 | 11078.16 |
| | 12.464 | 1812.00 | 1863.20 | 502.00 | 414.26 | 9870.63 | 10290.61 |
| | 12.614 | 2371.00 | 1869.31 | 781.00 | 794.88 | 9927.33 | 11372.87 |
| | 12.614 | 2371.00 | 1870.27 | 781.00 | 620.49 | 9928.30 | 10640.00 |
| | 12.692 | 2371.00 | 1874.79 | 405.00 | 759.94 | 9972.00 | 11357.38 |
| | 12.692 | 2371.00 | 1875.41 | 405.00 | 245.20 | 9972.00 | 10500.00 |
| | 12.752 | 2371.00 | 1878.04 | 317.00 | 491.23 | 9890.14 | 10974.93 |
| | 12.752 | 2371.00 | 1878.94 | 317.00 | 400.00 | 9950.00 | 10350.00 |
| | 12.849 | 2371.00 | 1882.60 | 512.00 | 371.53 | 9949.91 | 10730.47 |
| | 12.849 | 2371.00 | 1883.51 | 512.00 | 106.05 | 9973.70 | 10099.45 |
| | 12.942 | 2371.00 | 1887.66 | 491.00 | 490.08 | 9788.59 | 10399.60 |
| * | 12.942 | 2371.00 | 1888.61 | 491.00 | 164.80 | 9901.50 | 10066.30 |
| | 13.025 | 2371.00 | 1892.91 | 438.00 | 193.15 | 9833.96 | 10027.11 |
| * | 13.025 | 2371.00 | 1893.20 | 438.00 | 96.12 | 9931.00 | 10027.12 |

| | SECNO | Q | CWSEL | XLCH | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|
| | 13.127 | 2371.00 | 1898.44 | 539.00 | 425.51 | 9968.67 | 10394.18 |
| * | 13.127 | 2371.00 | 1899.32 | 539.00 | 113.00 | 9967.00 | 10080.00 |
| | 13.221 | 2371.00 | 1903.39 | 496.00 | 248.64 | 9974.37 | 10223.01 |
| | 13.221 | 2371.00 | 1903.63 | 496.00 | 162.64 | 9974.36 | 10137.00 |
| | 13.325 | 2371.00 | 1908.55 | 549.00 | 223.27 | 9868.60 | 10091.87 |
| | 13.325 | 2371.00 | 1908.36 | 549.00 | 108.80 | 9971.20 | 10080.00 |
| | 13.419 | 2371.00 | 1913.44 | 496.00 | 172.60 | 9900.45 | 10073.05 |
| | 13.419 | 2371.00 | 1914.23 | 496.00 | 173.60 | 9899.98 | 10073.58 |
| | 13.499 | 2371.00 | 1918.92 | 422.00 | 77.80 | 9960.20 | 10038.00 |
| | 13.499 | 2371.00 | 1919.53 | 422.00 | 51.90 | 9986.10 | 10038.00 |

I[illegible]ash FIS - FCDMC 93

SUMMARY PRINTOUT TABLE 150

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10*KS | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.640 | 0.00 | 0.00 | 0.00 | 1458.10 | 5001.00 | 1460.98 | 0.00 | 1461.21 | 199.93 | 4.42 | 1336.61 | 353.68 |
| | 0.640 | 0.00 | 0.00 | 0.00 | 1458.10 | 5001.00 | 1461.98 | 0.00 | 1462.24 | 126.51 | 4.49 | 1245.09 | 444.62 |
| * | 0.734 | 496.00 | 0.00 | 0.00 | 1460.80 | 5001.00 | 1464.87 | 0.00 | 1464.98 | 56.99 | 2.67 | 1925.01 | 662.47 |
| * | 0.734 | 496.00 | 0.00 | 0.00 | 1460.80 | 5001.00 | 1465.41 | 0.00 | 1465.54 | 53.87 | 2.93 | 1724.77 | 681.38 |
| | 0.819 | 449.00 | 0.00 | 0.00 | 1463.10 | 5001.00 | 1467.22 | 0.00 | 1467.33 | 51.91 | 2.59 | 1887.30 | 694.10 |
| | 0.819 | 449.00 | 0.00 | 0.00 | 1463.10 | 5001.00 | 1467.72 | 0.00 | 1467.86 | 53.48 | 2.93 | 1698.24 | 683.84 |
| | 0.912 | 491.00 | 0.00 | 0.00 | 1464.80 | 5001.00 | 1469.65 | 0.00 | 1469.76 | 57.21 | 2.90 | 1906.73 | 661.17 |
| | 0.912 | 491.00 | 0.00 | 0.00 | 1464.80 | 5001.00 | 1470.43 | 0.00 | 1470.64 | 69.75 | 3.74 | 1350.94 | 598.79 |
| | 0.999 | 459.00 | 0.00 | 0.00 | 1467.30 | 5001.00 | 1471.74 | 0.00 | 1471.83 | 37.29 | 2.75 | 2189.72 | 818.98 |
| * | 0.999 | 459.00 | 0.00 | 0.00 | 1467.30 | 5001.00 | 1472.59 | 0.00 | 1472.80 | 35.34 | 3.69 | 1403.21 | 841.23 |
| | 1.101 | 539.00 | 0.00 | 0.00 | 1470.10 | 5001.00 | 1473.94 | 0.00 | 1474.06 | 60.12 | 2.77 | 1810.40 | 645.00 |
| | 1.101 | 539.00 | 0.00 | 0.00 | 1470.10 | 5001.00 | 1474.95 | 0.00 | 1475.10 | 51.58 | 3.08 | 1623.97 | 696.35 |
| | 1.189 | 465.00 | 0.00 | 0.00 | 1472.20 | 5001.00 | 1476.33 | 0.00 | 1476.43 | 52.19 | 2.68 | 1912.75 | 692.26 |
| | 1.189 | 465.00 | 0.00 | 0.00 | 1472.20 | 5001.00 | 1477.30 | 0.00 | 1477.48 | 53.50 | 3.40 | 1469.32 | 683.69 |
| | 1.285 | 507.00 | 0.00 | 0.00 | 1474.70 | 5001.00 | 1478.80 | 0.00 | 1478.89 | 47.74 | 2.48 | 2081.16 | 723.76 |
| | 1.285 | 507.00 | 0.00 | 0.00 | 1474.70 | 5001.00 | 1479.83 | 0.00 | 1479.97 | 46.75 | 3.02 | 1684.42 | 731.42 |
| | 1.386 | 533.00 | 0.00 | 0.00 | 1478.10 | 5001.00 | 1481.30 | 0.00 | 1481.40 | 53.60 | 2.30 | 1961.37 | 683.06 |
| | 1.386 | 533.00 | 0.00 | 0.00 | 1478.10 | 5001.00 | 1482.34 | 0.00 | 1482.49 | 54.04 | 2.96 | 1644.83 | 680.29 |
| | 1.480 | 496.00 | 0.00 | 0.00 | 1479.50 | 5001.00 | 1483.69 | 0.00 | 1483.82 | 49.98 | 2.68 | 1746.68 | 707.40 |
| | 1.480 | 496.00 | 0.00 | 0.00 | 1479.50 | 5001.00 | 1484.69 | 0.00 | 1484.87 | 46.45 | 3.17 | 1502.59 | 733.79 |
| | 1.578 | 517.00 | 0.00 | 0.00 | 1482.40 | 5001.00 | 1486.08 | 0.00 | 1486.19 | 37.10 | 2.82 | 1883.39 | 821.06 |
| | 1.578 | 517.00 | 0.00 | 0.00 | 1482.40 | 5001.00 | 1487.04 | 0.00 | 1487.26 | 41.78 | 3.96 | 1367.06 | 773.71 |
| * | 1.670 | 486.00 | 0.00 | 0.00 | 1485.10 | 5001.00 | 1488.96 | 0.00 | 1489.19 | 92.41 | 4.03 | 1344.46 | 520.24 |
| | 1.670 | 486.00 | 0.00 | 0.00 | 1485.10 | 5001.00 | 1489.83 | 0.00 | 1490.13 | 78.69 | 4.51 | 1162.64 | 563.75 |
| * | 1.764 | 496.00 | 0.00 | 0.00 | 1487.00 | 5001.00 | 1491.30 | 0.00 | 1491.39 | 29.68 | 3.15 | 2037.02 | 917.95 |
| * | 1.764 | 496.00 | 0.00 | 0.00 | 1487.00 | 5001.00 | 1492.30 | 0.00 | 1492.47 | 34.24 | 3.98 | 1581.65 | 854.71 |
| * | 1.866 | 539.00 | 0.00 | 0.00 | 1489.90 | 5001.00 | 1493.85 | 0.00 | 1494.03 | 87.83 | 3.67 | 1456.37 | 533.62 |
| * | 1.866 | 539.00 | 0.00 | 0.00 | 1489.90 | 5001.00 | 1494.82 | 0.00 | 1495.13 | 74.77 | 4.31 | 1132.46 | 578.36 |
| | 1.967 | 533.00 | 0.00 | 0.00 | 1492.60 | 5001.00 | 1496.87 | 0.00 | 1496.97 | 46.37 | 2.55 | 1964.53 | 734.44 |
| | 1.967 | 533.00 | 0.00 | 0.00 | 1492.60 | 5001.00 | 1497.83 | 0.00 | 1498.03 | 48.95 | 3.03 | 1401.86 | 714.79 |
| | 2.064 | 512.00 | 0.00 | 0.00 | 1495.10 | 5001.00 | 1498.73 | 0.00 | 1498.83 | 38.23 | 2.53 | 2076.14 | 808.80 |
| | 2.064 | 512.00 | 0.00 | 0.00 | 1495.10 | 5001.00 | 1499.75 | 0.00 | 1499.90 | 36.28 | 2.84 | 1621.27 | 830.25 |

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10*KS | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2.159 | 502.00 | 0.00 | 0.00 | 1497.50 | 5001.00 | 1501.08 | 0.00 | 1501.23 | 69.34 | 3.57 | 1632.85 | 600.58 |
| * | 2.159 | 502.00 | 0.00 | 0.00 | 1497.50 | 5001.00 | 1502.05 | 0.00 | 1502.33 | 75.39 | 3.17 | 1185.61 | 575.95 |
| | 2.251 | 486.00 | 0.00 | 0.00 | 1500.00 | 5001.00 | 1503.49 | 0.00 | 1503.62 | 54.07 | 2.58 | 1773.10 | 680.08 |
| | 2.251 | 486.00 | 0.00 | 0.00 | 1500.00 | 5001.00 | 1504.54 | 0.00 | 1504.74 | 54.22 | 2.46 | 1427.69 | 679.17 |
| | 2.346 | 502.00 | 0.00 | 0.00 | 1502.70 | 5001.00 | 1506.11 | 0.00 | 1506.25 | 73.64 | 2.20 | 1685.44 | 582.79 |
| | 2.346 | 502.00 | 0.00 | 0.00 | 1502.70 | 5001.00 | 1507.11 | 0.00 | 1507.38 | 75.82 | 2.48 | 1248.14 | 574.34 |
| | 2.442 | 507.00 | 0.00 | 0.00 | 1505.40 | 5001.00 | 1509.18 | 0.00 | 1509.30 | 55.15 | 3.43 | 1915.99 | 673.40 |
| | 2.442 | 507.00 | 0.00 | 0.00 | 1505.40 | 5001.00 | 1510.19 | 0.00 | 1510.39 | 54.42 | 3.87 | 1377.49 | 677.90 |
| | 2.537 | 502.00 | 0.00 | 0.00 | 1507.80 | 5001.00 | 1512.07 | 0.00 | 1512.20 | 64.53 | 3.07 | 1792.18 | 622.57 |
| | 2.537 | 502.00 | 0.00 | 0.00 | 1507.80 | 5001.00 | 1513.07 | 0.00 | 1513.28 | 64.60 | 3.95 | 1380.04 | 622.20 |
| | 2.631 | 496.00 | 0.00 | 0.00 | 1509.90 | 5001.00 | 1514.64 | 0.00 | 1514.75 | 52.71 | 2.82 | 2057.33 | 688.85 |
| | 2.631 | 496.00 | 0.00 | 0.00 | 1509.90 | 5001.00 | 1515.62 | 0.00 | 1515.79 | 54.67 | 3.34 | 1513.62 | 676.36 |
| | 2.727 | 507.00 | 0.00 | 0.00 | 1512.30 | 5001.00 | 1517.64 | 0.00 | 1517.78 | 78.34 | 3.35 | 1703.67 | 565.03 |
| | 2.727 | 507.00 | 0.00 | 0.00 | 1512.30 | 5001.00 | 1518.48 | 0.00 | 1518.70 | 67.29 | 3.50 | 1341.67 | 609.67 |
| | 2.827 | 528.00 | 0.00 | 0.00 | 1515.70 | 5001.00 | 1520.56 | 0.00 | 1520.67 | 60.96 | 3.10 | 1889.27 | 640.50 |
| | 2.827 | 528.00 | 0.00 | 0.00 | 1515.70 | 5001.00 | 1521.54 | 0.00 | 1521.74 | 75.27 | 3.03 | 1418.60 | 576.44 |
| | 2.927 | 528.00 | 0.00 | 0.00 | 1519.50 | 5001.00 | 1523.04 | 0.00 | 1523.16 | 62.62 | 2.39 | 1862.02 | 631.97 |
| | 2.927 | 528.00 | 0.00 | 0.00 | 1519.50 | 5001.00 | 1524.09 | 0.00 | 1524.26 | 49.05 | 2.95 | 1532.68 | 714.06 |
| | 3.027 | 528.00 | 0.00 | 0.00 | 1521.90 | 5001.00 | 1525.96 | 0.00 | 1526.13 | 54.82 | 4.65 | 1681.05 | 675.46 |
| | 3.027 | 528.00 | 0.00 | 0.00 | 1521.90 | 5001.00 | 1526.81 | 0.00 | 1527.13 | 61.85 | 5.64 | 1171.05 | 635.91 |
| | 3.137 | 581.00 | 0.00 | 0.00 | 1525.50 | 5001.00 | 1529.16 | 0.00 | 1529.36 | 58.54 | 4.62 | 1547.60 | 653.60 |
| | 3.137 | 581.00 | 0.00 | 0.00 | 1525.50 | 5001.00 | 1530.19 | 0.00 | 1530.55 | 56.34 | 5.36 | 1090.85 | 666.28 |
| | 3.224 | 459.00 | 0.00 | 0.00 | 1524.90 | 5001.00 | 1531.99 | 0.00 | 1532.16 | 64.61 | 3.82 | 1512.26 | 622.18 |
| | 3.224 | 459.00 | 0.00 | 0.00 | 1524.90 | 5001.00 | 1532.99 | 0.00 | 1533.30 | 64.24 | 4.50 | 1134.36 | 623.97 |
| | 3.321 | 512.00 | 0.00 | 0.00 | 1527.00 | 5001.00 | 1534.89 | 0.00 | 1535.07 | 50.27 | 3.81 | 1509.09 | 705.31 |
| | 3.321 | 512.00 | 0.00 | 0.00 | 1527.00 | 5001.00 | 1535.89 | 0.00 | 1536.17 | 49.66 | 4.36 | 1182.87 | 709.64 |
| | 3.413 | 486.00 | 0.00 | 0.00 | 1528.80 | 5001.00 | 1537.60 | 0.00 | 1537.93 | 65.12 | 5.32 | 1113.44 | 619.73 |
| | 3.413 | 486.00 | 0.00 | 0.00 | 1528.80 | 5001.00 | 1538.54 | 0.00 | 1538.99 | 63.86 | 5.82 | 934.66 | 625.79 |
| | 3.514 | 533.00 | 0.00 | 0.00 | 1530.90 | 5001.00 | 1540.10 | 0.00 | 1540.24 | 34.70 | 3.17 | 1679.60 | 848.93 |
| | 3.514 | 533.00 | 0.00 | 0.00 | 1530.90 | 5001.00 | 1541.12 | 0.00 | 1541.31 | 34.69 | 3.54 | 1450.48 | 849.08 |
| | 3.617 | 544.00 | 0.00 | 0.00 | 1533.50 | 5001.00 | 1541.67 | 0.00 | 1542.45 | 41.49 | 7.99 | 926.60 | 776.35 |
| | 3.617 | 544.00 | 0.00 | 0.00 | 1533.50 | 5001.00 | 1542.52 | 0.00 | 1543.81 | 47.13 | 9.12 | 552.11 | 728.45 |
| * | 3.651 | 180.00 | 0.00 | 0.00 | 1545.00 | 5101.00 | 1553.08 | 1553.08 | 1553.64 | 4.00 | 7.76 | 2676.12 | 2549.20 |
| * | 3.651 | 180.00 | 0.00 | 0.00 | 1545.00 | 5101.00 | 1553.56 | 1553.56 | 1554.69 | 5.79 | 9.70 | 1207.97 | 2119.41 |

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10*KS | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | 3.670 | 100.00 | 0.00 | 0.00 | 1545.50 | 5101.00 | 1553.56 | 1553.56 | 1554.14 | 4.15 | 7.88 | 2625.59 | 2505.30 |
| * | 3.670 | 100.00 | 0.00 | 0.00 | 1545.50 | 5101.00 | 1553.99 | 1553.99 | 1555.04 | 5.61 | 9.49 | 1327.30 | 2153.25 |
| * | 3.713 | 230.00 | 0.00 | 0.00 | 1543.40 | 5309.00 | 1554.32 | 0.00 | 1554.32 | 0.24 | 0.48 | 13058.37 | 10817.82 |
| * | 3.713 | 230.00 | 0.00 | 0.00 | 1543.40 | 5309.00 | 1555.36 | 0.00 | 1555.37 | 0.24 | 0.50 | 11813.83 | 10891.16 |
| | 3.821 | 570.00 | 0.00 | 0.00 | 1544.00 | 5309.00 | 1554.33 | 0.00 | 1554.34 | 0.37 | 0.73 | 10060.97 | 8698.50 |
| | 3.821 | 570.00 | 0.00 | 0.00 | 1544.00 | 5309.00 | 1555.38 | 0.00 | 1555.38 | 0.36 | 0.78 | 9170.79 | 8792.32 |
| * | 3.917 | 507.00 | 0.00 | 0.00 | 1546.10 | 5309.00 | 1554.37 | 0.00 | 1554.39 | 1.66 | 1.16 | 5494.21 | 4117.64 |
| * | 3.917 | 507.00 | 0.00 | 0.00 | 1546.10 | 5309.00 | 1555.42 | 0.00 | 1555.44 | 1.63 | 1.26 | 4529.98 | 4162.93 |
| * | 4.010 | 491.00 | 0.00 | 0.00 | 1548.20 | 5309.00 | 1554.59 | 0.00 | 1554.63 | 9.71 | 2.18 | 3205.79 | 1703.46 |
| * | 4.010 | 491.00 | 0.00 | 0.00 | 1548.20 | 5309.00 | 1555.60 | 0.00 | 1555.68 | 9.63 | 2.43 | 2479.84 | 1711.24 |
| * | 4.119 | 576.00 | 0.00 | 0.00 | 1549.20 | 5309.00 | 1555.84 | 0.00 | 1556.07 | 66.06 | 4.75 | 1514.68 | 653.19 |
| * | 4.119 | 576.00 | 0.00 | 0.00 | 1549.20 | 5309.00 | 1556.82 | 0.00 | 1557.23 | 67.18 | 5.42 | 1065.88 | 647.73 |
| | 4.214 | 502.00 | 0.00 | 0.00 | 1551.80 | 5309.00 | 1558.79 | 0.00 | 1559.06 | 54.80 | 4.80 | 1464.24 | 717.19 |
| | 4.214 | 502.00 | 0.00 | 0.00 | 1551.80 | 5309.00 | 1559.80 | 0.00 | 1560.23 | 54.46 | 5.42 | 1039.34 | 719.42 |
| | 4.306 | 486.00 | 0.00 | 0.00 | 1553.60 | 5309.00 | 1561.57 | 0.00 | 1562.01 | 64.06 | 6.33 | 1295.14 | 663.33 |
| | 4.306 | 486.00 | 0.00 | 0.00 | 1553.60 | 5309.00 | 1562.54 | 0.00 | 1563.21 | 65.53 | 7.07 | 917.24 | 655.81 |
| | 4.403 | 512.00 | 0.00 | 0.00 | 1555.30 | 5309.00 | 1564.54 | 0.00 | 1564.85 | 49.47 | 5.10 | 1267.81 | 754.80 |
| | 4.403 | 512.00 | 0.00 | 0.00 | 1555.30 | 5309.00 | 1565.55 | 0.00 | 1565.95 | 44.94 | 5.39 | 1068.97 | 791.98 |
| | 4.497 | 496.00 | 0.00 | 0.00 | 1555.90 | 5320.00 | 1566.94 | 0.00 | 1567.45 | 53.04 | 6.92 | 1115.02 | 730.45 |
| | 4.497 | 496.00 | 0.00 | 0.00 | 1555.90 | 5320.00 | 1567.86 | 0.00 | 1568.59 | 58.73 | 7.53 | 816.34 | 694.17 |
| | 4.596 | 523.00 | 0.00 | 0.00 | 1559.00 | 5320.00 | 1569.28 | 0.00 | 1569.63 | 34.43 | 5.00 | 1177.66 | 906.71 |
| * | 4.596 | 523.00 | 0.00 | 0.00 | 1559.00 | 5320.00 | 1570.29 | 0.00 | 1570.69 | 29.87 | 5.10 | 1077.26 | 973.41 |
| | 4.694 | 517.00 | 0.00 | 0.00 | 1559.80 | 5320.00 | 1571.52 | 0.00 | 1572.28 | 70.16 | 7.19 | 810.14 | 635.14 |
| | 4.694 | 517.00 | 0.00 | 0.00 | 1559.80 | 5320.00 | 1572.18 | 0.00 | 1572.92 | 56.76 | 6.91 | 773.23 | 706.14 |
| | 4.789 | 502.00 | 0.00 | 0.00 | 1561.60 | 5320.00 | 1574.50 | 0.00 | 1574.95 | 41.80 | 5.56 | 1081.73 | 822.90 |
| | 4.789 | 502.00 | 0.00 | 0.00 | 1561.60 | 5320.00 | 1575.07 | 0.00 | 1575.55 | 48.00 | 5.60 | 950.64 | 767.90 |
| * | 4.893 | 549.00 | 0.00 | 0.00 | 1570.20 | 5320.00 | 1578.41 | 0.00 | 1579.43 | 114.94 | 8.19 | 689.90 | 496.22 |
| * | 4.893 | 549.00 | 0.00 | 0.00 | 1570.20 | 5320.00 | 1578.86 | 0.00 | 1579.79 | 101.50 | 7.73 | 688.00 | 528.05 |
| * | 4.988 | 502.00 | 0.00 | 0.00 | 1573.40 | 5320.00 | 1582.77 | 0.00 | 1583.29 | 56.61 | 5.87 | 963.91 | 707.05 |
| | 4.988 | 502.00 | 0.00 | 0.00 | 1573.40 | 5320.00 | 1583.18 | 0.00 | 1583.68 | 61.59 | 5.68 | 935.89 | 677.87 |
| | 5.095 | 565.00 | 0.00 | 0.00 | 1575.90 | 5320.00 | 1585.76 | 0.00 | 1586.25 | 48.72 | 5.81 | 1024.87 | 762.22 |
| | 5.095 | 565.00 | 0.00 | 0.00 | 1575.90 | 5320.00 | 1586.43 | 0.00 | 1586.96 | 54.74 | 5.84 | 910.76 | 719.03 |
| | 5.189 | 496.00 | 0.00 | 0.00 | 1577.40 | 5320.00 | 1587.89 | 0.00 | 1588.16 | 31.18 | 4.27 | 1374.95 | 952.75 |
| * | 5.189 | 496.00 | 0.00 | 0.00 | 1577.40 | 5320.00 | 1588.51 | 0.00 | 1588.79 | 27.05 | 4.20 | 1267.54 | 1022.80 |

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10*KS | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | 5.287 | 517.00 | 0.00 | 0.00 | 1580.60 | 5330.00 | 1592.52 | 1592.52 | 1592.88 | 110.55 | 6.27 | 1671.12 | 506.93 |
| * | 5.287 | 517.00 | 0.00 | 0.00 | 1580.60 | 5330.00 | 1593.15 | 0.00 | 1593.68 | 322.89 | 6.58 | 1015.79 | 296.62 |
| | 5.386 | 523.00 | 0.00 | 0.00 | 1581.40 | 5330.00 | 1596.56 | 0.00 | 1597.09 | 63.80 | 7.71 | 1679.32 | 667.27 |
| * | 5.386 | 523.00 | 0.00 | 0.00 | 1581.40 | 5330.00 | 1597.59 | 0.00 | 1598.11 | 49.33 | 7.31 | 1400.46 | 758.91 |
| | 5.485 | 523.00 | 0.00 | 0.00 | 1587.10 | 5330.00 | 1599.65 | 0.00 | 1599.92 | 45.51 | 5.29 | 1866.20 | 790.11 |
| | 5.485 | 523.00 | 0.00 | 0.00 | 1587.10 | 5330.00 | 1600.42 | 0.00 | 1600.93 | 56.09 | 6.32 | 1067.91 | 711.71 |
| | 5.577 | 486.00 | 0.00 | 0.00 | 1592.30 | 5330.00 | 1602.02 | 1602.00 | 1602.61 | 64.19 | 6.98 | 1397.86 | 665.27 |
| | 5.577 | 486.00 | 0.00 | 0.00 | 1592.30 | 5330.00 | 1602.92 | 0.00 | 1603.81 | 59.86 | 7.57 | 705.31 | 688.91 |
| | 5.668 | 480.00 | 0.00 | 0.00 | 1602.20 | 5330.00 | 1604.99 | 0.00 | 1605.09 | 52.35 | 1.83 | 2255.31 | 736.64 |
| | 5.668 | 480.00 | 0.00 | 0.00 | 1602.20 | 5330.00 | 1606.02 | 0.00 | 1606.16 | 44.39 | 2.45 | 1853.83 | 799.99 |
| | 5.765 | 512.00 | 0.00 | 0.00 | 1604.80 | 5330.00 | 1607.89 | 0.00 | 1607.99 | 74.77 | 1.68 | 2357.29 | 616.39 |
| | 5.765 | 512.00 | 0.00 | 0.00 | 1604.80 | 5330.00 | 1608.79 | 0.00 | 1609.01 | 85.84 | 2.51 | 1597.69 | 575.29 |
| | 5.858 | 491.00 | 0.00 | 0.00 | 1607.90 | 5330.00 | 1611.13 | 0.00 | 1611.19 | 69.19 | 2.08 | 2560.17 | 640.78 |
| | 5.858 | 491.00 | 0.00 | 0.00 | 1607.90 | 5330.00 | 1612.17 | 0.00 | 1612.27 | 60.60 | 2.57 | 2087.17 | 684.70 |
| | 5.945 | 459.00 | 0.00 | 0.00 | 1611.30 | 5340.00 | 1613.65 | 0.00 | 1613.70 | 44.58 | 1.41 | 3022.24 | 799.78 |
| | 5.945 | 459.00 | 0.00 | 0.00 | 1611.30 | 5340.00 | 1614.39 | 0.00 | 1614.49 | 39.83 | 2.56 | 2155.36 | 846.14 |
| | 6.026 | 428.00 | 0.00 | 0.00 | 1613.60 | 5340.00 | 1615.36 | 0.00 | 1615.44 | 51.27 | 0.64 | 2325.96 | 745.80 |
| | 6.026 | 428.00 | 0.00 | 0.00 | 1613.60 | 5340.00 | 1616.27 | 0.00 | 1616.41 | 59.27 | 1.70 | 1897.97 | 693.63 |
| | 6.067 | 216.00 | 0.00 | 0.00 | 1611.10 | 5340.00 | 1617.04 | 0.00 | 1617.12 | 54.17 | 2.08 | 2373.99 | 725.55 |
| | 6.067 | 216.00 | 0.00 | 0.00 | 1611.10 | 5340.00 | 1618.03 | 0.00 | 1618.21 | 57.01 | 2.54 | 1631.61 | 707.26 |
| | 6.135 | 359.00 | 0.00 | 0.00 | 1612.20 | 5340.00 | 1618.72 | 0.00 | 1618.84 | 79.08 | 4.02 | 2065.32 | 600.48 |
| | 6.135 | 359.00 | 0.00 | 0.00 | 1612.20 | 5340.00 | 1619.73 | 0.00 | 1620.00 | 75.24 | 4.96 | 1301.93 | 615.62 |
| | 6.223 | 465.00 | 0.00 | 0.00 | 1616.10 | 5340.00 | 1621.54 | 0.00 | 1621.60 | 53.50 | 2.36 | 2693.12 | 730.04 |
| | 6.223 | 465.00 | 0.00 | 0.00 | 1616.10 | 5340.00 | 1622.57 | 0.00 | 1622.68 | 52.02 | 2.89 | 1953.14 | 740.40 |
| | 6.321 | 517.00 | 0.00 | 0.00 | 1621.20 | 5340.00 | 1624.01 | 0.00 | 1624.09 | 73.71 | 2.09 | 2419.73 | 621.98 |
| | 6.321 | 517.00 | 0.00 | 0.00 | 1621.20 | 5340.00 | 1624.97 | 0.00 | 1625.16 | 78.64 | 2.68 | 1548.60 | 602.15 |
| | 6.413 | 486.00 | 0.00 | 0.00 | 1624.70 | 5340.00 | 1627.49 | 0.00 | 1627.63 | 70.76 | 2.00 | 1804.46 | 634.83 |
| | 6.413 | 486.00 | 0.00 | 0.00 | 1624.70 | 5340.00 | 1628.53 | 0.00 | 1628.74 | 67.99 | 2.63 | 1477.11 | 647.64 |
| | 6.511 | 517.00 | 0.00 | 0.00 | 1625.50 | 5340.00 | 1630.35 | 0.00 | 1630.49 | 58.06 | 3.50 | 1829.00 | 700.84 |
| | 6.511 | 517.00 | 0.00 | 0.00 | 1625.50 | 5340.00 | 1631.36 | 0.00 | 1631.61 | 52.45 | 4.07 | 1344.77 | 737.32 |
| | 6.603 | 486.00 | 0.00 | 0.00 | 1628.60 | 5340.00 | 1633.46 | 0.00 | 1633.60 | 65.93 | 3.21 | 1800.51 | 657.65 |
| | 6.603 | 486.00 | 0.00 | 0.00 | 1628.60 | 5340.00 | 1634.41 | 0.00 | 1634.65 | 70.58 | 3.90 | 1363.95 | 635.64 |
| | 6.704 | 533.00 | 0.00 | 0.00 | 1631.60 | 5340.00 | 1636.19 | 0.00 | 1636.36 | 51.92 | 2.48 | 1896.25 | 741.06 |
| | 6.704 | 533.00 | 0.00 | 0.00 | 1631.60 | 5340.00 | 1637.18 | 0.00 | 1637.43 | 45.73 | 2.88 | 1483.80 | 789.63 |

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10*KS | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 6.801 | 512.00 | 0.00 | 0.00 | 1635.60 | 5350.00 | 1638.89 | 0.00 | 1639.00 | 66.19 | 2.36 | 2094.88 | 657.60 |
| | 6.801 | 512.00 | 0.00 | 0.00 | 1635.60 | 5350.00 | 1639.92 | 0.00 | 1640.05 | 64.04 | 2.91 | 1865.33 | 668.55 |
| | 6.897 | 507.00 | 0.00 | 0.00 | 1638.60 | 5350.00 | 1641.82 | 0.00 | 1641.93 | 69.97 | 0.74 | 2045.57 | 639.58 |
| | 6.897 | 507.00 | 0.00 | 0.00 | 1638.60 | 5350.00 | 1642.85 | 0.00 | 1642.96 | 63.97 | 1.60 | 2054.38 | 668.92 |
| | 6.986 | 470.00 | 0.00 | 0.00 | 1642.50 | 5350.00 | 1644.68 | 0.00 | 1644.82 | 85.53 | 0.86 | 1816.40 | 578.48 |
| | 6.986 | 470.00 | 0.00 | 0.00 | 1642.50 | 5350.00 | 1645.65 | 0.00 | 1645.87 | 89.19 | 1.74 | 1462.48 | 566.49 |
| | 7.077 | 480.00 | 0.00 | 0.00 | 1645.80 | 5350.00 | 1647.89 | 0.00 | 1647.98 | 53.49 | 0.74 | 2261.30 | 731.50 |
| | 7.077 | 480.00 | 0.00 | 0.00 | 1645.80 | 5350.00 | 1648.91 | 0.00 | 1649.03 | 51.88 | 2.06 | 1943.96 | 742.78 |
| | 7.167 | 475.00 | 0.00 | 0.00 | 1647.90 | 5350.00 | 1651.86 | 0.00 | 1651.96 | 81.99 | 1.41 | 2156.29 | 590.85 |
| | 7.167 | 475.00 | 0.00 | 0.00 | 1647.90 | 5350.00 | 1652.87 | 0.00 | 1653.05 | 80.05 | 2.19 | 1599.48 | 597.94 |
| | 7.264 | 512.00 | 0.00 | 0.00 | 1652.20 | 5350.00 | 1655.27 | 0.00 | 1655.34 | 59.73 | 1.29 | 2539.48 | 692.22 |
| | 7.264 | 512.00 | 0.00 | 0.00 | 1652.20 | 5350.00 | 1656.29 | 0.00 | 1656.37 | 57.60 | 1.95 | 2360.40 | 704.94 |
| | 7.352 | 465.00 | 0.00 | 0.00 | 1654.40 | 5350.00 | 1658.17 | 0.00 | 1658.28 | 75.28 | 1.55 | 2191.09 | 616.61 |
| | 7.352 | 465.00 | 0.00 | 0.00 | 1654.40 | 5350.00 | 1658.98 | 0.00 | 1659.14 | 66.96 | 3.18 | 1634.37 | 653.82 |
| | 7.438 | 454.00 | 0.00 | 0.00 | 1656.80 | 5350.00 | 1661.27 | 0.00 | 1661.40 | 67.89 | 2.16 | 1996.35 | 649.31 |
| | 7.438 | 454.00 | 0.00 | 0.00 | 1656.80 | 5350.00 | 1662.17 | 0.00 | 1662.36 | 78.16 | 3.01 | 1611.12 | 605.13 |
| | 7.533 | 502.00 | 0.00 | 0.00 | 1659.60 | 5350.00 | 1664.75 | 0.00 | 1664.96 | 85.20 | 2.91 | 1609.39 | 579.60 |
| | 7.533 | 502.00 | 0.00 | 0.00 | 1659.60 | 5350.00 | 1665.72 | 0.00 | 1665.88 | 67.15 | 3.23 | 1638.20 | 652.88 |
| | 7.624 | 480.00 | 0.00 | 0.00 | 1662.90 | 5350.00 | 1667.99 | 0.00 | 1668.16 | 56.78 | 2.78 | 1722.97 | 710.00 |
| | 7.624 | 480.00 | 0.00 | 0.00 | 1662.90 | 5350.00 | 1668.81 | 0.00 | 1669.01 | 66.99 | 3.57 | 1526.53 | 653.67 |
| | 7.709 | 449.00 | 0.00 | 0.00 | 1664.30 | 5360.00 | 1670.68 | 0.00 | 1670.84 | 65.09 | 3.09 | 1672.50 | 664.36 |
| | 7.709 | 449.00 | 0.00 | 0.00 | 1664.30 | 5360.00 | 1671.47 | 0.00 | 1671.63 | 53.17 | 3.21 | 1668.42 | 735.11 |
| | 7.800 | 480.00 | 0.00 | 0.00 | 1668.30 | 5334.00 | 1673.45 | 0.00 | 1673.59 | 51.11 | 2.51 | 1849.65 | 746.12 |
| | 7.800 | 480.00 | 0.00 | 0.00 | 1668.30 | 5334.00 | 1674.23 | 0.00 | 1674.44 | 62.82 | 3.31 | 1527.16 | 672.99 |
| | 7.896 | 507.00 | 0.00 | 0.00 | 1669.90 | 5307.00 | 1675.98 | 0.00 | 1676.13 | 56.29 | 2.01 | 1799.24 | 707.36 |
| | 7.896 | 507.00 | 0.00 | 0.00 | 1669.90 | 5307.00 | 1677.00 | 0.00 | 1677.14 | 50.10 | 2.52 | 1765.34 | 749.76 |
| | 7.995 | 523.00 | 0.00 | 0.00 | 1671.60 | 5279.00 | 1678.78 | 0.00 | 1678.97 | 58.17 | 1.95 | 1640.85 | 692.16 |
| | 7.995 | 523.00 | 0.00 | 0.00 | 1671.60 | 5279.00 | 1679.70 | 0.00 | 1680.01 | 64.09 | 2.66 | 1244.46 | 659.39 |
| | 8.088 | 491.00 | 0.00 | 0.00 | 1677.60 | 5253.00 | 1681.52 | 0.00 | 1681.75 | 53.51 | 4.06 | 1433.11 | 718.07 |
| | 8.088 | 491.00 | 0.00 | 0.00 | 1677.60 | 5253.00 | 1682.26 | 0.00 | 1682.52 | 41.93 | 4.13 | 1272.32 | 811.23 |
| | 8.182 | 496.00 | 0.00 | 0.00 | 1680.00 | 5227.00 | 1684.93 | 0.00 | 1685.50 | 107.15 | 7.62 | 1026.00 | 504.96 |
| * | 8.182 | 496.00 | 0.00 | 0.00 | 1680.00 | 5227.00 | 1685.48 | 0.00 | 1686.70 | 153.09 | 9.79 | 638.96 | 422.45 |
| * | 8.273 | 480.00 | 0.00 | 0.00 | 1682.50 | 5201.00 | 1688.47 | 0.00 | 1688.68 | 48.40 | 4.54 | 1509.58 | 747.60 |
| * | 8.273 | 480.00 | 0.00 | 0.00 | 1682.50 | 5201.00 | 1689.45 | 0.00 | 1689.68 | 38.36 | 4.52 | 1380.05 | 839.72 |

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10*KS | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 8.374 | 533.00 | 0.00 | 0.00 | 1684.00 | 5172.00 | 1691.23 | 0.00 | 1691.64 | 63.42 | 7.30 | 1269.11 | 649.45 |
| | 8.374 | 533.00 | 0.00 | 0.00 | 1684.00 | 5172.00 | 1691.94 | 0.00 | 1692.60 | 74.36 | 8.50 | 1027.94 | 599.78 |
| | 8.465 | 480.00 | 0.00 | 0.00 | 1688.20 | 5147.00 | 1693.92 | 0.00 | 1694.49 | 52.73 | 7.40 | 1142.69 | 708.77 |
| | 8.465 | 480.00 | 0.00 | 0.00 | 1688.20 | 5147.00 | 1694.82 | 0.00 | 1695.76 | 55.71 | 8.39 | 782.53 | 689.61 |
| * | 8.560 | 502.00 | 0.00 | 0.00 | 1688.90 | 5120.00 | 1695.86 | 0.00 | 1696.01 | 21.25 | 4.60 | 2000.86 | 1110.73 |
| * | 8.560 | 502.00 | 0.00 | 0.00 | 1688.90 | 5120.00 | 1696.91 | 0.00 | 1697.17 | 17.80 | 5.56 | 1661.84 | 1213.57 |
| | 8.654 | 496.00 | 0.00 | 0.00 | 1692.20 | 5094.00 | 1697.42 | 0.00 | 1697.61 | 42.64 | 4.55 | 1592.56 | 780.13 |
| * | 8.654 | 496.00 | 0.00 | 0.00 | 1692.20 | 5094.00 | 1698.16 | 0.00 | 1698.61 | 37.70 | 6.53 | 1081.70 | 829.62 |
| | 8.740 | 454.00 | 0.00 | 0.00 | 1693.00 | 5070.00 | 1699.73 | 0.00 | 1700.25 | 71.69 | 6.11 | 984.45 | 598.80 |
| | 8.740 | 454.00 | 0.00 | 0.00 | 1693.00 | 5070.00 | 1699.89 | 0.00 | 1700.61 | 46.14 | 6.81 | 744.46 | 746.43 |
| | 8.844 | 549.00 | 0.00 | 0.00 | 1695.90 | 5040.00 | 1703.63 | 0.00 | 1704.39 | 80.67 | 9.16 | 1078.90 | 561.14 |
| * | 8.844 | 549.00 | 0.00 | 0.00 | 1695.90 | 5040.00 | 1703.72 | 0.00 | 1705.47 | 153.06 | 12.25 | 630.09 | 407.38 |
| | 8.940 | 507.00 | 0.00 | 0.00 | 1699.10 | 5013.00 | 1707.10 | 0.00 | 1707.64 | 55.02 | 8.07 | 1163.43 | 675.85 |
| * | 8.940 | 507.00 | 0.00 | 0.00 | 1699.10 | 5013.00 | 1708.08 | 0.00 | 1708.57 | 37.17 | 7.34 | 1134.69 | 822.21 |
| | 9.032 | 486.00 | 0.00 | 0.00 | 1701.60 | 4987.00 | 1709.28 | 0.00 | 1709.45 | 35.20 | 4.17 | 1687.07 | 840.58 |
| | 9.032 | 486.00 | 0.00 | 0.00 | 1701.60 | 4987.00 | 1709.84 | 0.00 | 1710.17 | 40.94 | 5.33 | 1171.91 | 779.39 |
| * | 9.119 | 459.00 | 0.00 | 0.00 | 1703.70 | 4962.00 | 1711.63 | 0.00 | 1712.35 | 118.97 | 9.24 | 969.00 | 454.92 |
| * | 9.119 | 459.00 | 0.00 | 0.00 | 1703.70 | 4962.00 | 1712.46 | 0.00 | 1713.77 | 142.07 | 11.07 | 679.56 | 416.30 |
| | 9.202 | 438.00 | 0.00 | 0.00 | 1706.60 | 4940.00 | 1715.40 | 0.00 | 1716.21 | 68.75 | 7.28 | 726.81 | 595.77 |
| * | 9.202 | 438.00 | 0.00 | 0.00 | 1706.60 | 4940.00 | 1716.31 | 0.00 | 1716.98 | 47.24 | 6.56 | 754.37 | 718.75 |
| | 9.289 | 459.00 | 0.00 | 0.00 | 1709.90 | 4915.00 | 1718.83 | 0.00 | 1719.83 | 85.07 | 9.94 | 857.09 | 532.88 |
| * | 9.289 | 459.00 | 0.00 | 0.00 | 1709.90 | 4915.00 | 1719.05 | 1719.05 | 1721.02 | 127.64 | 12.47 | 550.94 | 435.05 |
| * | 9.387 | 517.00 | 0.00 | 0.00 | 1713.80 | 669.00 | 1720.49 | 0.00 | 1720.54 | 6.38 | 2.05 | 475.84 | 264.89 |
| | 9.387 | 517.00 | 0.00 | 0.00 | 1713.80 | 669.00 | 1721.47 | 0.00 | 1721.50 | 2.83 | 1.59 | 550.80 | 397.60 |
| * | 9.480 | 491.00 | 0.00 | 0.00 | 1718.60 | 669.00 | 1721.58 | 0.00 | 1721.79 | 42.64 | 3.69 | 197.07 | 102.45 |
| * | 9.480 | 491.00 | 0.00 | 0.00 | 1718.60 | 669.00 | 1722.07 | 0.00 | 1722.23 | 25.39 | 3.16 | 211.75 | 132.78 |
| * | 9.588 | 570.00 | 0.00 | 0.00 | 1722.70 | 669.00 | 1725.46 | 0.00 | 1726.12 | 131.55 | 6.61 | 104.66 | 58.33 |
| * | 9.588 | 570.00 | 0.00 | 0.00 | 1722.70 | 669.00 | 1725.33 | 0.00 | 1726.13 | 167.15 | 7.20 | 92.92 | 51.75 |
| | 9.677 | 470.00 | 0.00 | 0.00 | 1727.30 | 669.00 | 1730.63 | 0.00 | 1730.91 | 81.84 | 4.41 | 174.33 | 73.95 |
| * | 9.677 | 470.00 | 0.00 | 0.00 | 1727.30 | 669.00 | 1730.90 | 0.00 | 1731.21 | 78.59 | 4.47 | 149.66 | 75.47 |
| | 9.770 | 491.00 | 0.00 | 0.00 | 1731.90 | 669.00 | 1735.02 | 0.00 | 1735.21 | 93.39 | 4.34 | 217.04 | 69.23 |
| | 9.770 | 491.00 | 0.00 | 0.00 | 1731.90 | 669.00 | 1735.68 | 0.00 | 1736.27 | 130.89 | 6.17 | 108.44 | 58.47 |
| | 9.865 | 502.00 | 0.00 | 0.00 | 1738.40 | 669.00 | 1740.62 | 0.00 | 1740.92 | 136.52 | 4.44 | 150.82 | 57.26 |
| | 9.865 | 502.00 | 0.00 | 0.00 | 1738.40 | 669.00 | 1740.85 | 0.00 | 1741.06 | 74.04 | 3.69 | 181.41 | 77.75 |

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10*KS | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | 9.963 | 517.00 | 0.00 | 0.00 | 1742.40 | 669.00 | 1745.45 | 0.00 | 1745.60 | 67.85 | 3.22 | 220.77 | 81.22 |
| | 9.963 | 517.00 | 0.00 | 0.00 | 1742.40 | 669.00 | 1745.35 | 0.00 | 1745.57 | 102.85 | 3.83 | 174.86 | 65.97 |
| | 10.054 | 480.00 | 0.00 | 0.00 | 1746.90 | 669.00 | 1749.28 | 0.00 | 1749.54 | 103.28 | 4.46 | 177.66 | 65.83 |
| | 10.054 | 480.00 | 0.00 | 0.00 | 1746.90 | 669.00 | 1749.85 | 0.00 | 1750.22 | 89.91 | 4.91 | 136.24 | 70.56 |
| | 10.139 | 449.00 | 0.00 | 0.00 | 1750.50 | 669.00 | 1754.21 | 1753.78 | 1754.63 | 128.62 | 4.88 | 135.01 | 58.99 |
| | 10.139 | 449.00 | 0.00 | 0.00 | 1750.50 | 669.00 | 1754.88 | 0.00 | 1755.50 | 149.36 | 6.34 | 105.49 | 54.74 |
| | 10.232 | 491.00 | 0.00 | 0.00 | 1753.90 | 669.00 | 1759.17 | 0.00 | 1759.32 | 76.75 | 3.41 | 273.56 | 76.36 |
| * | 10.232 | 491.00 | 0.00 | 0.00 | 1753.90 | 669.00 | 1759.49 | 0.00 | 1759.68 | 58.51 | 3.42 | 195.71 | 87.46 |
| | 10.320 | 465.00 | 0.00 | 0.00 | 1757.40 | 669.00 | 1762.64 | 0.00 | 1762.74 | 70.81 | 2.92 | 302.10 | 79.50 |
| | 10.320 | 465.00 | 0.00 | 0.00 | 1757.40 | 669.00 | 1763.04 | 0.00 | 1763.28 | 101.84 | 3.98 | 168.08 | 66.29 |
| | 10.426 | 560.00 | 0.00 | 0.00 | 1761.90 | 669.00 | 1766.92 | 0.00 | 1767.06 | 94.95 | 2.80 | 229.99 | 68.66 |
| | 10.426 | 560.00 | 0.00 | 0.00 | 1761.90 | 669.00 | 1767.53 | 0.00 | 1767.66 | 63.12 | 2.91 | 229.93 | 84.20 |
| | 10.516 | 475.00 | 0.00 | 0.00 | 1767.70 | 669.00 | 1771.75 | 0.00 | 1771.97 | 111.66 | 2.20 | 206.33 | 63.31 |
| * | 10.516 | 475.00 | 0.00 | 0.00 | 1767.70 | 669.00 | 1772.57 | 0.00 | 1772.74 | 150.16 | 3.27 | 204.79 | 54.59 |
| | 10.620 | 549.00 | 0.00 | 0.00 | 1772.70 | 669.00 | 1776.97 | 0.00 | 1777.06 | 79.42 | 3.06 | 295.74 | 75.07 |
| * | 10.620 | 549.00 | 0.00 | 0.00 | 1772.70 | 669.00 | 1778.02 | 0.00 | 1778.21 | 74.38 | 3.81 | 201.63 | 77.57 |
| | 10.710 | 475.00 | 0.00 | 0.00 | 1776.70 | 669.00 | 1781.33 | 0.00 | 1781.47 | 123.62 | 1.60 | 255.19 | 60.17 |
| | 10.710 | 475.00 | 0.00 | 0.00 | 1776.70 | 669.00 | 1782.11 | 0.00 | 1782.23 | 99.16 | 2.80 | 238.97 | 67.18 |
| | 10.802 | 486.00 | 0.00 | 0.00 | 1783.30 | 669.00 | 1785.57 | 0.00 | 1785.65 | 63.74 | 1.94 | 326.89 | 83.80 |
| | 10.802 | 486.00 | 0.00 | 0.00 | 1783.30 | 669.00 | 1786.44 | 0.00 | 1786.59 | 80.72 | 3.03 | 214.58 | 74.46 |
| * | 10.891 | 470.00 | 0.00 | 0.00 | 1787.60 | 669.00 | 1789.91 | 0.00 | 1789.99 | 134.65 | 2.36 | 307.31 | 57.65 |
| | 10.891 | 470.00 | 0.00 | 0.00 | 1787.60 | 669.00 | 1790.28 | 0.00 | 1790.35 | 78.84 | 2.11 | 317.12 | 75.35 |
| | 10.982 | 480.00 | 0.00 | 0.00 | 1791.70 | 669.00 | 1794.45 | 0.00 | 1794.49 | 75.00 | 1.82 | 417.26 | 77.25 |
| | 10.982 | 480.00 | 0.00 | 0.00 | 1791.70 | 669.00 | 1795.15 | 0.00 | 1795.32 | 135.46 | 3.36 | 201.13 | 57.48 |
| | 11.079 | 512.00 | 0.00 | 0.00 | 1793.00 | 669.00 | 1798.73 | 0.00 | 1798.83 | 135.48 | 2.81 | 269.83 | 57.48 |
| | 11.079 | 512.00 | 0.00 | 0.00 | 1793.00 | 669.00 | 1799.77 | 0.00 | 1799.90 | 75.50 | 3.31 | 234.08 | 76.99 |
| | 11.174 | 502.00 | 0.00 | 0.00 | 1797.20 | 699.00 | 1804.00 | 0.00 | 1804.06 | 82.88 | 1.77 | 355.03 | 76.78 |
| | 11.174 | 502.00 | 0.00 | 0.00 | 1797.20 | 699.00 | 1804.79 | 0.00 | 1804.96 | 131.45 | 3.17 | 213.22 | 60.97 |
| | 11.264 | 475.00 | 0.00 | 0.00 | 1801.60 | 709.00 | 1807.88 | 0.00 | 1808.03 | 93.05 | 3.64 | 274.51 | 73.50 |
| * | 11.264 | 475.00 | 0.00 | 0.00 | 1801.60 | 709.00 | 1808.82 | 0.00 | 1809.02 | 65.87 | 3.78 | 206.84 | 87.36 |
| * | 11.368 | 549.00 | 0.00 | 0.00 | 1808.60 | 1922.00 | 1813.00 | 0.00 | 1813.16 | 93.52 | 4.31 | 645.92 | 198.75 |
| * | 11.368 | 549.00 | 0.00 | 0.00 | 1808.60 | 1992.00 | 1813.84 | 0.00 | 1814.17 | 120.22 | 5.59 | 451.73 | 181.67 |
| | 11.469 | 533.00 | 0.00 | 0.00 | 1811.20 | 2162.00 | 1817.04 | 0.00 | 1817.15 | 62.99 | 3.80 | 860.03 | 272.40 |
| * | 11.469 | 533.00 | 0.00 | 0.00 | 1811.20 | 2162.00 | 1817.94 | 0.00 | 1818.10 | 53.06 | 4.01 | 697.66 | 296.81 |

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10*KS | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | 11.570 | 533.00 | 0.00 | 0.00 | 1817.50 | 2162.00 | 1822.05 | 0.00 | 1822.16 | 136.08 | 3.92 | 836.92 | 185.34 |
| * | 11.570 | 533.00 | 0.00 | 0.00 | 1817.50 | 2162.00 | 1823.02 | 0.00 | 1823.21 | 148.89 | 5.18 | 652.07 | 177.18 |
| * | 11.666 | 507.00 | 0.00 | 0.00 | 1824.90 | 2371.00 | 1827.00 | 0.00 | 1827.09 | 77.12 | 3.12 | 1019.70 | 269.99 |
| * | 11.666 | 507.00 | 0.00 | 0.00 | 1824.90 | 2371.00 | 1828.04 | 0.00 | 1828.16 | 73.73 | 4.64 | 1068.77 | 276.12 |
| | 11.750 | 444.00 | 0.00 | 0.00 | 1826.90 | 2371.00 | 1830.87 | 0.00 | 1830.96 | 104.05 | 4.12 | 1114.18 | 232.44 |
| | 11.750 | 444.00 | 0.00 | 0.00 | 1826.90 | 2371.00 | 1831.85 | 0.00 | 1832.05 | 108.03 | 5.39 | 861.87 | 228.12 |
| | 11.847 | 512.00 | 0.00 | 0.00 | 1829.70 | 2371.00 | 1835.03 | 0.00 | 1835.13 | 72.58 | 3.98 | 1100.71 | 278.31 |
| | 11.847 | 512.00 | 0.00 | 0.00 | 1829.70 | 2371.00 | 1835.99 | 0.00 | 1836.13 | 67.29 | 4.32 | 1001.95 | 289.04 |
| | 11.920 | 385.00 | 0.00 | 0.00 | 1834.00 | 2371.00 | 1837.26 | 0.00 | 1837.35 | 68.93 | 2.49 | 962.24 | 285.58 |
| | 11.920 | 385.00 | 0.00 | 0.00 | 1834.00 | 2371.00 | 1837.62 | 0.00 | 1837.69 | 36.62 | 2.06 | 1149.64 | 391.81 |
| | 12.010 | 475.00 | 0.00 | 0.00 | 1836.50 | 2371.00 | 1839.90 | 0.00 | 1840.00 | 46.76 | 2.59 | 914.50 | 346.73 |
| | 12.010 | 475.00 | 0.00 | 0.00 | 1836.50 | 2371.00 | 1839.92 | 0.00 | 1840.02 | 61.16 | 2.56 | 926.37 | 303.18 |
| * | 12.101 | 480.00 | 0.00 | 0.00 | 1839.90 | 849.00 | 1844.18 | 0.00 | 1844.40 | 275.14 | 1.68 | 235.04 | 51.18 |
| * | 12.101 | 480.00 | 0.00 | 0.00 | 1839.90 | 849.00 | 1845.22 | 0.00 | 1845.36 | 237.55 | 2.69 | 293.78 | 55.08 |
| * | 12.191 | 475.00 | 0.00 | 0.00 | 1843.40 | 849.00 | 1849.60 | 0.00 | 1849.67 | 74.74 | 2.16 | 393.65 | 98.20 |
| * | 12.191 | 475.00 | 0.00 | 0.00 | 1843.40 | 849.00 | 1849.69 | 0.00 | 1849.75 | 59.12 | 2.00 | 423.61 | 110.41 |
| | 12.281 | 475.00 | 0.00 | 0.00 | 1846.30 | 979.00 | 1853.32 | 0.00 | 1853.38 | 81.55 | 1.99 | 492.41 | 108.41 |
| | 12.281 | 475.00 | 0.00 | 0.00 | 1846.30 | 979.00 | 1853.14 | 0.00 | 1853.23 | 90.38 | 2.45 | 400.40 | 102.98 |
| * | 12.369 | 465.00 | 0.00 | 0.00 | 1849.90 | 1812.00 | 1857.63 | 0.00 | 1857.73 | 96.89 | 2.71 | 730.81 | 184.09 |
| * | 12.369 | 465.00 | 0.00 | 0.00 | 1849.90 | 1812.00 | 1857.96 | 0.00 | 1858.14 | 121.93 | 3.42 | 529.83 | 164.10 |
| | 12.464 | 502.00 | 0.00 | 0.00 | 1854.50 | 1812.00 | 1862.21 | 0.00 | 1862.39 | 93.15 | 4.37 | 546.24 | 187.75 |
| | 12.464 | 502.00 | 0.00 | 0.00 | 1854.50 | 1812.00 | 1863.20 | 0.00 | 1863.50 | 95.56 | 6.09 | 468.33 | 185.36 |
| | 12.614 | 781.00 | 0.00 | 0.00 | 1866.00 | 2371.00 | 1869.31 | 0.00 | 1869.51 | 148.74 | 3.90 | 658.94 | 194.41 |
| | 12.614 | 781.00 | 0.00 | 0.00 | 1866.00 | 2371.00 | 1870.27 | 0.00 | 1870.54 | 133.65 | 3.73 | 572.73 | 205.09 |
| | 12.692 | 405.00 | 0.00 | 0.00 | 1870.00 | 2371.00 | 1874.79 | 0.00 | 1875.11 | 104.77 | 5.51 | 646.71 | 231.65 |
| | 12.692 | 405.00 | 0.00 | 0.00 | 1870.00 | 2371.00 | 1875.41 | 0.00 | 1875.96 | 113.14 | 6.15 | 421.13 | 222.90 |
| | 12.752 | 317.00 | 0.00 | 0.00 | 1873.50 | 2371.00 | 1878.04 | 0.00 | 1878.39 | 107.75 | 5.64 | 527.16 | 228.41 |
| | 12.752 | 317.00 | 0.00 | 0.00 | 1873.50 | 2371.00 | 1878.94 | 0.00 | 1879.45 | 108.93 | 6.36 | 502.26 | 227.17 |
| | 12.849 | 512.00 | 0.00 | 0.00 | 1877.70 | 2371.00 | 1882.60 | 1882.47 | 1883.20 | 79.73 | 7.64 | 446.17 | 265.54 |
| | 12.849 | 512.00 | 0.00 | 0.00 | 1877.70 | 2371.00 | 1883.51 | 0.00 | 1884.64 | 88.16 | 9.22 | 306.33 | 252.52 |
| | 12.942 | 491.00 | 0.00 | 0.00 | 1884.40 | 2371.00 | 1887.66 | 0.00 | 1888.10 | 124.68 | 6.13 | 519.11 | 212.34 |
| * | 12.942 | 491.00 | 0.00 | 0.00 | 1884.40 | 2371.00 | 1888.61 | 1887.96 | 1889.13 | 67.22 | 5.81 | 408.00 | 289.18 |
| | 13.025 | 438.00 | 0.00 | 0.00 | 1889.00 | 2371.00 | 1892.91 | 0.00 | 1893.69 | 130.49 | 7.86 | 380.29 | 207.56 |
| * | 13.025 | 438.00 | 0.00 | 0.00 | 1889.00 | 2371.00 | 1893.20 | 1893.20 | 1894.55 | 159.99 | 9.33 | 254.25 | 187.45 |

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10*KS | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 13.127 | 539.00 | 0.00 | 0.00 | 1895.20 | 2371.00 | 1898.44 | 0.00 | 1898.77 | 78.66 | 5.45 | 607.61 | 267.34 |
| * | 13.127 | 539.00 | 0.00 | 0.00 | 1895.20 | 2371.00 | 1899.32 | 0.00 | 1899.92 | 70.74 | 6.17 | 384.25 | 281.90 |
| | 13.221 | 496.00 | 0.00 | 0.00 | 1898.90 | 2371.00 | 1903.39 | 0.00 | 1903.97 | 136.33 | 6.12 | 401.35 | 203.07 |
| | 13.221 | 496.00 | 0.00 | 0.00 | 1898.90 | 2371.00 | 1903.63 | 0.00 | 1904.12 | 101.19 | 5.60 | 423.17 | 235.70 |
| | 13.325 | 549.00 | 0.00 | 0.00 | 1904.40 | 2371.00 | 1908.55 | 0.00 | 1909.11 | 71.60 | 6.22 | 450.13 | 280.21 |
| | 13.325 | 549.00 | 0.00 | 0.00 | 1904.40 | 2371.00 | 1908.36 | 0.00 | 1909.15 | 80.97 | 7.18 | 330.42 | 263.49 |
| | 13.419 | 496.00 | 0.00 | 0.00 | 1909.60 | 2371.00 | 1913.44 | 0.00 | 1914.15 | 129.88 | 6.75 | 351.17 | 208.05 |
| | 13.419 | 496.00 | 0.00 | 0.00 | 1909.60 | 2371.00 | 1914.23 | 0.00 | 1914.60 | 146.50 | 4.86 | 488.36 | 195.89 |
| | 13.499 | 422.00 | 0.00 | 0.00 | 1914.80 | 2371.00 | 1918.92 | 0.00 | 1920.34 | 157.11 | 10.28 | 277.20 | 189.16 |
| | 13.499 | 422.00 | 0.00 | 0.00 | 1914.80 | 2371.00 | 1919.53 | 0.00 | 1921.27 | 150.07 | 10.57 | 224.41 | 193.55 |

Ic[illegible]ash FIS - FCDMC 93

SUMMARY PRINTOUT TABLE 150

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 0.640 | 5001.00 | 1460.98 | 0.00 | 0.00 | 0.00 | 937.05 | 0.00 |
| | 0.640 | 5001.00 | 1461.98 | 1.00 | 0.00 | 1.00 | 455.00 | 0.00 |
| * | 0.734 | 5001.00 | 1464.87 | 0.00 | 3.89 | 0.00 | 1008.24 | 496.00 |
| * | 0.734 | 5001.00 | 1465.41 | 0.53 | 3.43 | 0.53 | 555.00 | 496.00 |
| | 0.819 | 5001.00 | 1467.22 | 0.00 | 2.34 | 0.00 | 938.33 | 449.00 |
| | 0.819 | 5001.00 | 1467.72 | 0.51 | 2.32 | 0.51 | 576.00 | 449.00 |
| | 0.912 | 5001.00 | 1469.65 | 0.00 | 2.44 | 0.00 | 1078.19 | 491.00 |
| | 0.912 | 5001.00 | 1470.43 | 0.78 | 2.71 | 0.78 | 416.30 | 491.00 |
| | 0.999 | 5001.00 | 1471.74 | 0.00 | 2.09 | 0.00 | 1178.25 | 459.00 |
| * | 0.999 | 5001.00 | 1472.59 | 0.85 | 2.16 | 0.85 | 391.00 | 459.00 |
| | 1.101 | 5001.00 | 1473.94 | 0.00 | 2.20 | 0.00 | 885.39 | 539.00 |
| | 1.101 | 5001.00 | 1474.95 | 1.01 | 2.36 | 1.01 | 503.10 | 539.00 |
| | 1.189 | 5001.00 | 1476.33 | 0.00 | 2.39 | 0.00 | 1020.14 | 465.00 |
| | 1.189 | 5001.00 | 1477.30 | 0.98 | 2.35 | 0.98 | 459.60 | 465.00 |
| | 1.285 | 5001.00 | 1478.80 | 0.00 | 2.48 | 0.00 | 915.91 | 507.00 |
| | 1.285 | 5001.00 | 1479.83 | 1.03 | 2.53 | 1.03 | 448.10 | 507.00 |
| | 1.386 | 5001.00 | 1481.30 | 0.00 | 2.50 | 0.00 | 924.87 | 533.00 |
| | 1.386 | 5001.00 | 1482.34 | 1.04 | 2.51 | 1.04 | 475.40 | 533.00 |
| | 1.480 | 5001.00 | 1483.69 | 0.00 | 2.39 | 0.00 | 851.79 | 496.00 |
| | 1.480 | 5001.00 | 1484.69 | 1.00 | 2.35 | 1.00 | 402.90 | 496.00 |
| | 1.578 | 5001.00 | 1486.08 | 0.00 | 2.38 | 0.00 | 921.23 | 517.00 |
| | 1.578 | 5001.00 | 1487.04 | 0.97 | 2.35 | 0.97 | 409.90 | 517.00 |
| * | 1.670 | 5001.00 | 1488.96 | 0.00 | 2.88 | 0.00 | 884.96 | 486.00 |
| | 1.670 | 5001.00 | 1489.83 | 0.87 | 2.79 | 0.87 | 375.60 | 486.00 |
| * | 1.764 | 5001.00 | 1491.30 | 0.00 | 2.34 | 0.00 | 910.95 | 496.00 |
| * | 1.764 | 5001.00 | 1492.30 | 1.00 | 2.47 | 1.00 | 435.70 | 496.00 |
| * | 1.866 | 5001.00 | 1493.85 | 0.00 | 2.55 | 0.00 | 964.37 | 539.00 |
| * | 1.866 | 5001.00 | 1494.82 | 0.98 | 2.53 | 0.98 | 367.60 | 539.00 |
| | 1.967 | 5001.00 | 1496.87 | 0.00 | 3.03 | 0.00 | 1338.44 | 533.00 |
| | 1.967 | 5001.00 | 1497.83 | 0.96 | 3.00 | 0.96 | 511.90 | 533.00 |
| | 2.064 | 5001.00 | 1498.73 | 0.00 | 1.86 | 0.00 | 1485.11 | 512.00 |
| | 2.064 | 5001.00 | 1499.75 | 1.02 | 1.93 | 1.02 | 605.30 | 512.00 |

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 2.159 | 5001.00 | 1501.08 | 0.00 | 2.35 | 0.00 | 1155.66 | 502.00 |
| * | 2.159 | 5001.00 | 1502.05 | 0.98 | 2.30 | 0.98 | 464.60 | 502.00 |
| | 2.251 | 5001.00 | 1503.49 | 0.00 | 2.41 | 0.00 | 1159.89 | 486.00 |
| | 2.251 | 5001.00 | 1504.54 | 1.05 | 2.48 | 1.05 | 562.20 | 486.00 |
| | 2.346 | 5001.00 | 1506.11 | 0.00 | 2.62 | 0.00 | 1304.74 | 502.00 |
| | 2.346 | 5001.00 | 1507.11 | 1.00 | 2.57 | 1.00 | 534.60 | 502.00 |
| | 2.442 | 5001.00 | 1509.18 | 0.00 | 3.07 | 0.00 | 1557.78 | 507.00 |
| | 2.442 | 5001.00 | 1510.19 | 1.00 | 3.07 | 1.00 | 561.50 | 507.00 |
| | 2.537 | 5001.00 | 1512.07 | 0.00 | 2.89 | 0.00 | 1488.41 | 502.00 |
| | 2.537 | 5001.00 | 1513.07 | 1.00 | 2.89 | 1.00 | 615.30 | 502.00 |
| | 2.631 | 5001.00 | 1514.64 | 0.00 | 2.57 | 0.00 | 1341.49 | 496.00 |
| | 2.631 | 5001.00 | 1515.62 | 0.98 | 2.55 | 0.98 | 645.70 | 496.00 |
| | 2.727 | 5001.00 | 1517.64 | 0.00 | 3.00 | 0.00 | 1152.17 | 507.00 |
| | 2.727 | 5001.00 | 1518.48 | 0.84 | 2.86 | 0.84 | 482.00 | 507.00 |
| | 2.827 | 5001.00 | 1520.56 | 0.00 | 2.91 | 0.00 | 1074.50 | 528.00 |
| | 2.827 | 5001.00 | 1521.54 | 0.98 | 3.06 | 0.98 | 551.43 | 528.00 |
| | 2.927 | 5001.00 | 1523.04 | 0.00 | 2.49 | 0.00 | 1222.59 | 528.00 |
| | 2.927 | 5001.00 | 1524.09 | 1.04 | 2.55 | 1.04 | 683.50 | 528.00 |
| | 3.027 | 5001.00 | 1525.96 | 0.00 | 2.91 | 0.00 | 1250.27 | 528.00 |
| | 3.027 | 5001.00 | 1526.81 | 0.85 | 2.72 | 0.85 | 467.60 | 528.00 |
| | 3.137 | 5001.00 | 1529.16 | 0.00 | 3.20 | 0.00 | 981.31 | 581.00 |
| | 3.137 | 5001.00 | 1530.19 | 1.03 | 3.39 | 1.03 | 345.80 | 581.00 |
| | 3.224 | 5001.00 | 1531.99 | 0.00 | 2.83 | 0.00 | 844.61 | 459.00 |
| | 3.224 | 5001.00 | 1532.99 | 1.00 | 2.80 | 1.00 | 345.40 | 459.00 |
| | 3.321 | 5001.00 | 1534.89 | 0.00 | 2.90 | 0.00 | 730.71 | 512.00 |
| | 3.321 | 5001.00 | 1535.89 | 1.00 | 2.90 | 1.00 | 315.80 | 512.00 |
| | 3.413 | 5001.00 | 1537.60 | 0.00 | 2.71 | 0.00 | 394.43 | 486.00 |
| | 3.413 | 5001.00 | 1538.54 | 0.94 | 2.65 | 0.94 | 203.60 | 486.00 |
| | 3.514 | 5001.00 | 1540.10 | 0.00 | 2.51 | 0.00 | 566.13 | 533.00 |
| | 3.514 | 5001.00 | 1541.12 | 1.01 | 2.58 | 1.01 | 270.00 | 533.00 |
| | 3.617 | 5001.00 | 1541.67 | 0.00 | 1.56 | 0.00 | 338.88 | 544.00 |
| | 3.617 | 5001.00 | 1542.52 | 0.85 | 1.40 | 0.85 | 84.30 | 544.00 |
| * | 3.651 | 5101.00 | 1553.08 | 0.00 | 11.42 | 0.00 | 2300.00 | 180.00 |
| * | 3.651 | 5101.00 | 1553.56 | 0.47 | 11.04 | 0.47 | 562.13 | 180.00 |

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| * | 3.670 | 5101.00 | 1553.56 | 0.00 | 0.48 | 0.00 | 2300.00 | 100.00 |
| * | 3.670 | 5101.00 | 1553.99 | 0.42 | 0.43 | 0.42 | 670.00 | 100.00 |
| * | 3.713 | 5309.00 | 1554.32 | 0.00 | 0.76 | 0.00 | 1500.00 | 230.00 |
| * | 3.713 | 5309.00 | 1555.36 | 1.04 | 1.38 | 1.04 | 1159.00 | 230.00 |
| | 3.821 | 5309.00 | 1554.33 | 0.00 | 0.01 | 0.00 | 1426.50 | 570.00 |
| | 3.821 | 5309.00 | 1555.38 | 1.04 | 0.01 | 1.04 | 1050.41 | 570.00 |
| * | 3.917 | 5309.00 | 1554.37 | 0.00 | 0.04 | 0.00 | 1431.31 | 507.00 |
| * | 3.917 | 5309.00 | 1555.42 | 1.04 | 0.04 | 1.04 | 685.55 | 507.00 |
| * | 4.010 | 5309.00 | 1554.59 | 0.00 | 0.21 | 0.00 | 1213.25 | 491.00 |
| * | 4.010 | 5309.00 | 1555.60 | 1.02 | 0.19 | 1.02 | 540.27 | 491.00 |
| * | 4.119 | 5309.00 | 1555.84 | 0.00 | 1.26 | 0.00 | 969.44 | 576.00 |
| * | 4.119 | 5309.00 | 1556.82 | 0.98 | 1.22 | 0.98 | 264.83 | 576.00 |
| | 4.214 | 5309.00 | 1558.79 | 0.00 | 2.95 | 0.00 | 736.64 | 502.00 |
| | 4.214 | 5309.00 | 1559.80 | 1.01 | 2.98 | 1.01 | 214.40 | 502.00 |
| | 4.306 | 5309.00 | 1561.57 | 0.00 | 2.78 | 0.00 | 759.94 | 486.00 |
| | 4.306 | 5309.00 | 1562.54 | 0.97 | 2.74 | 0.97 | 200.41 | 486.00 |
| | 4.403 | 5309.00 | 1564.54 | 0.00 | 2.97 | 0.00 | 399.33 | 512.00 |
| | 4.403 | 5309.00 | 1565.55 | 1.00 | 3.01 | 1.00 | 205.00 | 512.00 |
| | 4.497 | 5320.00 | 1566.94 | 0.00 | 2.40 | 0.00 | 374.81 | 496.00 |
| | 4.497 | 5320.00 | 1567.86 | 0.92 | 2.31 | 0.92 | 141.54 | 496.00 |
| | 4.596 | 5320.00 | 1569.28 | 0.00 | 2.34 | 0.00 | 231.70 | 523.00 |
| * | 4.596 | 5320.00 | 1570.29 | 1.01 | 2.44 | 1.01 | 146.00 | 523.00 |
| | 4.694 | 5320.00 | 1571.52 | 0.00 | 2.24 | 0.00 | 202.00 | 517.00 |
| | 4.694 | 5320.00 | 1572.18 | 0.66 | 1.88 | 0.66 | 111.00 | 517.00 |
| | 4.789 | 5320.00 | 1574.50 | 0.00 | 2.98 | 0.00 | 228.71 | 502.00 |
| | 4.789 | 5320.00 | 1575.07 | 0.57 | 2.89 | 0.57 | 115.20 | 502.00 |
| * | 4.893 | 5320.00 | 1578.41 | 0.00 | 3.91 | 0.00 | 221.20 | 549.00 |
| * | 4.893 | 5320.00 | 1578.86 | 0.45 | 3.79 | 0.45 | 116.30 | 549.00 |
| * | 4.988 | 5320.00 | 1582.77 | 0.00 | 4.36 | 0.00 | 228.00 | 502.00 |
| | 4.988 | 5320.00 | 1583.18 | 0.41 | 4.32 | 0.41 | 149.50 | 502.00 |
| | 5.095 | 5320.00 | 1585.76 | 0.00 | 3.00 | 0.00 | 225.00 | 565.00 |
| | 5.095 | 5320.00 | 1586.43 | 0.67 | 3.26 | 0.67 | 118.40 | 565.00 |
| | 5.189 | 5320.00 | 1587.89 | 0.00 | 2.13 | 0.00 | 332.58 | 496.00 |
| * | 5.189 | 5320.00 | 1588.51 | 0.62 | 2.08 | 0.62 | 205.72 | 496.00 |

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| * | 5.287 | 5330.00 | 1592.52 | 0.00 | 4.62 | 0.00 | 1632.38 | 517.00 |
| * | 5.287 | 5330.00 | 1593.15 | 0.64 | 4.64 | 0.64 | 466.25 | 517.00 |
| | 5.386 | 5330.00 | 1596.56 | 0.00 | 4.05 | 0.00 | 1278.24 | 523.00 |
| * | 5.386 | 5330.00 | 1597.59 | 1.03 | 4.44 | 1.03 | 485.00 | 523.00 |
| | 5.485 | 5330.00 | 1599.65 | 0.00 | 3.08 | 0.00 | 1339.53 | 523.00 |
| | 5.485 | 5330.00 | 1600.42 | 0.78 | 2.83 | 0.78 | 323.64 | 523.00 |
| | 5.577 | 5330.00 | 1602.02 | 0.00 | 2.38 | 0.00 | 1373.78 | 486.00 |
| | 5.577 | 5330.00 | 1602.92 | 0.89 | 2.49 | 0.89 | 132.00 | 486.00 |
| | 5.668 | 5330.00 | 1604.99 | 0.00 | 2.97 | 0.00 | 1567.41 | 480.00 |
| | 5.668 | 5330.00 | 1606.02 | 1.03 | 3.10 | 1.03 | 740.00 | 480.00 |
| | 5.765 | 5330.00 | 1607.89 | 0.00 | 2.91 | 0.00 | 1717.20 | 512.00 |
| | 5.765 | 5330.00 | 1608.79 | 0.90 | 2.77 | 0.90 | 690.50 | 512.00 |
| | 5.858 | 5330.00 | 1611.13 | 0.00 | 3.23 | 0.00 | 1457.94 | 491.00 |
| | 5.858 | 5330.00 | 1612.17 | 1.05 | 3.38 | 1.05 | 690.00 | 491.00 |
| | 5.945 | 5340.00 | 1613.65 | 0.00 | 2.52 | 0.00 | 2617.65 | 459.00 |
| | 5.945 | 5340.00 | 1614.39 | 0.74 | 2.22 | 0.74 | 1045.59 | 459.00 |
| | 6.026 | 5340.00 | 1615.36 | 0.00 | 1.71 | 0.00 | 2153.85 | 428.00 |
| | 6.026 | 5340.00 | 1616.27 | 0.91 | 1.87 | 0.91 | 1191.64 | 428.00 |
| | 6.067 | 5340.00 | 1617.04 | 0.00 | 1.69 | 0.00 | 2043.71 | 216.00 |
| | 6.067 | 5340.00 | 1618.03 | 0.99 | 1.77 | 0.99 | 563.67 | 216.00 |
| | 6.135 | 5340.00 | 1618.72 | 0.00 | 1.68 | 0.00 | 1728.51 | 359.00 |
| | 6.135 | 5340.00 | 1619.73 | 1.01 | 1.69 | 1.01 | 440.26 | 359.00 |
| | 6.223 | 5340.00 | 1621.54 | 0.00 | 2.81 | 0.00 | 1964.04 | 465.00 |
| | 6.223 | 5340.00 | 1622.57 | 1.03 | 2.84 | 1.03 | 617.13 | 465.00 |
| | 6.321 | 5340.00 | 1624.01 | 0.00 | 2.48 | 0.00 | 1734.58 | 517.00 |
| | 6.321 | 5340.00 | 1624.97 | 0.96 | 2.40 | 0.96 | 581.40 | 517.00 |
| | 6.413 | 5340.00 | 1627.49 | 0.00 | 3.48 | 0.00 | 1179.93 | 486.00 |
| | 6.413 | 5340.00 | 1628.53 | 1.04 | 3.56 | 1.04 | 488.88 | 486.00 |
| | 6.511 | 5340.00 | 1630.35 | 0.00 | 2.86 | 0.00 | 1013.65 | 517.00 |
| | 6.511 | 5340.00 | 1631.36 | 1.01 | 2.83 | 1.01 | 390.00 | 517.00 |
| | 6.603 | 5340.00 | 1633.46 | 0.00 | 3.11 | 0.00 | 986.84 | 486.00 |
| | 6.603 | 5340.00 | 1634.41 | 0.95 | 3.05 | 0.95 | 371.43 | 486.00 |
| | 6.704 | 5340.00 | 1636.19 | 0.00 | 2.73 | 0.00 | 873.05 | 533.00 |
| | 6.704 | 5340.00 | 1637.18 | 1.00 | 2.77 | 1.00 | 400.00 | 533.00 |

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 6.801 | 5350.00 | 1638.89 | 0.00 | 2.70 | 0.00 | 1261.22 | 512.00 |
| | 6.801 | 5350.00 | 1639.92 | 1.03 | 2.73 | 1.03 | 546.00 | 512.00 |
| | 6.897 | 5350.00 | 1641.82 | 0.00 | 2.93 | 0.00 | 1388.36 | 507.00 |
| | 6.897 | 5350.00 | 1642.85 | 1.04 | 2.94 | 1.04 | 831.95 | 507.00 |
| | 6.986 | 5350.00 | 1644.68 | 0.00 | 2.86 | 0.00 | 1661.26 | 470.00 |
| | 6.986 | 5350.00 | 1645.65 | 0.97 | 2.79 | 0.97 | 769.14 | 470.00 |
| | 7.077 | 5350.00 | 1647.89 | 0.00 | 3.22 | 0.00 | 2000.31 | 480.00 |
| | 7.077 | 5350.00 | 1648.91 | 1.02 | 3.27 | 1.02 | 974.88 | 480.00 |
| | 7.167 | 5350.00 | 1651.86 | 0.00 | 3.96 | 0.00 | 2272.64 | 475.00 |
| | 7.167 | 5350.00 | 1652.87 | 1.01 | 3.96 | 1.01 | 836.47 | 475.00 |
| | 7.264 | 5350.00 | 1655.27 | 0.00 | 3.41 | 0.00 | 2215.81 | 512.00 |
| | 7.264 | 5350.00 | 1656.29 | 1.02 | 3.42 | 1.02 | 1173.62 | 512.00 |
| | 7.352 | 5350.00 | 1658.17 | 0.00 | 2.91 | 0.00 | 1902.68 | 465.00 |
| | 7.352 | 5350.00 | 1658.98 | 0.81 | 2.69 | 0.81 | 867.07 | 465.00 |
| | 7.438 | 5350.00 | 1661.27 | 0.00 | 3.10 | 0.00 | 1191.00 | 454.00 |
| | 7.438 | 5350.00 | 1662.17 | 0.89 | 3.19 | 0.89 | 584.55 | 454.00 |
| | 7.533 | 5350.00 | 1664.75 | 0.00 | 3.48 | 0.00 | 698.87 | 502.00 |
| | 7.533 | 5350.00 | 1665.72 | 0.96 | 3.55 | 0.96 | 485.00 | 502.00 |
| | 7.624 | 5350.00 | 1667.99 | 0.00 | 3.23 | 0.00 | 666.56 | 480.00 |
| | 7.624 | 5350.00 | 1668.81 | 0.82 | 3.09 | 0.82 | 446.26 | 480.00 |
| | 7.709 | 5360.00 | 1670.68 | 0.00 | 2.69 | 0.00 | 627.71 | 449.00 |
| | 7.709 | 5360.00 | 1671.47 | 0.80 | 2.67 | 0.80 | 430.00 | 449.00 |
| | 7.800 | 5334.00 | 1673.45 | 0.00 | 2.77 | 0.00 | 796.34 | 480.00 |
| | 7.800 | 5334.00 | 1674.23 | 0.79 | 2.76 | 0.79 | 454.63 | 480.00 |
| | 7.896 | 5307.00 | 1675.98 | 0.00 | 2.54 | 0.00 | 822.87 | 507.00 |
| | 7.896 | 5307.00 | 1677.00 | 1.01 | 2.77 | 1.01 | 520.00 | 507.00 |
| | 7.995 | 5279.00 | 1678.78 | 0.00 | 2.80 | 0.00 | 874.48 | 523.00 |
| | 7.995 | 5279.00 | 1679.70 | 0.92 | 2.70 | 0.92 | 406.00 | 523.00 |
| | 8.088 | 5253.00 | 1681.52 | 0.00 | 2.73 | 0.00 | 597.70 | 491.00 |
| | 8.088 | 5253.00 | 1682.26 | 0.74 | 2.56 | 0.74 | 340.20 | 491.00 |
| | 8.182 | 5227.00 | 1684.93 | 0.00 | 3.41 | 0.00 | 492.37 | 496.00 |
| * | 8.182 | 5227.00 | 1685.48 | 0.55 | 3.22 | 0.55 | 191.71 | 496.00 |
| * | 8.273 | 5201.00 | 1688.47 | 0.00 | 3.54 | 0.00 | 430.00 | 480.00 |
| * | 8.273 | 5201.00 | 1689.45 | 0.98 | 3.97 | 0.98 | 265.00 | 480.00 |

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 8.374 | 5172.00 | 1691.23 | 0.00 | 2.76 | 0.00 | 328.52 | 533.00 |
| | 8.374 | 5172.00 | 1691.94 | 0.72 | 2.49 | 0.72 | 198.04 | 533.00 |
| | 8.465 | 5147.00 | 1693.92 | 0.00 | 2.69 | 0.00 | 375.26 | 480.00 |
| | 8.465 | 5147.00 | 1694.82 | 0.90 | 2.88 | 0.90 | 141.48 | 480.00 |
| * | 8.560 | 5120.00 | 1695.86 | 0.00 | 1.94 | 0.00 | 500.01 | 502.00 |
| * | 8.560 | 5120.00 | 1696.91 | 1.05 | 2.09 | 1.05 | 289.70 | 502.00 |
| | 8.654 | 5094.00 | 1697.42 | 0.00 | 1.56 | 0.00 | 603.98 | 496.00 |
| * | 8.654 | 5094.00 | 1698.16 | 0.74 | 1.26 | 0.74 | 251.83 | 496.00 |
| | 8.740 | 5070.00 | 1699.73 | 0.00 | 2.31 | 0.00 | 315.66 | 454.00 |
| | 8.740 | 5070.00 | 1699.89 | 0.16 | 1.73 | 0.16 | 172.10 | 454.00 |
| | 8.844 | 5040.00 | 1703.63 | 0.00 | 3.91 | 0.00 | 345.49 | 549.00 |
| * | 8.844 | 5040.00 | 1703.72 | 0.09 | 3.83 | 0.09 | 152.90 | 549.00 |
| | 8.940 | 5013.00 | 1707.10 | 0.00 | 3.47 | 0.00 | 363.69 | 507.00 |
| * | 8.940 | 5013.00 | 1708.08 | 0.99 | 4.36 | 0.99 | 205.00 | 507.00 |
| | 9.032 | 4987.00 | 1709.28 | 0.00 | 2.18 | 0.00 | 499.50 | 486.00 |
| | 9.032 | 4987.00 | 1709.84 | 0.56 | 1.76 | 0.56 | 259.68 | 486.00 |
| * | 9.119 | 4962.00 | 1711.63 | 0.00 | 2.35 | 0.00 | 414.94 | 459.00 |
| * | 9.119 | 4962.00 | 1712.46 | 0.84 | 2.63 | 0.84 | 209.52 | 459.00 |
| | 9.202 | 4940.00 | 1715.40 | 0.00 | 3.77 | 0.00 | 148.97 | 438.00 |
| * | 9.202 | 4940.00 | 1716.31 | 0.90 | 3.84 | 0.90 | 99.00 | 438.00 |
| | 9.289 | 4915.00 | 1718.83 | 0.00 | 3.43 | 0.00 | 299.02 | 459.00 |
| * | 9.289 | 4915.00 | 1719.05 | 0.22 | 2.75 | 0.22 | 135.00 | 459.00 |
| * | 9.387 | 669.00 | 1720.49 | 0.00 | 1.66 | 0.00 | 368.79 | 517.00 |
| | 9.387 | 669.00 | 1721.47 | 0.98 | 2.41 | 0.98 | 162.00 | 517.00 |
| * | 9.480 | 669.00 | 1721.58 | 0.00 | 1.10 | 0.00 | 110.44 | 491.00 |
| * | 9.480 | 669.00 | 1722.07 | 0.49 | 0.61 | 0.49 | 79.13 | 491.00 |
| * | 9.588 | 669.00 | 1725.46 | 0.00 | 3.87 | 0.00 | 61.55 | 570.00 |
| * | 9.588 | 669.00 | 1725.33 | -0.13 | 3.26 | -0.13 | 53.97 | 570.00 |
| | 9.677 | 669.00 | 1730.63 | 0.00 | 5.18 | 0.00 | 102.58 | 470.00 |
| * | 9.677 | 669.00 | 1730.90 | 0.27 | 5.57 | 0.27 | 56.90 | 470.00 |
| | 9.770 | 669.00 | 1735.02 | 0.00 | 4.39 | 0.00 | 182.34 | 491.00 |
| | 9.770 | 669.00 | 1735.68 | 0.66 | 4.78 | 0.66 | 50.38 | 491.00 |
| | 9.865 | 669.00 | 1740.62 | 0.00 | 5.60 | 0.00 | 145.89 | 502.00 |
| | 9.865 | 669.00 | 1740.85 | 0.23 | 5.17 | 0.23 | 145.89 | 502.00 |

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| * | 9.963 | 669.00 | 1745.45 | 0.00 | 4.83 | 0.00 | 144.68 | 517.00 |
| | 9.963 | 669.00 | 1745.35 | -0.10 | 4.50 | -0.10 | 115.05 | 517.00 |
| | 10.054 | 669.00 | 1749.28 | 0.00 | 3.82 | 0.00 | 130.77 | 480.00 |
| | 10.054 | 669.00 | 1749.85 | 0.57 | 4.50 | 0.57 | 68.70 | 480.00 |
| | 10.139 | 669.00 | 1754.21 | 0.00 | 4.93 | 0.00 | 208.83 | 449.00 |
| | 10.139 | 669.00 | 1754.88 | 0.67 | 5.03 | 0.67 | 52.50 | 449.00 |
| | 10.232 | 669.00 | 1759.17 | 0.00 | 4.96 | 0.00 | 519.52 | 491.00 |
| * | 10.232 | 669.00 | 1759.49 | 0.32 | 4.62 | 0.32 | 120.30 | 491.00 |
| | 10.320 | 669.00 | 1762.64 | 0.00 | 3.48 | 0.00 | 385.71 | 465.00 |
| | 10.320 | 669.00 | 1763.04 | 0.39 | 3.54 | 0.39 | 79.20 | 465.00 |
| | 10.426 | 669.00 | 1766.92 | 0.00 | 4.28 | 0.00 | 223.30 | 560.00 |
| | 10.426 | 669.00 | 1767.53 | 0.61 | 4.49 | 0.61 | 124.43 | 560.00 |
| | 10.516 | 669.00 | 1771.75 | 0.00 | 4.83 | 0.00 | 214.29 | 475.00 |
| * | 10.516 | 669.00 | 1772.57 | 0.82 | 5.04 | 0.82 | 180.64 | 475.00 |
| | 10.620 | 669.00 | 1776.97 | 0.00 | 5.22 | 0.00 | 470.19 | 549.00 |
| * | 10.620 | 669.00 | 1778.02 | 1.05 | 5.45 | 1.05 | 89.74 | 549.00 |
| | 10.710 | 669.00 | 1781.33 | 0.00 | 4.36 | 0.00 | 559.30 | 475.00 |
| | 10.710 | 669.00 | 1782.11 | 0.78 | 4.09 | 0.78 | 194.60 | 475.00 |
| | 10.802 | 669.00 | 1785.57 | 0.00 | 4.24 | 0.00 | 427.26 | 486.00 |
| | 10.802 | 669.00 | 1786.44 | 0.88 | 4.33 | 0.88 | 117.34 | 486.00 |
| * | 10.891 | 669.00 | 1789.91 | 0.00 | 4.34 | 0.00 | 618.15 | 470.00 |
| | 10.891 | 669.00 | 1790.28 | 0.37 | 3.84 | 0.37 | 255.10 | 470.00 |
| | 10.982 | 669.00 | 1794.45 | 0.00 | 4.54 | 0.00 | 746.37 | 480.00 |
| | 10.982 | 669.00 | 1795.15 | 0.70 | 4.87 | 0.70 | 124.01 | 480.00 |
| | 11.079 | 669.00 | 1798.73 | 0.00 | 4.29 | 0.00 | 394.38 | 512.00 |
| | 11.079 | 669.00 | 1799.77 | 1.04 | 4.62 | 1.04 | 146.38 | 512.00 |
| | 11.174 | 699.00 | 1804.00 | 0.00 | 5.27 | 0.00 | 476.15 | 502.00 |
| | 11.174 | 699.00 | 1804.79 | 0.78 | 5.02 | 0.78 | 150.10 | 502.00 |
| | 11.264 | 709.00 | 1807.88 | 0.00 | 3.88 | 0.00 | 288.15 | 475.00 |
| * | 11.264 | 709.00 | 1808.82 | 0.94 | 4.03 | 0.94 | 79.30 | 475.00 |
| * | 11.368 | 1922.00 | 1813.00 | 0.00 | 5.12 | 0.00 | 549.79 | 549.00 |
| * | 11.368 | 1992.00 | 1813.84 | 0.84 | 5.02 | 0.84 | 172.45 | 549.00 |
| | 11.469 | 2162.00 | 1817.04 | 0.00 | 4.04 | 0.00 | 629.83 | 533.00 |
| * | 11.469 | 2162.00 | 1817.94 | 0.90 | 4.11 | 0.90 | 244.00 | 533.00 |

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| * | 11.570 | 2162.00 | 1822.05 | 0.00 | 5.01 | 0.00 | 804.47 | 533.00 |
| * | 11.570 | 2162.00 | 1823.02 | 0.97 | 5.08 | 0.97 | 365.03 | 533.00 |
| * | 11.666 | 2371.00 | 1827.00 | 0.00 | 4.95 | 0.00 | 783.52 | 507.00 |
| * | 11.666 | 2371.00 | 1828.04 | 1.04 | 5.02 | 1.04 | 548.71 | 507.00 |
| | 11.750 | 2371.00 | 1830.87 | 0.00 | 3.87 | 0.00 | 798.45 | 444.00 |
| | 11.750 | 2371.00 | 1831.85 | 0.98 | 3.81 | 0.98 | 279.33 | 444.00 |
| | 11.847 | 2371.00 | 1835.03 | 0.00 | 4.16 | 0.00 | 514.30 | 512.00 |
| | 11.847 | 2371.00 | 1835.99 | 0.96 | 4.14 | 0.96 | 295.37 | 512.00 |
| | 11.920 | 2371.00 | 1837.26 | 0.00 | 2.23 | 0.00 | 617.85 | 385.00 |
| | 11.920 | 2371.00 | 1837.62 | 0.37 | 1.63 | 0.37 | 540.10 | 385.00 |
| | 12.010 | 2371.00 | 1839.90 | 0.00 | 2.64 | 0.00 | 533.69 | 475.00 |
| | 12.010 | 2371.00 | 1839.92 | 0.02 | 2.30 | 0.02 | 521.36 | 475.00 |
| * | 12.101 | 849.00 | 1844.18 | 0.00 | 4.29 | 0.00 | 309.50 | 480.00 |
| * | 12.101 | 849.00 | 1845.22 | 1.04 | 5.30 | 1.04 | 347.27 | 480.00 |
| * | 12.191 | 849.00 | 1849.60 | 0.00 | 5.41 | 0.00 | 301.60 | 475.00 |
| * | 12.191 | 849.00 | 1849.69 | 0.09 | 4.47 | 0.09 | 300.43 | 475.00 |
| | 12.281 | 979.00 | 1853.32 | 0.00 | 3.72 | 0.00 | 452.22 | 475.00 |
| | 12.281 | 979.00 | 1853.14 | -0.18 | 3.45 | -0.18 | 393.98 | 475.00 |
| * | 12.369 | 1812.00 | 1857.63 | 0.00 | 4.31 | 0.00 | 700.12 | 465.00 |
| * | 12.369 | 1812.00 | 1857.96 | 0.33 | 4.82 | 0.33 | 335.18 | 465.00 |
| | 12.464 | 1812.00 | 1862.21 | 0.00 | 4.58 | 0.00 | 742.60 | 502.00 |
| | 12.464 | 1812.00 | 1863.20 | 0.99 | 5.24 | 0.99 | 414.26 | 502.00 |
| | 12.614 | 2371.00 | 1869.31 | 0.00 | 7.10 | 0.00 | 794.88 | 781.00 |
| | 12.614 | 2371.00 | 1870.27 | 0.96 | 7.07 | 0.96 | 620.49 | 781.00 |
| | 12.692 | 2371.00 | 1874.79 | 0.00 | 5.48 | 0.00 | 759.94 | 405.00 |
| | 12.692 | 2371.00 | 1875.41 | 0.63 | 5.14 | 0.63 | 245.20 | 405.00 |
| | 12.752 | 2371.00 | 1878.04 | 0.00 | 3.25 | 0.00 | 491.23 | 317.00 |
| | 12.752 | 2371.00 | 1878.94 | 0.90 | 3.53 | 0.90 | 400.00 | 317.00 |
| | 12.849 | 2371.00 | 1882.60 | 0.00 | 4.56 | 0.00 | 371.53 | 512.00 |
| | 12.849 | 2371.00 | 1883.51 | 0.92 | 4.58 | 0.92 | 106.05 | 512.00 |
| | 12.942 | 2371.00 | 1887.66 | 0.00 | 5.06 | 0.00 | 490.08 | 491.00 |
| * | 12.942 | 2371.00 | 1888.61 | 0.95 | 5.09 | 0.95 | 164.80 | 491.00 |
| | 13.025 | 2371.00 | 1892.91 | 0.00 | 5.25 | 0.00 | 193.15 | 438.00 |
| * | 13.025 | 2371.00 | 1893.20 | 0.29 | 4.59 | 0.29 | 96.12 | 438.00 |

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 13.127 | 2371.00 | 1898.44 | 0.00 | 5.53 | 0.00 | 425.51 | 539.00 |
| * | 13.127 | 2371.00 | 1899.32 | 0.89 | 6.12 | 0.89 | 113.00 | 539.00 |
| | 13.221 | 2371.00 | 1903.39 | 0.00 | 4.96 | 0.00 | 248.64 | 496.00 |
| | 13.221 | 2371.00 | 1903.63 | 0.24 | 4.31 | 0.24 | 162.64 | 496.00 |
| | 13.325 | 2371.00 | 1908.55 | 0.00 | 5.16 | 0.00 | 223.27 | 549.00 |
| | 13.325 | 2371.00 | 1908.36 | -0.19 | 4.72 | -0.19 | 108.80 | 549.00 |
| | 13.419 | 2371.00 | 1913.44 | 0.00 | 4.90 | 0.00 | 172.60 | 496.00 |
| | 13.419 | 2371.00 | 1914.23 | 0.79 | 5.88 | 0.79 | 173.60 | 496.00 |
| | 13.499 | 2371.00 | 1918.92 | 0.00 | 5.48 | 0.00 | 77.80 | 422.00 |
| | 13.499 | 2371.00 | 1919.53 | 0.62 | 5.30 | 0.62 | 51.90 | 422.00 |

SUMMARY OF ERRORS AND SPECIAL NOTES

```
WARNING SECNO=      0.734  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      0.734  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      0.999  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      1.670  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      1.764  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      1.764  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      1.866  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      1.866  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      2.159  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=      3.651  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      3.651  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=      3.651  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=      3.651  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      3.651  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=      3.651  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=      3.670  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      3.670  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=      3.670  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=      3.670  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      3.670  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=      3.670  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO=      3.713  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      3.713  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      3.917  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      3.917  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      4.010  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      4.010  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      4.119  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      4.119  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      4.596  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      4.893  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      4.893  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      4.988  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
```

```
WARNING SECNO=      5.189  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=      5.287  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      5.287  PROFILE=  1  MINIMUM SPECIFIC ENERGY
WARNING SECNO=      5.287  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      5.386  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      8.182  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      8.273  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      8.273  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      8.560  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      8.560  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      8.654  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      8.844  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      8.940  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      9.119  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      9.119  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      9.202  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=      9.289  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      9.289  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=      9.387  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      9.480  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      9.480  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      9.588  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      9.588  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      9.677  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      9.963  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     10.232  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     10.516  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     10.620  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     10.891  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     11.264  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
```

```
WARNING SECNO=     11.368  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=     11.368  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     11.469  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     11.570  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=     11.570  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     11.666  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=     11.666  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     12.101  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=     12.101  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     12.191  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=     12.191  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     12.369  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=     12.369  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=     12.942  PROFILE=  2  WSEL ASSUMED BASED ON MIN DIFF
CAUTION SECNO=     12.942  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=     13.025  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     13.025  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=     13.127  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
```

FLOODWAY DATA, Iona Wash FIS - FCDMC 93
PROFILE NO. 2

| STATION | FLOODWAY WIDTH | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 0.640 | 455. | 1245. | 4.0 | 1462.0 | 1461.0 | 1.0 |
| 0.734 | 555. | 1725. | 2.9 | 1465.4 | 1464.9 | 0.5 |
| 0.819 | 576. | 1698. | 2.9 | 1467.7 | 1467.2 | 0.5 |
| 0.912 | 416. | 1351. | 3.7 | 1470.5 | 1469.7 | 0.8 |
| 0.999 | 391. | 1403. | 3.6 | 1472.6 | 1471.7 | 0.9 |
| 1.101 | 503. | 1624. | 3.1 | 1474.9 | 1473.9 | 1.0 |
| 1.189 | 460. | 1469. | 3.4 | 1477.3 | 1476.3 | 1.0 |
| 1.285 | 448. | 1684. | 3.0 | 1479.8 | 1478.8 | 1.0 |
| 1.386 | 475. | 1645. | 3.0 | 1482.3 | 1481.3 | 1.0 |
| 1.480 | 403. | 1503. | 3.3 | 1484.7 | 1483.7 | 1.0 |
| 1.578 | 410. | 1367. | 3.7 | 1487.1 | 1486.1 | 1.0 |
| 1.670 | 376. | 1163. | 4.3 | 1489.9 | 1489.0 | 0.9 |
| 1.764 | 436. | 1582. | 3.2 | 1492.3 | 1491.3 | 1.0 |
| 1.866 | 368. | 1132. | 4.4 | 1494.8 | 1493.8 | 1.0 |
| 1.967 | 512. | 1402. | 3.6 | 1497.9 | 1496.9 | 1.0 |
| 2.064 | 605. | 1621. | 3.1 | 1499.7 | 1498.7 | 1.0 |
| .159 | 465. | 1186. | 4.2 | 1502.1 | 1501.1 | 1.0 |
| 2.251 | 562. | 1428. | 3.5 | 1504.5 | 1503.5 | 1.0 |
| 2.346 | 535. | 1248. | 4.0 | 1507.1 | 1506.1 | 1.0 |
| 2.442 | 561. | 1377. | 3.6 | 1510.2 | 1509.2 | 1.0 |
| 2.537 | 615. | 1380. | 3.6 | 1513.1 | 1512.1 | 1.0 |
| 2.631 | 646. | 1514. | 3.3 | 1515.6 | 1514.6 | 1.0 |
| 2.727 | 482. | 1342. | 3.7 | 1518.4 | 1517.6 | 0.8 |
| 2.827 | 551. | 1419. | 3.5 | 1521.6 | 1520.6 | 1.0 |
| 2.927 | 683. | 1533. | 3.3 | 1524.0 | 1523.0 | 1.0 |
| 3.027 | 468. | 1171. | 4.3 | 1526.9 | 1526.0 | 0.9 |
| 3.137 | 346. | 1091. | 4.6 | 1530.2 | 1529.2 | 1.0 |
| 3.224 | 345. | 1134. | 4.4 | 1533.0 | 1532.0 | 1.0 |
| 3.321 | 316. | 1183. | 4.2 | 1535.9 | 1534.9 | 1.0 |
| 3.413 | 204. | 935. | 5.4 | 1538.5 | 1537.6 | 0.9 |
| 3.514 | 270. | 1450. | 3.4 | 1541.1 | 1540.1 | 1.0 |
| 3.617 | 84. | 552. | 9.1 | 1542.6 | 1541.7 | 0.9 |
| 3.651 | 562. | 1208. | 4.2 | 1553.6 | 1553.1 | 0.5 |
| 3.670 | 670. | 1327. | 3.8 | 1554.0 | 1553.6 | 0.4 |
| 3.713 | 1159. | 11814. | 0.4 | 1555.3 | 1554.3 | 1.0 |
| 3.821 | 1050. | 9171. | 0.6 | 1555.3 | 1554.3 | 1.0 |
| 3.917 | 686. | 4530. | 1.2 | 1555.4 | 1554.4 | 1.0 |
| 4.010 | 540. | 2480. | 2.1 | 1555.6 | 1554.6 | 1.0 |
| 4.119 | 265. | 1066. | 5.0 | 1556.8 | 1555.8 | 1.0 |
| 4.214 | 214. | 1039. | 5.1 | 1559.8 | 1558.8 | 1.0 |
| 4.306 | 200. | 917. | 5.8 | 1562.6 | 1561.6 | 1.0 |
| 4.403 | 205. | 1069. | 5.0 | 1565.5 | 1564.5 | 1.0 |

