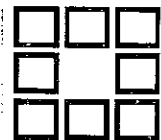


CORPORATE CENTRE  
DRAINAGE REPORT



**MERRICK**

*HECZ For 100-yr only  
What about the 500-yr sections?  
Use HEC2 take alignment  
into consideration  
12*

**CORPORATE CENTRE  
DRAINAGE REPORT**

**March 19, 1982**

**Prepared for:**

**C.H. COMPANY, INC.**

**Prepared by:**

**MERRICK & COMPANY  
Engineers and Architects  
Post Office Box 22026  
(10855 East Bethany Drive)  
Denver, Colorado 80222  
303/751-0741**

**Ref: 286-4288**



March 19, 1982

Ref: 286-4288

Mr. DeWitt Miller  
Director of Public Works  
30 South Nevada, Suite 402  
Post Office Box 1575  
Colorado Springs, Colorado 80901

Subject: Drainage Report, Corporate Centre

Dear Mr. Miller:

Transmitted herewith is the subject drainage report for your review and approval.

We have incorporated the comments made by your staff regarding the preliminary drainage report. We have addressed the hydrologic and hydraulic issues associated with this development. Erosion control issues have been addressed in the companion report prepared by Rocky Mountain Geotechnical entitled "Erosion Control and Stabilization Plan". We hope these reports answer any questions you may have regarding the impacts of this development.

We appreciate the opportunity to work with you and your staff on this project and hope to have the opportunity to do so again in the future. If we can be of any further assistance please do not hesitate to contact us.

Respectfully submitted,

Duane M. Johnson, P.E.  
Project Manager

Mark W. Glidden, P.E.  
Project Engineer

DMJ/MWG/og

Enclosure

CORPORATE CENTRE  
DRAINAGE PLAN  
CERTIFICATIONS AND APPROVALS

Registered Engineer

I, Mark W. Glidden, a registered engineer in the State of Colorado, hereby certify that the attached drainage plan and report were prepared under my direction and supervision and are correct to the best of my knowledge and belief. I further certify that said drainage report is in accordance with all City of Colorado Springs Ordinances and Specifications and criteria.

  
\_\_\_\_\_  
Colorado P.E. No. 18301



Owner or developer of the site:

"The developer has read and will comply with all of the requirements specified in this drainage report as approved by the City Engineer."

By: \_\_\_\_\_

Title: \_\_\_\_\_

Approved:

City of Colorado Springs, Department of Public Works:

\_\_\_\_\_  
City Engineer

\_\_\_\_\_  
Date

## TABLE OF CONTENTS

Transmittal Letter	i
Certifications and Approvals	ii
Table of Contents	iii
List of Tables	iv
Introduction	1
Description of Property	1
Location	
Topography and Drainage	
Soils	
Development	
Existing Drainage Conditions	3
Minor Drainage	
Major Drainage	
Proposed Drainage	6
Minor Drainage	
Monument Creek	
Impacts of Development	13
Flow	
Velocity	
Adjacent Properties	
Phasing	
Erosion	
Cost Estimate	15
Appendix	
Existing Channel Hydraulic Calculations	
Existing Cross Sections	
Proposed Channel Hydraulic Calculations	
Proposed Cross Sections	

## LIST OF TABLES

<u>Table No.</u>	<u>Title</u>
1	Minor Offsite Flows
2	Monument Creek Flows
3	Peak Flow Determination
4	Street Capacities
5	Pipe Sizing
6	Inlet Sizing
7	Ditch Sizing
8	Rip Rap Sizing
9	Cost Estimate

## INTRODUCTION

This drainage report has been prepared for the C.H. Company and is intended to assess the impacts of the proposed Corporate Centre Development. The report will address the effects of locally generated runoff in accordance with the requirements published by the City of Colorado Springs. In addition, it will evaluate the impact of the development on Monument Creek as it passes through the site.