FLOODWAY DATA, Iona Wash FIS - FCDMC 93
PROFILE NO. 2

| STATION | FLOODWAY WIDTH | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 4.497 | 142. | 816. | 6.5 | 1567.8 | 1566.9 | 0.9 |
| 4.596 | 146. | 1077. | 4.9 | 1570.3 | 1569.3 | 1.0 |
| 4.694 | 111. | 773. | 6.9 | 1572.2 | 1571.5 | 0.7 |
| 4.789 | 115. | 951. | 5.6 | 1575.1 | 1574.5 | 0.6 |
| 4.893 | 116. | 688. | 7.7 | 1578.9 | 1578.4 | 0.5 |
| 4.988 | 149. | 936. | 5.7 | 1583.2 | 1582.8 | 0.4 |
| 5.095 | 118. | 911. | 5.8 | 1586.5 | 1585.8 | 0.7 |
| 5.189 | 206. | 1268. | 4.2 | 1588.5 | 1587.9 | 0.6 |
| 5.287 | 466. | 1016. | 5.2 | 1593.1 | 1592.5 | 0.6 |
| 5.386 | 485. | 1400. | 3.8 | 1597.6 | 1596.6 | 1.0 |
| 5.485 | 324. | 1068. | 5.0 | 1600.4 | 1599.6 | 0.8 |
| 5.577 | 132. | 705. | 7.6 | 1602.9 | 1602.0 | 0.9 |
| 5.668 | 740. | 1854. | 2.9 | 1606.0 | 1605.0 | 1.0 |
| 5.765 | 690. | 1598. | 3.3 | 1608.8 | 1607.9 | 0.9 |
| 5.858 | 690. | 2087. | 2.6 | 1612.1 | 1611.1 | 1.0 |
| 5.945 | 1046. | 2155. | 2.5 | 1614.3 | 1613.6 | 0.7 |
| 6.026 | 1192. | 1898. | 2.8 | 1616.3 | 1615.4 | 0.9 |
| 6.067 | 564. | 1632. | 3.3 | 1618.0 | 1617.0 | 1.0 |
| 6.135 | 440. | 1302. | 4.1 | 1619.7 | 1618.7 | 1.0 |
| 6.223 | 617. | 1953. | 2.7 | 1622.5 | 1621.5 | 1.0 |
| 6.321 | 581. | 1549. | 3.4 | 1625.0 | 1624.0 | 1.0 |
| 6.413 | 489. | 1477. | 3.6 | 1628.5 | 1627.5 | 1.0 |
| 6.511 | 390. | 1345. | 4.0 | 1631.3 | 1630.3 | 1.0 |
| 6.603 | 371. | 1364. | 3.9 | 1634.4 | 1633.5 | 0.9 |
| 6.704 | 400. | 1484. | 3.6 | 1637.2 | 1636.2 | 1.0 |
| 6.801 | 546. | 1865. | 2.9 | 1639.9 | 1638.9 | 1.0 |
| 6.897 | 832. | 2054. | 2.6 | 1642.8 | 1641.8 | 1.0 |
| 6.986 | 769. | 1462. | 3.7 | 1645.7 | 1644.7 | 1.0 |
| 7.077 | 975. | 1944. | 2.8 | 1648.9 | 1647.9 | 1.0 |
| 7.167 | 836. | 1599. | 3.3 | 1652.9 | 1651.9 | 1.0 |
| 7.264 | 1174. | 2360. | 2.3 | 1656.3 | 1655.3 | 1.0 |
| 7.352 | 867. | 1634. | 3.3 | 1659.0 | 1658.2 | 0.8 |
| 7.438 | 585. | 1611. | 3.3 | 1662.2 | 1661.3 | 0.9 |
| 7.533 | 485. | 1638. | 3.3 | 1665.8 | 1664.8 | 1.0 |
| 7.624 | 446. | 1527. | 3.5 | 1668.8 | 1668.0 | 0.8 |
| 7.709 | 430. | 1668. | 3.2 | 1671.5 | 1670.7 | 0.8 |
| 7.800 | 455. | 1527. | 3.5 | 1674.2 | 1673.4 | 0.8 |
| 7.896 | 520. | 1765. | 3.0 | 1677.0 | 1676.0 | 1.0 |
| 7.995 | 406. | 1244. | 4.2 | 1679.7 | 1678.8 | 0.9 |
| 8.088 | 340. | 1272. | 4.1 | 1682.2 | 1681.5 | 0.7 |
| 8.182 | 225. | 639. | 8.2 | 1685.4 | 1684.9 | 0.5 |
| 8.273 | 265. | 1380. | 3.8 | 1689.5 | 1688.5 | 1.0 |

FLOODWAY DATA, Iona Wash FIS - FCDMC 93
PROFILE NO. 2

| STATION | FLOODWAY WIDTH | FLOODWAY SECTION AREA | FLOODWAY MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 8.374 | 198. | 1028. | 5.0 | 1691.9 | 1691.2 | 0.7 |
| 8.465 | 141. | 783. | 6.6 | 1694.8 | 1693.9 | 0.9 |
| 8.560 | 290. | 1662. | 3.1 | 1696.9 | 1695.9 | 1.0 |
| 8.654 | 252. | 1082. | 4.7 | 1698.1 | 1697.4 | 0.7 |
| 8.740 | 172. | 744. | 6.8 | 1699.9 | 1699.7 | 0.2 |
| 8.844 | 153. | 630. | 8.0 | 1703.7 | 1703.6 | 0.1 |
| 8.940 | 205. | 1135. | 4.4 | 1708.1 | 1707.1 | 1.0 |
| 9.032 | 260. | 1172. | 4.3 | 1709.9 | 1709.3 | 0.6 |
| 9.119 | 210. | 680. | 7.3 | 1712.4 | 1711.6 | 0.8 |
| 9.202 | 99. | 754. | 6.5 | 1716.3 | 1715.4 | 0.9 |
| 9.289 | 135. | 551. | 8.9 | 1719.0 | 1718.8 | 0.2 |
| 9.387 | 162. | 551. | 1.2 | 1721.5 | 1720.5 | 1.0 |
| 9.480 | 79. | 212. | 3.2 | 1722.1 | 1721.6 | 0.5 |
| 9.588 | 54. | 93. | 7.2 | 1725.4 | 1725.5 | -0.1 |
| 9.677 | 57. | 150. | 4.5 | 1730.9 | 1730.6 | 0.3 |
| 9.770 | 50. | 108. | 6.2 | 1735.7 | 1735.0 | 0.7 |
| [illegible].865 | 146. | 181. | 3.7 | 1740.8 | 1740.6 | 0.2 |
| 9.963 | 115. | 175. | 3.8 | 1745.4 | 1745.5 | -0.1 |
| 10.054 | 69. | 136. | 4.9 | 1749.9 | 1749.3 | 0.6 |
| 10.139 | 52. | 105. | 6.3 | 1754.9 | 1754.2 | 0.7 |
| 10.232 | 120. | 196. | 3.4 | 1759.5 | 1759.2 | 0.3 |
| 10.320 | 79. | 168. | 4.0 | 1763.0 | 1762.6 | 0.4 |
| 10.426 | 124. | 230. | 2.9 | 1767.5 | 1766.9 | 0.6 |
| 10.516 | 181. | 205. | 3.3 | 1772.6 | 1771.8 | 0.8 |
| 10.620 | 90. | 202. | 3.3 | 1778.0 | 1777.0 | 1.0 |
| 10.710 | 195. | 239. | 2.8 | 1782.1 | 1781.3 | 0.8 |
| 10.802 | 117. | 215. | 3.1 | 1786.5 | 1785.6 | 0.9 |
| 10.891 | 255. | 317. | 2.1 | 1790.3 | 1789.9 | 0.4 |
| 10.982 | 124. | 201. | 3.3 | 1795.1 | 1794.4 | 0.7 |
| 11.079 | 146. | 234. | 2.9 | 1799.7 | 1798.7 | 1.0 |
| 11.174 | 150. | 213. | 3.3 | 1804.8 | 1804.0 | 0.8 |
| 11.264 | 79. | 207. | 3.4 | 1808.8 | 1807.9 | 0.9 |
| 11.368 | 172. | 452. | 4.4 | 1813.8 | 1813.0 | 0.8 |
| 11.469 | 244. | 698. | 3.1 | 1817.9 | 1817.0 | 0.9 |
| 11.570 | 365. | 652. | 3.3 | 1823.1 | 1822.1 | 1.0 |
| 11.666 | 572. | 1069. | 2.2 | 1828.0 | 1827.0 | 1.0 |
| 11.750 | 327. | 862. | 2.8 | 1831.9 | 1830.9 | 1.0 |
| 11.847 | 334. | 1002. | 2.4 | 1836.0 | 1835.0 | 1.0 |
| 11.920 | 540. | 1150. | 2.1 | 1837.7 | 1837.3 | 0.4 |
| 12.010 | 521. | 926. | 2.6 | 1839.9 | 1839.9 | 0.0 |
| 12.101 | 358. | 294. | 2.9 | 1845.2 | 1844.2 | 1.0 |
| [illegible].191 | 300. | 424. | 2.0 | 1849.7 | 1849.6 | 0.1 |

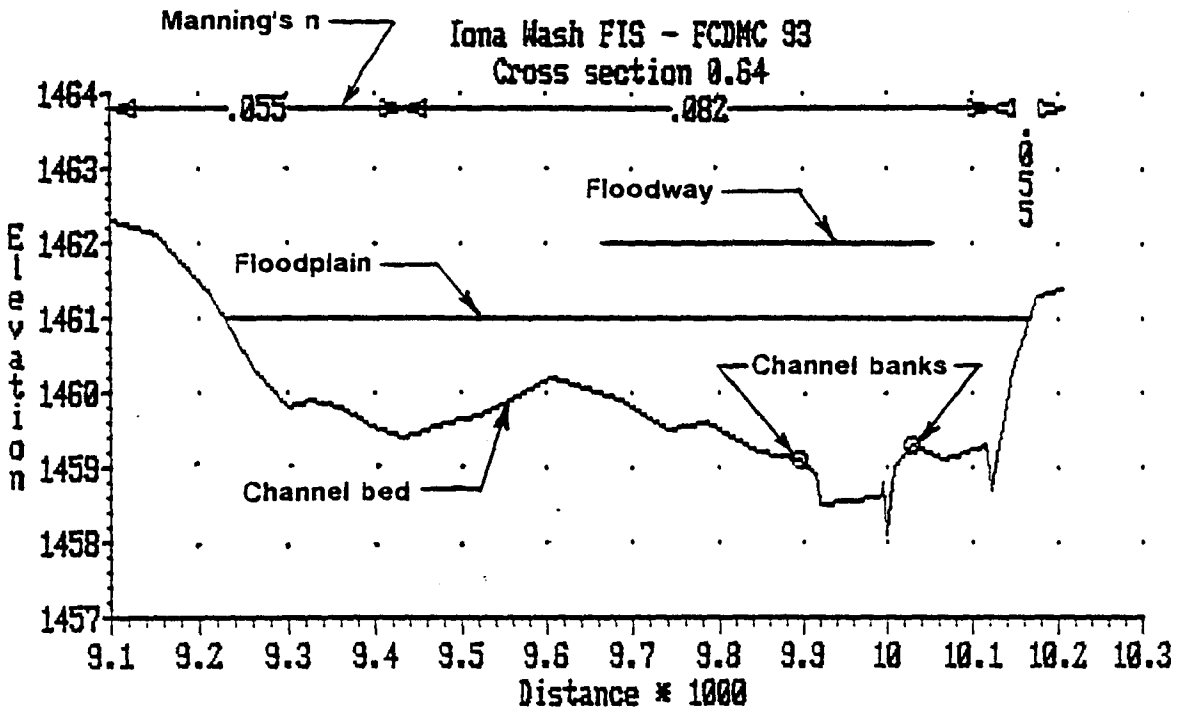
FLOODWAY DATA, Iona Wash FIS - FCDMC 93
PROFILE NO. 2

| STATION | ------- FLOODWAY ------- WIDTH | SECTION AREA | MEAN VELOCITY | WATER SURFACE ELEVATION WITH FLOODWAY | WITHOUT FLOODWAY | DIFFERENCE |
|---|---|---|---|---|---|---|
| 12.281 | 394. | 400. | 2.4 | 1853.1 | 1853.3 | -0.2 |
| 12.369 | 335. | 530. | 3.4 | 1857.9 | 1857.6 | 0.3 |
| 12.464 | 420. | 468. | 3.9 | 1863.2 | 1862.2 | 1.0 |
| 12.614 | 712. | 573. | 4.1 | 1870.3 | 1869.3 | 1.0 |
| 12.692 | 528. | 421. | 5.6 | 1875.4 | 1874.8 | 0.6 |
| 12.752 | 400. | 502. | 4.7 | 1878.9 | 1878.0 | 0.9 |
| 12.849 | 126. | 306. | 7.7 | 1883.5 | 1882.6 | 0.9 |
| 12.942 | 165. | 408. | 5.8 | 1888.6 | 1887.7 | 0.9 |
| 13.025 | 96. | 254. | 9.3 | 1893.2 | 1892.9 | 0.3 |
| 13.127 | 113. | 384. | 6.2 | 1899.3 | 1898.4 | 0.9 |
| 13.221 | 163. | 423. | 5.6 | 1903.6 | 1903.4 | 0.2 |
| 13.325 | 109. | 330. | 7.2 | 1908.3 | 1908.5 | -0.2 |
| 13.419 | 174. | 488. | 4.9 | 1914.2 | 1913.4 | 0.8 |
| 13.499 | 52. | 224. | 10.6 | 1919.5 | 1918.9 | 0.6 |

# Cross-section plots from

# IONA-EN.HC2

# CROSS SECTION DETAIL

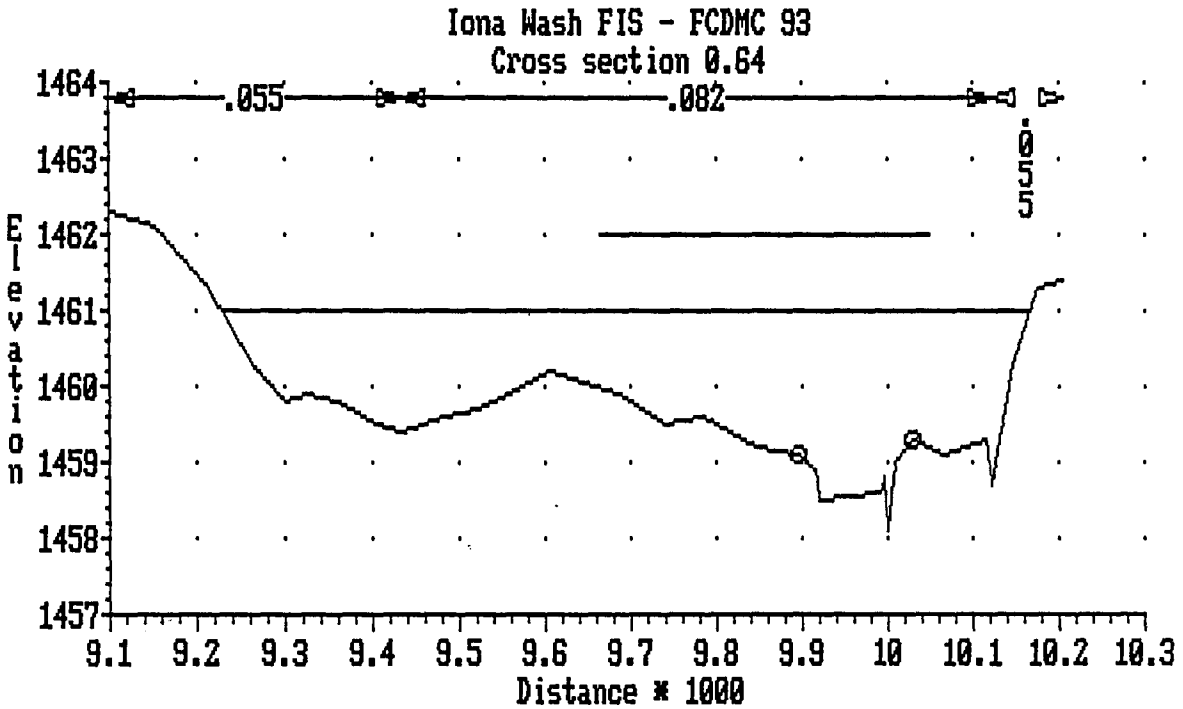


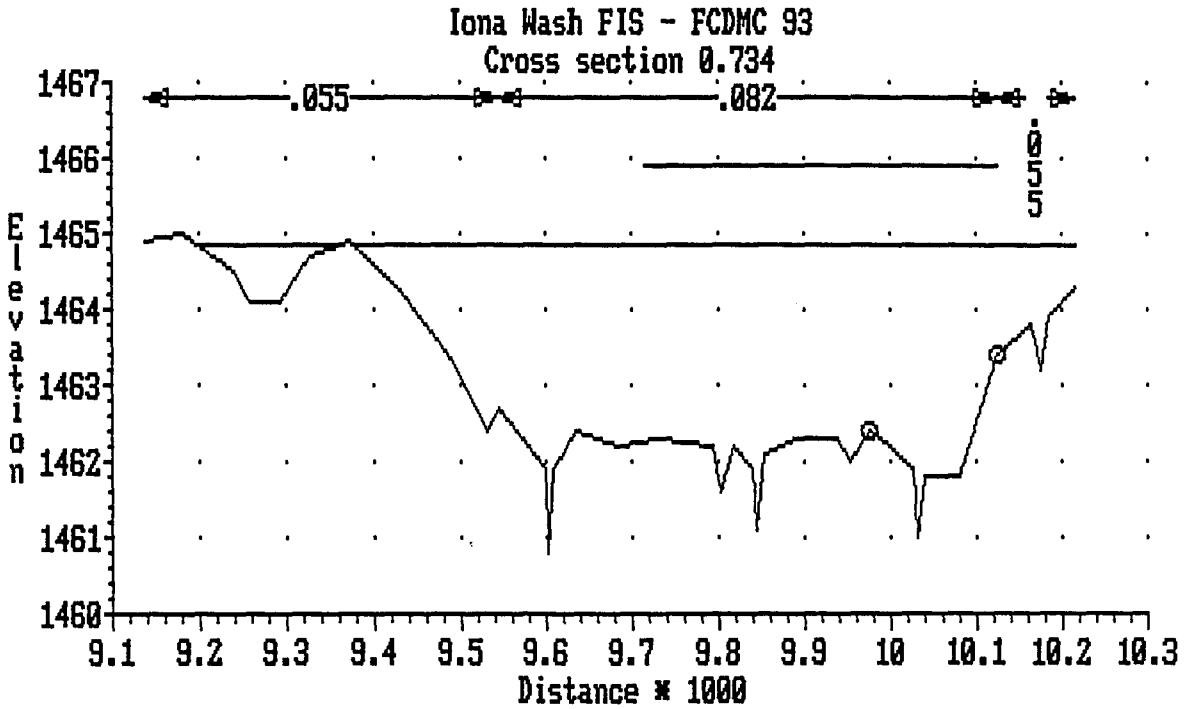

NOTES:

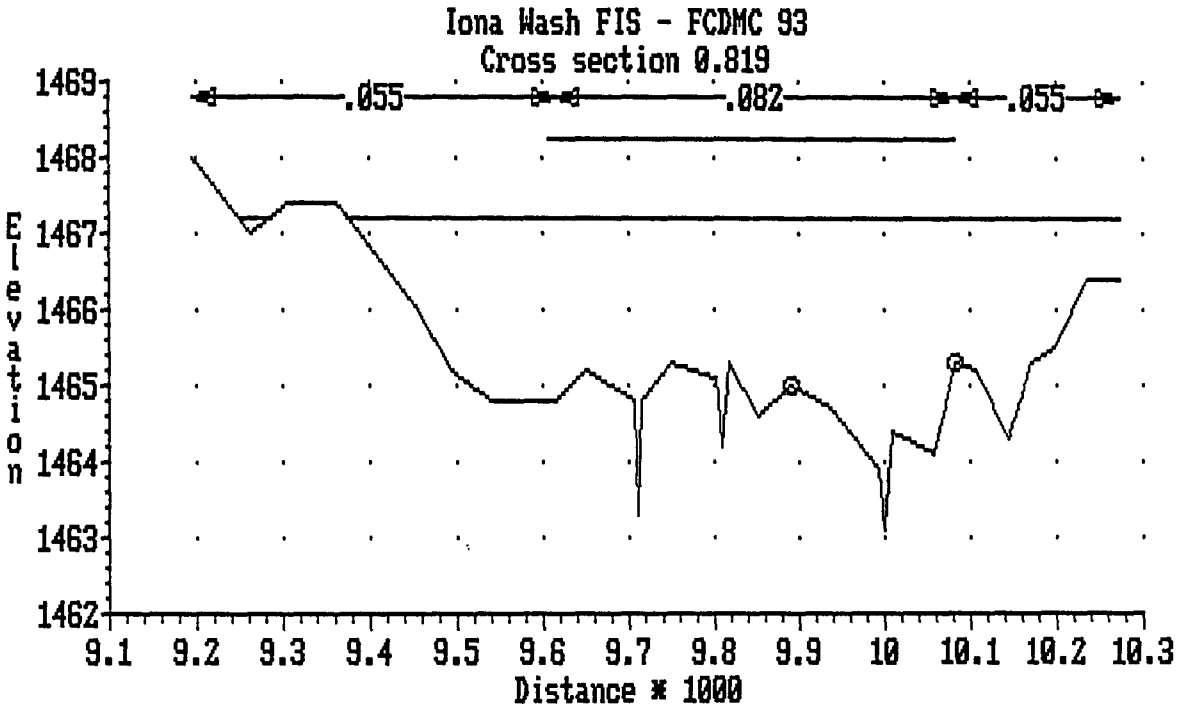
Elevation - ft

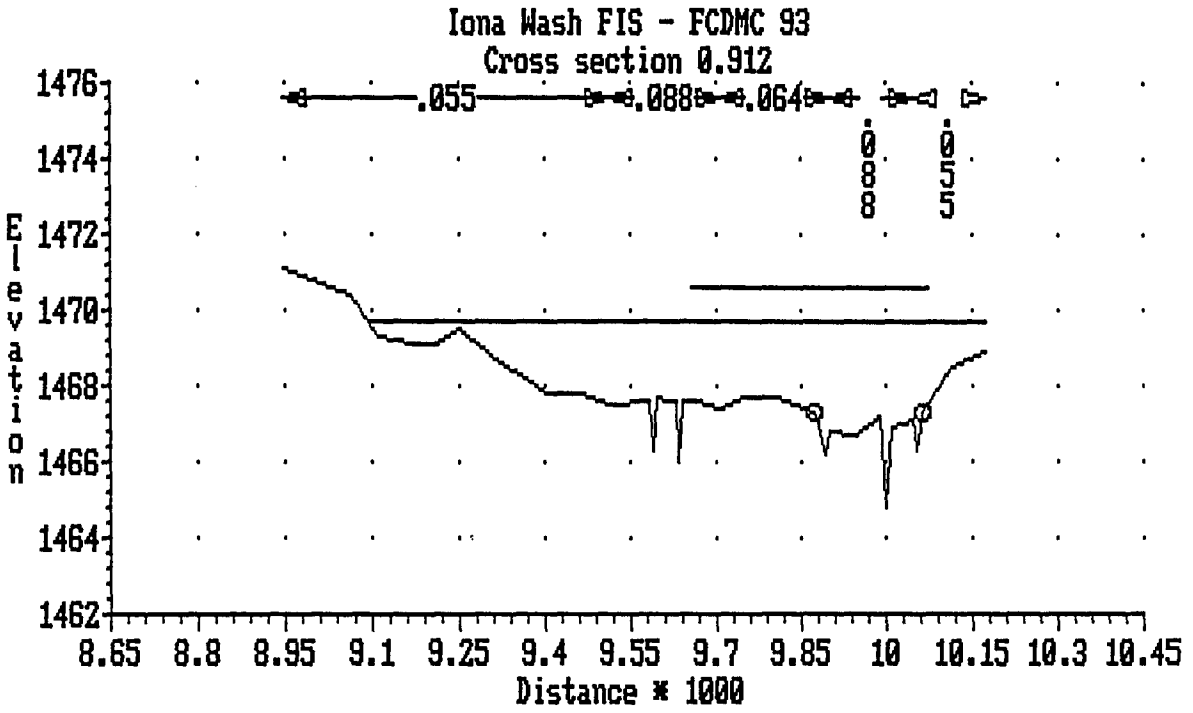
Distance - ft

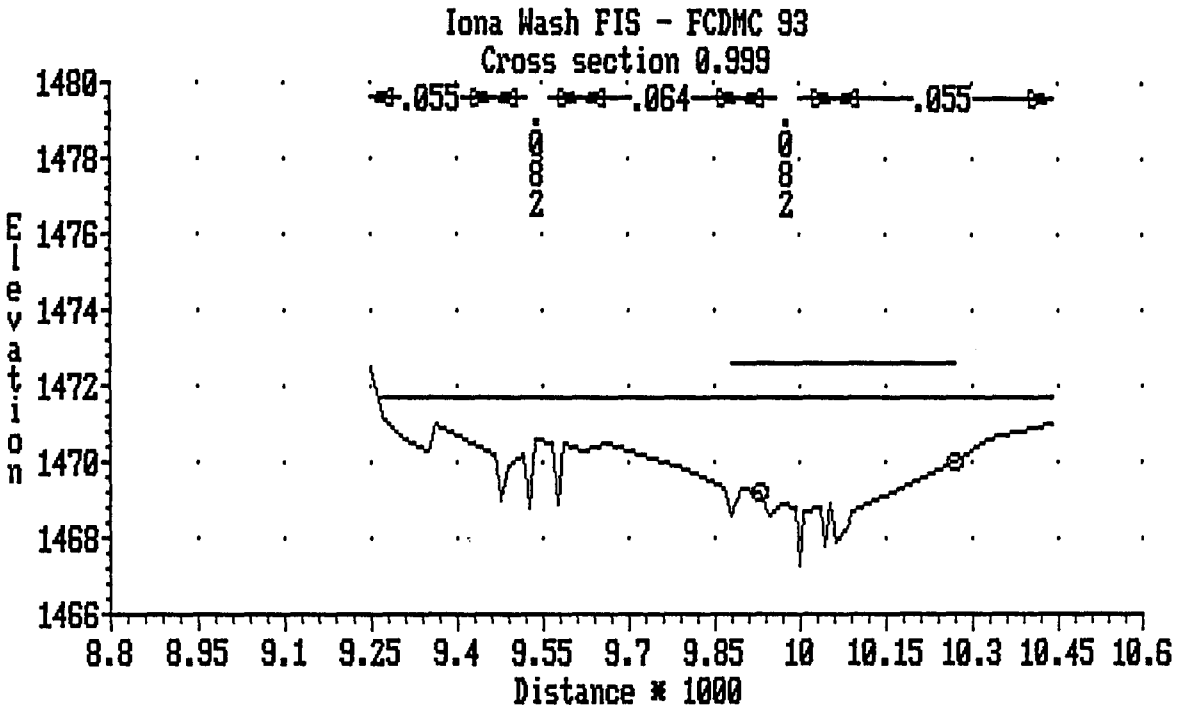
Channel ℄ @ 10000 ft

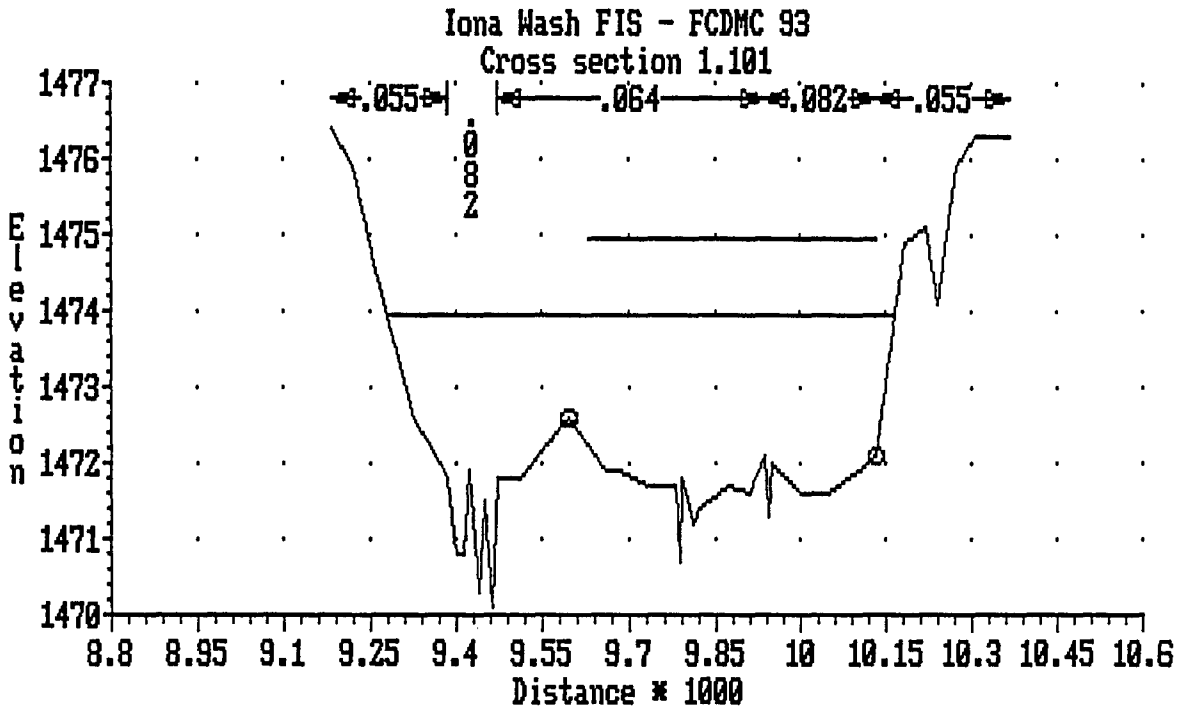

Iona Wash FIS - FCDMC 93
Cross section 0.64
.055
.082
.055
Elevation
1464
1463
1462
1461
1460
1459
1458
1457
9.1
9.2
9.3
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
Distance * 1000

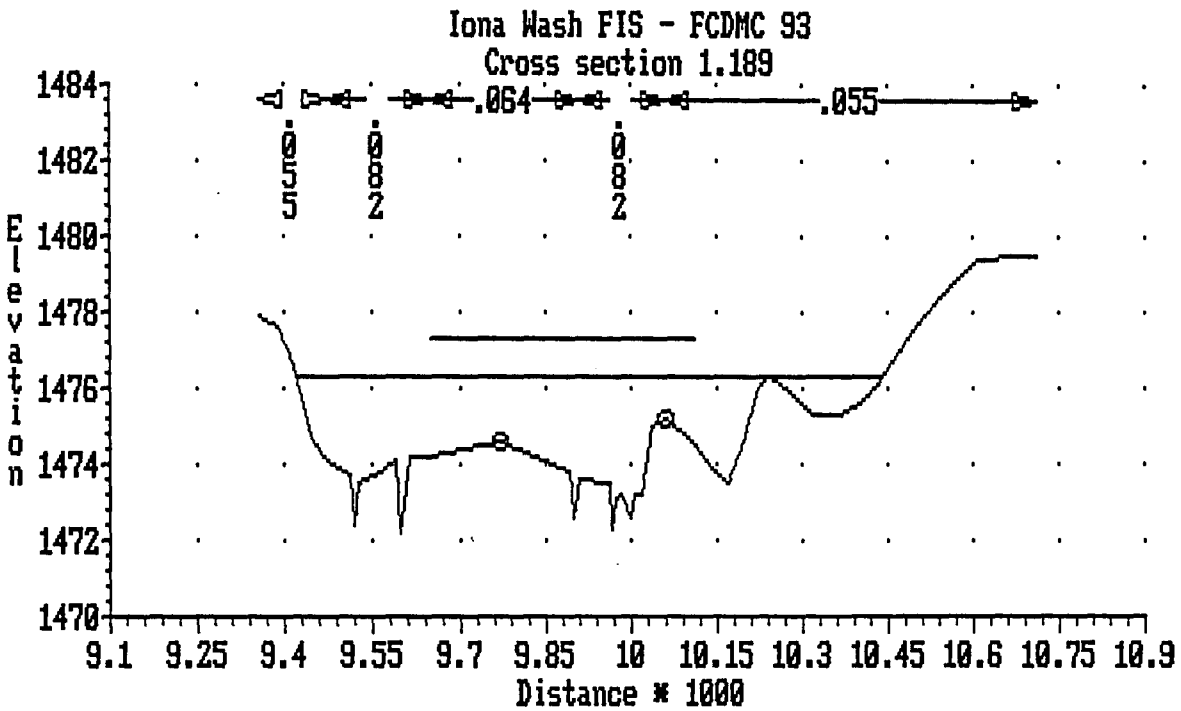

Iona Wash FIS - FCDMC 93
Cross section 0.734
.055
.082
.055
Elevation
1467
1466
1465
1464
1463
1462
1461
1460
9.1
9.2
9.3
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
Distance * 1000

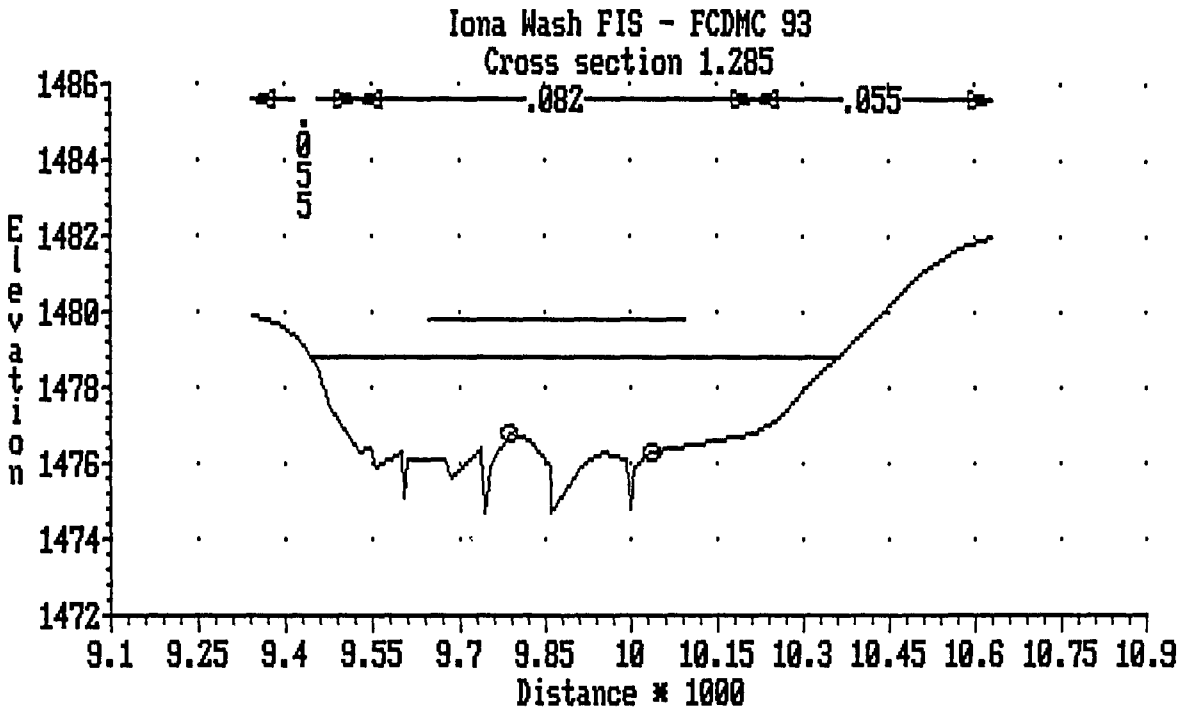

Iona Wash FIS - FCDMC 93
Cross section 0.819
.055
.082
.055
1469
1468
1467
1466
1465
1464
1463
1462
Elevation
9.1
9.2
9.3
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
Distance * 1000

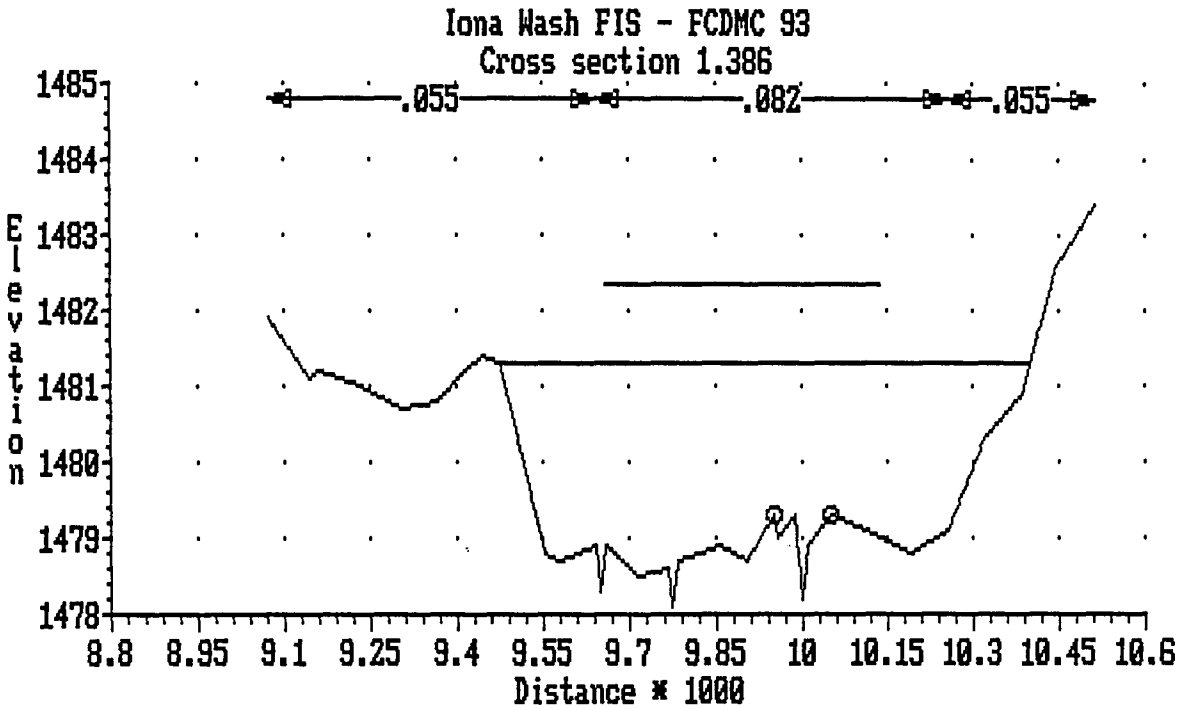

Iona Wash FIS - FCDMC 93
Cross section 0.912
.055
.088
.064
.088
.055
1476
1474
1472
1470
1468
1466
1464
1462
Elevation
8.65
8.8
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
Distance * 1000

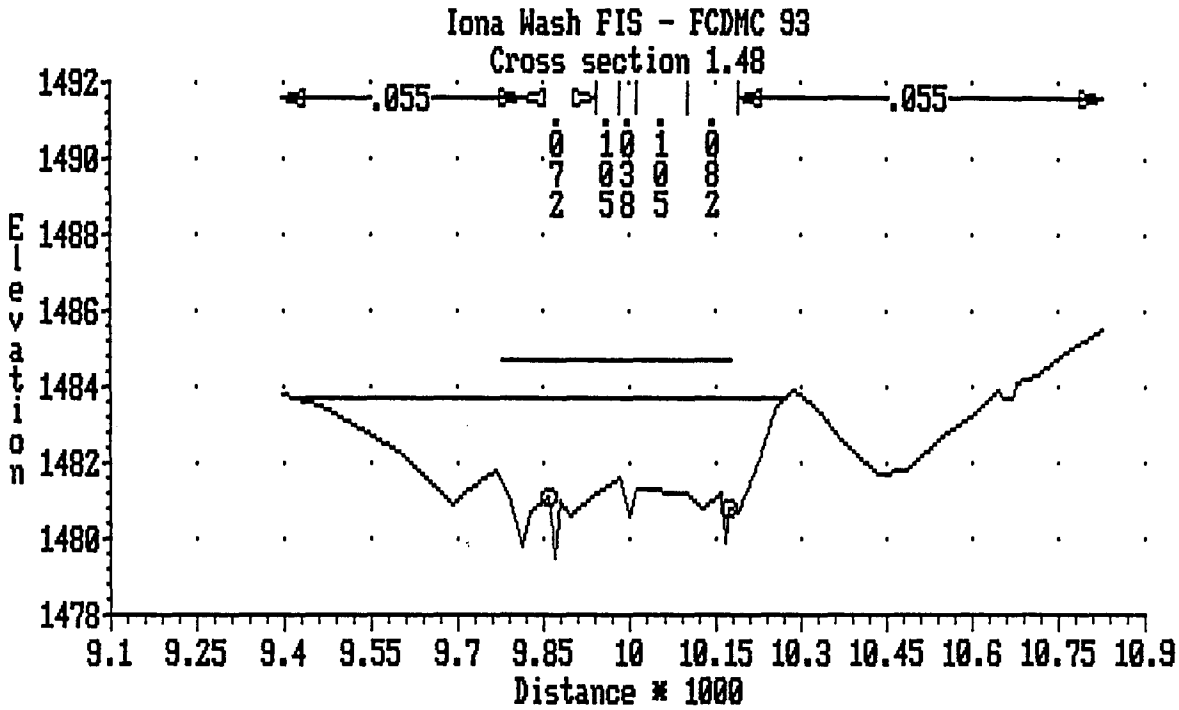

Iona Wash FIS - FCDMC 93
Cross section 0.999
.055
.064
.055
.082
.082
Elevation
1480
1478
1476
1474
1472
1470
1468
1466
8.8
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
Distance * 1000

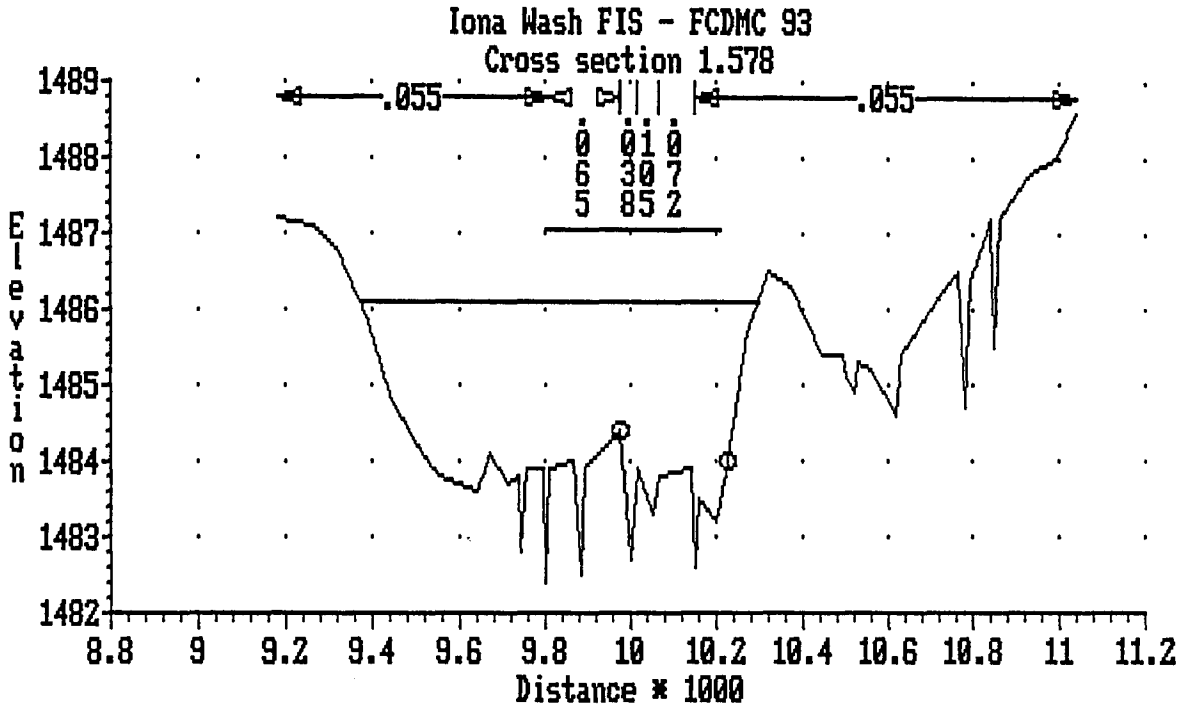

Iona Wash FIS - FCDMC 93
Cross section 1.101
.055
.064
.082
.055
.082
Elevation
1477
1476
1475
1474
1473
1472
1471
1470
8.8
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
Distance * 1000

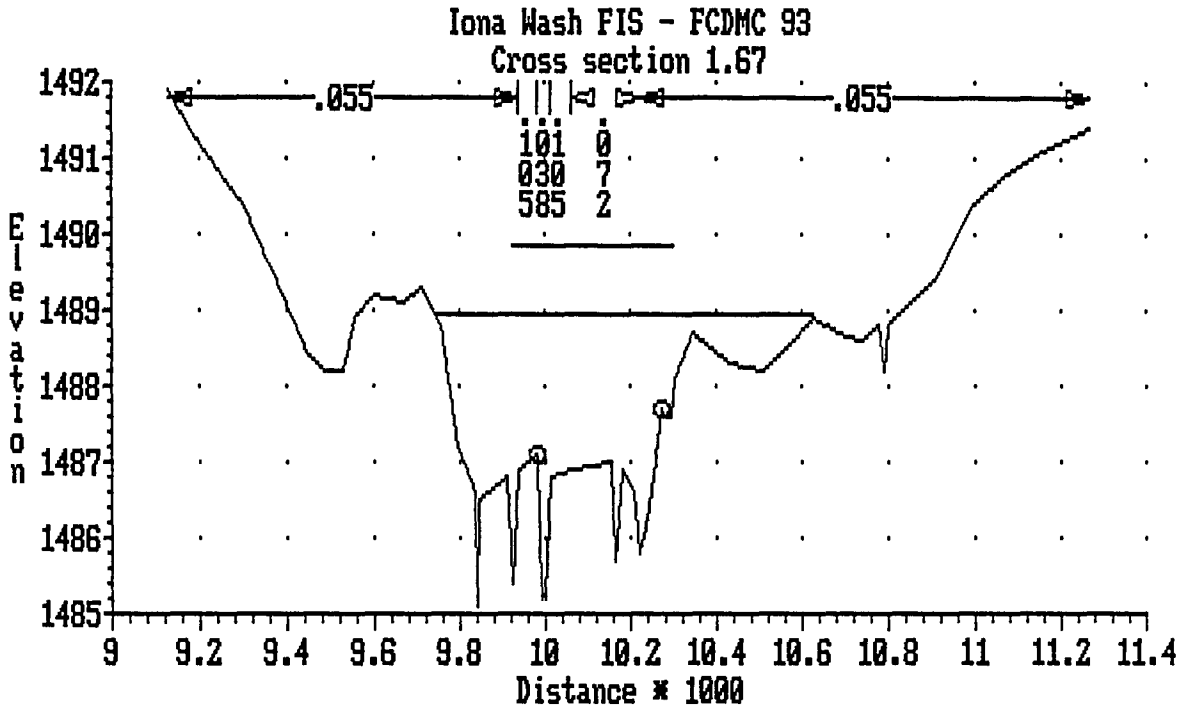

Iona Wash FIS - FCDMC 93
Cross section 1.189
.055
.064
.055
.082
.082
Elevation
1484
1482
1480
1478
1476
1474
1472
1470
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
10.9
Distance * 1000

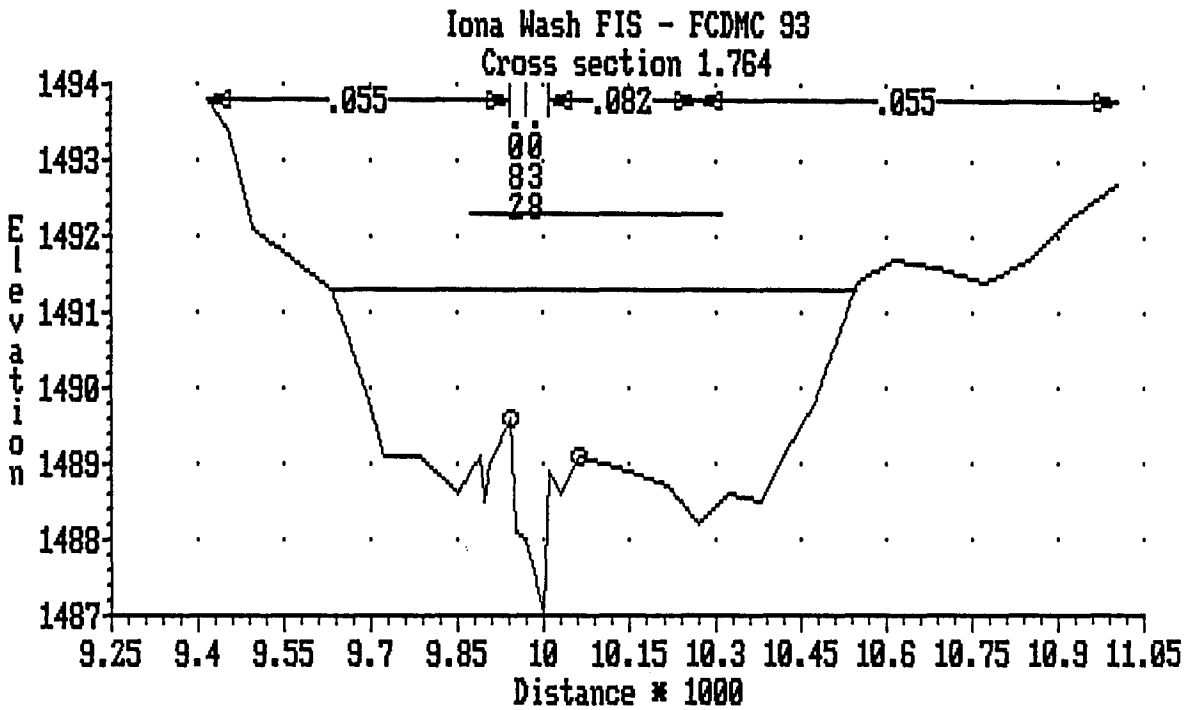

Iona Wash FIS - FCDMC 93
Cross section 1.285
.082
.055
.055
Elevation
1486
1484
1482
1480
1478
1476
1474
1472
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
10.9
Distance * 1000

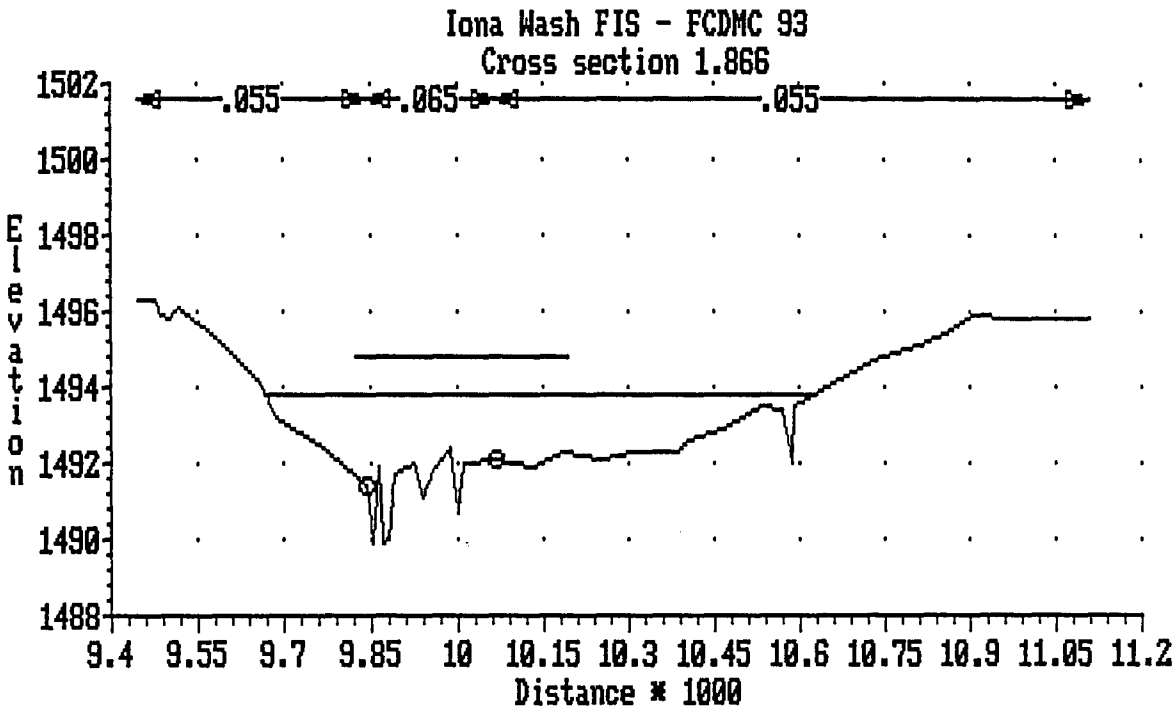

Iona Wash FIS - FCDMC 93
Cross section 1.386
.055
.082
.055
1485
1484
1483
1482
1481
1480
1479
1478
Elevation
8.8
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
Distance * 1000

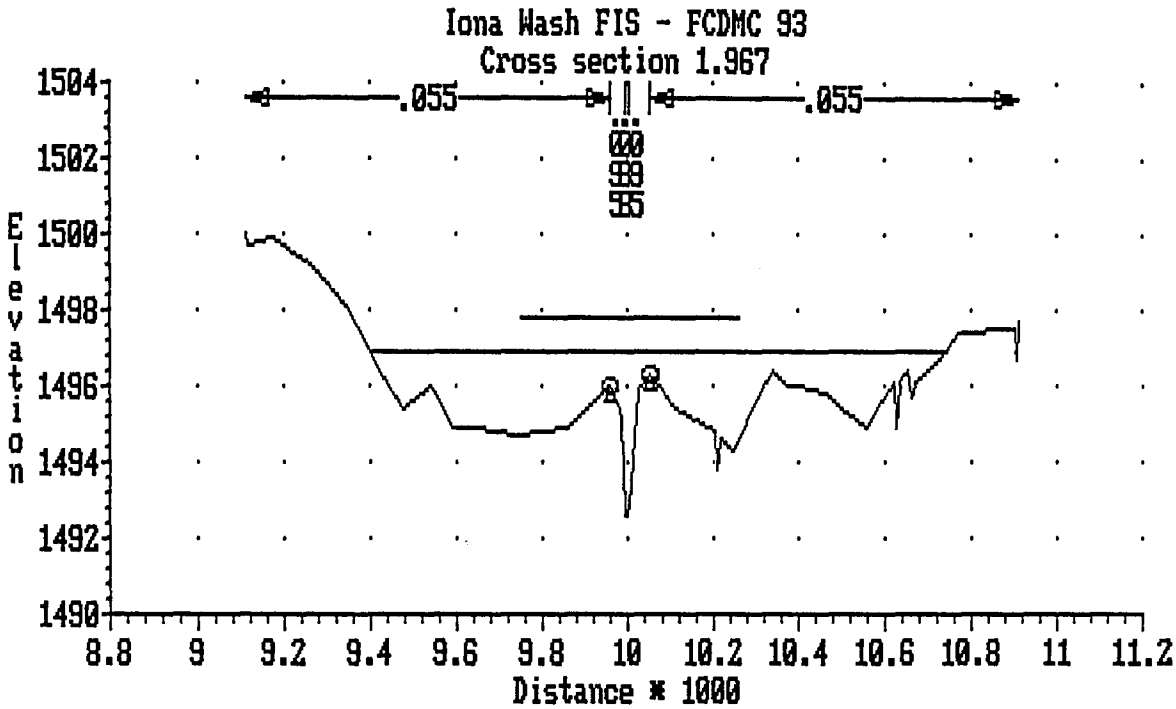

Iona Wash FIS - FCDMC 93
Cross section 1.48
.055
.055
0 10 1 0
7 03 0 8
2 58 5 2
Elevation
1492
1490
1488
1486
1484
1482
1480
1478
9.1 9.25 9.4 9.55 9.7 9.85 10 10.15 10.3 10.45 10.6 10.75 10.9
Distance * 1000

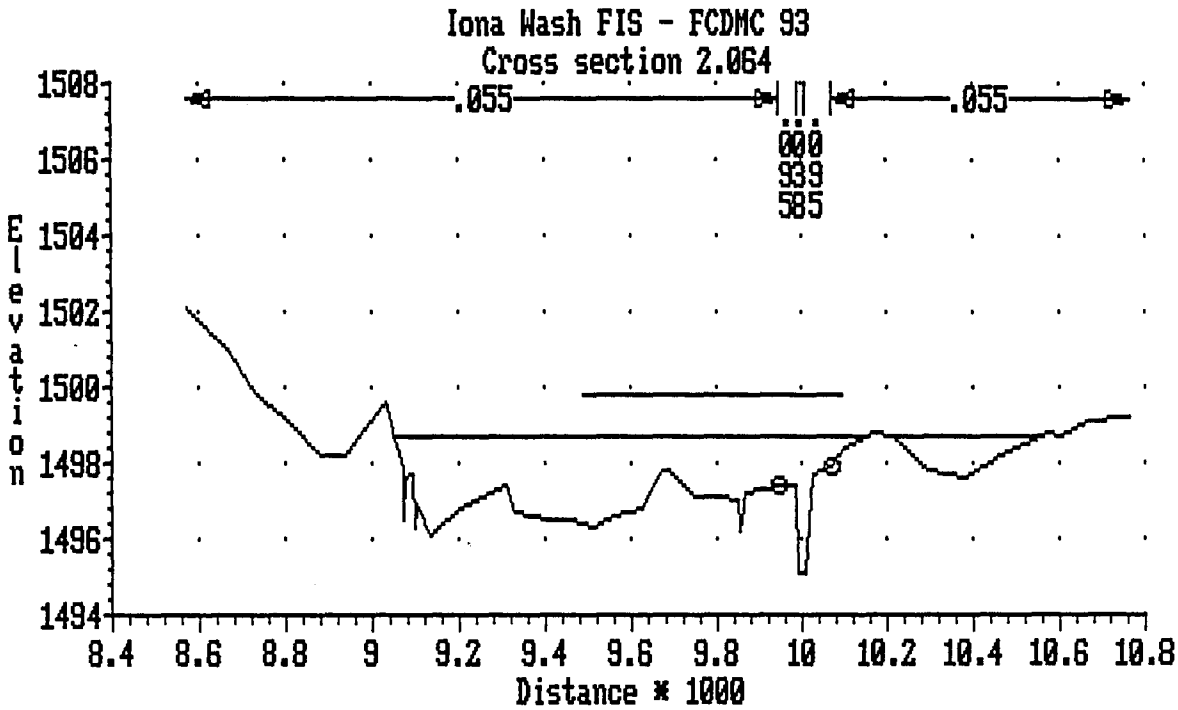

Iona Wash FIS - FCDMC 93
Cross section 1.578
.055
.055
0 0 1 0
6 3 0 7
5 8 5 2
1489
1488
1487
1486
1485
1484
1483
1482
Elevation
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
11
11.2
Distance * 1000

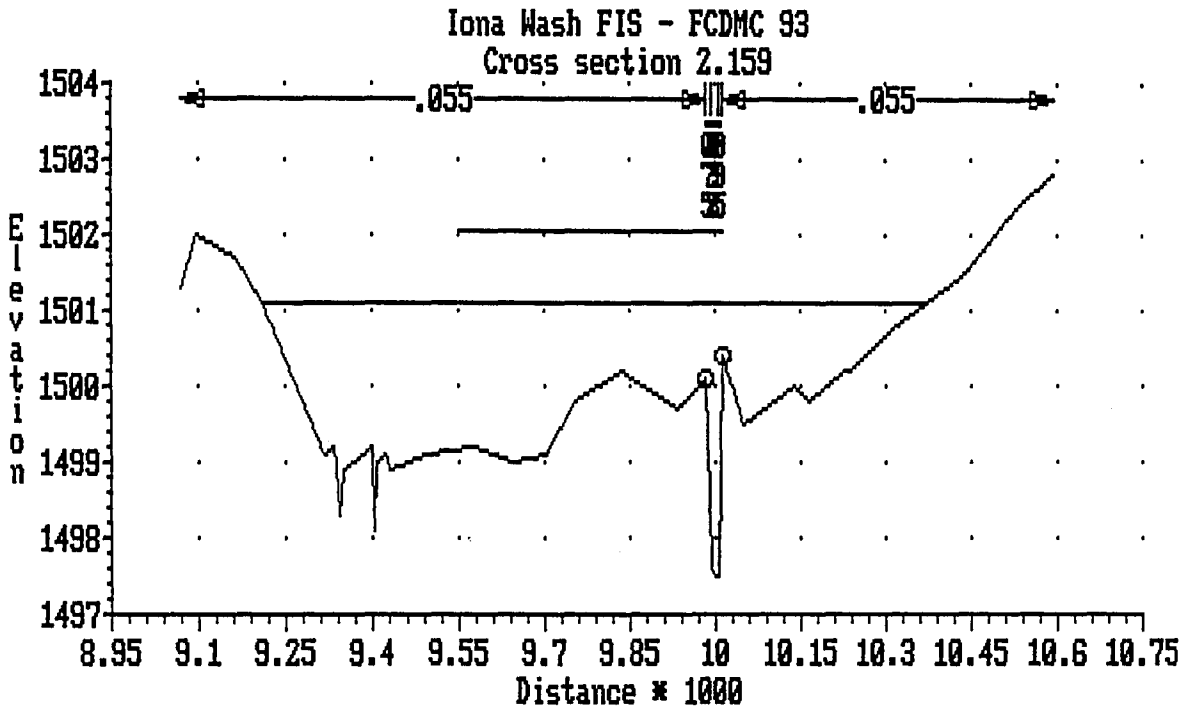

Iona Wash FIS - FCDMC 93
Cross section 1.67
.055
.055
101 0
030 7
585 2
Elevation
1492
1491
1490
1489
1488
1487
1486
1485
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
11
11.2
11.4
Distance * 1000

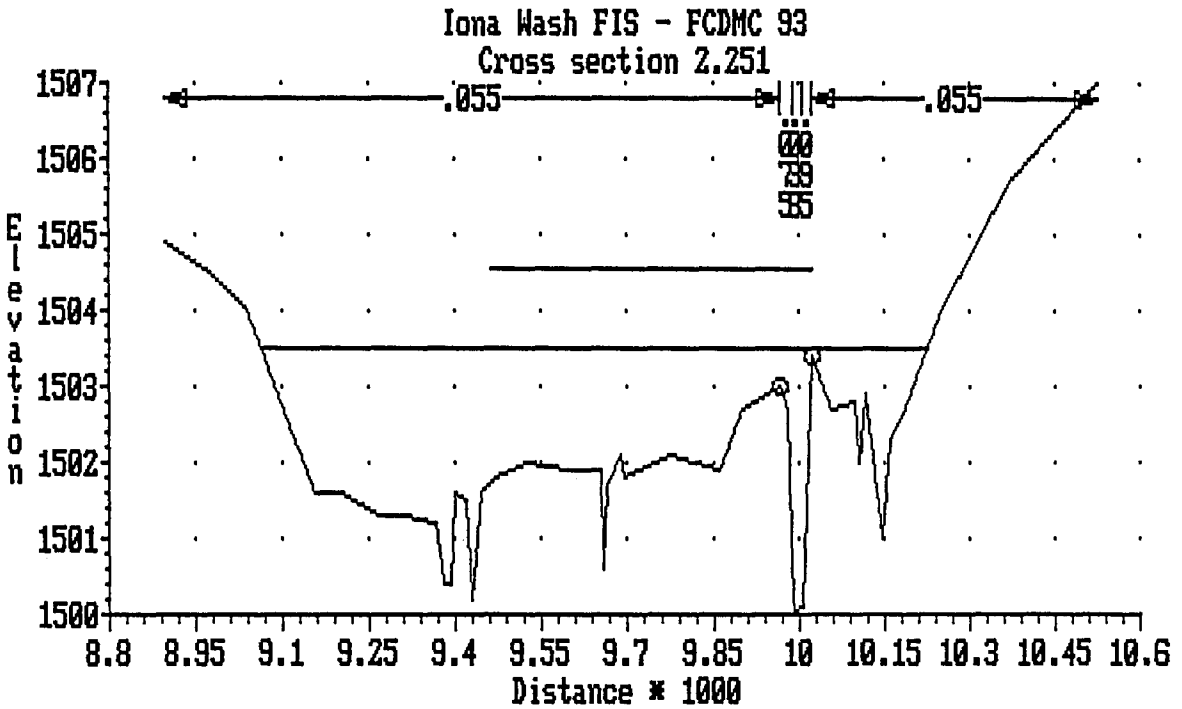

Iona Wash FIS - FCDMC 93
Cross section 1.764
.055
.082
.055
00
83
28
1494
1493
1492
1491
1490
1489
1488
1487
Elevation
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
10.9
11.05
Distance * 1000

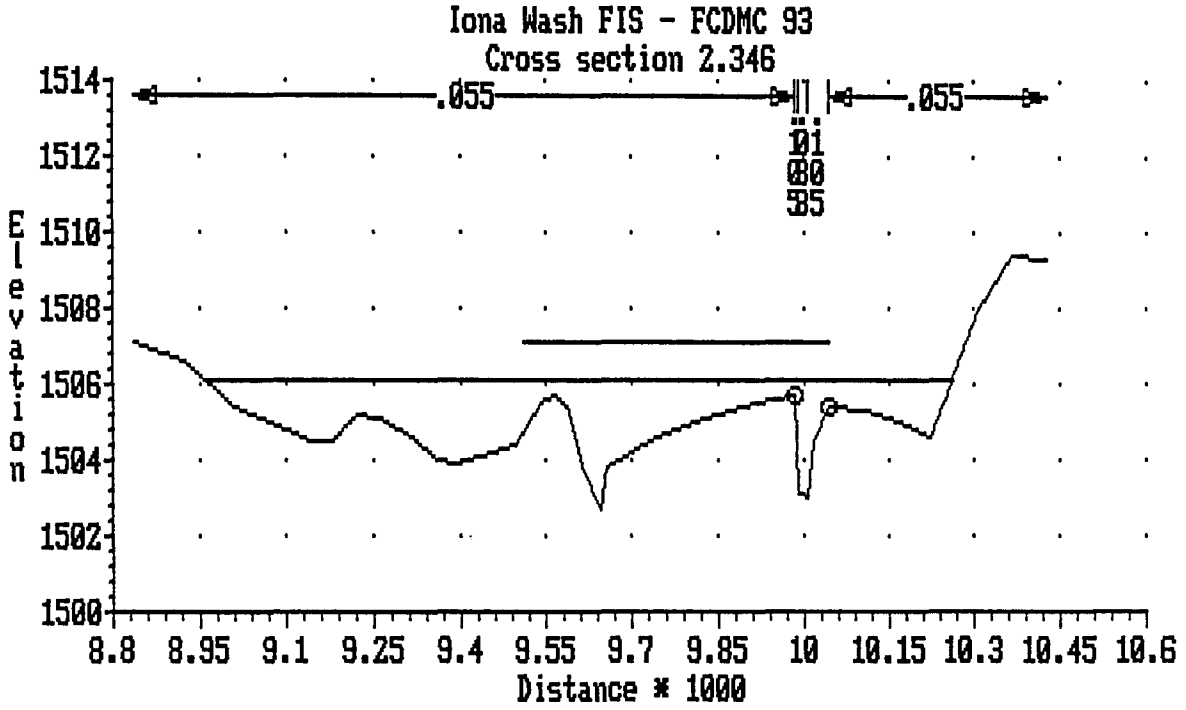

Iona Wash FIS - FCDMC 93
Cross section 1.866
.055
.065
.055
1502
1500
1498
1496
1494
1492
1490
1488
Elevation
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
10.9
11.05
11.2
Distance * 1000

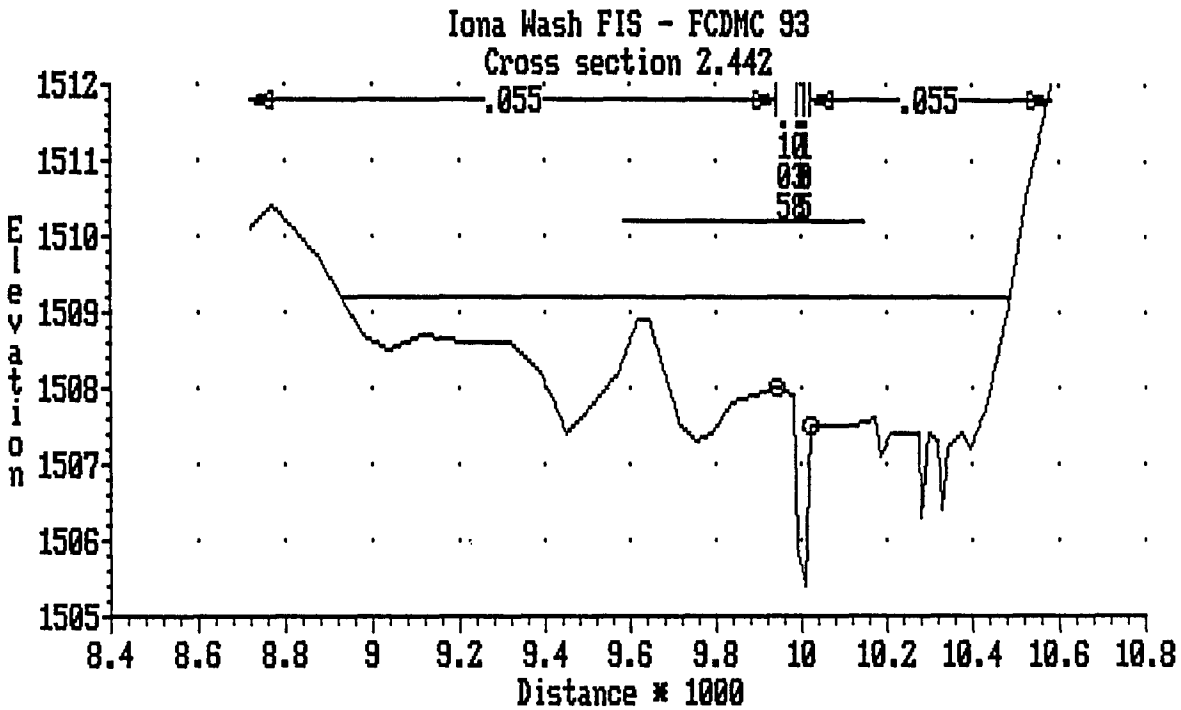

Iona Wash FIS - FCDMC 93
Cross section 1.967
.055
.055
Elevation
1504
1502
1500
1498
1496
1494
1492
1490
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
11
11.2
Distance * 1000

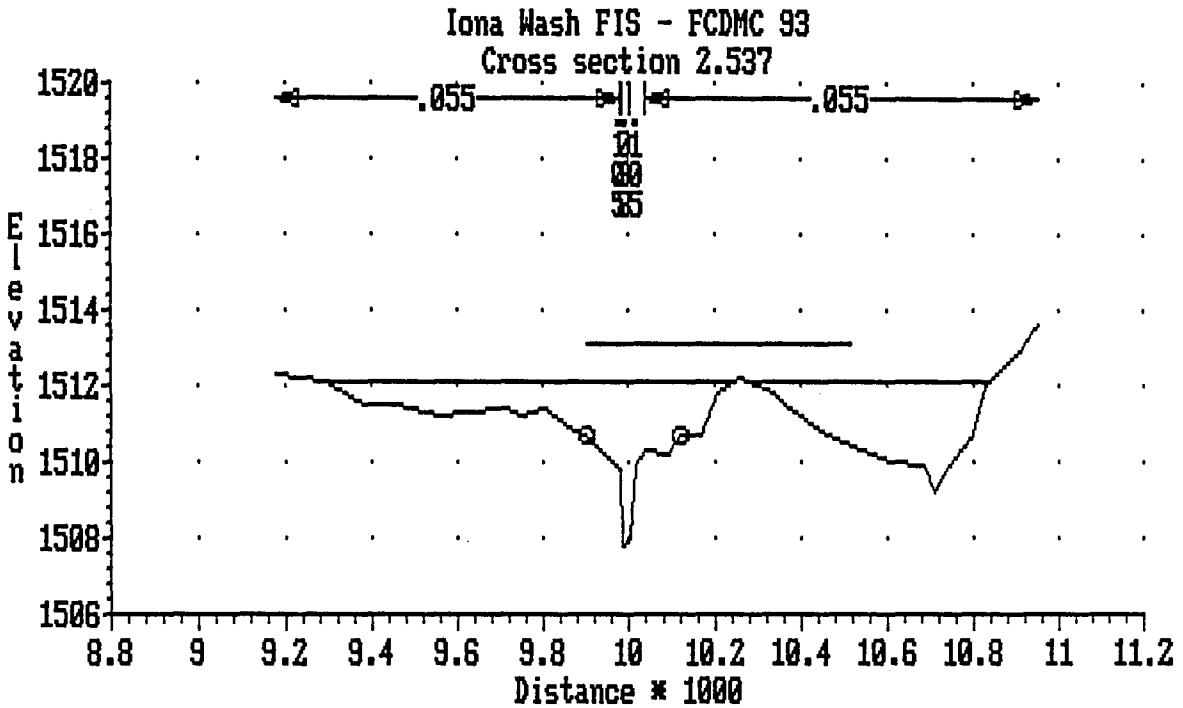

Iona Wash FIS - FCDMC 93
Cross section 2.064
.055
.055
000
939
585
Elevation
1508
1506
1504
1502
1500
1498
1496
1494
8.4
8.6
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
Distance * 1000

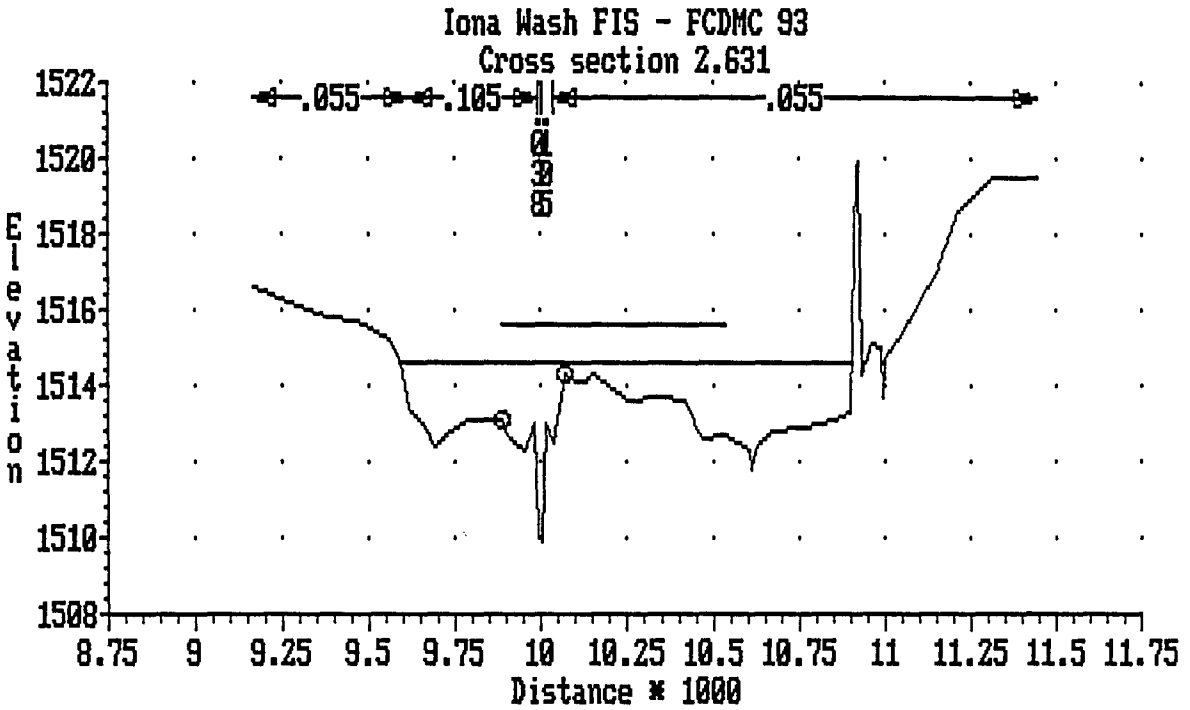

Iona Wash FIS - FCDMC 93
Cross section 2.159
.055
.055
Elevation
1504
1503
1502
1501
1500
1499
1498
1497
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
Distance * 1000

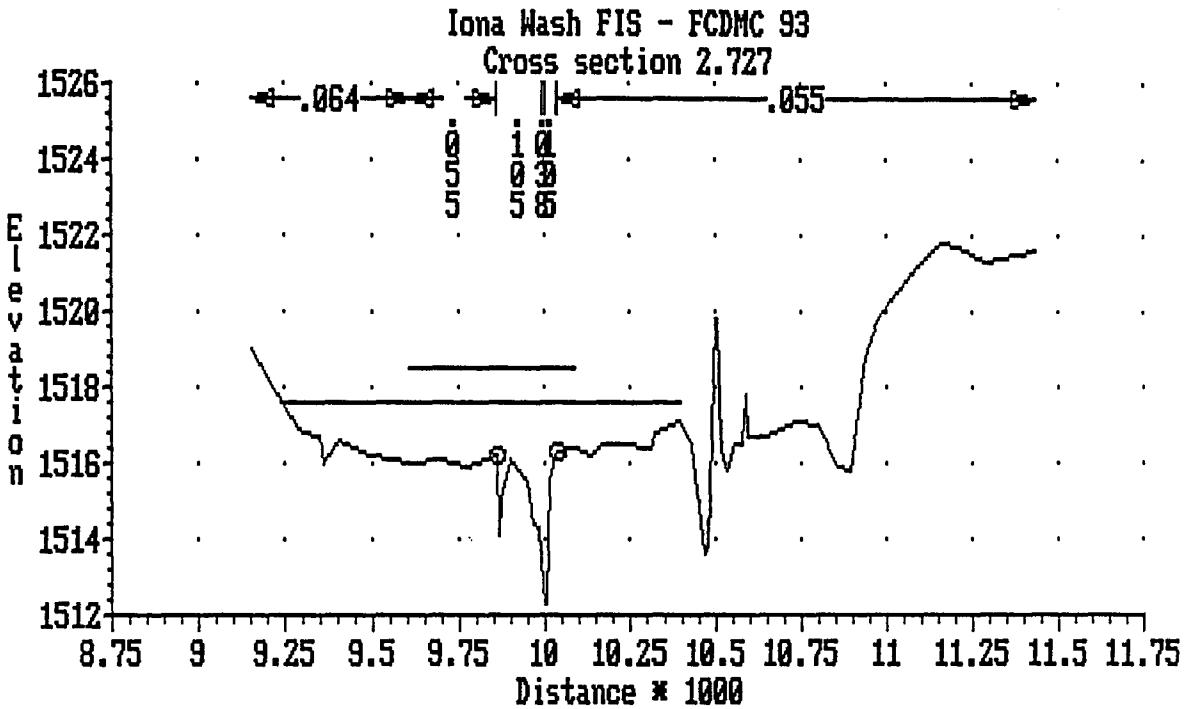

Iona Wash FIS - FCDMC 93
Cross section 2.251
.055
.055
Elevation
1507
1506
1505
1504
1503
1502
1501
1500
8.8
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
Distance * 1000

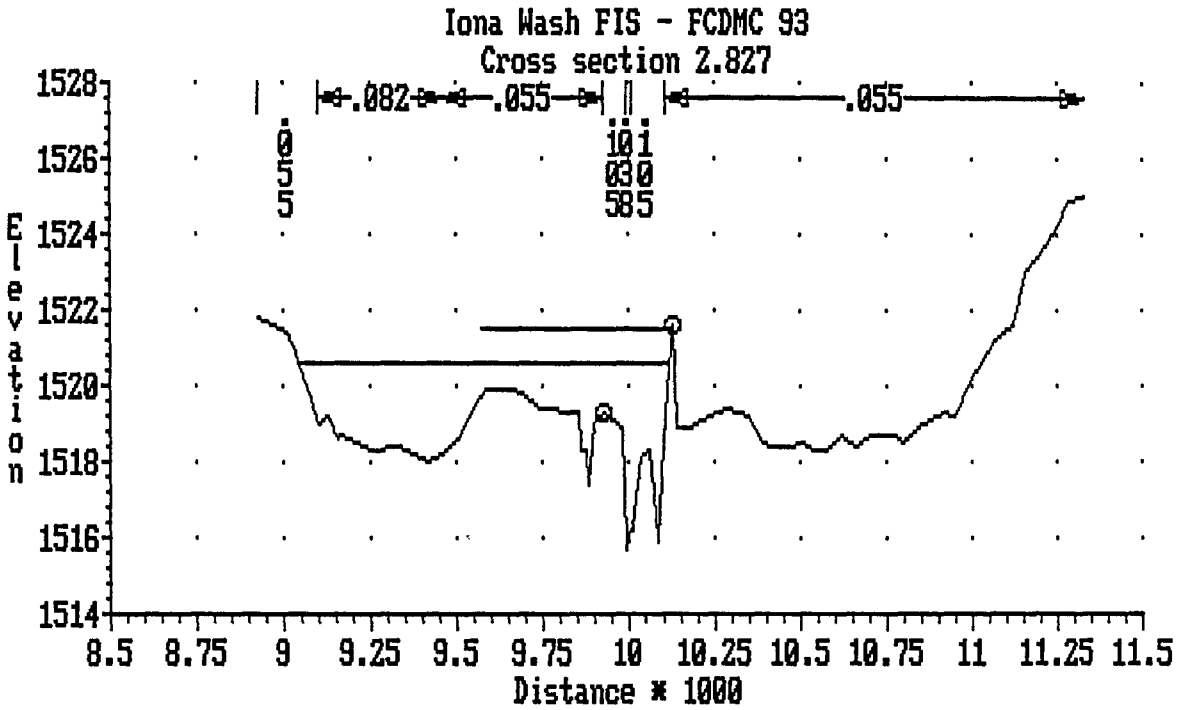

Iona Wash FIS - FCDMC 93
Cross section 2.346
.055
.055
.01
.00
.05
Elevation
1514
1512
1510
1508
1506
1504
1502
1500
8.8
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
Distance * 1000

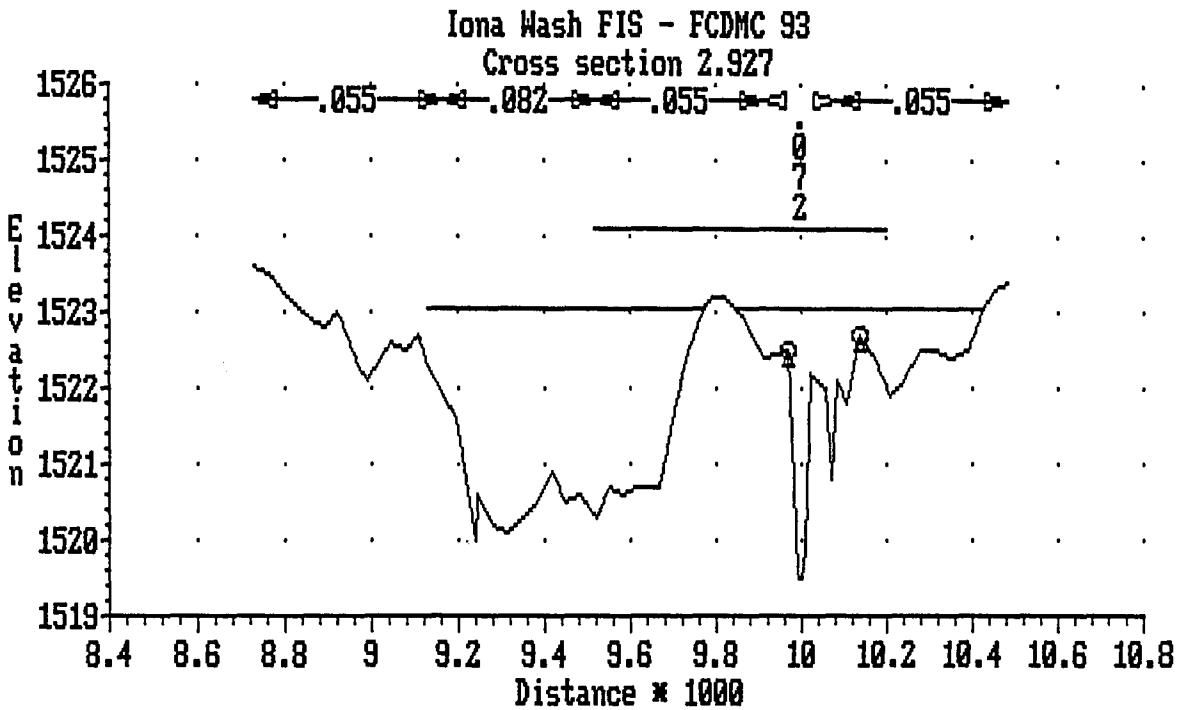

Iona Wash FIS - FCDMC 93
Cross section 2.442
.055
.055
Elevation
1512
1511
1510
1509
1508
1507
1506
1505
8.4
8.6
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
Distance * 1000

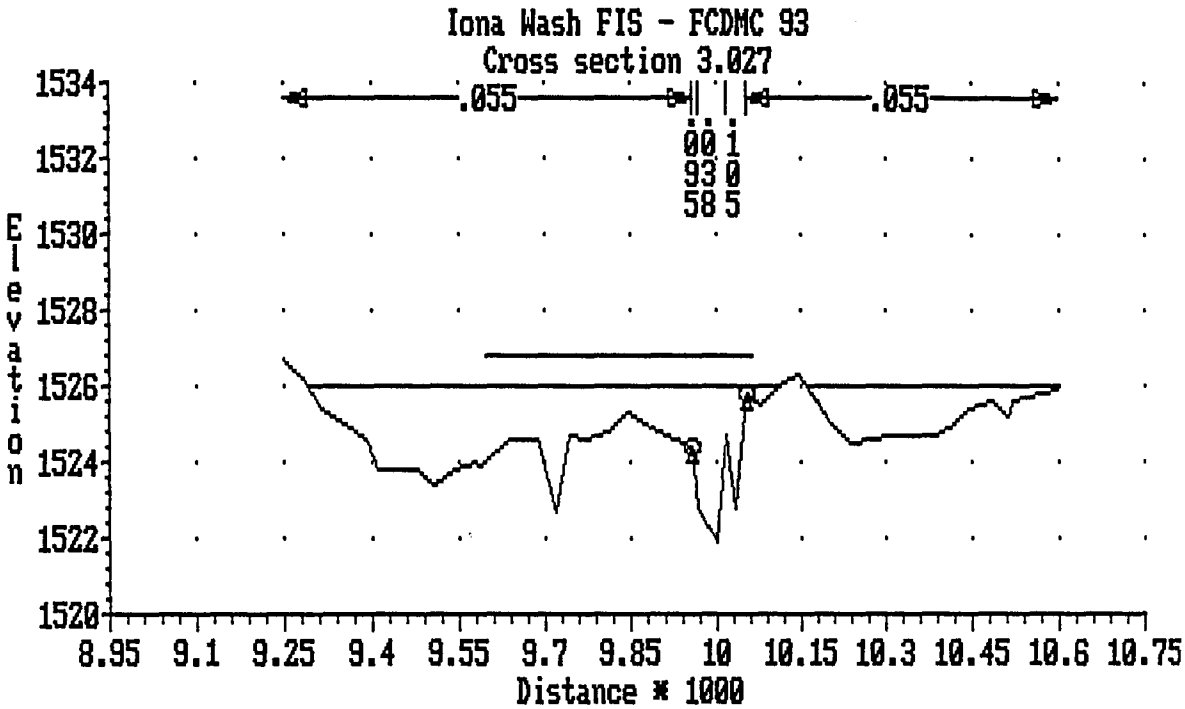

Iona Wash FIS - FCDMC 93
Cross section 2.537
.055
.055
Elevation
1520
1518
1516
1514
1512
1510
1508
1506
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
11
11.2
Distance * 1000

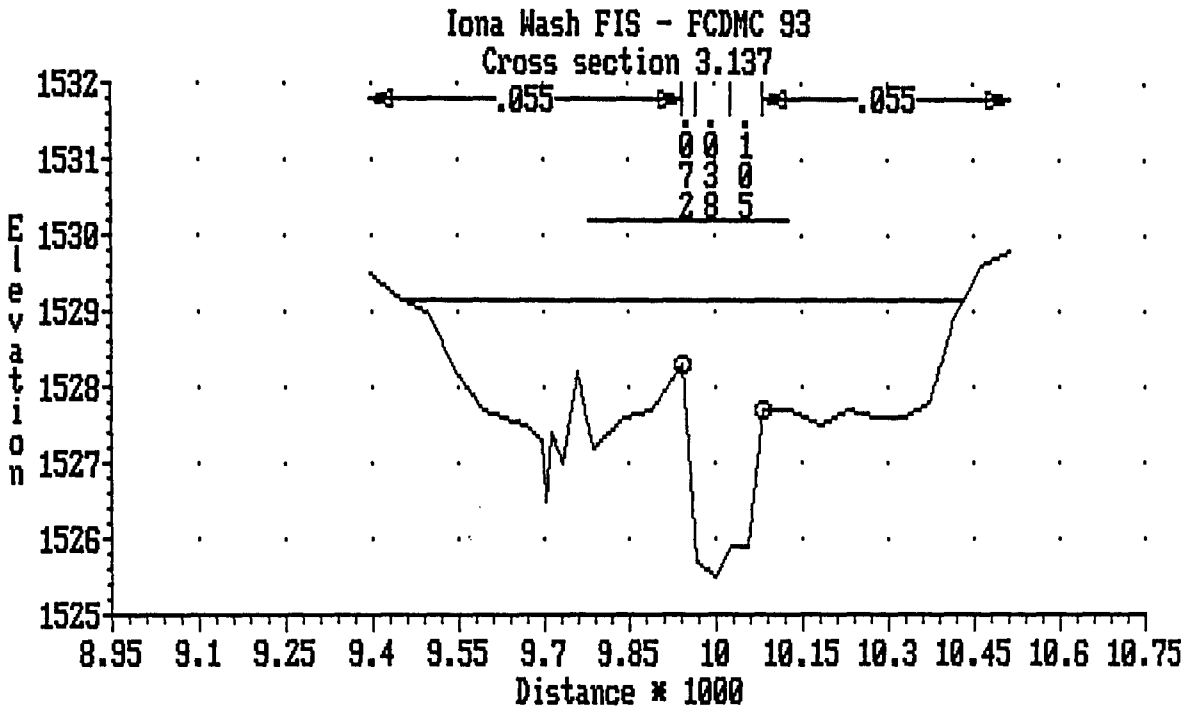

Iona Wash FIS - FCDMC 93
Cross section 2.631
.055
.105
.055
Elevation
1522
1520
1518
1516
1514
1512
1510
1508
8.75
9
9.25
9.5
9.75
10
10.25
10.5
10.75
11
11.25
11.5
11.75
Distance * 1000

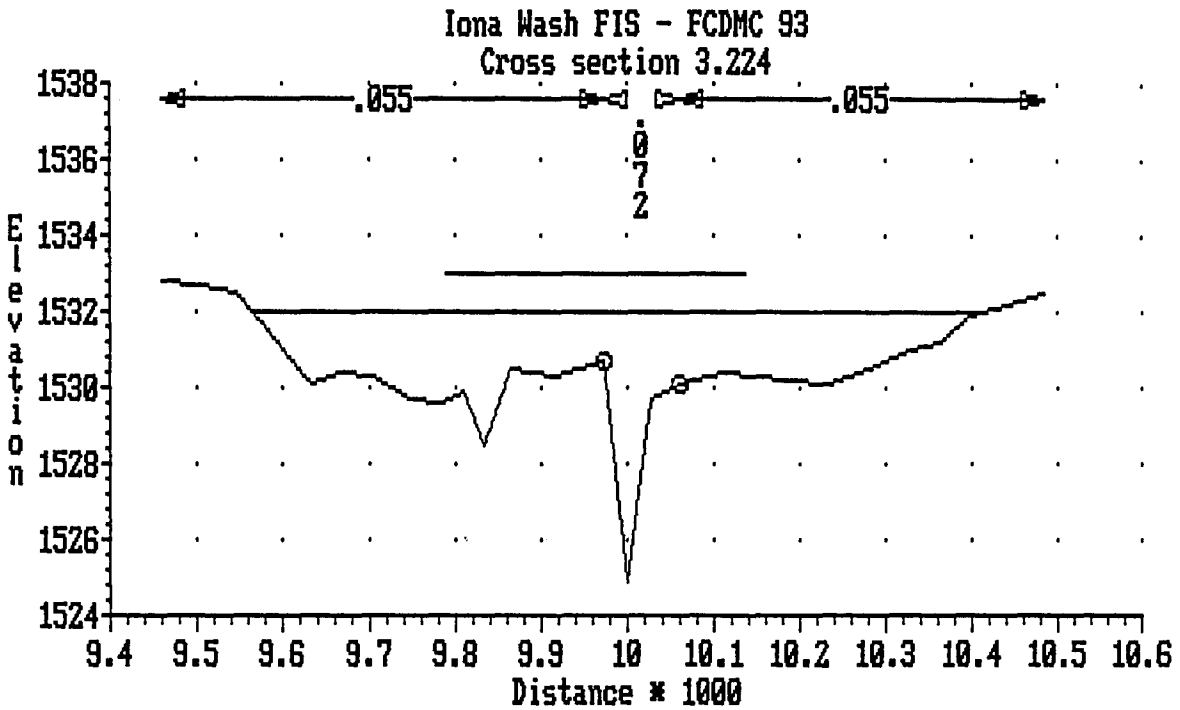

Iona Wash FIS - FCDMC 93
Cross section 2.727
.064
.055
Elevation
1526
1524
1522
1520
1518
1516
1514
1512
8.75
9
9.25
9.5
9.75
10
10.25
10.5
10.75
11
11.25
11.5
11.75
Distance * 1000

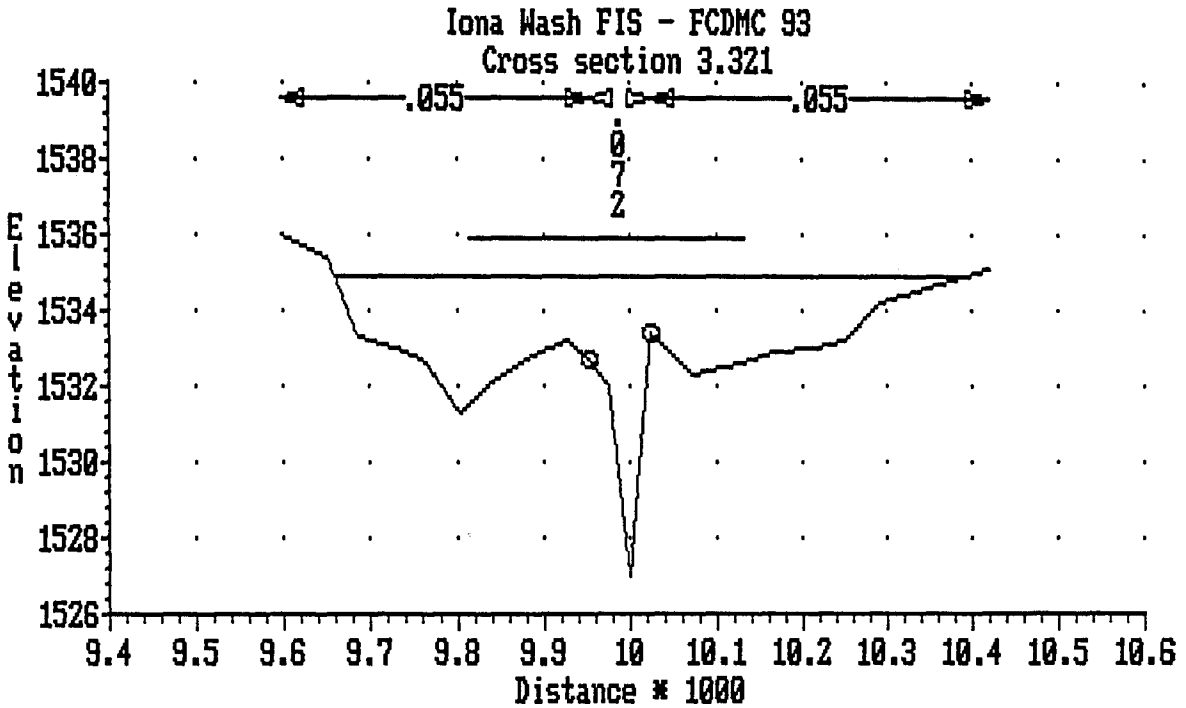

Iona Wash FIS - FCDMC 93
Cross section 2.827
.082
.055
.055
.055
.055
.030
.101
.030
.585
1528
1526
1524
1522
1520
1518
1516
1514
Elevation
8.5
8.75
9
9.25
9.5
9.75
10
10.25
10.5
10.75
11
11.25
11.5
Distance * 1000

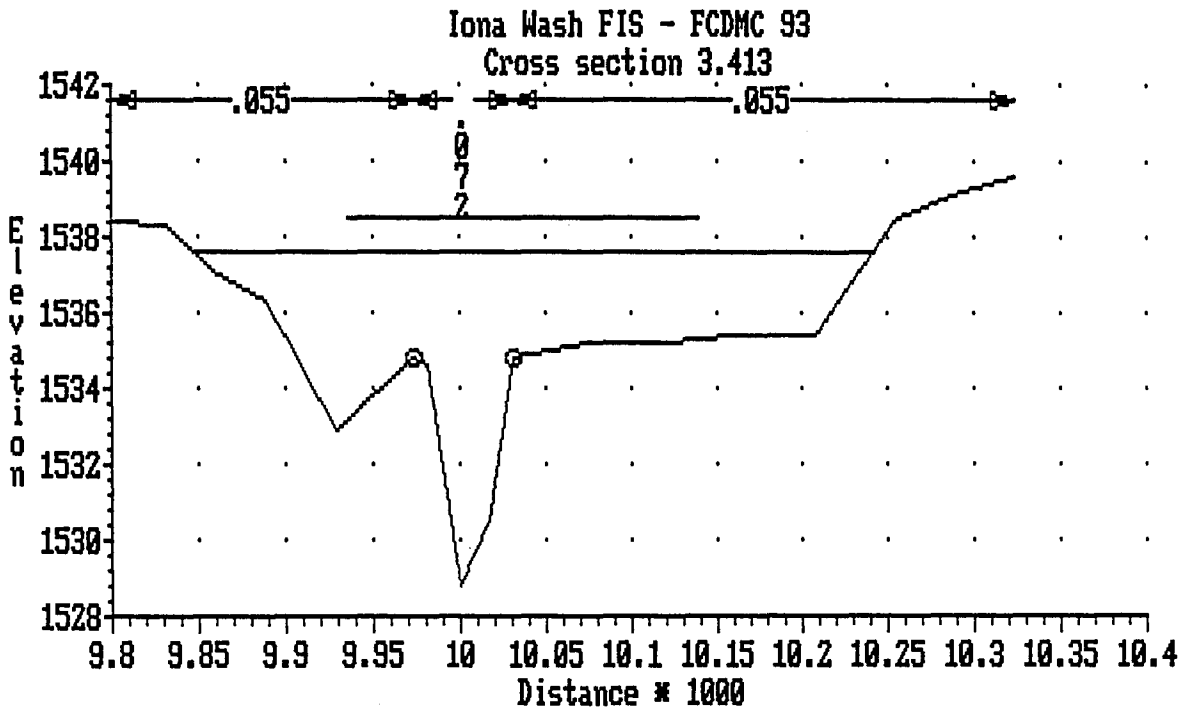

Iona Wash FIS - FCDMC 93
Cross section 2.927
.055
.082
.055
.055
.072
Elevation
1526
1525
1524
1523
1522
1521
1520
1519
8.4
8.6
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
Distance * 1000

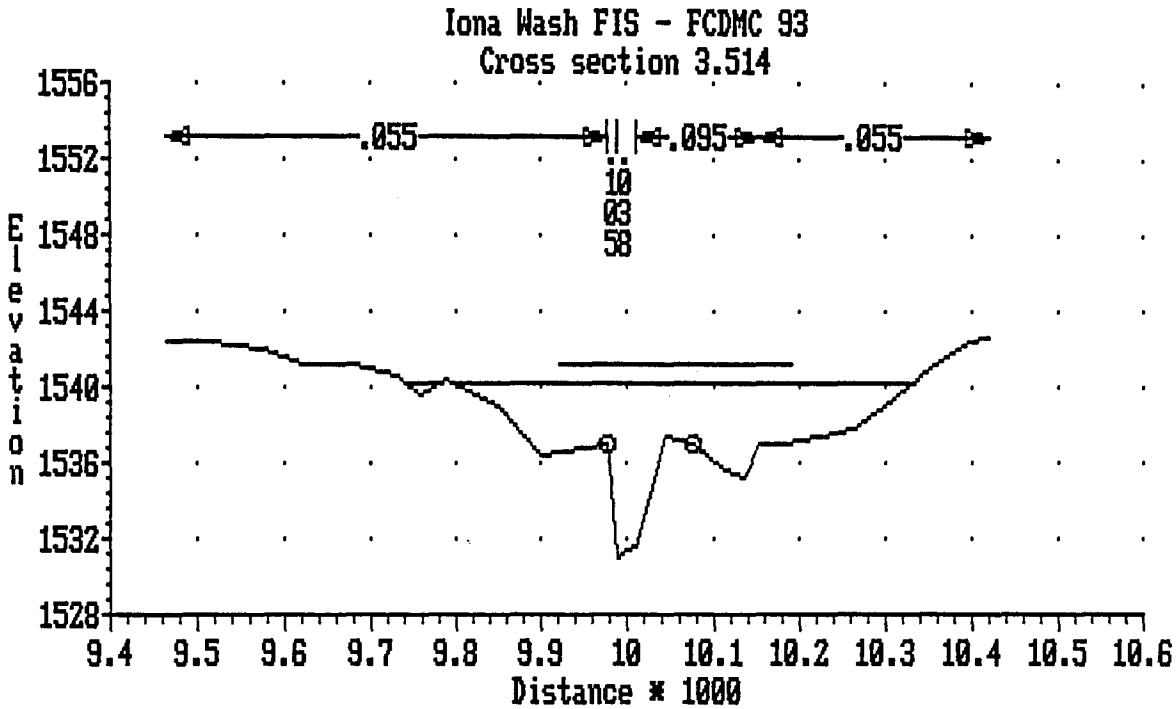

Iona Wash FIS - FCDMC 93
Cross section 3.027
.055
.055
00 1
93 0
58 5
1534
1532
1530
1528
1526
1524
1522
1520
Elevation
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
Distance * 1000

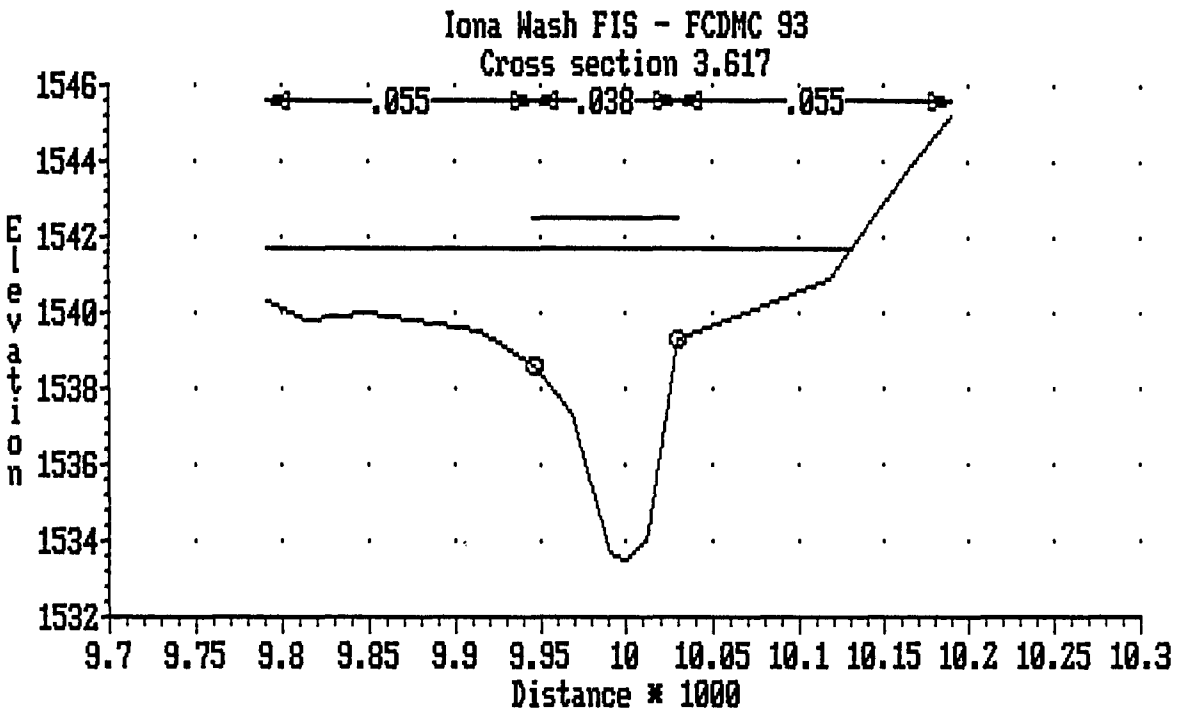

Iona Wash FIS - FCDMC 93
Cross section 3.137
.055
.055
0 0 1
7 3 0
2 8 5
Elevation
1532
1531
1530
1529
1528
1527
1526
1525
8.95 9.1 9.25 9.4 9.55 9.7 9.85 10 10.15 10.3 10.45 10.6 10.75
Distance * 1000

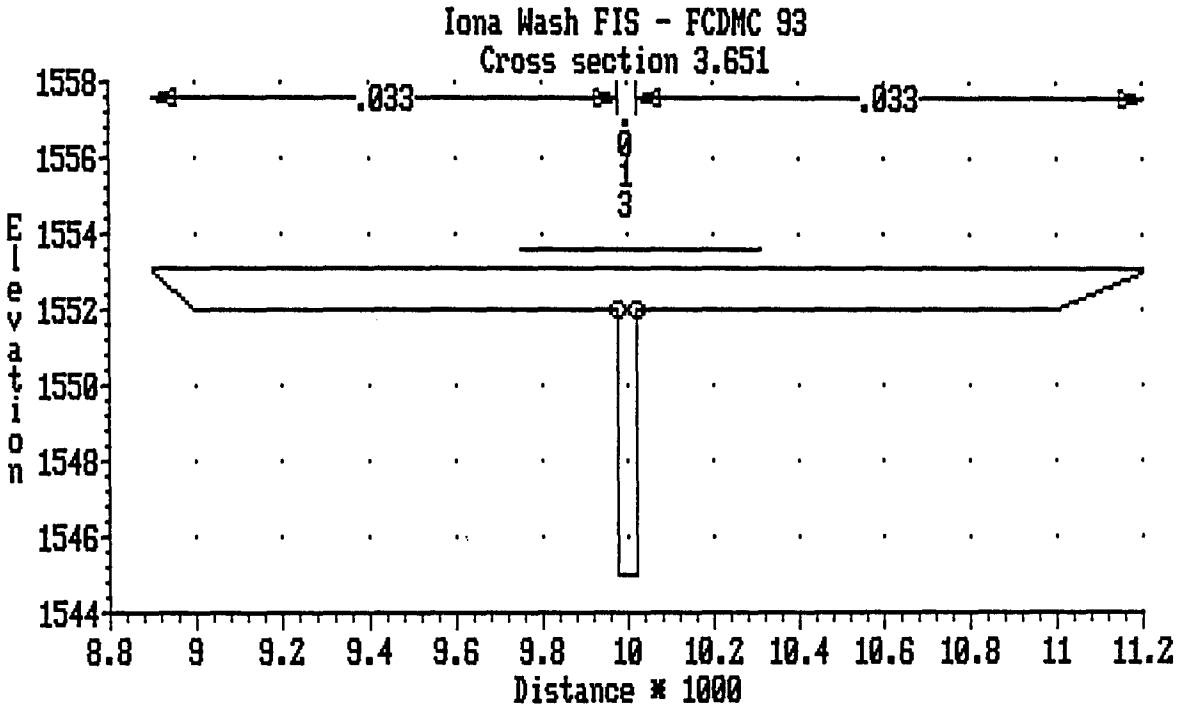

Iona Wash FIS - FCDMC 93
Cross section 3.224
.055
.072
.055
Elevation
1538
1536
1534
1532
1530
1528
1526
1524
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
10.6
Distance * 1000

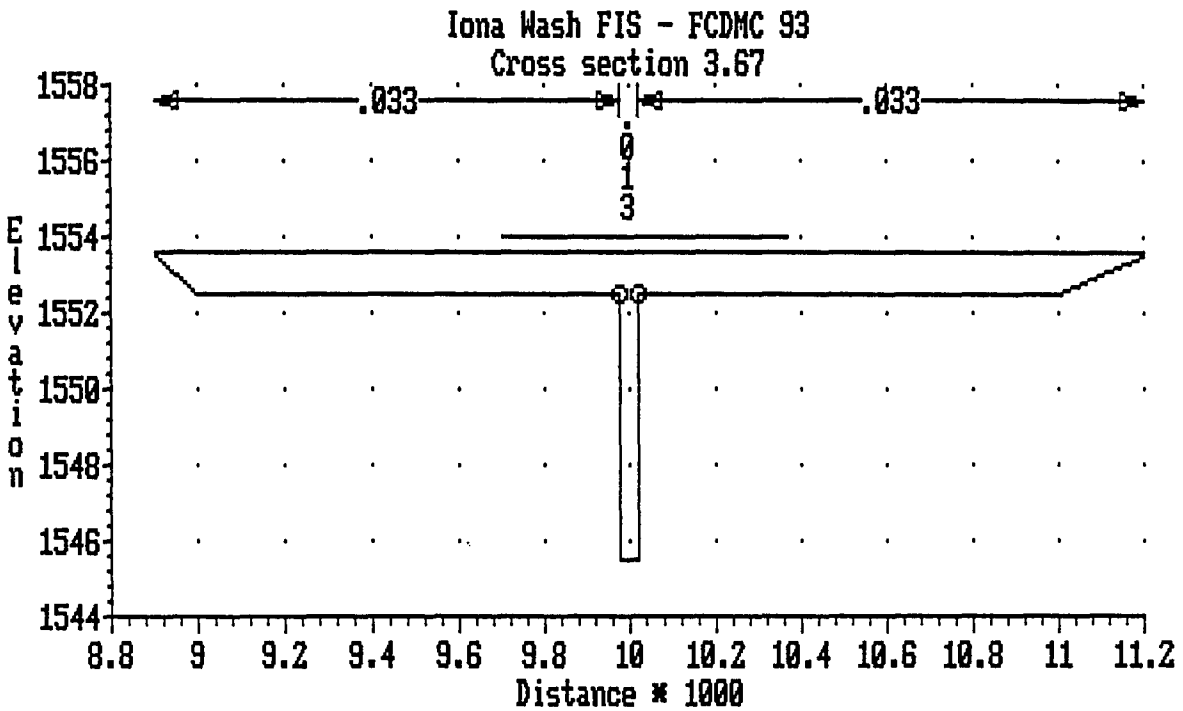

Iona Wash FIS - FCDMC 93
Cross section 3.321
.055
.055
.072
Elevation
1540
1538
1536
1534
1532
1530
1528
1526
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
10.6
Distance * 1000

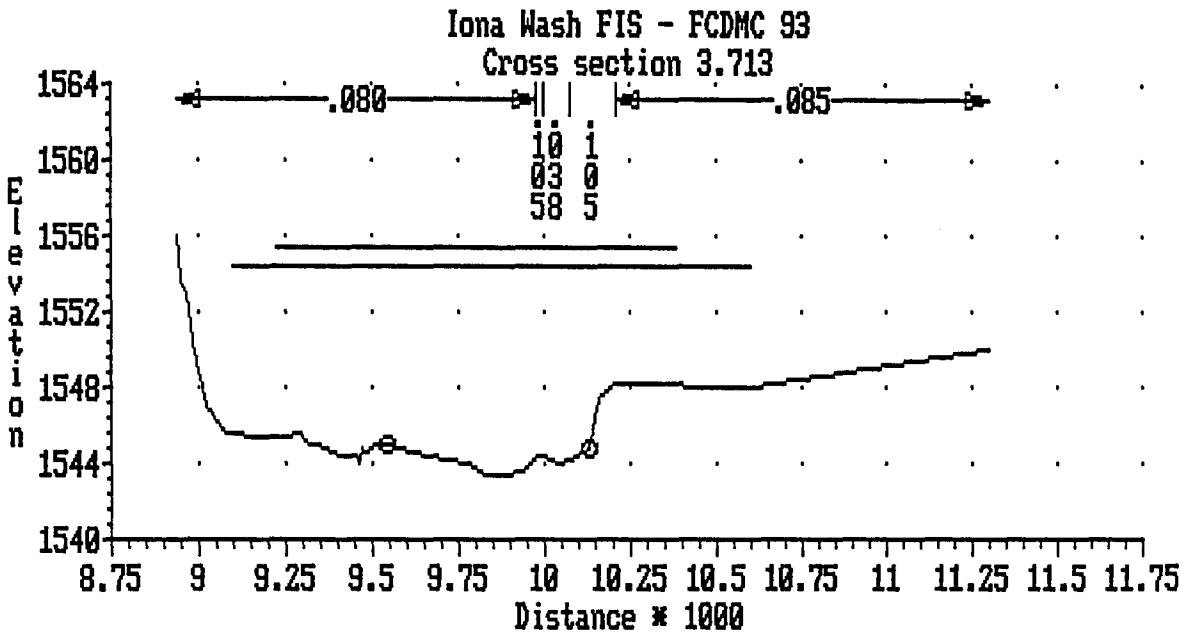

Iona Wash FIS - FCDMC 93
Cross section 3.413
.055
.055
.072
Elevation
1542
1540
1538
1536
1534
1532
1530
1528
9.8
9.85
9.9
9.95
10
10.05
10.1
10.15
10.2
10.25
10.3
10.35
10.4
Distance * 1000

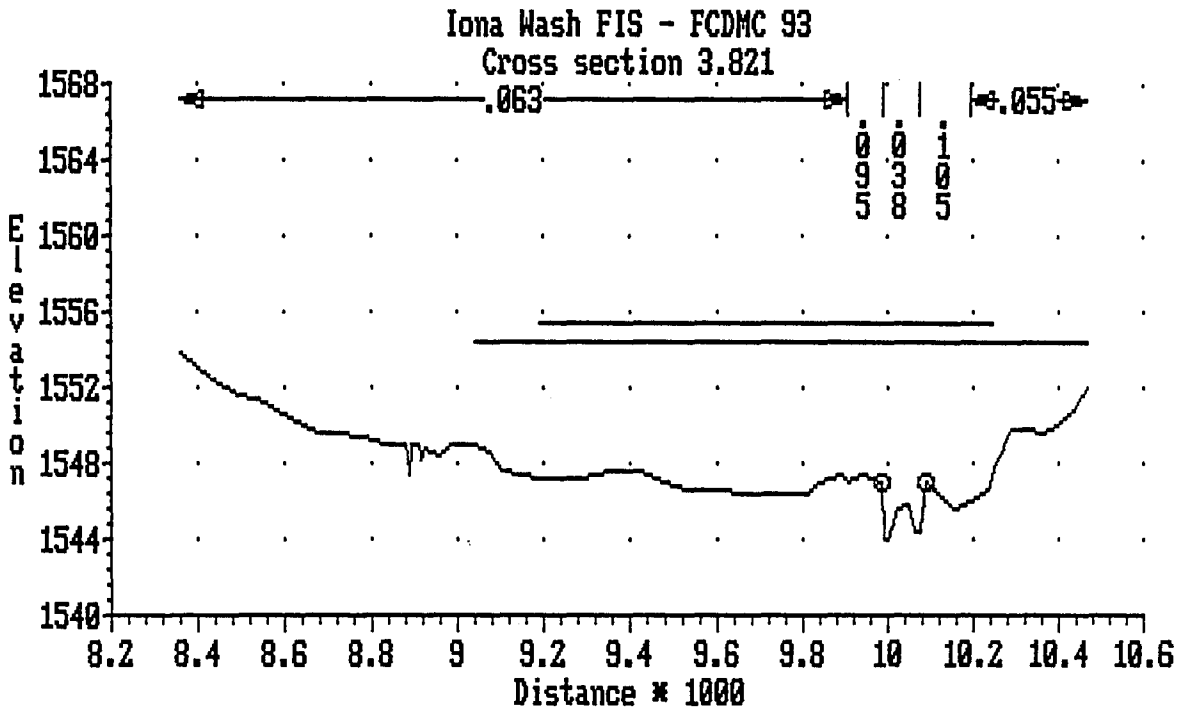

Iona Wash FIS - FCDMC 93
Cross section 3.514
.055
.095
.055
10
03
58
Elevation
1556
1552
1548
1544
1540
1536
1532
1528
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
10.6
Distance * 1000

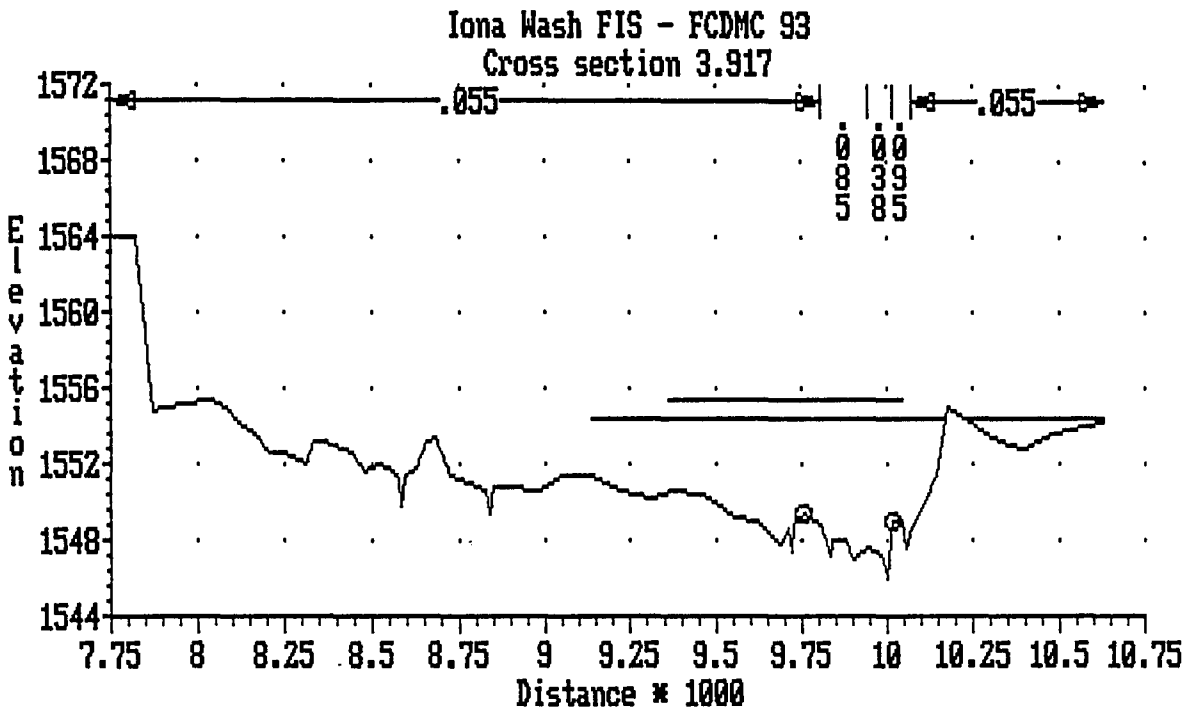

Iona Wash FIS - FCDMC 93
Cross section 3.617
.055
.038
.055
1546
1544
1542
1540
1538
1536
1534
1532
Elevation
9.7
9.75
9.8
9.85
9.9
9.95
10
10.05
10.1
10.15
10.2
10.25
10.3
Distance * 1000

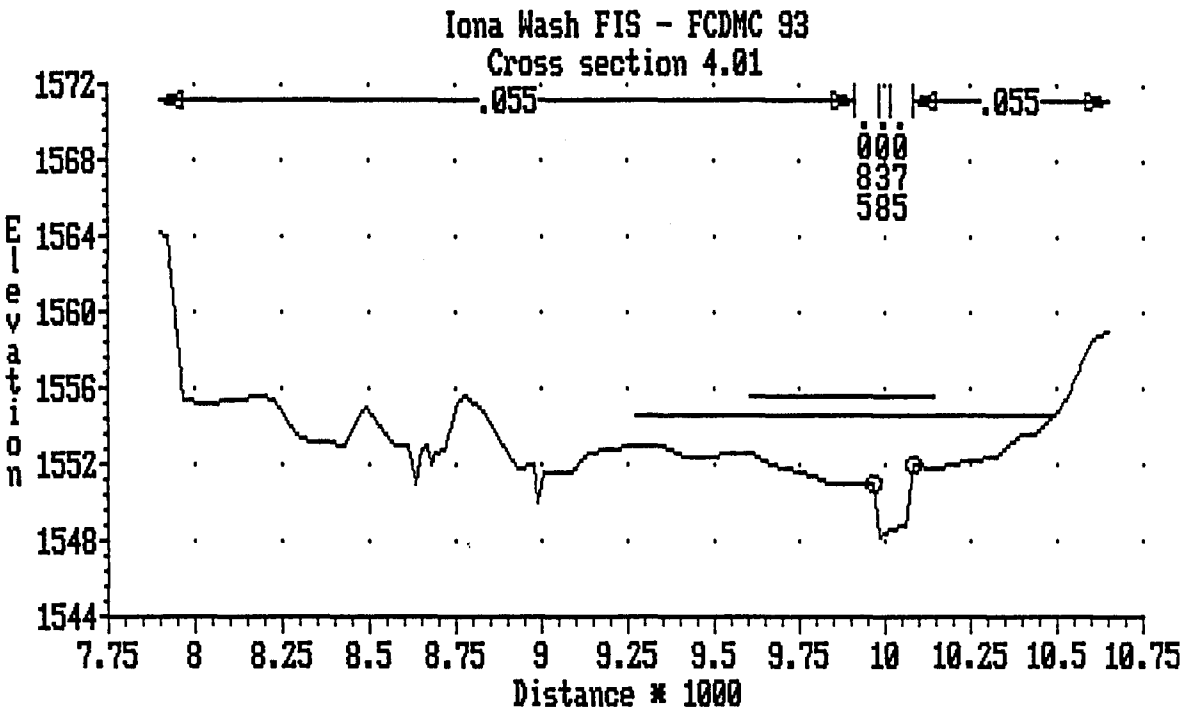

Iona Wash FIS - FCDMC 93
Cross section 3.651
.033
.013
.033
1558
1556
1554
1552
1550
1548
1546
1544
Elevation
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
11
11.2
Distance * 1000

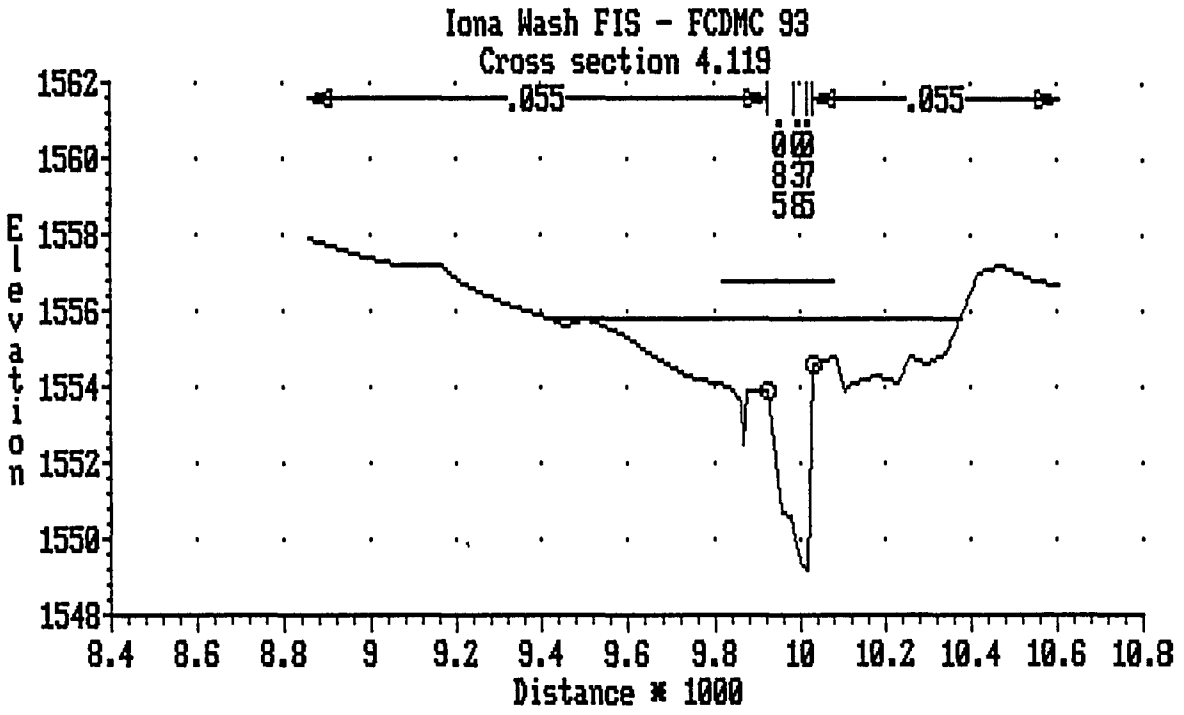

Iona Wash FIS - FCDMC 93
Cross section 3.67
.033
.013
.033
1558
1556
1554
1552
1550
1548
1546
1544
Elevation
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
11
11.2
Distance * 1000

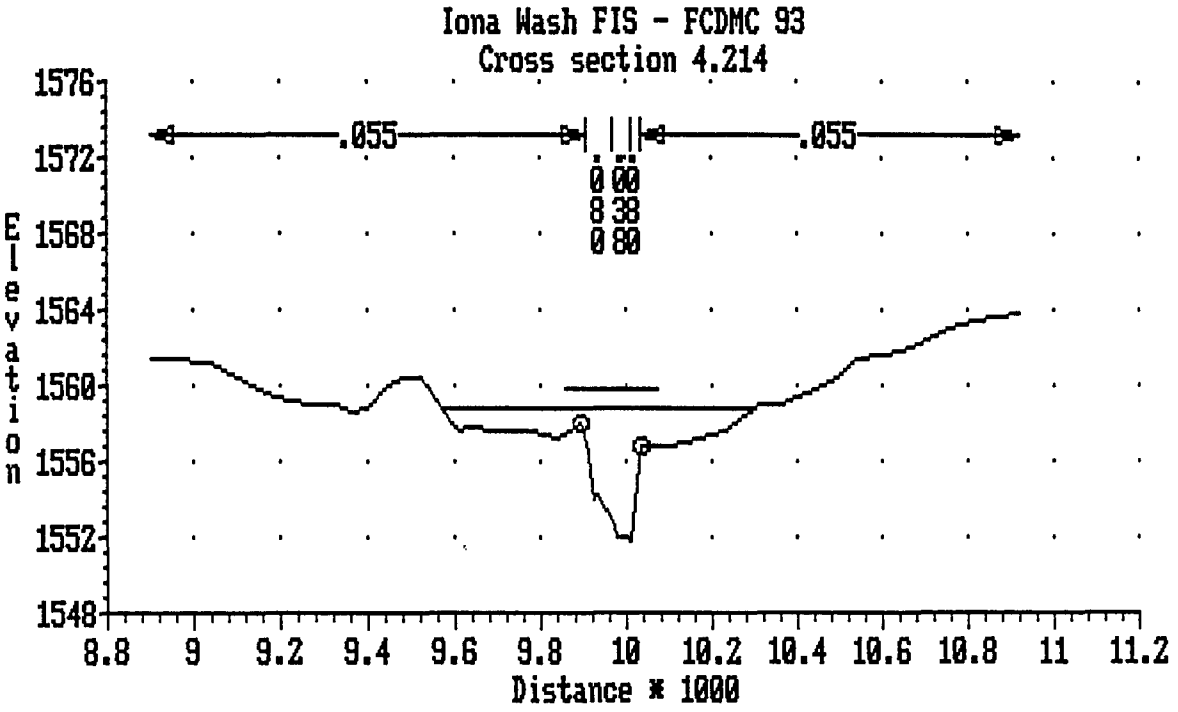

Iona Wash FIS - FCDMC 93
Cross section 3.713
.080
.085
10 1
03 0
58 5
1564
1560
1556
1552
1548
1544
1540
Elevation
8.75
9
9.25
9.5
9.75
10
10.25
10.5
10.75
11
11.25
11.5
11.75
Distance * 1000

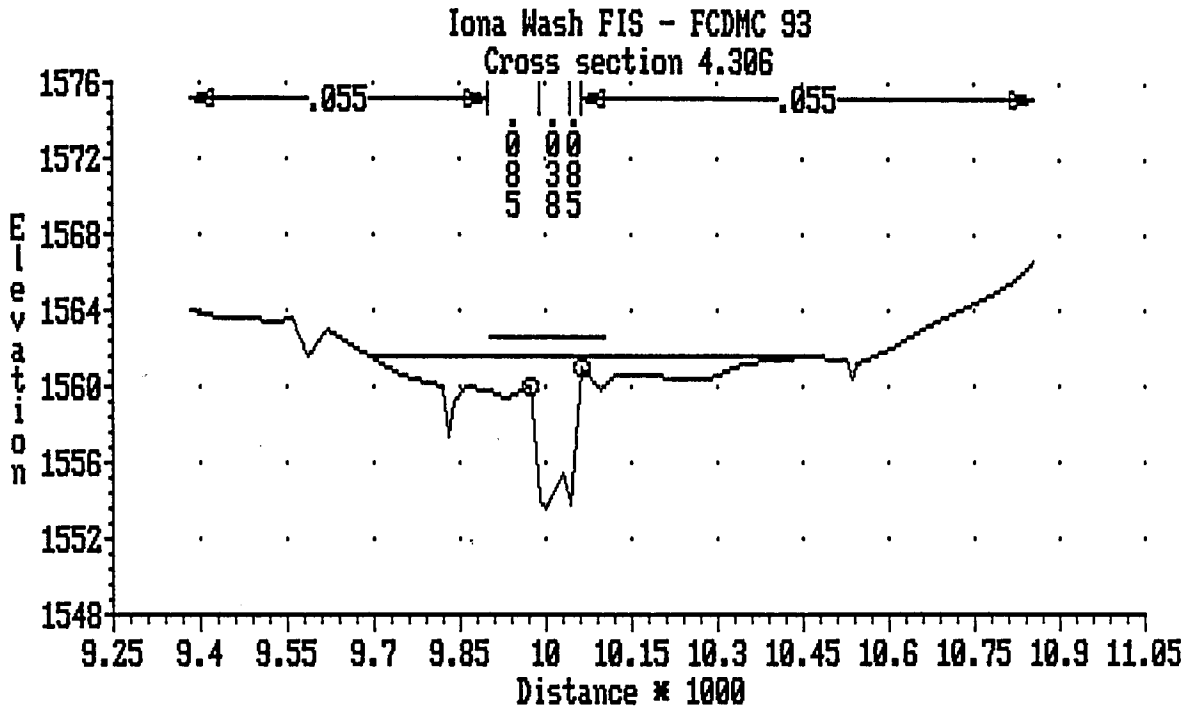

Iona Wash FIS - FCDMC 93
Cross section 3.821
.063
.055
.019
.030
.015
Elevation
1568
1564
1560
1556
1552
1548
1544
1540
8.2
8.4
8.6
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
Distance * 1000

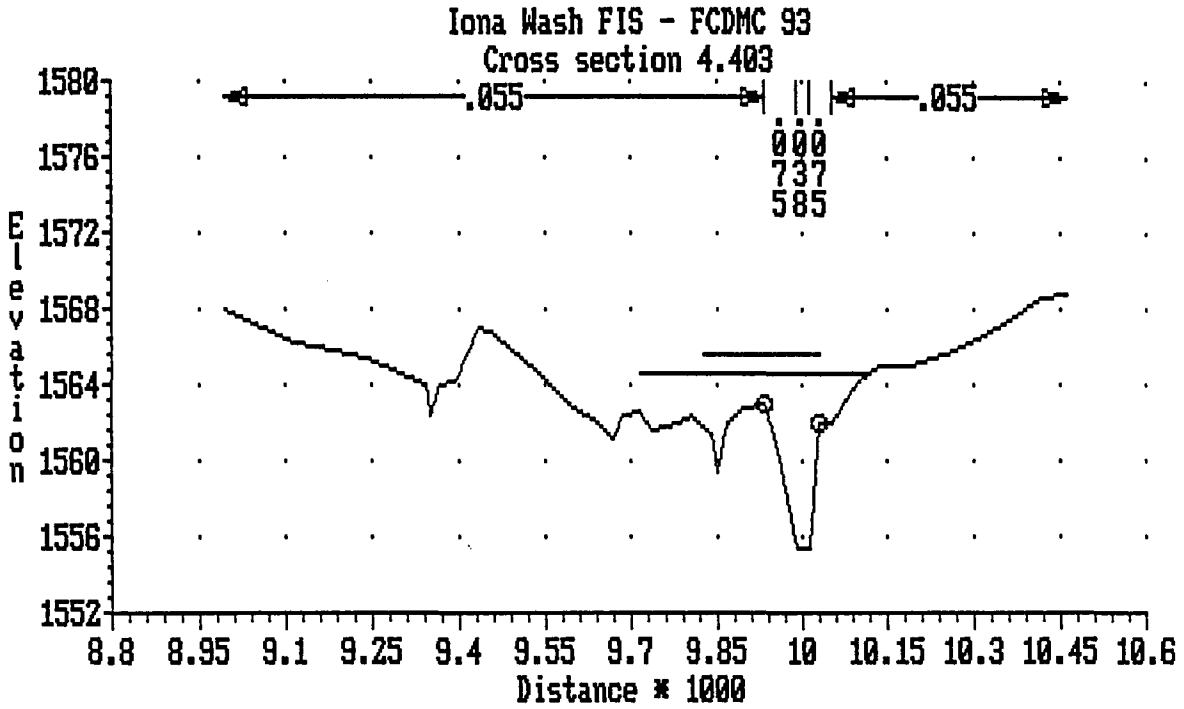

Iona Wash FIS - FCDMC 93
Cross section 3.917
.055
.055
0 00
8 39
5 85
1572
1568
1564
1560
1556
1552
1548
1544
Elevation
7.75
8
8.25
8.5
8.75
9
9.25
9.5
9.75
10
10.25
10.5
10.75
Distance * 1000

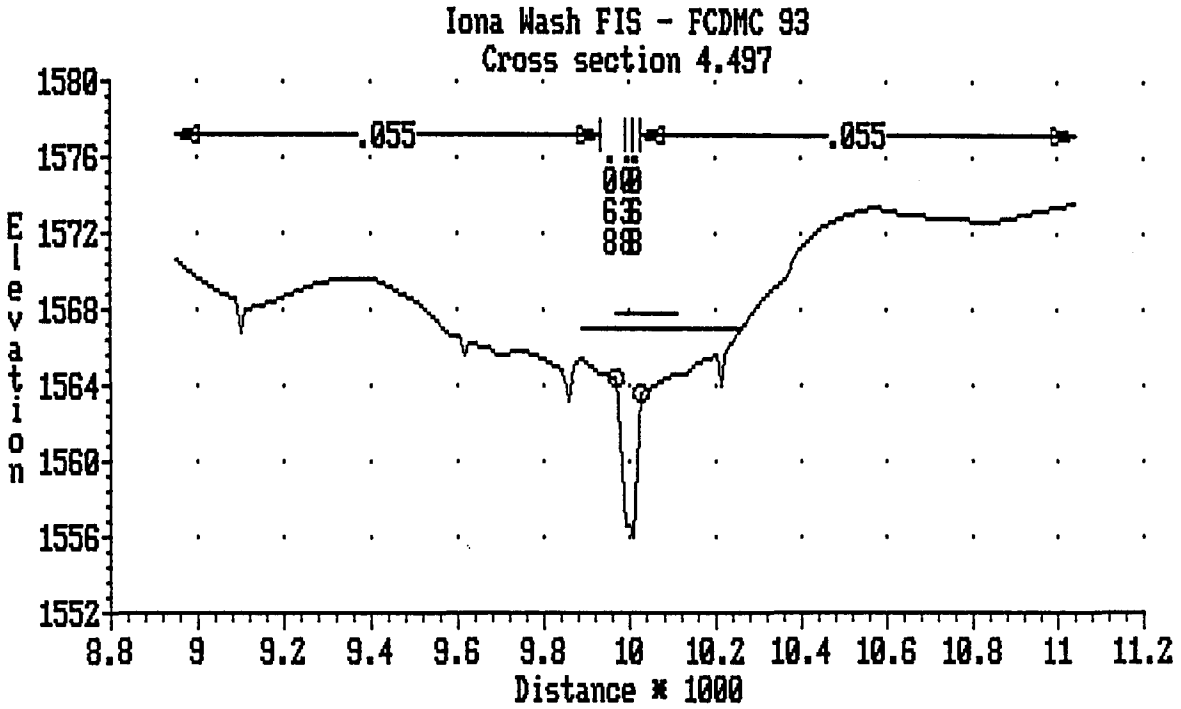

Iona Wash FIS - FCDMC 93
Cross section 4.01
.055
.055
000
837
585
1572
1568
1564
1560
1556
1552
1548
1544
Elevation
7.75
8
8.25
8.5
8.75
9
9.25
9.5
9.75
10
10.25
10.5
10.75
Distance * 1000

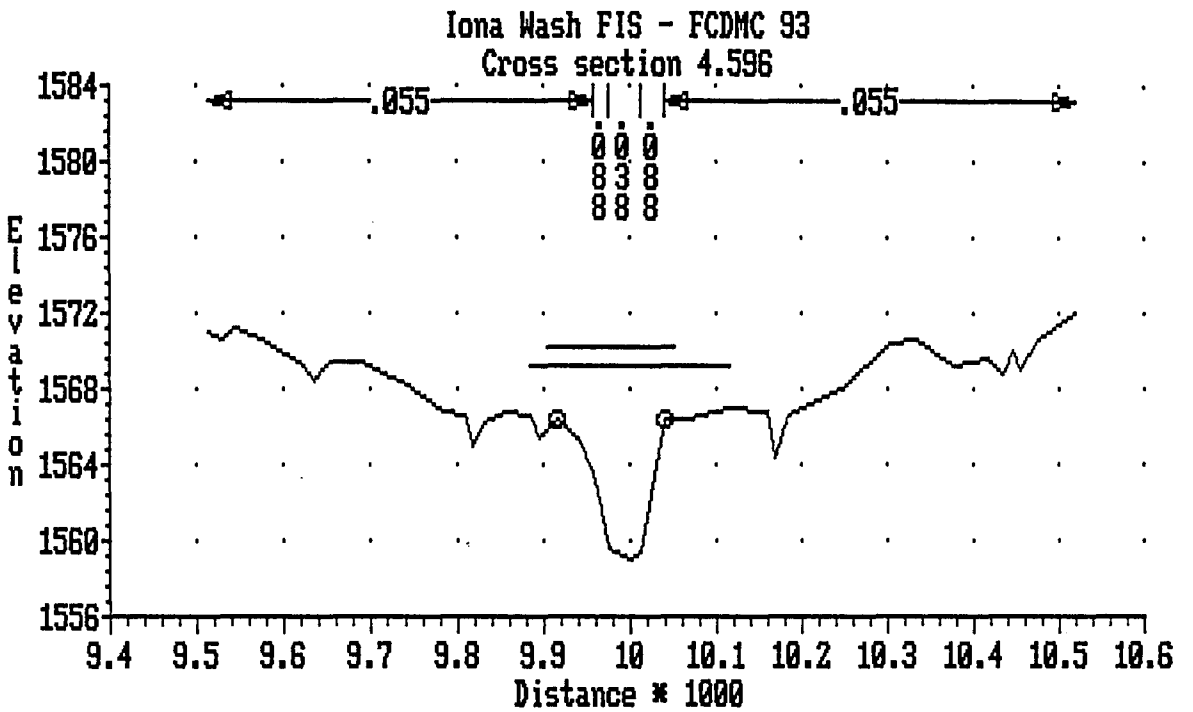

Iona Wash FIS - FCDMC 93
Cross section 4.119
.055
.055
Elevation
1562
1560
1558
1556
1554
1552
1550
1548
8.4
8.6
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
Distance * 1000

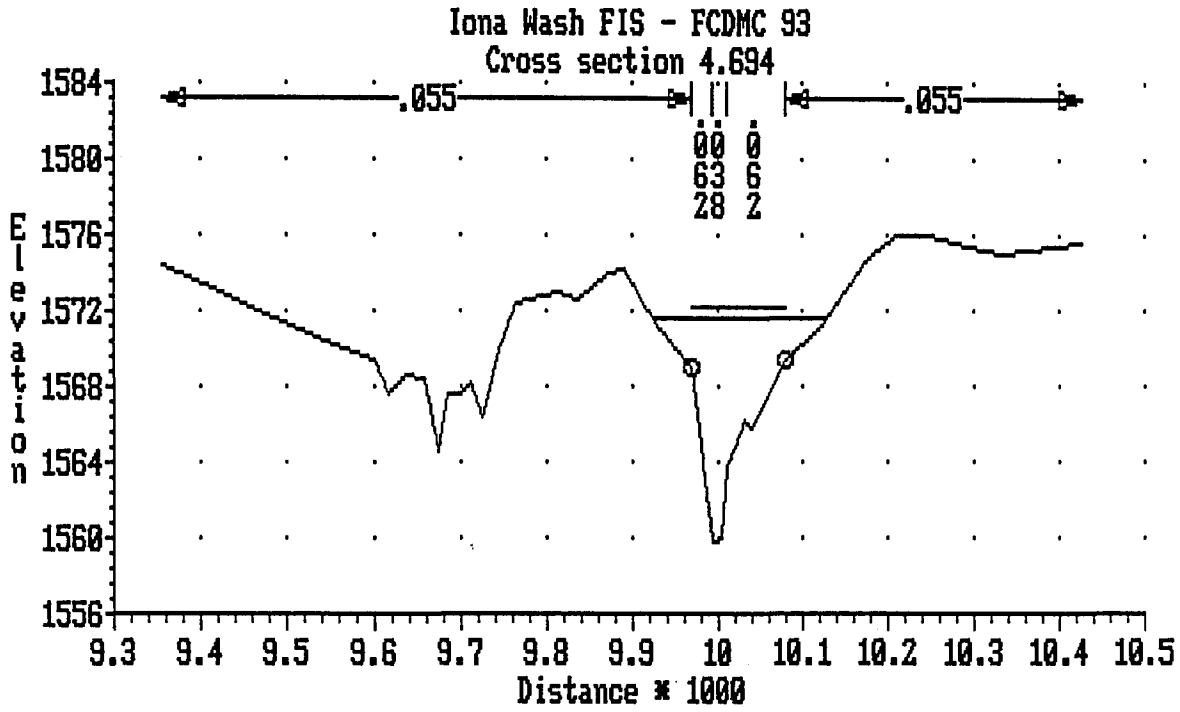

Iona Wash FIS - FCDMC 93
Cross section 4.214
.055
.055
000
838
080
Elevation
1576
1572
1568
1564
1560
1556
1552
1548
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
11
11.2
Distance * 1000

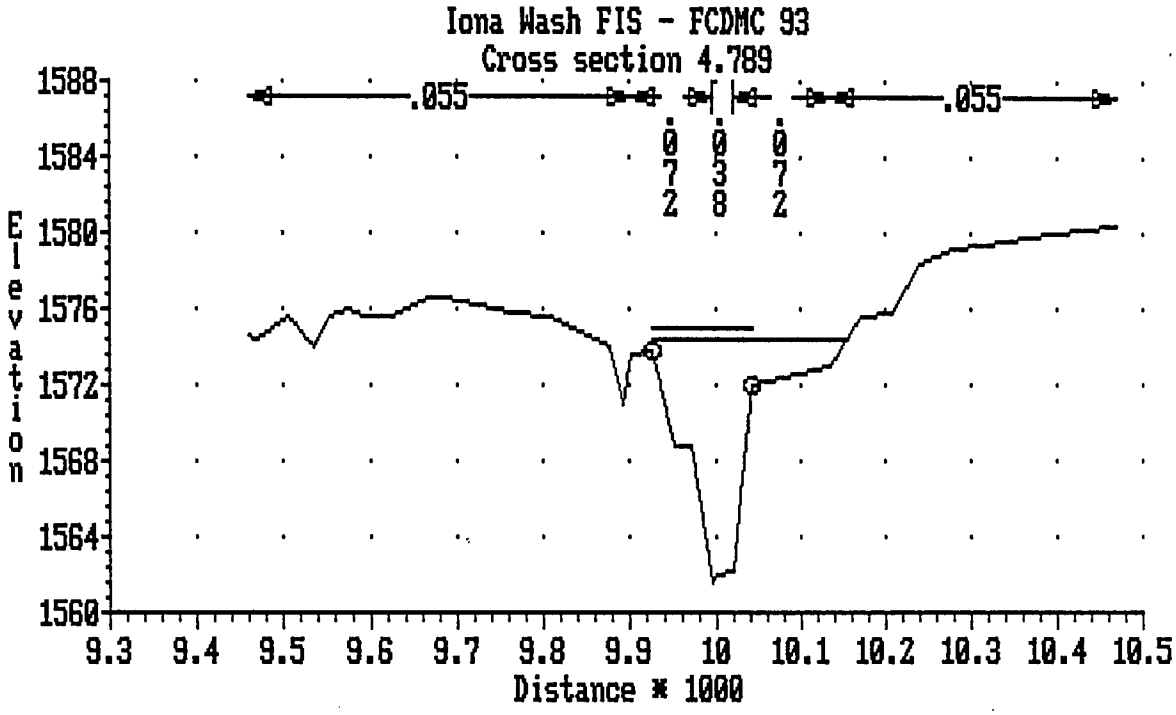

Iona Wash FIS - FCDMC 93
Cross section 4.306
.055
.055
0.00
8.38
5.85
1576
1572
1568
1564
1560
1556
1552
1548
Elevation
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
10.9
11.05
Distance * 1000

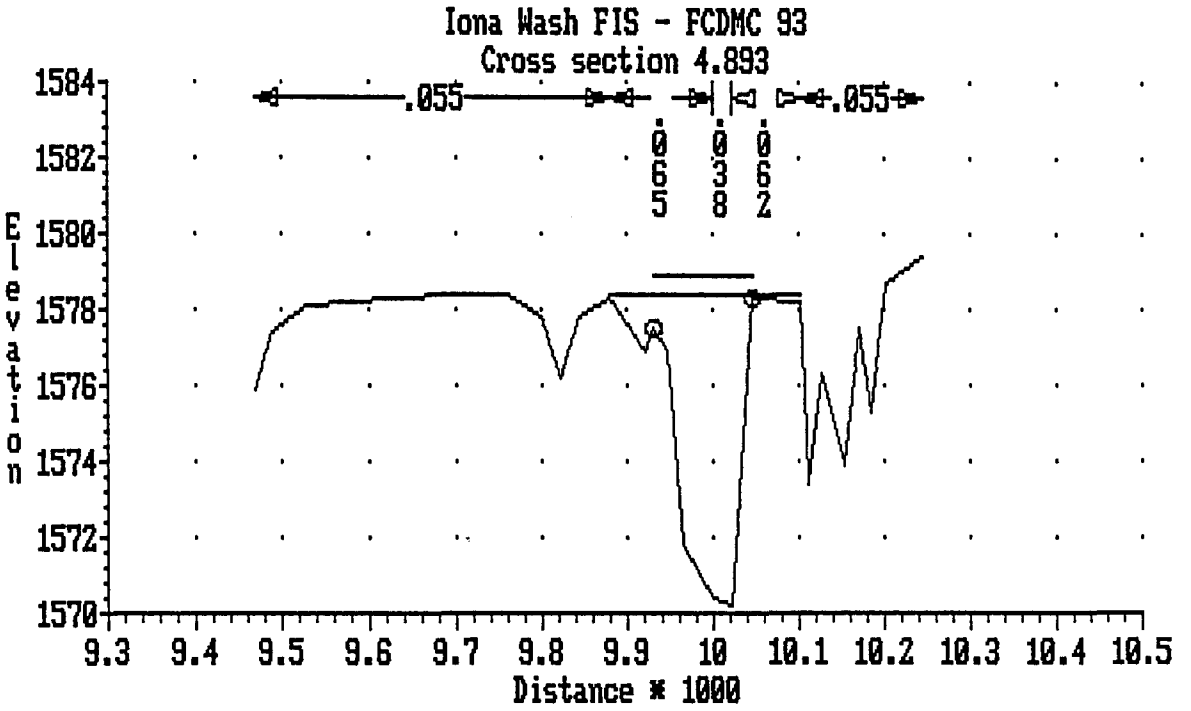

Iona Wash FIS - FCDMC 93
Cross section 4.403
.055
.055
000
737
585
1580
1576
1572
1568
1564
1560
1556
1552
Elevation
8.8
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
Distance * 1000

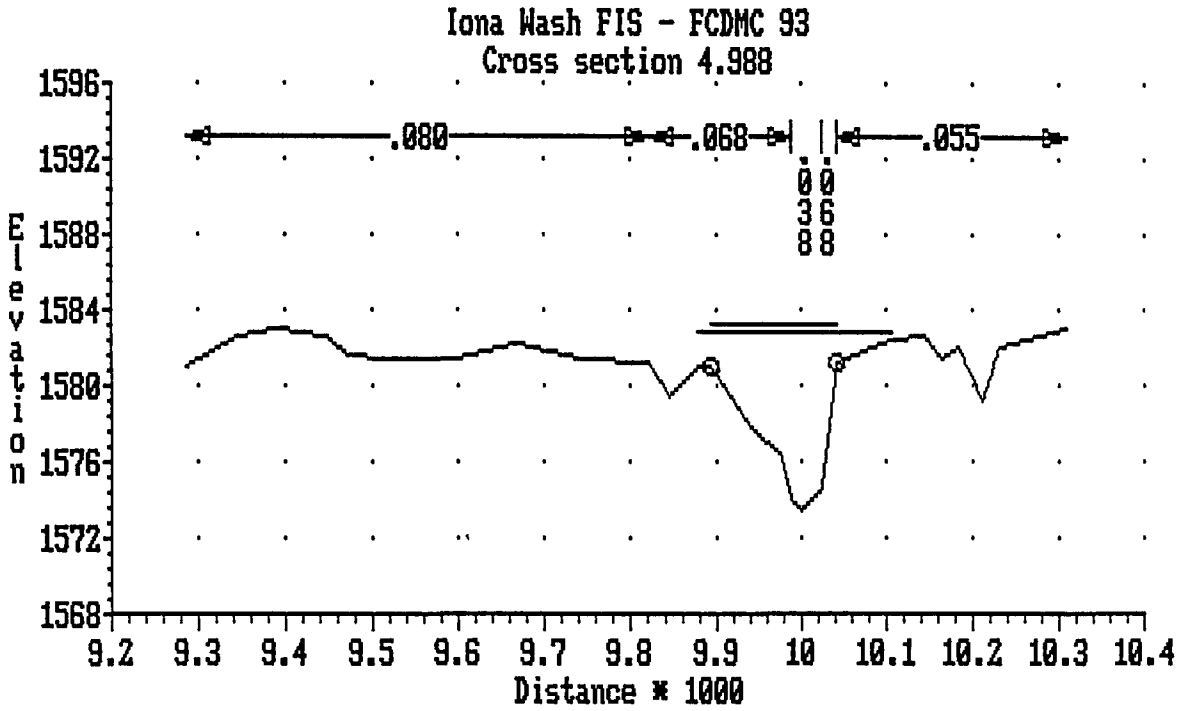

Iona Wash FIS - FCDMC 93
Cross section 4.497
.055
.055
.000
.063
.088
Elevation
1580
1576
1572
1568
1564
1560
1556
1552
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
11
11.2
Distance * 1000

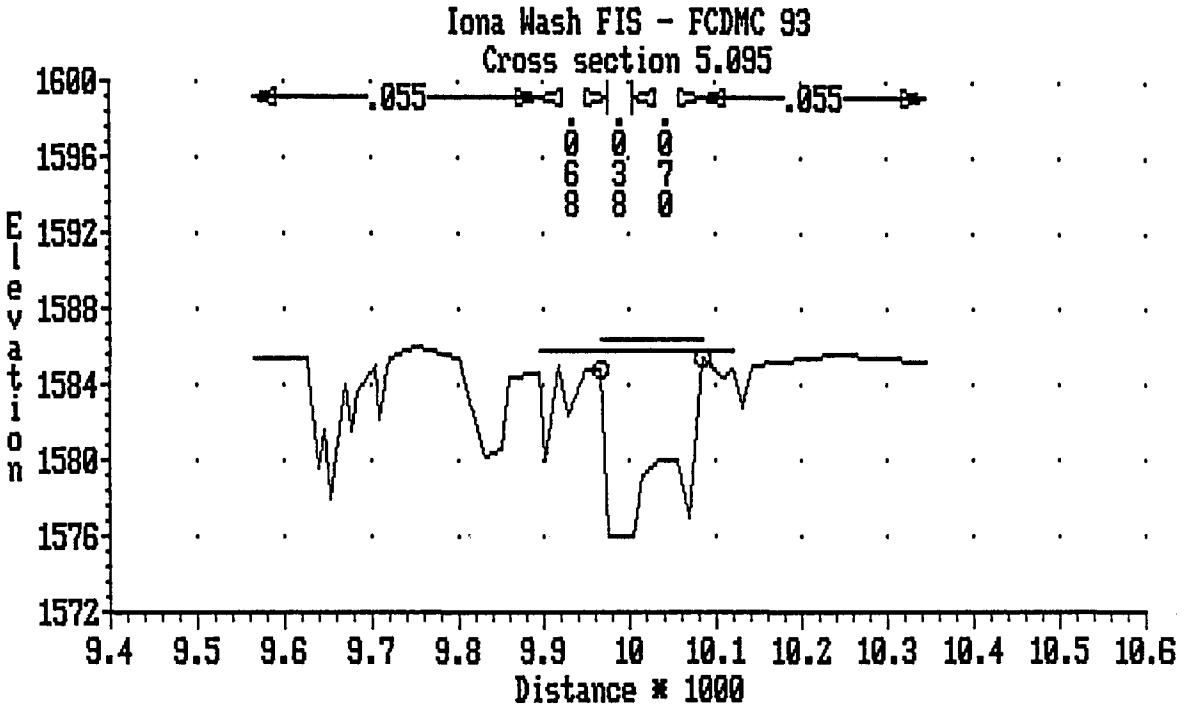

Iona Wash FIS - FCDMC 93
Cross section 4.596
.055
.055
000
838
888
1584
1580
1576
1572
1568
1564
1560
1556
Elevation
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
10.6
Distance * 1000

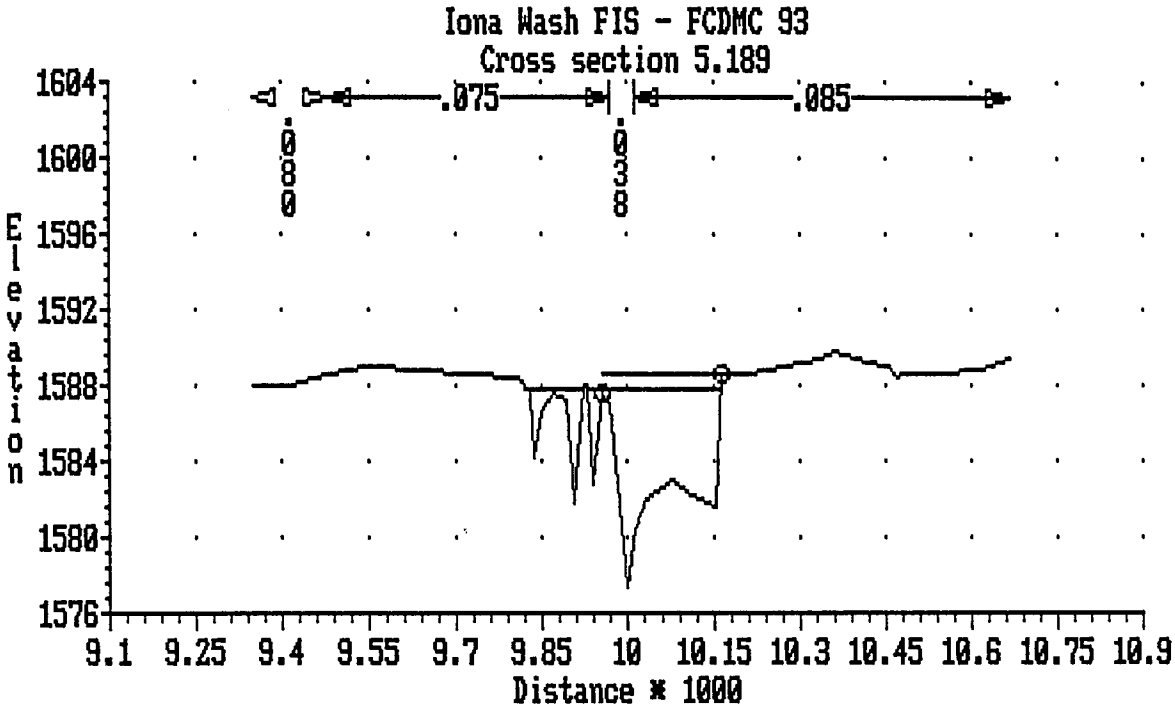

Iona Wash FIS - FCDMC 93
Cross section 4.694
.055
.055
00 0
63 6
28 2
1584
1580
1576
1572
1568
1564
1560
1556
Elevation
9.3
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
Distance * 1000

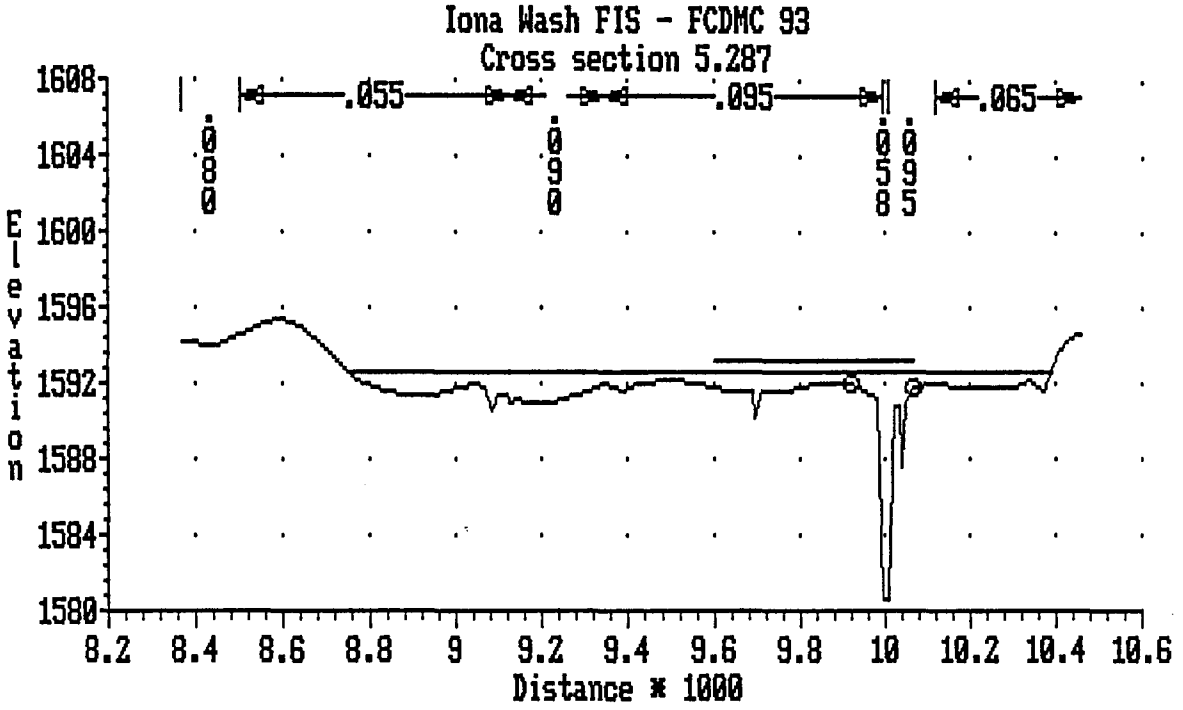

Iona Wash FIS - FCDMC 93
Cross section 4.789
.055
.072
.058
.072
.055
Elevation
1588
1584
1580
1576
1572
1568
1564
1560
9.3
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
Distance * 1000

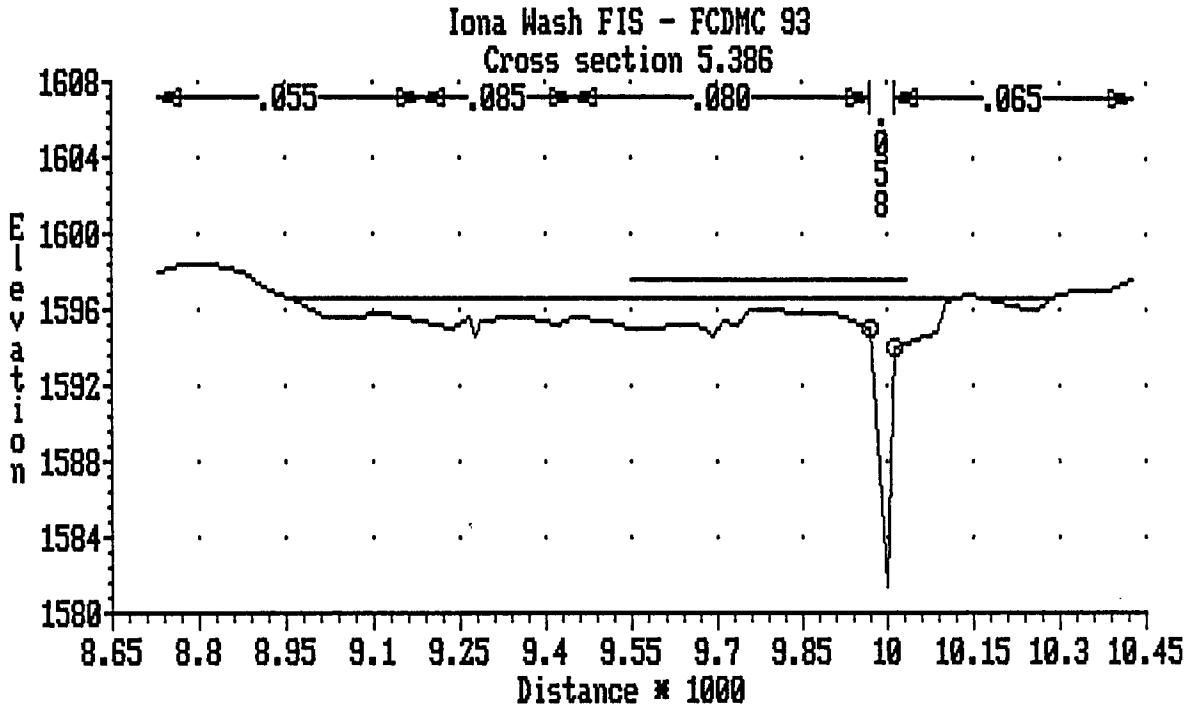

Iona Wash FIS - FCDMC 93
Cross section 4.893
.055
.065
.038
.062
.055
Elevation
1584
1582
1580
1578
1576
1574
1572
1570
9.3
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
Distance * 1000

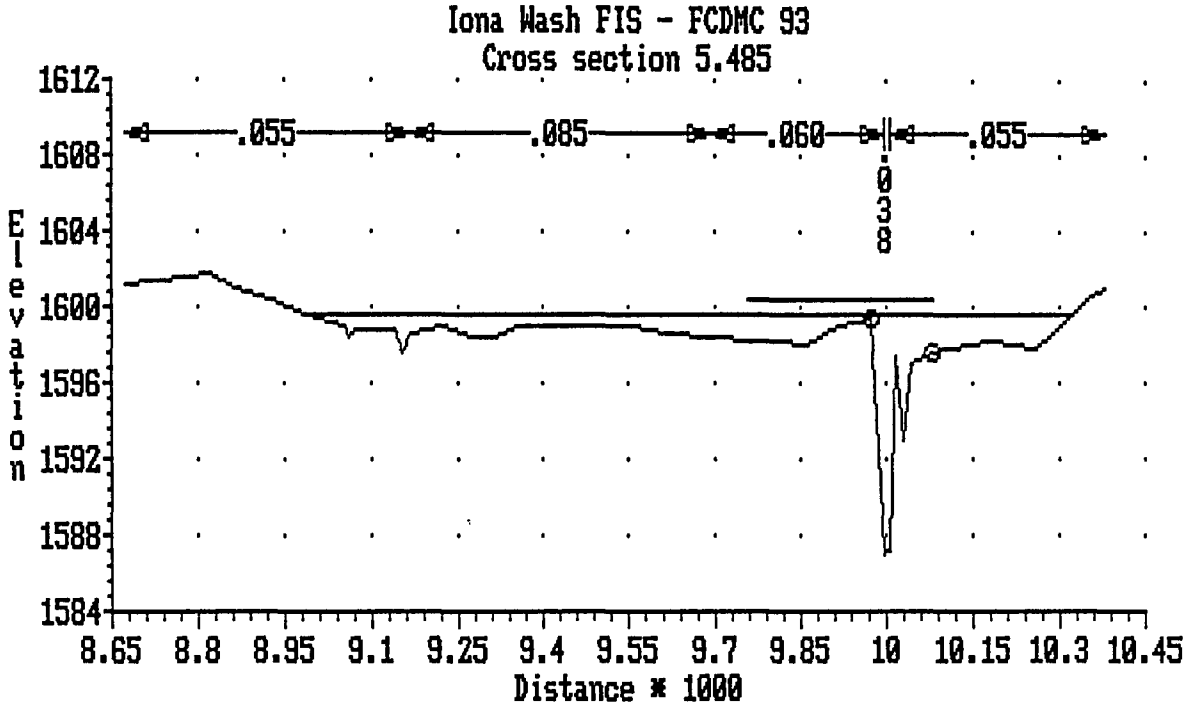

Iona Wash FIS - FCDMC 93
Cross section 4.988
.080
.068
.055
.0036
.0088
Elevation
1596
1592
1588
1584
1580
1576
1572
1568
9.2
9.3
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
Distance * 1000

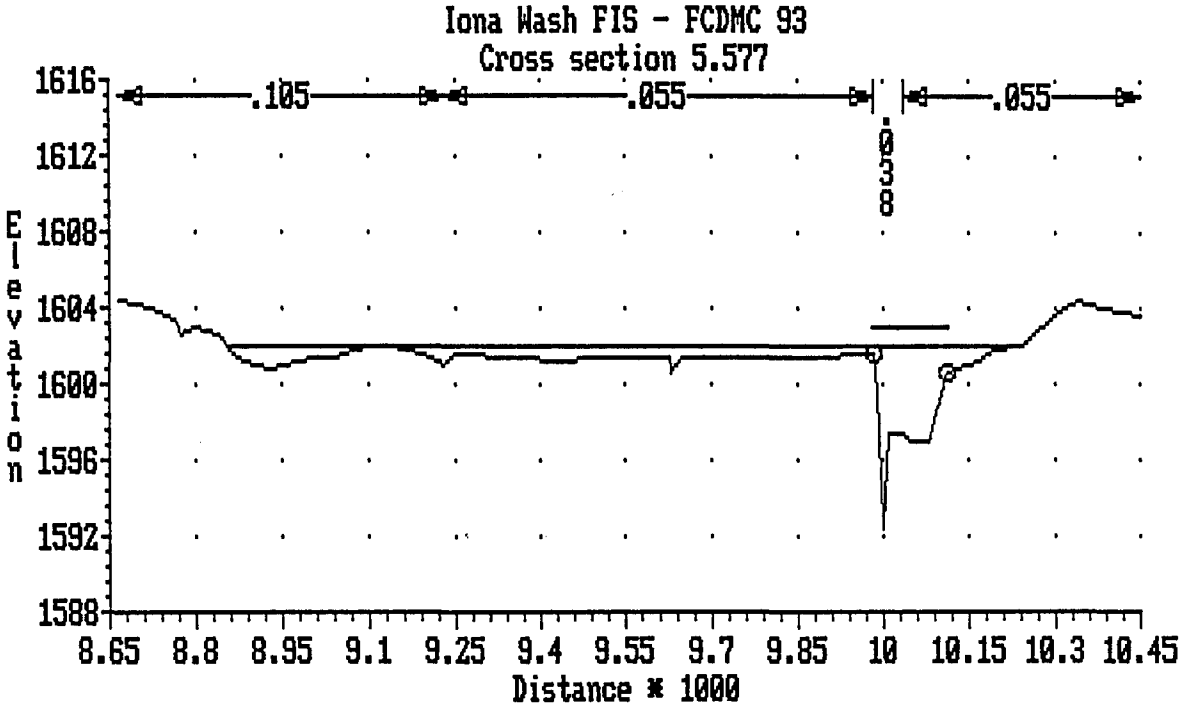

Iona Wash FIS - FCDMC 93
Cross section 5.095
.055
.055
.068
.038
.070
Elevation
1600
1596
1592
1588
1584
1580
1576
1572
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
10.6
Distance * 1000

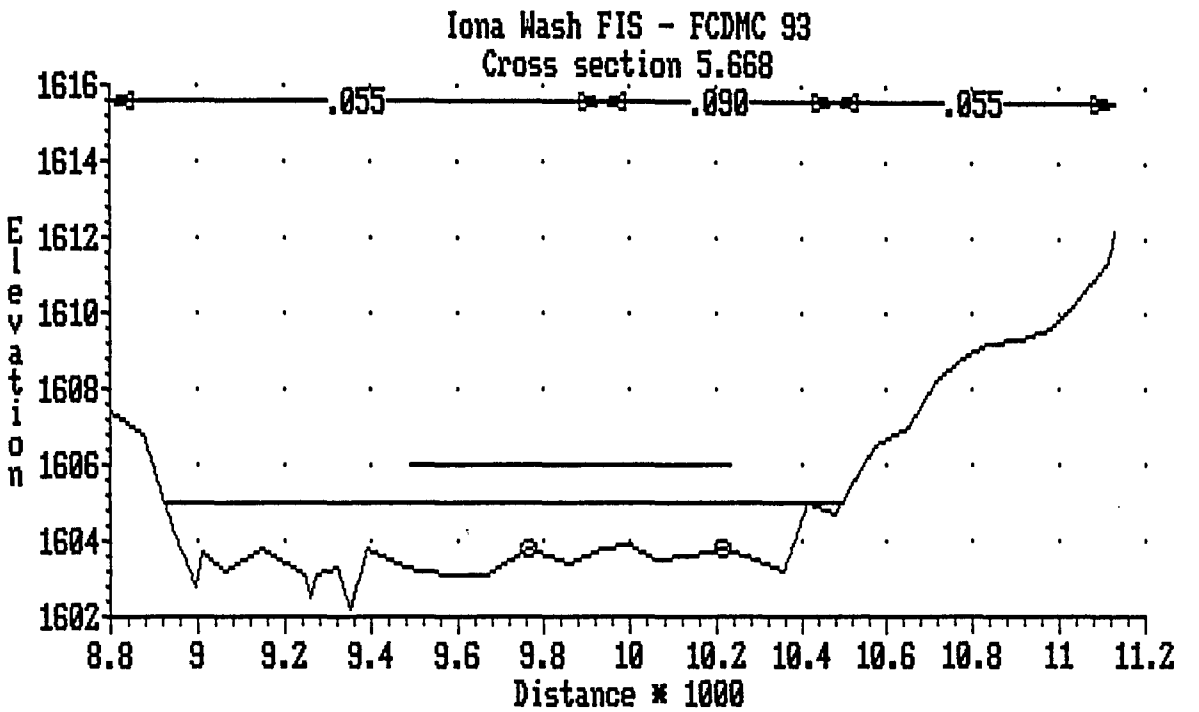

Iona Wash FIS - FCDMC 93
Cross section 5.189
.075
.085
.080
.038
1604
1600
1596
1592
1588
1584
1580
1576
Elevation
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
10.9
Distance * 1000

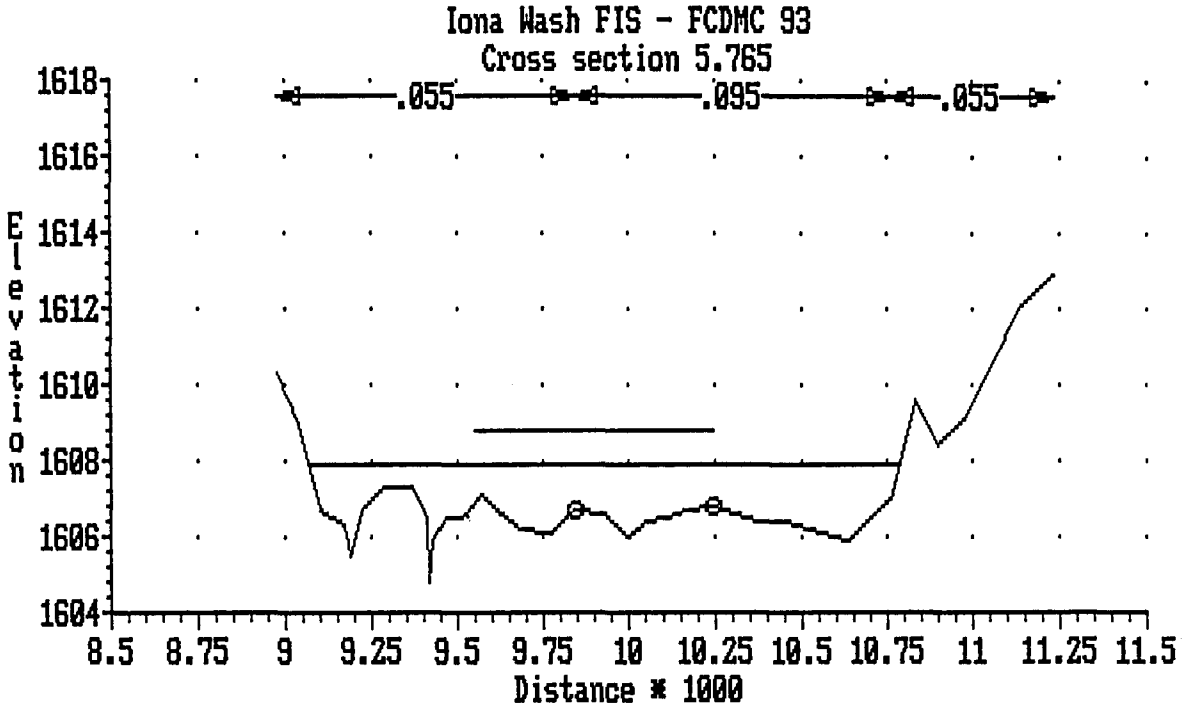

Iona Wash FIS - FCDMC 93
Cross section 5.287
.055
.095
.065
.080
.090
.0585
Elevation
1608
1604
1600
1596
1592
1588
1584
1580
8.2
8.4
8.6
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
Distance * 1000

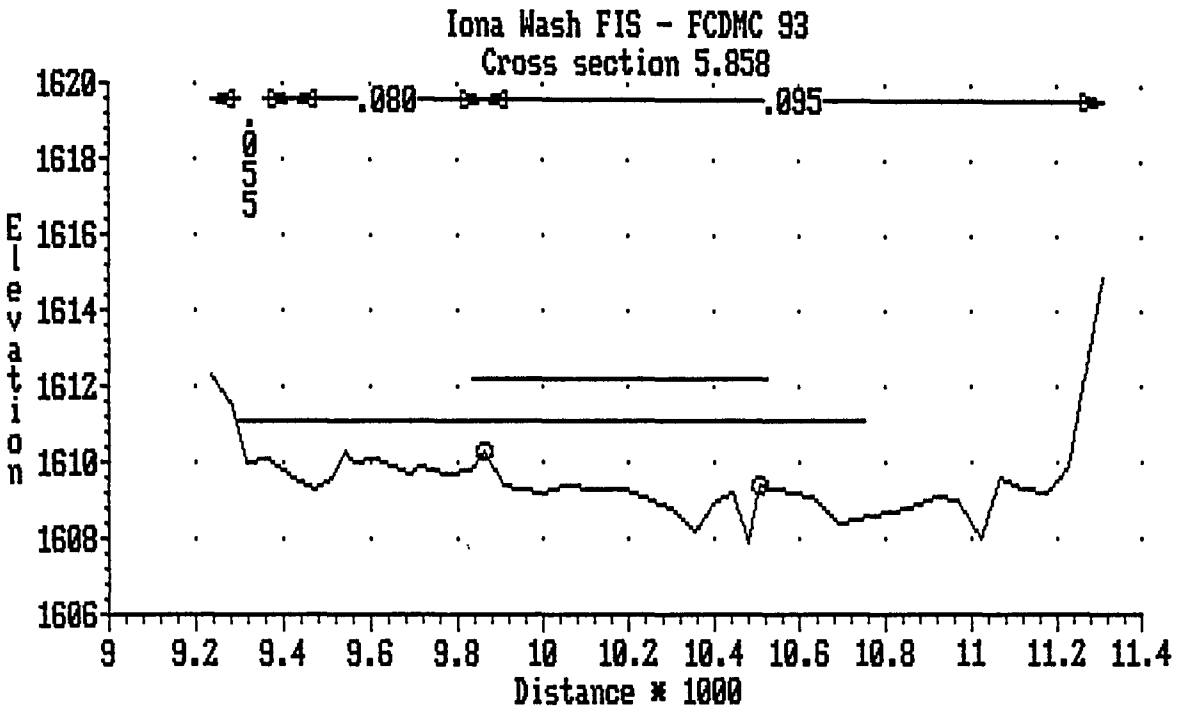

Iona Wash FIS - FCDMC 93
Cross section 5.386
.055
.085
.080
.058
.065
1608
1604
1600
1596
1592
1588
1584
1580
Elevation
8.65
8.8
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
Distance * 1000

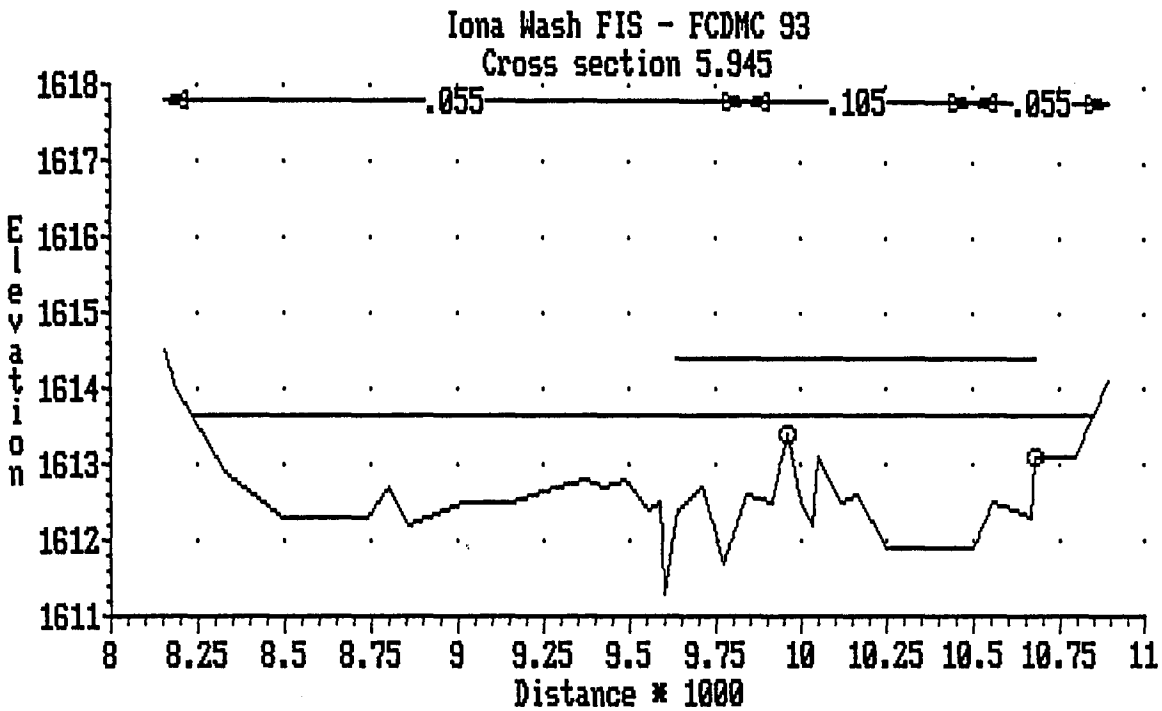

Iona Wash FIS - FCDMC 93
Cross section 5.485
.055
.085
.060
.055
.038
Elevation
1612
1608
1604
1600
1596
1592
1588
1584
8.65
8.8
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
Distance * 1000

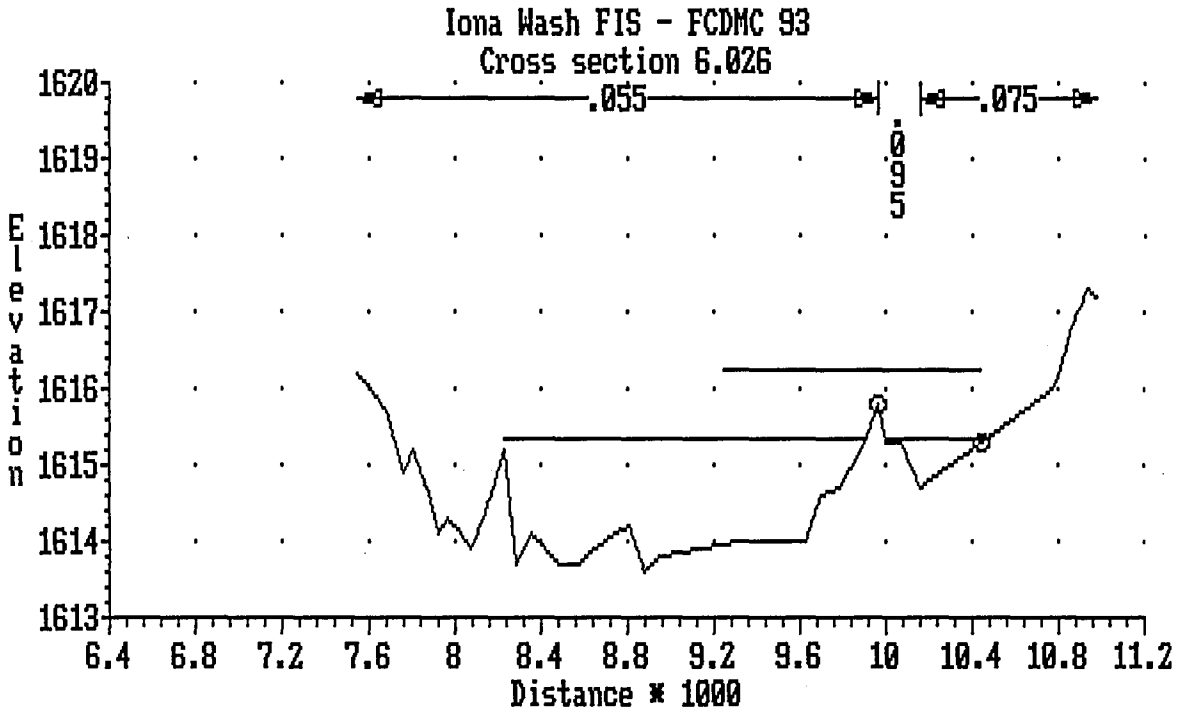

Iona Wash FIS - FCDMC 93
Cross section 5.577
.105
.055
.038
.055
1616
1612
1608
1604
1600
1596
1592
1588
Elevation
8.65
8.8
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
Distance * 1000

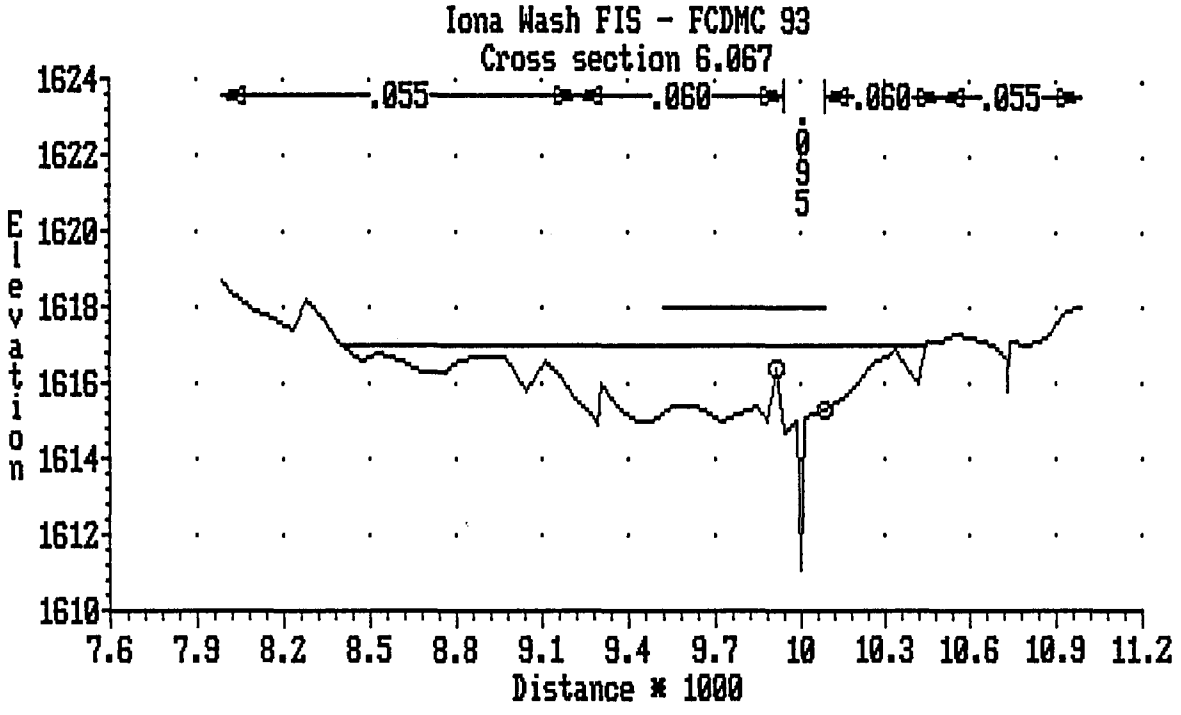

Iona Wash FIS - FCDMC 93
Cross section 5.668
.055
.090
.055
1616
1614
1612
1610
1608
1606
1604
1602
Elevation
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
11
11.2
Distance * 1000

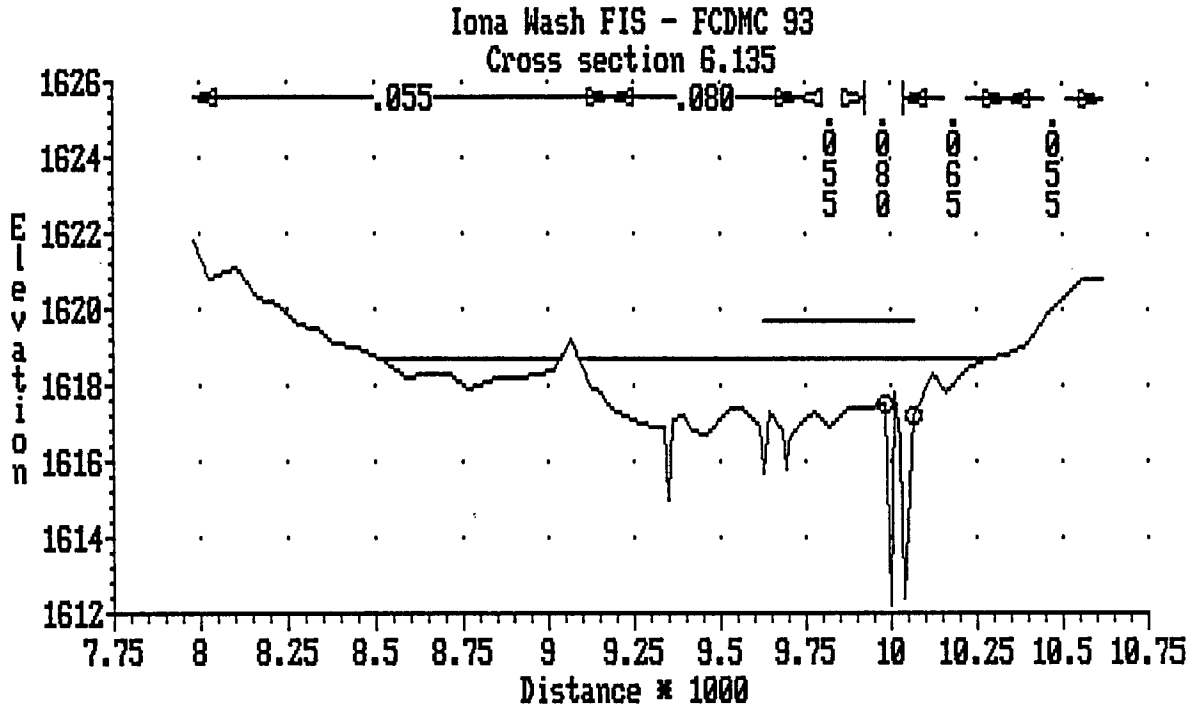

Iona Wash FIS - FCDMC 93
Cross section 5.765
.055
.095
.055
1618
1616
1614
1612
1610
1608
1606
1604
Elevation
8.5
8.75
9
9.25
9.5
9.75
10
10.25
10.5
10.75
11
11.25
11.5
Distance * 1000

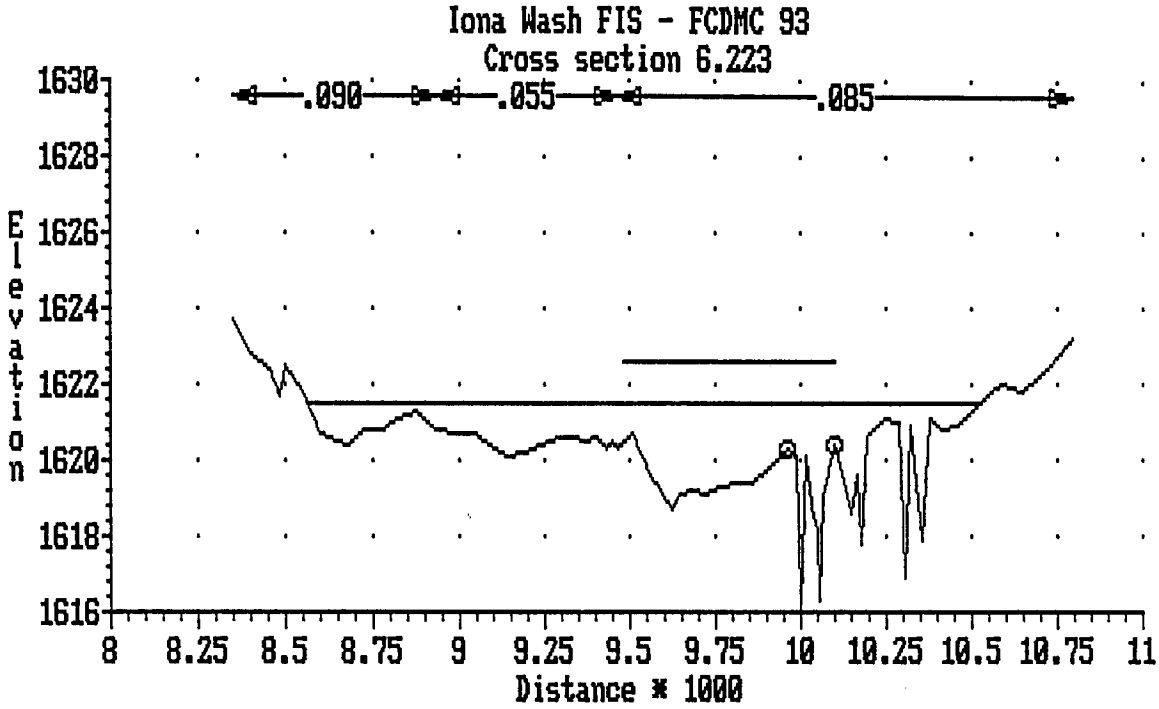

Iona Wash FIS - FCDMC 93
Cross section 5.858
.055
.080
.095
Elevation
1620
1618
1616
1614
1612
1610
1608
1606
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
11
11.2
11.4
Distance * 1000

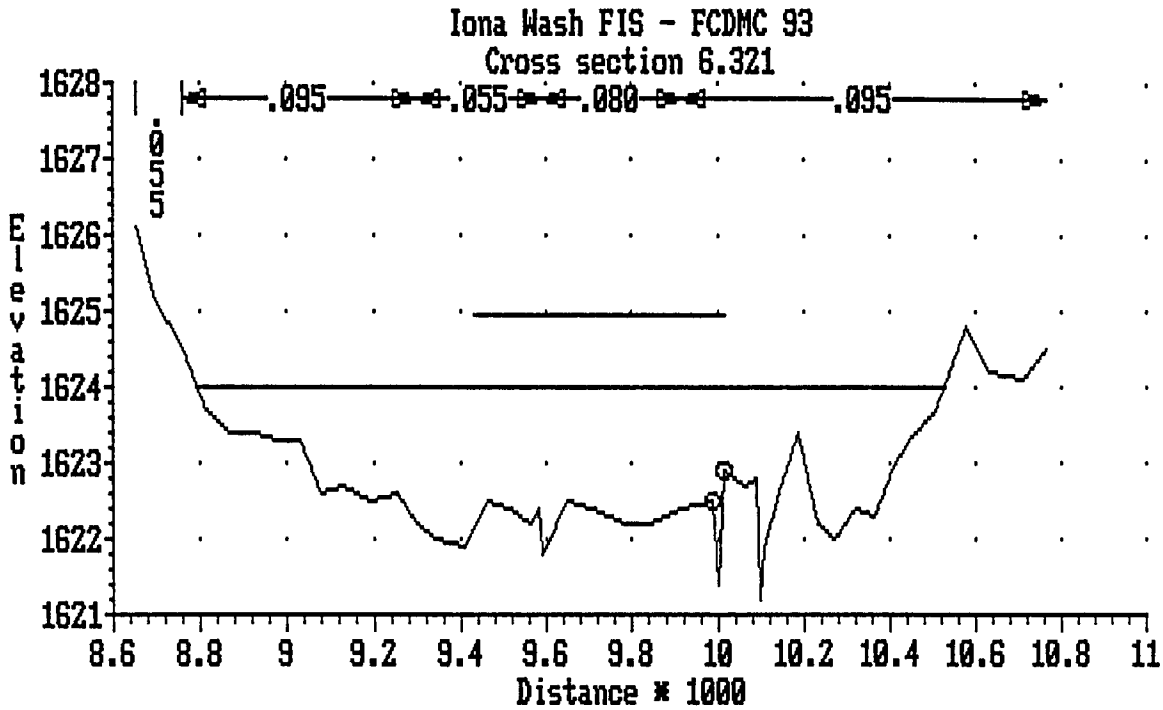

Iona Wash FIS - FCDMC 93
Cross section 5.945
.055
.105
.055
1618
1617
1616
1615
1614
1613
1612
1611
Elevation
8
8.25
8.5
8.75
9
9.25
9.5
9.75
10
10.25
10.5
10.75
11
Distance * 1000

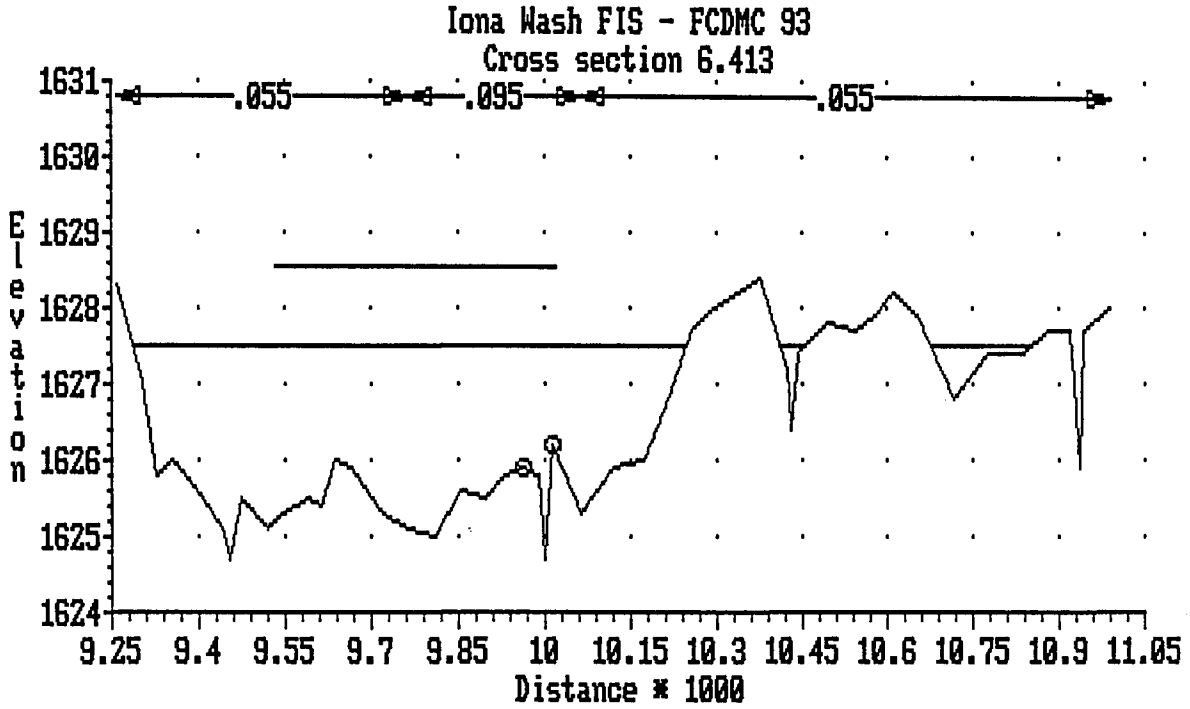

Iona Wash FIS - FCDMC 93
Cross section 6.026
.055
.095
.075
Elevation
1620
1619
1618
1617
1616
1615
1614
1613
6.4
6.8
7.2
7.6
8
8.4
8.8
9.2
9.6
10
10.4
10.8
11.2
Distance * 1000

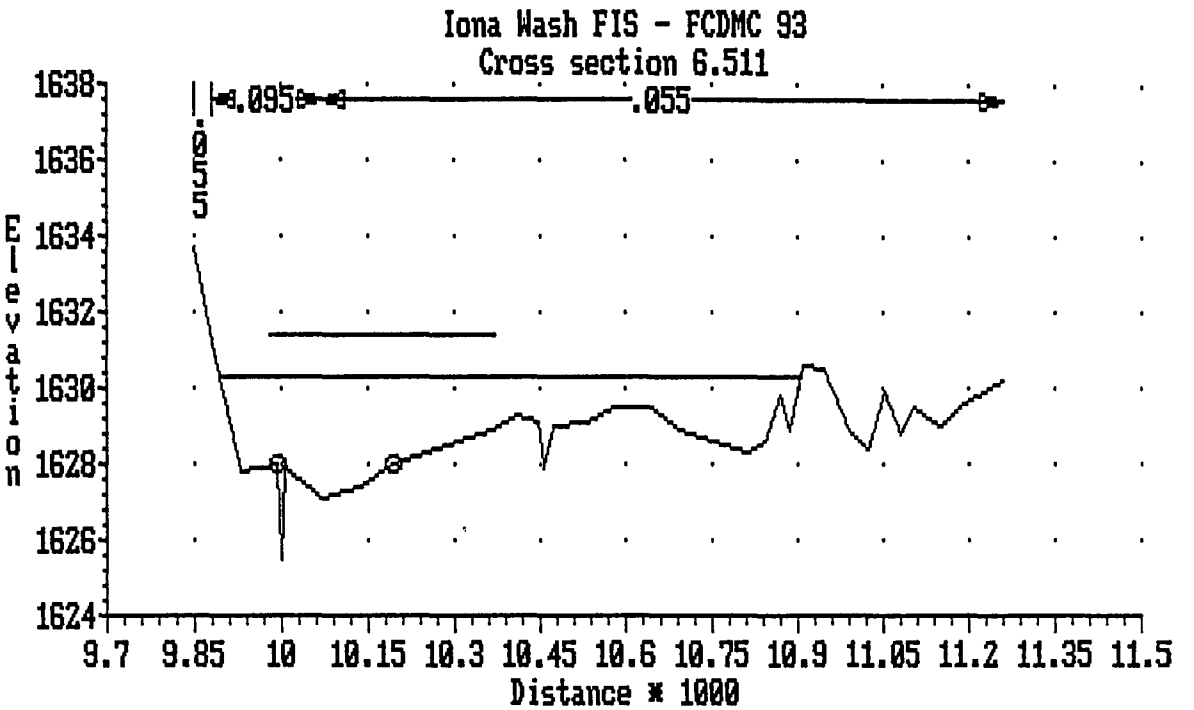

Iona Wash FIS - FCDMC 93
Cross section 6.067
.055
.060
.060
.055
.095
Elevation
1624
1622
1620
1618
1616
1614
1612
1610
7.6
7.9
8.2
8.5
8.8
9.1
9.4
9.7
10
10.3
10.6
10.9
11.2
Distance * 1000

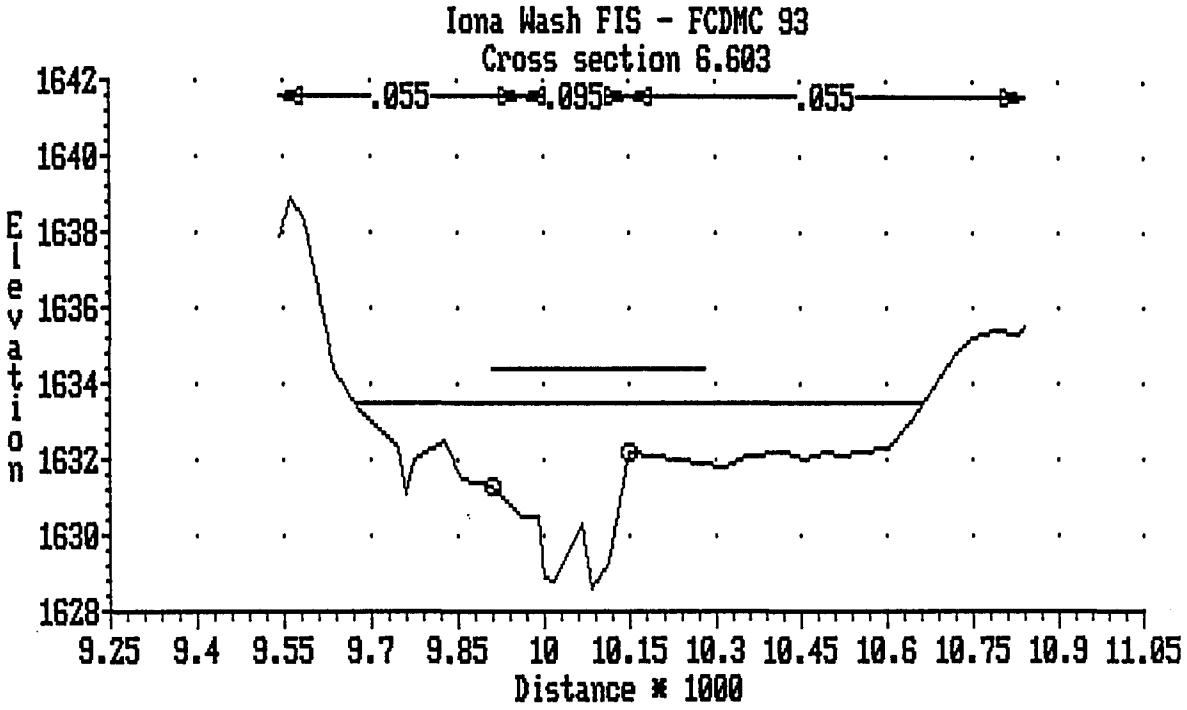

Iona Wash FIS - FCDMC 93
Cross section 6.135
.055
.080
.055
.080
.065
.055
Elevation
1626
1624
1622
1620
1618
1616
1614
1612
7.75
8
8.25
8.5
8.75
9
9.25
9.5
9.75
10
10.25
10.5
10.75
Distance * 1000

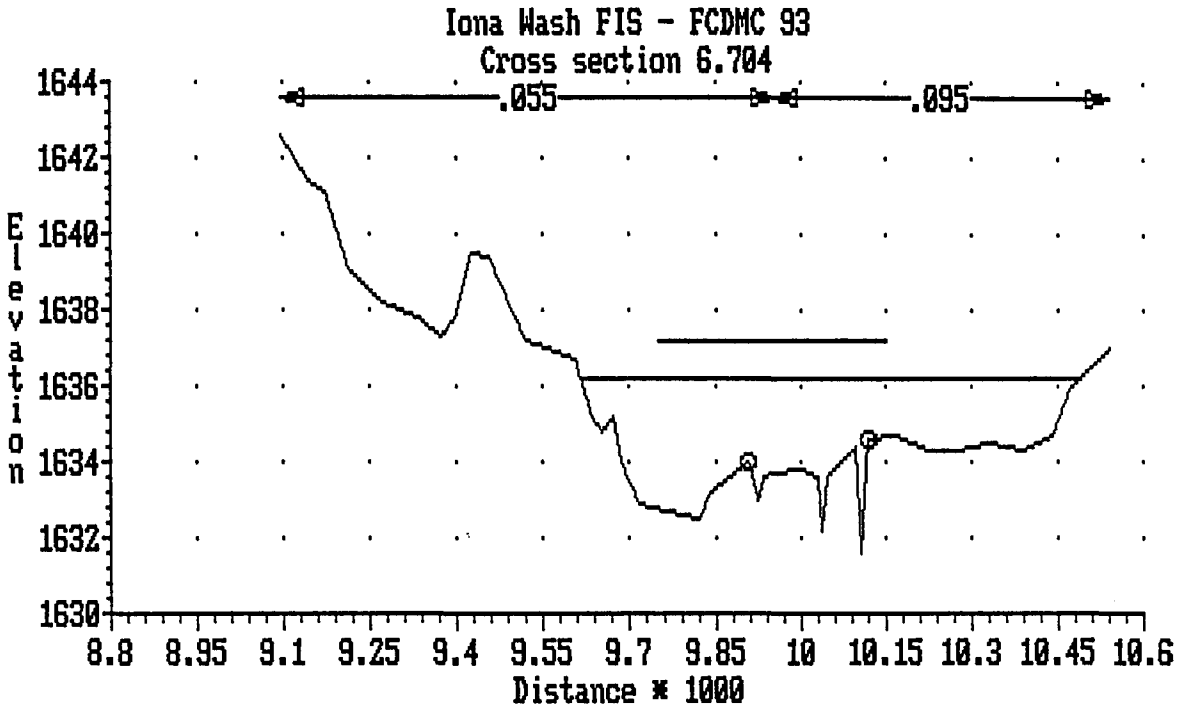

Iona Wash FIS - FCDMC 93
Cross section 6.223
.090
.055
.085
Elevation
1630
1628
1626
1624
1622
1620
1618
1616
8
8.25
8.5
8.75
9
9.25
9.5
9.75
10
10.25
10.5
10.75
11
Distance * 1000