## DESCRIPTION OF PROPERTY

### Location:

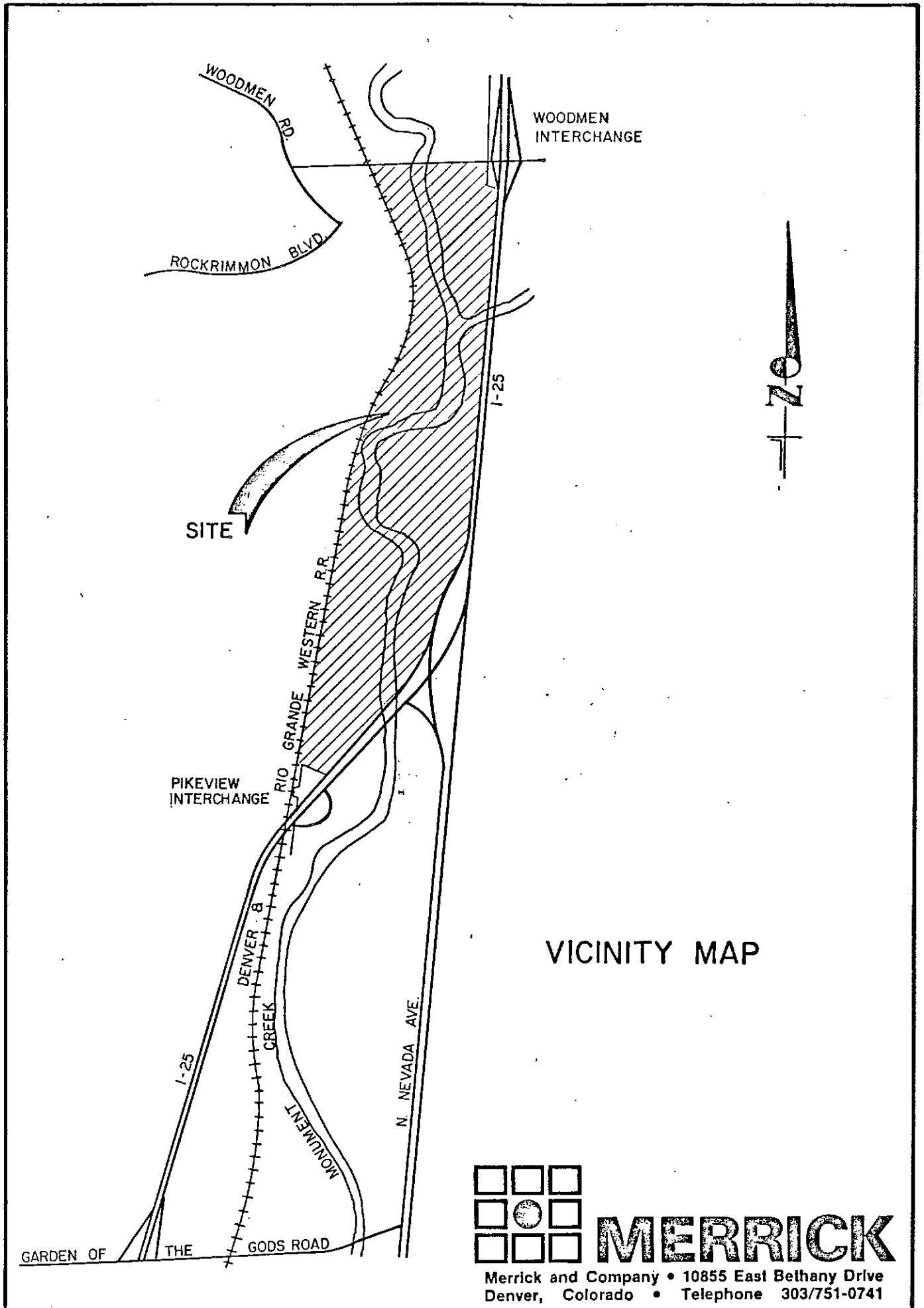
The proposed Corporate Centre Business Park is located in the northwest portion of the Colorado Springs metropolitan area in Sections 7 and 18 of Township 12 South, Range 66 West as shown on the following "Vicinity Map". The site is located between Interstate Highway 25 and the Denver Rio Grande Western Railroad south of their intersection with Woodmen Road. The site is bounded on the southern end by the existing Texas Instruments facility and the deleted bridge structure approximately 5600 feet south of Woodmen Road.