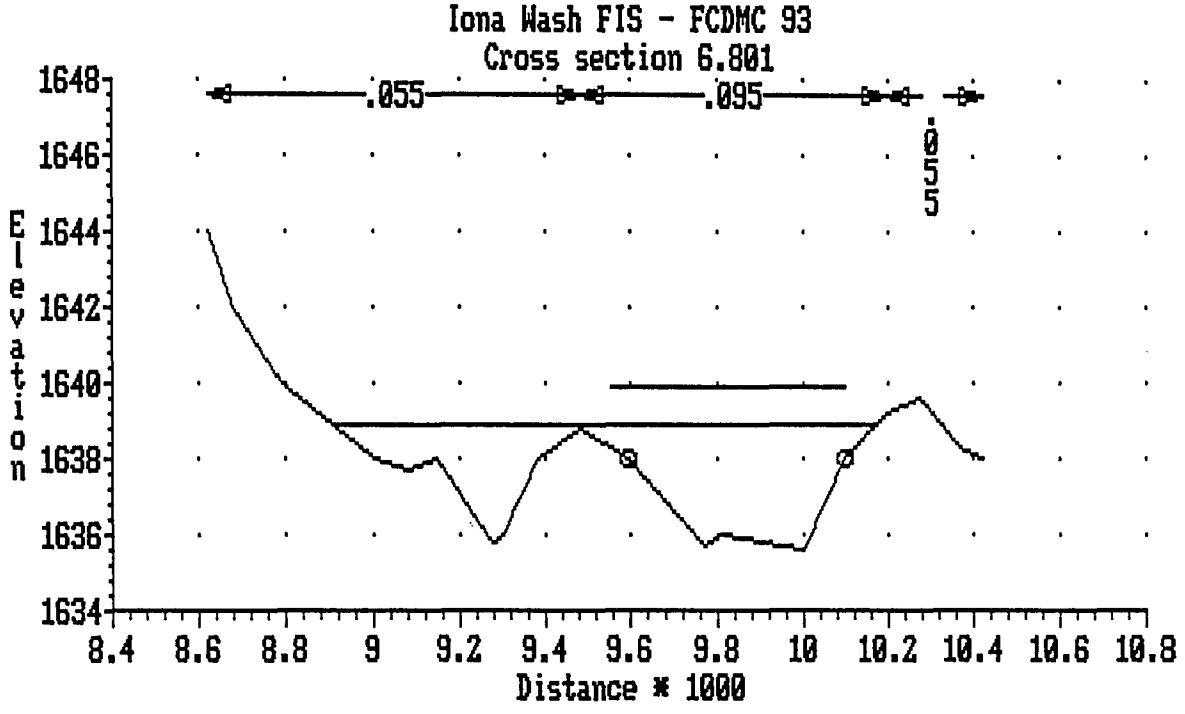

Iona Wash FIS - FCDMC 93
Cross section 6.321
.095
.055
.080
.095
.055
Elevation
1628
1627
1626
1625
1624
1623
1622
1621
8.6
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
11
Distance * 1000

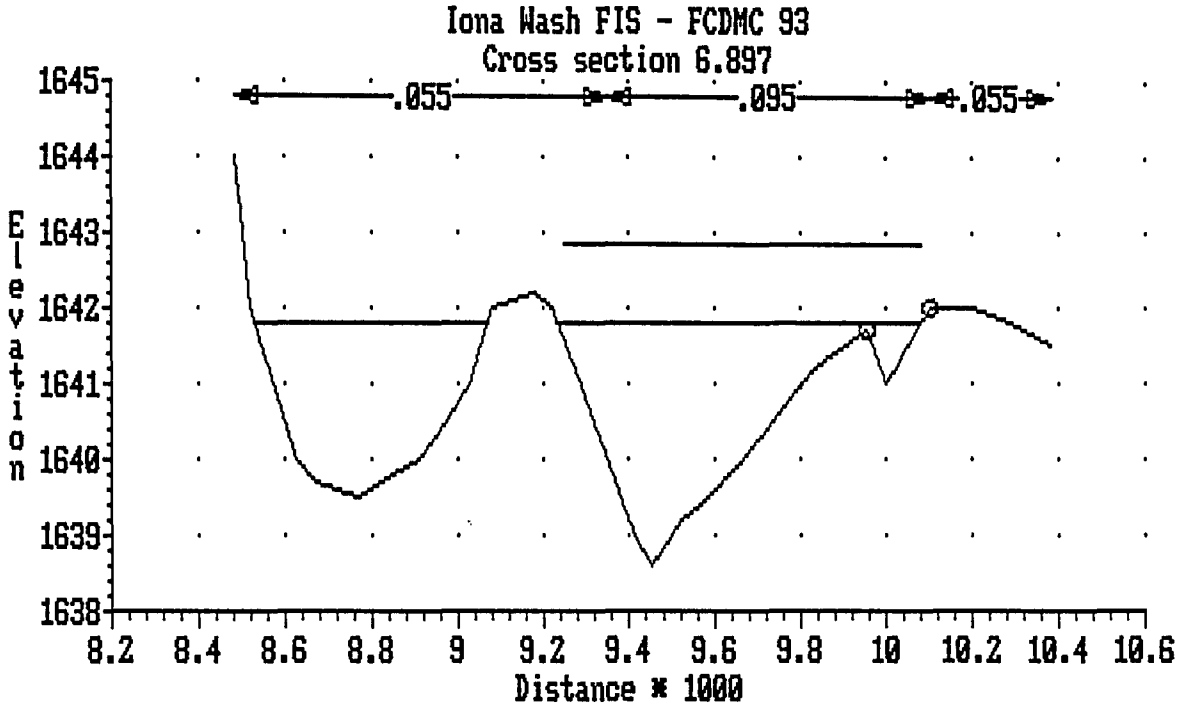

Iona Wash FIS - FCDMC 93
Cross section 6.413
.055
.095
.055
1631
1630
1629
1628
1627
1626
1625
1624
Elevation
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
10.9
11.05
Distance * 1000

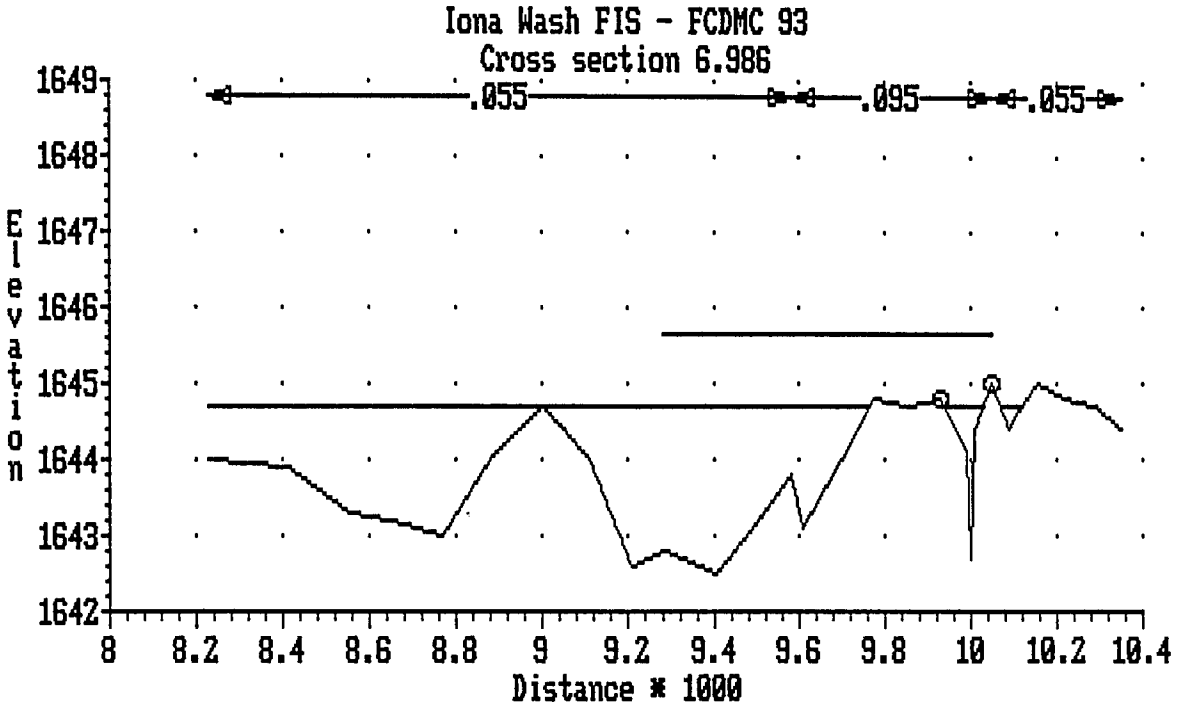

Iona Wash FIS - FCDMC 93
Cross section 6.511
.095
.055
.055
Elevation
1638
1636
1634
1632
1630
1628
1626
1624
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
10.9
11.05
11.2
11.35
11.5
Distance * 1000

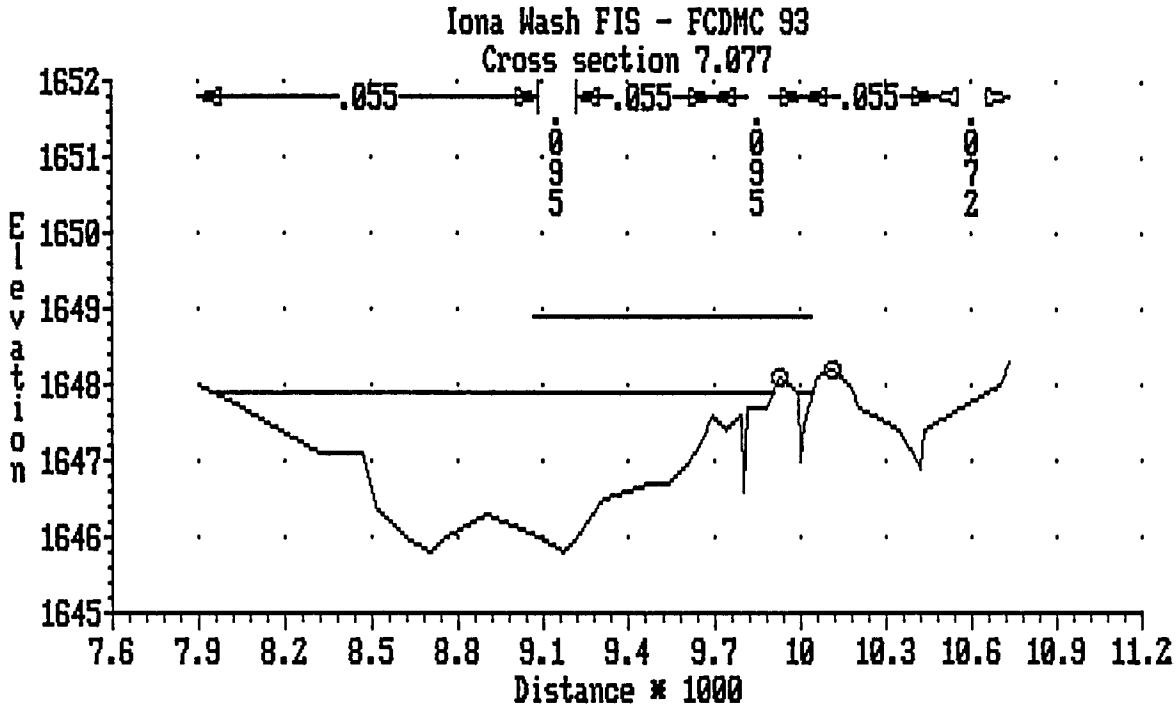

Iona Wash FIS - FCDMC 93
Cross section 6.603
.055
.095
.055
1642
1640
1638
1636
1634
1632
1630
1628
Elevation
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
10.9
11.05
Distance * 1000

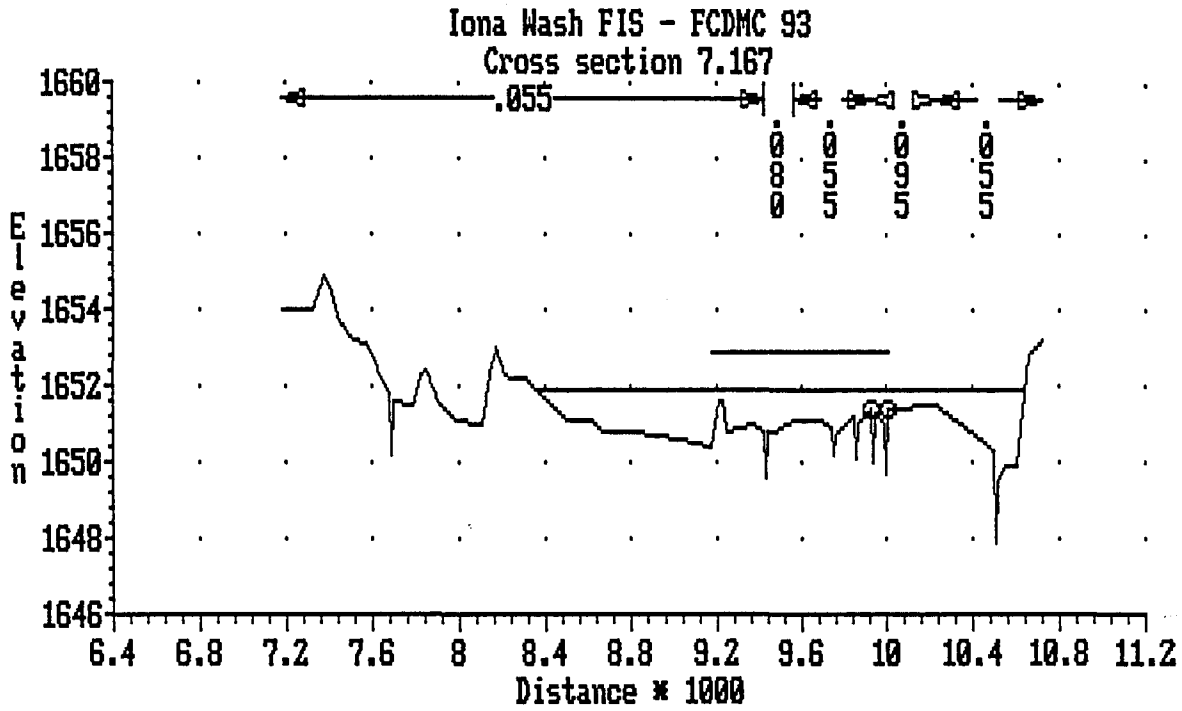

Iona Wash FIS - FCDMC 93
Cross section 6.704
.055
.095
Elevation
1644
1642
1640
1638
1636
1634
1632
1630
8.8
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
Distance * 1000

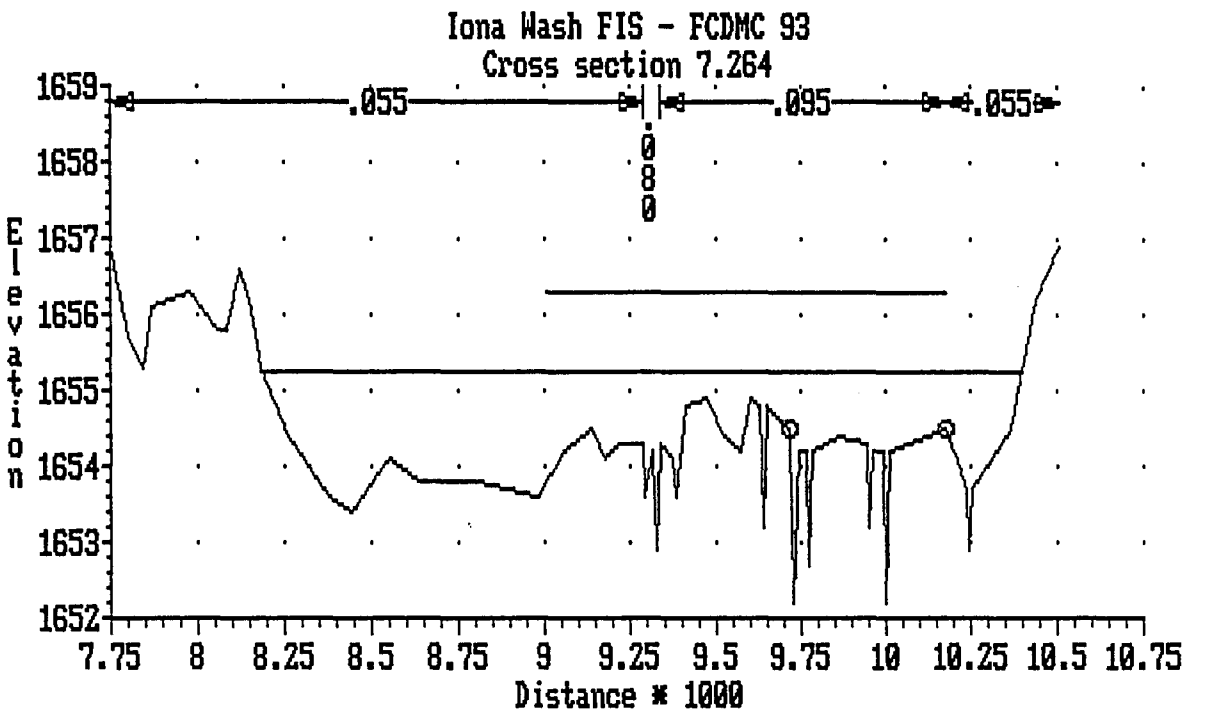

Iona Wash FIS - FCDMC 93
Cross section 6.801
.055
.095
.055
Elevation
1648
1646
1644
1642
1640
1638
1636
1634
8.4
8.6
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
Distance * 1000

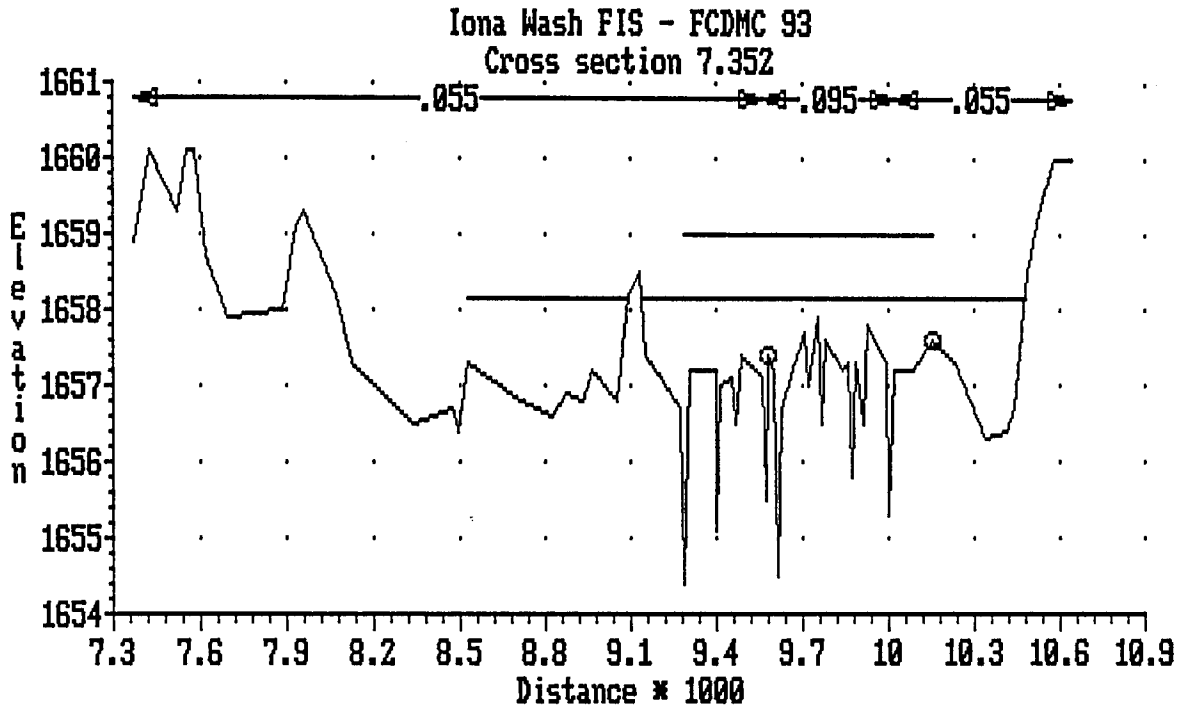

Iona Wash FIS - FCDMC 93
Cross section 6.897
.055
.095
.055
Elevation
1645
1644
1643
1642
1641
1640
1639
1638
8.2
8.4
8.6
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
Distance * 1000

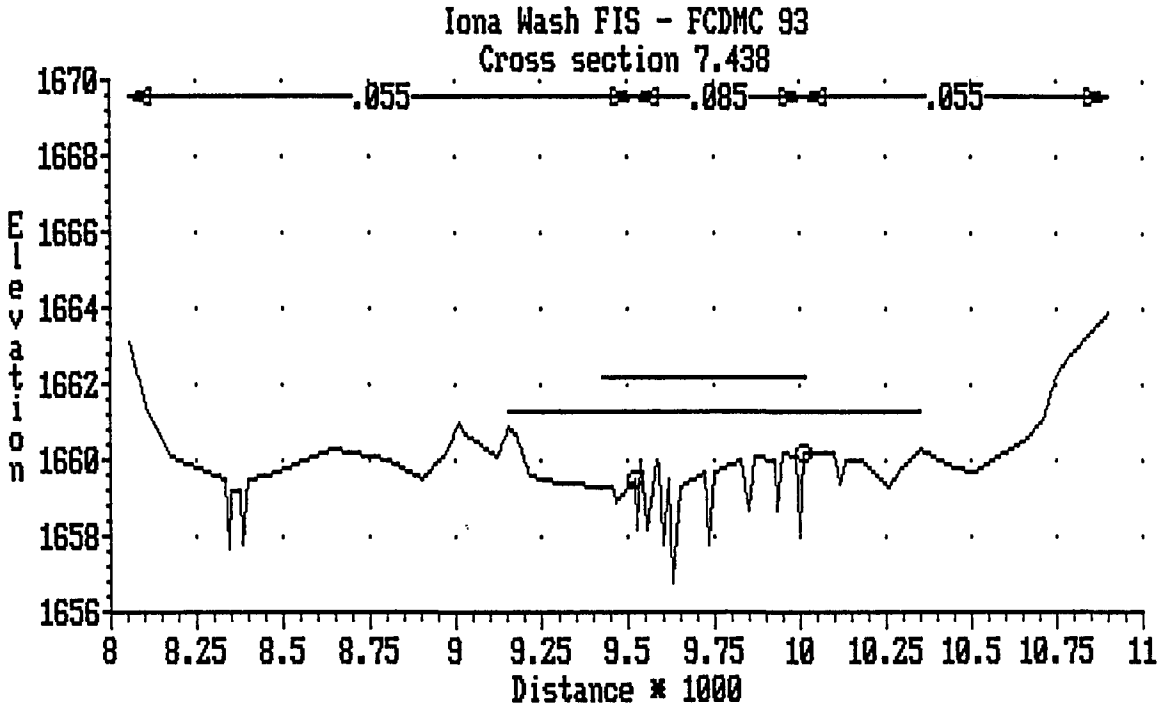

Iona Wash FIS - FCDMC 93
Cross section 6.986
.055
.095
.055
1649
1648
1647
1646
1645
1644
1643
1642
Elevation
8
8.2
8.4
8.6
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
Distance * 1000

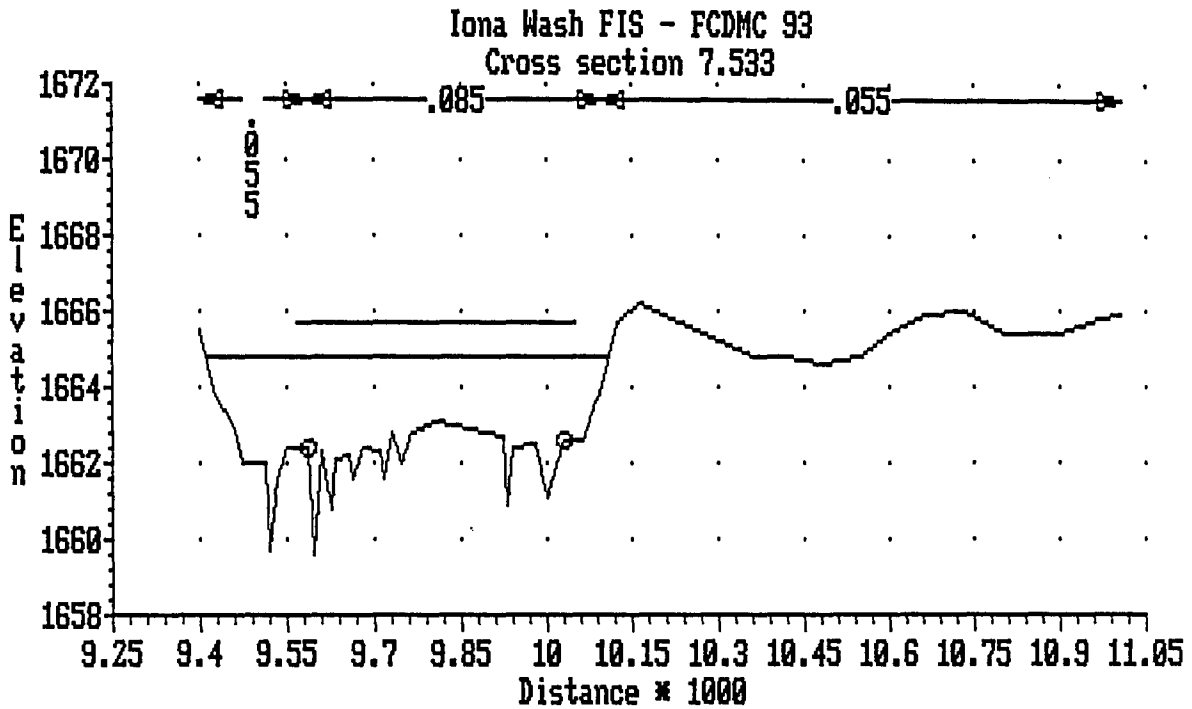

Iona Wash FIS - FCDMC 93
Cross section 7.077
.055
.055
.055
.095
.095
.072
1652
1651
1650
1649
1648
1647
1646
1645
Elevation
7.6
7.9
8.2
8.5
8.8
9.1
9.4
9.7
10
10.3
10.6
10.9
11.2
Distance * 1000

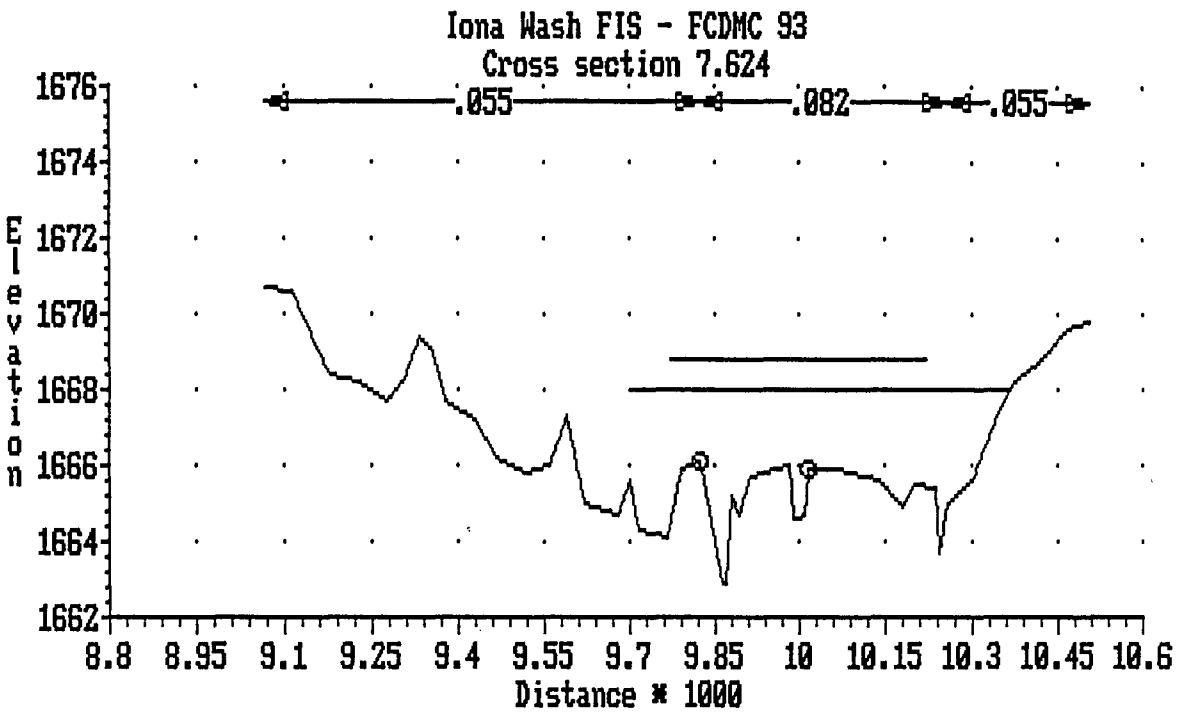

Iona Wash FIS - FCDMC 93
Cross section 7.167
.055
.080
.055
.095
.055
Elevation
1660
1658
1656
1654
1652
1650
1648
1646
6.4
6.8
7.2
7.6
8
8.4
8.8
9.2
9.6
10
10.4
10.8
11.2
Distance * 1000

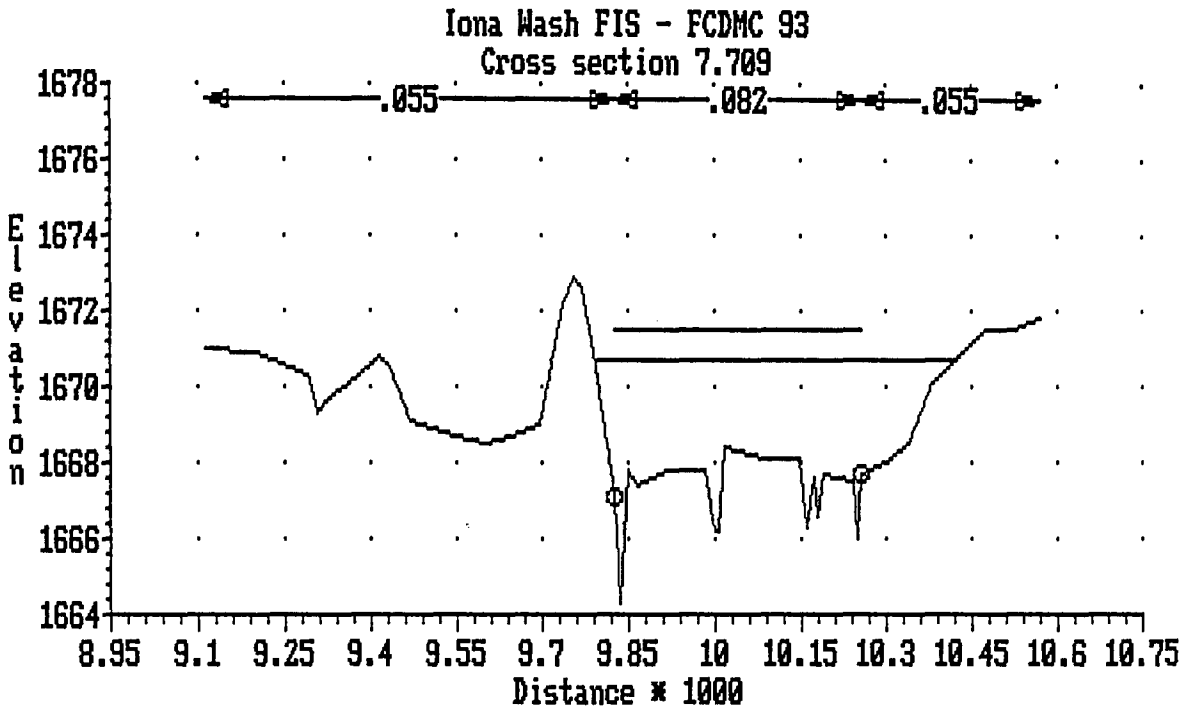

Iona Wash FIS - FCDMC 93
Cross section 7.264
.055
.080
.095
.055
Elevation
1659
1658
1657
1656
1655
1654
1653
1652
7.75
8
8.25
8.5
8.75
9
9.25
9.5
9.75
10
10.25
10.5
10.75
Distance * 1000

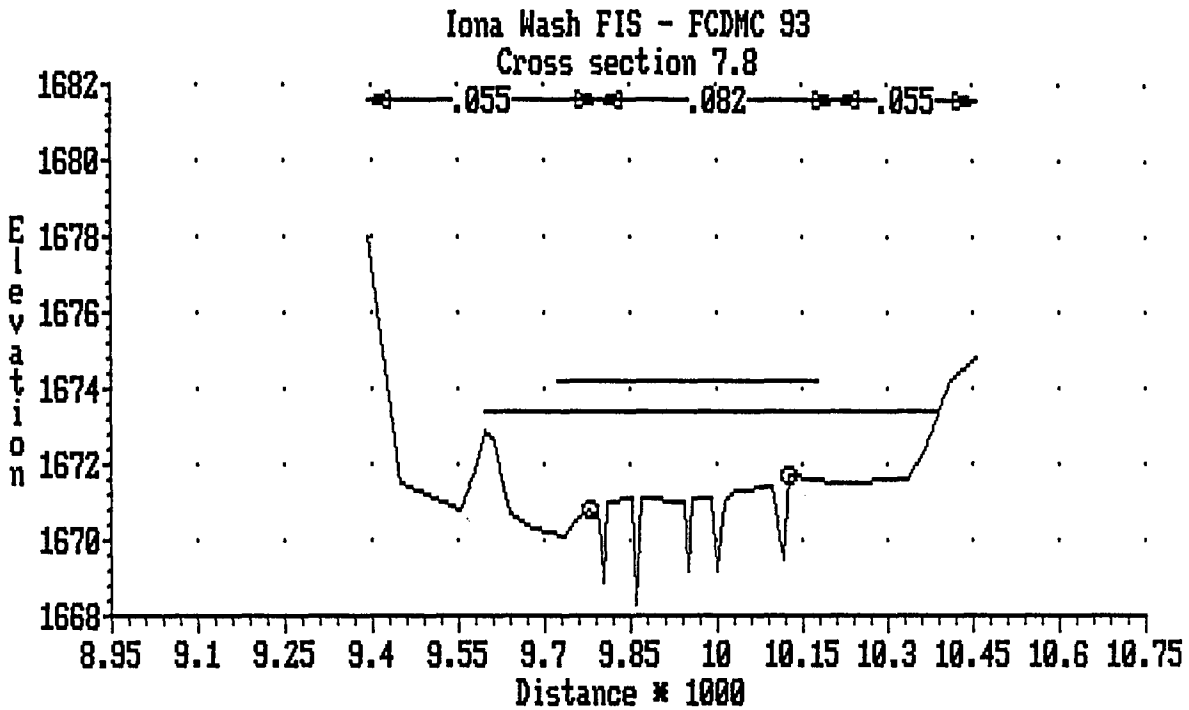

Iona Wash FIS - FCDMC 93
Cross section 7.352
.055
.095
.055
1661
1660
1659
1658
1657
1656
1655
1654
Elevation
7.3
7.6
7.9
8.2
8.5
8.8
9.1
9.4
9.7
10
10.3
10.6
10.9
Distance * 1000

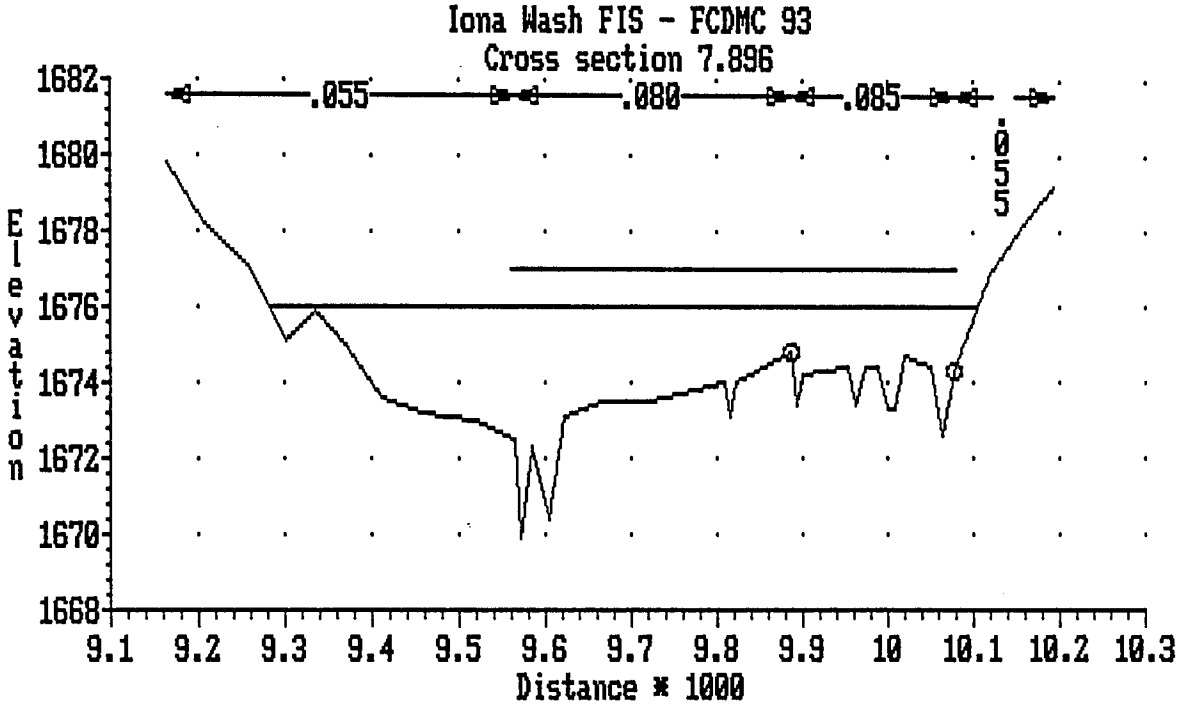

Iona Wash FIS - FCDMC 93
Cross section 7.438
.055
.085
.055
1670
1668
1666
1664
1662
1660
1658
1656
Elevation
8
8.25
8.5
8.75
9
9.25
9.5
9.75
10
10.25
10.5
10.75
11
Distance * 1000

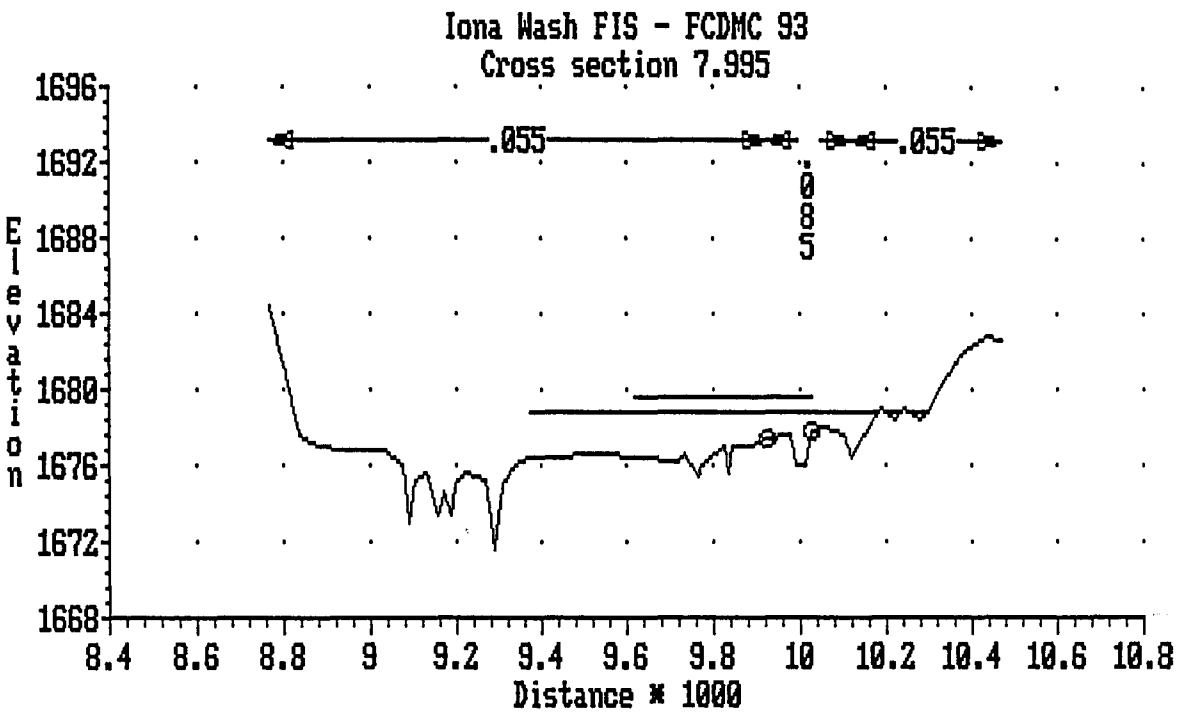

Iona Wash FIS - FCDMC 93
Cross section 7.533
.085
.055
.055
Elevation
1672
1670
1668
1666
1664
1662
1660
1658
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
10.9
11.05
Distance * 1000

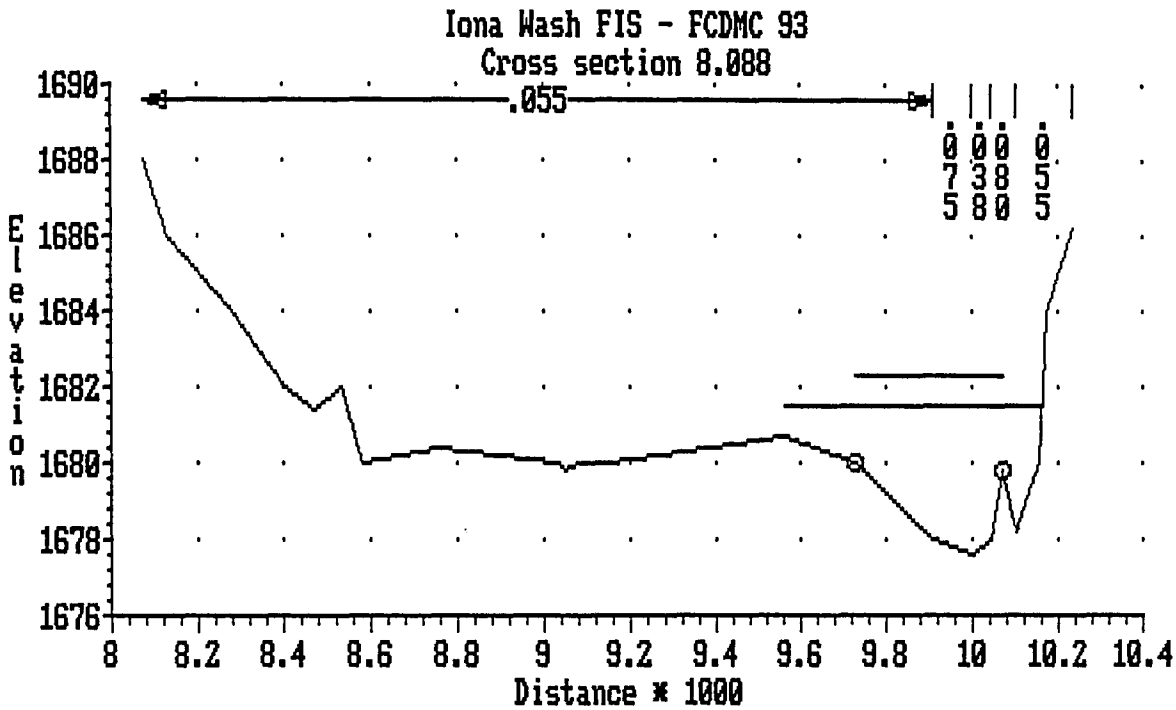

Iona Wash FIS - FCDMC 93
Cross section 7.624
.055
.082
.055
1676
1674
1672
1670
1668
1666
1664
1662
Elevation
8.8
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
Distance * 1000

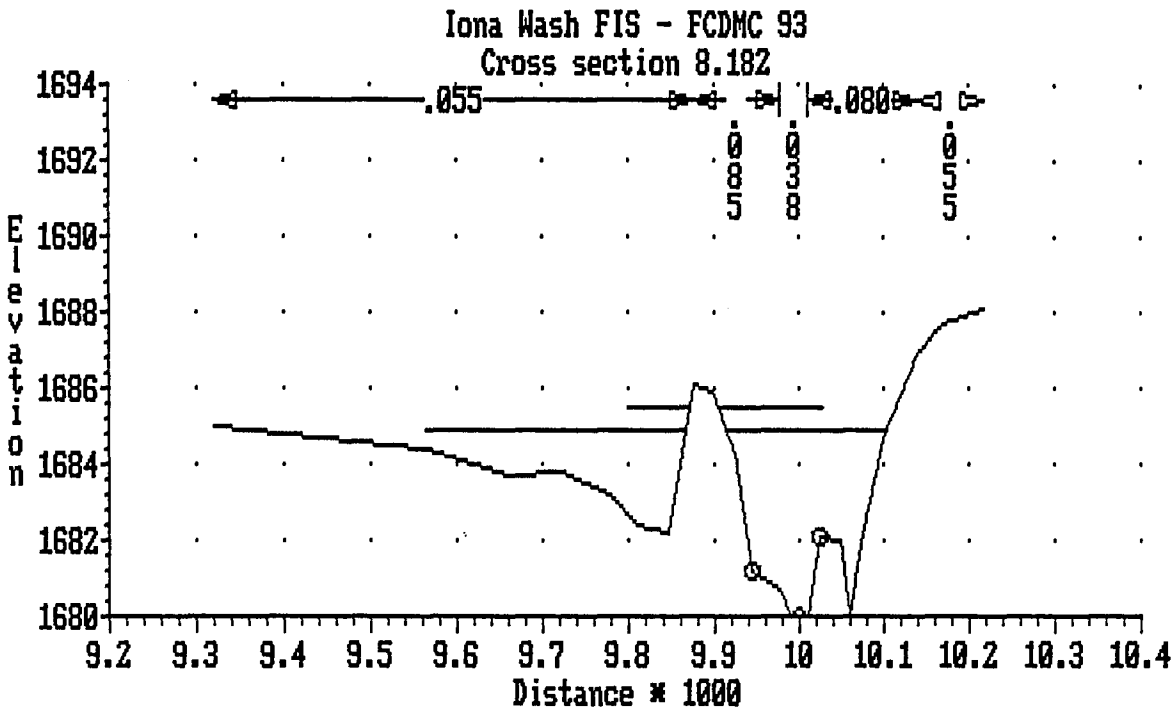

Iona Wash FIS - FCDMC 93
Cross section 7.709
.055
.082
.055
1678
1676
1674
1672
1670
1668
1666
1664
Elevation
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
Distance * 1000

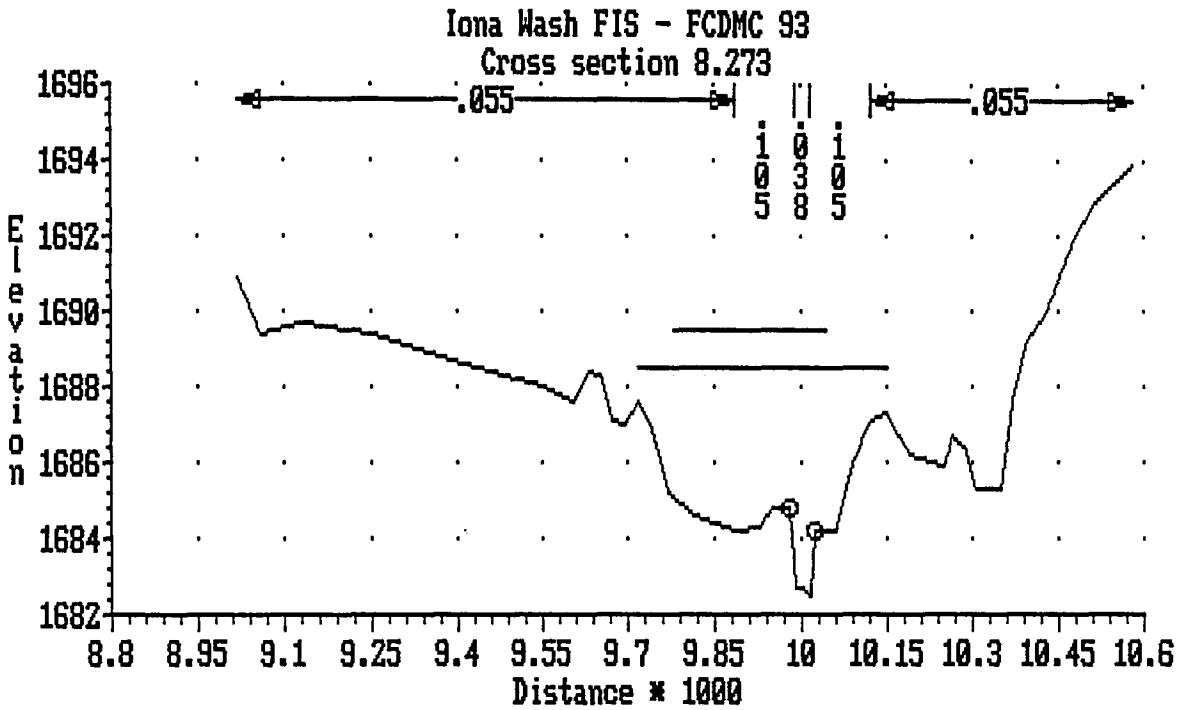

Iona Wash FIS - FCDMC 93
Cross section 7.8
.055
.082
.055
Elevation
1682
1680
1678
1676
1674
1672
1670
1668
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
Distance * 1000

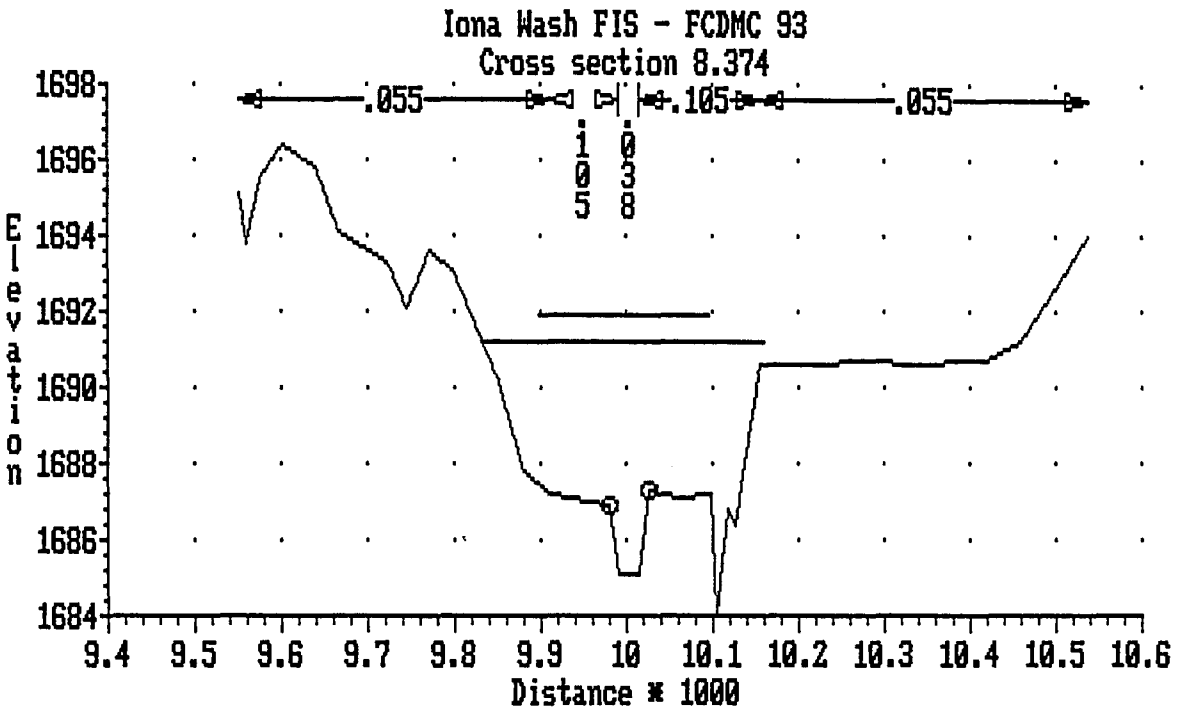

Iona Wash FIS - FCDMC 93
Cross section 7.896
.055
.080
.085
.055
Elevation
1682
1680
1678
1676
1674
1672
1670
1668
9.1
9.2
9.3
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
Distance * 1000

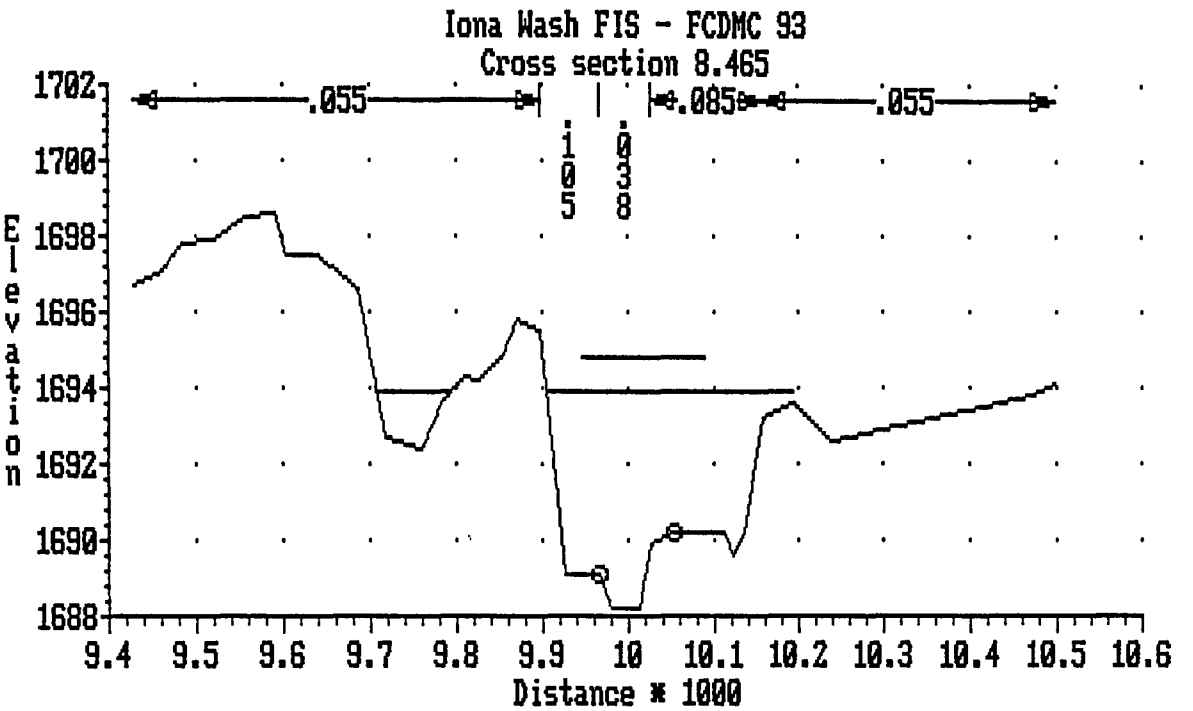

Iona Wash FIS - FCDMC 93
Cross section 7.995
.055
.055
.085
Elevation
1696
1692
1688
1684
1680
1676
1672
1668
8.4
8.6
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
Distance * 1000

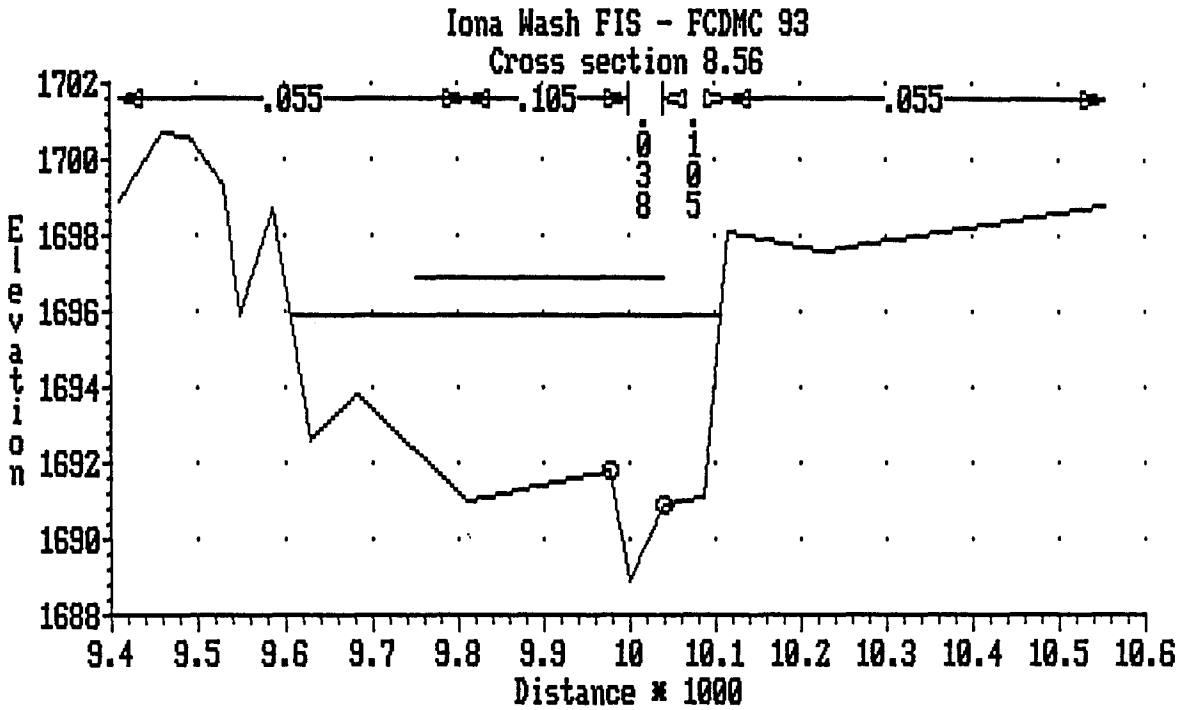

Iona Wash FIS - FCDMC 93
Cross section 8.088
.055
0 0 0 0
7 3 8 5
5 8 0 5
Elevation
1690
1688
1686
1684
1682
1680
1678
1676
8
8.2
8.4
8.6
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
Distance * 1000

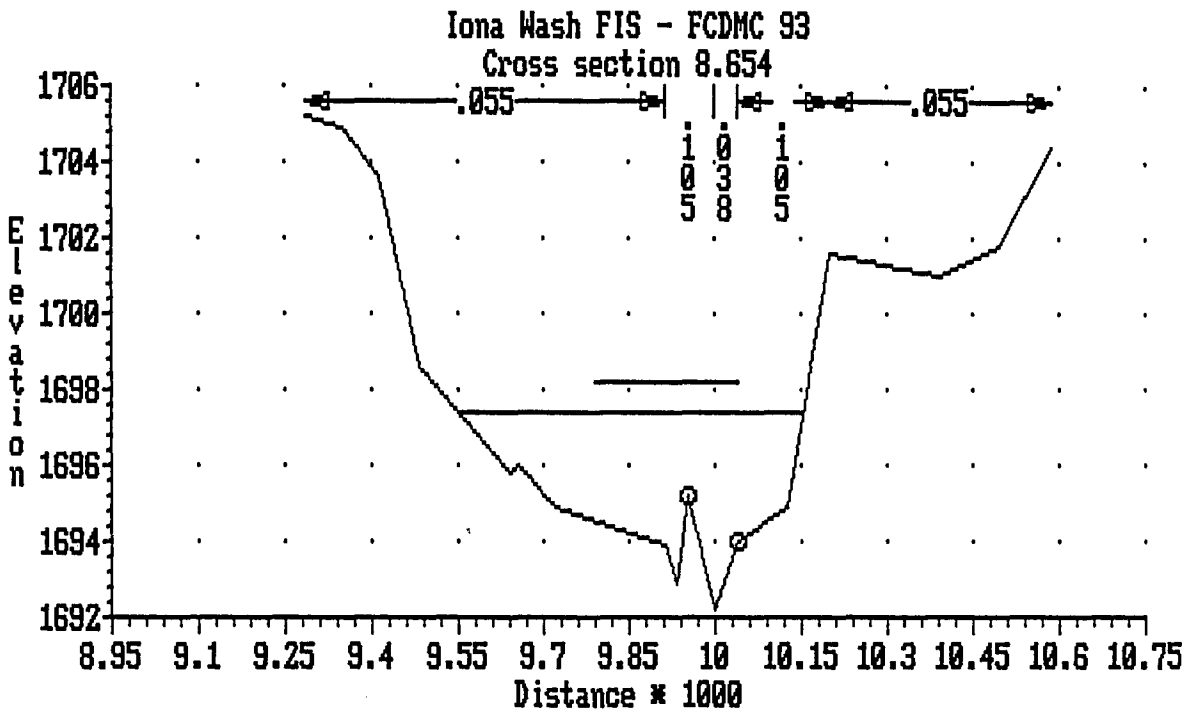

Iona Wash FIS - FCDMC 93
Cross section 8.18Z
.055
.085
.038
.080
.055
Elevation
1694
1692
1690
1688
1686
1684
1682
1680
9.2
9.3
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
Distance * 1000

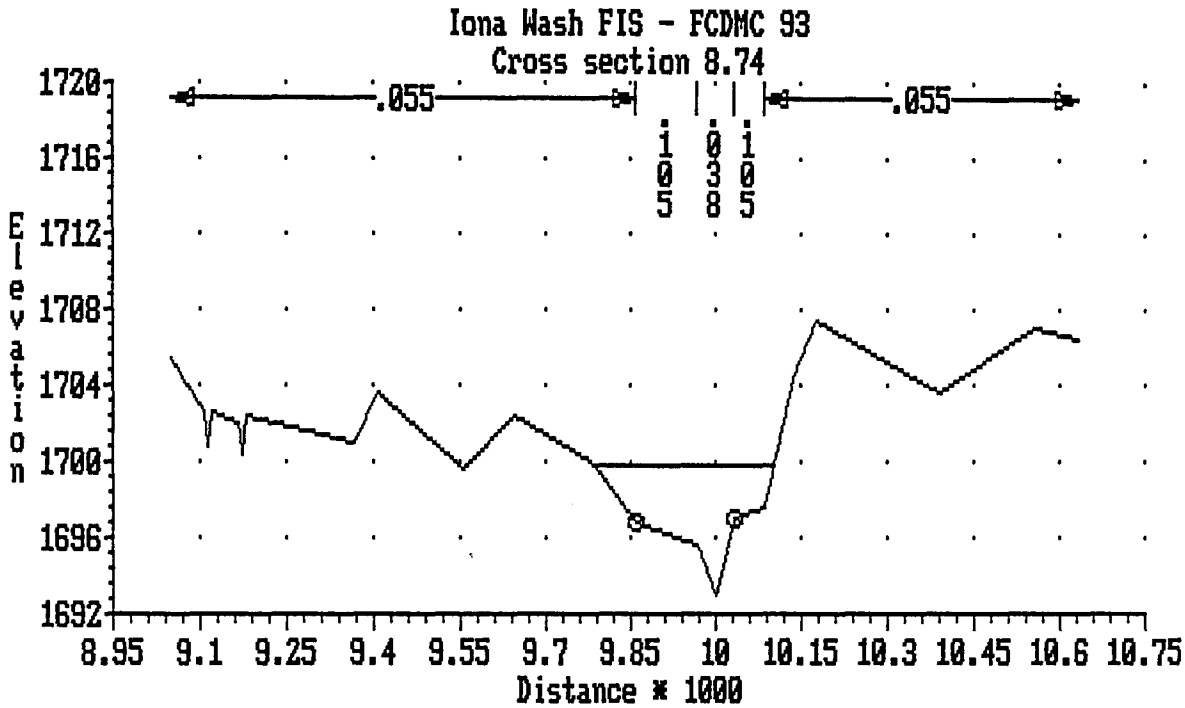

Iona Wash FIS - FCDMC 93
Cross section 8.273
.055
.055
i 0 5
i 0 3 8
i 0 5
Elevation
1696
1694
1692
1690
1688
1686
1684
1682
8.8
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
Distance * 1000

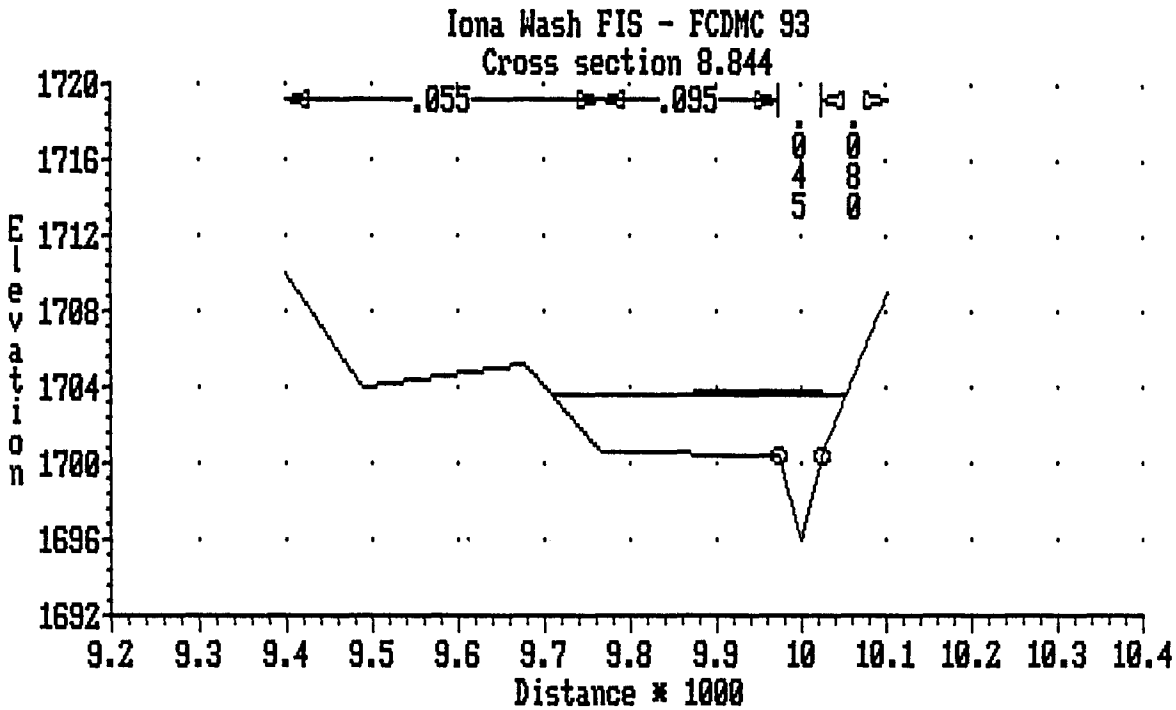

Iona Wash FIS - FCDMC 93
Cross section 8.374
.055
.105
.055
10.3
10.8
Elevation
1698
1696
1694
1692
1690
1688
1686
1684
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
10.6
Distance * 1000

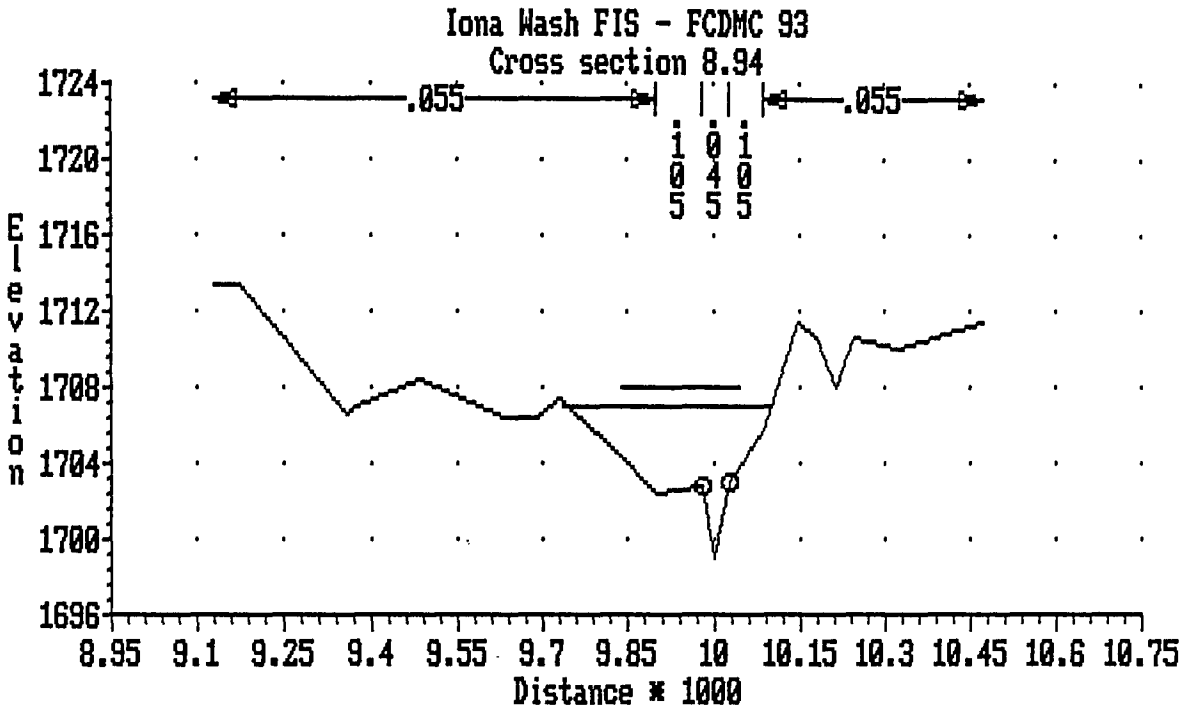

Iona Wash FIS - FCDMC 93
Cross section 8.465
.055
.085
.055
.105
.038
1702
1700
1698
1696
1694
1692
1690
1688
Elevation
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
10.6
Distance * 1000

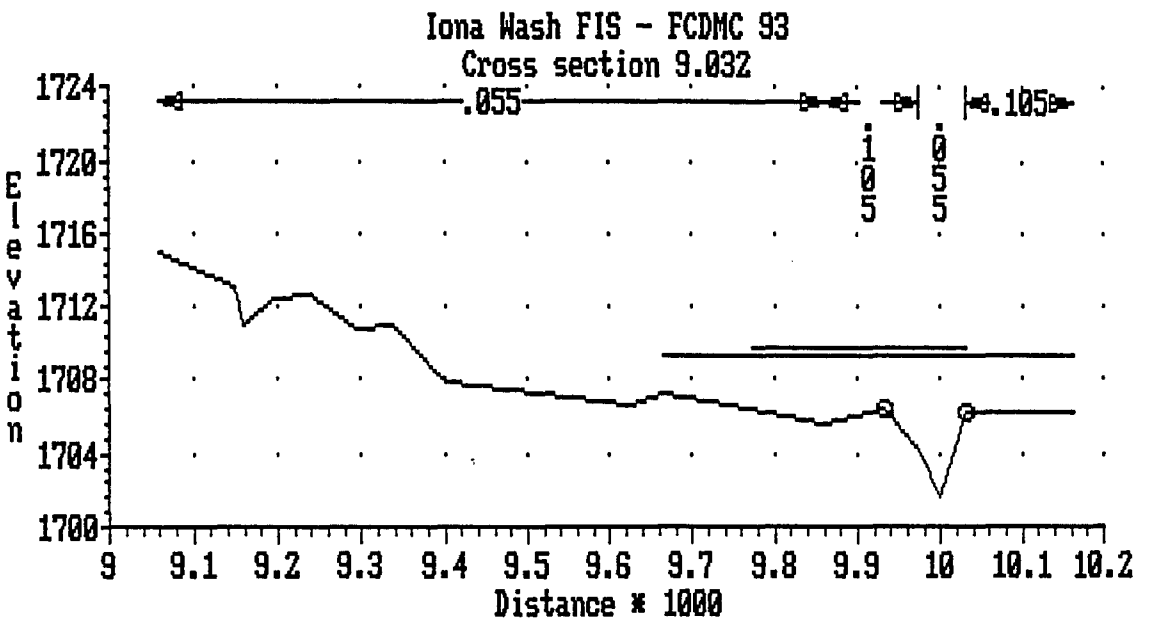

Iona Wash FIS - FCDMC 93
Cross section 8.56
.055
.105
.055
.038
.105
1702
1700
1698
1696
1694
1692
1690
1688
Elevation
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
10.6
Distance * 1000

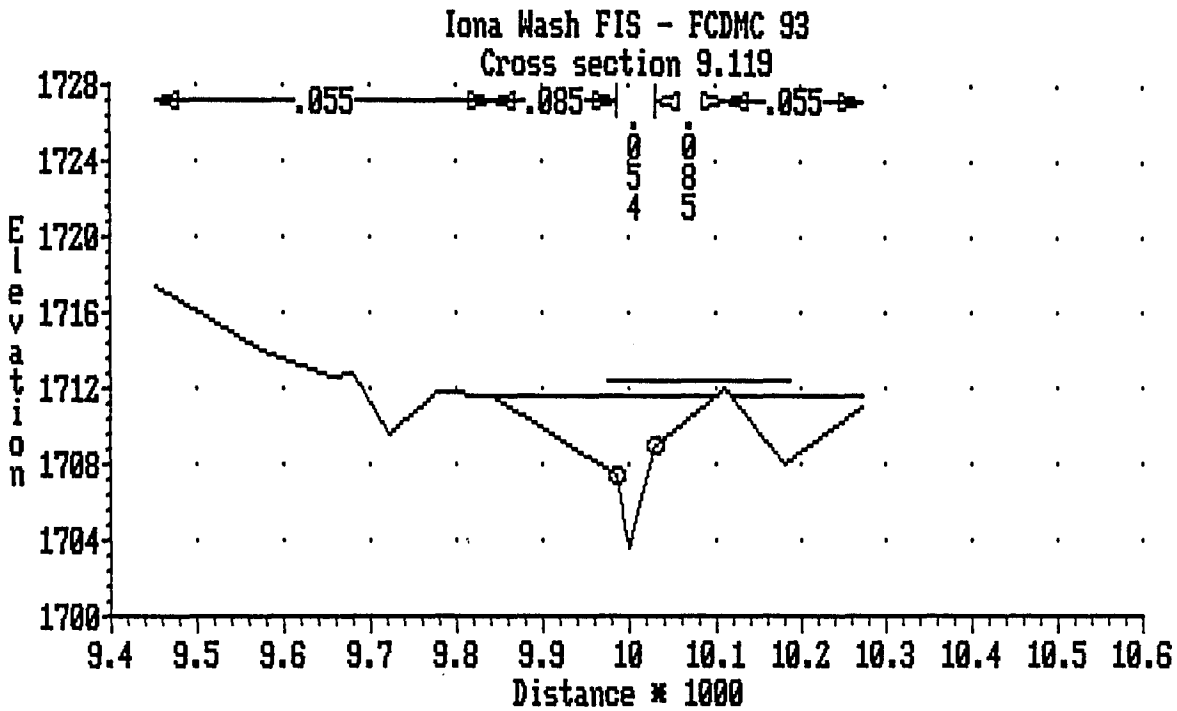

Iona Wash FIS - FCDMC 93
Cross section 8.654
.055
.055
.105
.038
.105
1706
1704
1702
1700
1698
1696
1694
1692
Elevation
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
Distance * 1000

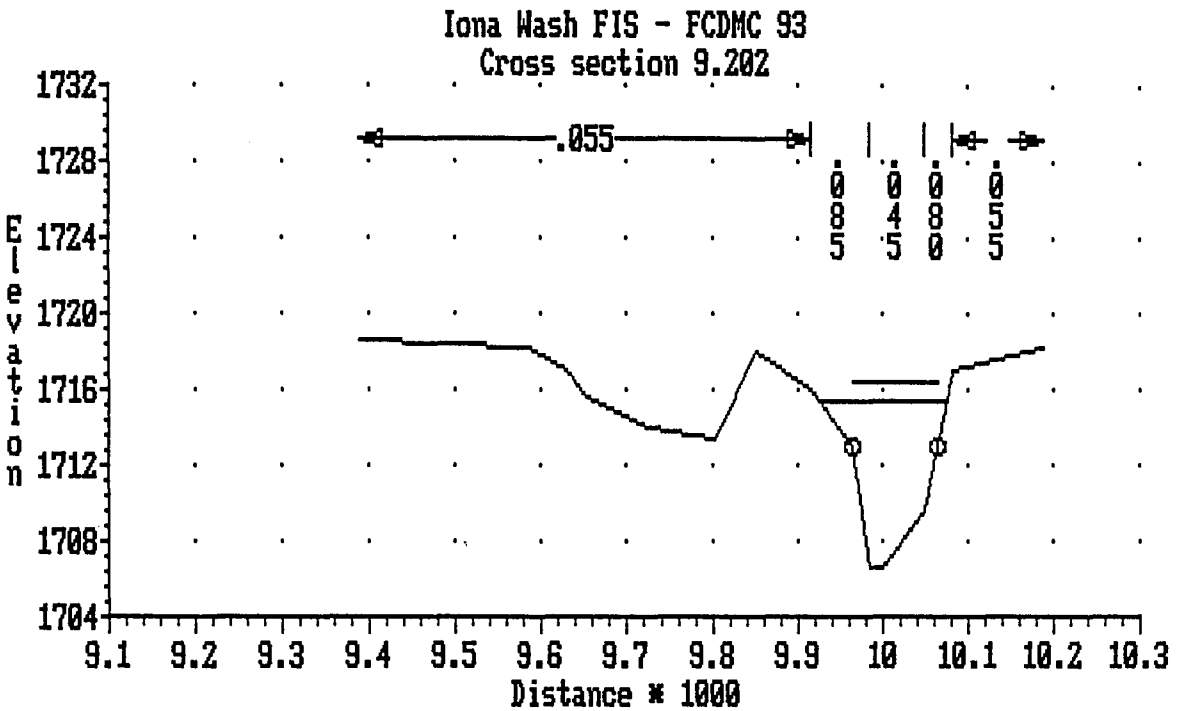

Iona Wash FIS - FCDMC 93
Cross section 8.74
.055
.055
i 0 i
0 3 0
5 8 5
1720
1716
1712
1708
1704
1700
1696
1692
Elevation
8.95 9.1 9.25 9.4 9.55 9.7 9.85 10 10.15 10.3 10.45 10.6 10.75
Distance * 1000

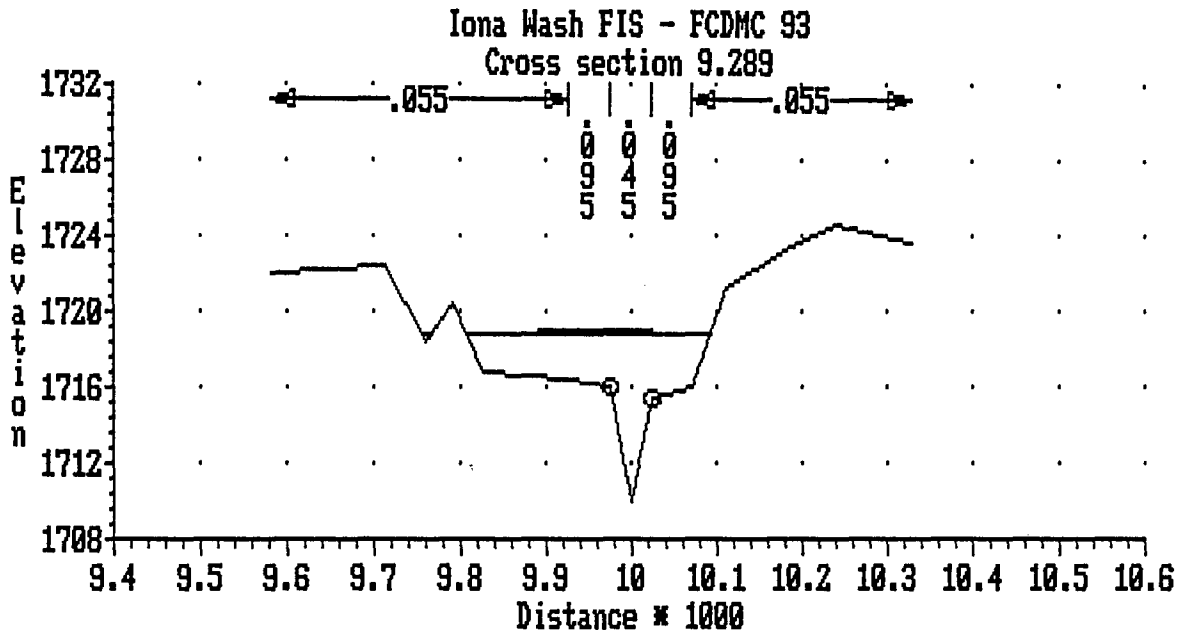

Iona Wash FIS - FCDMC 93
Cross section 8.844
.055
.095
.045
.080
1720
1716
1712
1708
1704
1700
1696
1692
Elevation
9.2
9.3
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
Distance * 1000

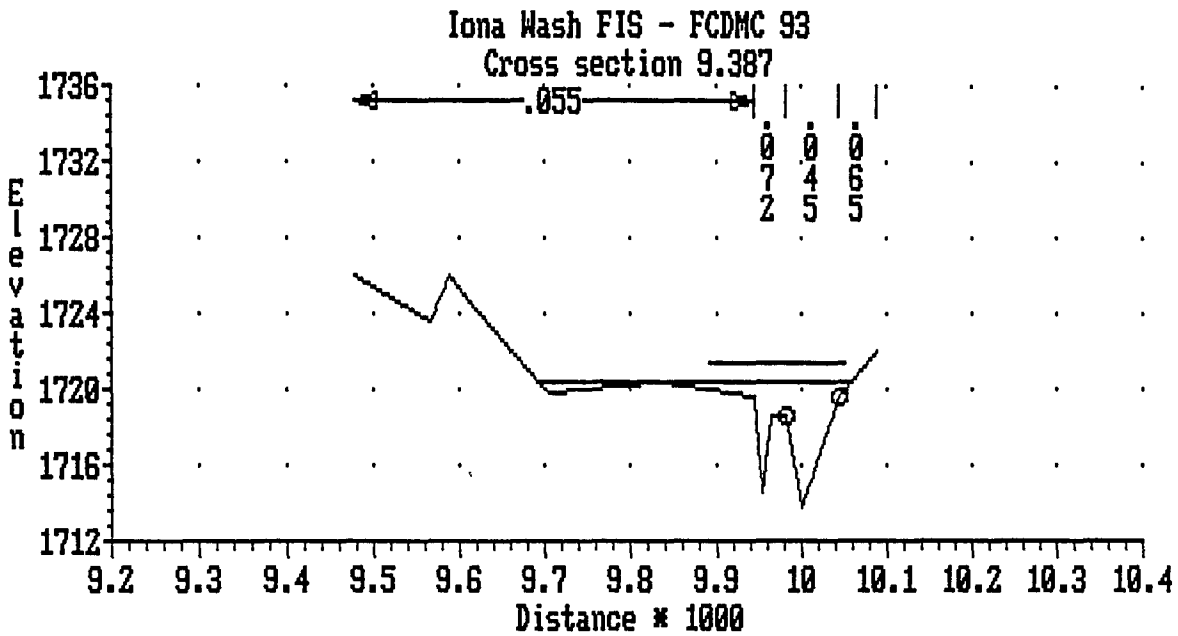

Iona Wash FIS - FCDMC 93
Cross section 8.94
.055
.055
1 0 1
0 4 0
5 5 5
1724
1720
1716
1712
1708
1704
1700
1696
Elevation
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
Distance * 1000

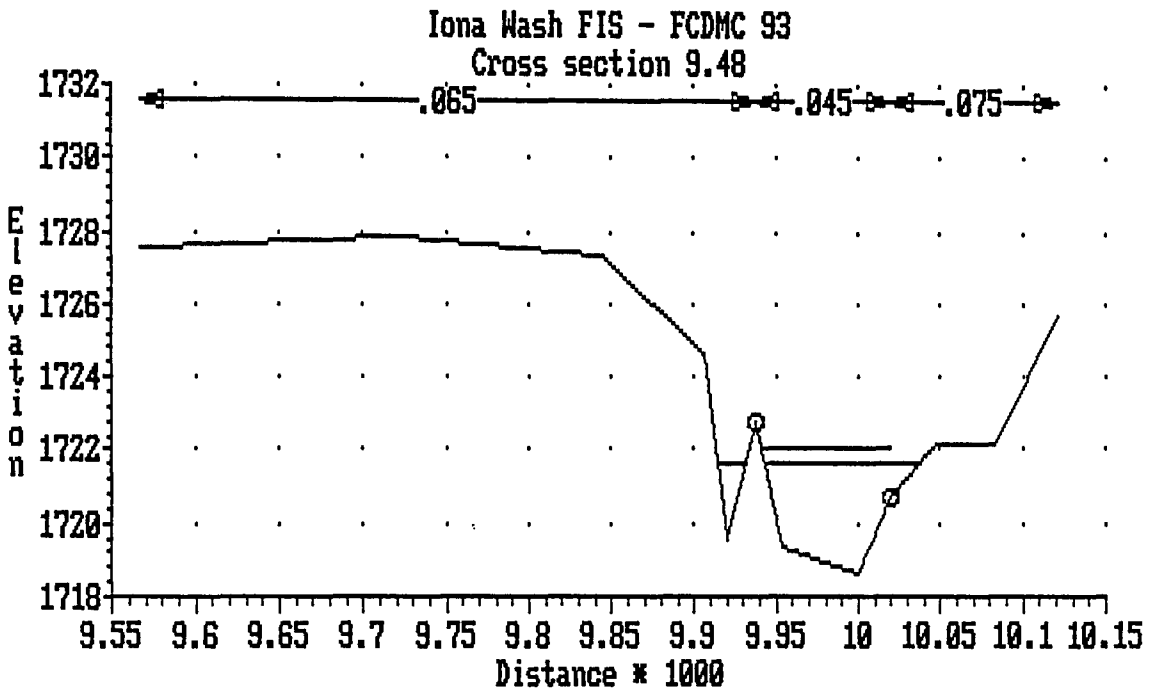

Iona Wash FIS - FCDMC 93
Cross section 9.032
.055
.105
.105
.055
Elevation
1724
1720
1716
1712
1708
1704
1700
9
9.1
9.2
9.3
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
Distance * 1000

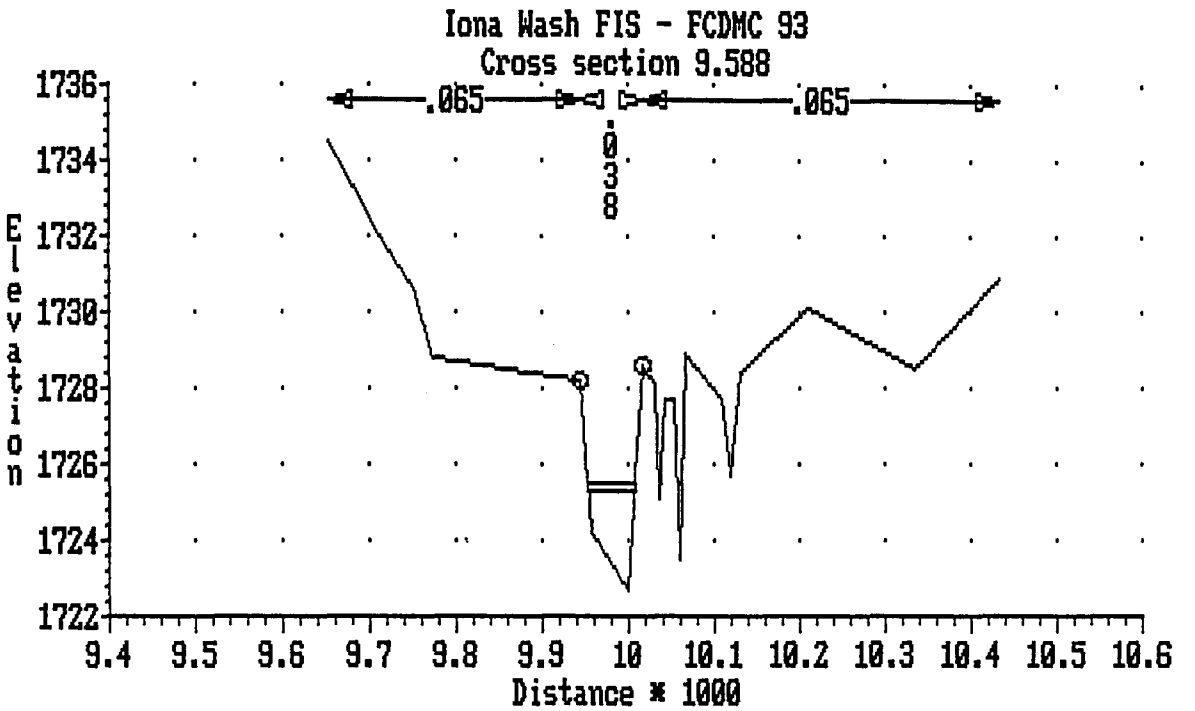

Iona Wash FIS - FCDMC 93
Cross section 9.119
.055
.085
.054
.085
.055
Elevation
1728
1724
1720
1716
1712
1708
1704
1700
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
10.6
Distance * 1000

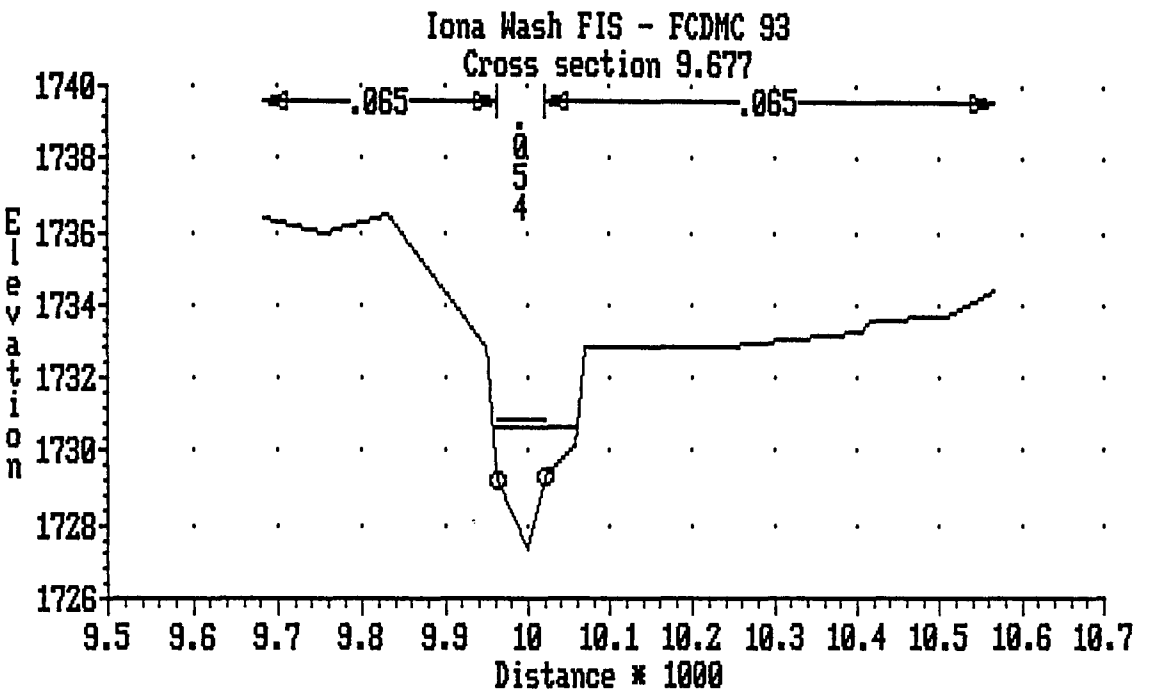

Iona Wash FIS - FCDMC 93
Cross section 9.202
.055
.085
.045
.080
.055
Elevation
1732
1728
1724
1720
1716
1712
1708
1704
9.1
9.2
9.3
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
Distance * 1000

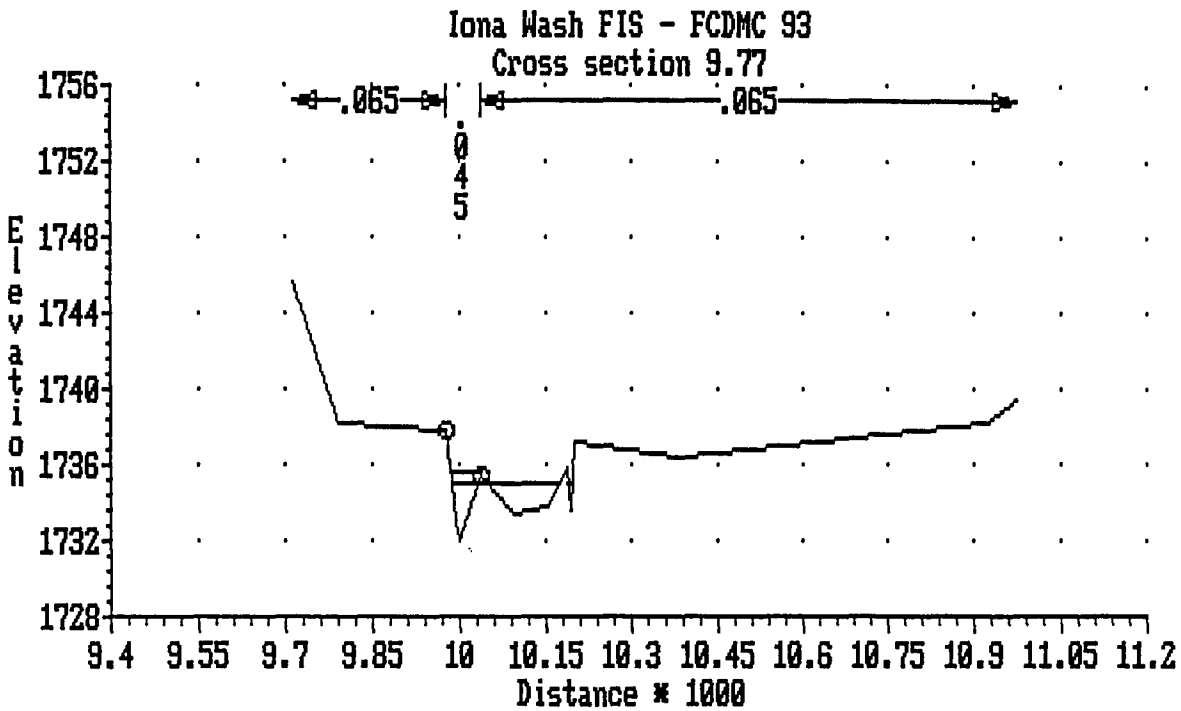

Iona Wash FIS - FCDMC 93
Cross section 9.289
.055
.055
.095
.045
.095
Elevation
1732
1728
1724
1720
1716
1712
1708
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
10.6
Distance * 1000

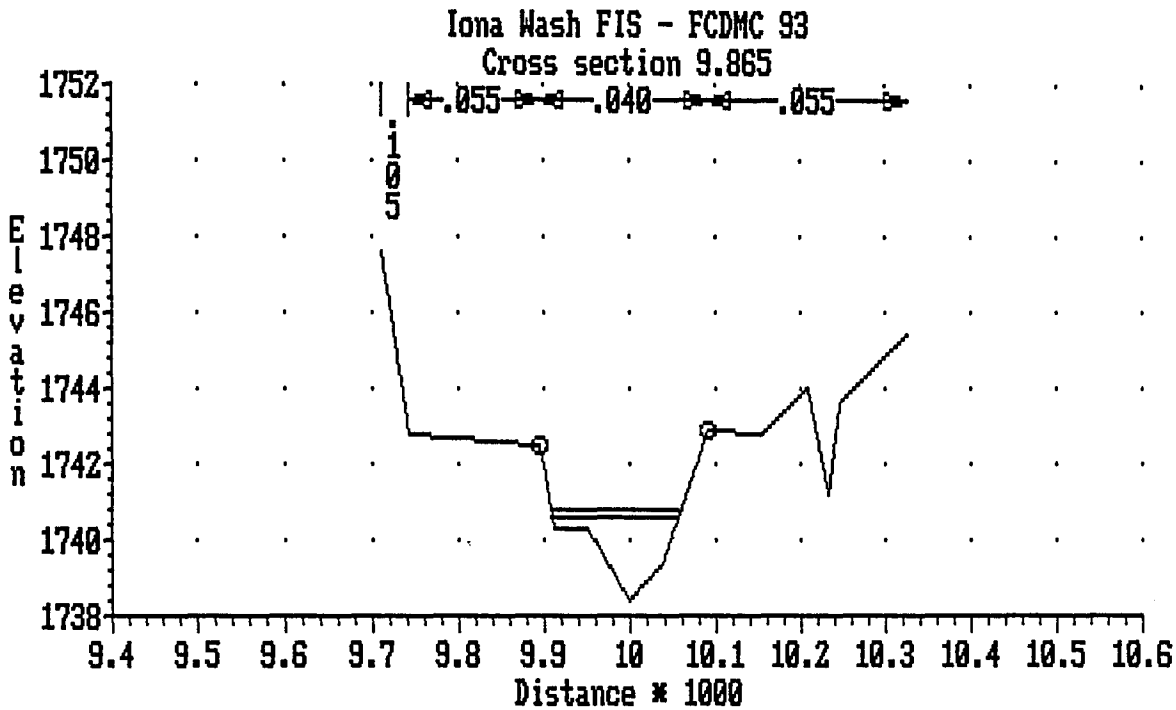

Iona Wash FIS - FCDMC 93
Cross section 9.387
.055
.072
.045
.065
Elevation
1736
1732
1728
1724
1720
1716
1712
9.2
9.3
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
Distance * 1000

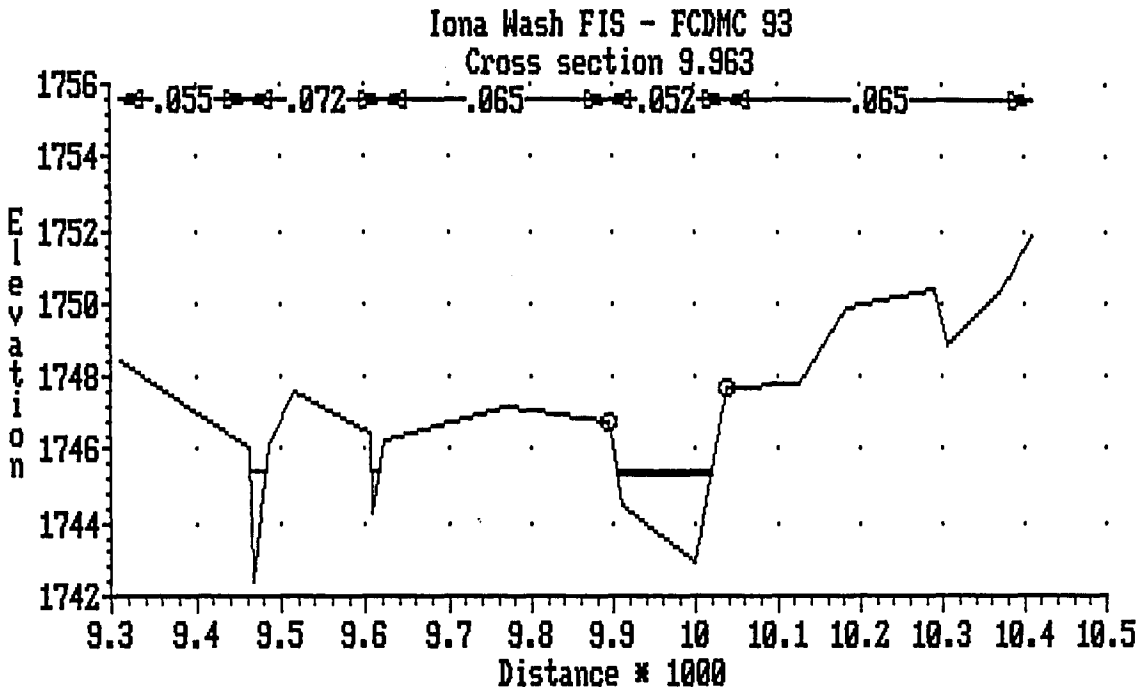

Iona Wash FIS - FCDMC 93
Cross section 9.48
.065
.045
.075
1732
1730
1728
1726
1724
1722
1720
1718
Elevation
9.55
9.6
9.65
9.7
9.75
9.8
9.85
9.9
9.95
10
10.05
10.1
10.15
Distance * 1000

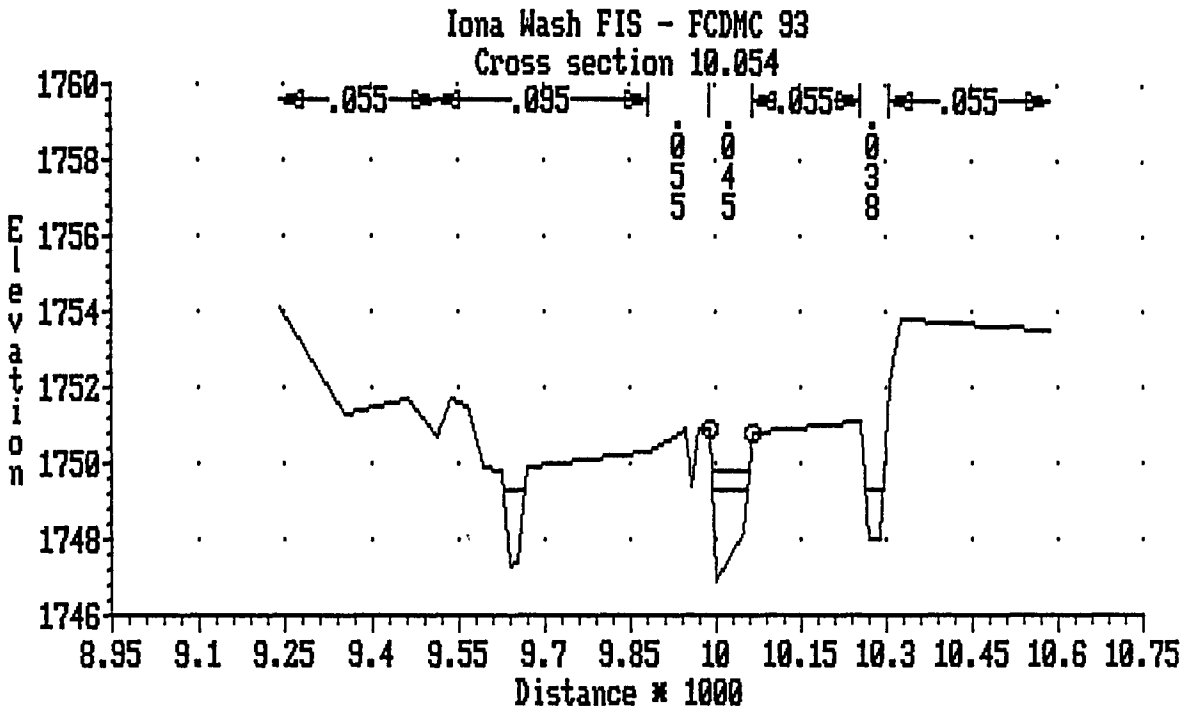

Iona Wash FIS - FCDMC 93
Cross section 9.588
.065
.038
.065
Elevation
1736
1734
1732
1730
1728
1726
1724
1722
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
10.6
Distance * 1000