### Topography and Drainage:

The site is approximately 165 acres in size and is presently undeveloped. The site ranges in slope from relatively flat to very steep. The site, in general, slopes toward Monument Creek which bisects the site in a north/south direction. In addition to runoff generated on the site, Monument Creek is the receiving stream for several tributaries including Cottonwood Creek. Numerous small tributaries direct flow into the site via existing drainage structures beneath Interstate Highway 25 and the Denver Rio Grande Western Railroad.

### Soils:

Soils on the site vary from fine to coarse grained sand and gravel to clays and interbedded sandstone and claystone. In addition to soil mapping and interpretations prepared by the Soil Conservation Service, Rocky Mountain Geotechnical has prepared a report entitled "Preliminary Soil Investigation, Slope Stability and Geologic Mapping for Corporate Park" completed in November, 1981. These two sources were used to obtain the soils information enclosed in this report. The enclosed map entitled "Soils Map, Corporate Centre" shows the SCS mapping units as they occur within the site.





The soils in the site fall into two predominant categories.

Chaseville-Midway (Mapping Unit 18): This group is the dominant soil in the site. The Midway part is the main constituent on this site and is formed in residuum derived from calcareous shale. The permeability of this portion of the complex is very low and is grouped in hydrologic soil Group D. Rocky Mountain Geotechnical classify soils in this group as the Dawson Arkose and Laramie formation.

Truckton (Mapping Units 95, 97 and 98): This soil is well drained and formed in alluvium and residuum derived from arkosic sedimentary rock. The material is surfaced with a brown sandy loam underlain by a coarse sandy loam. The soils are very well drained and are classified as hydrologic soil Group B. Rocky Mountain Geotechnical classifies these soils as water deposited alluvium.

#### Development:

The proposed development on the site is commercial and industrial in nature. Development is presently anticipated in two phases, one to the north of Cottonwood Creek and the other south.

### EXISTING DRAINAGE CONDITIONS

#### Minor Drainage:

Existing drainage through the site is dominated by Monument Creek. As mentioned previously, the site generally slopes toward Monument Creek. Cottonwood Creek enters the site from the east by passing under Interstate Highway 25. Numerous smaller tributaries enter the site through culverts located under Interstate Highway 25 or the Denver Rio Grande Western Railroad Tracks. Local onsite drainage has been analyzed in other reports, specifically the revised Rockrimmon North Drainage Basin Report and Drainage Report for Rockrimmon Cliffs Subdivision Filing No. 1 prepared by United Western Engineers in March, 1973.

The United Western Engineers report identifies locations where offsite drainage enters the site. For the purposes of consistency we are enclosing the flows as tabulated in their report of March, 1973.

Table 1  
Minor Offsite Flows

<u>Design Point</u>	<u>Conduit</u>	<u>Inflow (in cfs)</u>
IB(E)	24" RCP	16.7
*IIA	6' x 7' RCB	44.1
*IID	12' x 10' RCB	278.7
ID	18" C.I.P.	8.3
IB(W)	24" C.I.P.	46.9
*North Rockrimmon Trail	Natural Channel	979.0
Dry Creek (2)	36" CMP	7.5
Dry Creek (3)	42" CMP	14.9
Dry Creek (4)	40" CMP	9.3
Dry Creek (5)	Unknown	2.8
Dry Creek (6)	60" RCP	70.5
Dry Creek (7)	3' x 3' RCB	57.7
South Rockrimmon Trail	152 S.F. Opening	52.6

\* 0.01 recurrence probability storm events (100 year storm)

Major Drainage:

In addition to the information tabulated above (locations of structures are shown on the enclosed Drainage Basin Plan), the flows in Monument Creek and Cottonwood Creek representing the .1, .02, .01 and .002 probability storm events have been tabulated. This information was initially developed by the U.S. Army Corps of Engineers in 1971 and 1976. In 1979 the Flood Insurance Administration gathered and evaluated all existing hydrologic data and brought it to acceptable standards. Flows for Monument Creek were unchanged from previous reports, but flows in Cottonwood Creek were modified to reflect existing basin conditions. The values in the following table were obtained from an enclosure to a letter from Mr. Larry Lang of the Colorado Water Conservation Board to Mr. Jerry Gromko of the City of Colorado Springs.

Table 2  
Monument Creek Flow

<u>Location</u>	<u>Discharge (cfs) for events of frequency</u>			
	0.1 (10 year)	0.02 (50 year)	0.01 (100 year)	0.002 (500 year)
U/S of Templeton Gap	10,900	22,300	31,000	55,000
U/S Confluence with Cotton Creek	10,700	21,900	30,000	53,400
Colorado Springs Corporate Limit (Woodmen Road)	10,200	20,700	27,200	49,000
Cottonwood Creek (At Monument Creek Confluence)	3,100	7,300	10,000	20,200

The tabulated Monument Creek Flows were used in the analysis of the existing Monument Creek Channel. Our analysis was based on a field inspection of the site and cross sections derived from the topographic mapping. The hydraulic analysis was performed using the HEC2 backwater curve program developed by the U.S. Army Corps of Engineers Hydrologic Engineering Center.

Our field inspection indicated that the existing channel was in a dynamic state and subject to severe erosion in certain reaches. The low flow channel was well defined and fairly uniform in the reach below the confluence of Monument Creek with Cottonwood Creek. Upstream of the confluence the low flow channel was more variable in section and flow regime. There was some evidence of recent flows in the shallow overbank areas, but no recent flows which were significant in nature.

The hydraulic analysis verified our conclusions made during the field inspection. The existing main channel was found to have velocities between 9 feet per second to 22 feet per second for the 0.01 probability storm. The 0.002 probability storm resulted in velocities between 8 and 26 feet per second. Velocity changes between the 0.01 and 0.002 probability storms were approximately 20%. Based on these velocities, it is reasonable to expect erosion to occur in the channel even if left in its existing condition. The calculations representing the existing conditions and computer generated plots representing the cross sections are included in the Appendix of this report. The locations of the cross sections are shown on the enclosed Flood Plain Plan.

## PROPOSED DRAINAGE

### Minor Drainage:

The minor drainage flows generated on the site will be conveyed to Monument Creek either overland, in street gutters, in roadside ditches or in storm sewers. All minor systems have been designed to convey the 5 year storm flows. The method of computation used in this report when calculating the 5 year storm flows is the Modified S.C.S. Methodology as described in the City of Colorado Springs Determination of Storm Runoff Criteria. The total precipitation for the 5 year-6 hour storm event was 2.1 inches with total runoff based on the appropriate curve numbers. The 100 year storm flows have also been calculated. All 100 year flows will be drained to Monument Creek however some localized flooding is expected for this event.

The drainage basins used for the analysis are shown on the enclosed Drainage Basin Plan. This plan also shows the existing and proposed grading. Soils information used to determine curve numbers are shown on the Soils Map.

The following tables show the Peak Flow Determination, street capacities, pipe sizing, inlet sizing, ditch sizing and rip rap sizing.