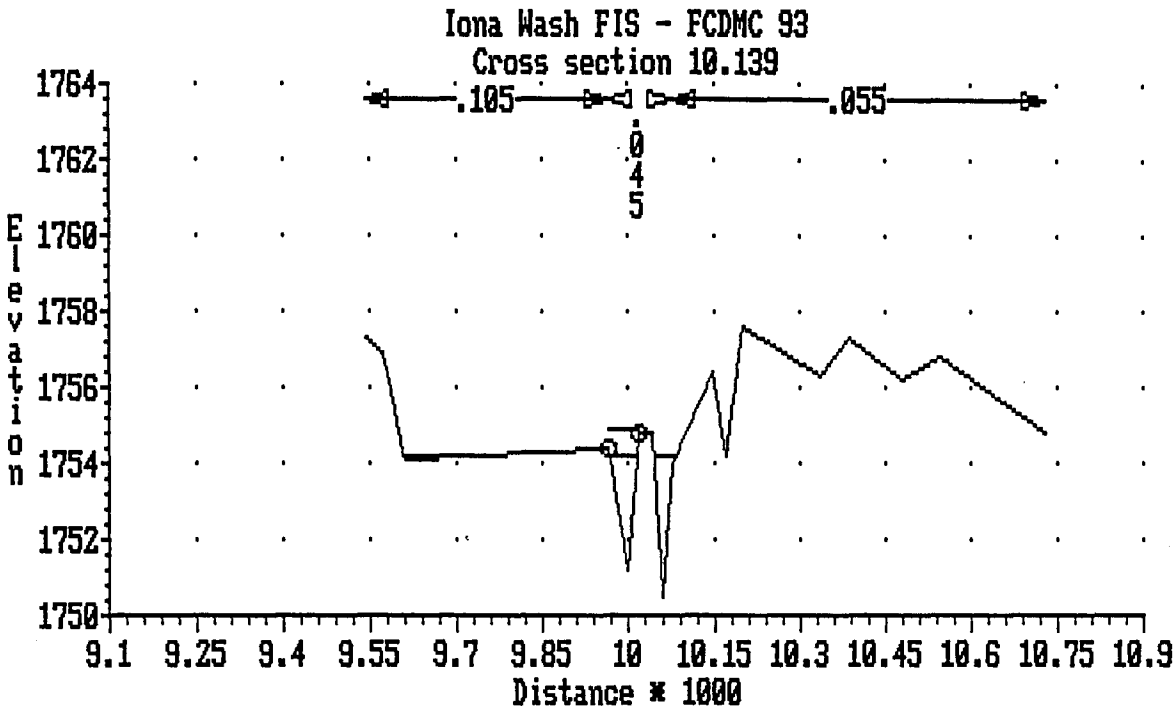

Iona Wash FIS - FCDMC 93
Cross section 9.677
.065
.054
.065
Elevation
1740
1738
1736
1734
1732
1730
1728
1726
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
10.6
10.7
Distance * 1000

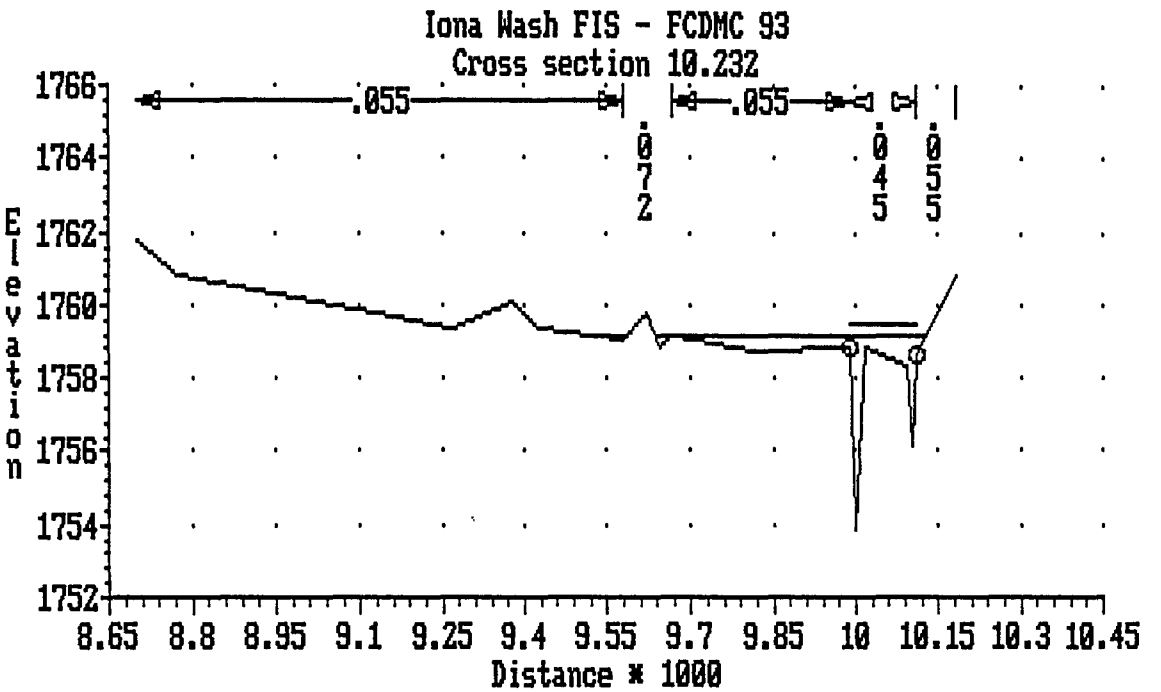

Iona Wash FIS - FCDMC 93
Cross section 9.77
.065
.045
.065
Elevation
1756
1752
1748
1744
1740
1736
1732
1728
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
10.9
11.05
11.2
Distance * 1000

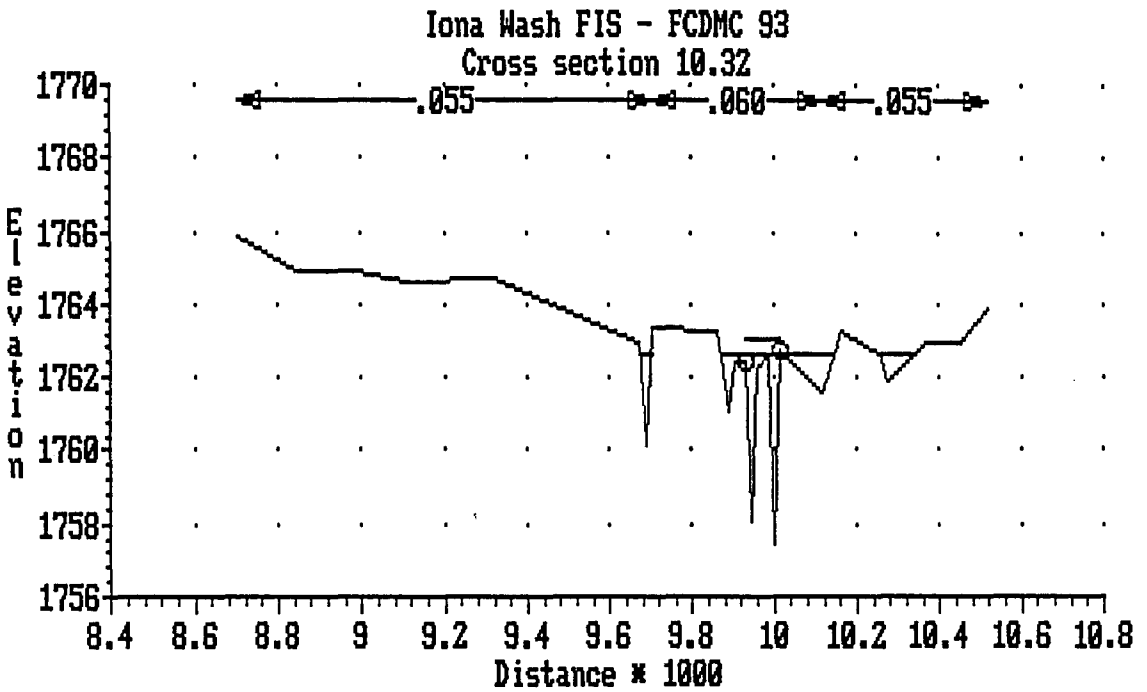

Iona Wash FIS - FCDMC 93
Cross section 9.865
.055
.040
.055
.105
Elevation
1752
1750
1748
1746
1744
1742
1740
1738
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
10.6
Distance * 1000

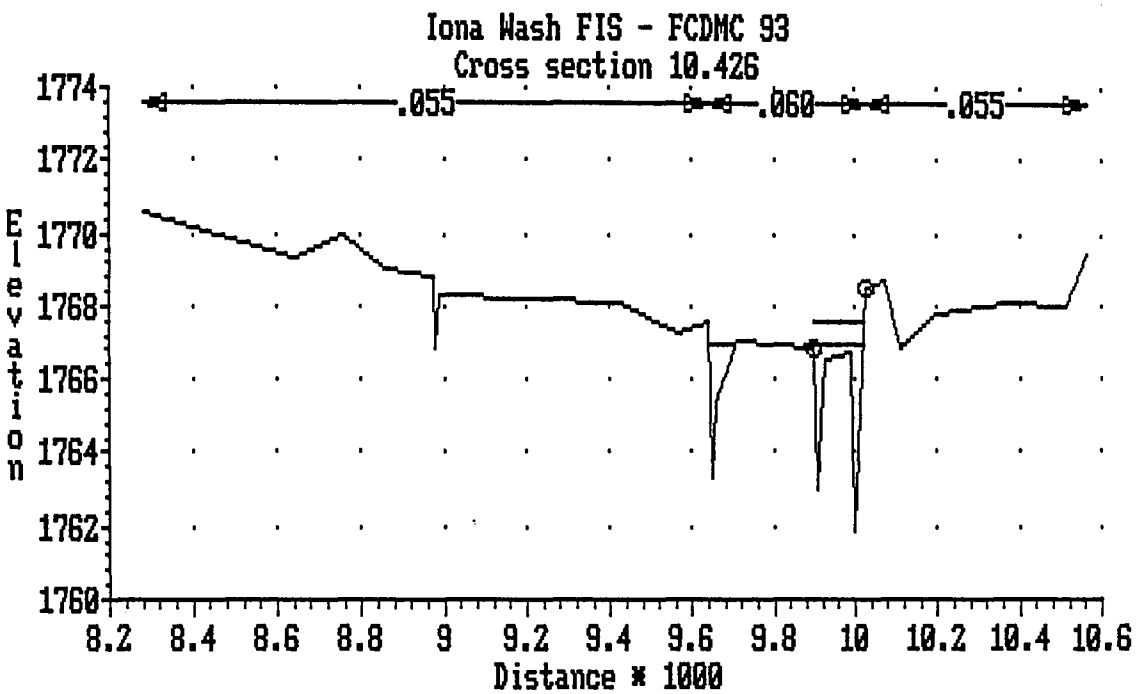

Iona Wash FIS - FCDMC 93
Cross section 9.963
.055
.072
.065
.052
.065
1756
1754
1752
1750
1748
1746
1744
1742
Elevation
9.3
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
Distance * 1000

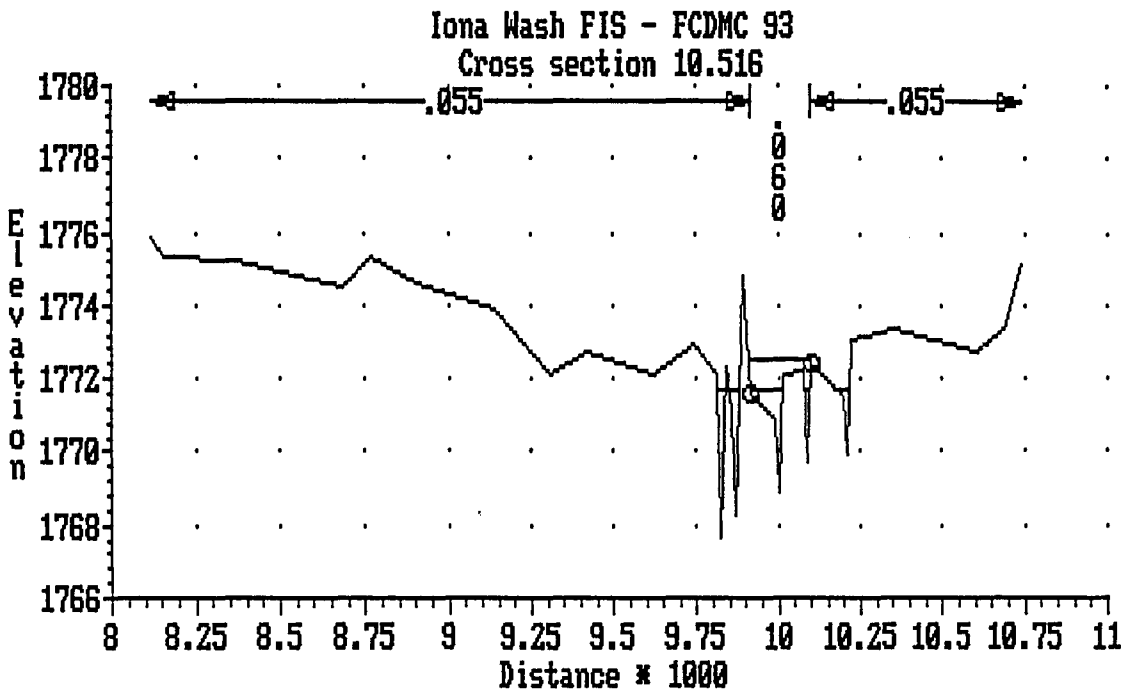

Iona Wash FIS - FCDMC 93
Cross section 10.054
.055
.095
.055
.055
.055
.045
.038
1760
1758
1756
1754
1752
1750
1748
1746
Elevation
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
Distance * 1000

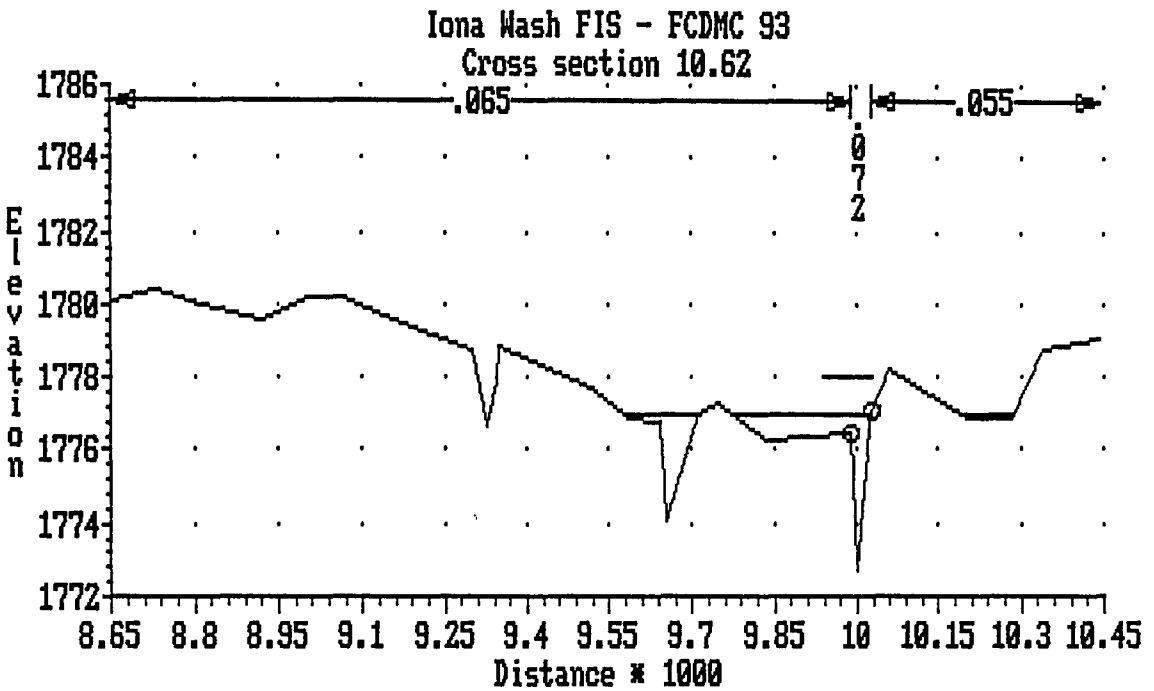

Iona Wash FIS - FCDMC 93
Cross section 10.139
.105
.045
.055
Elevation
1764
1762
1760
1758
1756
1754
1752
1750
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
10.9
Distance * 1000

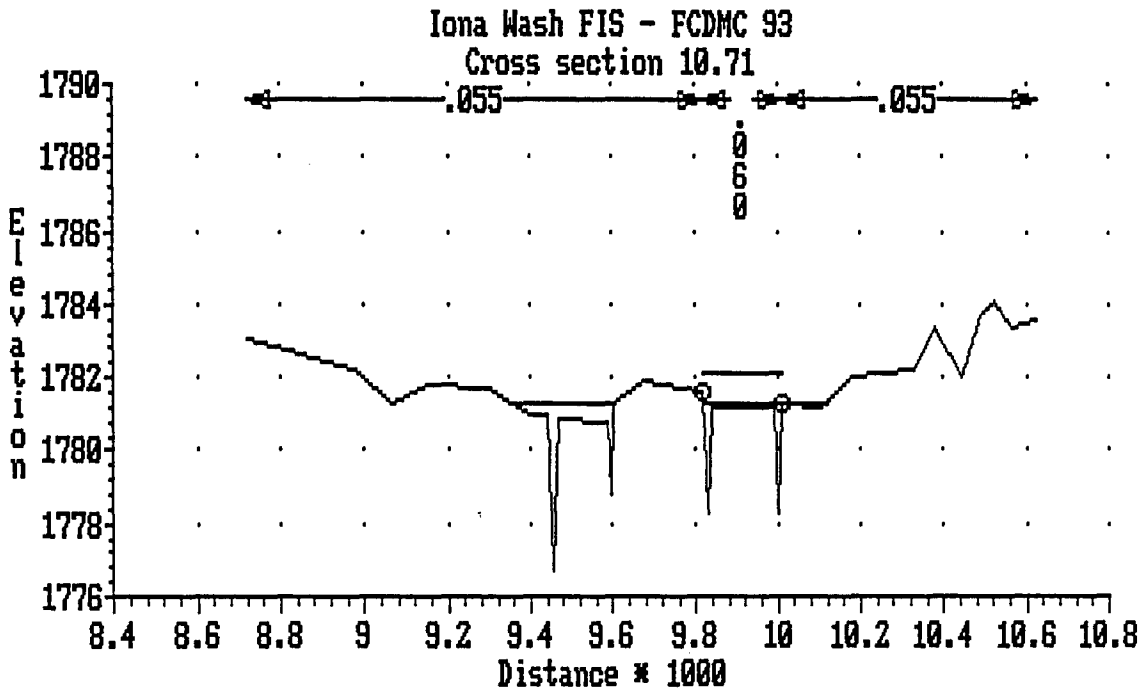

Iona Wash FIS - FCDMC 93
Cross section 10.232
.055
.055
.072
.045
.055
1766
1764
1762
1760
1758
1756
1754
1752
Elevation
8.65
8.8
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
Distance * 1000

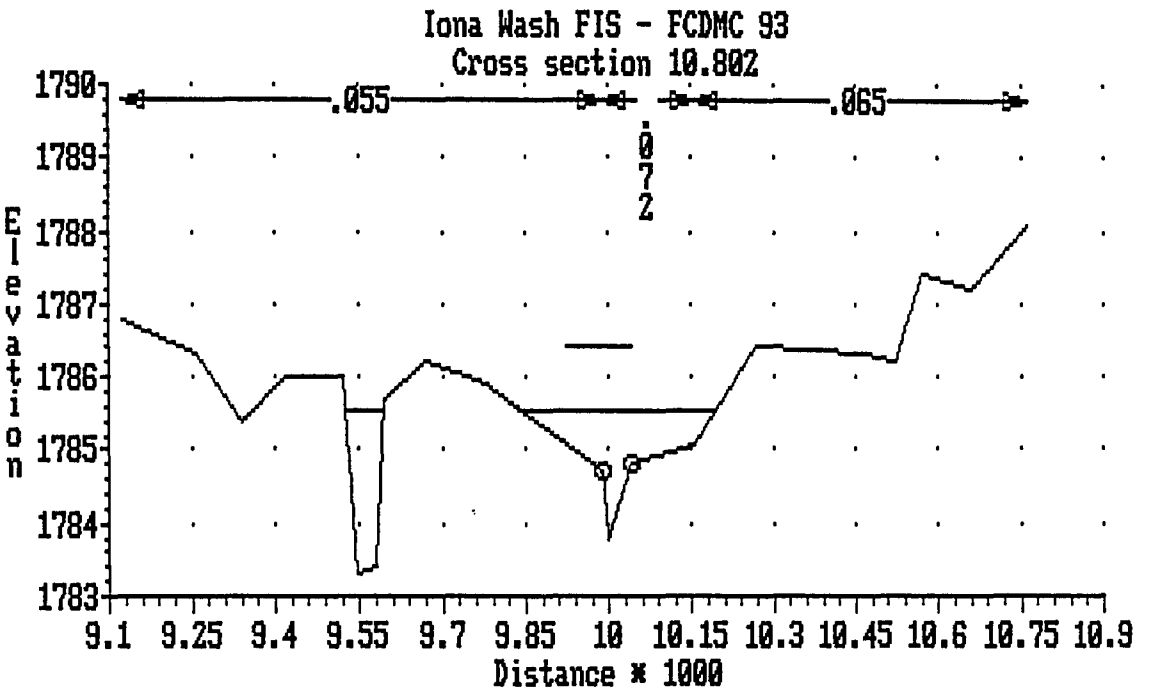

Iona Wash FIS - FCDMC 93
Cross section 10.32
.055
.060
.055
1770
1768
1766
1764
1762
1760
1758
1756
Elevation
8.4
8.6
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
Distance * 1000

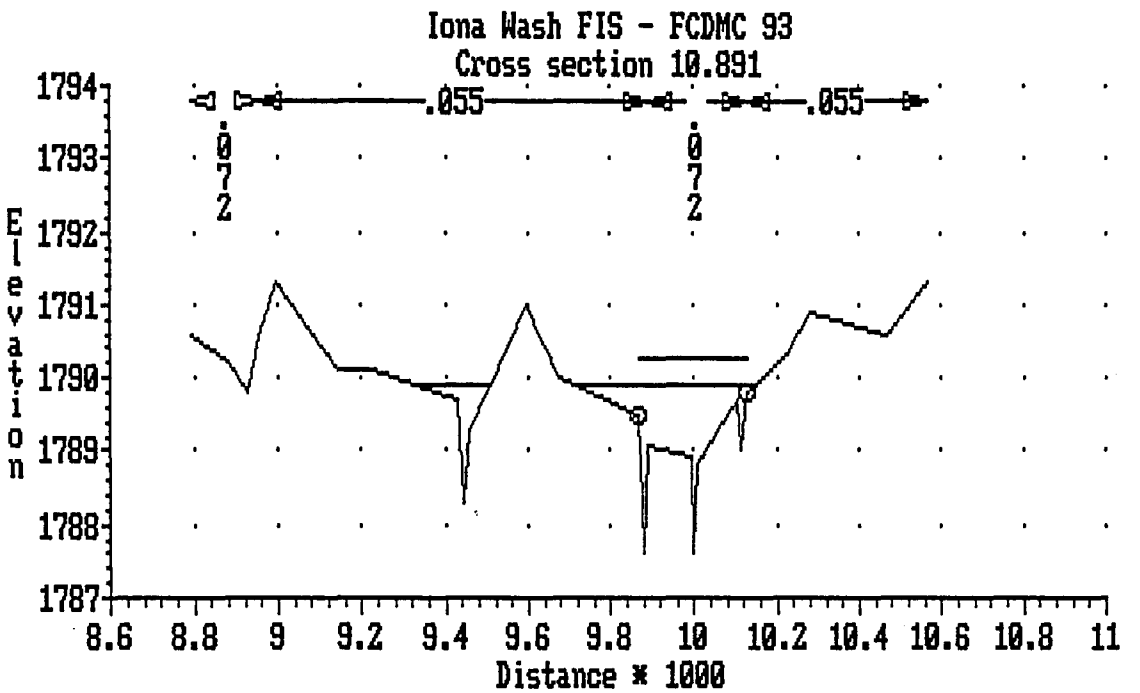

Iona Wash FIS - FCDMC 93
Cross section 10.426
.055
.060
.055
1774
1772
1770
1768
1766
1764
1762
1760
Elevation
8.2
8.4
8.6
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
Distance * 1000

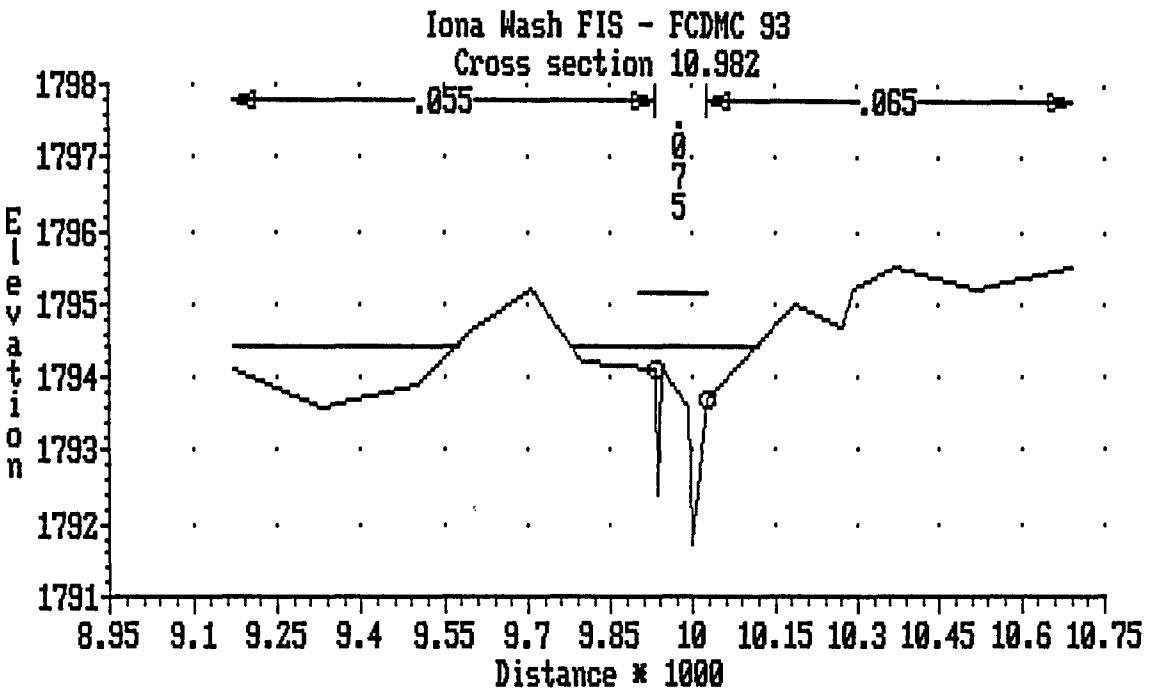

Iona Wash FIS - FCDMC 93
Cross section 10.516
.055
.060
.055
Elevation
1780
1778
1776
1774
1772
1770
1768
1766
8
8.25
8.5
8.75
9
9.25
9.5
9.75
10
10.25
10.5
10.75
11
Distance * 1000

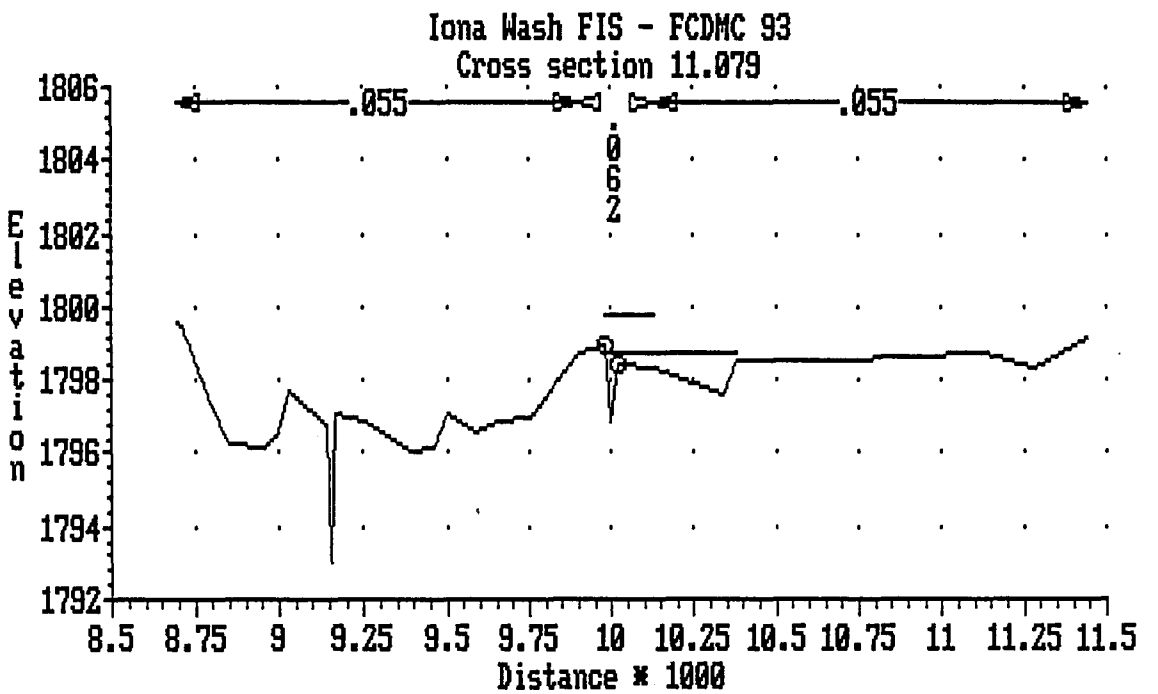

Iona Wash FIS - FCDMC 93
Cross section 10.62
.065
.072
.055
Elevation
1786
1784
1782
1780
1778
1776
1774
1772
8.65
8.8
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
Distance * 1000

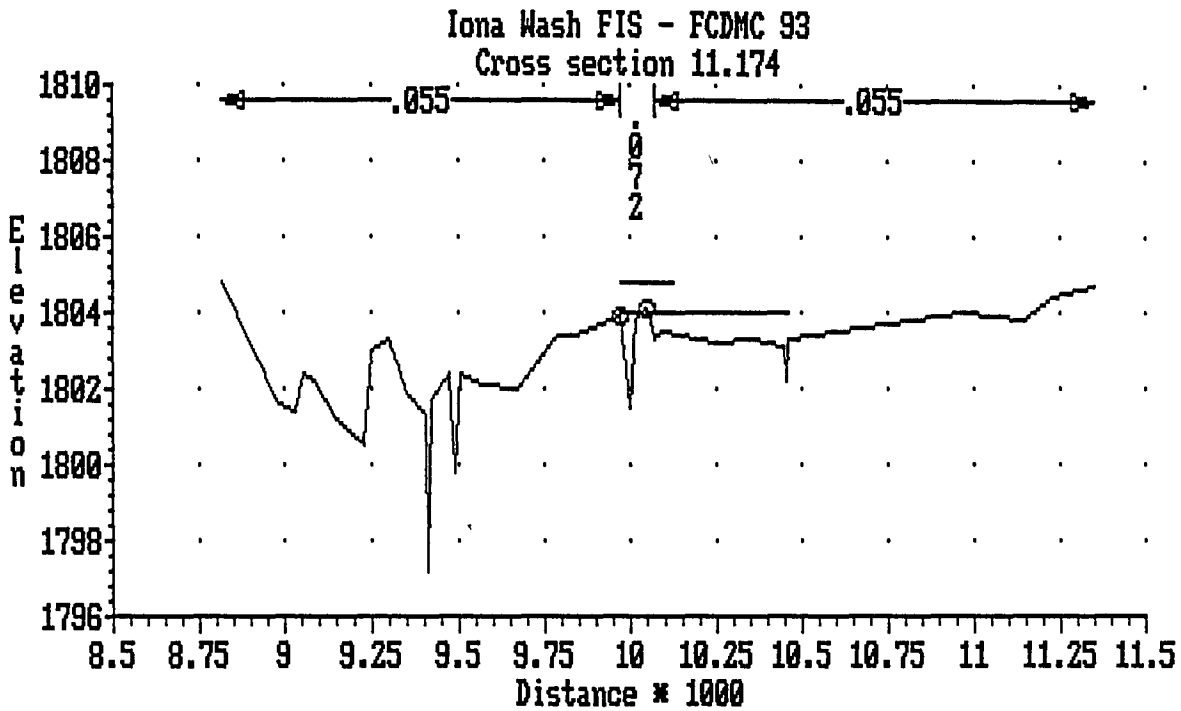

Iona Wash FIS - FCDMC 93
Cross section 10.71
.055
.060
.055
Elevation
1790
1788
1786
1784
1782
1780
1778
1776
8.4
8.6
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
Distance * 1000

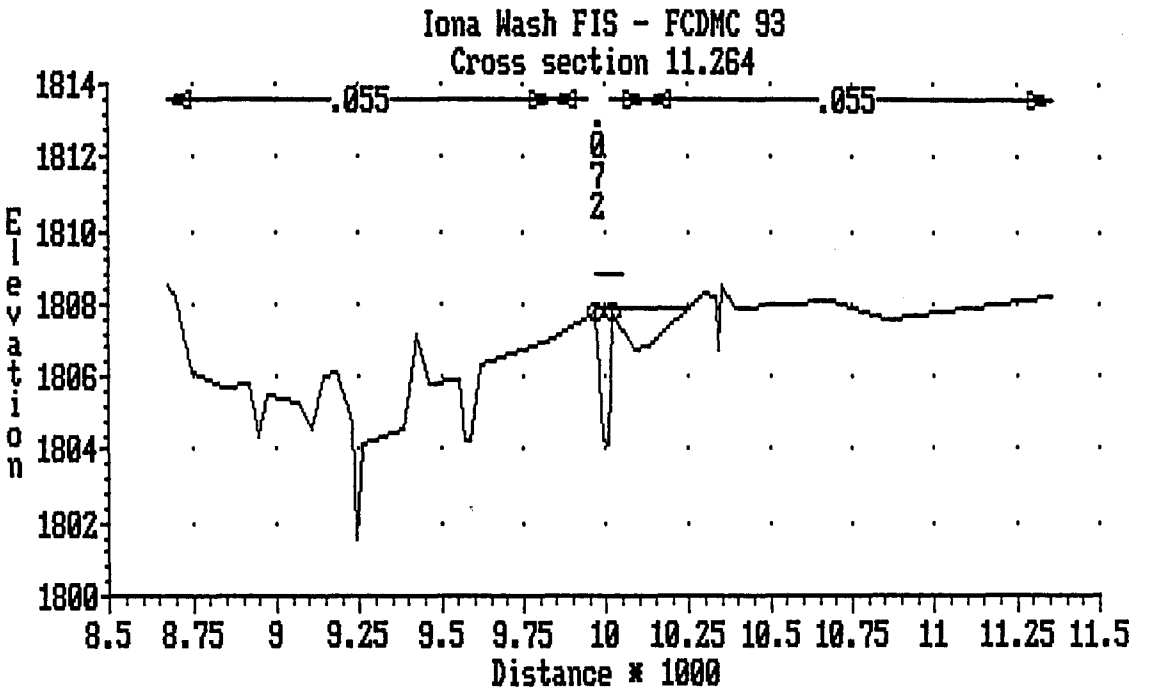

Iona Wash FIS - FCDMC 93
Cross section 10.802
.055
.065
.072
Elevation
1790
1789
1788
1787
1786
1785
1784
1783
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
10.9
Distance * 1000

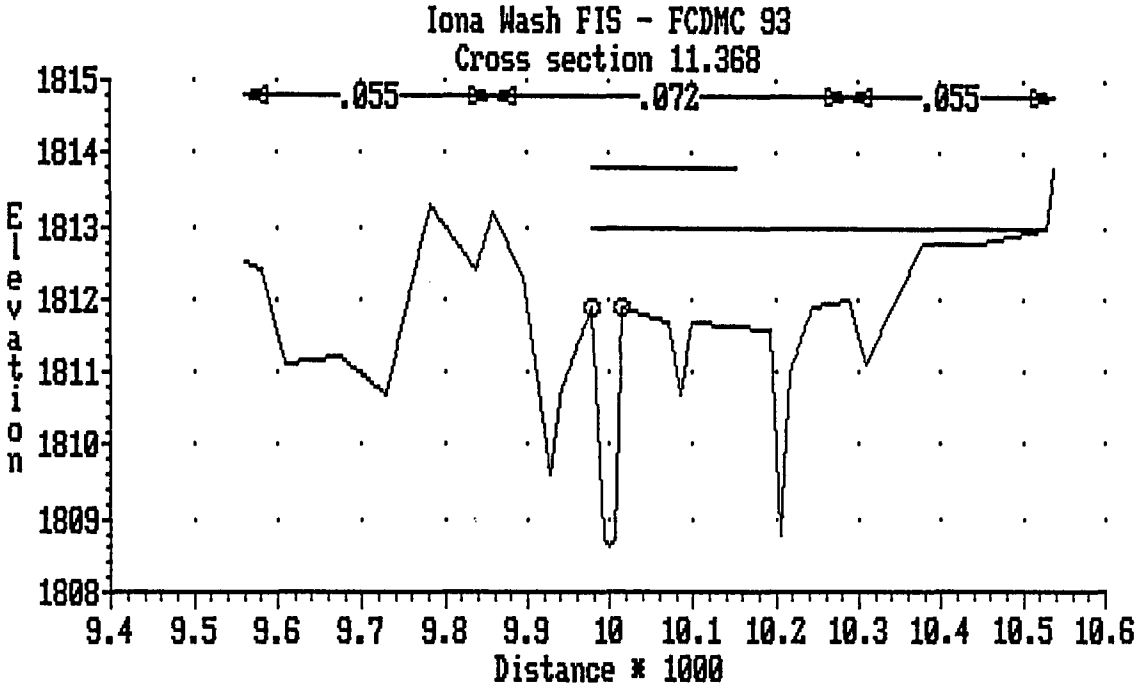

Iona Wash FIS - FCDMC 93
Cross section 10.891
.055
.055
.072
.072
Elevation
1794
1793
1792
1791
1790
1789
1788
1787
8.6
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
11
Distance * 1000

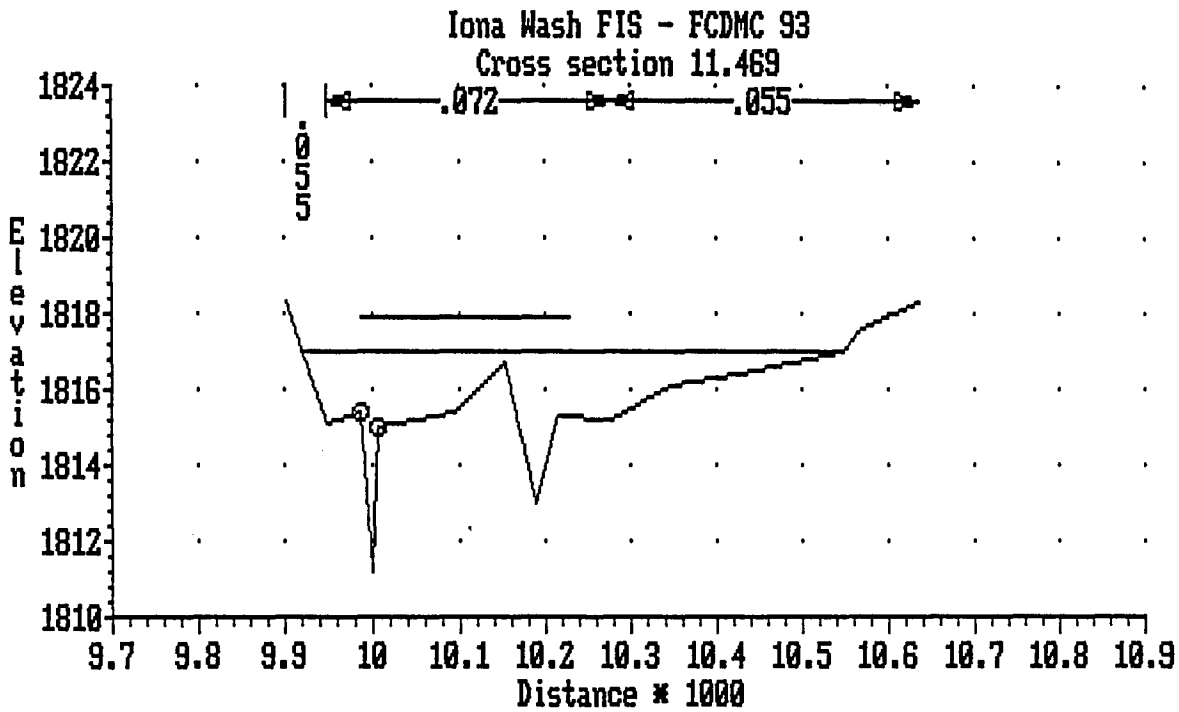

Iona Wash FIS - FCDMC 93
Cross section 10.982
.055
.075
.065
Elevation
1798
1797
1796
1795
1794
1793
1792
1791
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
Distance * 1000

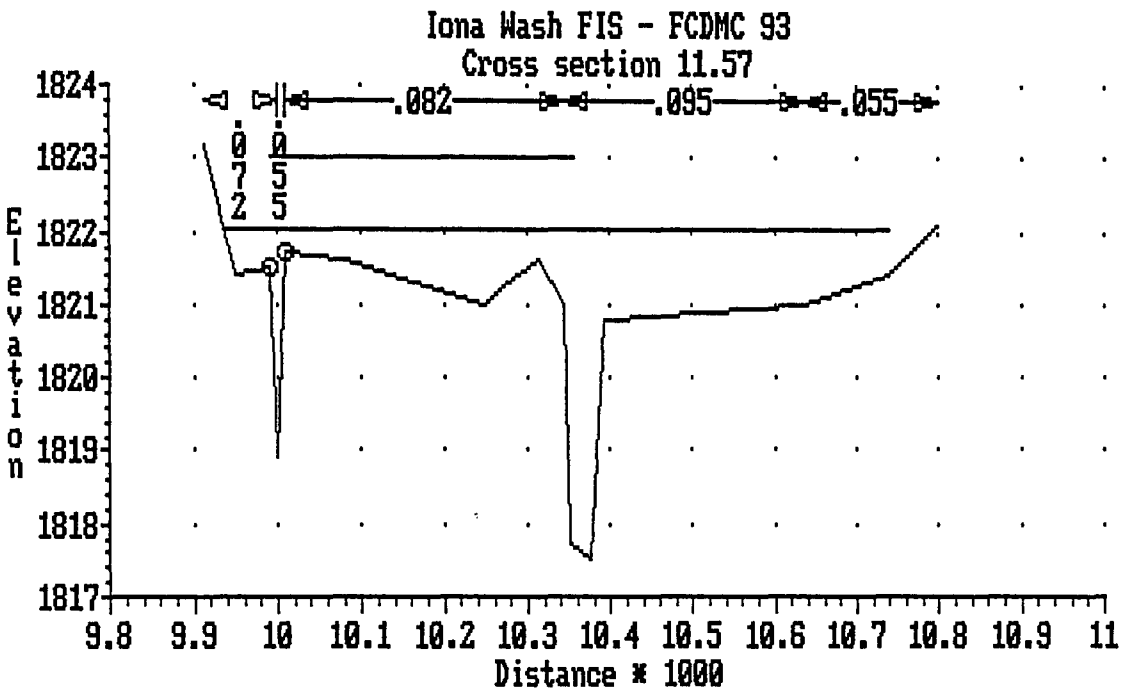

Iona Wash FIS - FCDMC 93
Cross section 11.079
.055
.062
.055
Elevation
1806
1804
1802
1800
1798
1796
1794
1792
8.5
8.75
9
9.25
9.5
9.75
10
10.25
10.5
10.75
11
11.25
11.5
Distance * 1000

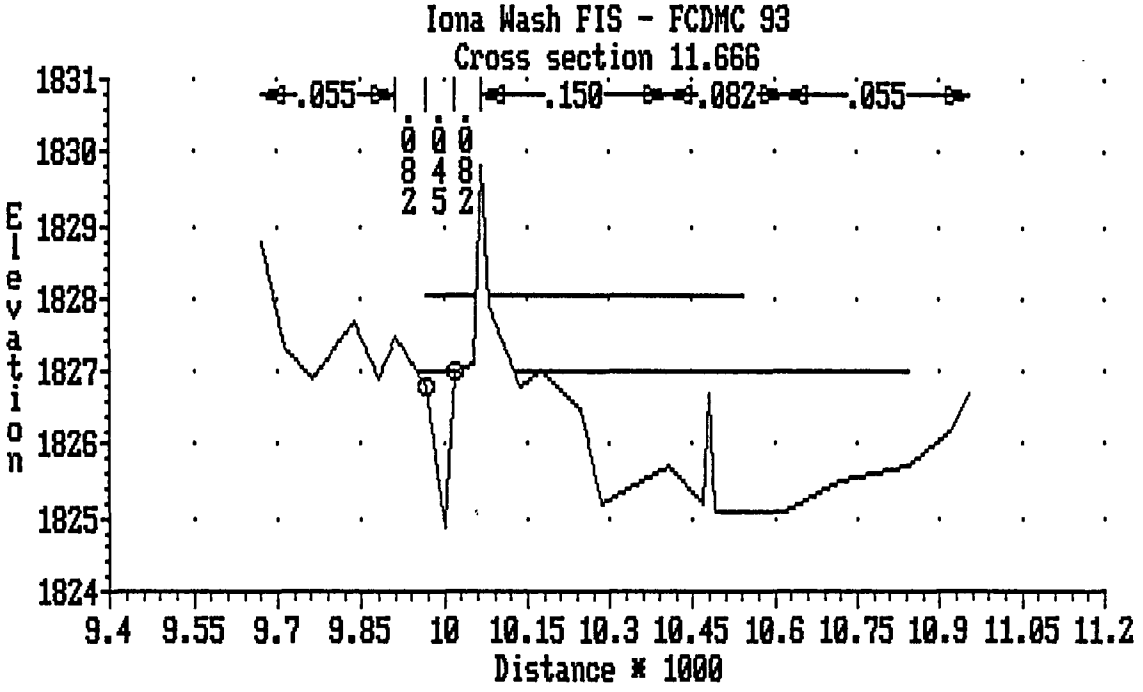

Iona Wash FIS - FCDMC 93
Cross section 11.174
.055
.072
.055
Elevation
1810
1808
1806
1804
1802
1800
1798
1796
8.5
8.75
9
9.25
9.5
9.75
10
10.25
10.5
10.75
11
11.25
11.5
Distance * 1000

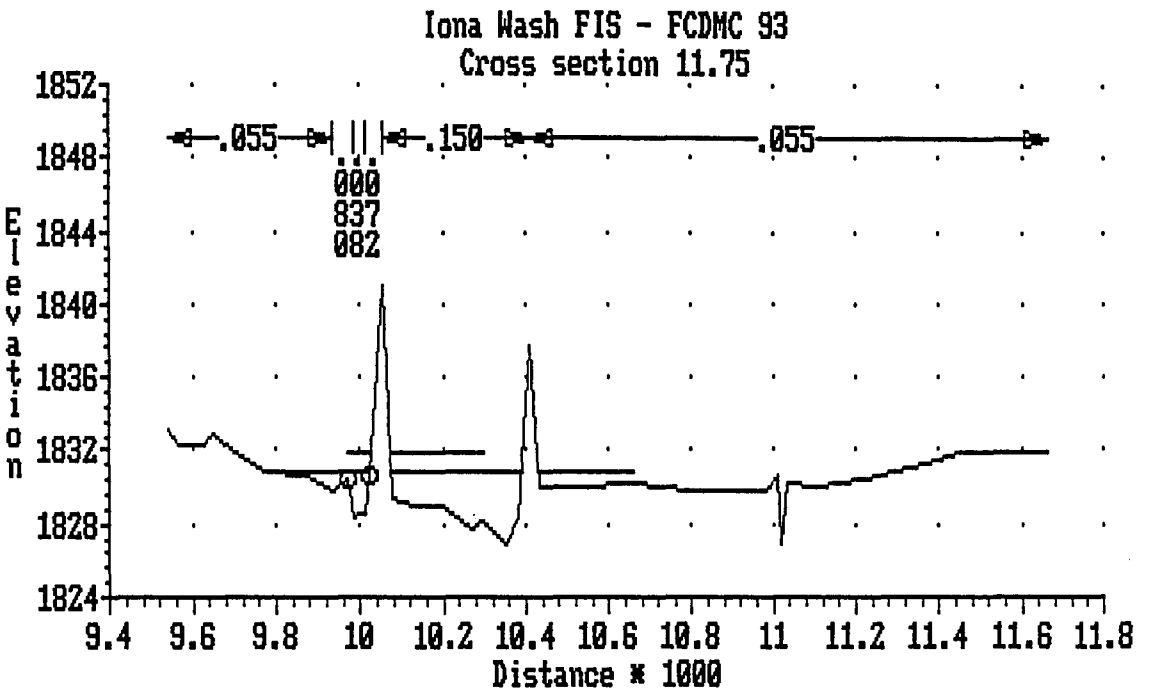

Iona Wash FIS - FCDMC 93
Cross section 11.264
.055
.055
.072
Elevation
1814
1812
1810
1808
1806
1804
1802
1800
8.5
8.75
9
9.25
9.5
9.75
10
10.25
10.5
10.75
11
11.25
11.5
Distance * 1000

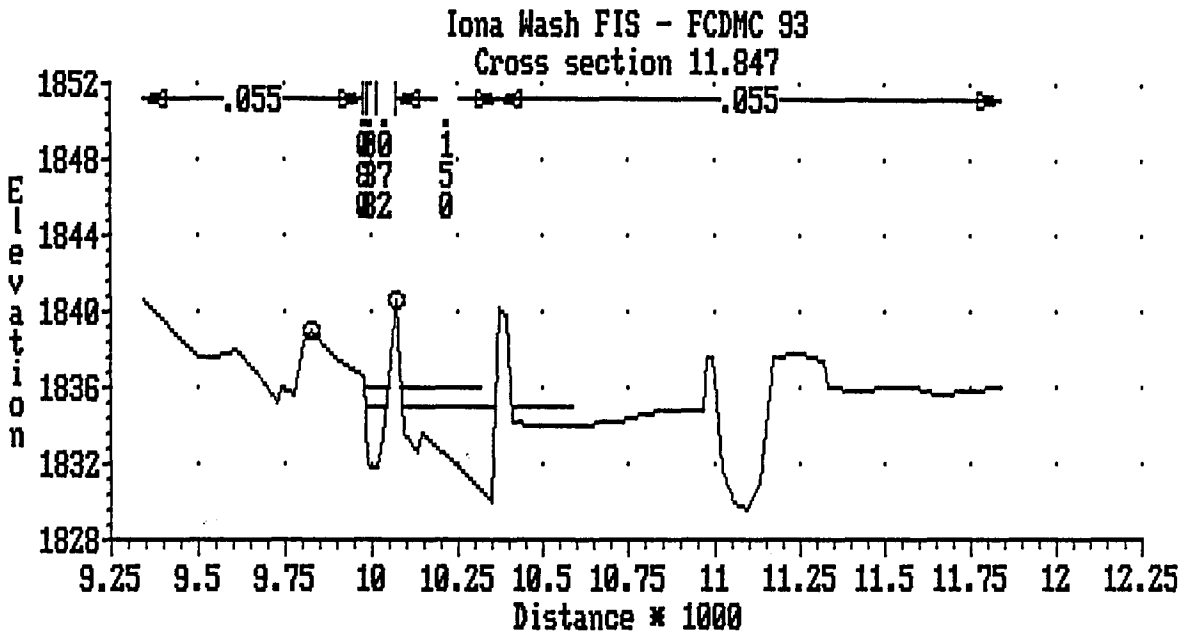

Iona Wash FIS - FCDMC 93
Cross section 11.368
.055
.072
.055
1815
1814
1813
1812
1811
1810
1809
1808
Elevation
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
10.6
Distance * 1000

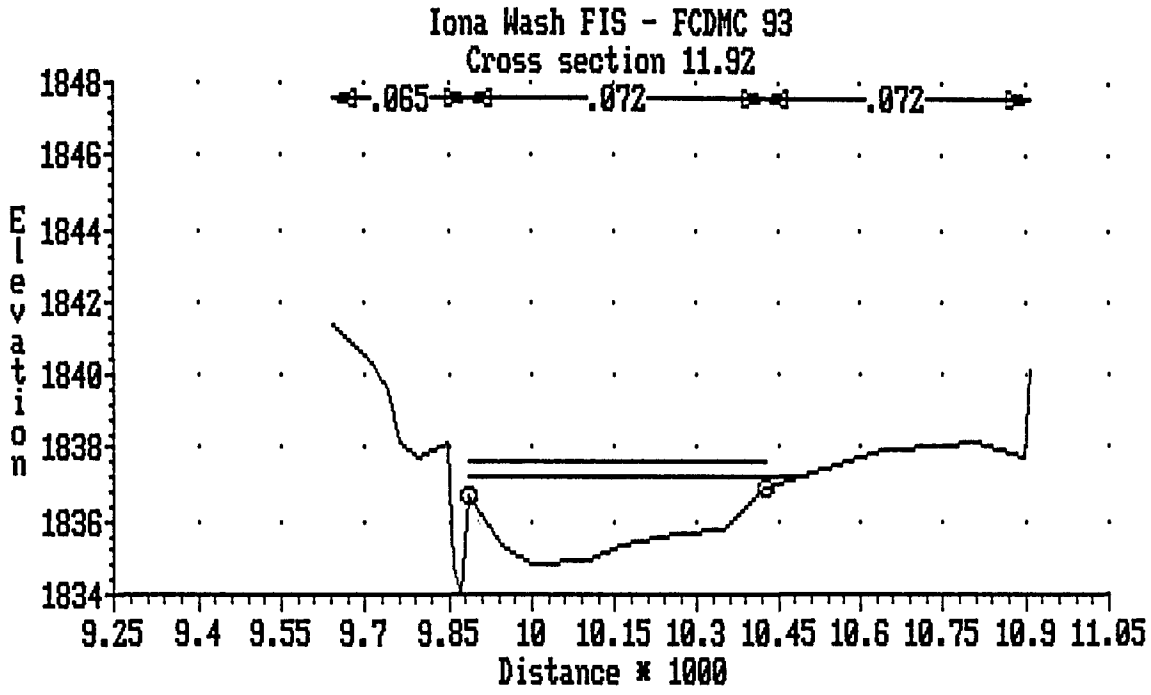

Iona Wash FIS - FCDMC 93
Cross section 11.469
.072
.055
.055
Elevation
1824
1822
1820
1818
1816
1814
1812
1810
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
10.6
10.7
10.8
10.9
Distance * 1000

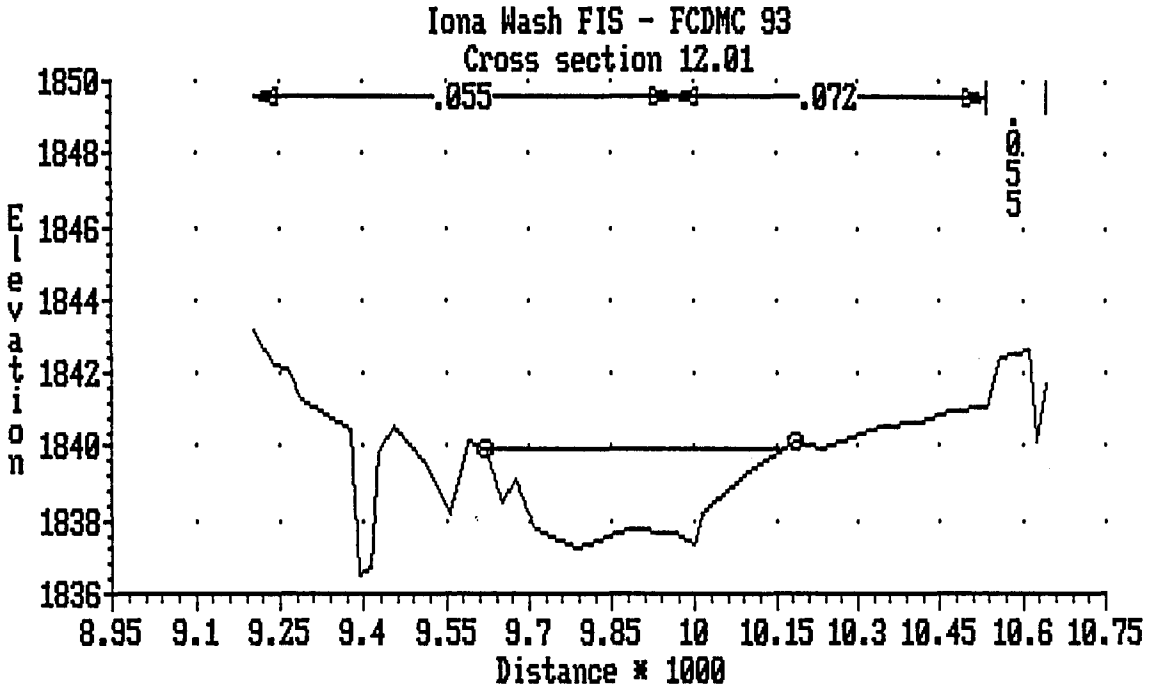

Iona Wash FIS - FCDMC 93
Cross section 11.57
.082
.095
.055
.075
.025
Elevation
1824
1823
1822
1821
1820
1819
1818
1817
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
10.6
10.7
10.8
10.9
11
Distance * 1000

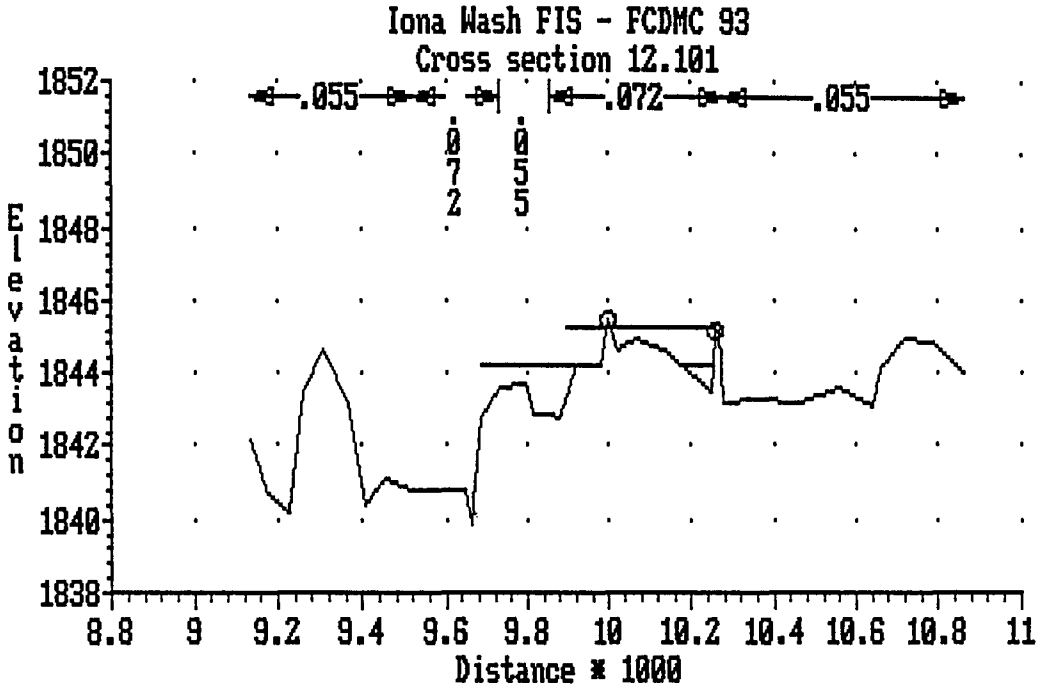

Iona Wash FIS - FCDMC 93
Cross section 11.666
.055
.082
.052
.048
.082
.150
.082
.055
Elevation
1831
1830
1829
1828
1827
1826
1825
1824
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
10.9
11.05
11.2
Distance * 1000

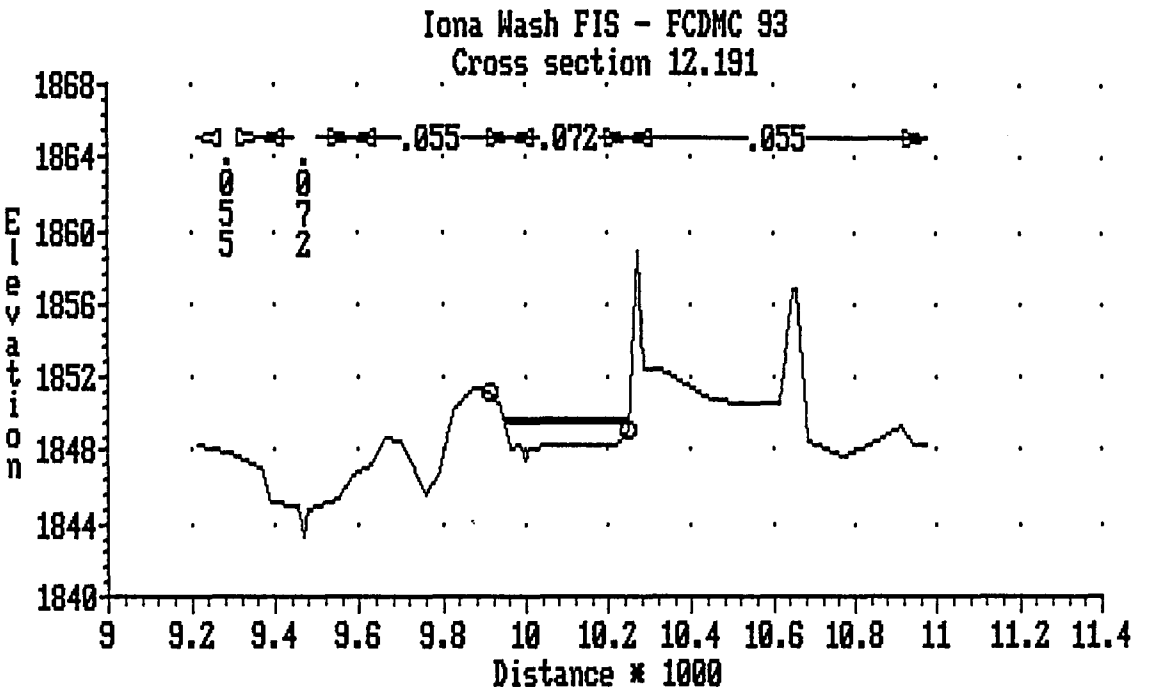

Iona Wash FIS - FCDMC 93
Cross section 11.75
.055
.150
.055
000
837
082
Elevation
1852
1848
1844
1840
1836
1832
1828
1824
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
11
11.2
11.4
11.6
11.8
Distance * 1000

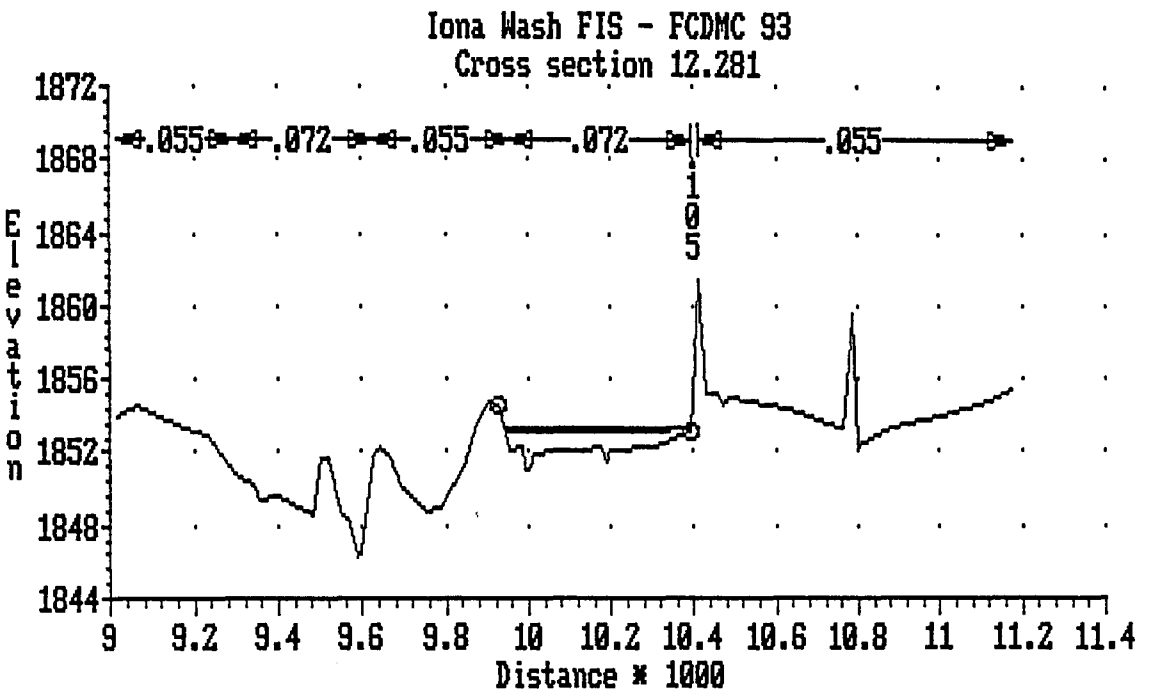

Iona Wash FIS - FCDMC 93
Cross section 11.847
.055
.055
1852
1848
1844
1840
1836
1832
1828
Elevation
9.25
9.5
9.75
10
10.25
10.5
10.75
11
11.25
11.5
11.75
12
12.25
Distance * 1000

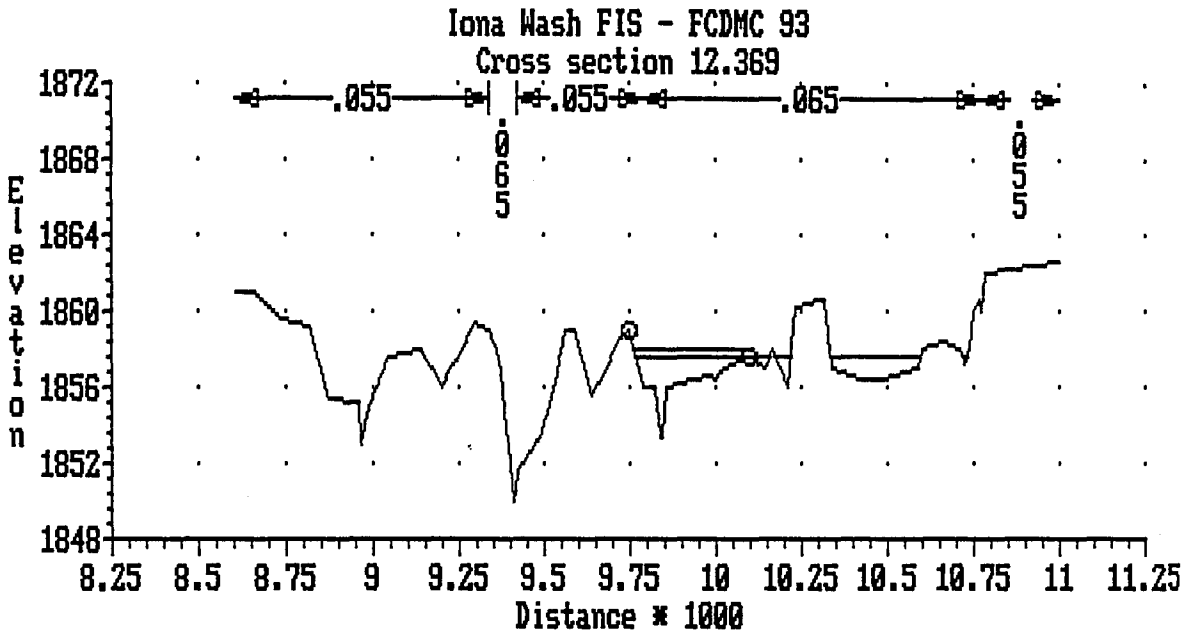

Iona Wash FIS - FCDMC 93
Cross section 11.92
.065
.072
.072
1848
1846
1844
1842
1840
1838
1836
1834
Elevation
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
10.9
11.05
Distance * 1000

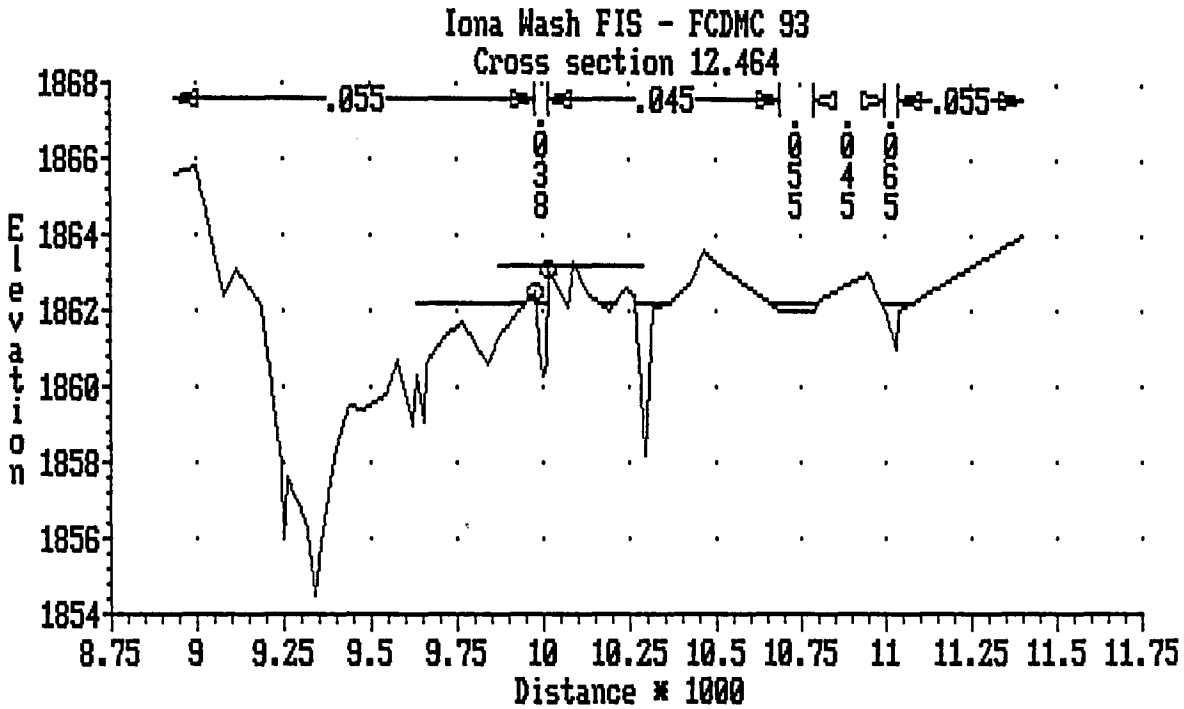

Iona Wash FIS - FCDMC 93
Cross section 12.01
.055
.072
.055
Elevation
1850
1848
1846
1844
1842
1840
1838
1836
8.95
9.1
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
Distance * 1000

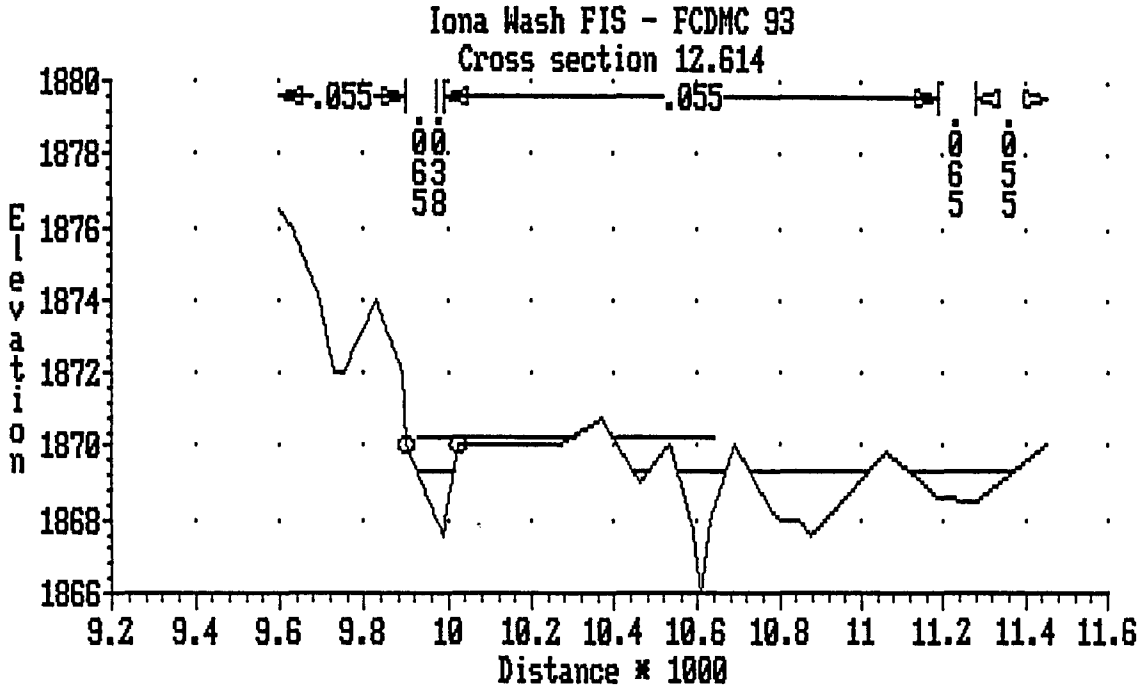

Iona Wash FIS - FCDMC 93
Cross section 12.101
.055
.072
.055
.072
.055
Elevation
1852
1850
1848
1846
1844
1842
1840
1838
8.8
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
11
Distance * 1000

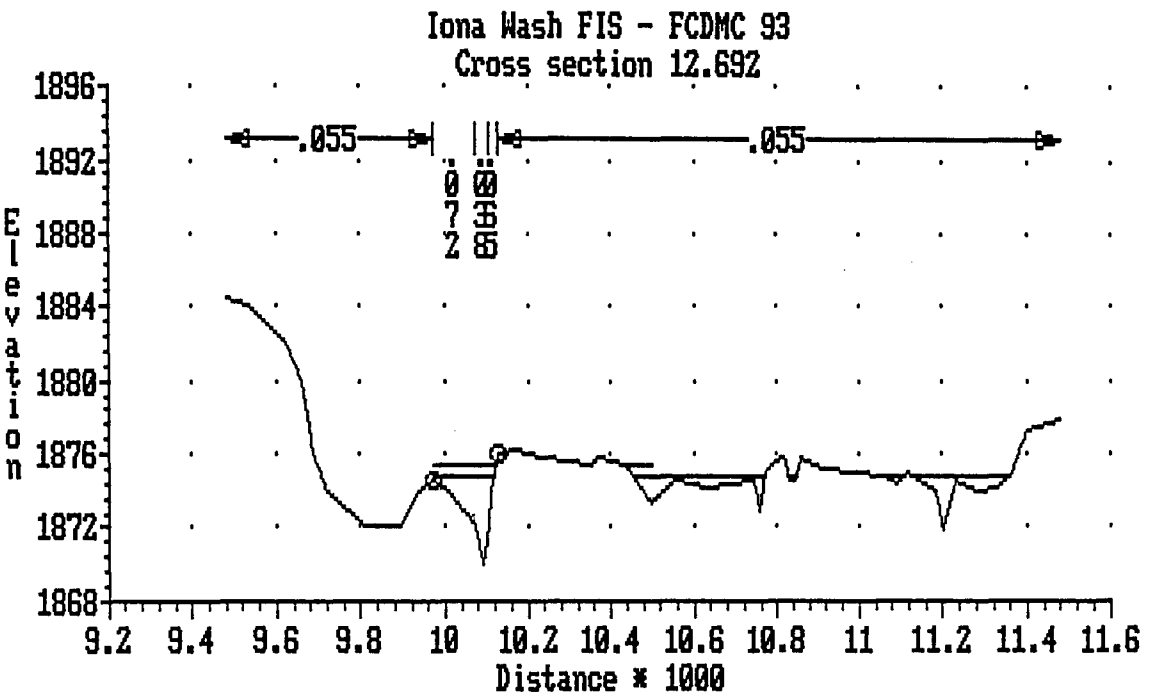

Iona Wash FIS - FCDMC 93
Cross section 12.191
.055
.072
.055
.055
.072
Elevation
1868
1864
1860
1856
1852
1848
1844
1840
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
11
11.2
11.4
Distance * 1000

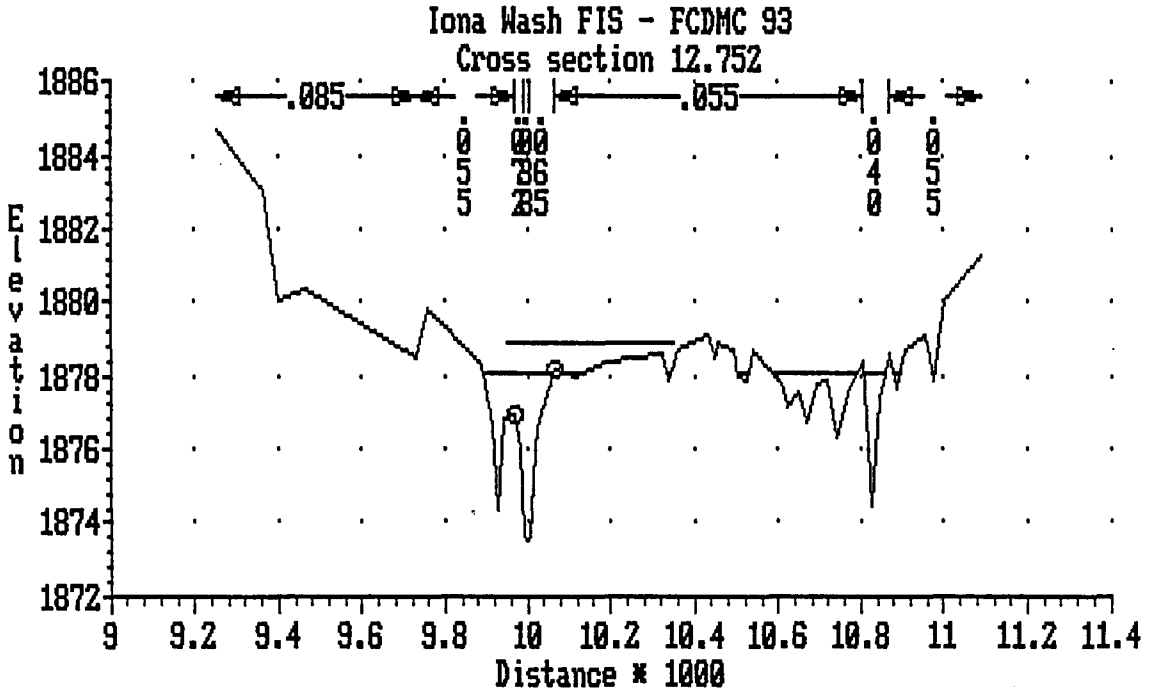

Iona Wash FIS - FCDMC 93
Cross section 12.281
.055
.072
.055
.072
.055
105
Elevation
1872
1868
1864
1860
1856
1852
1848
1844
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
11
11.2
11.4
Distance * 1000

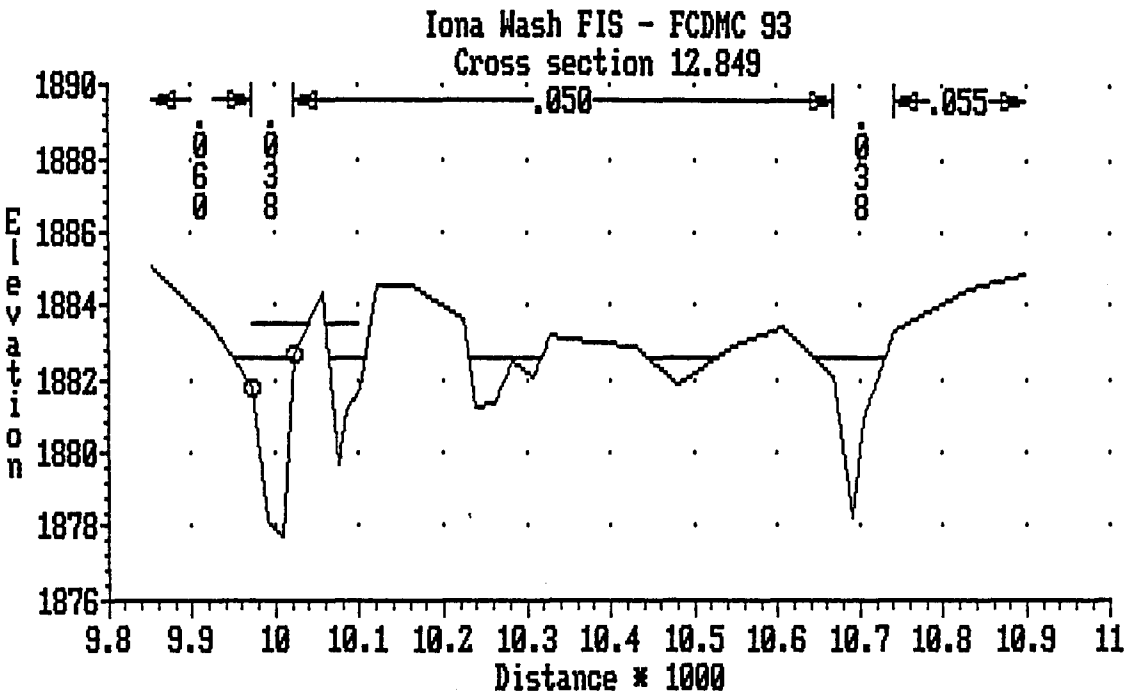

Iona Wash FIS - FCDMC 93
Cross section 12.369
.055
.065
.055
.065
.055
Elevation
1872
1868
1864
1860
1856
1852
1848
8.25
8.5
8.75
9
9.25
9.5
9.75
10
10.25
10.5
10.75
11
11.25
Distance * 1000

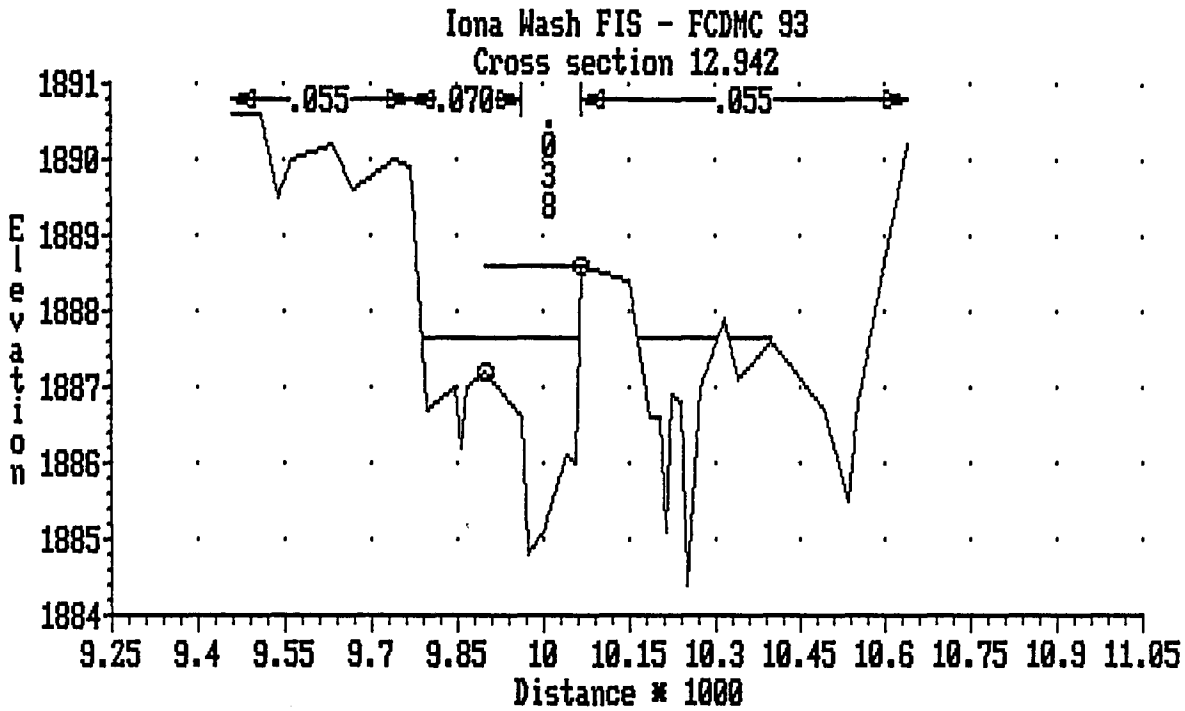

Iona Wash FIS - FCDMC 93
Cross section 12.464
.055
.045
.055
.038
.055
.045
.065
1868
1866
1864
1862
1860
1858
1856
1854
Elevation
8.75
9
9.25
9.5
9.75
10
10.25
10.5
10.75
11
11.25
11.5
11.75
Distance * 1000

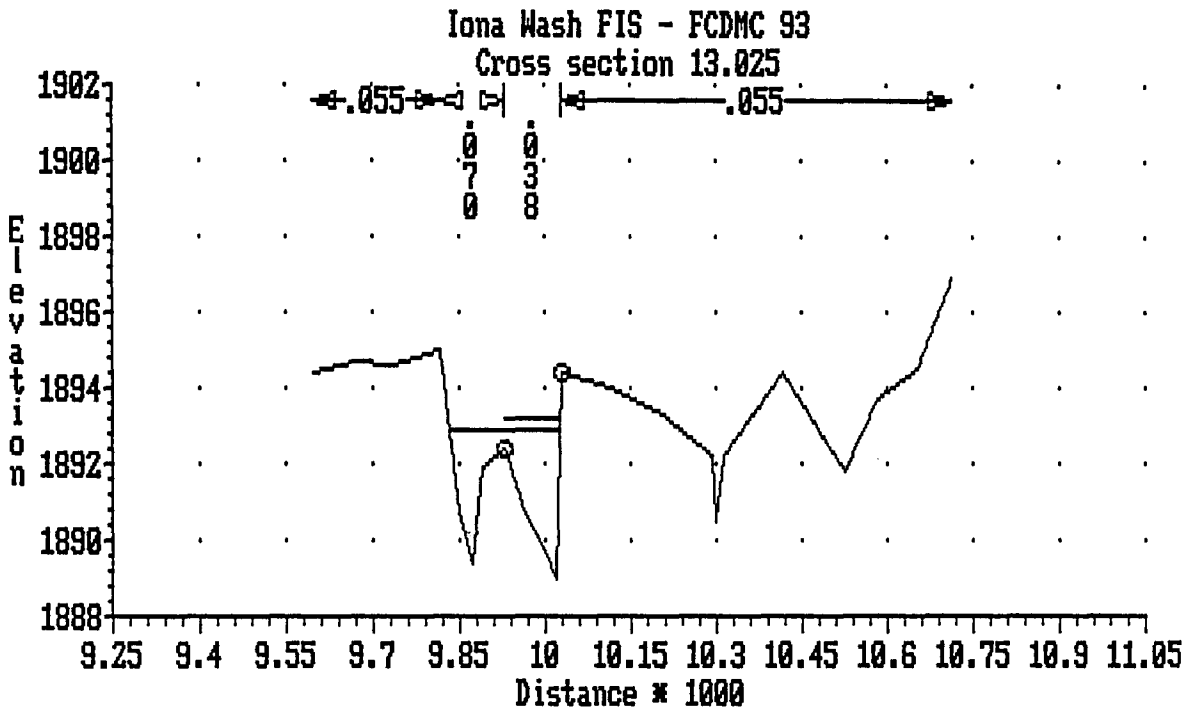

Iona Wash FIS - FCDMC 93
Cross section 12.614
.055
.055
.0063
.0058
.065
.055
Elevation
1880
1878
1876
1874
1872
1870
1868
1866
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
11
11.2
11.4
11.6
Distance * 1000

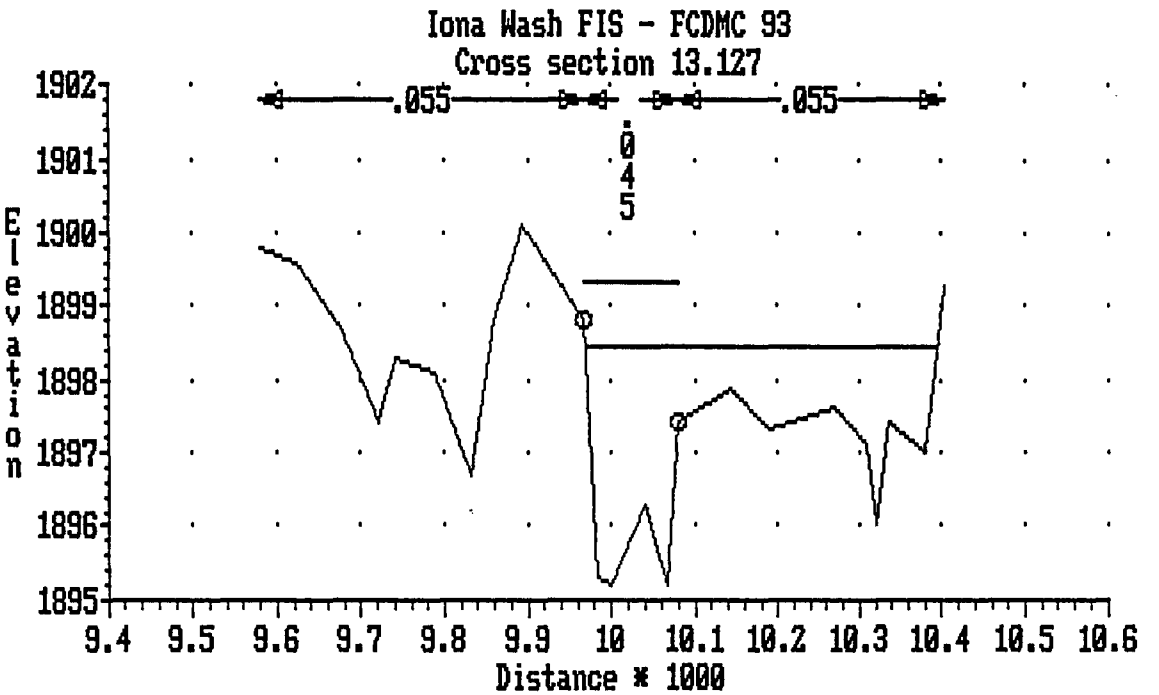

Iona Wash FIS - FCDMC 93
Cross section 12.692
.055
.055
0.072
0.036
0.036
Elevation
1896
1892
1888
1884
1880
1876
1872
1868
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
11
11.2
11.4
11.6
Distance * 1000

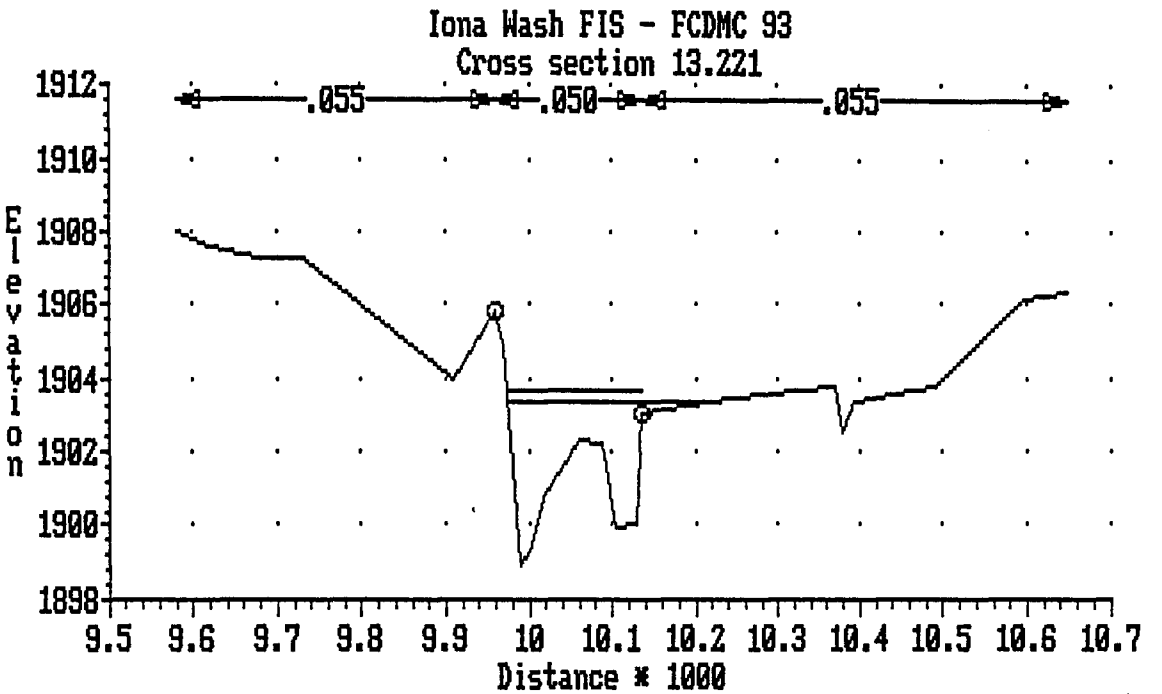

Iona Wash FIS - FCDMC 93
Cross section 12.752
.085
.055
Elevation
1886
1884
1882
1880
1878
1876
1874
1872
9
9.2
9.4
9.6
9.8
10
10.2
10.4
10.6
10.8
11
11.2
11.4
Distance * 1000

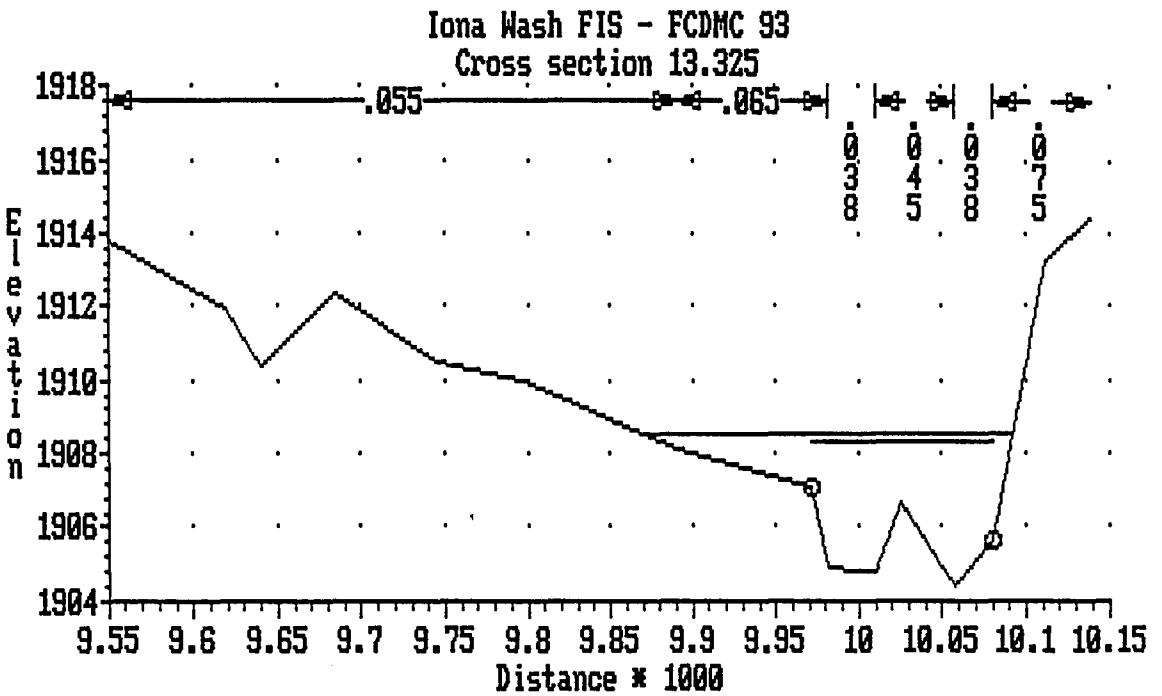

Iona Wash FIS - FCDMC 93
Cross section 12.849
.060
.038
.050
.038
.055
Elevation
1890
1888
1886
1884
1882
1880
1878
1876
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
10.6
10.7
10.8
10.9
11
Distance * 1000

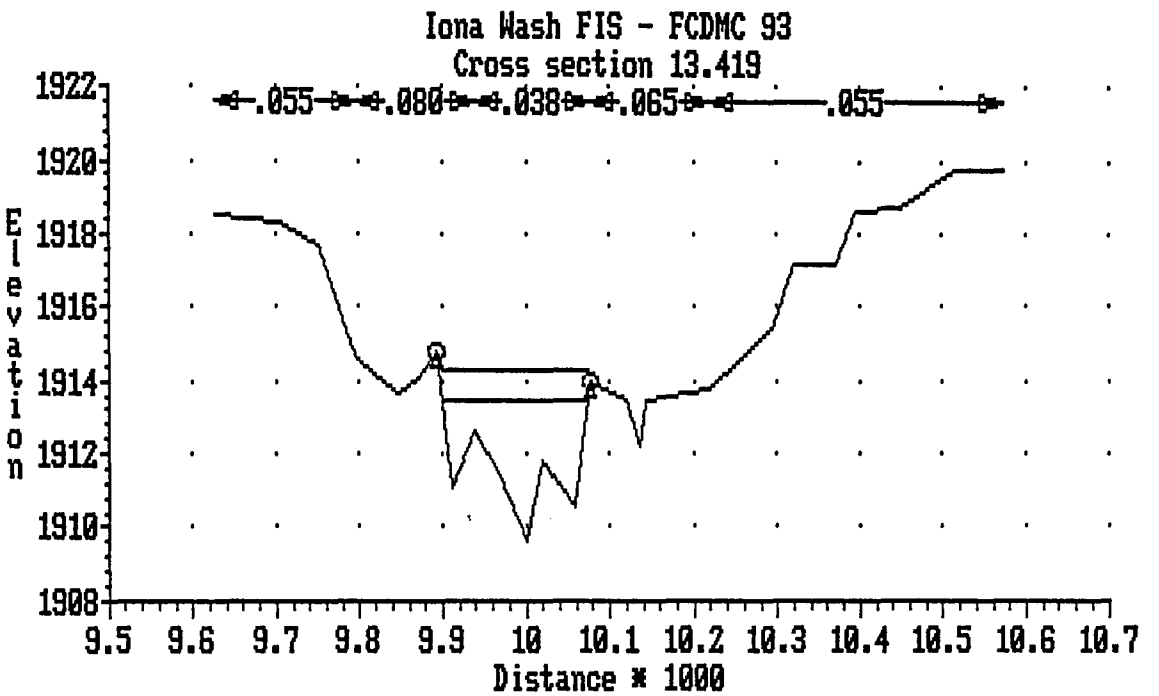

Iona Wash FIS - FCDMC 93
Cross section 12.942
.055
.070
.038
.055
Elevation
1891
1890
1889
1888
1887
1886
1885
1884
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
10.9
11.05
Distance * 1000

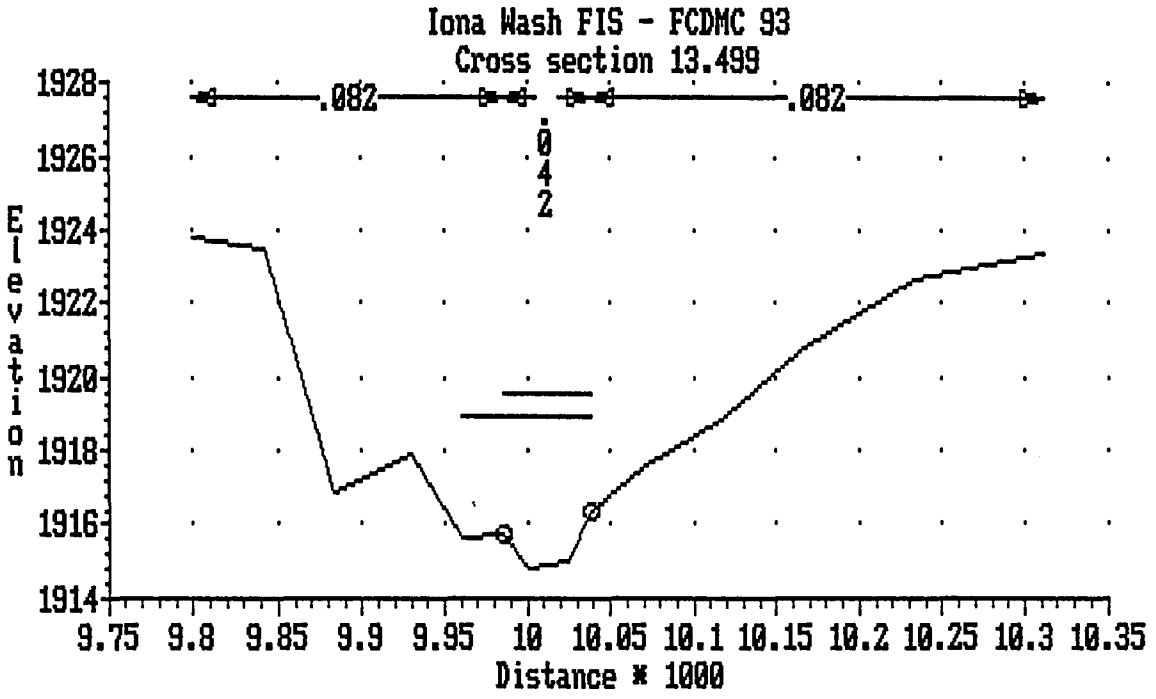

Iona Wash FIS - FCDMC 93
Cross section 13.025
.055
.055
.070
.038
Elevation
1902
1900
1898
1896
1894
1892
1890
1888
9.25
9.4
9.55
9.7
9.85
10
10.15
10.3
10.45
10.6
10.75
10.9
11.05
Distance * 1000


Iona Wash FIS - FCDMC 93
Cross section 13.127
.055
.045
.055
Elevation
1902
1901
1900
1899
1898
1897
1896
1895
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
10.6
Distance * 1000


Iona Wash FIS - FCDMC 93
Cross section 13.221
.055
.050
.055
1912
1910
1908
1906
1904
1902
1900
1898
Elevation
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
10.6
10.7
Distance * 1000


Iona Wash FIS - FCDMC 93
Cross section 13.325
.055
.065
.038
.045
.038
.075
Elevation
1918
1916
1914
1912
1910
1908
1906
1904
9.55
9.6
9.65
9.7
9.75
9.8
9.85
9.9
9.95
10
10.05
10.1
10.15
Distance * 1000


Iona Wash FIS - FCDMC 93
Cross section 13.419
.055
.080
.038
.065
.055
1922
1920
1918
1916
1914
1912
1910
1908
Elevation
9.5
9.6
9.7
9.8
9.9
10
10.1
10.2
10.3
10.4
10.5
10.6
10.7
Distance * 1000


Iona Wash FIS - FCDMC 93
Cross section 13.499
.082
.042
.082
Elevation
1928
1926
1924
1922
1920
1918
1916
1914
9.75 9.8 9.85 9.9 9.95 10 10.05 10.1 10.15 10.2 10.25 10.3 10.35
Distance * 1000

# IONASF?.HC2

## Split Flow Runs
## for Floodplain/Floodway

HEC2 S/N: 1916530021 HMVersion: 6.50 Data File: ionasf1.hc2

```
*******************************************
*  :-2 WATER SURFACE PROFILES             *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE     8JUL93    TIME   16:52:35 *
*******************************************
```

```
****************************************
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```


==========
H A E S T A D  M E T H O D S
==========

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 8JUL93 16:52:35

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

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



SPLIT FLOW BEING PERFORMED


SFSplit Flow


TWSection .640 to .734
WS     2    .640    .734      -1     2.5
WC     0  1461.4     540  1464.3

TWSection .734 to .819
WS     2    .734    .819      -1     2.5
WC     0  1464.3     460  1466.4

TWSection .819 to .912
WS     2    .819    .912      -1     2.5
WC     0  1466.4     510  1468.9

TWSection .912 to .999
WS     2    .912    .999      -1     2.5
WC     0  1468.9     430  1471.0

TWSection .999 to 1.101
WS     2    .999   1.101      -1     2.5
WC     0  1471.0     680  1475.0
```

```
T1
T2
T3      Split Flow - SP #6

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

                2                                                          1460.98

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     -1                  -1

J6  IHLEQ     ICOPY     SUBDIV    STRTDS    RMILE

      1

QT        1       5001

NC     .055       .055       .082        .1        .3

X      0.640         32     9894.8   10028.5       490       450       502
GR    1462.3     9103.1     1462.1    9152.3    1461.3    9213.1    1460.3    9261.5    1459.8    9300.0
GR    1459.9     9323.4     1459.8    9359.8    1459.5    9404.3    1459.4    9432.3    1459.6    9481.2
GR    1459.7     9522.3     1459.9    9557.5    1460.2    9603.4    1460.1    9633.4    1459.9    9687.7
GR    1459.5     9740.9     1459.6    9784.1    1459.2    9846.2    1459.1    9894.8    1458.9    9916.1
GR    1458.5     9920.4     1458.6    9991.8    1458.8    9994.7    1458.1   10000.0    1459.0   10009.4
GR    1459.3    10028.5     1459.1   10065.8    1459.3   10116.0    1458.7   10122.3    1460.3   10146.4
GR    1461.3    10174.7     1461.4   10204.8

NH        3       .055     9544.3       .082     10125       .055     10215
X1    0.734         37     9974.8    10125.       380       530       496
GR    1464.9     9137.9     1465.0    9179.0    1464.5    9239.1    1464.1    9257.9    1464.1    9293.4
GR    1464.7     9325.7     1464.9    9374.1    1464.3    9426.4    1463.3    9490.0    1462.4    9530.3
GR    1462.7     9544.3     1461.9    9600.5    1460.8    9603.2    1461.9    9609.1    1462.4    9636.0
GR    1462.2     9685.3     1462.3    9731.3    1462.2    9794.1    1461.6    9802.8    1462.2    9816.7
GR    1461.9     9839.0     1461.1    9845.3    1462.1    9853.3    1462.3    9890.5    1462.3    9937.2
GR    1462.0     9953.1     1462.4    9974.8    1462.2   10000.     1461.9   10027.     1461.0   10032.
GR    1461.8    10039.      1461.8   10081.     1463.4   10125.     1463.8   10164.     1463.2   10175.
GR    1463.9    10184.      1464.3   10215.

NH        3       .055       9616       .082     10083       .055   10274.3
X1    0.819         31     9891.7    10083.       420       460       449
GR    1468.0     9196.5     1467.0    9262.9    1467.4    9307.7    1467.4    9362.5    1466.6    9414.5
GR    1466.0     9456.3     1465.2    9494.2    1464.8    9540.0    1464.8    9616.0    1465.2    9650.8
GR    1464.8     9706.0     1463.3    9711.0    1464.8    9715.2    1465.3    9749.7    1465.1    9802.2
GR    1464.2     9808.4     1465.3    9818.5    1464.6    9850.8    1465.0    9891.7    1464.7    9937.8
GR    1463.9     9994.2     1463.1   10000.0    1464.4   10008.     1464.1   10057.     1465.3   10083.
GR    1465.2    10107.3     1464.3   10145.2    1465.3   10170.     1465.5   10197.     1466.4   10236.
GR    1466.4    10274.3
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 5 | .055 | 9512. | .088 | 9707.5 | .064 | 9901.4 | .088 | 10045. | .055 |
| NH | 10173. | | | | | | | | | |
| X1 | 0.912 | 34 | 9872.2 | 10063. | 410 | 500 | 491 | | | |
| GR | 1471.1 | 8947.9 | 1470.4 | 9062.3 | 1469.3 | 9110.5 | 1469.1 | 9170.3 | 1469.1 | 9210.8 |
| GR | 1469.5 | 9250.5 | 1468.7 | 9314.3 | 1468.2 | 9367.1 | 1467.8 | 9403.2 | 1467.8 | 9464.6 |
| GR | 1467.5 | 9512.0 | 1467.6 | 9582.0 | 1466.3 | 9589.6 | 1467.7 | 9598.2 | 1467.6 | 9615.0 |
| GR | 1467.6 | 9628.4 | 1466.0 | 9634.2 | 1467.6 | 9640.1 | 1467.6 | 9665.7 | 1467.4 | 9707.5 |
| GR | 1467.7 | 9748.9 | 1467.7 | 9805.2 | 1467.3 | 9872.2 | 1466.2 | 9893.5 | 1466.8 | 9901.4 |
| GR | 1466.7 | 9945.9 | 1467.2 | 9990.8 | 1464.8 | 10000. | 1466.9 | 10010. | 1467.1 | 10045. |
| GR | 1466.3 | 10053. | 1467.3 | 10063. | 1468.5 | 10113. | 1468.9 | 10173. | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 5 | .055 | 9467.5 | .082 | 9620.2 | .064 | 9896.5 | .082 | 10063. | .055 |
| NH | 10440. | | | | | | | | | |
| X1 | 0.999 | 41 | 9929.9 | 10271 | 460 | 430 | 459 | | | |
| GR | 1472.5 | 9248.6 | 1471.2 | 9271.1 | 1470.6 | 9308.8 | 1470.3 | 9349.2 | 1471.0 | 9364.7 |
| GR | 1470.6 | 9411.7 | 1470.2 | 9467.5 | 1469.0 | 9478.2 | 1469.9 | 9489.1 | 1470.2 | 9518.1 |
| GR | 1468.8 | 9526.5 | 1470.6 | 9535.2 | 1470.5 | 9568.1 | 1468.9 | 9575.3 | 1470.5 | 9587.6 |
| GR | 1470.3 | 9620.2 | 1470.5 | 9664.2 | 1470.1 | 9744.7 | 1470.0 | 9759.6 | 1469.8 | 9804.7 |
| GR | 1469.3 | 9866.9 | 1468.6 | 9881.1 | 1469.3 | 9896.5 | 1469.2 | 9929.9 | 1468.6 | 9947.6 |
| GR | 1468.9 | 9969.6 | 1468.8 | 9994.3 | 1467.3 | 10000. | 1468.7 | 10006. | 1468.8 | 10037. |
| GR | 1467.8 | 10044. | 1468.9 | 10054. | 1467.9 | 10063. | 1468.3 | 10084. | 1468.7 | 10089. |
| GR | 1469.1 | 10146. | 1469.5 | 10203. | 1470.0 | 10271. | 1470.6 | 10326. | 1470.8 | 10381. |
| GR | 1471.0 | 10440. | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 5 | .055 | 9387.7 | .082 | 9473.6 | .064 | 9935.7 | .082 | 10134. | .055 |
| NH | 10366. | | | | | | | | | |
| X1 | 1.101 | 38 | 9597.8 | 10134. | 310 | 630 | 539 | | | |
| GR | 1476.4 | 9184.5 | 1475.9 | 9221.0 | 1474.4 | 9264.2 | 1472.6 | 9326.1 | 1471.8 | 9387.7 |
| GR | 1470.8 | 9400.3 | 1470.8 | 9412.7 | 1471.9 | 9423.8 | 1470.3 | 9439.9 | 1471.5 | 9451.5 |
| GR | 1470.1 | 9462.8 | 1471.8 | 9473.6 | 1471.8 | 9514.3 | 1472.2 | 9553.0 | 1472.6 | 9597.8 |
| GR | 1471.9 | 9658.9 | 1471.9 | 9679.6 | 1471.7 | 9736.3 | 1471.7 | 9778.6 | 1470.7 | 9786.1 |
| GR | 1471.8 | 9791.4 | 1471.2 | 9811.0 | 1471.4 | 9818.5 | 1471.7 | 9872.2 | 1471.6 | 9910.5 |
| GR | 1472.1 | 9935.7 | 1471.3 | 9943.5 | 1472.0 | 9950.7 | 1471.6 | 10000. | 1471.6 | 10045. |
| GR | 1471.9 | 10103. | 1472.1 | 10134. | 1474.9 | 10182. | 1475.1 | 10221. | 1474.1 | 10241. |
| GR | 1475.9 | 10274. | 1476.3 | 10308. | 1476.3 | 10366. | | | | |

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

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

*PROF 1

CCHV= 0.100 CEHV= 0.300

*SECNO 0.640

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.640 | 2.88 | 1460.98 | 0.00 | 1460.98 | 1461.10 | 0.12 | 0.00 | 0.00 | 1459.10 |
| 3692.1 | 2228.4 | 791.9 | 671.8 | 822.9 | 303.3 | 210.4 | 0.0 | 0.0 | 1459.30 |
| 0.00 | 2.71 | 2.61 | 3.19 | 0.055 | 0.082 | 0.055 | 0.000 | 1458.10 | 9228.59 |
| 0.006972 | 490. | 502. | 450. | 0 | 0 | 0 | 0.00 | 937.05 | 10165.64 |

1490 NH CARD USED

*SECNO 0.734

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.734 | 3.45 | 1464.25 | 0.00 | 0.00 | 1464.36 | 0.11 | 3.26 | 0.00 | 1462.40 |
| 3692.1 | 2735.7 | 876.6 | 79.8 | 1003.6 | 317.4 | 44.3 | 13.0 | 8.5 | 1463.40 |
| 0.04 | 2.73 | 2.76 | 1.80 | 0.079 | 0.082 | 0.055 | 0.000 | 1460.80 | 9251.04 |
| 08579 | 380. | 496. | 530. | 5 | 0 | 0 | 0.00 | 831.16 | 10210.80 |

1490 NH CARD USED

*SECNO 0.819

3280 CROSS SECTION 0.82 EXTENDED 0.54 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.819 | 3.84 | 1466.94 | 0.00 | 0.00 | 1467.03 | 0.09 | 2.66 | 0.00 | 1465.00 |
| 3857.0 | 2004.5 | 1115.5 | 736.9 | 878.1 | 480.6 | 277.8 | 27.9 | 17.0 | 1465.30 |
| 0.09 | 2.28 | 2.32 | 2.65 | 0.070 | 0.082 | 0.055 | 0.000 | 1463.10 | 9392.47 |
| 0.004810 | 420. | 449. | 460. | 4 | 0 | 0 | 0.00 | 881.83 | 10274.30 |

1490 NH CARD USED

*SECNO 0.912

3265 DIVIDED FLOW

3280 CROSS SECTION 0.91 EXTENDED 0.53 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.912 | 4.63 | 1469.43 | 0.00 | 0.00 | 1469.53 | 0.11 | 2.50 | 0.01 | 1467.30 |
| 4352.1 | 2559.1 | 1495.5 | 297.6 | 1029.3 | 511.1 | 120.1 | 44.8 | 26.8 | 1467.30 |
| 0.14 | 2.49 | 2.93 | 2.48 | 0.069 | 0.079 | 0.055 | 0.000 | 1464.80 | 9104.88 |
| 0.006507 | 410. | 491. | 500. | 5 | 0 | 0 | 0.00 | 1055.30 | 10173.00 |

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

1490 NH CARD USED
*SECNO 0.999
3280 CROSS SECTION 1.00 EXTENDED 0.68 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.44

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.999 | 4.38 | 1471.68 | 0.00 | 0.00 | 1471.77 | 0.09 | 2.23 | 0.00 | 1469.20 |
| 4854.4 | 1993.3 | 2548.3 | 312.7 | 1021.9 | 919.4 | 175.5 | 64.6 | 38.4 | 1470.00 |
| 0.19 | 1.95 | 2.77 | 1.78 | 0.067 | 0.065 | 0.055 | 0.000 | 1467.30 | 9262.82 |
| 0.003897 | 460. | 459. | 430. | 3 | 0 | 0 | 0.00 | 1177.18 | 10440.00 |

1490 NH CARD USED
*SECNO 1.101

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.101 | 3.83 | 1473.93 | 0.00 | 0.00 | 1474.05 | 0.12 | 2.27 | 0.01 | 1472.60 |
| 5001.0 | 1721.2 | 3222.8 | 57.0 | 616.6 | 1160.7 | 28.8 | 84.8 | 48.8 | 1472.10 |
| 0.24 | 2.79 | 2.78 | 1.98 | 0.070 | 0.070 | 0.055 | 0.000 | 1470.10 | 9280.27 |
| 0.006058 | 310. | 539. | 630. | 3 | 0 | 0 | 0.00 | 885.14 | 10165.42 |

TWsection .640 to .734

| ASQ | QCOMP | ERRAC | TASQ | TCQ | TABER | NITER | DSWS | USWS | DSSNO | USSNO |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 7 | 1460.980 | 1464.246 | 0.640 | 0.734 |

TWSection .734 to .819

| ASQ | QCOMP | ERRAC | TASQ | TCQ | TABER | NITER | DSWS | USWS | DSSNO | USSNO |
|---|---|---|---|---|---|---|---|---|---|---|
| 164.85 | 165.04 | 0.11 | 164.85 | 165.04 | 0.11 | 7 | 1464.246 | 1466.938 | 0.734 | 0.819 |

TWSection .819 to .912

| ASQ | QCOMP | ERRAC | TASQ | TCQ | TABER | NITER | DSWS | USWS | DSSNO | USSNO |
|---|---|---|---|---|---|---|---|---|---|---|
| 495.18 | 494.89 | 0.06 | 660.03 | 659.93 | 0.01 | 7 | 1466.938 | 1469.426 | 0.819 | 0.912 |

TWSection .912 to .999

| ASQ | QCOMP | ERRAC | TASQ | TCQ | TABER | NITER | DSWS | USWS | DSSNO | USSNO |
|---|---|---|---|---|---|---|---|---|---|---|
| 502.25 | 502.40 | 0.03 | 1162.27 | 1162.34 | 0.01 | 7 | 1469.426 | 1471.677 | 0.912 | 0.999 |

Tw[illegible]tion .999 to 1.101

| ASQ | QCOMP | ERRAC | TASQ | TCQ | TABER | NITER | DSWS | USWS | DSSNO | USSNO |
|---|---|---|---|---|---|---|---|---|---|---|
| 146.62 | 146.49 | 0.09 | 1308.89 | 1308.82 | 0.01 | 7 | 1471.677 | 1473.926 | 0.999 | 1.101 |

THIS RUN EXECUTED 8JUL93 16:52:44

**********
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

Split Flow - SP #6

SUMMARY PRINTOUT TABLE 150

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10*KS | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.640 | 0.00 | 0.00 | 0.00 | 1458.10 | 3692.11 | 1460.98 | 0.00 | 1461.10 | 69.72 | 2.61 | 1336.61 | 442.19 |
| | 0.734 | 496.00 | 0.00 | 0.00 | 1460.80 | 3692.11 | 1464.25 | 0.00 | 1464.36 | 85.79 | 2.76 | 1365.20 | 398.61 |
| | 0.819 | 449.00 | 0.00 | 0.00 | 1463.10 | 3856.96 | 1466.94 | 0.00 | 1467.03 | 48.10 | 2.32 | 1636.51 | 556.11 |
| | 0.912 | 491.00 | 0.00 | 0.00 | 1464.80 | 4352.14 | 1469.43 | 0.00 | 1469.53 | 65.07 | 2.93 | 1660.52 | 539.51 |
| * | 0.999 | 459.00 | 0.00 | 0.00 | 1467.30 | 4854.38 | 1471.68 | 0.00 | 1471.77 | 38.97 | 2.77 | 2116.83 | 777.57 |
| | 1.101 | 539.00 | 0.00 | 0.00 | 1470.10 | 5001.00 | 1473.93 | 0.00 | 1474.05 | 60.58 | 2.78 | 1806.07 | 642.52 |

S Flow - SP #6

SUMMARY PRINTOUT TABLE 150

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 0.640 | 3692.11 | 1460.98 | 0.00 | 0.00 | 0.00 | 937.05 | 0.00 |
| | 0.734 | 3692.11 | 1464.25 | 0.00 | 3.27 | 0.00 | 831.16 | 496.00 |
| | 0.819 | 3856.96 | 1466.94 | 0.00 | 2.69 | 0.00 | 881.83 | 449.00 |
| | 0.912 | 4352.14 | 1469.43 | 0.00 | 2.49 | 0.00 | 1055.30 | 491.00 |
| * | 0.999 | 4854.38 | 1471.68 | 0.00 | 2.25 | 0.00 | 1177.18 | 459.00 |
| | 1.101 | 5001.00 | 1473.93 | 0.00 | 2.25 | 0.00 | 885.14 | 539.00 |

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 0.999 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

HEC2 S/N: 1916530021 HMVersion: 6.50 Data File: ionasf2.hc2

```
*********************************************
*  HEC-2 WATER SURFACE PROFILES             *
*                                           *
*  Version   4.6.2;  May 1991               *
*                                           *
*  RUN DATE     8JUL93    TIME   16:53:06   *
*********************************************
```

```
****************************************
*  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
```

```
::::::::::::::::::::::::::::::::::::::::::::
::::::::::::::::::::::::::::::::::::::::::::
:::                                      :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                      :::
::::::::::::::::::::::::::::::::::::::::::::
::::::::::::::::::::::::::::::::::::::::::::
```

```
============================
H A E S T A D   M E T H O D S
============================
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 8JUL93 16:53:07

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

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

SPLIT FLOW BEING PERFORMED

SFSplit flow at section 2.827. Historical Diversion

```
TN
NS    13   2.827   2.927      -1    .062    .004
NG10127.  1521.6  10140.  1518.9  10180.  1518.9  10211.  1519.1  10290.  1519.4
NG10351.  1519.2  10390.  1518.5  10423.  1518.4  10470.  1518.4  10506.  1518.5
NG10541.  1518.3  10576.  1518.3  10615.  1518.7
```

```
T1
T2
T3      Split Flow - SP #7

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

                2                           -1                                    1515

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     -1                  -1

J6  IHLEQ     ICOPY     SUBDIV    STRTDS    RMILE

      1


QT        1       5001
NC     .055       .055       .038        .1        .3

NH        3       .055     9617.1      .072     10037.      .055     11446.
X1    2.631         50     9911.3    10073.       650       360       496
GR   1516.6     9169.2     1516.2    9270.9     1515.8    9381.4    1515.7    9465.3    1515.2    9562.0
GR   1514.6     9591.9     1513.4    9617.1     1512.9    9668.9    1512.4    9688.3    1512.8    9738.1
GR   1513.1     9787.5     1513.1    9889.3     1512.6    9911.3    1512.3    9954.7    1513.0    9984.7
GR   1510.0     9992.7     1510.0    10000.     1509.9    10007.    1513.0    10018.    1512.5    10037.
GR   1514.3     10073.     1514.1    10107.     1514.1    10126.    1514.3    10158.    1513.6    10255.
GR   1513.7     10346.     1513.6    10416.     1512.6    10469.    1512.7    10532.    1512.3    10604.
GR   1511.8     10610.     1512.3    10622.     1512.4    10630.    1512.8    10668.    1512.9    10762.
GR   1513.1     10857.     1513.3    10901.     1519.8    10916.    1519.9    10924.    1514.3    10931.
GR   1515.1     10963.     1515.0    10987.     1513.7    10992.    1514.7    11001.    1515.3    11045.
GR   1516.1     11097.     1517.0    11148.     1518.6    11209.    1519.5    11319.    1519.5    11446.


NH        4      .064     9613.5      .055     9859.4      .072     10038.      .055     10392.
X1    2.727         32     9859.4    10038.       535       400       507
GR   1519.0     9155.5     1518.3    9198.2     1517.3    9261.5    1516.8    9299.8    1516.7    9347.3
GR   1516.0     9359.3     1516.6    9405.0     1516.2    9494.4    1516.1    9553.3    1516.0    9613.5
GR   1516.1     9693.3     1515.9    9773.3     1516.2    9859.4    1514.1    9866.2    1515.0    9873.7
GR   1516.1     9901.7     1515.5    9952.1     1514.4    9965.2    1514.3    9983.6    1512.7    9993.0
GR   1512.3     10000.     1512.3    10005.     1515.6    10017.    1516.3    10038.    1516.4    10094.
GR   1516.2     10140.     1516.5    10174.     1516.5    10230.    1516.4    10310.    1516.4    10310.
GR   1516.8     10323.     1517.1    10392.


NH        7       .055     9098.1      .082     9463.6       .055     9925.5       .105     9992.8       .038
NH    10010.      .105     10103.      .055     10127
X1    2.827         33     9585.6    10127.       340       560       528
GR   1521.8     8925.2     1521.4    9008.7     1520.4    9047.7    1519.0    9098.1    1519.2    9125.1
GR   1518.6     9156.4     1518.7    9168.3     1518.3    9251.8    1518.4    9332.6    1518.0    9416.3
GR   1518.2     9463.6     1518.6    9507.5     1519.5    9555.7    1519.9    9585.6    1519.9    9667.7
GR   1519.8     9691.3     1519.4    9744.7     1519.3    9854.4    1518.3    9863.0    1518.3    9879.5
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1517.4 | 9883.3 | 1519.0 | 9900.5 | 1519.3 | 9925.5 | 1518.9 | 9985.4 | 1515.7 | 9992.8 |
| GR | 1516.1 | 10000. | 1516.2 | 10010. | 1517.1 | 10023. | 1518.1 | 10039. | 1518.3 | 10060. |
| GR | 1515.9 | 10083. | 1519.3 | 10103. | 1521.6 | 10127. | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 5 | .055 | 9162.7 | .082 | 9520.9 | .055 | 9912.6 | .082 | 10084. | .055 |
| NH | 10486. | | | | | | | | | |
| X1 | 2.927 | 44 | 9793.6 | 10139. | 360 | 600 | 528 | | | |
| GR | 1522.3 | 9129.2 | 1521.9 | 9162.7 | 1521.6 | 9195.3 | 1520.0 | 9237.8 | 1520.6 | 9246.4 |
| GR | 1520.2 | 9282.1 | 1520.1 | 9310.8 | 1520.3 | 9350.3 | 1520.5 | 9380.3 | 1520.9 | 9416.6 |
| GR | 1520.5 | 9450.5 | 1520.6 | 9486.2 | 1520.3 | 9520.9 | 1520.7 | 9553.3 | 1520.6 | 9584.0 |
| GR | 1520.7 | 9611.5 | 1520.7 | 9667.9 | 1521.7 | 9701.5 | 1522.4 | 9730.0 | 1523.1 | 9775.3 |
| GR | 1523.2 | 9793.6 | 1523.2 | 9820.9 | 1522.9 | 9865.9 | 1522.4 | 9912.6 | 1522.5 | 9970.4 |
| GR | 1519.5 | 9988.9 | 1519.5 | 10000. | 1519.9 | 10011. | 1522.2 | 10022. | 1522.0 | 10056. |
| GR | 1520.8 | 10069. | 1522.1 | 10084. | 1521.8 | 10107. | 1522.7 | 10139. | 1522.4 | 10175. |
| GR | 1521.9 | 10208. | 1522.1 | 10241. | 1522.5 | 10280. | 1522.5 | 10316. | 1522.4 | 10350. |
| GR | 1522.5 | 10389. | 1523.0 | 10420. | 1523.3 | 10454. | 1523.4 | 10486. | | |

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

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

*PROF 1

CCHV= 0.100 CEHV= 0.300
1490 NH CARD USED
*SECNO 2.631

3265 DIVIDED FLOW

3720 CRITICAL DEPTH ASSUMED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.631 | 3.26 | 1513.16 | 1513.16 | 1515.00 | 1513.42 | 0.25 | 0.00 | 0.00 | 1512.60 |
| 1481.1 | 154.2 | 619.1 | 707.7 | 65.6 | 136.4 | 182.1 | 0.0 | 0.0 | 1514.30 |
| 0.00 | 2.35 | 4.54 | 3.89 | 0.072 | 0.070 | 0.055 | 0.000 | 1509.90 | 9641.57 |
| 0.046948 | 650. | 496. | 360. | 0 | 20 | 0 | 0.00 | 840.63 | 10871.04 |

1490 NH CARD USED
*SECNO 2.727

3[illegible] WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.42

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.727 | 4.66 | 1516.96 | 0.00 | 0.00 | 1517.00 | 0.05 | 3.56 | 0.02 | 1516.20 |
| 1481.1 | 599.2 | 701.3 | 180.6 | 426.6 | 346.4 | 158.2 | 7.4 | 10.5 | 1516.30 |
| 0.08 | 1.40 | 2.02 | 1.14 | 0.058 | 0.072 | 0.055 | 0.000 | 1512.30 | 9287.84 |
| 0.004010 | 535. | 507. | 400. | 6 | 0 | 0 | 0.00 | 1071.08 | 10358.92 |

1490 NH CARD USED
*SECNO 2.827

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.827 | 3.69 | 1519.39 | 0.00 | 0.00 | 1519.46 | 0.07 | 2.45 | 0.01 | 1519.90 |
| 1481.1 | 655.2 | 825.8 | 0.0 | 412.3 | 326.8 | 0.0 | 15.8 | 19.8 | 1521.60 |
| 0.14 | 1.59 | 2.53 | 0.00 | 0.077 | 0.047 | 0.000 | 0.000 | 1515.70 | 9084.18 |
| 0.006879 | 340. | 528. | 560. | 4 | 0 | 0 | 0.00 | 809.91 | 10103.90 |

1490 NH CARD USED
*SECNO 2.927

3265 DIVIDED FLOW

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

3280 CROSS SECTION 2.93 EXTENDED 0.52 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.79

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.927 | 3.32 | 1522.82 | 0.00 | 0.00 | 1522.99 | 0.17 | 3.50 | 0.03 | 1523.20 |
| 5001.0 | 4281.1 | 508.3 | 211.7 | 1220.8 | 255.7 | 120.9 | 26.9 | 29.8 | 1522.70 |
| 0.18 | 3.51 | 1.99 | 1.75 | 0.071 | 0.073 | 0.055 | 0.000 | 1519.50 | 9129.20 |
| 0.010077 | 360. | 528. | 600. | 4 | 0 | 0 | 0.00 | 1163.43 | 10408.84 |

| TOTAL AREA | AVG VELOCITY | MAX DEPTH | AVG DEPTH | TOF WIDTH | TOP WIDTH |
|---|---|---|---|---|---|
| 1125.2 | 3.13 | 4.25 | 2.36 | 488.0 | 477.7 |

| ASQ | QCOMP | ERRAC | TASQ | TCQ | TABER | NITER | DSWS | USWS | DSSNO | USSNO |
|---|---|---|---|---|---|---|---|---|---|---|
| 3519.93 | 3520.59 | 0.02 | 3519.93 | 3520.59 | 0.02 | 5 | 1519.389 | 1522.820 | 2.827 | 2.927 |

THIS RUN EXECUTED 8JUL93 16:53:13

**********
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

Split Flow - SP #7

SUMMARY PRINTOUT TABLE 150

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10*KS | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | 2.631 | 0.00 | 0.00 | 0.00 | 1509.90 | 1481.07 | 1513.16 | 1513.16 | 1513.42 | 469.48 | 4.54 | 384.11 | 68.35 |
| * | 2.727 | 507.00 | 0.00 | 0.00 | 1512.30 | 1481.07 | 1516.96 | 0.00 | 1517.00 | 40.10 | 2.02 | 931.17 | 233.88 |
| | 2.827 | 528.00 | 0.00 | 0.00 | 1515.70 | 1481.07 | 1519.39 | 0.00 | 1519.46 | 68.79 | 2.53 | 739.03 | 178.57 |
| * | 2.927 | 528.00 | 0.00 | 0.00 | 1519.50 | 5001.00 | 1522.82 | 0.00 | 1522.99 | 100.77 | 1.99 | 1597.34 | 498.19 |

Flow - SP #7

SUMMARY PRINTOUT TABLE 150

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| * | 2.631 | 1481.07 | 1513.16 | 0.00 | 0.00 | -1.84 | 840.63 | 0.00 |
| * | 2.727 | 1481.07 | 1516.96 | 0.00 | 3.79 | 0.00 | 1071.08 | 507.00 |
| | 2.827 | 1481.07 | 1519.39 | 0.00 | 2.43 | 0.00 | 809.91 | 528.00 |
| * | 2.927 | 5001.00 | 1522.82 | 0.00 | 3.43 | 0.00 | 1163.43 | 528.00 |

SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 2.631 PROFILE= 1 CRITICAL DEPTH ASSUMED

WARNING SECNO= 2.727 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 2.927 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

HEC2 S/N: 1916530021  HMVersion: 6.50  Data File: ionasf3.hc2

```
*********************************************
*  HEC-2 WATER SURFACE PROFILES             *
*                                           *
*  Version   4.6.2;  May 1991               *
*                                           *
*  RUN DATE     8JUL93    TIME   16:53:35   *
*********************************************
```

```
****************************************
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```

```
============================
H A E S T A D   M E T H O D S
============================
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 8JUL93 16:53:35

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

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

SPLIT FLOW BEING PERFORMED

SFSplit flow run for sections 12.101 to 12.614

```
TW
WS     3  12.101  12.191  12.010     2.6
WC     0   1844     335   1850     485  1852.2

TW
WS     2  12.191  12.281  12.010     2.6
WC     0  1852.3    460  1852.3

WS     6  12.281  12.369  12.010     2.6
WC     0  1852.3    100   1852     150  1854.0    178   1856    345   1858
WC   435  1859.4

TW
WS     7  12.369  12.464  12.010     2.6
WC     0  1859.4     28   1860     125   1862    275   1864    350   1865
WC   390   1864     430   1862

TW
WS     7  12.464  12.614  12.010     2.6
WC     0   1862      20  1860.5     100   1862    150   1866    235   1868
WC   435   1870     570   1872
```

```
T1
T2
T3      Split Flow - SP #3

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

                2                           -1                                    1838

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

    -1                  -1

J6  IHLEQ     ICOPY     SUBDIV    STRTDS    RMILE

     1


QT        1       2371

NC     .055       .072       .038        .1        .3
X1   11.879         13      9962.    10050.       130       125       170
GR    1842.      9249.      1840.     9305.    1839.8     9550.     1840.     9681.    1840.5     9848.
GR    1840.      9962.      1834.     9990.    1834.4    10000.     1834.    10020.     1838.    10050.
GR    1840.     10645.     1840.2    10900.    1840.0    11022.


NC     .055       .055       .072
X1   12.010         30     9962.5   10533.6       410       400       692
GR   1840.1     9589.5     1839.9    9621.5    1838.5    9651.0    1839.1    9674.8    1837.8    9711.0
GR   1837.2     9788.3     1837.8    9881.5    1837.7    9962.5    1837.3   10000.0    1838.2    10012.
GR   1839.3    10099.3     1840.2   10183.7    1839.9   10233.9    1840.6   10345.5    1840.7    10413.
GR   1841.0    10470.0     1841.1   10533.6    1842.4   10560.6    1842.6   10613.0    1840.1    10626.
GR   1841.7    10641.0     1839.7   10657.7    1841.2   10667.2    1840.8   10734.0    1840.8    10780.
GR   1839.6    10846.2     1840.7   10904.7    1840.6   10964.3    1840.7   11050.7    1841.3    11093.


NH        3       .072     9731.9       .055    9854.3       .072    10265.
X1   12.101         15     9796.4    10069.       280       300       480
GR   1842.8     9685.2     1843.6    9731.9    1843.7    9796.4    1842.9    9816.2    1842.9    9854.3
GR   1842.8     9879.8     1844.2    9919.6    1844.2    9980.6    1843.5    10000.    1844.6    10021.
GR   1845.0     10069.     1844.6    10134.    1843.5    10250.    1845.2    10257.    1845.2    10265.


NH        3       .055      9962.       .072   10248.2       .055   10271.6
X1   12.191         12      9962    10248.2       415       430       475
GR   1851.4     9871.2     1851.3    9910.8    1850.4    9940.2    1848.0    9962.0    1848.3    9987.5
GR   1847.5    10000.0     1848.1   10011.5    1848.3   10064.2    1848.2   10163.1    1848.4   10224.0
GR   1849.2    10248.2     1858.8   10271.6
```

```
NH      3     .055    9956.5     .072    10392.     .105    10412.
X1 12.281       14    9956.5   10392.       460      450      475
GR 1854.8   9901.5    1854.5   9926.3    1852.1   9956.5   1852.2   9986.8   1851.1   9993.5
GR 1851.1   10000.    1851.9   10012.    1852.1   10070.   1852.2   10178.   1851.4   10188.
GR 1852.1   10197.    1852.4   10303.    1853.1   10392.   1861.5   10412.

NH      3     .055    9789.3     .065    10771.     .055    11002.
X1 12.369       31    9789.3  10306.3       430      590      465
GR 1859.0   9748.8    1856.0   9789.3    1856.1   9823.3   1853.3   9836.8   1853.3   9844.8
GR 1855.9   9855.1    1856.3   9934.6    1856.6   9986.1   1856.3   10000.0  1857.0   10023.
GR 1857.7   10098.0   1857.1   10142.    1857.9   10168.   1856.1   10211.   1860.2   10234.
GR 1860.7   10306.3   1860.6   10319.    1857.0   10340.   1856.3   10421.   1856.4   10487.
GR 1857.1   10586.2   1857.9   10600.    1858.4   10661.   1858.    10710.   1857.2   10722.
GR 1858.    10738.    1860.    10752.    1860.5   10765.   1860.    10771.   1862.    10782.
GR 1862.5   11002.

NH      7     .055    9976.7     .038    10019.0    .045    10690.     .055    10791.     .045
NH 11001.     .065    11041.     .055    11400.
X1 12.464       34    9976.7   10019.0       440      510      502
GR 1860.3   9633.4    1859.1   9654.3    1860.6   9663.3   1861.3   9710.7   1861.7   9764.4
GR 1860.6   9841.2    1861.4   9878.5    1862.5   9976.7   1860.5   9992.9   1860.3   10000.
GR 1860.6   10009.1   1863.1   10019.0   1862.1   10072.   1863.3   10091.   1862.7   10117.
GR 1862.4   10133.5   1862.0   10194.6   1862.6   10237.   1862.4   10263.   1858.2   10296.
GR 1862.1   10318.4   1862.2   10368.1   1862.8   10425.   1863.6   10466.   1863.2   10509.
GR 1862.    10690.    1862.    10791.    1862.3   10805.   1863.    10950.   1862.3   10982.
GR 1862.    11001.    1861.    11032.    1862.    11041.   1864.    11400.

NH      6     .055    9902       .065    9976.      .038    9995     .055    11191.     .065
NH 11281.     .055    11450.
X1 12.614       26    9902.    9995.       615      540      781
GR 1874.    9829.     1872.    9889.     1870.    9902.    1868.    9976.    1867.5   9989.
GR 1868.    9995.     1870.    10024.    1870.    10272.   1870.8   10370.   1870.    10410.
GR 1869.    10465.    1870.    10535.    1868.    10582.   1866.    10608.   1868.    10632.
GR 1870.    10689.    1868.3   10780.    1868.    10802.   1868.    10848.   1867.5   10875.
GR 1868.    10914.    1869.8   11058.    1869.    11154.   1868.6   11191.   1868.5   11281.
GR 1870.    11450.
```

IHLCW = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 11.879
3720 CRITICAL DEPTH ASSUMED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.879 | 4.75 | 1838.75 | 1838.75 | 1838.00 | 1839.81 | 1.06 | 0.00 | 0.00 | 1840.00 |
| 2371.0 | 0.0 | 2284.0 | 87.0 | 0.0 | 271.5 | 83.2 | 0.0 | 0.0 | 1838.00 |
| 0.00 | 0.00 | 8.41 | 1.05 | 0.000 | 0.038 | 0.072 | 0.000 | 1834.00 | 9967.84 |
| 0.009525 | 130. | 170. | 125. | 0 | 7 | 0 | 0.00 | 304.63 | 10272.47 |

*SECNO 12.010

3265 DIVIDED FLOW

3280 CROSS SECTION 12.01 EXTENDED 0.80 FEET

3 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.11

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.010 | 3.69 | 1840.89 | 0.00 | 0.00 | 1840.93 | 0.04 | 1.02 | 0.10 | 1837.70 |
| 2371.0 | 1861.5 | 426.8 | 82.8 | 1051.3 | 584.4 | 147.6 | 12.8 | 9.0 | 1841.10 |
| 0.10 | 1.77 | 0.73 | 0.56 | 0.055 | 0.072 | 0.055 | 0.000 | 1837.20 | 9589.50 |
| 0.000984 | 410. | 692. | 400. | 3 | 0 | 0 | 0.00 | 1236.84 | 11064.58 |

1490 NH CARD USED
*SECNO 12.101

3265 DIVIDED FLOW

3280 CROSS SECTION 12.10 EXTENDED 1.25 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.101 | 1.25 | 1844.05 | 1844.05 | 0.00 | 1844.36 | 0.31 | 18.48 | -15.82 | 1843.70 |
| 848.7 | 244.7 | 572.1 | 31.9 | 65.1 | 118.0 | 16.3 | 20.8 | 15.6 | 1845.00 |
| 0.13 | 3.76 | 4.85 | 1.95 | 0.066 | 0.060 | 0.072 | 0.000 | 1842.80 | 9685.20 |
| 0.050471 | 280. | 480. | 300. | 7 | 24 | 0 | 0.00 | 315.43 | 10252.25 |

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

1490 NH CARD USED
*SECNO 12.191

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.79

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.191 | 2.16 | 1849.66 | 0.00 | 0.00 | 1849.72 | 0.07 | 5.34 | 0.02 | 1848.00 |
| 848.7 | 23.5 | 825.1 | 0.2 | 12.3 | 398.3 | 0.2 | 24.1 | 18.8 | 1849.20 |
| 0.19 | 1.90 | 2.07 | 0.76 | 0.055 | 0.072 | 0.055 | 0.000 | 1847.50 | 9947.04 |
| 0.006485 | 415. | 475. | 430. | 5 | 0 | 0 | 0.00 | 302.25 | 10249.29 |

1490 NH CARD USED
*SECNO 12.281

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.281 | 2.19 | 1853.29 | 0.00 | 0.00 | 1853.36 | 0.07 | 3.64 | 0.00 | 1852.10 |
| 978.7 | 16.3 | 962.4 | 0.0 | 9.0 | 467.5 | 0.0 | 28.9 | 22.9 | 1853.10 |
| 0.25 | 1.82 | 2.06 | 0.01 | 0.055 | 0.072 | 0.105 | 0.000 | 1851.10 | 9941.49 |
| 0.009054 | 460. | 475. | 450. | 3 | 0 | 0 | 0.00 | 450.97 | 10392.46 |

1490 NH CARD USED
*SECNO 12.369

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.85

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.369 | 4.39 | 1857.69 | 0.00 | 0.00 | 1857.78 | 0.09 | 4.41 | 0.01 | 1856.00 |
| 1811.8 | 44.6 | 1136.7 | 630.4 | 19.4 | 477.4 | 275.7 | 36.0 | 29.5 | 1860.70 |
| 0.31 | 2.30 | 2.38 | 2.29 | 0.055 | 0.065 | 0.065 | 0.000 | 1853.30 | 9766.43 |
| 0.009108 | 430. | 465. | 590. | 5 | 0 | 0 | 0.00 | 718.63 | 10731.88 |

1490 NH CARD USED
*SECNO 12.464

3265 DIVIDED FLOW

3280 CROSS SECTION 12.46 EXTENDED 1.89 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.464 | 3.99 | 1862.19 | 0.00 | 0.00 | 1862.38 | 0.19 | 4.57 | 0.03 | 1862.50 |
| 1812.0 | 983.0 | 199.5 | 629.5 | 321.1 | 45.1 | 169.3 | 43.3 | 37.7 | 1863.10 |
| 0.35 | 3.06 | 4.42 | 3.72 | 0.055 | 0.038 | 0.047 | 0.000 | 1858.20 | 9633.40 |
| 0.009641 | 440. | 502. | 510. | 4 | 0 | 0 | 0.00 | 723.70 | 11075.12 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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 |

1490 NH CARD USED
*SECNO 12.614

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12.614 | 3.31 | 1869.31 | 0.00 | 0.00 | 1869.52 | 0.21 | 7.13 | 0.01 | 1870.00 |
| 2371.0 | 0.0 | 258.8 | 2112.2 | 0.0 | 61.0 | 589.4 | 51.2 | 47.6 | 1868.00 |
| 0.39 | 0.00 | 4.24 | 3.58 | 0.000 | 0.041 | 0.056 | 0.000 | 1866.00 | 9927.73 |
| 0.015332 | 615. | 781. | 540. | 6 | 0 | 0 | 0.00 | 788.49 | 11371.66 |

Tw

| ASQ | QCOMP | ERRAC | TASQ | TCQ | TABER | NITER | DSWS | USWS | DSSNO | USSNO |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.07 | 0.08 | 1.38 | 0.07 | 0.08 | 1.38 | 11 | 1844.046 | 1849.657 | 12.101 | 12.191 |

TW

| ASQ | QCOMP | ERRAC | TASQ | TCQ | TABER | NITER | DSWS | USWS | DSSNO | USSNO |
|---|---|---|---|---|---|---|---|---|---|---|
| 129.97 | 129.82 | 0.12 | 130.05 | 129.89 | 0.12 | 11 | 1849.657 | 1853.295 | 12.191 | 12.281 |

TW

| ASQ | QCOMP | ERRAC | TASQ | TCQ | TABER | NITER | DSWS | USWS | DSSNO | USSNO |
|---|---|---|---|---|---|---|---|---|---|---|
| 833.04 | 832.83 | 0.02 | 963.09 | 962.73 | 0.04 | 11 | 1853.295 | 1857.695 | 12.281 | 12.369 |

TW

| ASQ | QCOMP | ERRAC | TASQ | TCQ | TABER | NITER | DSWS | USWS | DSSNO | USSNO |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.27 | 0.27 | 0.43 | 963.36 | 963.00 | 0.04 | 11 | 1857.695 | 1862.191 | 12.369 | 12.464 |

| ASQ | QCOMP | ERRAC | TASQ | TCQ | TABER | NITER | DSWS | USWS | DSSNO | USSNO |
|---|---|---|---|---|---|---|---|---|---|---|
| 558.97 | 558.89 | 0.02 | 1522.33 | 1521.89 | 0.03 | 11 | 1862.191 | 1869.310 | 12.464 | 12.614 |

THIS RUN EXECUTED 8JUL93 16:53:49

**********
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

Split Flow - SP #3

SUMMARY PRINTOUT TABLE 150

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10*KS | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | 11.879 | 0.00 | 0.00 | 0.00 | 1834.00 | 2371.00 | 1838.75 | 1838.75 | 1839.81 | 95.25 | 8.41 | 354.65 | 242.94 |
| * | 12.010 | 692.00 | 0.00 | 0.00 | 1837.20 | 2371.00 | 1840.89 | 0.00 | 1840.93 | 9.84 | 0.73 | 1783.32 | 755.75 |
| * | 12.101 | 480.00 | 0.00 | 0.00 | 1842.80 | 848.67 | 1844.05 | 1844.05 | 1844.36 | 504.71 | 4.85 | 199.40 | 37.78 |
| * | 12.191 | 475.00 | 0.00 | 0.00 | 1847.50 | 848.74 | 1849.66 | 0.00 | 1849.72 | 64.85 | 2.07 | 410.87 | 105.39 |
| | 12.281 | 475.00 | 0.00 | 0.00 | 1851.10 | 978.71 | 1853.29 | 0.00 | 1853.36 | 90.54 | 2.06 | 476.54 | 102.86 |
| * | 12.369 | 465.00 | 0.00 | 0.00 | 1853.30 | 1811.75 | 1857.69 | 0.00 | 1857.78 | 91.08 | 2.38 | 772.44 | 189.84 |
| | 12.464 | 502.00 | 0.00 | 0.00 | 1858.20 | 1812.03 | 1862.19 | 0.00 | 1862.38 | 96.41 | 4.42 | 535.51 | 184.55 |
| | 12.614 | 781.00 | 0.00 | 0.00 | 1866.00 | 2371.00 | 1869.31 | 0.00 | 1869.52 | 153.32 | 4.24 | 650.44 | 191.48 |

S Flow - SP #3

SUMMARY PRINTOUT TABLE 150

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| * | 11.879 | 2371.00 | 1838.75 | 0.00 | 0.00 | 0.75 | 304.63 | 0.00 |
| * | 12.010 | 2371.00 | 1840.89 | 0.00 | 2.14 | 0.00 | 1236.84 | 692.00 |
| * | 12.101 | 848.67 | 1844.05 | 0.00 | 3.16 | 0.00 | 315.43 | 480.00 |
| * | 12.191 | 848.74 | 1849.66 | 0.00 | 5.61 | 0.00 | 302.25 | 475.00 |
| | 12.281 | 978.71 | 1853.29 | 0.00 | 3.64 | 0.00 | 450.97 | 475.00 |
| * | 12.369 | 1811.75 | 1857.69 | 0.00 | 4.40 | 0.00 | 718.63 | 465.00 |
| | 12.464 | 1812.03 | 1862.19 | 0.00 | 4.50 | 0.00 | 723.70 | 502.00 |
| | 12.614 | 2371.00 | 1869.31 | 0.00 | 7.12 | 0.00 | 788.49 | 781.00 |

SUMMARY OF ERRORS AND SPECIAL NOTES

```
CAUTION SECNO=     11.879  PROFILE=  1  CRITICAL DEPTH ASSUMED

WARNING SECNO=     12.010  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=     12.101  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     12.101  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=     12.191  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     12.369  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
```

HEC2 S/N: 1916530021 HMVersion: 6.50 Data File: ionasf4.hc2

```
*********************************************
*  HEC-2 WATER SURFACE PROFILES             *
*                                           *
*  Version   4.6.2;  May 1991               *
*                                           *
*  RUN DATE     8JUL93    TIME   16:54:20   *
*********************************************
```

```
*****************************************
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```

```
============================
H A E S T A D   M E T H O D S
============================
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 8JUL93 16:54:20

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

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

SPLIT FLOW BEING PERFORMED

SFSplit flow from section 10.802 to 11.66 to determine QT in main run

```
TW
WS     4  10.802  10.891     -1     2.6
WC     0  1786.8    210   1788     390   1790     465  1791.2

TW
WS     4  10.891  10.982     -1     2.6
WC     0   1791.    118   1792     355   1794     475  1795.3

TW
WS     4  10.982  11.079     -1     2.6
WC     0  1795.3     30   1796     300   1798     400   1799

TW
WS     4  11.079  11.174     -1     2.6
WC     0  1798.9    130   1800     340   1802     510   1804

TW
WS     3  11.174  11.264     -1     2.6
WC     0    1804    230   1806     470  1807.9

TW
WS     5  11.264  11.368     -1     2.6
WC     0  1807.9     25   1808     220   1810     440   1810     580  1811.9

TW
WS     6  11.368  11.469     -1     2.6
WC     0  1811.9     29   1812     122   1814     180   1816     408   1818
WC   475  1818.2

TW
WS     4  11.469  11.570     -1     2.6
WC     0  1818.2    180   1820     375   1822     505  1823.2

TW
NS     5  11.570  11.666     -1    .065    .006
NG     0  1823.2     30   1822     145   1822     310   1828     500  1829.6
```

T
T2
T3 Split Flow - SP #4

| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | | | .01 | | | | 1780 | |

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

| J6 | IHLEQ | ICOPY | SUBDIV | STRTDS | RMILE |
|---|---|---|---|---|---|
| | 1 | | | | |

Truncate sections at split flow weir, (can't use ET with split flow)

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| QT | 1 | 2371 | | | | | | | | |
| NC | .055 | .055 | .068 | .1 | .3 | | | | | |
| X | 10.620 | 27 | 9988.8 | 10060.2 | 490 | 500 | 549 | | | |
| GR | 1780.1 | 8653.3 | 1780.4 | 8729.0 | 1780.0 | 8815.3 | 1779.6 | 8920.7 | 1780.2 | 9006.3 |
| GR | 1780.2 | 9065.8 | 1779.7 | 9140.5 | 1778.7 | 9300.0 | 1776.7 | 9327.9 | 1777.9 | 9345.2 |
| GR | 1777.8 | 9437.0 | 1777.7 | 9517.0 | 1776.9 | 9586.9 | 1776.8 | 9644.4 | 1774.1 | 9653.6 |
| GR | 1775.8 | 9686.5 | 1777.0 | 9711.4 | 1777.3 | 9747.5 | 1776.3 | 9836.7 | 1776.5 | 9988.8 |
| GR | 1772.7 | 10000.0 | 1777.1 | 10026.5 | 1778.2 | 10060.2 | 1776.9 | 10203.5 | 1776.9 | 10285.3 |
| GR | 1778.7 | 10338.8 | 1779.1 | 10442.7 | | | | | | |
| X1 | 10.710 | 28 | 9814.4 | 10107. | 280 | 480 | 475 | | | |
| GR | 1783.1 | 8720.2 | 1782.2 | 8974.8 | 1781.3 | 9068.4 | 1781.8 | 9150.2 | 1781.7 | 9297.4 |
| GR | 1781.0 | 9399.1 | 1781.0 | 9444.4 | 1776.7 | 9456.3 | 1780.9 | 9468.9 | 1780.8 | 9591.6 |
| GR | 1778.8 | 9597.3 | 1781.3 | 9603.7 | 1781.9 | 9678.8 | 1781.6 | 9814.4 | 1778.3 | 9828.6 |
| GR | 1781.2 | 9841.1 | 1781.2 | 9991.1 | 1778.3 | 10000.0 | 1781.3 | 10009. | 1781.2 | 10107. |
| GR | 1782.0 | 10179.6 | 1782.2 | 10329.2 | 1783.4 | 10381.6 | 1782.0 | 10442. | 1783.7 | 10489. |
| GR | 1784.1 | 10522.0 | 1783.4 | 10563.1 | 1783.6 | 10624.1 | | | | |
| NC | .055 | .055 | .072 | | | | | | | |
| X1 | 10.802 | 20 | 9988.9 | 10155. | 450 | 460 | 486 | | | |
| GR | 1786.8 | 9123.8 | 1786.3 | 9259.9 | 1785.4 | 9340.7 | 1786.0 | 9417.1 | 1786.0 | 9521.6 |
| GR | 1783.3 | 9546.9 | 1783.4 | 9581.3 | 1785.7 | 9594.7 | 1786.2 | 9670.5 | 1785.9 | 9776.7 |
| GR | 1784.7 | 9988.9 | 1783.8 | 10000. | 1784.8 | 10042. | 1785.1 | 10155. | 1786.4 | 10266. |
| GR | 1786.3 | 10468. | 1786.2 | 10523. | 1787.4 | 10571. | 1787.2 | 10661. | 1788.1 | 10760. |

```
NH      5     .055    8642.3     .072    8953.9     .055    9892.6     .072   10125.8     .055
NH  10565.
X1  10.891       15    9892.6  10125.8     400      450     470
GR  1791.0   9594.5    1790.0   9675.6  1789.5   9870.7  1787.6   9881.5  1789.1   9892.6
GR  1788.9   9993.4    1787.6  10000.0  1788.8  10006.5  1789.7  10104.1  1789.0   10113.
GR  1789.8  10125.8    1790.3  10221.8  1790.9  10277.4  1790.6  10469.4  1791.3   10565.

NC    .055     .055     .072
X1  10.982       14    9931.0  10185.6     390      480     480
GR  1795.2   9709.0    1794.2   9798.2  1794.1   9931.0  1792.4   9935.6  1794.1   9941.9
GR  1793.6   9990.4    1791.7  10000.0  1793.7  10026.4  1795.0  10185.6  1794.7   10273.
GR  1795.2   10294.    1795.5  10369.1  1795.2  10519.0  1795.5  10689.5

X1  11.079        7    9998.2  10132.0     410      400     512
GR  1799.0   9981.2    1796.9   10000.  1798.4   10023.  1798.3   10132.  1797.6   10339.
GR  1798.5   10378.    1798.5   10681.

X1  11.174       12    9974.1   10071.     470      500     502
GR  1803.9   9974.1    1801.5  10000.0  1803.8   10017.  1804.1   10048.  1803.3   10071.
GR  1803.5  10093.7    1803.2  10252.3  1803.3   10361.  1803.1   10448.  1802.2   10455.
GR  1803.3  10462.7    1803.8    10700

X1  11.264       12    9970.8   10125.     400      430     475
GR  1807.8   9970.8    1804.3   9990.8  1804.3   10000.  1804.2   10009.  1807.8   10019.
GR  1806.7   10088.    1806.9   10125.  1808.3   10297.  1808.2   10333.  1806.7   10339.
GR  1808.5   10351.    1807.9   10393.

X1  11.368       18    9978.9   10288.     510      490     549
GR  1811.9   9978.9    1808.7   9991.6  1808.6   10000.  1808.7   10006.  1811.9   10015.
GR  1811.7  10071.9    1810.7  10085.2  1811.7   10098.  1811.6   10194.  1808.8   10204.
GR  1811.0  10215.9    1811.9  10244.2  1812.0   10288.  1811.1   10308.  1812.8   10378.
GR  1812.8  10444.1    1813.0  10529.0  1813.8   10537.

X1  11.469       15    9947.9   10277.     450      530     533
GR  1818.3   9901.3    1815.1   9947.9  1815.4   9986.8  1811.2   10000.  1815.0   10007.
GR  1815.4   10096.    1816.7   10154.  1813.0   10189.  1815.3   10215.  1815.2   10277.
GR  1816.1   10346.    1816.4   10427.  1817.0   10548.  1817.6   10569.  1818.3   10635.

NH      4     .062   10079.     .055   10344.     .082   10634.     .055   10800.
X1  11.570       16    9912.1   10079.     480      500     533
GR  1823.2   9912.1    1821.4   9949.0  1821.5   9991.7  1818.9   10000.  1821.7   10009.
GR  1821.6   10079.    1821.0   10250.  1821.3   10277.  1821.6   10315.  1821.0   10344.
GR  1817.7   10352.    1817.5   10377.  1820.8   10393.  1821.0   10634.  1821.4   10740.
G   822.1   10800.
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 7 | .055 | 9968.5 | .08 | 9968.5 | .038 | 10018.0 | .055 | 10068.4 | 99 |
| NH | 10408. | .072 | 10841.9 | .055 | 10955. | | | | | |
| X1 | 11.666 | 25 | 9968.5 | 10068.4 | 500 | 510 | 507 | | | |
| GR | 1828.8 | 9672.0 | 1827.3 | 9715.0 | 1826.9 | 9762.0 | 1827.7 | 9837.6 | 1826.9 | 9881.0 |
| GR | 1827.5 | 9911.6 | 1826.8 | 9968.5 | 1824.9 | 10000.0 | 1827.0 | 10018. | 1827.1 | 10052. |
| GR | 1829.8 | 10068.4 | 1827.9 | 10082.3 | 1826.8 | 10136.1 | 1827.0 | 10174. | 1826.5 | 10249. |
| GR | 1825.2 | 10286.0 | 1825.7 | 10408. | 1825.2 | 10469.6 | 1826.7 | 10478. | 1825.1 | 10490. |
| GR | 1825.1 | 10618.5 | 1825.5 | 10717.6 | 1825.7 | 10841.9 | 1826.2 | 10921. | 1826.7 | 10955. |
| NH | 4 | .055 | 9934.6 | .038 | 10014. | .072 | 11035. | .055 | 11660. | |
| X1 | 11.750 | 25 | 9934.6 | 10054. | 450 | 430 | 444 | | | |
| GR | 1833.1 | 9539.7 | 1832.3 | 9564.2 | 1832.2 | 9628.2 | 1833.0 | 9648.9 | 1831.8 | 9702.5 |
| GR | 1830.8 | 9772.5 | 1830.7 | 9875.3 | 1829.9 | 9934.6 | 1830.4 | 9972.2 | 1828.4 | 9986.7 |
| GR | 1828.5 | 10000. | 1828.5 | 10014. | 1841.0 | 10054. | 1837.7 | 10408.6 | 1830.1 | 10433. |
| GR | 1830.3 | 10661. | 1829.9 | 10797. | 1829.9 | 10980. | 1830.6 | 11009.5 | 1826.9 | 11021. |
| GR | 1830.2 | 11035. | 1830.0 | 11106. | 1830.4 | 11219. | 1831.8 | 11453.3 | 1831.8 | 11660. |
| NH | 4 | .055 | 9980.2 | .038 | 10031.6 | .072 | 11335. | .055 | 11841. | |
| X1 | 11.847 | 28 | 9828.5 | 10071. | 520 | 470 | 512 | | | |
| X3 | 10 | | | | | | | | | |
| GR | 1840.5 | 9344.0 | 1837.7 | 9501.7 | 1837.7 | 9551.8 | 1837.9 | 9613.2 | 1836.7 | 9675.2 |
| GR | 1835.2 | 9725.7 | 1835.9 | 9740.1 | 1835.7 | 9779.0 | 1838.4 | 9807.8 | 1838.9 | 9828.5 |
| GR | 1837.6 | 9894.9 | 1836.5 | 9980.2 | 1831.9 | 9988.3 | 1831.8 | 10000. | 1831.8 | 10017. |
| GR | 1833.3 | 10031.6 | 1840.6 | 10071.0 | 1840.2 | 10373. | 1837.7 | 10977. | 1837.7 | 10993. |
| GR | 1837.8 | 11249. | 1837.4 | 11321. | 1836.0 | 11335. | 1835.8 | 11420. | 1836.1 | 11524. |
| GR | 1836.0 | 11584. | 1835.7 | 11653. | 1836.1 | 11841. | | | | |

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 10.620

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.620 | 4.10 | 1776.80 | 0.00 | 1780.00 | 1776.94 | 0.14 | 0.00 | 0.00 | 1776.50 |
| 669.0 | 405.7 | 263.3 | 0.0 | 156.6 | 75.4 | 0.0 | 0.0 | 0.0 | 1778.20 |
| 0.00 | 2.59 | 3.49 | 0.00 | 0.055 | 0.068 | 0.000 | 0.000 | 1772.70 | 9326.46 |
| 0.009850 | 490. | 549. | 500. | 0 | 0 | 7 | 0.00 | 300.57 | 10024.71 |

*SECNO 10.710

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.710 | 4.46 | 1781.16 | 1781.01 | 0.00 | 1781.38 | 0.22 | 4.41 | 0.02 | 1781.60 |
| 669.0 | 461.5 | 207.5 | 0.0 | 119.5 | 60.1 | 0.0 | 1.6 | 2.0 | 1781.20 |
| 0.03 | 3.86 | 3.45 | 0.00 | 0.055 | 0.068 | 0.000 | 0.000 | 1776.70 | 9375.69 |
| 6272 | 280. | 475. | 480. | 8 | 12 | 0 | 0.00 | 269.67 | 10008.58 |

*SECNO 10.802

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.59

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.802 | 2.28 | 1785.58 | 0.00 | 0.00 | 1785.65 | 0.07 | 4.26 | 0.01 | 1784.70 |
| 669.0 | 457.1 | 203.9 | 8.0 | 185.4 | 138.7 | 9.6 | 4.4 | 5.9 | 1785.10 |
| 0.09 | 2.47 | 1.47 | 0.83 | 0.055 | 0.072 | 0.055 | 0.000 | 1783.30 | 9325.06 |
| 0.006449 | 450. | 486. | 460. | 4 | 0 | 0 | 0.00 | 467.38 | 10195.49 |

1490 NH CARD USED
*SECNO 10.891

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.64

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.891 | 2.35 | 1789.95 | 0.00 | 0.00 | 1790.05 | 0.09 | 4.39 | 0.01 | 1789.10 |
| 669.0 | 198.0 | 469.5 | 1.5 | 73.7 | 200.6 | 2.4 | 7.4 | 10.5 | 1789.80 |
| 0.14 | 2.69 | 2.34 | 0.62 | 0.055 | 0.072 | 0.055 | 0.000 | 1787.60 | 9692.46 |
| 0.015738 | 400. | 470. | 450. | 4 | 0 | 0 | 0.00 | 463.43 | 10155.89 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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 10.982

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.982 | 3.20 | 1794.90 | 0.00 | 0.00 | 1794.95 | 0.05 | 4.90 | 0.00 | 1794.10 |
| 669.0 | 228.7 | 436.8 | 3.5 | 121.3 | 236.6 | 6.6 | 10.8 | 15.5 | 1795.00 |
| 0.20 | 1.88 | 1.85 | 0.53 | 0.055 | 0.072 | 0.055 | 0.000 | 1791.70 | 9735.82 |
| 0.008295 | 390. | 480. | 480. | 6 | 0 | 0 | 0.00 | 503.89 | 10281.37 |

*SECNO 11.079

3280 CROSS SECTION 11.08 EXTENDED 0.28 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.079 | 1.88 | 1798.78 | 0.00 | 0.00 | 1798.83 | 0.05 | 3.88 | 0.00 | 1799.00 |
| 669.0 | 0.0 | 123.8 | 545.2 | 0.0 | 89.1 | 286.6 | 14.6 | 21.5 | 1798.30 |
| 0.27 | 0.00 | 1.39 | 1.90 | 0.000 | 0.072 | 0.055 | 0.000 | 1796.90 | 9983.15 |
| 0.009003 | 410. | 512. | 400. | 8 | 0 | 0 | 0.00 | 697.85 | 10681.00 |

*SECNO 11.174

3265 DIVIDED FLOW

3280 CROSS SECTION 11.17 EXTENDED 0.06 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.174 | 2.36 | 1803.86 | 0.00 | 0.00 | 1803.92 | 0.06 | 5.09 | 0.00 | 1803.90 |
| 699.0 | 0.0 | 110.0 | 589.0 | 0.0 | 55.5 | 307.7 | 18.9 | 29.5 | 1803.30 |
| 0.34 | 0.00 | 1.98 | 1.91 | 0.000 | 0.072 | 0.055 | 0.000 | 1801.50 | 9974.50 |
| 0.011475 | 470. | 502. | 500. | 8 | 0 | 0 | 0.00 | 694.23 | 10700.00 |

*SECNO 11.264

3265 DIVIDED FLOW

3280 CROSS SECTION 11.26 EXTENDED 0.26 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.264 | 3.86 | 1808.06 | 0.00 | 0.00 | 1808.14 | 0.08 | 4.21 | 0.01 | 1807.80 |
| 708.8 | 0.0 | 553.6 | 155.2 | 0.0 | 231.8 | 93.0 | 22.4 | 34.6 | 1806.90 |
| 0.40 | 0.00 | 2.39 | 1.67 | 0.000 | 0.072 | 0.055 | 0.000 | 1804.20 | 9970.80 |
| 0.007861 | 400. | 475. | 430. | 4 | 0 | 0 | 0.00 | 321.86 | 10393.00 |

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

*SECNO 11.368
3280 CROSS SECTION 11.37 EXTENDED 1.10 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.30

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.368 | 4.40 | 1813.00 | 0.00 | 0.00 | 1813.14 | 0.14 | 4.99 | 0.02 | 1811.90 |
| 1921.8 | 0.0 | 1584.2 | 337.6 | 0.0 | 520.8 | 124.1 | 28.4 | 39.8 | 1812.00 |
| 0.45 | 0.00 | 3.04 | 2.72 | 0.000 | 0.072 | 0.055 | 0.000 | 1808.60 | 9978.90 |
| 0.010964 | 510. | 549. | 490. | 6 | 0 | 0 | 0.00 | 550.00 | 10528.90 |

*SECNO 11.469

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.54

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.469 | 5.92 | 1817.12 | 0.00 | 0.00 | 1817.21 | 0.09 | 4.06 | 0.00 | 1815.10 |
| 2162.0 | 61.7 | 1638.0 | 462.3 | 29.7 | 656.4 | 222.6 | 37.8 | 47.0 | 1815.20 |
| 0.51 | 2.08 | 2.50 | 2.08 | 0.055 | 0.072 | 0.055 | 0.000 | 1811.20 | 9918.50 |
| 05868 | 450. | 533. | 530. | 6 | 0 | 0 | 0.00 | 633.65 | 10552.15 |

1490 NH CARD USED
*SECNO 11.570

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.67

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.570 | 4.45 | 1821.95 | 0.00 | 0.00 | 1822.08 | 0.13 | 4.86 | 0.01 | 1823.20 |
| 2162.0 | 0.0 | 135.2 | 2026.8 | 0.0 | 75.3 | 693.0 | 47.7 | 55.7 | 1821.60 |
| 0.56 | 0.00 | 1.79 | 2.92 | 0.000 | 0.062 | 0.074 | 0.000 | 1817.50 | 9937.65 |
| 0.013072 | 480. | 533. | 500. | 6 | 0 | 0 | 0.00 | 849.80 | 10787.45 |

1490 NH CARD USED
*SECNO 11.666

3265 DIVIDED FLOW

3280 CROSS SECTION 11.67 EXTENDED 0.35 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.41

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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 |
| 11.666 | 2.14 | 1827.04 | 0.00 | 0.00 | 1827.12 | 0.07 | 5.03 | 0.01 | 1826.80 |
| 2371.0 | 2.9 | 220.1 | 2148.0 | 5.8 | 57.7 | 1099.0 | 59.0 | 66.3 | 1829.80 |
| 0.63 | 0.49 | 3.81 | 1.95 | 0.055 | 0.032 | 0.090 | 0.000 | 1824.90 | 9744.89 |
| 0.007932 | 500. | 507. | 510. | 4 | 0 | 0 | 0.00 | 962.11 | 10955.00 |

1490 NH CARD USED
*SECNO 11.750
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.750 | 4.07 | 1830.97 | 0.00 | 0.00 | 1831.12 | 0.15 | 3.98 | 0.02 | 1829.90 |
| 2371.0 | 108.6 | 632.1 | 1630.3 | 63.5 | 131.5 | 748.1 | 69.5 | 76.8 | 1841.00 |
| 0.67 | 1.71 | 4.81 | 2.18 | 0.055 | 0.042 | 0.068 | 0.000 | 1826.90 | 9760.55 |
| 0.010644 | 450. | 444. | 430. | 7 | 0 | 0 | 0.00 | 1145.65 | 11314.51 |

1490 NH CARD USED
*SECNO 11.847
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED
3280 CROSS SECTION 11.85 EXTENDED 1.47 FEET

3301 HV CHANGED MORE THAN HVINS

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 1838.90 ELREA= 1840.60

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11.847 | 5.77 | 1837.57 | 0.00 | 0.00 | 1838.25 | 0.68 | 6.97 | 0.16 | 1838.90 |
| 2371.0 | 0.0 | 2371.0 | 0.0 | 0.0 | 358.5 | 0.0 | 76.7 | 84.0 | 1840.60 |
| 0.69 | 0.00 | 6.61 | 0.00 | 0.000 | 0.052 | 0.000 | 0.000 | 1831.80 | 9897.55 |
| 0.018410 | 520. | 512. | 470. | 6 | 0 | 0 | 0.00 | 157.07 | 10054.62 |

Tw

| ASQ | QCOMP | ERRAC | TASQ | TCQ | TABER | NITER | DSWS | USWS | DSSNO | USSNO |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 11 | 1785.577 | 1789.953 | 10.802 | 10.891 |

TW

| ASQ | QCOMP | ERRAC | TASQ | TCQ | TABER | NITER | DSWS | USWS | DSSNO | USSNO |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 11 | 1789.953 | 1794.899 | 10.891 | 10.982 |

TW

| ASQ | QCOMP | ERRAC | TASQ | TCQ | TABER | NITER | DSWS | USWS | DSSNO | USSNO |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 11 | 1794.899 | 1798.782 | 10.982 | 11.079 |

TW

| ASQ | QCOMP | ERRAC | TASQ | TCQ | TABER | NITER | DSWS | USWS | DSSNO | USSNO |
|---|---|---|---|---|---|---|---|---|---|---|
| 30.02 | 32.12 | 6.77 | 30.02 | 32.12 | 6.77 | 11 | 1798.782 | 1803.864 | 11.079 | 11.174 |

TW

| ASQ | QCOMP | ERRAC | TASQ | TCQ | TABER | NITER | DSWS | USWS | DSSNO | USSNO |
|---|---|---|---|---|---|---|---|---|---|---|
| 9.77 | 10.17 | 4.07 | 39.79 | 42.30 | 6.11 | 11 | 1803.864 | 1808.058 | 11.174 | 11.264 |

TW

| ASQ | QCOMP | ERRAC | TASQ | TCQ | TABER | NITER | DSWS | USWS | DSSNO | USSNO |
|---|---|---|---|---|---|---|---|---|---|---|
| 1213.03 | 1212.10 | 0.08 | 1252.81 | 1254.39 | 0.13 | 11 | 1808.058 | 1813.004 | 11.264 | 11.368 |

TW

| ASQ | QCOMP | ERRAC | TASQ | TCQ | TABER | NITER | DSWS | USWS | DSSNO | USSNO |
|---|---|---|---|---|---|---|---|---|---|---|
| 240.21 | 239.63 | 0.24 | 1493.02 | 1494.02 | 0.07 | 11 | 1813.004 | 1817.119 | 11.368 | 11.469 |

TW

| ASQ | QCOMP | ERRAC | TASQ | TCQ | TABER | NITER | DSWS | USWS | DSSNO | USSNO |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 1493.02 | 1494.02 | 0.07 | 11 | 1817.119 | 1821.953 | 11.469 | 11.570 |

TN

| TOTAL AREA | AVG VELOCITY | MAX DEPTH | AVG DEPTH | TOF WIDTH | TOP WIDTH |
|---|---|---|---|---|---|
| 136.7 | 1.53 | 1.43 | 0.78 | 500.0 | 174.7 |

| ASQ | QCOMP | ERRAC | TASQ | TCQ | TABER | NITER | DSWS | USWS | DSSNO | USSNO |
|---|---|---|---|---|---|---|---|---|---|---|
| 209.00 | 208.93 | 0.03 | 1702.02 | 1702.95 | 0.05 | 11 | 1821.953 | 1827.044 | 11.570 | 11.666 |

THIS RUN EXECUTED 8JUL93 16:54:39

**********
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

Split Flow - SP #4

SUMMARY PRINTOUT TABLE 150

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10*KS | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10.620 | 0.00 | 0.00 | 0.00 | 1772.70 | 668.98 | 1776.80 | 0.00 | 1776.94 | 98.50 | 3.49 | 232.01 | 67.41 |
| | 10.710 | 475.00 | 0.00 | 0.00 | 1776.70 | 668.98 | 1781.16 | 1781.01 | 1781.38 | 162.72 | 3.45 | 179.60 | 52.44 |
| * | 10.802 | 486.00 | 0.00 | 0.00 | 1783.30 | 668.98 | 1785.58 | 0.00 | 1785.65 | 64.49 | 1.47 | 333.73 | 83.30 |
| * | 10.891 | 470.00 | 0.00 | 0.00 | 1787.60 | 668.98 | 1789.95 | 0.00 | 1790.05 | 157.38 | 2.34 | 276.73 | 53.33 |
| | 10.982 | 480.00 | 0.00 | 0.00 | 1791.70 | 668.98 | 1794.90 | 0.00 | 1794.95 | 82.95 | 1.85 | 364.54 | 73.45 |
| | 11.079 | 512.00 | 0.00 | 0.00 | 1796.90 | 668.98 | 1798.78 | 0.00 | 1798.83 | 90.03 | 1.39 | 375.69 | 70.50 |
| | 11.174 | 502.00 | 0.00 | 0.00 | 1801.50 | 699.00 | 1803.86 | 0.00 | 1803.92 | 114.75 | 1.98 | 363.22 | 65.25 |
| | 11.264 | 475.00 | 0.00 | 0.00 | 1804.20 | 708.77 | 1808.06 | 0.00 | 1808.14 | 78.61 | 2.39 | 324.72 | 79.94 |
| * | 11.368 | 549.00 | 0.00 | 0.00 | 1808.60 | 1921.80 | 1813.00 | 0.00 | 1813.14 | 109.64 | 3.04 | 644.91 | 183.54 |
| * | 11.469 | 533.00 | 0.00 | 0.00 | 1811.20 | 2162.00 | 1817.12 | 0.00 | 1817.21 | 58.68 | 2.50 | 908.69 | 282.24 |
| * | 11.570 | 533.00 | 0.00 | 0.00 | 1817.50 | 2162.00 | 1821.95 | 0.00 | 1822.08 | 130.72 | 1.79 | 768.36 | 189.10 |
| * | 11.666 | 507.00 | 0.00 | 0.00 | 1824.90 | 2371.00 | 1827.04 | 0.00 | 1827.12 | 79.32 | 3.81 | 1162.52 | 266.21 |
| | 11.750 | 444.00 | 0.00 | 0.00 | 1826.90 | 2371.00 | 1830.97 | 0.00 | 1831.12 | 106.44 | 4.81 | 943.12 | 229.82 |
| | 11.847 | 512.00 | 0.00 | 0.00 | 1831.80 | 2371.00 | 1837.57 | 0.00 | 1838.25 | 184.10 | 6.61 | 358.53 | 174.74 |

S Flow - SP #4

SUMMARY PRINTOUT TABLE 150

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 10.620 | 668.98 | 1776.80 | 0.00 | 0.00 | -3.20 | 300.57 | 0.00 |
| | 10.710 | 668.98 | 1781.16 | 0.00 | 4.36 | 0.00 | 269.67 | 475.00 |
| * | 10.802 | 668.98 | 1785.58 | 0.00 | 4.42 | 0.00 | 467.38 | 486.00 |
| * | 10.891 | 668.98 | 1789.95 | 0.00 | 4.38 | 0.00 | 463.43 | 470.00 |
| | 10.982 | 668.98 | 1794.90 | 0.00 | 4.95 | 0.00 | 503.89 | 480.00 |
| | 11.079 | 668.98 | 1798.78 | 0.00 | 3.88 | 0.00 | 697.85 | 512.00 |
| | 11.174 | 699.00 | 1803.86 | 0.00 | 5.08 | 0.00 | 694.23 | 502.00 |
| | 11.264 | 708.77 | 1808.06 | 0.00 | 4.19 | 0.00 | 321.86 | 475.00 |
| * | 11.368 | 1921.80 | 1813.00 | 0.00 | 4.95 | 0.00 | 550.00 | 549.00 |
| * | 11.469 | 2162.00 | 1817.12 | 0.00 | 4.12 | 0.00 | 633.65 | 533.00 |
| * | 11.570 | 2162.00 | 1821.95 | 0.00 | 4.83 | 0.00 | 849.80 | 533.00 |
| * | 11.666 | 2371.00 | 1827.04 | 0.00 | 5.09 | 0.00 | 962.11 | 507.00 |
| | 11.750 | 2371.00 | 1830.97 | 0.00 | 3.93 | 0.00 | 1145.65 | 444.00 |
| | 11.847 | 2371.00 | 1837.57 | 0.00 | 6.60 | 0.00 | 157.07 | 512.00 |

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 10.802 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 10.891 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 11.368 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 11.469 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 11.570 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 11.666 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

HEC2 S/N: 1916530021 HMVersion: 6.50 Data File: ionasf5.hc2

```
*********************************************
*  -2 WATER SURFACE PROFILES                *
*                                           *
*  Version   4.6.2;  May 1991               *
*                                           *
*  RUN DATE     8JUL93    TIME   16:55:00   *
*********************************************
```

```
****************************************
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```

```
============================
H A E S T A D   M E T H O D S
============================
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 8JUL93 16:55:01

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

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

SPLIT FLOW BEING PERFORMED

SFSplit Flow Sections 6.413 to 6.897

TWWeir extends fromsection 6.413 to 6.897

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| WS | 7 | 6.511 | 6.897 | -1 | 2.54 | | | | | |
| WC | 0 | 1633.2 | 240 | 1634 | 440 | 1636 | 670 | 1638 | 900 | 1638 |
| WC | 985 | 1640 | 1095 | 1641 | | | | | | |

```
T1   d Control District of Maricopa County
T2   Model for Iona Wash FIS.  By CH2M Hill.  PHX34747.FF.  1993.  Fuller
T3       Iona Wash FIS - FCDMC 93

  Model for North section of Iona Wash:  CAP to Grand Ave.  FILENAME:  IONA2.HC2

  HEC2 cross sections prepared directly from DTM prepared by Kenney Aerial
  Discharges provided by FCDMC from Wittman ADMS (WLB, 1989)
    Discharges between known concentration points (from Wittman ADMS) are scaled
    in 50 cfs increments relative to reach length where discharge difference
    reflects routing losses.  No scaling between concentration points is used
    where tributaries cause increases in the base flood.
  Topography from DTM, 2-foot contour interval, 1" = 200', Flight on November 92
  Model extends from Trilby Wash confluence to Rt. 89 Bridge (Grand Avenue)


J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

                2                          -1                                1552

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

     1                 -1

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38        1        43        8        55        26        56        13        14        15
     4       53        54

J6  IHLEQ     ICOPY    SUBDIV   STRTDS   RMILE

     1


QT       1      5340
NC    .063      .063      .095
X1   6.413        67    9764.7   10063.5       400       440       486
GR  1628.3    9259.0    1627.0    9303.7    1625.8    9325.9    1626.0    9355.7    1625.5    9405.0
GR  1625.1    9439.0    1624.7    9453.2    1625.5    9474.6    1625.1    9519.0    1625.3    9546.3
GR  1625.5    9589.9    1625.4    9614.8    1626.0    9635.7    1625.9    9667.2    1625.3    9720.6
GR  1625.1    9764.7    1625.0    9808.9    1625.6    9852.4    1625.5    9895.3    1625.8    9930.3
GR  1625.9    9964.9    1625.8    9989.3    1624.7   10000.0    1626.2   10013.6    1625.3   10063.5
GR  1625.9   10120.2    1626.0   10172.2    1627.0   10223.5    1627.7   10255.8    1628.0   10297.9
GR  1628.2   10336.4    1628.4   10376.4    1627.2   10422.6    1626.4   10431.4    1627.4   10444.5
GR  1627.8   10497.5    1627.7   10542.1    1627.9   10580.9    1628.2   10610.3    1627.9   10653.0
GR  1626.8   10716.5    1627.4   10776.9    1627.4   10837.5    1627.7   10884.2    1627.7   10921.3
GR  1625.9   10936.6    1627.7   10942.5    1628.0   10989.1    1628.8   11043.7    1628.4   11093.0
GR  1628.2   11158.8    1627.6   11214.0    1628.2   11246.6    1628.3   11294.3    1627.1   11340.7
GR  1626.3   11348.6    1627.6   11370.0    1628.0   11406.1    1628.4   11450.6    1629.1   11498.3
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| G | 628.3 | 11533.0 | 1629.1 | 11545.5 | 1629.7 | 11574.2 | 1629.8 | 11628.4 | 1630.1 | 11694.3 |
| GR | 1630.1 | 11742.8 | 1630.2 | 11789.1 | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 6.511 | 54 | 9880 | 10069.7 | 520 | 540 | 517 | | | |
| GR | 1633.7 | 9849.0 | 1631.2 | 9880.0 | 1627.8 | 9929.3 | 1628.0 | 9992.9 | 1625.5 | 10000. |
| GR | 1627.9 | 10005.7 | 1627.1 | 10069.7 | 1627.4 | 10137.2 | 1628.0 | 10193.6 | 1628.3 | 10249. |
| GR | 1628.6 | 10307.7 | 1628.9 | 10365.9 | 1629.3 | 10410.1 | 1629.1 | 10446.3 | 1627.9 | 10455. |
| GR | 1629.0 | 10472.7 | 1629.1 | 10531.9 | 1629.5 | 10581.2 | 1629.5 | 10644.7 | 1628.9 | 10692. |
| GR | 1628.6 | 10751.1 | 1628.3 | 10814.6 | 1628.6 | 10844.5 | 1629.8 | 10868.9 | 1628.9 | 10885. |
| GR | 1630.6 | 10909.7 | 1630.5 | 10947.5 | 1628.9 | 10989.7 | 1628.4 | 11023.5 | 1629.9 | 11053. |
| GR | 1628.8 | 11080.6 | 1629.5 | 11104.2 | 1629.0 | 11150.3 | 1629.6 | 11194.0 | 1630.2 | 11259. |
| GR | 1630.3 | 11328.4 | 1630.2 | 11349.6 | 1627.9 | 11361.5 | 1630.4 | 11371.4 | 1630.4 | 11440. |
| GR | 1630.5 | 11493.0 | 1630.7 | 11554.3 | 1630.9 | 11620.8 | 1631.0 | 11689.4 | 1631.8 | 11740. |
| GR | 1629.6 | 11753.1 | 1631.5 | 11773.2 | 1632.0 | 11804.2 | 1630.9 | 11834.8 | 1632.0 | 11887. |
| GR | 1632.0 | 11953.1 | 1632.8 | 12021.3 | 1633.4 | 12088.0 | 1633.6 | 12133.0 | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 6.603 | 64 | 9963.2 | 10150.0 | 530 | 230 | 486 | | | |
| GR | 1637.9 | 9542.4 | 1638.9 | 9562.1 | 1638.3 | 9585.7 | 1634.4 | 9636.0 | 1633.4 | 9677.2 |
| GR | 1632.3 | 9746.3 | 1631.1 | 9760.8 | 1632.0 | 9774.2 | 1632.5 | 9826.0 | 1631.5 | 9856.5 |
| GR | 1631.3 | 9910.1 | 1630.5 | 9963.2 | 1630.5 | 9988.6 | 1628.9 | 10000.0 | 1628.8 | 10017.1 |
| GR | 1630.3 | 10067.5 | 1628.6 | 10084.4 | 1629.3 | 10113.8 | 1632.2 | 10150. | 1633.4 | 10278. |
| GR | 1634.0 | 10287. | 1630.8 | 10306. | 1631.8 | 10318. | 1632.1 | 10354. | 1632.2 | 10422. |
| GR | 1632.0 | 10458. | 1632.2 | 10495. | 1632.1 | 10520. | 1632.2 | 10555. | 1632.3 | 10603. |
| GR | 1633.1 | 10645. | 1634.7 | 10718. | 1635.2 | 10751. | 1635.4 | 10789. | 1635.3 | 10831. |
| G | 1635.5 | 10841. | 1635.0 | 10883. | 1634.5 | 10932. | 1633.0 | 10947. | 1633.0 | 10998. |
| GR | 1633.4 | 11026. | 1633.3 | 11071. | 1633.4 | 11108. | 1633.4 | 11161. | 1633.3 | 11230. |
| GR | 1633.1 | 11316. | 1633.2 | 11411. | 1633.3 | 11451. | 1632.6 | 11462. | 1628.8 | 11473. |
| GR | 1633.2 | 11487. | 1633.1 | 11529. | 1633.0 | 11591. | 1632.8 | 11662. | 1633.1 | 11761. |
| GR | 1633.4 | 11797. | 1633.2 | 11872. | 1630.9 | 11877. | 1632.6 | 11888. | 1633.0 | 11929. |
| GR | 1633.2 | 11967. | 1634.4 | 12018. | 1634.9 | 12097. | 1634.4 | 12157. | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 4 | .063 | 9954.6 | .095 | 10167.5 | .063 | 10541.1 | 999 | 12021.7 | |
| X1 | 6.704 | 76 | 9954.6 | 10167.5 | 530 | 140 | 533 | | | |
| GR | 1642.6 | 9095.5 | 1641.4 | 9141.8 | 1641.1 | 9172.1 | 1639.1 | 9212.1 | 1638.2 | 9269.7 |
| GR | 1637.8 | 9332.1 | 1637.3 | 9373.3 | 1637.8 | 9396.7 | 1639.5 | 9425.3 | 1639.4 | 9456.2 |
| GR | 1638.0 | 9495.2 | 1637.2 | 9520.5 | 1637.0 | 9557.9 | 1636.7 | 9606.2 | 1635.2 | 9636.2 |
| GR | 1634.8 | 9654.9 | 1635.2 | 9672.7 | 1634.0 | 9685.2 | 1632.9 | 9715.4 | 1632.7 | 9762.2 |
| GR | 1632.5 | 9819.6 | 1633.2 | 9840.4 | 1634.0 | 9907.3 | 1633.0 | 9922.3 | 1633.6 | 9931.7 |
| GR | 1633.7 | 9954.6 | 1633.8 | 10000.0 | 1633.6 | 10029.0 | 1632.2 | 10037.7 | 1633.6 | 10047.4 |
| GR | 1634.4 | 10097.2 | 1631.6 | 10107.7 | 1634.6 | 10119.2 | 1634.7 | 10167.5 | 1634.3 | 10226.8 |
| GR | 1634.3 | 10276.7 | 1634.5 | 10329.3 | 1634.3 | 10389.7 | 1634.7 | 10439.3 | 1635.9 | 10471.0 |
| GR | 1637.0 | 10541.1 | 1637.0 | 10604.1 | 1635.8 | 10661.8 | 1634.7 | 10696.1 | 1634.5 | 10737.6 |
| GR | 1634.4 | 10804.8 | 1634.5 | 10832.5 | 1633.7 | 10844.5 | 1634.2 | 10855.4 | 1634.2 | 10898.5 |
| GR | 1634.3 | 10961.0 | 1634.1 | 11047.0 | 1634.3 | 11099.3 | 1634.2 | 11133.0 | 1634.9 | 11165.8 |
| GR | 1634.6 | 11215.2 | 1633.5 | 11288.4 | 1629.7 | 11299.3 | 1633.3 | 11307.3 | 1633.6 | 11339.0 |
| GR | 1633.8 | 11397.5 | 1633.9 | 11466.1 | 1633.9 | 11526.3 | 1633.8 | 11580.3 | 1633.6 | 11640.3 |
| GR | 1629.9 | 11647.6 | 1634.0 | 11658.7 | 1633.3 | 11696.3 | 1633.2 | 11733.4 | 1633.3 | 11781.8 |
| GR | 1634.2 | 11810.3 | 1634.8 | 11849.7 | 1635.0 | 11882.6 | 1635.0 | 11932.2 | 1634.4 | 11993.1 |
| G | 1634.4 | 12021.7 | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| QT | 1 | 5350 | | | | | | | | |
| NH | 3 | .063 | 9486.0 | .095 | 10195.0 | .063 | 11700.0 | | | |
| X1 | 6.801 | 39 | 9486.0 | 10195.0 | 550 | 300 | 512 | | | |
| GR | 1644.0 | 8620 | 1642.0 | 8680 | 1640.0 | 8790 | 1638.0 | 9005 | 1637.7 | 9082 |
| GR | 1638.0 | 9145 | 1636.0 | 9260 | 1635.8 | 9281 | 1636.0 | 9303 | 1638.0 | 9382 |
| GR | 1638.8 | 9486 | 1638.0 | 9594 | 1636.0 | 9748 | 1635.7 | 9770 | 1636.0 | 9808 |
| GR | 1635.6 | 10000 | 1638.0 | 10098 | 1639.2 | 10195 | 1639.6 | 10276 | 1638.3 | 10370 |
| GR | 1638.0 | 10420 | 1637.7 | 10510 | 1637.5 | 10580 | 1637.8 | 10692 | 1638.0 | 10830 |
| GR | 1638.2 | 10862 | 1638.0 | 10885 | 1636.0 | 11020 | 1635.5 | 11030 | 1636.0 | 11041 |
| GR | 1636.6 | 11070 | 1636.0 | 11105 | 1635.70 | 11130 | 1636.0 | 11165 | 1636.6 | 11230 |
| GR | 1636.9 | 11279 | 1636.0 | 11364 | 1638.0 | 11587 | 1639.5 | 11700 | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 3 | .063 | 9350 | .095 | 10101.0 | .063 | 11620 | | | |
| X1 | 6.897 | 38 | 9350 | 10101.0 | 250 | 480 | 507 | | | |
| GR | 1644.0 | 8486 | 1642.0 | 8521 | 1640.0 | 8627 | 1639.7 | 8670 | 1639.5 | 8770 |
| GR | 1639.8 | 8850 | 1640.0 | 8911 | 1640.5 | 8974 | 1641.0 | 9025 | 1642.0 | 9080 |
| GR | 1642.2 | 9179 | 1642.0 | 9220 | 1640.0 | 9350 | 1639.0 | 9415 | 1638.6 | 9452 |
| GR | 1639.2 | 9522 | 1639.4 | 9571 | 1640.0 | 9666 | 1641.2 | 9829 | 1641.7 | 9954 |
| GR | 1641.0 | 10000 | 1642.0 | 10101 | 1642.0 | 10202 | 1641.8 | 10289 | 1641.5 | 10382 |
| GR | 1641.5 | 10530 | 1641.6 | 10650 | 1640.0 | 10769 | 1639.5 | 10790 | 1640.0 | 10830 |
| GR | 1639.7 | 10890 | 1640.0 | 10930 | 1640.2 | 10972 | 1640.3 | 11090 | 1640.0 | 11120 |
| GR | 1640.0 | 11440 | 1642.0 | 11532 | 1644.0 | 11620 | | | | |

IHLED = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

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

*PROF 1

*SECNO 6.413

3265 DIVIDED FLOW

3720 CRITICAL DEPTH ASSUMED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.413 | 1.90 | 1626.59 | 1626.59 | 1552.00 | 1627.11 | 0.51 | 0.00 | 0.00 | 1625.10 |
| 4976.1 | 3197.7 | 1274.8 | 503.7 | 498.2 | 318.6 | 103.5 | 0.0 | 0.0 | 1625.30 |
| 0.00 | 6.42 | 4.00 | 4.87 | 0.063 | 0.095 | 0.063 | 0.000 | 1624.70 | 9311.19 |
| 0.060105 | 400. | 486. | 440. | 0 | 64 | 0 | 0.00 | 912.18 | 11353.46 |

*SECNO 6.511

3265 DIVIDED FLOW

3 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 4.15

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.511 | 5.04 | 1630.54 | 0.00 | 0.00 | 1630.60 | 0.06 | 3.49 | 0.00 | 1631.20 |
| 4976.1 | 0.0 | 807.0 | 4169.1 | 0.0 | 465.2 | 1996.8 | 20.6 | 15.4 | 1627.10 |
| 0.07 | 0.00 | 1.73 | 2.09 | 0.000 | 0.095 | 0.063 | 0.000 | 1625.50 | 9889.61 |
| 0.003497 | 520. | 517. | 540. | 11 | 0 | 0 | 0.00 | 1605.67 | 11763.01 |

*SECNO 6.603

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.47

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.603 | 4.39 | 1632.99 | 0.00 | 0.00 | 1633.22 | 0.23 | 2.62 | 0.00 | 1630.50 |
| 4976.1 | 1213.0 | 2581.0 | 1182.2 | 316.6 | 603.9 | 416.0 | 34.9 | 24.5 | 1632.20 |
| 0.10 | 3.83 | 4.27 | 2.84 | 0.063 | 0.095 | 0.063 | 0.000 | 1628.60 | 9703.21 |
| 0.015658 | 530. | 486. | 230. | 4 | 0 | 0 | 0.00 | 1089.48 | 11927.56 |

1490 NH CARD USED
*SECNO 6.704

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

3265 DIVIDED FLOW

3280 CROSS SECTION 6.70 EXTENDED 1.80 FEET

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

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.704 | 6.51 | 1636.21 | 0.00 | 0.00 | 1636.31 | 0.10 | 3.09 | 0.00 | 1633.70 |
| 4976.1 | 2886.2 | 920.7 | 1169.2 | 891.2 | 497.4 | 3368.4 | 55.1 | 34.3 | 1634.70 |
| 0.15 | 3.24 | 1.85 | 0.35 | 0.063 | 0.095 | 0.480 | 0.000 | 1629.70 | 9616.27 |
| 0.004545 | 530. | 533. | 140. | 3 | 0 | 0 | 0.00 | 2252.59 | 12021.70 |

1490 NH CARD USED
*SECNO 6.801

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.801 | 2.77 | 1638.27 | 0.00 | 0.00 | 1638.32 | 0.06 | 2.01 | 0.00 | 1638.80 |
| 86.1 | 788.1 | 1447.7 | 2750.4 | 409.5 | 959.0 | 1342.1 | 88.1 | 53.8 | 1639.20 |
| 0.22 | 1.92 | 1.51 | 2.05 | 0.063 | 0.095 | 0.063 | 0.000 | 1635.50 | 8977.50 |
| 0.004537 | 550. | 512. | 300. | 3 | 0 | 0 | 0.00 | 2225.90 | 11606.27 |

1490 NH CARD USED
*SECNO 6.897

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.897 | 2.60 | 1641.20 | 0.00 | 0.00 | 1641.30 | 0.10 | 2.98 | 0.00 | 1640.00 |
| 5350.0 | 1649.8 | 1369.4 | 2330.8 | 592.0 | 698.7 | 886.6 | 112.9 | 74.2 | 1642.00 |
| 0.26 | 2.79 | 1.96 | 2.63 | 0.063 | 0.095 | 0.063 | 0.000 | 1638.60 | 8563.23 |
| 0.010419 | 250. | 507. | 480. | 4 | 0 | 0 | 0.00 | 1880.71 | 11495.35 |

Twweir extends fromsection 6.413 to 6.897

| ASQ | QCOMP | ERRAC | TASQ | TCQ | TABER | NITER | DSWS | USWS | DSSNO | USSNO |
|---|---|---|---|---|---|---|---|---|---|---|
| 363.85 | 364.44 | 0.16 | 363.85 | 364.44 | 0.16 | 5 | 1630.537 | 1641.203 | 6.511 | 6.897 |

THIS RUN EXECUTED 8JUL93 16:55:21

**********
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

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| | SECNO | CWSEL | Q | DEPTH | VLOB | VCH | VROB | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | 6.413 | 1626.59 | 4976.15 | 1.90 | 6.42 | 4.00 | 4.87 | 3197.67 | 1274.76 | 503.71 | 912.18 | 9311.19 | 11353.46 |
| * | 6.511 | 1630.54 | 4976.15 | 5.04 | 0.00 | 1.73 | 2.09 | 0.00 | 807.04 | 4169.10 | 1605.67 | 9889.61 | 11763.01 |
| * | 6.603 | 1632.99 | 4976.15 | 4.39 | 3.83 | 4.27 | 2.84 | 1213.00 | 2580.97 | 1182.18 | 1089.48 | 9703.21 | 11927.56 |
| * | 6.704 | 1636.21 | 4976.15 | 6.51 | 3.24 | 1.85 | 0.35 | 2886.25 | 920.69 | 1169.21 | 2252.59 | 9616.27 | 12021.70 |
| | 6.801 | 1638.27 | 4986.15 | 2.77 | 1.92 | 1.51 | 2.05 | 788.11 | 1447.66 | 2750.37 | 2225.90 | 8977.50 | 11606.27 |
| | 6.897 | 1641.20 | 5350.00 | 2.60 | 2.79 | 1.96 | 2.63 | 1649.78 | 1369.42 | 2330.80 | 1880.71 | 8563.23 | 11495.35 |

SUMMARY OF ERRORS AND SPECIAL NOTES

| | | | | |
|---|---|---|---|---|
| CAUTION SECNO= | 6.413 | PROFILE= | 1 | CRITICAL DEPTH ASSUMED |
| WARNING SECNO= | 6.511 | PROFILE= | 1 | CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE |
| WARNING SECNO= | 6.603 | PROFILE= | 1 | CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE |
| WARNING SECNO= | 6.704 | PROFILE= | 1 | CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE |

# IONADIST.HC2

# Flow Trace for Historic Diversion at SECNO 2.827 (SPR #8)

HEC2 S/N: 1916530021 HMVersion: 6.50 Data File: ionadist.hc2

```
*********************************************
*[illegible]-2 WATER SURFACE PROFILES          *
*                                             *
* Version   4.6.2;  May 1991                  *
*                                             *
* RUN DATE    12JUL93    TIME    10:00:43     *
*********************************************
```

```
*****************************************
* 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
```

```
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```

```
============================
H A E S T A D   M E T H O D S
============================
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 12JUL93 10:00:43

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

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

```
T1
T2
T3      Flow Distribution Split

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

                2                           -1                                    1515

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

    -1                  -1                                                                      15

J6  IHLEQ     ICOPY     SUBDIV    STRTDS    RMILE
    1

QT        1       5001
NC     .055       .055       .038        .1        .3

NH        3       .055     9617.1      .072    10037.      .055    11446.
X1    2.631         50     9911.3    10073.       650       360       496
GR   1516.6     9169.2     1516.2    9270.9    1515.8    9381.4    1515.7    9465.3    1515.2    9562.0
GR   1514.6     9591.9     1513.4    9617.1    1512.9    9668.9    1512.4    9688.3    1512.8    9738.1
GR   1513.1     9787.5     1513.1    9889.3    1512.6    9911.3    1512.3    9954.7    1513.0    9984.7
GR   1510.0     9992.7     1510.0    10000.    1509.9    10007.    1513.0    10018.    1512.5    10037.
GR   1514.3     10073.     1514.1    10107.    1514.1    10126.    1514.3    10158.    1513.6    10255.
GR   1513.7     10346.     1513.6    10416.    1512.6    10469.    1512.7    10532.    1512.3    10604.
GR   1511.8     10610.     1512.3    10622.    1512.4    10630.    1512.8    10668.    1512.9    10762.
GR   1513.1     10857.     1513.3    10901.    1519.8    10916.    1519.9    10924.    1514.3    10931.
GR   1515.1     10963.     1515.0    10987.    1513.7    10992.    1514.7    11001.    1515.3    11045.
GR   1516.1     11097.     1517.0    11148.    1518.6    11209.    1519.5    11319.    1519.5    11446.

  Right encroachment at effective flow boundary on divide above diversion

NH        4      .064     9613.5      .055    9859.4      .072    10038.      .055    10553.
X1    2.727         40     9859.4    10038.       535       400       507
GR   1519.0     9155.5     1518.3    9198.2    1517.3    9261.5    1516.8    9299.8    1516.7    9347.3
GR   1516.0     9359.3     1516.6    9405.0    1516.2    9494.4    1516.1    9553.3    1516.0    9613.5
GR   1516.1     9693.3     1515.9    9773.3    1516.2    9859.4    1514.1    9866.2    1515.0    9873.7
GR   1516.1     9901.7     1515.5    9952.1    1514.4    9965.2    1514.3    9983.6    1512.7    9993.0
GR   1512.3     10000.     1512.3    10005.    1515.6    10017.    1516.3    10038.    1516.4    10094.
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| GR | 1516.2 | 10140. | 1516.5 | 10174. | 1516.5 | 10230. | 1516.4 | 10310. | 1516.4 | 10310. |
| GR | 1516.8 | 10323. | 1517.1 | 10392. | 1516.5 | 10428. | 1513.6 | 10468. | 1513.8 | 10480. |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| G | 519.8 | 10500. | 1519.8 | 10506. | 1516.3 | 10514. | 1515.8 | 10536. | 1516.5 | 10553. |

Historical diversion to stock pond. No structure at diversion. Divided Flow.
Right encroachment at effective flow boundary on divide above diversion

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 7 | .055 | 9098.1 | .082 | 9463.6 | .055 | 9925.5 | .105 | 9992.8 | .038 |
| NH | 10010. | .105 | 10103. | .055 | 11326 | | | | | |
| ET | | 7.1 | | | | | 8926 | 10615 | | |
| X1 | 2.827 | 62 | 9585.6 | 10140. | 340 | 560 | 528 | | | |
| GR | 1521.8 | 8925.2 | 1521.4 | 9008.7 | 1520.4 | 9047.7 | 1519.0 | 9098.1 | 1519.2 | 9125.1 |
| GR | 1518.6 | 9156.4 | 1518.7 | 9168.3 | 1518.3 | 9251.8 | 1518.4 | 9332.6 | 1518.0 | 9416.3 |
| GR | 1518.2 | 9463.6 | 1518.6 | 9507.5 | 1519.5 | 9555.7 | 1519.9 | 9585.6 | 1519.9 | 9667.7 |
| GR | 1519.8 | 9691.3 | 1519.4 | 9744.7 | 1519.3 | 9854.4 | 1518.3 | 9863.0 | 1518.3 | 9879.5 |
| GR | 1517.4 | 9883.3 | 1519.0 | 9900.5 | 1519.3 | 9925.5 | 1518.9 | 9985.4 | 1515.7 | 9992.8 |
| GR | 1516.1 | 10000. | 1516.2 | 10010. | 1517.1 | 10023. | 1518.1 | 10039. | 1518.3 | 10060. |
| GR | 1515.9 | 10083. | 1519.3 | 10103. | 1521.6 | 10127. | 1518.9 | 10140. | 1518.9 | 10180. |
| GR | 1519.1 | 10211. | 1519.4 | 10290. | 1519.2 | 10351. | 1518.5 | 10390. | 1518.4 | 10423. |
| GR | 1518.4 | 10470. | 1518.5 | 10506. | 1518.3 | 10541. | 1518.3 | 10576. | 1518.7 | 10615. |
| GR | 1518.4 | 10662. | 1518.7 | 10705. | 1518.7 | 10775. | 1518.5 | 10802. | 1518.9 | 10840. |
| GR | 1519.1 | 10876. | 1519.3 | 10917. | 1519.2 | 10951. | 1520.1 | 10995. | 1520.7 | 11034. |
| GR | 1521.3 | 11077. | 1521.6 | 11122. | 1523.0 | 11158. | 1523.5 | 11198. | 1524.1 | 11246. |
| GR | 1524.9 | 11281. | 1525.0 | 11326. | | | | | | |

Left encroachment at effective flow boundary at minor tributary confluence

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 5 | .055 | 9162.7 | .082 | 9520.9 | .055 | 9912.6 | .082 | 10084. | .055 |
| NH | 10486. | | | | | | | | | |
| ET | | 7.1 | | | | | 9129.2 | 10485 | | |
| X1 | 2.927 | 57 | 9793.6 | 10139. | 360 | 600 | 528 | | | |
| X3 | 10 | | | | | | | | | |
| GR | 1523.6 | 8729.0 | 1523.5 | 8766.5 | 1523.3 | 8793.1 | 1523.1 | 8824.6 | 1522.9 | 8855.7 |
| GR | 1522.8 | 8891.6 | 1523.0 | 8919.1 | 1522.7 | 8942.5 | 1522.3 | 8967.1 | 1522.1 | 8991.0 |
| GR | 1522.6 | 9045.2 | 1522.5 | 9077.9 | 1522.7 | 9107.1 | 1522.3 | 9129.2 | 1521.9 | 9162.7 |
| GR | 1521.6 | 9195.3 | 1520.0 | 9237.8 | 1520.6 | 9246.4 | 1520.2 | 9282.1 | 1520.1 | 9310.8 |
| GR | 1520.3 | 9350.3 | 1520.5 | 9380.3 | 1520.9 | 9416.6 | 1520.5 | 9450.5 | 1520.6 | 9486.2 |
| GR | 1520.3 | 9520.9 | 1520.7 | 9553.3 | 1520.6 | 9584.0 | 1520.7 | 9611.5 | 1520.7 | 9667.9 |
| GR | 1521.7 | 9701.5 | 1522.4 | 9730.0 | 1523.1 | 9775.3 | 1523.2 | 9793.6 | 1523.2 | 9820.9 |
| GR | 1522.9 | 9865.9 | 1522.4 | 9912.6 | 1522.5 | 9970.4 | 1519.5 | 9988.9 | 1519.5 | 10000. |
| GR | 1519.9 | 10011. | 1522.2 | 10022. | 1522.0 | 10056. | 1520.8 | 10069. | 1522.1 | 10084. |
| GR | 1521.8 | 10107. | 1522.7 | 10139. | 1522.4 | 10175. | 1521.9 | 10208. | 1522.1 | 10241. |
| GR | 1522.5 | 10280. | 1522.5 | 10316. | 1522.4 | 10350. | 1522.5 | 10389. | 1523.0 | 10420. |
| GR | 1523.3 | 10454. | 1523.4 | 10486. | | | | | | |

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

*PROF 1

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

CCHV= 0.100 CEHV= 0.300
1490 NH CARD USED
*SECNO 2.631

3265 DIVIDED FLOW

3720 CRITICAL DEPTH ASSUMED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.631 | 3.89 | 1513.79 | 1513.79 | 1515.00 | 1514.22 | 0.43 | 0.00 | 0.00 | 1512.60 |
| 5001.0 | 951.4 | 1304.8 | 2744.8 | 248.4 | 227.3 | 503.9 | 0.0 | 0.0 | 1514.30 |
| 0.00 | 3.83 | 5.74 | 5.45 | 0.072 | 0.068 | 0.055 | 0.000 | 1509.90 | 9608.92 |
| 0.041066 | 650. | 496. | 360. | 0 | 12 | 0 | 0.00 | 1128.44 | 10992.81 |

FLOW DISTRIBUTION FOR SECNO= 2.63 CWSEL= 1513.79

| STA= | 9609. | 9688. | 9738. | 9788. | 9889. | 9911. | 10037. | 10073. | 10469. | 10532. | 10604. | 10622. | 10668. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PER Q= | 4.1 | 5.6 | 3.1 | 4.6 | 1.7 | 24.7 | 1.4 | 3.8 | 8.6 | 12.0 | 5.0 | 7.2 | |
| AREA= | 56.8 | 59.2 | 41.5 | 70.2 | 20.7 | 210.7 | 16.6 | 61.5 | 71.8 | 92.9 | 31.3 | 56.7 | |
| VEL= | 3.6 | 4.7 | 3.7 | 3.3 | 4.0 | 5.9 | 4.1 | 3.1 | 6.0 | 6.5 | 7.9 | 6.3 | |
| DEPTH= | 0.7 | 1.2 | 0.8 | 0.7 | 0.9 | 1.7 | 0.6 | 0.2 | 1.1 | 1.3 | 1.7 | 1.2 | |

| STA= | 10668. | 10762. | 10857. | 10993. |
|---|---|---|---|---|
| PER Q= | 9.3 | 7.0 | 2.0 | |
| AREA= | 88.3 | 75.0 | 26.3 | |
| VEL= | 5.3 | 4.7 | 3.8 | |
| DEPTH= | 0.9 | 0.8 | 0.2 | |

1490 NH CARD USED
*SECNO 2.727

3265 DIVIDED FLOW

3280 CROSS SECTION 2.73 EXTENDED 1.25 FEET

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

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.12

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.727 | 5.45 | 1517.75 | 0.00 | 0.00 | 1517.83 | 0.09 | 3.58 | 0.03 | 1516.20 |
| 5001.0 | 1961.3 | 1273.6 | 1766.0 | 901.2 | 487.6 | 719.1 | 16.8 | 13.0 | 1516.30 |
| 0.05 | 2.18 | 2.61 | 2.46 | 0.059 | 0.072 | 0.055 | 0.000 | 1512.30 | 9233.21 |
| 0.004230 | 535. | 507. | 400. | 8 | 0 | 0 | 0.00 | 1302.25 | 10553.00 |

FLOW DISTRIBUTION FOR SECNO= 2.73 CWSEL= 1517.75

| STA= | 9233. | 9405. | 9494. | 9553. | 9614. | 9693. | 9773. | 9859. | 10038. | 10094. | 10174. | 10310. | 10428. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PER Q= | 5.3 | 4.4 | 3.9 | 4.4 | 6.8 | 7.1 | 7.3 | 25.5 | 3.4 | 5.1 | 7.2 | 3.4 | |
| AREA= | 163.3 | 120.4 | 94.1 | 102.2 | 135.4 | 139.8 | 146.1 | 487.6 | 78.2 | 114.1 | 173.6 | 104.0 | |
| VEL= | 1.6 | 1.8 | 2.1 | 2.1 | 2.5 | 2.5 | 2.5 | 2.6 | 2.2 | 2.2 | 2.1 | 1.6 | |
| DEPTH= | 1.0 | 1.3 | 1.6 | 1.7 | 1.7 | 1.7 | 1.7 | 2.7 | 1.4 | 1.4 | 1.3 | 0.9 | |

| STA= | 10428. | 10468. | 10480. | 10536. | 10553. |
|---|---|---|---|---|---|
| PER Q= | 7.3 | 4.3 | 3.3 | 1.2 | |
| AREA= | 107.9 | 48.6 | 65.7 | 27.1 | |
| VEL= | 3.4 | 4.5 | 2.5 | 2.3 | |
| DEPTH= | 2.7 | 4.0 | 1.2 | 1.6 | |

1490 NH CARD USED
*SECNO 2.827

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 8926.0 10615.0 TYPE= 1 TARGET= 1689.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.827 | 4.44 | 1520.14 | 0.00 | 0.00 | 1520.23 | 0.09 | 2.39 | 0.00 | 1519.90 |
| 5001.0 | 1672.5 | 1607.8 | 1720.7 | 793.7 | 662.5 | 647.3 | 39.2 | 28.1 | 1518.90 |
| 0.11 | 2.11 | 2.43 | 2.66 | 0.076 | 0.054 | 0.055 | 0.000 | 1515.70 | 9056.84 |
| 0.005927 | 340. | 528. | 560. | 7 | 0 | 0 | 0.00 | 1535.98 | 10615.00 |

FLOW DISTRIBUTION FOR SECNO= 2.83 CWSEL= 1520.14

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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 |

| STA= | 9057. | 9168. | 9252. | 9333. | 9416. | 9464. | 9508. | 9586. | 9926. | 9993. | 10010. | 10103. | 10140. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PER Q= | 3.4 | 5.3 | 6.0 | 7.1 | 4.4 | 4.6 | 2.7 | 8.6 | 2.1 | 10.9 | 10.4 | 0.2 | |
| AREA= | 108.7 | 137.4 | 145.1 | 162.9 | 96.8 | 76.7 | 66.2 | 252.8 | 83.7 | 70.5 | 248.0 | 7.5 | |
| VEL= | 1.6 | 1.9 | 2.1 | 2.2 | 2.2 | 3.0 | 2.0 | 1.7 | 1.3 | 7.7 | 2.1 | 1.3 | |
| DEPTH= | 1.0 | 1.6 | 1.8 | 1.9 | 2.0 | 1.7 | 0.8 | 0.7 | 1.2 | 4.1 | 2.7 | 0.5 | |

| STA= | 10140. | 10211. | 10351. | 10423. | 10470. | 10506. | 10541. | 10576. | 10615. |
|---|---|---|---|---|---|---|---|---|---|
| PER Q= | 4.0 | 4.7 | 5.8 | 4.9 | 3.6 | 3.7 | 4.0 | 3.6 | |
| AREA= | 85.4 | 122.4 | 106.5 | 82.1 | 61.1 | 61.1 | 64.6 | 64.2 | |
| VEL= | 2.4 | 1.9 | 2.7 | 3.0 | 3.0 | 3.0 | 3.1 | 2.8 | |
| DEPTH= | 1.2 | 0.9 | 1.5 | 1.7 | 1.7 | 1.7 | 1.8 | 1.6 | |

1490 NH CARD USED
*SECNO 2.927
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 9129.2 10485.0 TYPE= 1 TARGET= 1355.800

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .927 | 3.72 | 1523.22 | 1523.22 | 0.00 | 1523.32 | 0.10 | 2.15 | 0.23 | 1523.20 |
| 5001.0 | 3974.5 | 628.3 | 398.2 | 1478.0 | 372.8 | 235.0 | 60.9 | 43.7 | 1522.70 |
| 0.16 | 2.69 | 1.69 | 1.69 | 0.070 | 0.064 | 0.055 | 0.000 | 1519.50 | 9129.20 |
| 0.004797 | 360. | 528. | 600. | 20 | 12 | 0 | 0.00 | 1315.73 | 10444.93 |

FLOW DISTRIBUTION FOR SECNO= 2.93 CWSEL= 1523.22

| STA= | 9129. | 9195. | 9238. | 9282. | 9311. | 9350. | 9380. | 9417. | 9451. | 9486. | 9521. | 9553. | 9584. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PER Q= | 3.0 | 4.7 | 6.3 | 4.7 | 6.3 | 4.2 | 4.3 | 4.0 | 4.6 | 4.8 | 6.4 | 5.5 | |
| AREA= | 85.4 | 102.8 | 125.8 | 88.1 | 119.3 | 84.6 | 91.5 | 85.4 | 95.3 | 96.1 | 88.1 | 78.9 | |
| VEL= | 1.8 | 2.3 | 2.5 | 2.7 | 2.6 | 2.5 | 2.3 | 2.3 | 2.4 | 2.5 | 3.6 | 3.5 | |
| DEPTH= | 1.3 | 2.4 | 2.8 | 3.1 | 3.0 | 2.8 | 2.5 | 2.5 | 2.7 | 2.8 | 2.7 | 2.6 | |

| STA= | 9584. | 9612. | 9668. | 9702. | 9794. | 9913. | 10084. | 10139. | 10241. | 10389. | 10445. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PER Q= | 5.0 | 9.8 | 4.1 | 1.9 | 0.6 | 9.6 | 2.4 | 3.8 | 3.8 | 0.4 | |
| AREA= | 70.7 | 142.1 | 67.9 | 55.9 | 34.8 | 277.7 | 60.2 | 99.7 | 118.0 | 17.3 | |
| VEL= | 3.5 | 3.5 | 3.0 | 1.7 | 0.8 | 1.7 | 2.0 | 1.9 | 1.6 | 1.0 | |
| DEPTH= | 2.6 | 2.5 | 2.0 | 0.6 | 0.3 | 1.6 | 1.1 | 1.0 | 0.8 | 0.3 | |

THIS RUN EXECUTED 12JUL93 10:00:47

**********
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

Flow Distribution Split

SUMMARY PRINTOUT TABLE 150

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10*KS | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | 2.631 | 0.00 | 0.00 | 0.00 | 1509.90 | 5001.00 | 1513.79 | 1513.79 | 1514.22 | 410.66 | 5.74 | 979.61 | 246.78 |
| * | 2.727 | 507.00 | 0.00 | 0.00 | 1512.30 | 5001.00 | 1517.75 | 0.00 | 1517.83 | 42.30 | 2.61 | 2107.92 | 768.91 |
| | 2.827 | 528.00 | 0.00 | 0.00 | 1515.70 | 5001.00 | 1520.14 | 0.00 | 1520.23 | 59.27 | 2.43 | 2103.52 | 649.57 |
| * | 2.927 | 528.00 | 0.00 | 0.00 | 1519.50 | 5001.00 | 1523.22 | 1523.22 | 1523.32 | 47.97 | 1.69 | 2085.83 | 722.07 |

Distribution Split

SUMMARY PRINTOUT TABLE 150

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| * | 2.631 | 5001.00 | 1513.79 | 0.00 | 0.00 | -1.21 | 1128.44 | 0.00 |
| * | 2.727 | 5001.00 | 1517.75 | 0.00 | 3.96 | 0.00 | 1302.25 | 507.00 |
| | 2.827 | 5001.00 | 1520.14 | 0.00 | 2.39 | 0.00 | 1535.98 | 528.00 |
| * | 2.927 | 5001.00 | 1523.22 | 0.00 | 3.08 | 0.00 | 1315.73 | 528.00 |

SUMMARY OF ERRORS AND SPECIAL NOTES

```
CAUTION SECNO=      2.631  PROFILE=  1  CRITICAL DEPTH ASSUMED

WARNING SECNO=      2.727  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=      2.927  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      2.927  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=      2.927  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
```

# 5945DIST.HC2

## Flow Trace at SECNO 5.945 for Breakout Analyses in this Area

- and -

# IONABO??.HC2

## Breakout Analyses

SUBJECT _____ BY _____ DATE _____

SHEET ____ OF ____

IONA WASH BREAK OUT MAPPING

PROJECT NO. _____

PROCEDURE

① DETERMINE Q'S IN SO. CHANNEL BREAKOUTS BY SPLIT FLOW

② DEVELOP SEVERAL CROSS SECTIONS IN EACH OVERFLOW AREA
~ 1 SECTION / MILE

③ OBTAIN SECTION TOPO FROM ORIGINAL XN PLOTS WHERE POSSIBLE, ELSE USE TOPO LINES DRAWN BY KENNEY

④ MAP AREAS < 0.5 FT AS ZONE X, ELSE MAP AS ZONE A (UNNUMBERED)

BREAK-OUTS

| | XN # | $Q_{TOTAL}$ | $Q_{CHL}$ | $Q_{SO}$ | BREAK OUT AREA |
|---|---|---|---|---|---|
| | .640 | 5001 | 3692 | 1309 | .640 |
| | .734 | | 3692 | 1309 | |
| SHEET 1 & 2 | .819 | | 3857 | 1144 | TO RIVER RIGHT |
| | .912 | | 4352 | 649 | |
| | .999 | | 4854 | 147 | |
| | 1.101 | 5001 | 5001 | 0 | 1.101 |
| | 2.827 | 5001 | DIVERSION POINT | SP# 8 | FOLLOWS DEFINED OVERFLOW CHANNEL XN 2.827 - 0.640 (MATCH TO TEILBY F/P LIMITS |
| SHEETS 1,2,3,4 | | | MODEL KEEPS ALL Q IN CHANNEL IONADIST.HC2 Q DIVERSION = 1700 CFS | | Q = |
| | 5.945 | | | SP# ___ | FOLLOWS OVERFLOW CHANNEL, XN 5.945 TO 4.010 |
| SHEET 6,7,5 | | | MODEL KEEPS ALL Q IN MAIN CHANNEL DO XN 5.765, 5.287, 4.988, 4.214 | | Q = SEE XN 5.945 |
| | 10.710 | 2371 | 669 | 1702 | DO XNS 8, 10.620, 9.963, 9.588, 9.115, 8.27 |
| | 10.802 | | | | BROAD OVERFLOW AREA |
| | 10.891 | | | | |
| | 10.982 | | | | USE Q = 1702 CFS |
| | 11.079 | | 669 | 1702 | DO XN BACKER XN 11.079 |
| SHEETS 18,19 | 11.174 | | 699 | 1672 | ALIGNMENT |
| 16,17 | 11.264 | | 709 | 1662 | DO XN |
| 14,15 | 11.368 | | 1922 | 449 | |
| 12,13 | 11.469 | | 2162 | 209 | DO XN |

SUBJECT _____ BY _____ DATE _____

SHEET ____ OF ____

PROJECT NO. _____

| | | | | | |
|---|---|---|---|---|---|
| 11.570 | 2371 | 2162 | 209 | | |
| 11.666 | 2371 | 2371 | 0 | | |
| ~~11.750~~ | | | | | |
| 12.010 | 2371 | 2371 | 0 | | |
| 12.101 | | 849 | 1522 | DO XN | DO HSC-2 STAT = WSEC AT 12.010 split to East |
| 12.191 | | 849 | 1522 | DO XN | |
| 12.281 | | 979 | 1392 | DO XN | |
| 12.369 | | 1812 | 559 | DO XN | |
| 12.464 | | 1812 | 559 | DO XN | |
| 12.614 | 2371 | 2371 | 0 | | |

SHEETS 18, 19, 20

DO CAP PONDING ON USGS QUAD SHEET

SUBJECT _____ BY _____ DATE _____

SHEET ____ OF ____

LONA WASH PROJECT NO. _____

BREAKOVER D/S OF XN 5.945 (U/S OF CAP)

① DETERMINE Q ~~FROM~~ BY RUNNING TRACE AT XN 5.945 & USING PORTION OF FLOW IN PORTION OF CROSS SECTION IDENTIFIED BY ENGINEERING JUDGEMENT AS BREAKOVER

"5945DIST.HC2" (USEL'S MATCH F/P RUN "LONA.HC2"

↳ BREAKOVER PORTION = STNS ~9800 slight divide

| STN | 8233 | 8494 | 8740 | 8858 | 9017 | 9151 | 9291 | 9429 |
|---|---|---|---|---|---|---|---|---|
| Area | ~~[illegible]~~ 211.6 | 333.1 | 139.0 | 207.3 | 134.6 | ~~149.6~~ | ~~124.3~~ | |
| Vel | 1.7 | 2.2 | 2.0 | 2.2 | 2.0 | 1.9 | 1.7 | |
| Q=VA | 359.7 | 732.8 | 278.0 | 456.1 | 269.2 | 280.4 | 211.3 | |

$Q_{TOT}$ = ~~[illegible]~~ ~~2096~~ 2376

② XN 4.214 LONA0042.HC2

$S_o = \frac{2}{480} = .0042$

Q = 2376

end section @ f/p limit = 9568 PLOT PRINT

WSEL = 1562.62

STN = 7857

ENSTN = 8946

XN 4.988 LONA0049.HC2

$S_o = \frac{2}{340}$ .0059

Q = 2376

end section @ f/p limit = 9878

divide → 8500 PLOT PRINT

WSEL = 1563.07

STNN = 7085

ENSTN = 8473

SUBJECT Iona Wash fcs BY DATE
SHEET OF
PROJECT NO.

XN 5.386 IONA053.HC2 PLOT PRINT

$S_o$ = .0079

Q = 2376

WSEL = 1598.83

STSTN = 7393

ENSTN = 8819

XN 5.858 IONA0058.HC2 PLOT PRINT

$S_o$ = .0033

Q = 2376

WSEL = 1611.59

STSTN = 7889

ENSTN = 9196

XN 5.668 IONA0056.HC2 PLOT PRINT

$S_o$ =

Q = 2376

WSEL = 1605.61

STSTN = 7467

ENSTN = 8384

HEC2 S/N: 1916530021 HMVersion: 6.50 Data File: 5945dist.hc2

```
*********************************************
*  HEC-2 WATER SURFACE PROFILES             *
*                                           *
*  Version   4.6.2;  May 1991               *
*                                           *
*  RUN DATE     1JUL93     TIME    10:38:22 *
*********************************************
```

```
****************************************
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```

```
============================
H A E S T A D   M E T H O D S
============================
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 1JUL93 10:38:23

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

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


T1Flood Control District of Maricopa County.  S. Story/Project Manager
T2HEC2 Model for Iona Wash FIS.  By CH2M Hill.  PHX34747.FF.  1993.  Fuller
T3      Iona Wash FIS - FCDMC 93  IONAFW.HC2


J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

              2                                                          1587.89

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

     1                 -1                                                             15


J7  VARIABLE CODES FOR SUMMARY PRINTOUT

    38       43        1        8       26        5       33       42        4       17
    58       25       62
    38       43        1        8       42       39        4       53       54
   200

J6  IHLEQ     ICOPY    SUBDIV   STRTDS   RMILE

     1


  End Sheet 6/Begin Sheet 7


QT       1     5320
NC    .055     .055      .07

NH       4      .08   9480.3     .075   9970.3     .038  10014.6     .085    10668
X1   5.189       35   9957.7    10163      490      500      496
GR  1588.1   9350.0   1588.1   9414.2   1588.6   9480.3   1588.9   9549.6   1588.8   9638.8
GR  1588.7   9719.8   1588.3   9809.9   1587.5   9829.4   1584.2   9838.2   1586.7   9851.5
GR  1587.6   9869.8   1587.2   9894.2   1581.8   9906.3   1587.9   9921.7   1587.9   9931.0
GR  1582.8   9940.3   1587.7   9957.7   1586.9   9970.3   1577.4  10000.0   1580.3  10014.6
GR  1581.9  10033.5   1582.9  10077.1   1582.2  10109.3   1581.5  10152.3   1588.7   10163.
GR  1588.7  10211.3   1589.4  10335.5   1589.8  10360.7   1589.2  10415.3   1588.9  10458.3
```

```
GR   1588.3    10469.2    1588.7    10483.7    1588.6    10541.3    1588.8    10615.    1589.4    10668.
```

Increase contraction coefficient to reflect flow contraction

```
NC                                   .3        .5

QT       2       5330       5330
NH       7        .08       8504.2     .055      9123.4     .09       9345.6     .095      9995.2     .058
NH   10007        .095      10118      .065      10456
X1   5.287         51       9920.3     10068     470        540       517
GR   1594.2     8368.2     1593.9     8444.9    1594.6     8504.2    1595.2     8560.9    1595.3     8593.9
GR   1594.9     8641.7     1593.8     8704.3    1592.2     8767.6    1591.6     8833.8    1591.4     8887.6
GR   1591.4     8948.0     1591.9     9043.5    1591.8     9064.9    1590.7     9084.7    1591.3     9097.7
GR   1591.4     9117.8     1591.0     9123.4    1591.2     9150.3    1591.0     9161.4    1591.1     9223.2
GR   1591.3     9279.7     1591.6     9311.0    1592.1     9345.6    1591.7     9389.7    1592.0     9426.4
GR   1592.2     9502.0     1592.0     9558.9    1591.6     9637.3    1591.7     9689.4    1590.2     9694.4
GR   1591.7     9709.8     1591.7     9762.6    1592.0     9839.9    1591.9     9920.3    1591.2     9983.8
GR   1580.6     9995.2     1580.6     10007.    1590.8     10023.    1590.8     10036.    1587.5     10039.
GR   1591.1     10049.     1591.8     10068.    1591.9     10118.    1591.8     10184.    1591.8     10306.
GR   1592.2     10340.     1591.8     10360.    1591.7     10373.    1593.5     10405.    1594.4     10431.
GR   1594.6     10456.
```

Return contraction coefficient to normal

```
NC                                   .1        .3

NH       5        .055      9183.4     .085      9450.2     .080      9970.6     .058      10014.9    .065
NH   10428
X1   5.386         45       9970.6     10014.9   510        480       523
GR   1598.0     8730.9     1598.4     8772.0    1598.4     8818.8    1597.9     8876.7    1597.0     8924.4
GR   1596.3     8973.4     1595.7     9016.6    1595.6     9062.9    1595.8     9114.5    1595.7     9151.6
GR   1595.4     9183.4     1595.1     9236.2    1595.5     9266.5    1594.5     9275.3    1595.3     9287.4
GR   1595.7     9340.6     1595.5     9370.1    1595.2     9423.2    1595.5     9450.2    1595.4     9508.9
GR   1595.0     9548.9     1595.0     9594.2    1595.2     9624.1    1595.2     9657.6    1595.1     9681.3
GR   1594.5     9692.2     1595.3     9710.5    1595.2     9737.0    1596.0     9756.9    1596.0     9797.3
GR   1595.8     9844.8     1595.8     9905.2    1595.0     9970.6    1581.4     10000.0   1593.9     10014.9
GR   1594.8     10086.     1596.4     10103.4   1596.8     10142.8   1596.4     10192.0   1596.1     10244.1
GR   1596.1     10261.5    1596.8     10297.9   1596.9     10337.8   1596.9     10385.4   1597.5     10428.


NH       5        .055      9166.7     .085      9693.8     .060      9996.0     .038      10006      .055
NH   10379
X1   5.485         40       9971.9     10079     570        440       523
GR   1601.2     8674.7     1601.4     8723.3    1601.6     8788.3    1601.8     8820.3    1600.9     8864.2
GR   1600.4     8926.8     1599.6     8985.4    1599.1     9053.5    1598.4     9059.0    1598.8     9069.7
GR   1598.8     9141.4     1597.5     9153.6    1598.6     9166.7    1598.9     9222.6    1598.4     9273.7
GR   1598.4     9317.0     1599.0     9356.3    1599.0     9419.3    1598.9     9509.1    1599.0     9557.1
GR   1598.7     9615.9     1598.3     9693.8    1598.2     9768.5    1598.2     9809.7    1598.0     9861.6
GR   1598.9     9915.1     1599.4     9971.9    1587.1     9996.0    1587.2     10000.    1587.2     10006.
GR   1597.3     10018.     1593.0     10029.    1597.0     10044.    1597.7     10079.    1598.0     10143.
GR   1598.2     10184.     1597.8     10257.    1598.4     10283.    1600.4     10345.    1600.9     10379.
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | 4 | .105 | 9229.6 | .055 | 9982 | .038 | 10038 | .055 | 10449 | |
| X1 | 5.577 | 43 | 9982 | 10113 | 400 | 570 | 486 | | | |
| GR | 1604.3 | 8667.1 | 1604.1 | 8722.7 | 1603.4 | 8762.9 | 1602.7 | 8774.0 | 1603.0 | 8795.4 |
| GR | 1602.7 | 8838.8 | 1601.6 | 8864.4 | 1601.2 | 8883.0 | 1600.8 | 8929.0 | 1601.3 | 9003.9 |
| GR | 1601.3 | 9038.9 | 1601.8 | 9073.0 | 1601.9 | 9102.4 | 1601.9 | 9133.2 | 1601.6 | 9193.4 |
| GR | 1601.1 | 9229.6 | 1601.6 | 9249.8 | 1601.7 | 9283.5 | 1601.4 | 9319.8 | 1601.3 | 9369.7 |
| GR | 1601.2 | 9429.0 | 1601.3 | 9500.5 | 1601.4 | 9567.9 | 1601.3 | 9626.3 | 1600.5 | 9631.3 |
| GR | 1601.3 | 9646.5 | 1601.3 | 9790.4 | 1601.4 | 9870.9 | 1601.6 | 9982.0 | 1599.5 | 9991.4 |
| GR | 1592.3 | 10000. | 1597.3 | 10010. | 1597.4 | 10038. | 1596.9 | 10049. | 1596.9 | 10079. |
| GR | 1600.7 | 10113. | 1601.2 | 10166. | 1601.8 | 10192. | 1602.1 | 10239. | 1603.8 | 10306. |
| GR | 1604.3 | 10339. | 1604.2 | 10358. | 1603.6 | 10449. | | | | |

Major headcut and defined channel begins downstream of section 5.668
End Reach 2/Begin Reach 3

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 3 | .055 | 9938.7 | .09 | 10481.2 | .055 | 11128.3 | | | |
| X1 | 5.668 | 38 | 9764.4 | 10215 | 345 | 545 | 480 | | | |
| GR | 1607.4 | 8800.7 | 1606.8 | 8876.7 | 1604.2 | 8947.4 | 1602.8 | 8995.1 | 1603.7 | 9007.2 |
| GR | 1603.2 | 9062.8 | 1603.8 | 9146.5 | 1603.1 | 9243.3 | 1602.5 | 9256.2 | 1603.1 | 9271.3 |
| GR | 1603.3 | 9318.3 | 1602.2 | 9351.3 | 1603.8 | 9391.9 | 1603.3 | 9474.4 | 1603.2 | 9520.3 |
| GR | 1603.1 | 9585.1 | 1603.1 | 9664.7 | 1603.8 | 9764.4 | 1603.4 | 9857.4 | 1603.8 | 9938.7 |
| GR | 1603.9 | 10000.0 | 1603.5 | 10058.1 | 1603.6 | 10139.1 | 1603.8 | 10215.0 | 1603.5 | 10290. |
| GR | 1603.2 | 10354.4 | 1605.0 | 10415.2 | 1604.7 | 10481.2 | 1606.5 | 10572.2 | 1607.0 | 10655. |
| GR | 1608.2 | 10716.2 | 1608.8 | 10776.2 | 1609.2 | 10837.2 | 1609.3 | 10910.2 | 1609.6 | 10984. |
| [illegible] | 1610.3 | 11040.2 | 1611.4 | 11116.0 | 1612.2 | 11128.3 | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NH | 3 | .055 | 9842 | .095 | 10759 | .055 | 11230.8 | | | |
| X1 | 5.765 | 36 | 9842 | 10242 | 410 | 610 | 512 | | | |
| GR | 1610.3 | 8978.1 | 1609.0 | 9037.8 | 1606.7 | 9098.6 | 1606.3 | 9170.8 | 1605.5 | 9191.2 |
| GR | 1606.7 | 9222.4 | 1607.3 | 9287.5 | 1607.3 | 9365.2 | 1606.5 | 9411.0 | 1604.8 | 9419.2 |
| GR | 1605.9 | 9428.6 | 1606.5 | 9467.5 | 1606.5 | 9514.0 | 1607.1 | 9565.4 | 1606.6 | 9628.4 |
| GR | 1606.2 | 9685.3 | 1606.1 | 9774.3 | 1606.7 | 9842.0 | 1606.6 | 9929.2 | 1606.0 | 10000. |
| GR | 1606.4 | 10055.1 | 1606.5 | 10113.8 | 1606.7 | 10166. | 1606.8 | 10242. | 1606.6 | 10303. |
| GR | 1606.4 | 10376.2 | 1606.4 | 10449.9 | 1606.2 | 10523. | 1605.9 | 10634. | 1607.0 | 10759. |
| GR | 1609.6 | 10832.1 | 1608.4 | 10900.2 | 1609.2 | 10985. | 1610.4 | 11052. | 1612.1 | 11139. |
| GR | 1612.9 | 11230.8 | | | | | | | | |

Right encroachment at effective flow boundary at tributary confluence

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ET | | 7.1 | | | | | 9238 | 10750 | | |
| NH | 3 | .055 | 9420.2 | .08 | 9861.5 | .095 | 11309 | | | |
| X1 | 5.858 | 40 | 9861.5 | 10504.8 | 380 | 490 | 491 | | | |
| GR | 1612.3 | 9237.3 | 1611.5 | 9284.8 | 1610.0 | 9313.9 | 1610.1 | 9364.1 | 1609.6 | 9420.2 |
| GR | 1609.3 | 9470.7 | 1609.6 | 9509.3 | 1610.3 | 9540.7 | 1610.0 | 9559.9 | 1610.1 | 9608.3 |
| GR | 1609.7 | 9688.5 | 1609.9 | 9710.9 | 1609.7 | 9774.3 | 1609.8 | 9830.6 | 1610.3 | 9861.5 |
| GR | 1609.4 | 9907.0 | 1609.3 | 9950.6 | 1609.2 | 10000.0 | 1609.4 | 10052. | 1609.3 | 10126. |
| GR | 1609.3 | 10189.0 | 1609.1 | 10236.6 | 1608.8 | 10295.6 | 1608.2 | 10357. | 1609.0 | 10406. |
| G[illegible] | 1609.2 | 10446.3 | 1607.9 | 10480.0 | 1609.4 | 10504.8 | 1609.1 | 10625. | 1608.4 | 10694. |
| [illegible] | 1608.6 | 10768.9 | 1608.8 | 10854.2 | 1609.1 | 10919.7 | 1609.0 | 10971. | 1608.0 | 11022. |
| GR | 1609.6 | 11068.0 | 1609.3 | 11120.8 | 1609.2 | 11177.7 | 1609.9 | 11227. | 1614.9 | 11309. |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| QT | 2 | 5340 | 5340 | | | | | | | |
| NH | 3 | .055 | 9837 | .105 | 10499 | .055 | 10895.8 | | | |
| X1 | 5.945 | 38 | 9961.7 | 10678.4 | 470 | 440 | 459 | | | |
| GR | 1614.5 | 8153 | 1614.0 | 8190.0 | 1612.9 | 8326.7 | 1612.3 | 8494 | 1612.3 | 8740.0 |
| GR | 1612.7 | 8801 | 1612.2 | 8858. | 1612.5 | 9017 | 1612.5 | 9151 | 1612.7 | 9291 |
| GR | 1612.8 | 9374.7 | 1612.7 | 9428.5 | 1612.8 | 9490.7 | 1612.4 | 9553.4 | 1612.5 | 9589.7 |
| GR | 1611.3 | 9598.3 | 1612.4 | 9639.1 | 1612.7 | 9713.0 | 1611.7 | 9774.3 | 1612.6 | 9837.0 |
| GR | 1612.5 | 9914.3 | 1613.4 | 9961.7 | 1612.5 | 10000. | 1612.2 | 10031.5 | 1613.1 | 10050.5 |
| GR | 1612.5 | 10115.2 | 1612.6 | 10166.5 | 1611.9 | 10248.3 | 1611.9 | 10321.2 | 1611.9 | 10390. |
| GR | 1611.9 | 10435.6 | 1611.9 | 10499. | 1612.5 | 10554.8 | 1612.4 | 10617.2 | 1612.3 | 10669.4 |
| GR | 1613.1 | 10678.4 | 1613.1 | 10794.6 | 1614.1 | 10895.8 | | | | |

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

*PROF 1

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

1490 NH CARD USED
*SECNO 5.189

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.189 | 10.49 | 1587.89 | 0.00 | 1587.89 | 1588.15 | 0.26 | 0.00 | 0.00 | 1587.70 |
| 5320.0 | 455.5 | 4864.5 | 0.0 | 235.2 | 1139.6 | 0.0 | 0.0 | 0.0 | 1588.70 |
| 0.00 | 1.94 | 4.27 | 0.00 | 0.075 | 0.060 | 0.000 | 0.000 | 1577.40 | 9819.89 |
| 0.003119 | 490. | 496. | 500. | 0 | 0 | 0 | 0.00 | 332.56 | 10161.80 |

FLOW DISTRIBUTION FOR SECNO= 5.19 CWSEL= 1587.89

| | | | | | |
|---|---|---|---|---|---|
| STA= | 9820. | 9906. | 9958. | 9970. | 10015. 10163. |
| PER Q= | 4.0 | 4.6 | 0.1 | 43.5 | 47.8 |
| AREA= | 118.8 | 116.4 | 7.4 | 302.5 | 829.7 |
| VEL= | 1.8 | 2.1 | 0.8 | 7.7 | 3.1 |
| DEPTH= | 1.4 | 2.3 | 0.6 | 6.8 | 5.6 |

CCHV= 0.300 CEHV= 0.500
1490 NH CARD USED
*SECNO 5.287
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.287 | 11.91 | 1592.51 | 1592.51 | 0.00 | 1592.88 | 0.37 | 5.61 | -2.58 | 1591.90 |
| 5330.0 | 2014.5 | 2955.3 | 360.2 | 990.7 | 471.0 | 207.8 | 17.5 | 11.0 | 1591.80 |
| 0.03 | 2.03 | 6.27 | 1.73 | 0.075 | 0.052 | 0.068 | 0.000 | 1580.60 | 8755.16 |
| 0.011077 | 470. | 517. | 540. | 5 | 11 | 0 | 0.00 | 1632.32 | 10387.48 |

FLOW DISTRIBUTION FOR SECNO= 5.29 CWSEL= 1592.51

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

| STA= | 8755. | 8888. | 8948. | 9044. | 9098. | 9150. | 9223. | 9311. | 9637. | 9763. | 9920. | 9995. | 10007. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PER Q= | 4.5 | 3.9 | 4.0 | 3.5 | 3.4 | 4.4 | 4.0 | 4.1 | 3.7 | 2.2 | 6.1 | 37.1 | |
| AREA= | 97.2 | 67.3 | 82.5 | 58.9 | 68.8 | 106.2 | 107.6 | 185.4 | 120.0 | 96.7 | 136.6 | 140.6 | |
| VEL= | 2.5 | 3.1 | 2.6 | 3.2 | 2.6 | 2.2 | 2.0 | 1.2 | 1.7 | 1.2 | 2.4 | 14.1 | |
| DEPTH= | 0.7 | 1.1 | 0.9 | 1.1 | 1.3 | 1.5 | 1.2 | 0.6 | 1.0 | 0.6 | 1.8 | 11.9 | |

| STA= | 10007. | 10068. | 10306. | 10387. |
|---|---|---|---|---|
| PER Q= | 12.3 | 5.4 | 1.3 | |
| AREA= | 193.8 | 164.2 | 43.6 | |
| VEL= | 3.4 | 1.8 | 1.6 | |
| DEPTH= | 3.2 | 0.7 | 0.5 | |

CCHV= 0.100 CEHV= 0.300
1490 NH CARD USED
*SECNO 5.386

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.386 | 15.16 | 1596.56 | 0.00 | 0.00 | 1597.09 | 0.53 | 4.16 | 0.05 | 1595.00 |
| 330.0 | 1867.5 | 2917.0 | 545.4 | 1094.2 | 378.7 | 207.2 | 37.1 | 27.9 | 1593.90 |
| 0.06 | 1.71 | 7.70 | 2.63 | 0.077 | 0.058 | 0.065 | 0.000 | 1581.40 | 8954.92 |
| 0.006375 | 510. | 523. | 480. | 4 | 0 | 0 | 0.00 | 1278.45 | 10285.63 |

FLOW DISTRIBUTION FOR SECNO= 5.39 CWSEL= 1596.56

| STA= | 8955. | 9115. | 9236. | 9341. | 9450. | 9549. | 9624. | 9692. | 9797. | 9971. | 10015. | 10086. | 10286. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PER Q= | 3.9 | 4.6 | 3.9 | 3.6 | 3.8 | 4.2 | 3.5 | 3.3 | 4.1 | 54.7 | 9.2 | 1.1 | |
| AREA= | 113.7 | 131.8 | 128.8 | 125.7 | 120.0 | 114.6 | 98.4 | 107.3 | 153.8 | 378.7 | 157.4 | 49.8 | |
| VEL= | 1.9 | 1.8 | 1.6 | 1.5 | 1.7 | 2.0 | 1.9 | 1.6 | 1.4 | 7.7 | 3.1 | 1.2 | |
| DEPTH= | 0.7 | 1.1 | 1.2 | 1.1 | 1.2 | 1.5 | 1.4 | 1.0 | 0.9 | 8.5 | 2.2 | 0.2 | |

1490 NH CARD USED
*SECNO 5.485
1530 MANNINGS N VALUES FOR CHANNEL COMPOSITED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.485 | 12.55 | 1599.65 | 0.00 | 0.00 | 1599.92 | 0.27 | 2.80 | 0.03 | 1599.40 |
| 5330.0 | 1430.1 | 3001.3 | 898.6 | 936.2 | 567.0 | 362.5 | 58.9 | 44.3 | 1597.70 |
| 0.10 | 1.53 | 5.29 | 2.48 | 0.068 | 0.055 | 0.055 | 0.000 | 1587.10 | 8982.10 |
| 0.004553 | 570. | 523. | 440. | 3 | 0 | 0 | 0.00 | 1339.49 | 10321.59 |

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

FLOW DISTRIBUTION FOR SECNO= 5.49 CWSEL= 1599.65

| STA= | 8982. | 9154. | 9274. | 9509. | 9694. | 9769. | 9862. | 9972. | 10079. | 10143. | 10257. | 10322. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PER Q= | 3.5 | 3.1 | 3.9 | 3.6 | 4.1 | 5.7 | 2.8 | 56.3 | 5.8 | 8.6 | 2.4 | |
| AREA= | 115.0 | 121.8 | 194.1 | 169.3 | 104.2 | 139.7 | 92.0 | 567.0 | 114.9 | 183.4 | 64.2 | |
| VEL= | 1.6 | 1.4 | 1.1 | 1.1 | 2.1 | 2.2 | 1.6 | 5.3 | 2.7 | 2.5 | 2.0 | |
| DEPTH= | 0.7 | 1.0 | 0.8 | 0.9 | 1.4 | 1.5 | 0.8 | 5.3 | 1.8 | 1.6 | 1.0 | |

1490 NH CARD USED
*SECNO 5.577

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.577 | 9.72 | 1602.02 | 1602.00 | 0.00 | 1602.61 | 0.59 | 2.60 | 0.10 | 1601.60 |
| 5330.0 | 1078.0 | 4099.6 | 152.3 | 735.3 | 587.5 | 75.3 | 75.9 | 57.7 | 1600.70 |
| 0.12 | 1.47 | 6.98 | 2.02 | 0.065 | 0.045 | 0.055 | 0.000 | 1592.30 | 8854.37 |
| 0.006418 | 400. | 486. | 570. | 5 | 17 | 0 | 0.00 | 1373.80 | 10228.17 |

FLOW DISTRIBUTION FOR SECNO= 5.58 CWSEL= 1602.02

| STA= | 8854. | 9039. | 9370. | 9501. | 9647. | 9790. | 9982. | 10038. | 10113. | 10228. |
|---|---|---|---|---|---|---|---|---|---|---|
| PER Q= | 3.2 | 3.0 | 3.5 | 3.7 | 3.5 | 3.3 | 43.2 | 33.7 | 2.9 | |
| AREA= | 160.4 | 145.3 | 102.1 | 108.5 | 105.2 | 113.8 | 270.0 | 317.5 | 75.3 | |
| VEL= | 1.1 | 1.1 | 1.8 | 1.8 | 1.8 | 1.5 | 8.5 | 5.7 | 2.0 | |
| DEPTH= | 0.9 | 0.4 | 0.8 | 0.7 | 0.7 | 0.6 | 4.8 | 4.2 | 0.7 | |

1490 NH CARD USED
*SECNO 5.668

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.668 | 2.79 | 1604.99 | 0.00 | 0.00 | 1605.09 | 0.10 | 2.43 | 0.05 | 1603.80 |
| 5330.0 | 3843.0 | 1101.4 | 385.6 | 1382.0 | 601.6 | 271.6 | 93.0 | 71.1 | 1603.80 |
| 0.17 | 2.78 | 1.83 | 1.42 | 0.055 | 0.071 | 0.090 | 0.000 | 1602.20 | 8925.92 |
| 0.005237 | 345. | 480. | 545. | 5 | 0 | 0 | 0.00 | 1567.36 | 10495.86 |

FLOW DISTRIBUTION FOR SECNO= 5.67 CWSEL= 1604.99

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

| STA= | 8926. | 8995. | 9063. | 9147. | 9243. | 9271. | 9318. | 9351. | 9392. | 9474. | 9520. | 9585. | 9665. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PER Q= | 3.6 | 5.3 | 6.0 | 7.3 | 3.8 | 4.5 | 4.6 | 4.7 | 5.6 | 4.2 | 6.6 | 8.4 | |
| AREA= | 79.5 | 106.7 | 124.7 | 149.1 | 61.3 | 84.1 | 73.9 | 80.8 | 118.8 | 79.9 | 119.2 | 150.4 | |
| VEL= | 2.4 | 2.6 | 2.6 | 2.6 | 3.3 | 2.9 | 3.3 | 3.1 | 2.5 | 2.8 | 2.9 | 3.0 | |
| DEPTH= | 1.1 | 1.6 | 1.5 | 1.5 | 2.2 | 1.8 | 2.2 | 2.0 | 1.4 | 1.7 | 1.8 | 1.9 | |

| STA= | 9665. | 9764. | 9939. | 10215. | 10354. | 10496. |
|---|---|---|---|---|---|---|
| PER Q= | 7.5 | 11.1 | 9.6 | 6.0 | 1.2 | |
| AREA= | 153.5 | 242.2 | 359.3 | 206.1 | 65.5 | |
| VEL= | 2.6 | 2.4 | 1.4 | 1.6 | 1.0 | |
| DEPTH= | 1.5 | 1.4 | 1.3 | 1.5 | 0.5 | |

1490 NH CARD USED
*SECNO 5.765

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.765 | 3.09 | 1607.89 | 0.00 | 0.00 | 1607.99 | 0.10 | 2.90 | 0.00 | 1606.70 |
| 5330.0 | 2958.0 | 932.8 | 1439.1 | 1003.9 | 554.7 | 798.9 | 118.5 | 89.5 | 1606.80 |
| 0.22 | 2.95 | 1.68 | 1.80 | 0.055 | 0.095 | 0.095 | 0.000 | 1604.80 | 9066.99 |
| 0.007475 | 410. | 512. | 610. | 3 | 0 | 0 | 0.00 | 1717.20 | 10784.19 |

FLOW DISTRIBUTION FOR SECNO= 5.76 CWSEL= 1607.89

| STA= | 9067. | 9171. | 9222. | 9365. | 9419. | 9468. | 9514. | 9628. | 9685. | 9774. | 9842. | 10242. | 10376. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PER Q= | 6.1 | 6.5 | 3.8 | 3.4 | 6.1 | 3.6 | 5.6 | 4.9 | 9.9 | 5.8 | 17.5 | 5.3 | |
| AREA= | 119.7 | 96.7 | 104.6 | 64.0 | 89.9 | 64.9 | 122.2 | 85.1 | 155.4 | 101.3 | 554.7 | 175.1 | |
| VEL= | 2.7 | 3.6 | 1.9 | 2.8 | 3.6 | 2.9 | 2.4 | 3.1 | 3.4 | 3.1 | 1.7 | 1.6 | |
| DEPTH= | 1.2 | 1.9 | 0.7 | 1.2 | 1.9 | 1.4 | 1.1 | 1.5 | 1.7 | 1.5 | 1.4 | 1.3 | |

| STA= | 10376. | 10450. | 10523. | 10634. | 10759. | 10784. |
|---|---|---|---|---|---|---|
| PER Q= | 3.7 | 4.0 | 7.8 | 5.9 | 0.3 | |
| AREA= | 110.2 | 116.7 | 204.9 | 180.7 | 11.3 | |
| VEL= | 1.8 | 1.8 | 2.0 | 1.7 | 1.4 | |
| DEPTH= | 1.5 | 1.6 | 1.8 | 1.4 | 0.4 | |

1490 NH CARD USED
*SECNO 5.858

3470 ENCROACHMENT STATIONS= 9238.0 10750.0 TYPE= 1 TARGET= 1512.000

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.858 | 3.23 | 1611.13 | 0.00 | 0.00 | 1611.19 | 0.07 | 3.20 | 0.00 | 1610.30 |
| 5330.0 | 1425.7 | 2719.0 | 1185.2 | 717.7 | 1304.4 | 537.9 | 144.0 | 105.6 | 1609.40 |
| 0.28 | 1.99 | 2.08 | 2.20 | 0.074 | 0.095 | 0.095 | 0.000 | 1607.90 | 9292.06 |
| 0.006920 | 380. | 491. | 490. | 4 | 0 | 0 | 0.00 | 1457.94 | 10750.00 |

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

FLOW DISTRIBUTION FOR SECNO= 5.86 CWSEL= 1611.13

| STA= | 9292. | 9420. | 9471. | 9541. | 9689. | 9774. | 9862. | 10505. | 10625. | 10694. | 10750. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PER Q= | 6.3 | 3.5 | 3.8 | 5.4 | 4.0 | 3.8 | 51.0 | 8.4 | 7.1 | 6.7 | |
| AREA= | 137.9 | 84.6 | 101.6 | 169.1 | 113.8 | 110.7 | 1304.4 | 225.5 | 163.9 | 148.5 | |
| VEL= | 2.4 | 2.2 | 2.0 | 1.7 | 1.9 | 1.8 | 2.1 | 2.0 | 2.3 | 2.4 | |
| DEPTH= | 1.1 | 1.7 | 1.5 | 1.1 | 1.3 | 1.3 | 2.0 | 1.9 | 2.4 | 2.7 | |

1490 NH CARD USED
*SECNO 5.945

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.945 | 2.35 | 1613.65 | 0.00 | 0.00 | 1613.70 | 0.05 | 2.51 | 0.00 | 1613.40 |
| 5340.0 | 3857.7 | 1392.0 | 90.2 | 1955.9 | 986.4 | 79.9 | 173.6 | 127.3 | 1613.10 |
| 0.35 | 1.97 | 1.41 | 1.13 | 0.056 | 0.087 | 0.055 | 0.000 | 1611.30 | 8233.01 |
| 0.004458 | 470. | 459. | 440. | 5 | 0 | 0 | 0.00 | 2617.65 | 10850.66 |

FLOW DISTRIBUTION FOR SECNO= 5.95 CWSEL= 1613.65

| STA= | 8233. | 8494. | 8740. | 8858. | 9017. | 9151. | 9291. | 9429. | 9553. | 9639. | 9774. | 9837. | 9962. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PER Q= | 6.8 | 13.8 | 5.2 | 8.4 | 5.7 | 5.2 | 3.9 | 4.1 | 6.1 | 6.8 | 4.2 | 2.1 | |
| AREA= | 211.6 | 333.1 | 139.0 | 207.3 | 154.6 | 147.6 | 124.3 | 122.3 | 132.4 | 170.7 | 94.3 | 118.7 | |
| VEL= | 1.7 | 2.2 | 2.0 | 2.2 | 2.0 | 1.9 | 1.7 | 1.8 | 2.5 | 2.1 | 2.4 | 0.9 | |
| DEPTH= | 0.8 | 1.4 | 1.2 | 1.3 | 1.2 | 1.1 | 0.9 | 1.0 | 1.5 | 1.3 | 1.5 | 1.0 | |

| STA= | 9962. | 10499. | 10678. | 10851. |
|---|---|---|---|---|
| PER Q= | 16.7 | 9.4 | 1.7 | |
| AREA= | 753.5 | 232.9 | 79.9 | |
| VEL= | 1.2 | 2.1 | 1.1 | |
| DEPTH= | 1.4 | 1.3 | 0.5 | |

THIS RUN EXECUTED 1JUL93 10:38:27

**********
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

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| | SECNO | Q | CWSEL | DEPTH | VCH | 10*KS | K*CHSL | ELMIN | TOPWID | K*XNCH | KRATIO | AREA | IHLEQ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5.189 | 5320.00 | 1587.89 | 10.49 | 4.27 | 31.19 | 0.00 | 1577.40 | 332.56 | 60.44 | 0.00 | 1374.75 | 4.00 |
| * | 5.287 | 5330.00 | 1592.51 | 11.91 | 6.27 | 110.77 | 6.19 | 1580.60 | 1632.32 | 51.86 | 0.53 | 1669.52 | 4.00 |
| | 5.386 | 5330.00 | 1596.56 | 15.16 | 7.70 | 63.75 | 1.53 | 1581.40 | 1278.45 | 58.00 | 1.32 | 1680.10 | 4.00 |
| | 5.485 | 5330.00 | 1599.65 | 12.55 | 5.29 | 45.53 | 10.90 | 1587.10 | 1339.49 | 54.84 | 1.18 | 1865.71 | 4.00 |
| | 5.577 | 5330.00 | 1602.02 | 9.72 | 6.98 | 64.18 | 10.70 | 1592.30 | 1373.80 | 45.42 | 0.84 | 1398.02 | 2.00 |
| | 5.668 | 5330.00 | 1604.99 | 2.79 | 1.83 | 52.37 | 20.62 | 1602.20 | 1567.36 | 71.21 | 1.11 | 2255.12 | 4.00 |
| | 5.765 | 5330.00 | 1607.89 | 3.09 | 1.68 | 74.75 | 5.08 | 1604.80 | 1717.20 | 95.00 | 0.84 | 2357.50 | 3.00 |
| | 5.858 | 5330.00 | 1611.13 | 3.23 | 2.08 | 69.20 | 6.31 | 1607.90 | 1457.94 | 95.00 | 1.04 | 2559.99 | 4.00 |
| | 5.945 | 5340.00 | 1613.65 | 2.35 | 1.41 | 44.58 | 7.41 | 1611.30 | 2617.65 | 86.99 | 1.25 | 3022.24 | 4.00 |

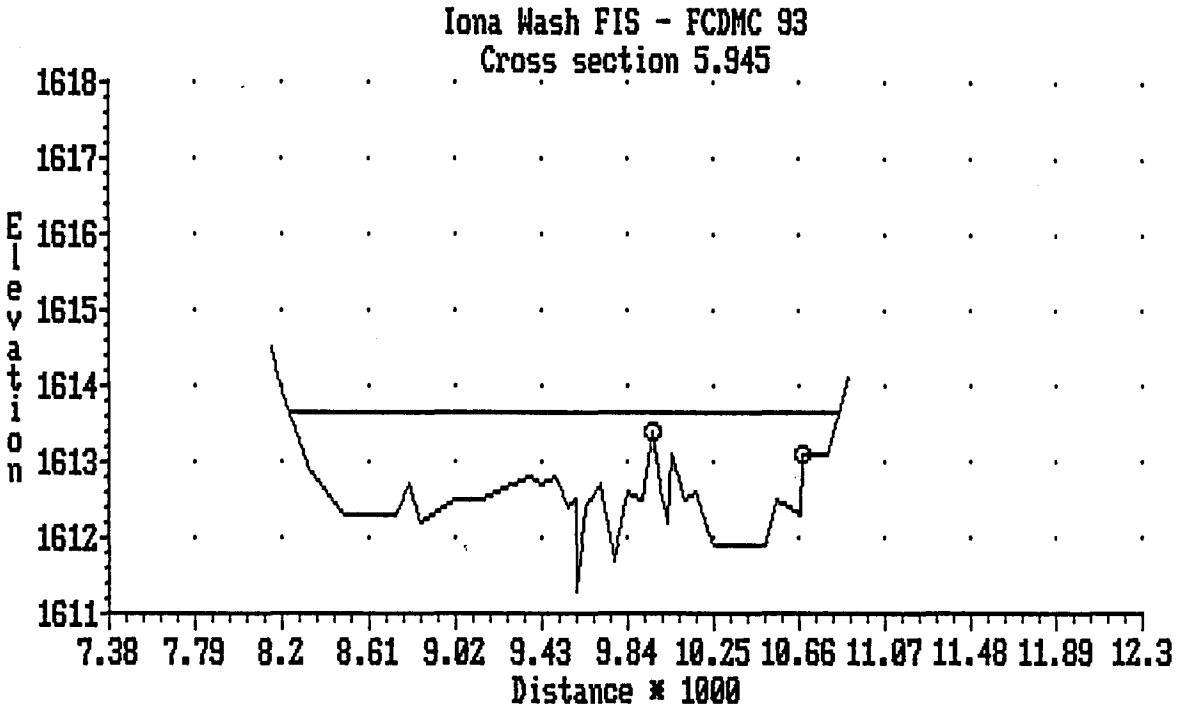
D[illegible]Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| | SECNO | Q | CWSEL | DEPTH | ELMIN | XLCH | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| | 5.189 | 5320.00 | 1587.89 | 10.49 | 1577.40 | 0.00 | 332.56 | 9819.89 | 10161.80 |
| * | 5.287 | 5330.00 | 1592.51 | 11.91 | 1580.60 | 517.00 | 1632.32 | 8755.16 | 10387.48 |
| | 5.386 | 5330.00 | 1596.56 | 15.16 | 1581.40 | 523.00 | 1278.45 | 8954.92 | 10285.63 |
| | 5.485 | 5330.00 | 1599.65 | 12.55 | 1587.10 | 523.00 | 1339.49 | 8982.10 | 10321.59 |
| | 5.577 | 5330.00 | 1602.02 | 9.72 | 1592.30 | 486.00 | 1373.80 | 8854.37 | 10228.17 |
| | 5.668 | 5330.00 | 1604.99 | 2.79 | 1602.20 | 480.00 | 1567.36 | 8925.92 | 10495.86 |
| | 5.765 | 5330.00 | 1607.89 | 3.09 | 1604.80 | 512.00 | 1717.20 | 9066.99 | 10784.19 |
| | 5.858 | 5330.00 | 1611.13 | 3.23 | 1607.90 | 491.00 | 1457.94 | 9292.06 | 10750.00 |
| | 5.945 | 5340.00 | 1613.65 | 2.35 | 1611.30 | 459.00 | 2617.65 | 8233.01 | 10850.66 |

SUMMARY OF ERRORS AND SPECIAL NOTES

```
CAUTION SECNO=      5.287  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      5.287  PROFILE=  1  MINIMUM SPECIFIC ENERGY
```


Iona Wash FIS - FCDMC 93
Cross section 5.945
Elevation
1618
1617
1616
1615
1614
1613
1612
1611
7.38 7.79 8.2 8.61 9.02 9.43 9.84 10.25 10.66 11.07 11.48 11.89 12.3
Distance * 1000

HEC2 S/N: 1916530021 HMVersion: 6.50 Data File: ionabo58.hc2

```
*********************************************
*  HEC-2 WATER SURFACE PROFILES             *
*                                           *
*  Version   4.6.2;  May 1991               *
*                                           *
*  RUN DATE     1JUL93    TIME   12:21:20   *
*********************************************
```

```
****************************************
*  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
```

```
::::::::::::::::::::::::::::::::::::::::::::
::::::::::::::::::::::::::::::::::::::::::::
:::                                      :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                      :::
::::::::::::::::::::::::::::::::::::::::::::
::::::::::::::::::::::::::::::::::::::::::::
```

```
============================
H A E S T A D   M E T H O D S
============================
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 1JUL93 12:21:20

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

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

T1Flood Control District of Maricopa County. S. Story/Project Manager
T2Approximate Methods HEC2 Model for Iona Wash Section 5.858
T3 Iona Wash FIS - FCDMC 93

| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | | | .0033 | | | | | |

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

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Q | 1 | 2376 | | | | | | | | |
| NC | .055 | .055 | .055 | | | | | | | |
| X1 | 5858 | 32 | 7864.2 | 9237.3 | | | | | | |
| GR | 1612.1 | 7864.2 | 1611.3 | 7903.3 | 1611.6 | 7928.6 | 1611.3 | 7951.7 | 1610.1 | 7981.5 |
| GR | 1609.6 | 7996.8 | 1611.0 | 8006.2 | 1611.0 | 8061.5 | 1611.0 | 8116.1 | 1610.9 | 8176.0 |
| GR | 1609.3 | 8181.9 | 1610.8 | 8191.0 | 1610.3 | 8237.1 | 1610.2 | 8280.9 | 1610.1 | 8323.1 |
| GR | 1609.9 | 8376.3 | 1609.6 | 8422.8 | 1609.7 | 8463.4 | 1609.5 | 8525.5 | 1609.7 | 8573.2 |
| GR | 1609.8 | 8626.5 | 1609.9 | 8698.8 | 1610.5 | 8755.5 | 1609.9 | 8809.0 | 1610.9 | 8886.1 |
| GR | 1611.0 | 8952.7 | 1611.0 | 8994.5 | 1611.2 | 9041.7 | 1611.5 | 9094.1 | 1611.3 | 9152.1 |
| GR | 1611.3 | 9178.7 | 1612.3 | 9237.3 | | | | | | |

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

*PROF 1

*SECNO 5858.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5858.000 | 2.29 | 1611.59 | 0.00 | 0.00 | 1611.63 | 0.04 | 0.00 | 0.00 | 1612.10 |
| 2376.0 | 0.0 | 2376.0 | 0.0 | 0.0 | 1429.0 | 0.0 | 0.0 | 0.0 | 1612.30 |
| 0.00 | 0.00 | 1.66 | 0.00 | 0.000 | 0.055 | 0.000 | 0.000 | 1609.30 | 7889.09 |
| 0.003358 | 0. | 0. | 0. | 0 | 0 | 6 | 0.00 | 1305.17 | 9195.74 |

THIS RUN EXECUTED 1JUL93 12:21:20

**********
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

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT TABLE 150

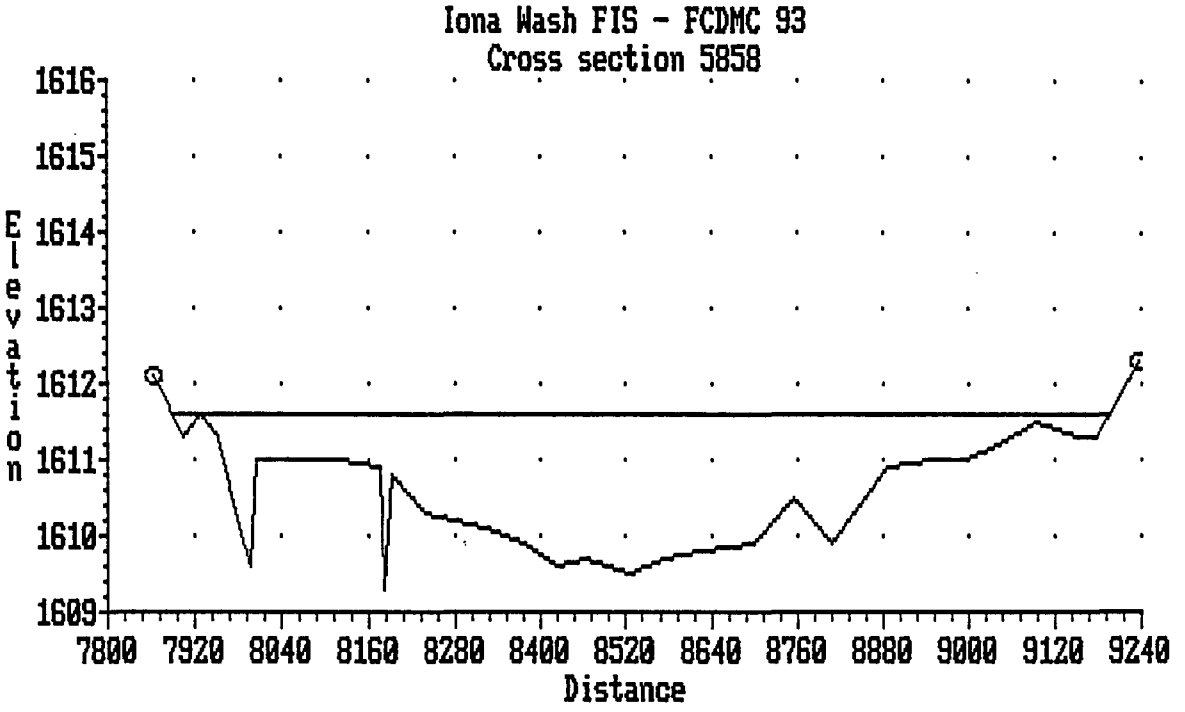
| SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10*KS | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5858.000 | 0.00 | 0.00 | 0.00 | 1609.30 | 2376.00 | 1611.59 | 0.00 | 1611.63 | 33.58 | 1.66 | 1428.96 | 410.02 |

I[illegible]ash FIS - FCDMC 93

SUMMARY PRINTOUT TABLE 150

| SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|
| 5858.000 | 2376.00 | 1611.59 | 0.00 | 0.00 | 0.00 | 1305.17 | 0.00 |

SUMMARY OF ERRORS AND SPECIAL NOTES


Iona Wash FIS - FCDMC 93
Cross section 5858
Elevation
1616
1615
1614
1613
1612
1611
1610
1609
7800
7920
8040
8160
8280
8400
8520
8640
8760
8880
9000
9120
9240
Distance

HEC2 S/N: 1916530021 HMVersion: 6.50 Data File: ionabo56.hc2

```
*******************************************
1[illegible]-2 WATER SURFACE PROFILES          *
*                                             *
*  Version   4.6.2;  May 1991                 *
*                                             *
*  RUN DATE     1JUL93    TIME   12:25:54     *
*******************************************
```

```
*************************************
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::
:::                                     :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION  :::
:::                                     :::
:::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::
```


==========
H A E S T A D  M E T H O D S
==========

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 1JUL93 12:25:54

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

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

T1Flood Control District of Maricopa County. S. Story/Project Manager
T2Approximate Methods HEC2 Model for Iona Wash Section 5.668
T3 Iona Wash FIS - FCDMC 93

| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | | | .0073 | | | | | |

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

J[illegible]RIABLE CODES FOR SUMMARY PRINTOUT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 38 | 43 | 1 | 8 | 13 | 14 | 15 | 4 | 53 | 54 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| QT | 1 | 2376 | | | | | | | | |
| NC | .055 | .055 | .055 | | | | | | | |
| X1 | 5668 | 20 | 7320.0 | 8652.9 | | | | | | |
| GR | 1605.7 | 7320.0 | 1607.3 | 7418.6 | 1604.6 | 7496.0 | 1603.9 | 7577.6 | 1603.8 | 7667.5 |
| GR | 1604.3 | 7743.2 | 1604.3 | 7813.7 | 1604.4 | 7889.7 | 1604.3 | 7944.8 | 1604.1 | 8012.6 |
| GR | 1604.7 | 8092.1 | 1604.8 | 8153.3 | 1604.9 | 8221.1 | 1605.6 | 8281.5 | 1605.5 | 8365.8 |
| GR | 1605.9 | 8430.0 | 1605.9 | 8488.2 | 1606.1 | 8538.5 | 1606.1 | 8586.5 | 1606.5 | 8652.9 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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

*SECNO 5668.000

2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5668.000 | 1.81 | 1605.61 | 0.00 | 0.00 | 1605.70 | 0.09 | 0.00 | 0.00 | 1605.70 |
| 2376.0 | 0.0 | 2376.0 | 0.0 | 0.0 | 985.6 | 0.0 | 0.0 | 0.0 | 1606.50 |
| 0.00 | 0.00 | 2.41 | 0.00 | 0.000 | 0.055 | 0.000 | 0.000 | 1603.80 | 7466.97 |
| 0.007230 | 0. | 0. | 0. | 0 | 0 | 6 | 0.00 | 916.91 | 8383.88 |

THIS RUN EXECUTED 1JUL93 12:25:54

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

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

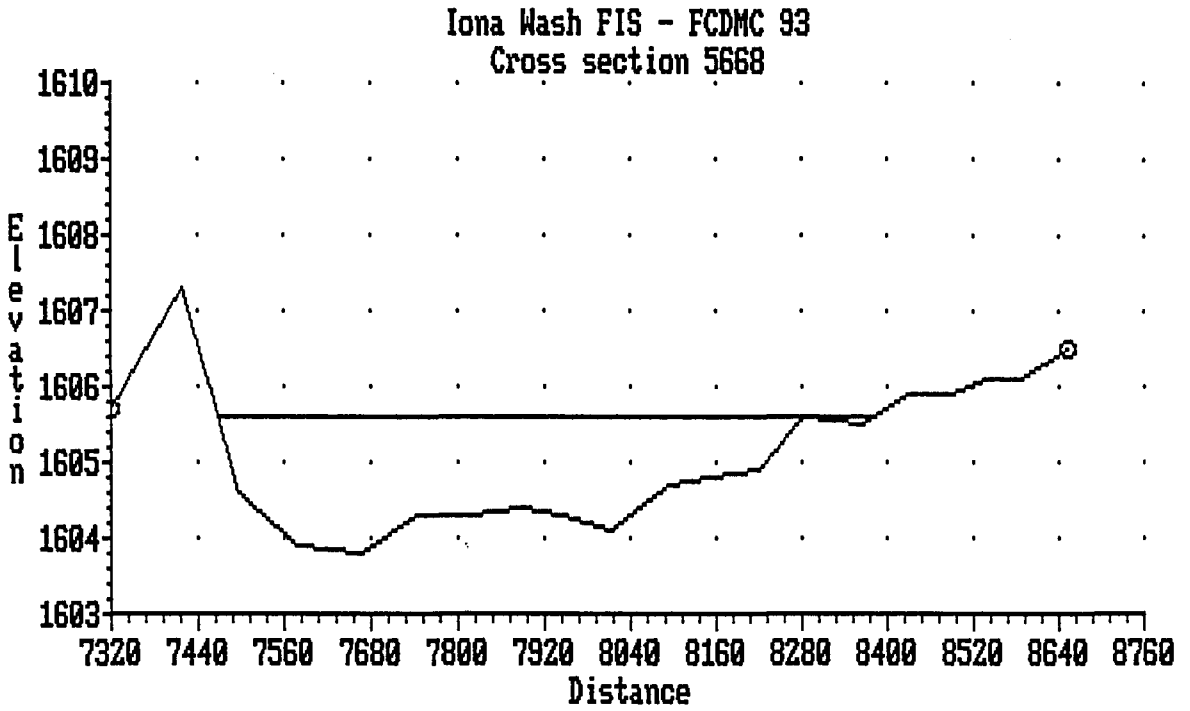
NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 5668.000 | 2376.00 | 1605.61 | 1.81 | 0.00 | 2376.00 | 0.00 | 916.91 | 7466.97 | 8383.88 |

SUMMARY OF ERRORS AND SPECIAL NOTES


Iona Wash FIS - FCDMC 93
Cross section 5668
Elevation
1610
1609
1608
1607
1606
1605
1604
1603
7320
7440
7560
7680
7800
7920
8040
8160
8280
8400
8520
8640
8760
Distance

HEC2 S/N: 1916530021  HMVersion: 6.50  Data File: ionabo53.hc2

```
*******************************************
*  HEC-2 WATER SURFACE PROFILES           *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE     1JUL93    TIME   12:14:49 *
*******************************************
```

```
****************************************
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```

```
============================
H A E S T A D   M E T H O D S
============================
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 1JUL93 12:14:49

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

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

T1Flood Control District of Maricopa County. S. Story/Project Manager
T2Approximate Methods HEC2 Model for Iona Wash Section 5.386
T3 Iona Wash FIS - FCDMC 93

| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | | | .0079 | | | | | |

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

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 38 | 43 | 1 | 8 | 13 | 14 | 15 | 4 | 53 | 54 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| QT | 1 | 2376 | | | | | | | | |
| NC | .055 | .055 | .055 | | | | | | | |
| X1 | 5386 | 29 | 7334.6 | 8818.8 | | | | | | |
| GR | 1599.2 | 7334.6 | 1599.4 | 7355.1 | 1598.8 | 7395.2 | 1598.5 | 7429.2 | 1599.0 | 7454.5 |
| GR | 1599.0 | 7490.0 | 1598.4 | 7535.6 | 1598.0 | 7612.9 | 1597.9 | 7696.3 | 1598.0 | 7758.0 |
| GR | 1598.3 | 7834.5 | 1598.5 | 7929.3 | 1598.2 | 7997.3 | 1597.8 | 8067.6 | 1597.7 | 8124.3 |
| GR | 1597.6 | 8202.4 | 1597.3 | 8276.0 | 1597.4 | 8317.9 | 1598.0 | 8352.9 | 1598.6 | 8393.8 |
| GR | 1598.6 | 8428.7 | 1598.5 | 8464.1 | 1597.7 | 8510.0 | 1597.6 | 8559.8 | 1597.4 | 8616.7 |
| GR | 1597.6 | 8674.2 | 1598.0 | 8730.9 | 1598.4 | 8772.0 | 1598.4 | 8818.8 | | |

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

*PROF 1

*SECNO 5386.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

3265 DIVIDED FLOW

3280 CROSS SECTION 5386.00 EXTENDED 0.43 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5386.000 | 1.53 | 1598.83 | 0.00 | 0.00 | 1598.90 | 0.07 | 0.00 | 0.00 | 1599.20 |
| 2376.0 | 0.0 | 2376.0 | 0.0 | 0.0 | 1126.4 | 0.0 | 0.0 | 0.0 | 1598.40 |
| 0.00 | 0.00 | 2.11 | 0.00 | 0.000 | 0.055 | 0.000 | 0.000 | 1597.30 | 7392.94 |
| 0.007913 | 0. | 0. | 0. | 0 | 0 | 7 | 0.00 | 1369.33 | 8818.80 |

THIS RUN EXECUTED 1JUL93 12:14:50

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

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

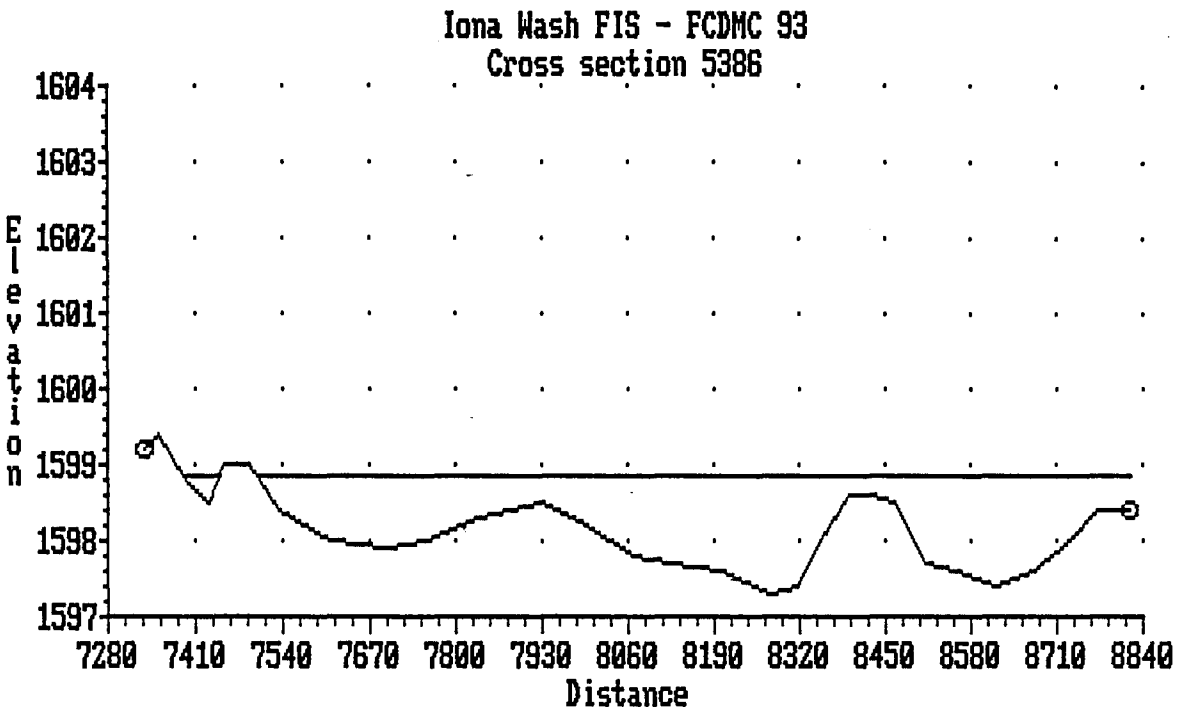
NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 5386.000 | 2376.00 | 1598.83 | 1.53 | 0.00 | 2376.00 | 0.00 | 1369.33 | 7392.94 | 8818.80 |

SUMMARY OF ERRORS AND SPECIAL NOTES


Iona Wash FIS - FCDMC 93
Cross section 5386
Elevation
1604
1603
1602
1601
1600
1599
1598
1597
7280
7410
7540
7670
7800
7930
8060
8190
8320
8450
8580
8710
8840
Distance

HEC2 S/N: 1916530021 HMVersion: 6.50 Data File: ionabo49.hc2

```
*******************************************
*  HEC-2 WATER SURFACE PROFILES           *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE     1JUL93    TIME   12:03:39 *
*******************************************
```

```
*****************************************
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```


==========
H A E S T A D  M E T H O D S
==========

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 1JUL93 12:03:40

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

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

T1Flood Control District of Maricopa County. S. Story/Project Manager
T2Approximate Methods HEC2 Model for Iona Wash Section 4.988
T3 Iona Wash FIS - FCDMC 93

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | | 2 | | | .0059 | | | | | |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | -1 | | -1 | | | | | | | |

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 38 | 43 | 1 | 8 | 13 | 14 | 15 | 4 | 53 | 54 |
| QT | 1 | 2376 | | | | | | | | |
| NC | .055 | .055 | .055 | .1 | .3 | | | | | |
| X1 | 4988 | 28 | 6830.0 | 8569.3 | | | | | | |
| GR | 1584.0 | 6830.0 | 1582.0 | 7355.0 | 1581.4 | 7363.5 | 1581.7 | 7429.5 | 1581.9 | 7483.9 |
| GR | 1581.9 | 7583.3 | 1581.8 | 7668.3 | 1581.9 | 7705.8 | 1582.1 | 7723.7 | 1583.2 | 7766.2 |
| GR | 1583.5 | 7797.4 | 1583.0 | 7846.9 | 1582.8 | 7930.5 | 1582.2 | 8039.6 | 1583.1 | 8064.7 |
| GR | 1583.1 | 8089.7 | 1582.3 | 8107.1 | 1580.2 | 8121.2 | 1581.2 | 8132.5 | 1581.7 | 8190.0 |
| GR | 1580.0 | 8203.0 | 1581.1 | 8219.0 | 1581.5 | 8268.7 | 1582.1 | 8343.0 | 1581.8 | 8418.5 |
| GR | 1582.7 | 8456.5 | 1584.2 | 8532.5 | 1584.7 | 8569.3 | | | | |

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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 4988.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4988.000 | 3.03 | 1583.03 | 0.00 | 0.00 | 1583.09 | 0.06 | 0.00 | 0.00 | 1584.00 |
| 2376.0 | 0.0 | 2376.0 | 0.0 | 0.0 | 1189.0 | 0.0 | 0.0 | 0.0 | 1584.70 |
| 0.00 | 0.00 | 2.00 | 0.00 | 0.000 | 0.055 | 0.000 | 0.000 | 1580.00 | 7085.42 |
| 0.006002 | 0. | 0. | 0. | 0 | 0 | 6 | 0.00 | 1274.32 | 8473.07 |

THIS RUN EXECUTED 1JUL93 12:03:40

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

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

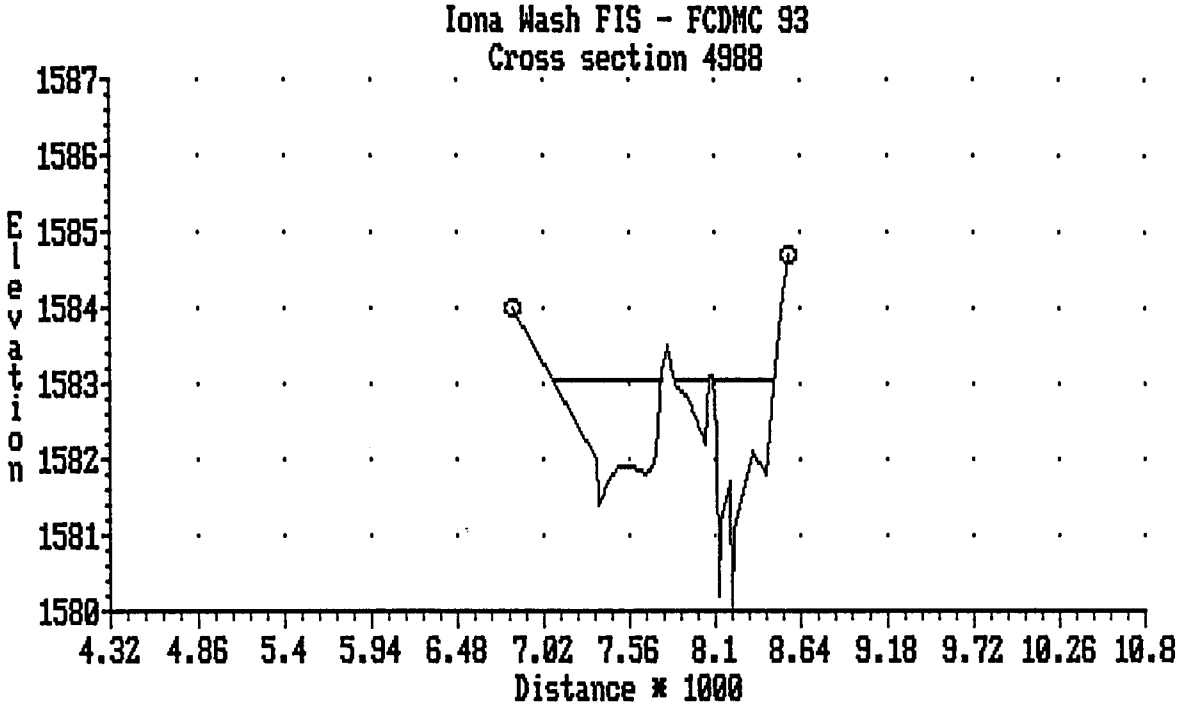
NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 4988.000 | 2376.00 | 1583.03 | 3.03 | 0.00 | 2376.00 | 0.00 | 1274.32 | 7085.42 | 8473.07 |

SUMMARY OF ERRORS AND SPECIAL NOTES


Iona Wash FIS - FCDMC 93
Cross section 4988
Elevation
1587
1586
1585
1584
1583
1582
1581
1580
4.32
4.86
5.4
5.94
6.48
7.02
7.56
8.1
8.64
9.18
9.72
10.26
10.8
Distance * 1000

HEC2 S/N: 1916530021 HMVersion: 6.50 Data File: ionabo42.hc2

```
*********************************************
*  HEC-2 WATER SURFACE PROFILES             *
*                                           *
*  Version   4.6.2;  May 1991               *
*                                           *
*  RUN DATE     1JUL93    TIME   11:55:48   *
*********************************************
```

```
*****************************************
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```


==========
H A E S T A D  M E T H O D S
==========

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 1JUL93 11:55:48

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

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

T1Flood Control District of Maricopa County. S. Story/Project Manager
T2Approximate Methods HEC2 Model for Iona Wash Section 4.214
T3 Iona Wash FIS - FCDMC 93

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | | 2 | | | .0042 | | | | | |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | -1 | | -1 | | | | | | | |

J3 ARIABLE CODES FOR SUMMARY PRINTOUT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 38 | 43 | 1 | 8 | 13 | 14 | 15 | 4 | 53 | 54 |
| QT | 1 | 2376 | | | | | | | | |
| NC | .055 | .055 | .055 | .1 | .3 | | | | | |
| X1 | 4214 | 32 | 7330.8 | 8946.0 | | | | | | |
| GR | 1564.4 | 7330.8 | 1563.8 | 7435.8 | 1563.1 | 7539.9 | 1563.2 | 7613.2 | 1563.2 | 7690.8 |
| GR | 1563.4 | 7767.0 | 1562.6 | 7859.6 | 1561.3 | 7946.7 | 1560.8 | 7992.4 | 1561.0 | 8039.0 |
| GR | 1560.9 | 8079.7 | 1561.4 | 8139.7 | 1561.6 | 8163.0 | 1560.6 | 8192.8 | 1561.9 | 8210.3 |
| GR | 1562.9 | 8245.4 | 1562.4 | 8283.0 | 1561.2 | 8334.0 | 1561.0 | 8400.3 | 1560.3 | 8408.4 |
| GR | 1561.0 | 8421.6 | 1561.5 | 8498.3 | 1562.7 | 8545.6 | 1563.4 | 8583.4 | 1563.1 | 8609.4 |
| GR | 1562.3 | 8666.3 | 1561.2 | 8717.7 | 1560.7 | 8737.0 | 1560.9 | 8785.4 | 1561.2 | 8836.5 |
| GR | 1561.3 | 8900.0 | 1561.4 | 8946.0 | | | | | | |

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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 4214.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

3265 DIVIDED FLOW

3280 CROSS SECTION 4214.00 EXTENDED 1.22 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4214.000 | 2.32 | 1562.62 | 0.00 | 0.00 | 1562.68 | 0.06 | 0.00 | 0.00 | 1564.40 |
| 2376.0 | 0.0 | 2376.0 | 0.0 | 0.0 | 1180.8 | 0.0 | 0.0 | 0.0 | 1561.40 |
| 0.00 | 0.00 | 2.01 | 0.00 | 0.000 | 0.055 | 0.000 | 0.000 | 1560.30 | 7857.35 |
| 0.004196 | 0. | 0. | 0. | 0 | 0 | 5 | 0.00 | 956.53 | 8946.00 |

THIS RUN EXECUTED 1JUL93 11:55:48

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

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

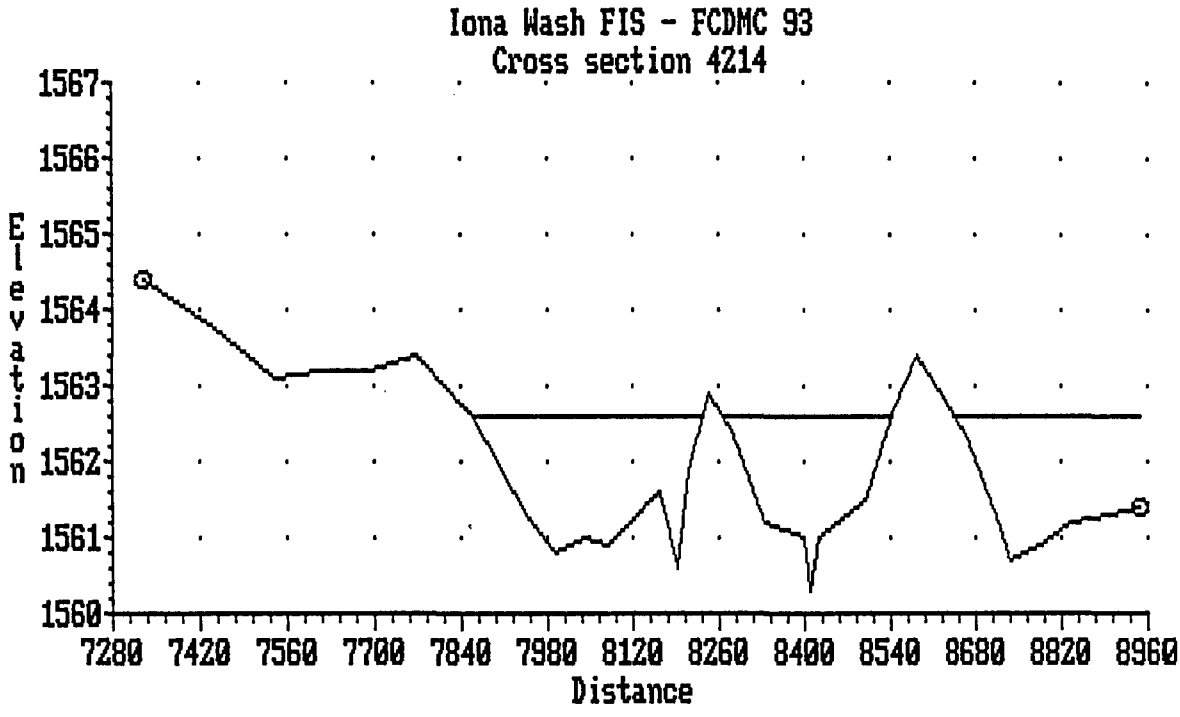
NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 4214.000 | 2376.00 | 1562.62 | 2.32 | 0.00 | 2376.00 | 0.00 | 956.53 | 7857.35 | 8946.00 |

SUMMARY OF ERRORS AND SPECIAL NOTES


Iona Wash FIS - FCDMC 93
Cross section 4214
Elevation
1567
1566
1565
1564
1563
1562
1561
1560
7280
7420
7560
7700
7840
7980
8120
8260
8400
8540
8680
8820
8960
Distance

CH2M HILL SUBJECT _____ BY JBF DATE 6/30

BREAKOUT CALC SHEETS PROJECT NO. _____ SHT ___ OF ___

① OVERFLOW BETWEEN XNS 12.010 TO 12.614

RUN HC2 FROM XN 12.010 TO 12.~~614~~ 464

OBTAIN TOPO FROM 920704.HC2
920704I.HC2

NEW FILE: ~~BO-IONA5.HC2~~ IONAB099.HC2

BEGIN LEFT SIDE XN AT BREAK POINT

END RIGHT SIDE XN AT/NEAR DIVIDE AT DETAILED F/P LIMIT

MEASURE CHANNEL DISTANCE FROM TOPO

START WSEL AT XN 12.010 KNOWN Q100 WSEL

N VALUES FROM TOPO INTERPRETATION

Q'S FROM SPLIT FLOW RUN

IONAB099.HC2

HEC2 S/N: 1916530021 HMVersion: 6.50 Data File: IONAB099.hc2

```
*******************************************
*  HEC-2 WATER SURFACE PROFILES           *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE    30JUN93    TIME   19:14:19 *
*******************************************
```

```
****************************************
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```

```
============================
H A E S T A D   M E T H O D S
============================
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 30JUN93 19:14:19

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

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


T1IONA WASH FIS BREAK OUT ANALYSIS BETWEEN XN 12.010 & 12.464   FULLER - FCDMC
T2IONA WASH FIS, APPROXIMATE METHOD ANALYSIS        PHX34747.AO  CH2M HILL/PHX
T3      IONA WASH FIS


J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

                2                                                                  1839.90

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     -1                  -1


Q                1       2371
NC            .055       .055       .055         .1         .3

ET                         7.1                                                   9589.5      10613
X1            12010         37     9621.5   10183.7
GR           1842.9     8991.6     1843.9    9022.8     1844.3     9046.7     1842.6     9100.2     1842.8     9141.0
GR           1843.2     9205.0     1842.2    9238.4     1842.1     9264.9     1841.3     9287.0     1840.5     9380.1
GR           1836.5     9393.9     1836.7    9413.3     1839.8     9425.8     1840.6     9455.7     1839.5     9512.5
GR           1838.2     9558.0     1840.1    9589.5     1839.9     9621.5     1838.5     9651.0     1839.1     9674.8
GR           1837.8     9711.0     1837.2    9788.3     1837.8     9881.5     1837.7     9962.5     1837.3    10000.0
GR           1838.2    10012.5     1839.3   10099.3     1840.2    10183.7     1839.9    10233.9     1840.6    10345.5
GR           1840.7    10413.4     1841.0   10470.0     1841.1    10533.6     1842.4    10560.6     1842.6    10613.0
GR           1840.1    10626.6     1841.7   10641.0


QT                1       1522
X1            12101         16     9305.1    9796.4        430        430        430
X3                10
GR           1844.6     9305.1     1843.2    9367.6     1840.4     9408.3     1841.1     9453.9     1840.8     9520.2
GR           1840.8     9646.6     1839.9    9660.4     1842.8     9685.2     1843.6     9731.9     1843.7     9796.4
GR           1842.9     9816.2     1842.9    9854.3     1842.8     9879.8     1844.2     9919.6     1844.7     9980.6
GR           1844.0    10000.


X1            12191         20     9213.7    9871.2        410        410        410
X1                10
GR           1848.3     9213.7     1847.9    9291.8     1847.0     9367.8     1845.2     9392.4     1844.9     9455.1
GR           1843.4     9469.0     1844.8    9478.0     1845.4     9551.0     1846.6     9584.6     1847.3     9629.4
GR           1848.7     9664.6     1848.6    9701.1     1845.7     9759.1     1846.9     9792.0     1850.1     9826.6
GR           1851.4     9871.2     1851.3    9910.8     1850.4     9940.2     1848.0     9962.0     1848.3     9987.5
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| QT | 1 | 1392 | | | | | | | | |
| X1 | 12281 | 30 | 9015.2 | 9901.5 | 470 | 470 | 470 | | | |
| X3 | 10 | | | | | | | | | |
| GR | 1853.9 | 9015.2 | 1854.6 | 9065.5 | 1853.8 | 9137.5 | 1853.3 | 9176.8 | 1852.9 | 9233.4 |
| GR | 1850.8 | 9295.7 | 1850.3 | 9340.1 | 1849.4 | 9352.7 | 1849.7 | 9399.8 | 1848.6 | 9482.2 |
| GR | 1851.7 | 9501.0 | 1851.7 | 9518.6 | 1848.8 | 9550.3 | 1848.2 | 9569.3 | 1846.3 | 9587.7 |
| GR | 1846.4 | 9599.7 | 1851.7 | 9624.5 | 1852.4 | 9644.4 | 1851.9 | 9664.4 | 1850.2 | 9692.3 |
| GR | 1848.7 | 9749.7 | 1848.9 | 9786.7 | 1851.2 | 9843.7 | 1853.6 | 9874.1 | 1854.8 | 9901.5 |
| GR | 1854.5 | 9926.3 | 1852.1 | 9956.5 | 1852.2 | 9986.8 | 1851.1 | 9993.5 | 1851.1 | 10000.0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| QT | 1 | 559 | | | | | | | | |
| X1 | 12369 | 22 | 9292.6 | 9748.8 | 430 | 430 | 430 | | | |
| X3 | 10 | | | | | | | | | |
| GR | 1859.3 | 9292.6 | 1858.9 | 9339.0 | 1857.6 | 9367.3 | 1852.0 | 9401.0 | 1849.9 | 9412.3 |
| GR | 1851.7 | 9423.5 | 1853.4 | 9487.2 | 1855.8 | 9525.4 | 1859.1 | 9558.4 | 1859.0 | 9589.2 |
| GR | 1855.7 | 9636.7 | 1856.7 | 9671.1 | 1858.4 | 9719.4 | 1859.0 | 9748.8 | 1856.0 | 9789.3 |
| GR | 1856.1 | 9823.3 | 1853.3 | 9836.8 | 1853.3 | 9844.8 | 1855.9 | 9855.1 | 1856.3 | 9934.6 |
| GR | 1856.6 | 9986.1 | 1856.3 | 10000. | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 12464 | 27 | 8940.5 | 9633.4 | 410 | 410 | 410 | | | |
| X3 | 10 | | | | | | | | | |
| GR | 1865.6 | 8940.5 | 1865.8 | 9000.4 | 1862.4 | 9077.3 | 1863.1 | 9116.6 | 1862.1 | 9191.3 |
| GR | 1857.9 | 9242.1 | 1856.0 | 9250.8 | 1857.6 | 9260.2 | 1856.5 | 9309.9 | 1854.5 | 9336.4 |
| GR | 1855.9 | 9357.9 | 1858.4 | 9398.3 | 1859.5 | 9440.7 | 1859.4 | 9477.2 | 1859.8 | 9543.0 |
| GR | 1860.7 | 9579.7 | 1859.0 | 9622.7 | 1860.3 | 9633.4 | 1859.1 | 9654.3 | 1860.6 | 9663.3 |
| GR | 1861.3 | 9710.7 | 1861.7 | 9764.4 | 1860.6 | 9841.2 | 1861.4 | 9878.5 | 1862.5 | 9976.7 |
| GR | 1860.5 | 9992.9 | 1860.3 | 10000.0 | | | | | | |

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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 12010.000

3470 ENCROACHMENT STATIONS= 9589.5 10613.0 TYPE= 1 TARGET= 1023.500

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12010.000 | 3.40 | 1839.90 | 0.00 | 0.00 | 1840.00 | 0.10 | 0.00 | 0.00 | 1839.90 |
| 2371.0 | 0.0 | 2371.0 | 0.0 | 0.0 | 916.3 | 0.0 | 0.0 | 0.0 | 1840.20 |
| 0.00 | 0.00 | 2.59 | 0.00 | 0.000 | 0.055 | 0.000 | 0.000 | 1836.50 | 9621.50 |
| 0.004468 | 0. | 0. | 0. | 0 | 0 | 0 | 0.00 | 534.07 | 10155.57 |

*SECNO 12101.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.44

3[illegible]VERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 1844.60 ELREA= 1843.70

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12101.000 | 2.45 | 1842.35 | 0.00 | 0.00 | 1842.53 | 0.18 | 2.50 | 0.02 | 1844.60 |
| 1522.0 | 0.0 | 1522.0 | 0.0 | 0.0 | 444.8 | 0.0 | 6.7 | 4.1 | 1843.70 |
| 0.03 | 0.00 | 3.42 | 0.00 | 0.000 | 0.055 | 0.000 | 0.000 | 1839.90 | 9379.85 |
| 0.009564 | 430. | 430. | 430. | 2 | 0 | 0 | 0.00 | 301.57 | 9681.41 |

*SECNO 12191.000

3265 DIVIDED FLOW

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 1848.30 ELREA= 1851.40

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12191.000 | 3.49 | 1846.89 | 1846.32 | 0.00 | 1847.12 | 0.23 | 4.58 | 0.01 | 1848.30 |
| 1522.0 | 0.0 | 1522.0 | 0.0 | 0.0 | 398.5 | 0.0 | 10.7 | 6.9 | 1851.40 |
| 0.06 | 0.00 | 3.82 | 0.00 | 0.000 | 0.055 | 0.000 | 0.000 | 1843.40 | 9369.14 |
| 0.013209 | 410. | 410. | 410. | 8 | 11 | 0 | 0.00 | 291.77 | 9792.02 |

*SECNO 12281.000

3265 DIVIDED FLOW

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

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.52

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 1853.90 ELREA= 1854.80

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12281.000 | 4.33 | 1850.63 | 0.00 | 0.00 | 1850.72 | 0.09 | 3.58 | 0.01 | 1853.90 |
| 1392.0 | 0.0 | 1392.0 | 0.0 | 0.0 | 592.1 | 0.0 | 16.0 | 10.7 | 1854.80 |
| 0.12 | 0.00 | 2.35 | 0.00 | 0.000 | 0.055 | 0.000 | 0.000 | 1846.30 | 9309.96 |
| 0.004782 | 470. | 470. | 470. | 5 | 0 | 0 | 0.00 | 418.67 | 9829.81 |

*SECNO 12369.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 0.17

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 1859.30 ELREA= 1859.00

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [illegible].000 | 3.46 | 1853.36 | 0.00 | 0.00 | 1853.74 | 0.38 | 2.93 | 0.09 | 1859.30 |
| [illegible]59.0 | 0.0 | 559.0 | 0.0 | 0.0 | 113.6 | 0.0 | 19.5 | 13.3 | 1859.00 |
| 0.14 | 0.00 | 4.92 | 0.00 | 0.000 | 0.055 | 0.000 | 0.000 | 1849.90 | 9392.79 |
| 0.025640 | 430. | 430. | 430. | 3 | 0 | 0 | 0.00 | 93.10 | 9485.89 |

*SECNO 12464.000

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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 1865.60 ELREA= 1860.30

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12464.000 | 3.41 | 1857.91 | 0.00 | 0.00 | 1858.01 | 0.10 | 4.24 | 0.03 | 1865.60 |
| 559.0 | 0.0 | 559.0 | 0.0 | 0.0 | 216.4 | 0.0 | 21.1 | 14.4 | 1860.30 |
| 0.19 | 0.00 | 2.58 | 0.00 | 0.000 | 0.055 | 0.000 | 0.000 | 1854.50 | 9241.97 |
| 0.005556 | 410. | 410. | 410. | 6 | 0 | 0 | 0.00 | 148.42 | 9390.39 |

THIS RUN EXECUTED 30JUN93 19:14:21

**********
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

IONA WASH FIS

SUMMARY PRINTOUT TABLE 150

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10*KS | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 12010.000 | 0.00 | 0.00 | 0.00 | 1836.50 | 2371.00 | 1839.90 | 0.00 | 1840.00 | 44.68 | 2.59 | 916.26 | 354.73 |
| * | 12101.000 | 430.00 | 0.00 | 0.00 | 1839.90 | 1522.00 | 1842.35 | 0.00 | 1842.53 | 95.64 | 3.42 | 444.80 | 155.63 |
| | 12191.000 | 410.00 | 0.00 | 0.00 | 1843.40 | 1522.00 | 1846.89 | 1846.32 | 1847.12 | 132.09 | 3.82 | 398.48 | 132.43 |
| * | 12281.000 | 470.00 | 0.00 | 0.00 | 1846.30 | 1392.00 | 1850.63 | 0.00 | 1850.72 | 47.82 | 2.35 | 592.15 | 201.29 |
| * | 12369.000 | 430.00 | 0.00 | 0.00 | 1849.90 | 559.00 | 1853.36 | 0.00 | 1853.74 | 256.40 | 4.92 | 113.56 | 34.91 |
| * | 12464.000 | 410.00 | 0.00 | 0.00 | 1854.50 | 559.00 | 1857.91 | 0.00 | 1858.01 | 55.56 | 2.58 | 216.40 | 75.00 |

IASH FIS

SUMMARY PRINTOUT TABLE 150

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| | 12010.000 | 2371.00 | 1839.90 | 0.00 | 0.00 | 0.00 | 534.07 | 0.00 |
| * | 12101.000 | 1522.00 | 1842.35 | 0.00 | 2.45 | 0.00 | 301.57 | 430.00 |
| | 12191.000 | 1522.00 | 1846.89 | 0.00 | 4.55 | 0.00 | 291.77 | 410.00 |
| * | 12281.000 | 1392.00 | 1850.63 | 0.00 | 3.74 | 0.00 | 418.67 | 470.00 |
| * | 12369.000 | 559.00 | 1853.36 | 0.00 | 2.73 | 0.00 | 93.10 | 430.00 |
| * | 12464.000 | 559.00 | 1857.91 | 0.00 | 4.54 | 0.00 | 148.42 | 410.00 |

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 12101.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

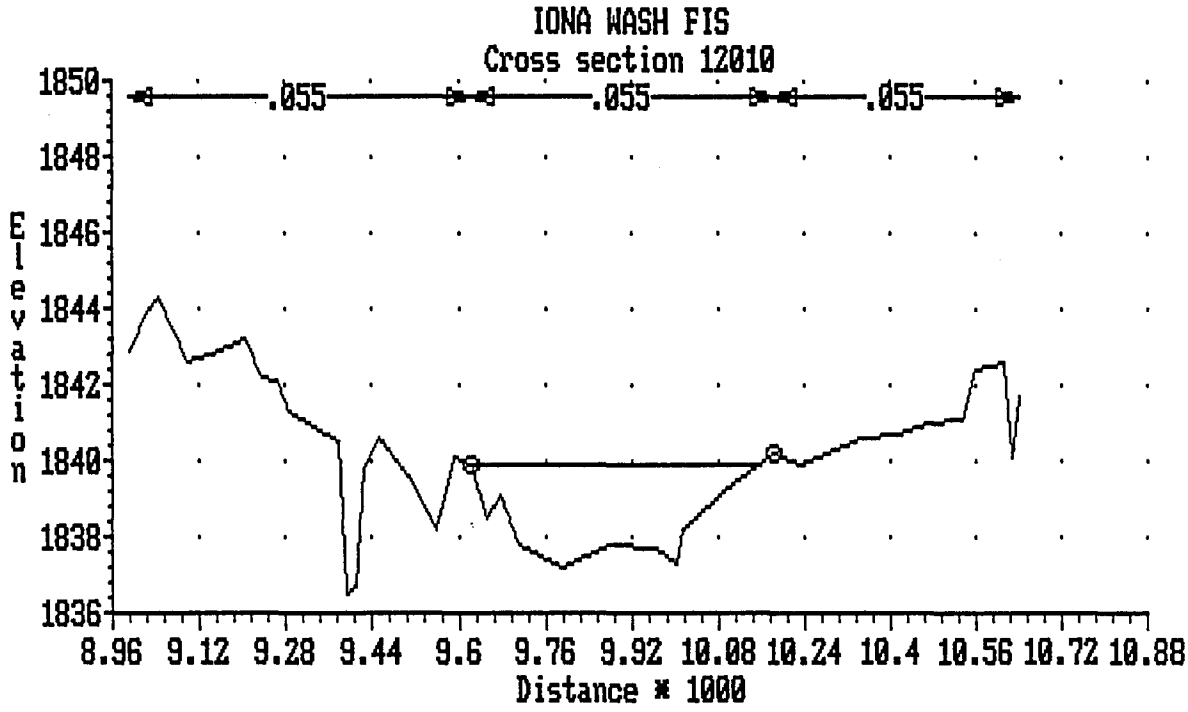
WARNING SECNO= 12281.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

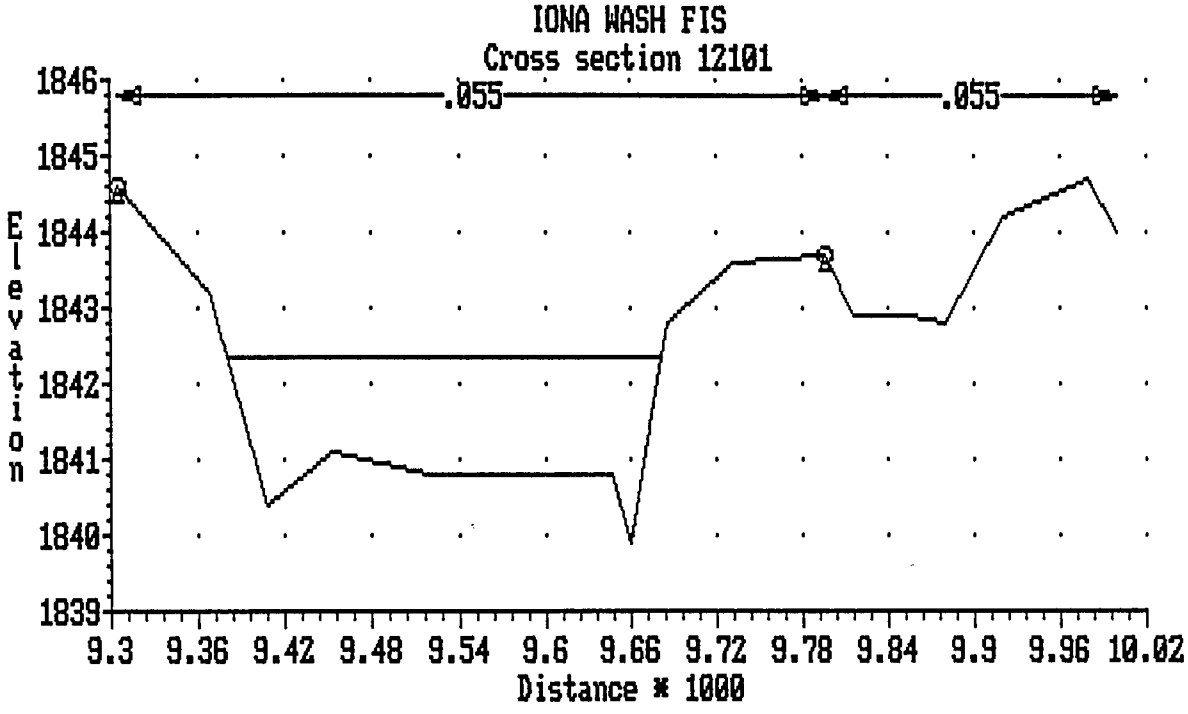
WARNING SECNO= 12369.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

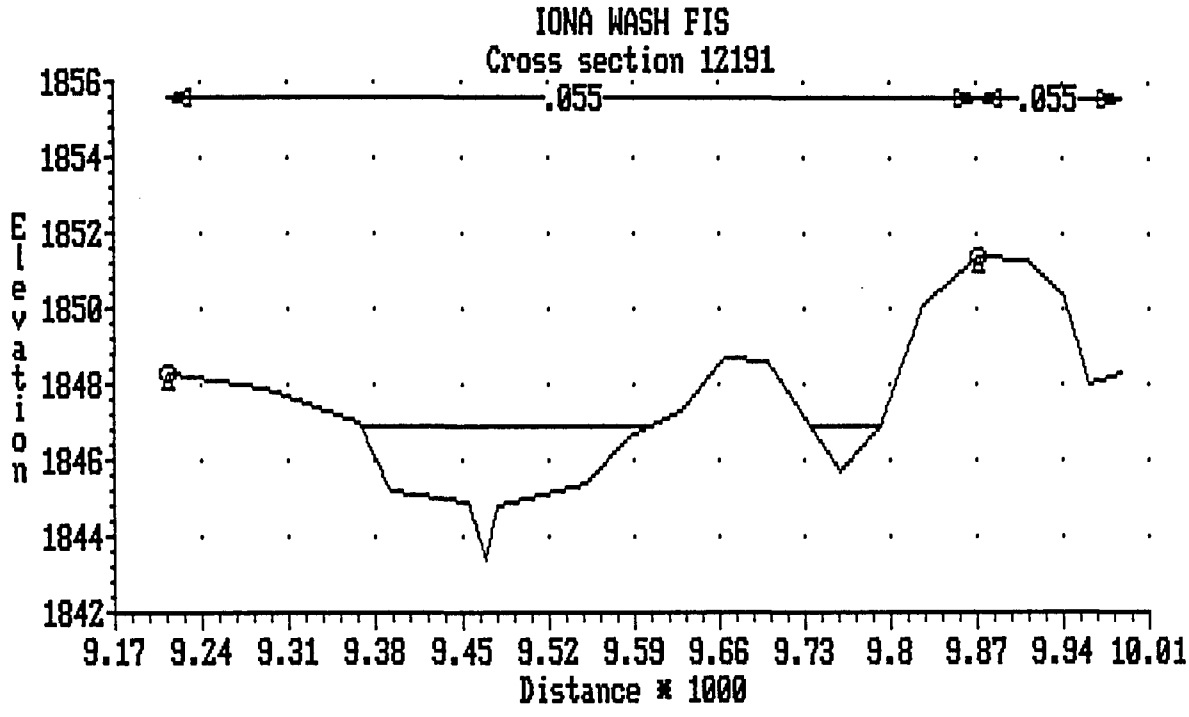
WARNING SECNO= 12464.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

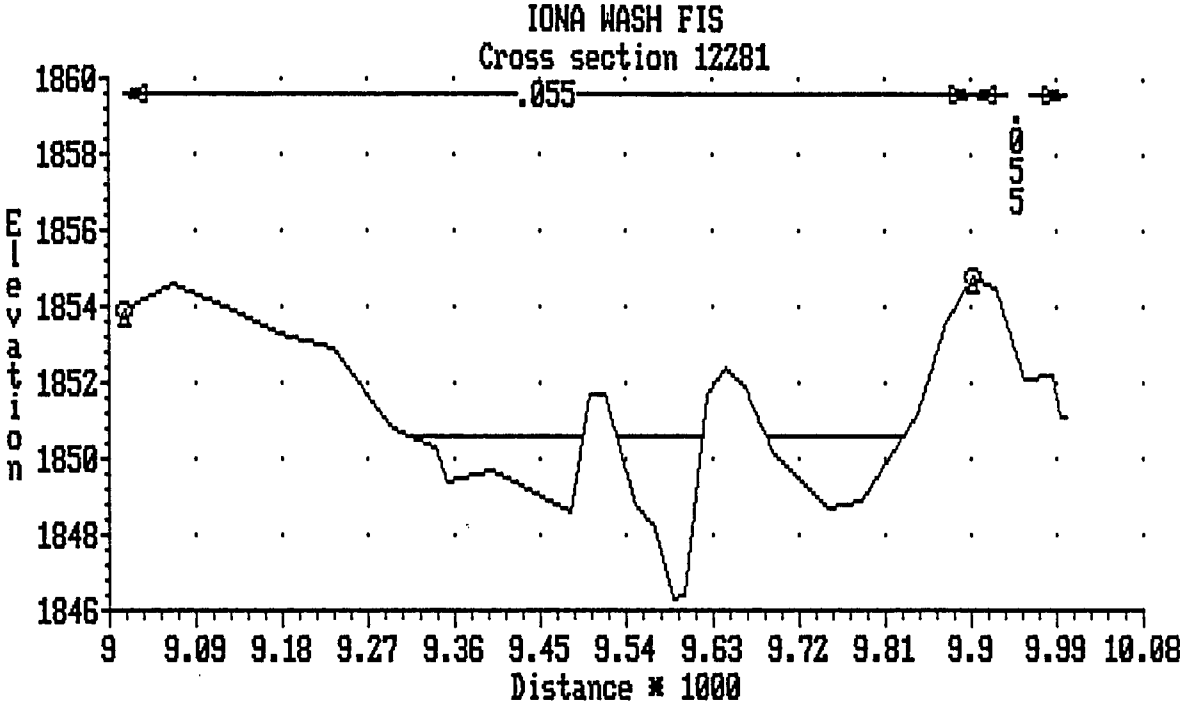
G SECNO= 12369.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

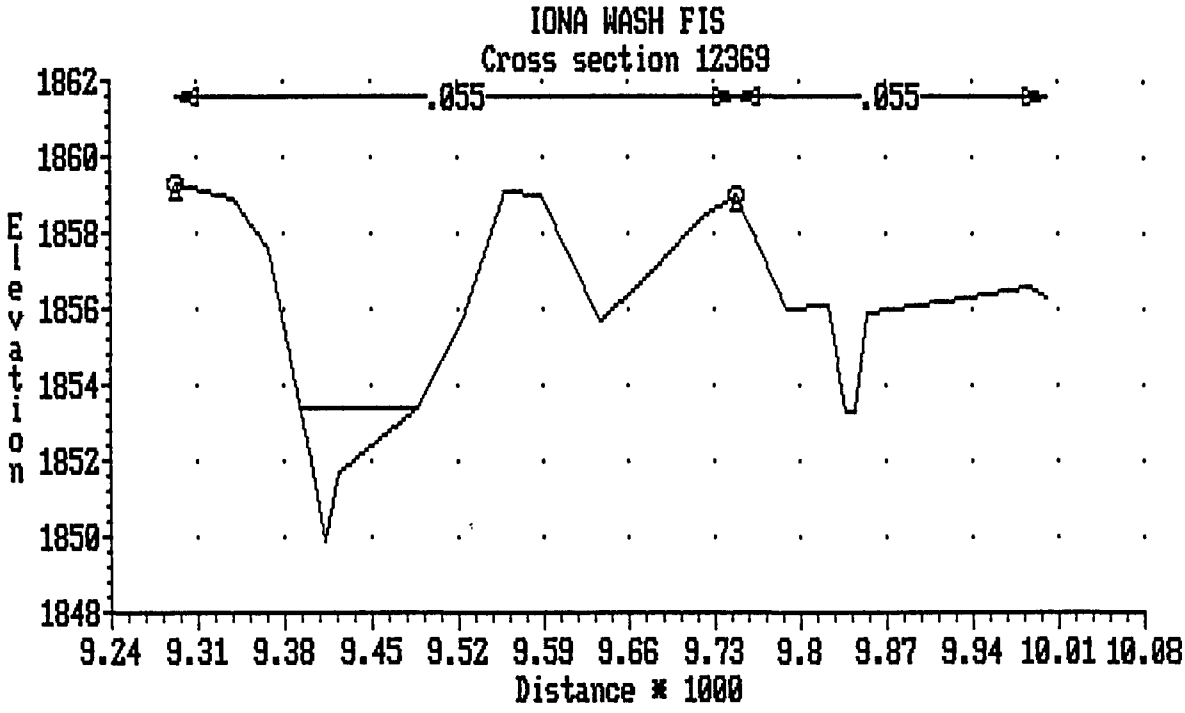
WARNING SECNO= 12464.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

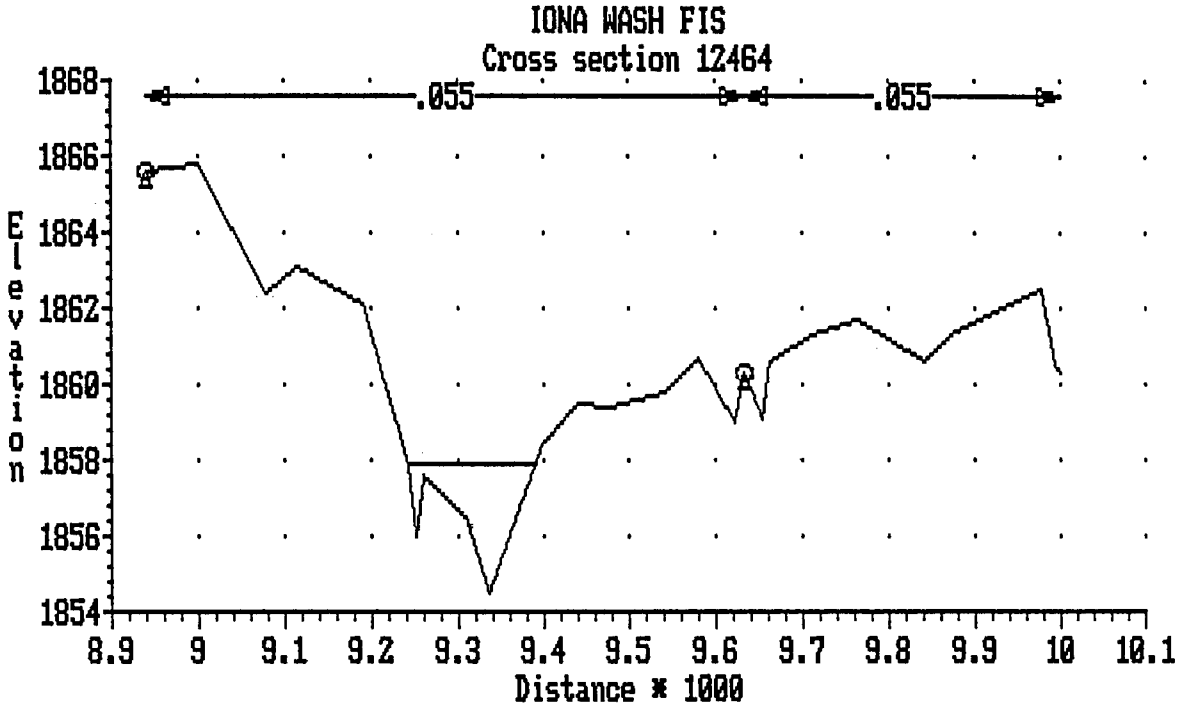

IONA WASH FIS
Cross section 12010
.055
.055
.055
1850
1848
1846
1844
1842
1840
1838
1836
Elevation
8.96
9.12
9.28
9.44
9.6
9.76
9.92
10.08
10.24
10.4
10.56
10.72
10.88
Distance * 1000


IONA WASH FIS
Cross section 12101
.055
.055
1846
1845
1844
1843
1842
1841
1840
1839
Elevation
9.3
9.36
9.42
9.48
9.54
9.6
9.66
9.72
9.78
9.84
9.9
9.96
10.02
Distance * 1000


IONA WASH FIS
Cross section 12191
.055
.055
1856
1854
1852
1850
1848
1846
1844
1842
Elevation
9.17
9.24
9.31
9.38
9.45
9.52
9.59
9.66
9.73
9.8
9.87
9.94
10.01
Distance * 1000


IONA WASH FIS
Cross section 12281
.055
.055
1860
1858
1856
1854
1852
1850
1848
1846
Elevation
9
9.09
9.18
9.27
9.36
9.45
9.54
9.63
9.72
9.81
9.9
9.99
10.08
Distance * 1000


IONA WASH FIS
Cross section 12369
.055
.055
1862
1860
1858
1856
1854
1852
1850
1848
Elevation
9.24
9.31
9.38
9.45
9.52
9.59
9.66
9.73
9.8
9.87
9.94
10.01
10.08
Distance * 1000


IONA WASH FIS
Cross section 12464
.055
.055
1868
1866
1864
1862
1860
1858
1856
1854
Elevation
8.9
9
9.1
9.2
9.3
9.4
9.5
9.6
9.7
9.8
9.9
10
10.1
Distance * 1000

CH2M HILL SUBJECT Iona F/S BY JBF DATE 6/30
PROJECT NO. SHT OF

BREAKOVER BETWEEN XNS 11.666 (SHEET 12)
(SHEET 19)

- FLOWS TO TRILBY WASH

DO SINGLE SECTION RATINGS

XN 11.469 IONAB098.HC2 PLOT PRINT

$S_o = \frac{10}{720} = .0139$

Q = 209 - TOPO DIVIDES
STRT XN 9600
END XN 9901 (STN) - SPLIT FLOW WEIR

WSEL = 1813.55
ST STN = 9604
EN STN = 9739

XN 11.264 IONAB097.HC2 PLOT PRINT

$S_o = \frac{10}{850} = .0118$

Q = 419

END XN STN 9971 (FP LIMIT MAIN)

WSEL = 1805.08
ST STN = 8934
EN STN = 9599

XN 11.079 IONAB096.HC2 PLOT PRINT

$S_o = \frac{10}{1550} = .0065$

Q = 1702

END STN = 9983.2 (FP LIMIT MAIN

WSEL = 1797.53
ST STN 8319
EN STN = 9802

XN 10.620 IONAB095.HC2 PLOT PRINT

$S_o = \frac{10}{1150} = .0087$

Q = 1702

MAIN F/P LIMIT 9581

WSEL = 1780.1[illegible]
ST STN = 7701
EN STN = 9066

CH2M HILL SUBJECT _____ BY JEF DATE 6/30

PROJECT NO. _____ SHT ___ OF ___

IONA BREAKOVER TO TRILBY

XN 9.963 IONABO 94.HC2

$S_o = \frac{10}{1010} = .0099$ PLOT PRINT

Q = 1702

END F/B 9958 ← CHECK

WSEL = 1749.8

ST STN = 7703

EN STN = 8811

XN 9.588 IONABO 93.HC2 PLOT PRINT

$S_o = \frac{10}{1020} = .0099$

Q = 1702

End STN 7800 on ridge line

WSEL = 1734.27

ST STN = 6155

EN STN = 7574

XN 9.110 IONABO92.HC2 PLOT PRINT

$S_o = \frac{10}{1250} = .0080$

Q = 1702

End Stn on ridge divide

WSEL = 1719.21

ST STN = 4944

EN STN = 6902 (trib)

XN 8.860 IONABO 91.HC2 PLOT

$S_o = \frac{4}{440} = .0091$

Q = 1708

End Stn = 8300 on ridge crest

WSEL = 1698.77

STSTN = 5257

ENSTN = 6791

HEC2 S/N: 1916530021 HMVersion: 6.50 Data File: ionabo98.hc2

```
*********************************************
*  HEC-2 WATER SURFACE PROFILES             *
*                                           *
*  Version   4.6.2;  May 1991               *
*                                           *
*  RUN DATE    30JUN93    TIME   20:55:16   *
*********************************************
```

```
*****************************************
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```

```
============================
H A E S T A D   M E T H O D S
============================
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 30JUN93 20:55:17

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

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



T1Flood Control District of Maricopa County.  S. Story/Project Manager
T2Approximate Methods HEC2 Model for Iona Wash Section 11.469.
T3      Iona Wash FIS - FCDMC 93

  Breakover to Trilby Wash which begins near section 11.666


J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

                2                           .0139

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

    -1                  -1


J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38        43        1         8         13        14        15        4         53        54

QT       1        209


NC     .055      .055      .055        .1        .3


X1    11469        10    9554.9    9901.3
GR   1816.7    9554.9    1815.7    9616.8    1815.0    9649.3    1815.3    9691.7    1814.0    9701.1
GR   1815.5    9719.0    1816.9    9790.3    1817.2    9841.6    1818.2    9877.9    1818.3    9901.3
```

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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 11469.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11469.000 | 1.90 | 1815.90 | 0.00 | 0.00 | 1815.99 | 0.09 | 0.00 | 0.00 | 1816.70 |
| 209.0 | 0.0 | 209.0 | 0.0 | 0.0 | 87.6 | 0.0 | 0.0 | 0.0 | 1818.30 |
| 0.00 | 0.00 | 2.38 | 0.00 | 0.000 | 0.055 | 0.000 | 0.000 | 1814.00 | 9604.27 |
| 0.013913 | 0. | 0. | 0. | 0 | 0 | 7 | 0.00 | 135.22 | 9739.49 |

THIS RUN EXECUTED 30JUN93 20:55:17

**********
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

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

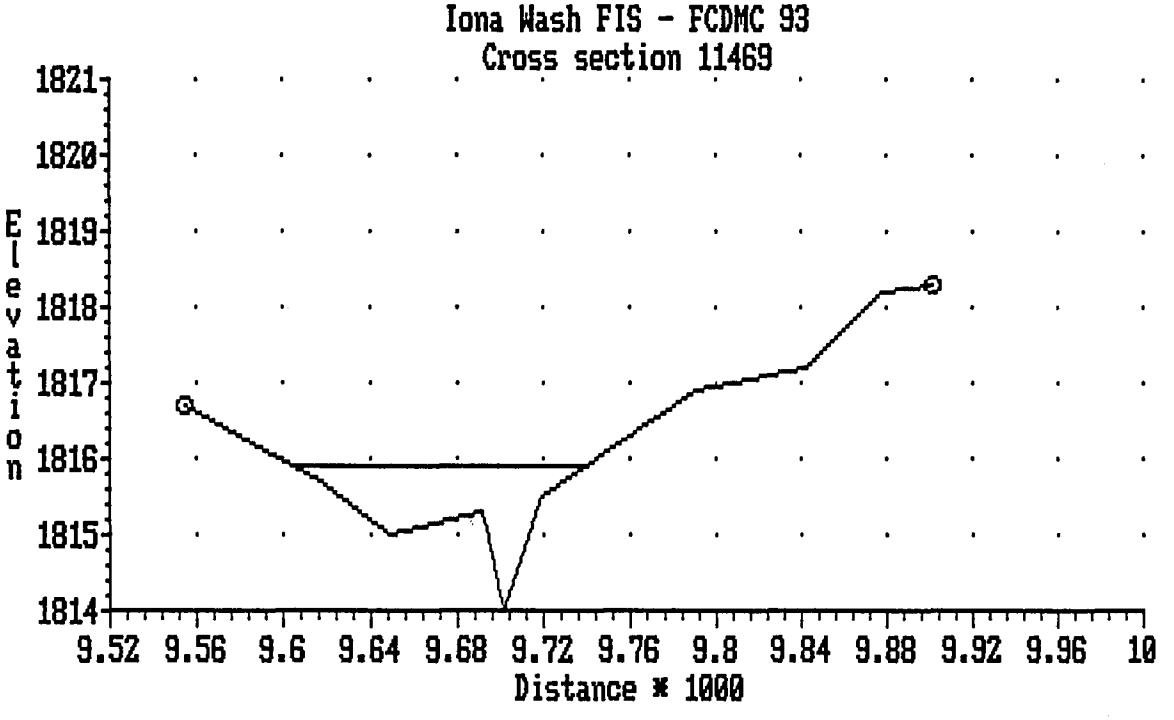
| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 11469.000 | 209.00 | 1815.90 | 1.90 | 0.00 | 209.00 | 0.00 | 135.22 | 9604.27 | 9739.49 |

SUMMARY OF ERRORS AND SPECIAL NOTES

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 11469.000 | 209.00 | 1813.55 | 2.45 | 0.00 | 209.00 | 0.00 | 201.82 | 9069.16 | 9397.70 |

SUMMARY OF ERRORS AND SPECIAL NOTES


Iona Wash FIS - FCDMC 93
Cross section 11469
Elevation
1821
1820
1819
1818
1817
1816
1815
1814
9.52
9.56
9.6
9.64
9.68
9.72
9.76
9.8
9.84
9.88
9.92
9.96
10
Distance * 1000

HEC2 S/N: 1916530021  HMVersion: 6.50  Data File: ionabo97.hc2

```
*******************************************
*  HEC-2 WATER SURFACE PROFILES           *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE    30JUN93    TIME   21:00:28 *
*******************************************
```

```
****************************************
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```

```
============================
H A E S T A D   M E T H O D S
============================
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 30JUN93 21:00:28

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

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

T1Flood Control District of Maricopa County. S. Story/Project Manager
T2Approximate Methods HEC2 Model for Iona Wash Section 11.264
T3 Iona Wash FIS - FCDMC 93

Breakover to Trilby Wash which begins near section 11.666

| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | | | .0118 | | | | | |

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

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 38 | 43 | 1 | 8 | 13 | 14 | 15 | 4 | 53 | 54 |

| | | |
|---|---|---|
| QT | 1 | 449 |

| | | | | |
|---|---|---|---|---|
| NC | .055 | .055 | .055 | .1 | .3 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 11264 | 43 | 7717.4 | 9970.8 | | | | | | |
| GR | 1810.1 | 7717.4 | 1810.1 | 7796.0 | 1808.9 | 7818.0 | 1809.2 | 7850.1 | 1810.1 | 7876.5 |
| GR | 1810.2 | 7913.4 | 1807.8 | 7966.3 | 1807.8 | 8019.4 | 1807.0 | 8037.7 | 1808.3 | 8066.6 |
| GR | 1808.7 | 8087.8 | 1808.0 | 8136.8 | 1809.8 | 8206.3 | 1808.3 | 8260.2 | 1807.9 | 8327.2 |
| GR | 1807.6 | 8410.6 | 1807.2 | 8549.1 | 1808.5 | 8583.5 | 1807.9 | 8636.5 | 1808.5 | 8675.1 |
| GR | 1808.2 | 8699.6 | 1806.1 | 8748.6 | 1805.7 | 8845.0 | 1805.8 | 8921.6 | 1804.4 | 8946.3 |
| GR | 1805.5 | 8973.2 | 1805.3 | 9071.5 | 1804.6 | 9112.3 | 1806.0 | 9147.4 | 1806.1 | 9186.3 |
| GR | 1804.8 | 9229.5 | 1801.6 | 9245.5 | 1804.1 | 9257.4 | 1804.6 | 9384.3 | 1807.2 | 9425.5 |
| GR | 1805.8 | 9461.0 | 1805.9 | 9557.3 | 1804.3 | 9571.5 | 1804.3 | 9588.5 | 1806.3 | 9615.5 |
| GR | 1806.6 | 9722.7 | 1807.1 | 9843.7 | 1807.8 | 9970.8 | | | | |

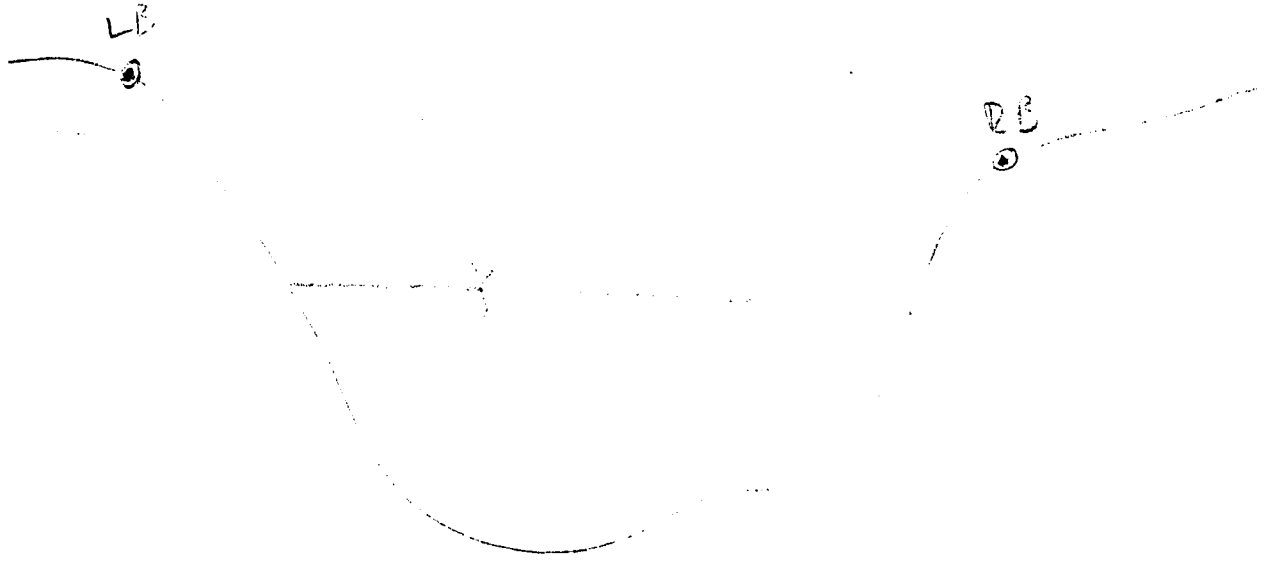
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .CNO | DEPTH | CWSEL | CRIWS | WSELK | EG | HV | HL | OLOSS | L-BANK ELEV |
| Q | QLOB | QCH | QROB | ALOB | ACH | AROB | VOL | TWA | R-BANK ELEV |
| TIME | VLOB | VCH | VROB | XNL | XNCH | XNR | WTN | ELMIN | SSTA |
| SLOPE | XLOBL |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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 11264.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11264.000 | 3.48 | 1805.08 | 0.00 | 0.00 | 1805.17 | 0.08 | 0.00 | 0.00 | 1810.10 |
| 449.0 | 0.0 | 449.0 | 0.0 | 0.0 | 193.2 | 0.0 | 0.0 | 0.0 | 1807.80 |
| 0.00 | 0.00 | 2.32 | 0.00 | 0.000 | 0.055 | 0.000 | 0.000 | 1801.60 | 8934.22 |
| 0.011943 | 0. | 0. | 0. | 0 | 0 | 6 | 0.00 | 275.77 | 9599.10 |



THIS RUN EXECUTED 30JUN93 21:00:29

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

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

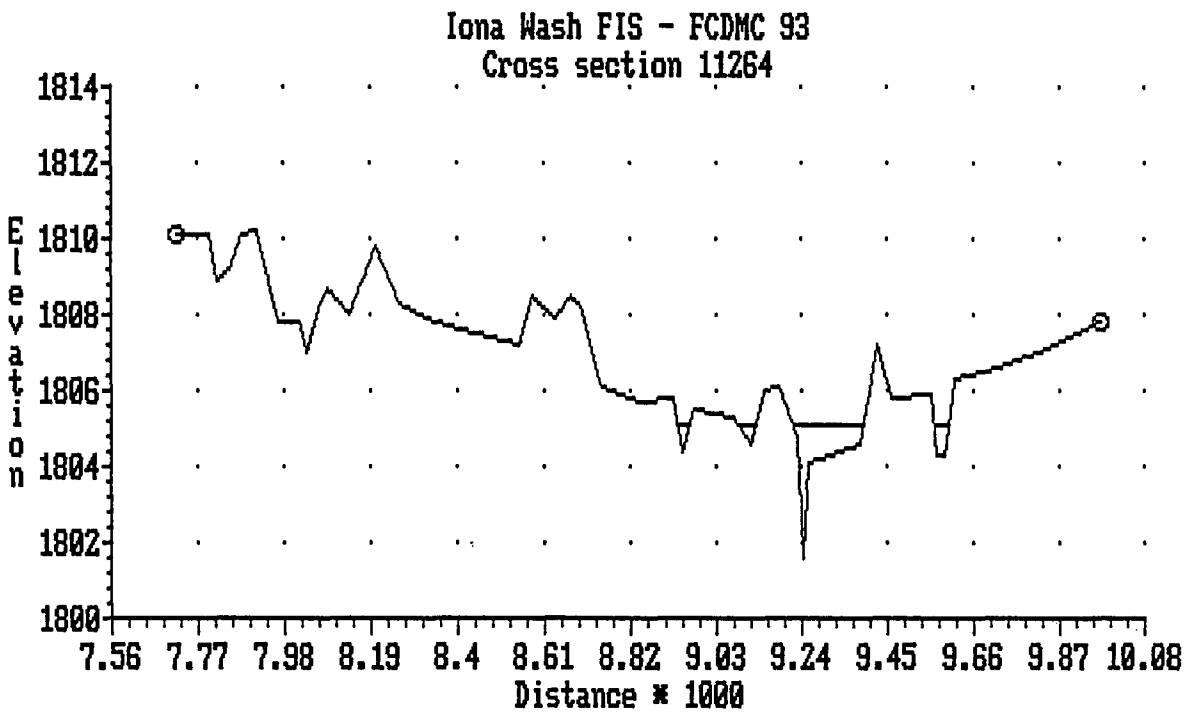
NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 11264.000 | 449.00 | 1805.08 | 3.48 | 0.00 | 449.00 | 0.00 | 275.77 | 8934.22 | 9599.10 |

SUMMARY OF ERRORS AND SPECIAL NOTES


Iona Wash FIS - FCDMC 93
Cross section 11264
Elevation
1814
1812
1810
1808
1806
1804
1802
1800
7.56
7.77
7.98
8.19
8.4
8.61
8.82
9.03
9.24
9.45
9.66
9.87
10.08
Distance * 1000

HEC2 S/N: 1916530021 HMVersion: 6.50 Data File: ionabo96.hc2

```
*********************************************
*  -2 WATER SURFACE PROFILES                *
*                                           *
*  Version   4.6.2;  May 1991               *
*                                           *
*  RUN DATE    30JUN93    TIME   21:16:14   *
*********************************************
```

```
****************************************
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```

```
============================
H A E S T A D   M E T H O D S
============================
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 30JUN93 21:16:14

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

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

T1Flood Control District of Maricopa County. S. Story/Project Manager
T2Approximate Methods HEC2 Model for Iona Wash Section 11.079
T3 Iona Wash FIS - FCDMC 93

Breakover to Trilby Wash which begins near section 11.666

| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | | | .0065 | | | | | |

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

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 38 | 43 | 1 | 8 | 13 | 14 | 15 | 4 | 53 | 54 |
| QT | 1 | 1702 | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| NC | .055 | .055 | .055 | .1 | .3 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 11079 | 52 | 7036.3 | 9981.2 | | | | | | |
| GR | 1804.8 | 7036.3 | 1804.7 | 7078.4 | 1802.7 | 7125.8 | 1802.9 | 7191.7 | 1803.1 | 7262.1 |
| GR | 1802.1 | 7295.4 | 1801.4 | 7303.0 | 1803.0 | 7312.2 | 1803.2 | 7360.6 | 1801.5 | 7381.9 |
| GR | 1802.8 | 7406.8 | 1801.3 | 7417.3 | 1803.9 | 7466.3 | 1801.8 | 7521.2 | 1801.9 | 7598.1 |
| GR | 1800.0 | 7608.1 | 1801.7 | 7622.5 | 1801.7 | 7679.2 | 1800.8 | 7750.4 | 1799.9 | 7904.1 |
| GR | 1800.4 | 7982.7 | 1801.5 | 8025.3 | 1799.8 | 8085.8 | 1801.7 | 8163.1 | 1799.0 | 8229.3 |
| GR | 1798.5 | 8309.7 | 1797.2 | 8322.0 | 1798.1 | 8344.2 | 1798.7 | 8441.3 | 1797.7 | 8491.3 |
| GR | 1798.2 | 8583.7 | 1798.8 | 8613.4 | 1798.0 | 8637.5 | 1799.6 | 8694.3 | 1799.5 | 8709.8 |
| GR | 1797.4 | 8790.7 | 1796.3 | 8847.6 | 1796.1 | 8962.7 | 1796.5 | 8994.4 | 1797.7 | 9029.5 |
| GR | 1796.8 | 9146.9 | 1793.0 | 9158.0 | 1797.1 | 9170.2 | 1796.9 | 9254.9 | 1796.0 | 9391.9 |
| GR | 1796.1 | 9464.5 | 1797.1 | 9502.3 | 1796.6 | 9590.4 | 1796.9 | 9650.4 | 1797.0 | 9755.6 |
| GR | 1798.7 | 9902.4 | 1799.0 | 9981.2 | | | | | | |

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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 11079.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11079.000 | 4.53 | 1797.53 | 0.00 | 0.00 | 1797.59 | 0.06 | 0.00 | 0.00 | 1804.80 |
| 1702.0 | 0.0 | 1702.0 | 0.0 | 0.0 | 861.9 | 0.0 | 0.0 | 0.0 | 1799.00 |
| 0.00 | 0.00 | 1.97 | 0.00 | 0.000 | 0.055 | 0.000 | 0.000 | 1793.00 | 8318.84 |
| 0.006533 | 0. | 0. | 0. | 0 | 0 | 6 | 0.00 | 1001.05 | 9801.71 |

THIS RUN EXECUTED 30JUN93 21:16:15

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

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

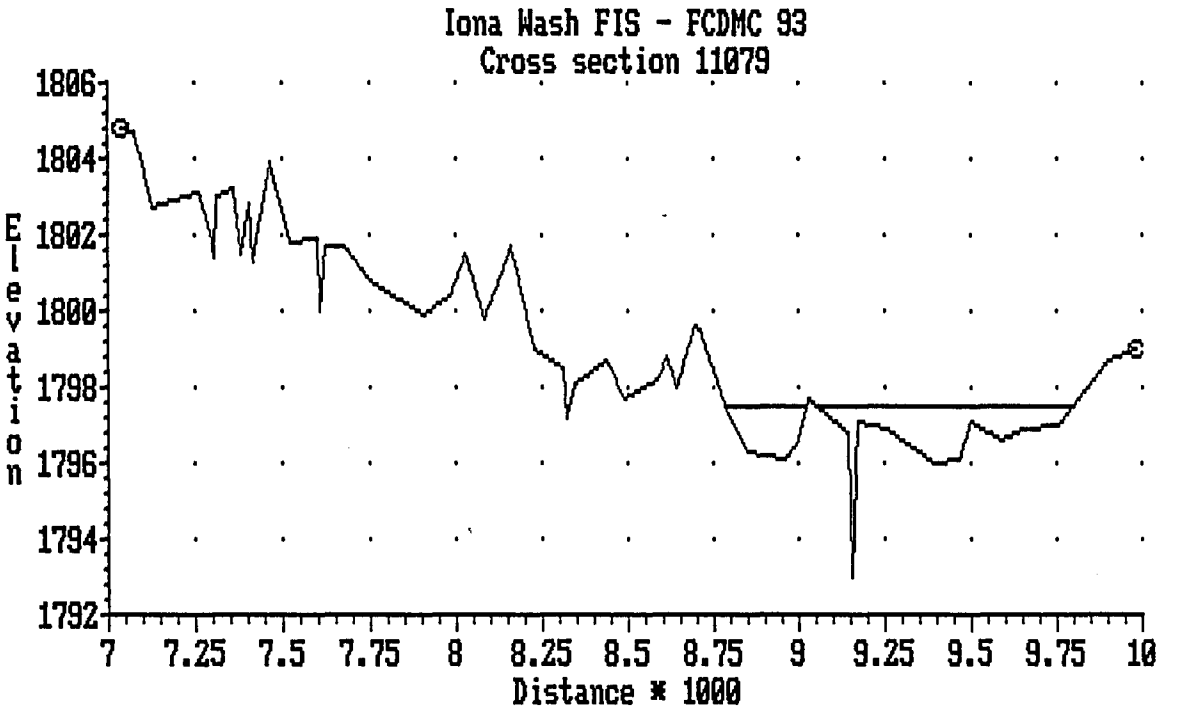
NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 11079.000 | 1702.00 | 1797.53 | 4.53 | 0.00 | 1702.00 | 0.00 | 1001.05 | 8318.84 | 9801.71 |

SUMMARY OF ERRORS AND SPECIAL NOTES


Iona Wash FIS - FCDMC 93
Cross section 11079
Elevation
1806
1804
1802
1800
1798
1796
1794
1792
7
7.25
7.5
7.75
8
8.25
8.5
8.75
9
9.25
9.5
9.75
10
Distance * 1000

HEC2 S/N: 1916530021 HMVersion: 6.50 Data File: ionabo95.hc2

```
*******************************************
*  HEC-2 WATER SURFACE PROFILES           *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE    30JUN93    TIME   21:33:23 *
*******************************************
```

```
****************************************
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```

```
============================
H A E S T A D   M E T H O D S
============================
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 30JUN93 21:33:23

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

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

T1Flood Control District of Maricopa County. S. Story/Project Manager
T2Approximate Methods HEC2 Model for Iona Wash Section 10.620
T3 Iona Wash FIS - FCDMC 93

Breakover to Trilby Wash which begins near section 11.666

| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | | | .0065 | | | | | |

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

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 38 | 43 | 1 | 8 | 13 | 14 | 15 | 4 | 53 | 54 |
| QT | 1 | 1702 | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| NC | .055 | .055 | .055 | .1 | .3 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 10620 | 19 | 7548.3 | 9065.8 | | | | | | |
| GR | 1782.0 | 7548.3 | 1779.8 | 7760.9 | 1780.3 | 7857.3 | 1779.9 | 7973.4 | 1779.1 | 8043.9 |
| GR | 1776.5 | 8050.6 | 1779.0 | 8060.2 | 1778.7 | 8149.7 | 1776.3 | 8155.0 | 1779.0 | 8161.7 |
| GR | 1779.4 | 8250.5 | 1779.3 | 8374.1 | 1779.6 | 8491.9 | 1780.1 | 8653.3 | 1780.4 | 8729.0 |
| GR | 1780.0 | 8815.3 | 1779.6 | 8920.7 | 1780.2 | 9006.3 | 1780.2 | 9065.8 | | |

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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 10620.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
3280 CROSS SECTION 10620.00 EXTENDED 0.22 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10620.000 | 4.12 | 1780.42 | 0.00 | 0.00 | 1780.47 | 0.05 | 0.00 | 0.00 | 1782.00 |
| 1702.0 | 0.0 | 1702.0 | 0.0 | 0.0 | 980.5 | 0.0 | 0.0 | 0.0 | 1780.20 |
| 0.00 | 0.00 | 1.74 | 0.00 | 0.000 | 0.055 | 0.000 | 0.000 | 1776.30 | 7700.64 |
| 0.006430 | 0. | 0. | 0. | 0 | 0 | 6 | 0.00 | 1365.16 | 9065.80 |

THIS RUN EXECUTED 30JUN93 21:33:24

**********
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

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 10620.000 | 1702.00 | 1780.42 | 4.12 | 0.00 | 1702.00 | 0.00 | 1365.16 | 7700.64 | 9065.80 |

SUMMARY OF ERRORS AND SPECIAL NOTES

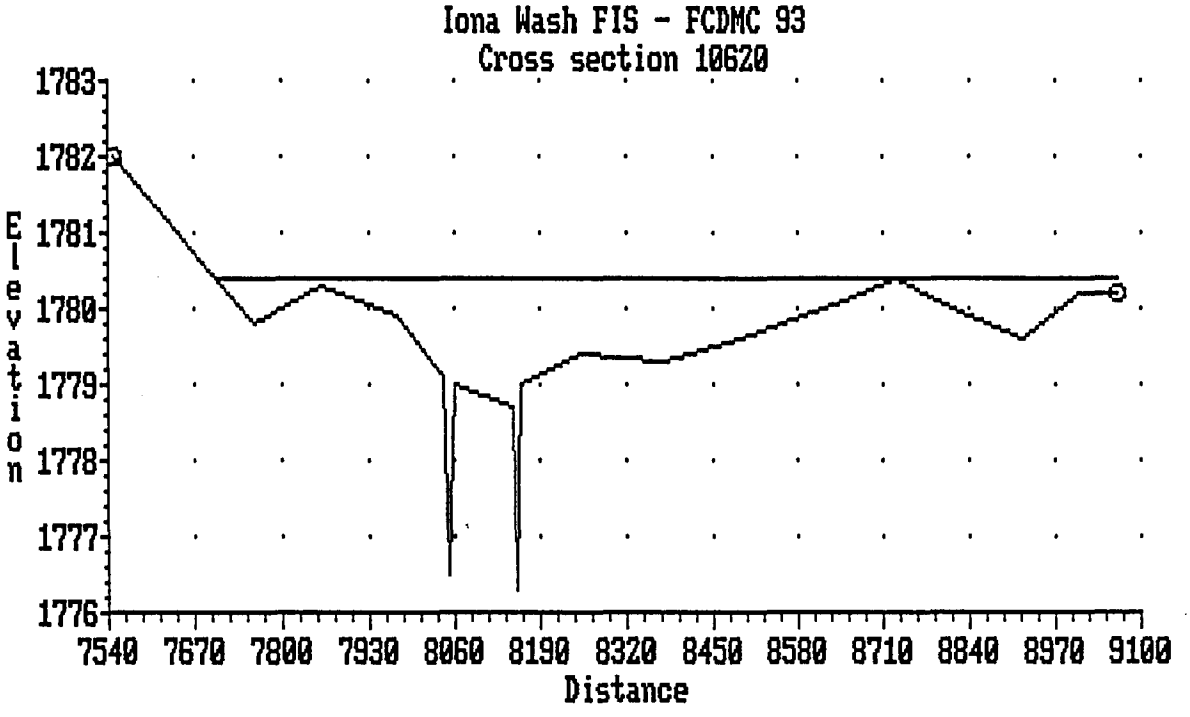
on 4.6.2; May 1991
**********

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

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 10620.000 | 1702.00 | 1780.41 | 4.11 | 0.00 | 1702.00 | 0.00 | 1393.51 | 6675.59 | 9065.80 |


Iona Wash FIS - FCDMC 93
Cross section 10620
Elevation
1783
1782
1781
1780
1779
1778
1777
1776
7540
7670
7800
7930
8060
8190
8320
8450
8580
8710
8840
8970
9100
Distance

HEC2 S/N: 1916530021 HMVersion: 6.50 Data File: ionabo94.hc2

```
*******************************************
*  HEC-2 WATER SURFACE PROFILES           *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE    30JUN93    TIME   21:50:49 *
*******************************************
```

```
*****************************************
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```

```
============================
H A E S T A D   M E T H O D S
============================
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 30JUN93 21:50:49

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

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

T1Flood Control District of Maricopa County. S. Story/Project Manager
T2Approximate Methods HEC2 Model for Iona Wash Section 9.963
T3 Iona Wash FIS - FCDMC 93

Breakover to Trilby Wash which begins near section 11.666

| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | | | .0099 | | | | | |

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

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 38 | 43 | 1 | 8 | 13 | 14 | 15 | 4 | 53 | 54 |
| QT | 1 | 1702 | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| NC | .055 | .055 | .055 | .1 | .3 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 9963 | 26 | 7036.2 | 8841.3 | | | | | | |
| GR | 1752.4 | 7036.2 | 1752.2 | 7118.4 | 1751.2 | 7251.4 | 1751.2 | 7368.4 | 1750.2 | 7450.7 |
| GR | 1751.6 | 7488.3 | 1752.6 | 7562.1 | 1750.0 | 7620.3 | 1750.1 | 7699.1 | 1747.9 | 7728.6 |
| GR | 1749.6 | 7746.6 | 1748.9 | 7787.1 | 1747.2 | 7794.8 | 1748.7 | 7808.1 | 1749.1 | 7988.2 |
| GR | 1749.5 | 8096.5 | 1747.3 | 8105.3 | 1750.0 | 8114.5 | 1749.1 | 8429.8 | 1747.0 | 8440.2 |
| GR | 1748.5 | 8450.3 | 1748.5 | 8552.4 | 1749.8 | 8637.2 | 1748.6 | 8723.7 | 1749.3 | 8789.0 |
| GR | 1750.5 | 8841.3 | | | | | | | | |

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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 9963.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9963.000 | 2.80 | 1749.80 | 0.00 | 0.00 | 1749.88 | 0.08 | 0.00 | 0.00 | 1752.40 |
| 1702.0 | 0.0 | 1702.0 | 0.0 | 0.0 | 769.1 | 0.0 | 0.0 | 0.0 | 1750.50 |
| 0.00 | 0.00 | 2.21 | 0.00 | 0.000 | 0.055 | 0.000 | 0.000 | 1747.00 | 7703.11 |
| 0.010017 | 0. | 0. | 0. | 0 | 0 | 7 | 0.00 | 1037.29 | 8810.83 |

THIS RUN EXECUTED 30JUN93 21:50:49

**********
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

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 9963.000 | 1702.00 | 1749.80 | 2.80 | 0.00 | 1702.00 | 0.00 | 1037.29 | 7703.11 | 8810.83 |

SUMMARY OF ERRORS AND SPECIAL NOTES

4

SUMMARY OF ERRORS AND SPECIAL NOTES

400 1855.100 1746.318 14

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9963.000 | 5.42 | 1747.82 | 1747.33 | 0.00 | 1747.93 | 0.10 | 0.00 | 0.00 | 1755.10 |
| 1702.0 | 0.0 | 1702.0 | 0.0 | 0.0 | 659.1 | 0.0 | 0.0 | 0.0 | 1744.50 |
| 0.00 | 0.00 | 2.58 | 0.00 | 0.000 | 0.055 | 0.000 | 0.000 | 1742.40 | 7791.97 |
| 0.009807 | 0. | 0. | 0. | 0 | 30 | 14 | 0.00 | 688.44 | 9910.10 |

THIS RUN EXECUTED 30JUN93 21:39:38

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

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

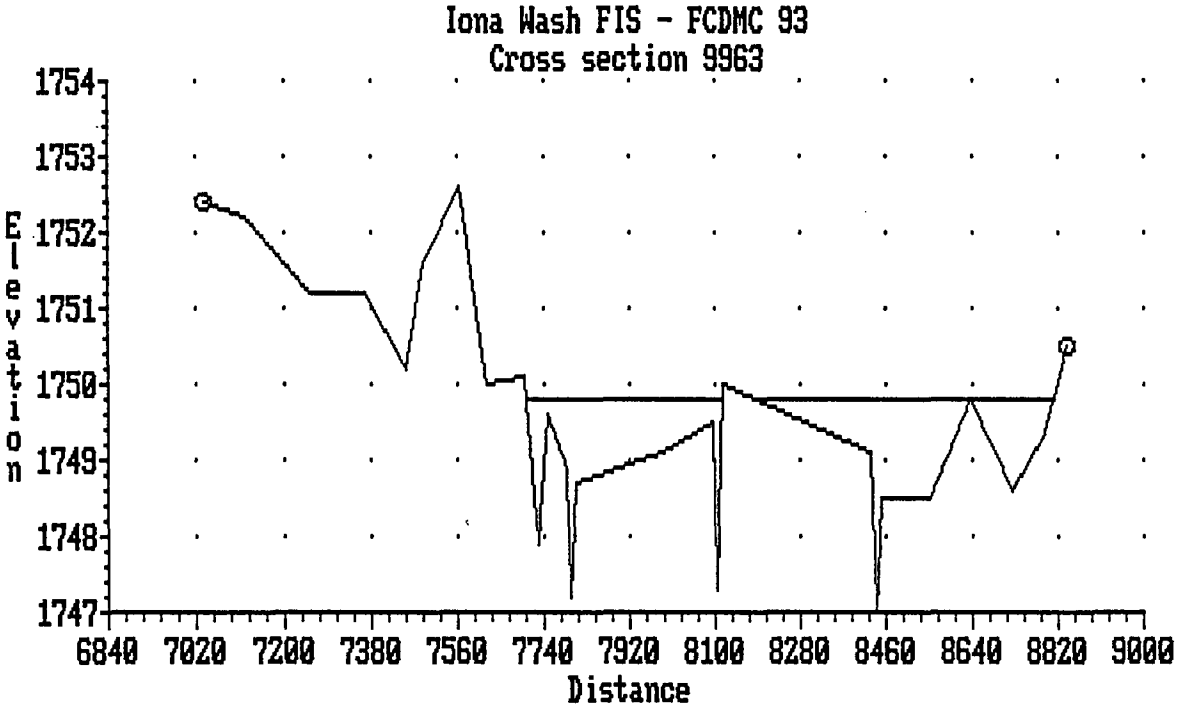
NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 9963.000 | 1702.00 | 1747.82 | 5.42 | 0.00 | 1702.00 | 0.00 | 688.44 | 7791.97 | 9910.10 |

SUMMARY OF ERRORS AND SPECIAL NOTES


Iona Wash FIS - FCDMC 93
Cross section 9963
Elevation
1754
1753
1752
1751
1750
1749
1748
1747
6840
7020
7200
7380
7560
7740
7920
8100
8280
8460
8640
8820
9000
Distance

HEC2 S/N: 1916530021  HMVersion: 6.50  Data File: ionabo93.hc2

```
*********************************************
*  -2 WATER SURFACE PROFILES                *
*                                           *
*  Version   4.6.2;  May 1991               *
*                                           *
*  RUN DATE    30JUN93    TIME   21:58:08   *
*********************************************
```

```
****************************************
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```

```
============================
H A E S T A D   M E T H O D S
============================
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 30JUN93 21:58:08

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

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

T1Flood Control District of Maricopa County. S. Story/Project Manager
T2Approximate Methods HEC2 Model for Iona Wash Section 9.588
T3 Iona Wash FIS - FCDMC 93

Breakover to Trilby Wash which begins near section 11.666

| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | | | .0099 | | | | | |

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

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 38 | 43 | 1 | 8 | 13 | 14 | 15 | 4 | 53 | 54 |
| QT | 1 | 1702 | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| NC | .055 | .055 | .055 | .1 | .3 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X1 | 9588 | 45 | 5670.2 | 7832.6 | | | | | | |
| GR | 1739.7 | 5670.2 | 1739.3 | 5763.7 | 1737.5 | 5822.6 | 1737.7 | 5946.7 | 1736.8 | 5999.8 |
| GR | 1736.1 | 6069.8 | 1735.1 | 6150.2 | 1732.3 | 6166.0 | 1734.8 | 6198.4 | 1733.8 | 6298.1 |
| GR | 1729.0 | 6306.4 | 1733.8 | 6336.9 | 1733.9 | 6373.4 | 1731.5 | 6385.0 | 1733.3 | 6394.0 |
| GR | 1734.2 | 6486.2 | 1733.3 | 6527.5 | 1730.0 | 6534.4 | 1733.1 | 6549.2 | 1729.9 | 6559.1 |
| GR | 1732.9 | 6572.3 | 1733.3 | 6603.9 | 1730.9 | 6617.2 | 1733.2 | 6625.3 | 1733.3 | 6710.3 |
| GR | 1734.3 | 6728.4 | 1734.7 | 6800.8 | 1733.5 | 6864.5 | 1734.2 | 6876.1 | 1734.4 | 6932.7 |
| GR | 1735.1 | 6978.1 | 1734.0 | 7027.3 | 1734.2 | 7117.1 | 1734.6 | 7199.9 | 1734.8 | 7270.3 |
| GR | 1735.1 | 7343.6 | 1734.6 | 7393.5 | 1732.4 | 7400.3 | 1734.6 | 7417.3 | 1733.4 | 7551.0 |
| GR | 1731.8 | 7559.5 | 1734.8 | 7576.7 | 1735.7 | 7697.0 | 1734.7 | 7766.4 | 1736.7 | 7832.6 |

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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 9588.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9588.000 | 5.27 | 1734.27 | 0.00 | 0.00 | 1734.36 | 0.09 | 0.00 | 0.00 | 1739.70 |
| 1702.0 | 0.0 | 1702.0 | 0.0 | 0.0 | 710.4 | 0.0 | 0.0 | 0.0 | 1736.70 |
| 0.00 | 0.00 | 2.40 | 0.00 | 0.000 | 0.055 | 0.000 | 0.000 | 1729.00 | 6154.90 |
| 0.009917 | 0. | 0. | 0. | 0 | 0 | 7 | 0.00 | 839.69 | 7573.65 |

THIS RUN EXECUTED 30JUN93 21:58:09

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

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

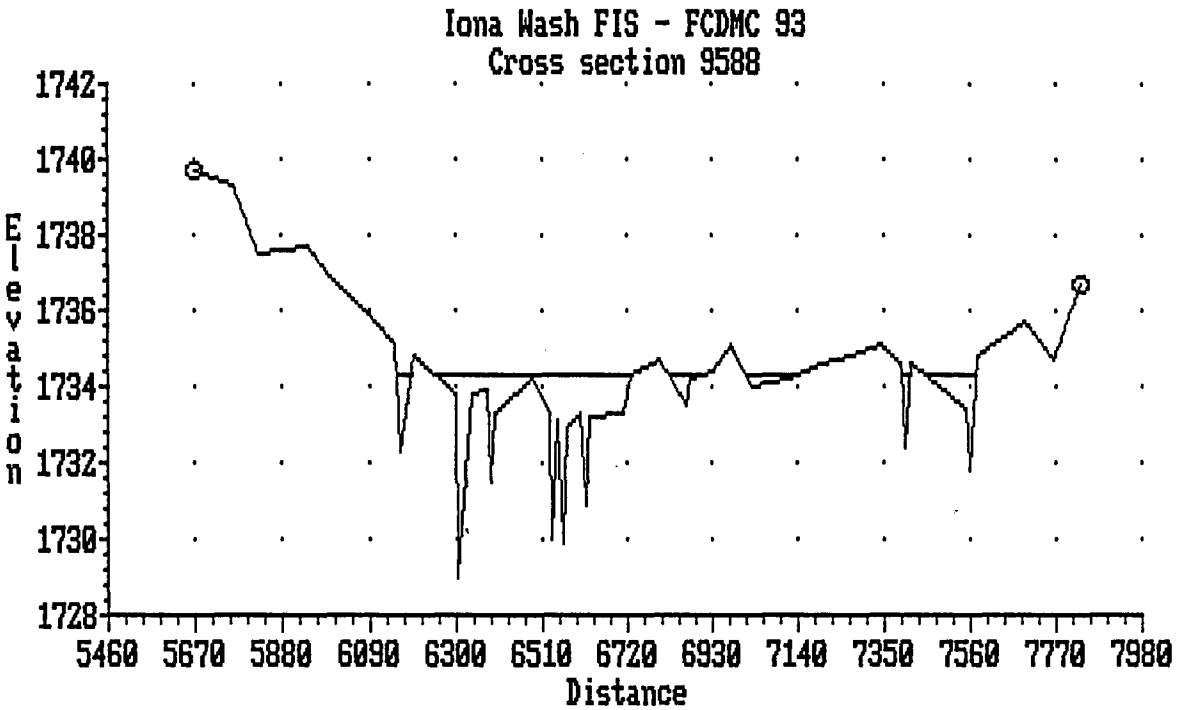
NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 9588.000 | 1702.00 | 1734.27 | 5.27 | 0.00 | 1702.00 | 0.00 | 839.69 | 6154.90 | 7573.65 |

SUMMARY OF ERRORS AND SPECIAL NOTES


Iona Wash FIS - FCDMC 93
Cross section 9588
Elevation
1742
1740
1738
1736
1734
1732
1730
1728
5460 5670 5880 6090 6300 6510 6720 6930 7140 7350 7560 7770 7980
Distance

HEC2 S/N: 1916530021  HMVersion: 6.50  Data File: ionabo92.hc2

```
*********************************************
*  -2 WATER SURFACE PROFILES                *
*                                           *
*  Version   4.6.2;  May 1991               *
*                                           *
*  RUN DATE    30JUN93    TIME   22:04:48   *
*********************************************
```

```
*************************************
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```

==========
H A E S T A D  M E T H O D S
==========

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 30JUN93 22:04:48

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

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

T1Flood Control District of Maricopa County. S. Story/Project Manager
T2Approximate Methods HEC2 Model for Iona Wash Section 9.110
T3 Iona Wash FIS - FCDMC 93

Breakover to Trilby Wash which begins near section 11.666

| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | | | .0080 | | | | | |

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

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 38 | 43 | 1 | 8 | 13 | 14 | 15 | 4 | 53 | 54 |
| QT | 1 | 1702 | | | | | | | | |
| NC | .055 | .055 | .055 | .1 | .3 | | | | | |
| X1 | 9119 | 40 | 4505.2 | 6902.0 | | | | | | |
| GR | 1723.8 | 4505.2 | 1723.9 | 4584.8 | 1721.1 | 4670.2 | 1720.3 | 4939.9 | 1717.9 | 4949.9 |
| GR | 1720.2 | 4960.2 | 1720.0 | 5128.5 | 1719.0 | 5245.2 | 1715.5 | 5253.2 | 1718.8 | 5266.3 |
| GR | 1718.4 | 5351.7 | 1712.9 | 5364.3 | 1718.8 | 5380.1 | 1718.8 | 5413.4 | 1716.9 | 5420.7 |
| GR | 1718.8 | 5431.6 | 1718.9 | 5529.6 | 1716.8 | 5541.9 | 1718.5 | 5555.4 | 1716.7 | 5565.3 |
| GR | 1718.3 | 5571.4 | 1718.6 | 5659.0 | 1715.8 | 5668.0 | 1718.4 | 5682.5 | 1721.2 | 5816.1 |
| GR | 1720.4 | 5884.8 | 1718.3 | 5925.6 | 1718.2 | 6020.5 | 1716.3 | 6030.0 | 1718.1 | 6039.7 |
| GR | 1718.7 | 6182.2 | 1718.9 | 6382.4 | 1719.5 | 6459.3 | 1721.6 | 6557.7 | 1721.6 | 6641.6 |
| GR | 1719.8 | 6719.1 | 1720.5 | 6776.1 | 1719.4 | 6881.7 | 1717.6 | 6886.6 | 1719.2 | 6902.0 |

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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 9119.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED
3840 SECTION NOT HIGH ENOUGH 1860.834 1769.200 1712.900 1773.800 1714.058 14
3840 SECTION NOT HIGH ENOUGH 1860.834 1819.200 1712.900 1823.800 1714.058 14

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9119.000 | 6.31 | 1719.21 | 1718.66 | 0.00 | 1719.27 | 0.07 | 0.00 | 0.00 | 1723.80 |
| 1702.0 | 0.0 | 1702.0 | 0.0 | 0.0 | 827.1 | 0.0 | 0.0 | 0.0 | 1719.20 |
| 0.00 | 0.00 | 2.06 | 0.00 | 0.000 | 0.055 | 0.000 | 0.000 | 1712.90 | 4944.45 |
| 0.007990 | 0. | 0. | 0. | 0 | 17 | 14 | 0.00 | 1045.37 | 6902.00 |

THIS RUN EXECUTED 30JUN93 22:04:50

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

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

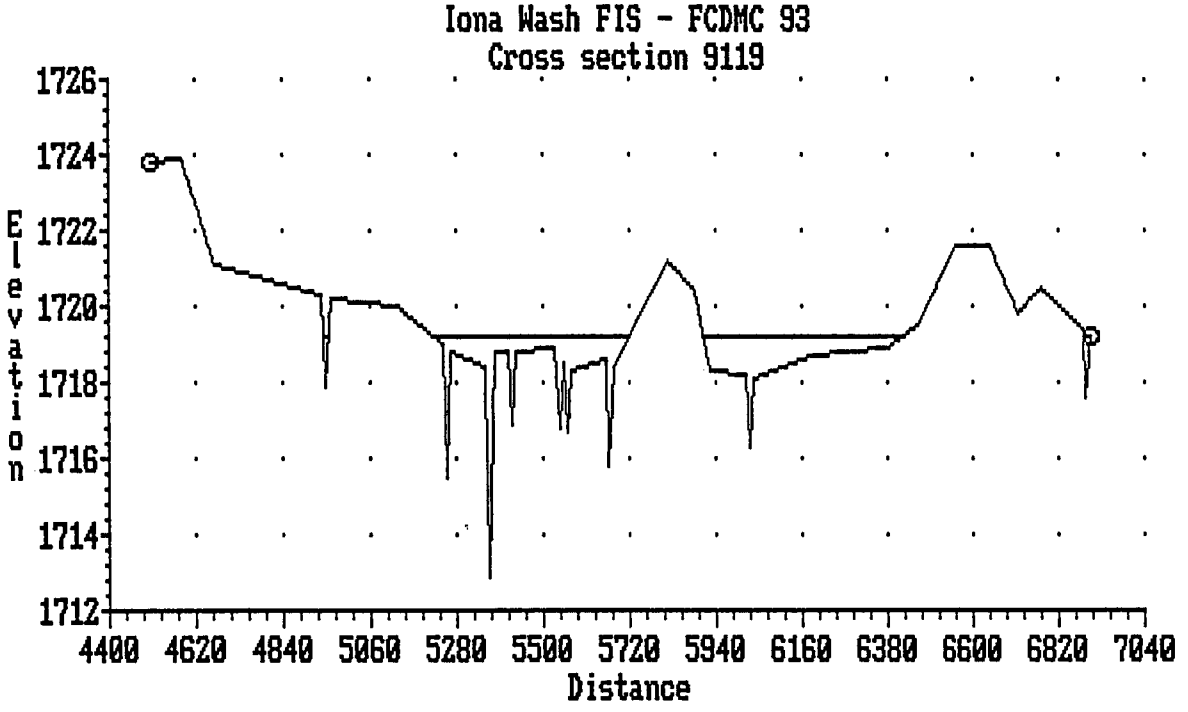
NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 9119.000 | 1702.00 | 1719.21 | 6.31 | 0.00 | 1702.00 | 0.00 | 1045.37 | 4944.45 | 6902.00 |

SUMMARY OF ERRORS AND SPECIAL NOTES


Iona Wash FIS - FCDMC 93
Cross section 9119
Elevation
1726
1724
1722
1720
1718
1716
1714
1712
4400
4620
4840
5060
5280
5500
5720
5940
6160
6380
6600
6820
7040
Distance

HEC2 S/N: 1916530021 HMVersion: 6.50 Data File: ionabo91.hc2

```
*******************************************
*  HEC-2 WATER SURFACE PROFILES           *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE    30JUN93    TIME   22:18:02 *
*******************************************
```

```
****************************************
*  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
```

```
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::   FULL MICRO-COMPUTER IMPLEMENTATION   :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```

```
============================
H A E S T A D   M E T H O D S
============================
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

THIS RUN EXECUTED 30JUN93 22:18:02

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

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


T1Flood Control District of Maricopa County.  S. Story/Project Manager
T2Approximate Methods HEC2 Model for Iona Wash Section 8.560
T3      Iona Wash FIS - FCDMC 93

  Breakover to Trilby Wash which begins near section 11.666


J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

                2                           .0091

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

    -1                  -1


J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38        43        1         8         13        14        15        4         53        54

QT       1       1702


NC     .055      .055      .055        .1        .3


X1     8560        62    5257.0    8294.9
GR   1698.6    5257.0    1698.5    5371.6    1695.1    5382.7    1698.4    5395.1    1698.5    5470.0
GR   1697.9    5505.1    1698.6    5536.4    1698.5    5591.3    1698.9    5691.2    1698.9    5748.5
GR   1696.9    5752.3    1698.4    5760.1    1698.9    5879.9    1698.4    5956.8    1696.3    5979.7
GR   1698.4    5993.1    1698.7    6076.4    1698.2    6192.2    1697.9    6267.5    1698.2    6341.5
GR   1698.4    6422.1    1698.1    6515.2    1694.9    6529.5    1698.5    6541.9    1697.7    6598.2
GR   1698.5    6608.5    1698.2    6634.0    1696.0    6652.2    1698.3    6665.9    1697.9    6725.9
GR   1696.0    6742.7    1698.6    6764.8    1699.1    6813.0    1701.1    6854.8    1700.8    6928.6
GR   1700.1    6998.6    1700.3    7118.5    1700.8    7154.8    1701.0    7235.1    1700.9    7270.5
GR   1700.6    7304.4    1700.1    7368.0    1700.8    7425.6    1700.7    7465.7    1700.3    7485.1
GR   1700.8    7500.9    1700.8    7561.4    1699.6    7567.5    1700.9    7583.8    1701.4    7669.2
GR   1702.2    7745.0    1701.3    7771.0    1702.6    7811.3    1701.7    7942.4    1703.0    8000.4
GR   1703.3    8035.0    1702.3    8083.0    1704.0    8126.6    1703.4    8198.6    1704.3    8228.6
GR   1701.9    8271.8    1703.0    8294.9
```

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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 8560.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

3265 DIVIDED FLOW

3280 CROSS SECTION 8560.00 EXTENDED 0.27 FEET

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8560.000 | 3.97 | 1698.87 | 0.00 | 0.00 | 1698.93 | 0.05 | 0.00 | 0.00 | 1698.60 |
| 1702.0 | 0.0 | 1702.0 | 0.0 | 0.0 | 907.9 | 0.0 | 0.0 | 0.0 | 1703.00 |
| 0.00 | 0.00 | 1.87 | 0.00 | 0.000 | 0.055 | 0.000 | 0.000 | 1694.90 | 5257.00 |
| 0.009084 | 0. | 0. | 0. | 0 | 0 | 6 | 0.00 | 1458.16 | 6790.96 |

THIS RUN EXECUTED 30JUN93 22:18:03

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

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

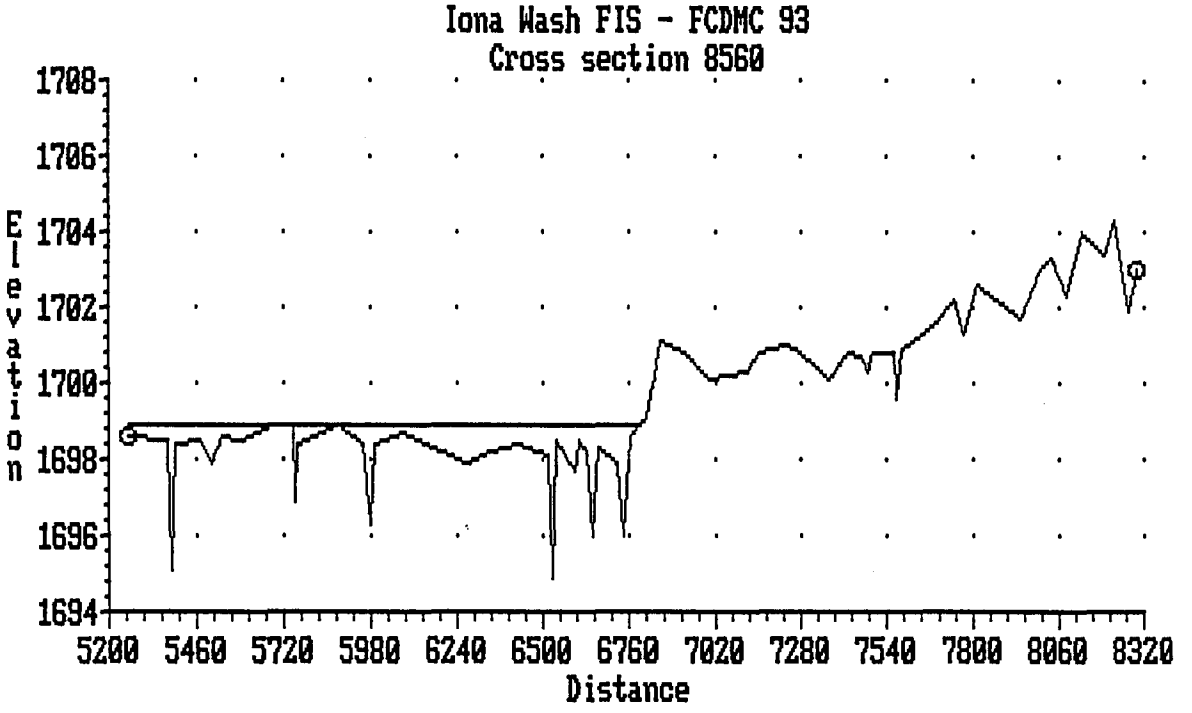
NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 8560.000 | 1702.00 | 1698.87 | 3.97 | 0.00 | 1702.00 | 0.00 | 1458.16 | 5257.00 | 6790.96 |

SUMMARY OF ERRORS AND SPECIAL NOTES


Iona Wash FIS - FCDMC 93
Cross section 8560
Elevation
1708
1706
1704
1702
1700
1698
1696
1694
5200 5460 5720 5980 6240 6500 6760 7020 7280 7540 7800 8060 8320
Distance

THIS RUN EXECUTED 30JUN93 19:15:45

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

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

T1Flood Control District of Maricopa County. S. Story/Project Manager
T2Approximate Methods HEC2 Model for Iona Wash Section 2.346.
T3 Iona Wash FIS - FCDMC 93

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | | 2 | | | .005 | | | | | |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | -1 | | -1 | | | | | | | |

J[illegible]RIABLE CODES FOR SUMMARY PRINTOUT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 38 | 43 | 1 | 8 | 13 | 14 | 15 | 4 | 53 | 54 |
| QT | 1 | 1700 | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NC | .055 | .055 | .065 | .1 | .3 | | | | | |
| X1 | 2346 | 20 | 10932.7 | 10986 | | | | | | |
| GR | 1509.5 | 10310.8 | 1509.4 | 10368.2 | 1509.3 | 10425.1 | 1509.2 | 10463.7 | 1508.8 | 10555.4 |
| GR | 1508.4 | 10657.2 | 1508.0 | 10780.1 | 1507.4 | 10876.2 | 1506.6 | 10912.5 | 1503.8 | 10922.0 |
| GR | 1506.2 | 10932.7 | 1501.7 | 10947.5 | 1506.2 | 10959.1 | 1507.3 | 10986.0 | 1507.4 | 11028.1 |
| GR | 1507.8 | 11102.2 | 1508.8 | 11165.9 | 1509.3 | 11247.1 | 1510.0 | 11330.6 | 1510.7 | 11432.7 |

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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 2346.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2346.000 | 7.00 | 1508.70 | 0.00 | 0.00 | 1508.82 | 0.13 | 0.00 | 0.00 | 1506.20 |
| 1700.0 | 747.2 | 627.9 | 324.9 | 302.0 | 177.6 | 163.4 | 0.0 | 0.0 | 1507.30 |
| 0.00 | 2.47 | 3.53 | 1.99 | 0.055 | 0.065 | 0.055 | 0.000 | 1501.70 | 10581.96 |
| 0.004988 | 0. | 0. | 0. | 0 | 0 | 9 | 0.00 | 577.29 | 11159.25 |

THIS RUN EXECUTED 30JUN93 19:15:46

**********
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

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 2346.000 | 1700.00 | 1508.70 | 7.00 | 747.18 | 627.89 | 324.93 | 577.29 | 10581.96 | 11159.25 |

THIS RUN EXECUTED 30JUN93 19:30:07

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

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

T1Flood Control District of Maricopa County. S. Story/Project Manager
T2Approximate Methods HEC2 Model for Iona Wash Section 2.159.
T3 Iona Wash FIS - FCDMC 93

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | | 2 | | | .0073 | | | | | |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | -1 | | -1 | | | | | | | |

J[illegible]RIABLE CODES FOR SUMMARY PRINTOUT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 38 | 43 | 1 | 8 | 13 | 14 | 15 | 4 | 53 | 54 |
| QT | 1 | 1700 | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NC | .055 | .055 | .065 | .1 | .3 | | | | | |
| X1 | 2159 | 26 | 11413.9 | 11460.9 | | | | | | |
| GR | 1502.8 | 10592.2 | 1502.7 | 10684.0 | 1502.5 | 10746.8 | 1502.9 | 10792.4 | 1502.8 | 10858.1 |
| GR | 1502.2 | 10898.3 | 1501.4 | 10990.3 | 1501.3 | 11040.6 | 1500.2 | 11053.7 | 1500.9 | 11072.3 |
| GR | 1500.8 | 11147.4 | 1500.2 | 11164.9 | 1500.4 | 11186.3 | 1500.3 | 11270.2 | 1499.1 | 11338.2 |
| GR | 1498.5 | 11413.9 | 1495.9 | 11430.8 | 1498.4 | 11439.1 | 1498.3 | 11451.3 | 1496.4 | 11458.8 |
| GR | 1496.7 | 11470.9 | 1498.3 | 11477.8 | 1498.7 | 11530.3 | 1499.6 | 11573.9 | 1500.6 | 11657.4 |
| GR | 1500.8 | 11695.3 | | | | | | | | |

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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 2159.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2159.000 | 4.40 | 1500.30 | 0.00 | 0.00 | 1500.48 | 0.18 | 0.00 | 0.00 | 1498.50 |
| 1700.0 | 411.2 | 474.6 | 814.2 | 155.2 | 124.4 | 229.8 | 0.0 | 0.0 | 1496.40 |
| 0.00 | 2.65 | 3.81 | 3.54 | 0.055 | 0.065 | 0.055 | 0.000 | 1495.90 | 11052.51 |
| 0.007319 | 0. | 0. | 0. | 0 | 0 | 4 | 0.00 | 379.59 | 11632.35 |

THIS RUN EXECUTED 30JUN93 19:30:09

**********
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

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 2159.000 | 1700.00 | 1500.30 | 4.40 | 411.23 | 474.61 | 814.16 | 379.59 | 11052.51 | 11632.35 |

SUMMARY OF ERRORS AND SPECIAL NOTES

THIS RUN EXECUTED 30JUN93 19:45:51

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

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

T1Flood Control District of Maricopa County. S. Story/Project Manager
T2Approximate Methods HEC2 Model for Iona Wash Section 1.866
T3 Iona Wash FIS - FCDMC 93

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | | 2 | | | .0074 | | | | | |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | -1 | | -1 | | | | | | | |

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 38 | 43 | 1 | 8 | 13 | 14 | 15 | 4 | 53 | 54 |
| QT | 1 | 1700 | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NC | .055 | .055 | .065 | .1 | .3 | | | | | |
| X1 | 1866 | 30 | 12254.6 | 12454.4 | | | | | | |
| GR | 1495.8 | 11710.6 | 1495.4 | 11796.6 | 1494.6 | 11888.7 | 1493.4 | 11981.5 | 1492.7 | 12062.1 |
| GR | 1491.8 | 12124.2 | 1490.7 | 12213.0 | 1490.0 | 12238.3 | 1490.4 | 12254.6 | 1490.4 | 12300.6 |
| GR | 1490.5 | 12365.8 | 1490.4 | 12388.4 | 1489.5 | 12394.6 | 1490.7 | 12407.2 | 1489.3 | 12417.4 |
| GR | 1490.4 | 12422.6 | 1490.5 | 12445.7 | 1489.3 | 12454.4 | 1490.4 | 12460.4 | 1490.9 | 12520.6 |
| GR | 1490.6 | 12606.0 | 1490.8 | 12664.5 | 1491.4 | 12713.2 | 1489.9 | 12722.6 | 1491.2 | 12733.7 |
| GR | 1491.9 | 12798.9 | 1494.3 | 12959.0 | 1493.5 | 12965.8 | 1494.5 | 12972.1 | 1494.5 | 12993.9 |

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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 1866.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1866.000 | 2.48 | 1491.78 | 0.00 | 0.00 | 1491.87 | 0.09 | 0.00 | 0.00 | 1490.40 |
| 1700.0 | 260.9 | 723.7 | 715.3 | 108.8 | 287.7 | 303.2 | 0.0 | 0.0 | 1489.30 |
| 0.00 | 2.40 | 2.52 | 2.36 | 0.055 | 0.065 | 0.055 | 0.000 | 1489.30 | 12125.96 |
| 0.007469 | 0. | 0. | 0. | 0 | 0 | 6 | 0.00 | 661.59 | 12787.55 |

THIS RUN EXECUTED 30JUN93 19:45:52

**********
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

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 1866.000 | 1700.00 | 1491.78 | 2.48 | 260.95 | 723.72 | 715.33 | 661.59 | 12125.96 | 12787.55 |

THIS RUN EXECUTED 30JUN93 20:06:09

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

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

T1Flood Control District of Maricopa County. S. Story/Project Manager
T2Approximate Methods HEC2 Model for Iona Wash Section 1.578
T3 Iona Wash FIS - FCDMC 93

| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | | | .0044 | | | | | |

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

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 38 | 43 | 1 | 8 | 13 | 14 | 15 | 4 | 53 | 54 |
| QT | 1 | 1700 | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NC | .055 | .055 | .065 | .1 | .3 | | | | | |
| X1 | 1578 | 39 | 12304.1 | 12555.2 | | | | | | |
| GR | 1490.1 | 11589.1 | 1490.2 | 11666.8 | 1490.5 | 11765.6 | 1490.6 | 11843.6 | 1490.6 | 11854.7 |
| GR | 1490.7 | 11916.5 | 1490.8 | 11938.8 | 1489.9 | 11992.1 | 1489.2 | 12049.7 | 1488.1 | 12119.6 |
| GR | 1486.9 | 12183.1 | 1485.7 | 12269.8 | 1484.8 | 12291.5 | 1485.3 | 12304.1 | 1485.6 | 12341.3 |
| GR | 1484.8 | 12347.1 | 1485.5 | 12353.4 | 1485.4 | 12371.3 | 1484.6 | 12378.1 | 1485.4 | 12386.1 |
| GR | 1485.2 | 12441.8 | 1485.3 | 12481.3 | 1484.7 | 12485.8 | 1485.4 | 12493.5 | 1485.6 | 12555.2 |
| GR | 1486.7 | 12602.2 | 1487.2 | 12642.0 | 1487.7 | 12693.3 | 1487.6 | 12746.0 | 1487.2 | 12817.2 |
| GR | 1487.0 | 12880.5 | 1487.4 | 12945.4 | 1487.7 | 12995.9 | 1485.8 | 13011.1 | 1487.9 | 13025.1 |
| GR | 1488.0 | 13077.7 | 1488.5 | 13122.0 | 1488.9 | 13184.2 | 1489.9 | 13331.8 | | |

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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 1578.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1578.000 | 2.70 | 1487.30 | 0.00 | 0.00 | 1487.38 | 0.08 | 0.00 | 0.00 | 1485.30 |
| 1700.0 | 373.9 | 1171.1 | 154.9 | 163.8 | 492.9 | 106.0 | 0.0 | 0.0 | 1485.60 |
| 0.00 | 2.28 | 2.38 | 1.46 | 0.055 | 0.065 | 0.055 | 0.000 | 1484.60 | 12161.91 |
| 0.004399 | 0. | 0. | 0. | 0 | 0 | 5 | 0.00 | 642.38 | 13021.10 |

THIS RUN EXECUTED 30JUN93 20:06:11

**********
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

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 1578.000 | 1700.00 | 1487.30 | 2.70 | 373.94 | 1171.11 | 154.94 | 642.38 | 12161.91 | 13021.10 |

SUMMARY OF ERRORS AND SPECIAL NOTES

THIS RUN EXECUTED 30JUN93 20:20:17

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

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

T1Flood Control District of Maricopa County. S. Story/Project Manager
T2Approximate Methods HEC2 Model for Iona Wash Section 1.386
T3 Iona Wash FIS - FCDMC 93

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | | 2 | | | .0054 | | | | | |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | -1 | | -1 | | | | | | | |

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 38 | 43 | 1 | 8 | 13 | 14 | 15 | 4 | 53 | 54 |
| QT | 1 | 1700 | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NC | .055 | .055 | .065 | .1 | .3 | | | | | |
| X1 | 1386 | 32 | 12049.7 | 12437.4 | | | | | | |
| GR | 1487.6 | 11514.8 | 1487.8 | 11533.7 | 1487.4 | 11604.9 | 1486.7 | 11682.8 | 1485.8 | 11743.5 |
| GR | 1484.9 | 11801.4 | 1484.4 | 11861.9 | 1483.7 | 11906.0 | 1483.5 | 11988.8 | 1482.4 | 11992.9 |
| GR | 1483.7 | 12000.9 | 1483.3 | 12049.7 | 1483.3 | 12116.0 | 1482.9 | 12198.5 | 1482.3 | 12216.2 |
| GR | 1483.1 | 12227.3 | 1483.4 | 12285.1 | 1483.1 | 12329.2 | 1483.3 | 12373.5 | 1483.5 | 12437.4 |
| GR | 1483.5 | 12500.9 | 1483.7 | 12536.8 | 1484.2 | 12560.5 | 1484.5 | 12628.8 | 1485.2 | 12675.1 |
| GR | 1485.8 | 12757.9 | 1486.4 | 12806.3 | 1486.7 | 12875.4 | 1486.8 | 12952.7 | 1486.9 | 13023.4 |
| GR | 1487.2 | 13092.9 | 1488.3 | 13234.9 | | | | | | |

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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 1386.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1386.000 | 2.28 | 1484.58 | 0.00 | 0.00 | 1484.64 | 0.06 | 0.00 | 0.00 | 1483.30 |
| 1700.0 | 347.9 | 1108.2 | 243.9 | 177.4 | 533.6 | 134.0 | 0.0 | 0.0 | 1483.50 |
| 0.00 | 1.96 | 2.08 | 1.82 | 0.055 | 0.065 | 0.055 | 0.000 | 1482.30 | 11840.53 |
| 0.005390 | 0. | 0. | 0. | 0 | 0 | 7 | 0.00 | 793.34 | 12633.87 |

THIS RUN EXECUTED 30JUN93 20:20:18

**********
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

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 1386.000 | 1700.00 | 1484.58 | 2.28 | 347.88 | 1108.17 | 243.95 | 793.34 | 11840.53 | 12633.87 |

THIS RUN EXECUTED 30JUN93 21:02:23

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

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

T1Flood Control District of Maricopa County. S. Story/Project Manager
T2Approximate Methods HEC2 Model for Iona Wash Section 1.189
T3 Iona Wash FIS - FCDMC 93

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | | 2 | | | .0033 | | | | | |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | -1 | | -1 | | | | | | | |

J[illegible]IABLE CODES FOR SUMMARY PRINTOUT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 38 | 43 | 1 | 8 | 13 | 14 | 15 | 4 | 53 | 54 |
| QT | 1 | 1700 | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NC | .055 | .055 | .065 | .1 | .3 | | | | | |
| X1 | 1189 | 44 | 11571.7 | 11718.6 | | | | | | |
| GR | 1479.5 | 10710.3 | 1479.2 | 10783.2 | 1478.9 | 10788.6 | 1478.6 | 10809.7 | 1479.2 | 10818.5 |
| GR | 1478.8 | 10881.7 | 1478.6 | 10939.4 | 1478.3 | 11010.0 | 1477.9 | 11079.1 | 1477.8 | 11147.1 |
| GR | 1477.5 | 11201.5 | 1477.6 | 11276.2 | 1477.6 | 11336.8 | 1477.0 | 11412.3 | 1476.3 | 11465.5 |
| GR | 1475.1 | 11511.8 | 1473.8 | 11571.7 | 1472.7 | 11633.4 | 1469.8 | 11647.1 | 1473.9 | 11663.2 |
| GR | 1473.8 | 11690.4 | 1473.0 | 11701.3 | 1474.0 | 11718.6 | 1474.4 | 11745.2 | 1474.7 | 11782.3 |
| GR | 1474.8 | 11820.5 | 1474.7 | 11857.4 | 1474.8 | 11887.3 | 1475.7 | 11957.2 | 1476.1 | 12016.6 |
| GR | 1475.5 | 12022.8 | 1476.0 | 12059.2 | 1477.2 | 12142.3 | 1476.3 | 12150.7 | 1476.4 | 12171.2 |
| GR | 1477.2 | 12183.2 | 1477.9 | 12223.7 | 1478.4 | 12267.9 | 1479.0 | 12311.9 | 1479.2 | 12358.5 |
| GR | 1479.3 | 12403.2 | 1479.1 | 12443.8 | 1479.4 | 12503.2 | 1480.6 | 12587.3 | | |

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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 1189.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

3265 DIVIDED FLOW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1189.000 | 6.09 | 1475.89 | 0.00 | 0.00 | 1475.97 | 0.08 | 0.00 | 0.00 | 1473.80 |
| 1700.0 | 178.4 | 1076.5 | 445.0 | 97.9 | 414.8 | 266.7 | 0.0 | 0.0 | 1474.00 |
| 0.00 | 1.82 | 2.60 | 1.67 | 0.055 | 0.065 | 0.055 | 0.000 | 1469.80 | 11481.50 |
| 0.003255 | 0. | 0. | 0. | 0 | 0 | 5 | 0.00 | 535.27 | 12050.86 |

THIS RUN EXECUTED 30JUN93 21:02:24

**********
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

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 1189.000 | 1700.00 | 1475.89 | 6.09 | 178.45 | 1076.52 | 445.03 | 535.27 | 11481.50 | 12050.86 |

THIS RUN EXECUTED 30JUN93 21:07:01

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

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

T1Flood Control District of Maricopa County. S. Story/Project Manager
T2Approximate Methods HEC2 Model for Iona Wash Section 0.999
T3 Iona Wash FIS - FCDMC 93

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | | 2 | | | .0025 | | | | | |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | -1 | | -1 | | | | | | | |

VARIABLE CODES FOR SUMMARY PRINTOUT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 38 | 43 | 1 | 8 | 13 | 14 | 15 | 4 | 53 | 54 |
| QT | 1 | 1700 | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NC | .055 | .055 | .065 | .1 | .3 | | | | | |
| X1 | 999 | 35 | 11450.8 | 11757.2 | | | | | | |
| GR | 1471.4 | 10741.5 | 1471.5 | 10804.9 | 1471.5 | 10840.3 | 1471.4 | 10867.3 | 1470.9 | 10943.1 |
| GR | 1470.1 | 11009.6 | 1469.5 | 11084.0 | 1468.7 | 11161.1 | 1468.4 | 11232.8 | 1468.0 | 11302.0 |
| GR | 1468.4 | 11385.9 | 1467.8 | 11395.1 | 1468.2 | 11402.6 | 1468.4 | 11450.8 | 1468.6 | 11504.0 |
| GR | 1467.1 | 11511.3 | 1467.0 | 11520.9 | 1468.6 | 11529.1 | 1468.1 | 11540.9 | 1467.8 | 11568.5 |
| GR | 1467.9 | 11590.9 | 1467.8 | 11632.1 | 1467.9 | 11673.5 | 1468.5 | 11706.3 | 1469.4 | 11757.2 |
| GR | 1469.9 | 11787.5 | 1470.8 | 11816.3 | 1471.6 | 11842.5 | 1472.5 | 11873.8 | 1472.8 | 11909.1 |
| GR | 1472.9 | 11950.8 | 1472.8 | 11996.7 | 1473.0 | 12046.2 | 1473.1 | 12092.0 | 1474.4 | 12163.4 |

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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 999.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 999.000 | 2.85 | 1469.85 | 0.00 | 0.00 | 1469.89 | 0.04 | 0.00 | 0.00 | 1468.40 |
| 1700.0 | 883.3 | 813.6 | 3.0 | 515.0 | 509.5 | 6.1 | 0.0 | 0.0 | 1469.40 |
| 0.00 | 1.72 | 1.60 | 0.50 | 0.055 | 0.065 | 0.055 | 0.000 | 1467.00 | 11040.87 |
| 0.002480 | 0. | 0. | 0. | 0 | 0 | 5 | 0.00 | 743.46 | 11784.33 |

THIS RUN EXECUTED 30JUN93 21:07:02

**********
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

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 999.000 | 1700.00 | 1469.85 | 2.85 | 883.34 | 813.65 | 3.01 | 743.46 | 11040.87 | 11784.33 |

THIS RUN EXECUTED 30JUN93 21:20:12

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

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

T1Flood Control District of Maricopa County. S. Story/Project Manager
T2Approximate Methods HEC2 Model for Iona Wash Section 0.640
T3 Iona Wash FIS - FCDMC 93

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| J1 | ICHECK | INQ | NINV | IDIR | STRT | METRIC | HVINS | Q | WSEL | FQ |
| | | 2 | | | .0031 | | | | | |
| J2 | NPROF | IPLOT | PRFVS | XSECV | XSECH | FN | ALLDC | IBW | CHNIM | ITRACE |
| | -1 | | -1 | | | | | | | |

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 38 | 43 | 1 | 8 | 13 | 14 | 15 | 4 | 53 | 54 |
| QT | 1 | 1700 | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NC | .055 | .060 | .085 | .1 | .3 | | | | | |
| X1 | 640 | 39 | 11059.1 | 11308 | | | | | | |
| GR | 1461.4 | 10204.8 | 1460.9 | 10250.5 | 1460.2 | 10294.6 | 1460.1 | 10347.0 | 1460.5 | 10389. |
| GR | 1460.6 | 10397.9 | 1460.3 | 10480.3 | 1460.1 | 10506.8 | 1460.0 | 10605.5 | 1459.1 | 10654. |
| GR | 1458.4 | 10711.2 | 1457.9 | 10761.2 | 1458.0 | 10800.7 | 1457.8 | 10848.1 | 1457.8 | 10897. |
| GR | 1457.8 | 10945.7 | 1458.2 | 10977.6 | 1458.3 | 11059.1 | 1458.4 | 11102.0 | 1457.1 | 11107. |
| GR | 1458.6 | 11115.7 | 1458.8 | 11176.6 | 1458.4 | 11241.9 | 1456.2 | 11247.5 | 1458.0 | 11255. |
| GR | 1458.2 | 11308.0 | 1458.5 | 11357.0 | 1458.7 | 11418.6 | 1458.8 | 11472.5 | 1458.9 | 11528. |
| GR | 1459.1 | 11585.1 | 1459.5 | 11643.7 | 1459.8 | 11709.6 | 1459.9 | 11771.8 | 1460.2 | 11841. |
| GR | 1459.8 | 11877.3 | 1459.8 | 11916.1 | 1460.1 | 11959.6 | 1460.6 | 12055.8 | | |

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

*PROF 1

CCHV= 0.100 CEHV= 0.300
*SECNO 640.000
2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 640.000 | 3.32 | 1459.52 | 0.00 | 0.00 | 1459.56 | 0.04 | 0.00 | 0.00 | 1458.30 |
| 1700.0 | 1109.7 | 309.8 | 280.5 | 574.7 | 288.7 | 234.3 | 0.0 | 0.0 | 1458.20 |
| 0.00 | 1.93 | 1.07 | 1.20 | 0.055 | 0.085 | 0.060 | 0.000 | 1456.20 | 10631.53 |
| 0.003108 | 0. | 0. | 0. | 0 | 0 | 6 | 0.00 | 1015.90 | 11647.43 |

THIS RUN EXECUTED 30JUN93 21:20:14

**********
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

Iona Wash FIS - FCDMC 93

SUMMARY PRINTOUT

| SECNO | Q | CWSEL | DEPTH | QLOB | QCH | QROB | TOPWID | SSTA | ENDST |
|---|---|---|---|---|---|---|---|---|---|
| 640.000 | 1700.00 | 1459.52 | 3.32 | 1109.66 | 309.79 | 280.55 | 1015.90 | 10631.53 | 11647.43 |

# IONA.INP

# Output for HY-8 Analysis of Culverts Under Patton Road

CURRENT DATE: 07-12-1993 FILE DATE: 03-22-1993
CURRENT TIME: 14:43:38 FILE NAME: IONA

**********
********** FHWA CULVERT ANALYSIS **********
********** HY-8, VERSION 3.2 **********
**********

| CULV # | SITE DATA: INLET ELEV. (FT) | OUTLET ELEV. (FT) | CULVERT LENGTH (FT) | CULVERT SHAPE, MATERIAL, INLET: BARRELS SHAPE MATERIAL | SPAN (FT) | RISE (FT) | MANNING n | INLET TYPE |
|---|---|---|---|---|---|---|---|---|
| 1 | 100.00 | 99.40 | 60.00 | 4 RCP | 3.50 | 3.50 | .012 | CONVENTIONAL |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |

**********

SUMMARY OF CULVERT FLOWS (CFS) FILE: IONA DATE: 03-22-1993

| ELEV (FT) | TOTAL | 1 | 2 | 3 | 4 | 5 | 6 | ROADWAY | ITR |
|---|---|---|---|---|---|---|---|---|---|
| 100.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 101.72 | 50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 102.16 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 102.48 | 150 | 127 | 0 | 0 | 0 | 0 | 0 | 22 | 6 |
| 102.63 | 200 | 142 | 0 | 0 | 0 | 0 | 0 | 57 | 4 |
| 103.05 | 250 | 50 | 0 | 0 | 0 | 0 | 0 | 198 | 5 |
| 103.17 | 300 | 50 | 0 | 0 | 0 | 0 | 0 | 248 | 4 |
| 103.29 | 350 | 50 | 0 | 0 | 0 | 0 | 0 | 299 | 4 |
| 103.39 | 400 | 50 | 0 | 0 | 0 | 0 | 0 | 347 | 3 |
| 103.51 | 450 | 50 | 0 | 0 | 0 | 0 | 0 | 404 | 8 |
| 103.69 | 500 | 0 | 0 | 0 | 0 | 0 | 0 | 496 | 4 |
| 102.30 | 112 | 112 | 0 | 0 | 0 | 0 | 0 | OVERTOPPING | |

**********

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: IONA DATE: 03-22-1993

| HEAD ELEV(FT) | HEAD ERROR(FT) | TOTAL FLOW(CFS) | FLOW ERROR(CFS) | % FLOW ERROR |
|---|---|---|---|---|
| 100.00 | 0.00 | 0 | 0 | 0.00 |
| 101.72 | 0.00 | 50 | 0 | 0.00 |
| 102.16 | 0.00 | 100 | 0 | 0.00 |
| 102.48 | -0.01 | 150 | 1 | 0.57 |
| 102.63 | -0.00 | 200 | 1 | 0.69 |
| 103.05 | -0.00 | 250 | 2 | 0.94 |
| 103.17 | -0.01 | 300 | 2 | 0.67 |
| 103.29 | -0.01 | 350 | 1 | 0.25 |
| 103.39 | -0.00 | 400 | 3 | 0.72 |
| 103.51 | 0.00 | 450 | -4 | -0.79 |
| 103.69 | -0.01 | 500 | 4 | 0.79 |

**********

<1> TOLERANCE (FT) = 0.010 <2> TOLERANCE (%) = 1.000

**********

CURRENT DATE: 07-12-1993 FILE DATE: 03-22-1993
CURRENT TIME: 14:43:38 FILE NAME: IONA

**********
********** CULVERT # 1 **********
**********

PERFORMANCE CURVE FOR 4 BARREL(S)

| Q (cfs) | HWE (ft) | TWE (ft) | ICH (ft) | OCH (ft) | FLOW TYPE | CCE (ft) | FCE (ft) | TCE (ft) | VO (fps) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 100.00 | 99.30 | 0.00 | -0.60 | 0-NF | 0.00 | 100.00 | 0.00 | 0.00 |
| 50 | 101.72 | 100.29 | 1.46 | 1.72 | 6-FF | 0.00 | 0.00 | 0.00 | 5.02 |
| 100 | 102.16 | 100.78 | 2.16 | 2.07 | 6-FF | 0.00 | 0.00 | 0.00 | 8.41 |
| 127 | 102.48 | 101.17 | 2.48 | 2.27 | 6-FF | 0.00 | 0.00 | 0.00 | 8.92 |
| 142 | 102.64 | 101.51 | 2.64 | 2.38 | 6-FF | 0.00 | 0.00 | 0.00 | 9.16 |
| 50 | 101.46 | 101.81 | 1.46 | 0.87 | 5-S2 | 0.00 | 0.00 | 0.00 | 6.93 |
| 50 | 101.46 | 102.08 | 1.46 | 1.43 | 5-S2 | 0.00 | 0.00 | 0.00 | 6.93 |
| 50 | 101.95 | 102.33 | 1.46 | 1.95 | 5-S2 | 0.00 | 0.00 | 0.00 | 1.46 |
| 50 | 102.29 | 102.57 | 1.46 | 2.29 | 5-S2 | 0.00 | 0.00 | 0.00 | 1.36 |
| 50 | 102.81 | 102.79 | 1.46 | 2.81 | 5-S2 | 0.00 | 0.00 | 0.00 | 1.32 |
| 0 | 103.00 | 103.00 | 0.00 | 3.00 | 0-NF | 0.00 | 100.00 | 0.00 | 1.32 |

El. inlet face invert 100.00 ft El. outlet invert 99.40 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

**********

***** SITE DATA ***** CULVERT INVERT **********

| | |
|---|---|
| INLET STATION (FT) | 0.00 |
| INLET ELEVATION (FT) | 100.00 |
| OUTLET STATION (FT) | 60.00 |
| OUTLET ELEVATION (FT) | 99.40 |
| NUMBER OF BARRELS | 4.00 |
| SLOPE (V-FT/H-FT) | 0.0100 |
| CULVERT LENGTH ALONG SLOPE (FT) | 60.00 |

***** CULVERT DATA SUMMARY **********

| | |
|---|---|
| BARREL SHAPE | CIRCULAR |
| BARREL DIAMETER | 3.50 FT |
| BARREL MATERIAL | CONCRETE |
| BARREL MANNING'S N | 0.012 |
| INLET TYPE | CONVENTIONAL |
| INLET EDGE AND WALL | GROOVED END PROJECTION |
| INLET DEPRESSION | NONE |

**********

CURRENT DATE: 07-12-1993 FILE DATE: 03-22-1993
CURRENT TIME: 14:43:38 FILE NAME: IONA

**********
********** TAILWATER **********
**********

******* REGULAR CHANNEL CROSS SECTION **********

| | |
|---|---|
| BOTTOM WIDTH (FT) | 20.00 |
| SIDE SLOPE H/V (X:1) | 2.0 |
| CHANNEL SLOPE V/H (FT/FT) | 0.005 |
| MANNING'S N (.01-0.1) | 0.042 |
| CHANNEL INVERT ELEVATION (FT) | 99.30 |
| CULVERT NO.1 OUTLET INVERT ELEVATION | 99.40 FT |

******* UNIFORM FLOW RATING CURVE FOR DOWNSTREAM CHANNEL

| FLOW (CFS) | W.S.E. (FT) | FROUDE NUMBER | VEL. (FPS) | SHEAR (PSF) |
|---|---|---|---|---|
| 0.00 | 99.30 | 0.000 | 0.00 | 0.00 |
| 50.00 | 100.29 | 0.410 | 2.31 | 0.31 |
| 100.00 | 100.78 | 0.426 | 2.94 | 0.46 |
| 150.00 | 101.17 | 0.434 | 3.37 | 0.58 |
| 200.00 | 101.51 | 0.439 | 3.71 | 0.69 |
| 250.00 | 101.81 | 0.443 | 3.98 | 0.78 |
| 300.00 | 102.08 | 0.446 | 4.22 | 0.87 |
| 350.00 | 102.33 | 0.448 | 4.43 | 0.95 |
| 400.00 | 102.57 | 0.450 | 4.61 | 1.02 |
| 450.00 | 102.79 | 0.451 | 4.78 | 1.09 |
| 500.00 | 103.00 | 0.453 | 4.94 | 1.15 |

**********
********** ROADWAY OVERTOPPING DATA **********
**********

| | |
|---|---|
| ROADWAY SURFACE | PAVED |
| EMBANKMENT TOP WIDTH (FT) | 35.00 |
| CREST LENGTH (FT) | 100.00 |
| OVERTOPPING CREST ELEVATION (FT) | 102.30 |

**********

# Section 4: Hydraulic Analysis

*4.8 Hydraulic modelling run computer files*

July, 1993

Below is a brief description of the files provided:

| Filename | Description |
|---|---|
| IONADIST.HC2 | Flow trace for historic diversion at SECNO 2.827 (SPR #8) |
| 5945DIST.HC2 | Flow trace at SECNO 5.945 for breakout analysis in this reach |
| IONABO??.HC2 | Breakout analysis files |
| IONA.HC2 | Floodplain/natural file |
| IONA-EN.HC2 | Floodway/encroachment file |
| IONASF?.HC2 | Split flow files |
| IONA.INP | HY-8 input file for analysis of culverts under Patton Road |
| IONA.PC | HY-8 performance curve file for above analysis |