Table 3  
Peak Flow Determination

Basin	CN	Tc (hr.)	Qp	Area (ac)	Area (sq. mi) (x10 <sup>-3</sup> )	Q <sub>5</sub> (in)	q <sub>5</sub> (cfs)	Q <sub>100</sub> (in)	q <sub>100</sub> (cfs)
NE1	94	0.20	1080	14.71	22.98	1.49	37	2.84	71
NE2	98	0.19	1090	4.58	7.16	1.87	15	3.27	26
NE3	98	0.04	1500	2.64	4.13	1.87	12	3.27	20
NE4	94	0.04	1500	2.91	4.55	1.49	10	2.84	19
NE5	95	0.08	1330	1.30	2.03	1.58	4.3	2.94	7.9
NE6	95	0.28	1330	2.15	3.36	1.58	7.1	2.94	13
NW1	92	0.13	1200	11.83	18.48	1.33	30	2.64	58
NW2	92	0.04	1500	5.35	8.36	1.33	17	2.64	33
NW3	98	0.14	1180	3.08	4.81	1.87	11	3.27	19
E1	93	0.04	1500	5.17	8.08	1.41	17	2.74	33
E2	98	0.15	1160	3.92	6.13	1.87	13	3.27	23
W1	95	0.05	1430	7.26	11.34	1.58	26	2.94	48
MS1	93	0.11	1250	19.52	30.50	1.41	54	2.74	104
MW1	98	0.17	1120	6.93	10.83	1.87	23	3.27	40
SW1	92	0.05	1430	4.16	6.50	1.33	12	2.64	24
SW2	79	0.07	1350	3.47	5.42	0.58	4.2	1.57	12
SE1	93	0.11	1250	15.21	23.77	1.41	42	2.74	81
SE2	84	0.03	1550	1.31	2.05	0.82	2.6	1.94	6.2
SE3	93	0.04	1500	9.81	15.33	1.41	34	2.74	65
SE4	93	0.04	1500	6.08	9.50	1.41	20	2.74	39

Street capacities were determined using the City of Colorado Springs criteria. Capacities are shown for half the street section. For major events, the capacity shown can be doubled as flow will overtop the crown and flow in both gutters. Streets and pipes combined can handle the 100 year flows without overtopping any areas other than sumps with the exception of Basin NE2. The road through portions of this basin is inadequate to convey the 100 year flows without curb overtopping. We have graded the adjacent properties in such a manner as to insure that the water does not reach building lines when normal setbacks are maintained.

Table 4  
Street Capacities

Basin	Slope (%)	Q/half (cfs)	5 year Total Flow (cfs)	5 year Pipe Flow (cfs)	5 year Street Flow (cfs)
NE1	3.3	38	18	-	18
	0.7	17	37	20	17
NE6	3.3	38	2	-	2
	0.7	17	4	-	4
	2.2	32	7	-	7
NE1, 2 & 6	2.2	32	44	20	24
incl. IB(E)	2.2	32	76	45	31
E2	0.7	17	13	-	13
SE1	1.1	22	21	-	21
	0.5	15	21	6	15
SE3	4.0	42	34	-	42
NW1	0.6	16	23	10	13
	1.0	20	7	-	7
NW3					
incl. IB(W)	0.8	19	66	47	11
MW1					
incl. DC3-6	4.0	42	120	98	23

Storm sewers have been proposed when the capacity of half the street is exceeded by the 5 year storm event. Pipe numbers are shown on the Drainage Basin Plan and correspond to the numbers shown in Table 5. Inlet sizing is shown in Table 6.

Flows entering the site from offsite basins will be conveyed to Monument Creek by extending the existing culverts to the channel. The calculations showing the capacity of these culverts are also included in Table 5.

Table 5  
Pipe Sizing

Design Pt.	Pipe No.	Q (cfs)	S (%)	Dia. (in)	Vel. (fps)	Capacity (cfs)
1	1	10	0.7	21	5	13
	2	20	0.7	24	6	20
	3	30	2.2	24	10	35
	4	45	2.2	27	11	48
2	5*	76	2.2	33	13	80
	6	10	0.6	21	5	13
3	7*	30	0.6	30	6	33
	8	47	0.8	33	8	50
4	9*	66	0.8	36	9	66
5	10*	13	1.0	21	6	16
	11	6	0.5	18	4	8
6	12	42	0.5	36	6	48
	13	15	1.1	21	7	16
	14	24	2.3	24	10	33
	15	27	2.0	24	10	31
	16*	120	2.0	42	14	150
8	17*	34	1.0	27	8	34
	18*	44	1.0	6'x7'	9	700
	19*	279	1.0	12'x10'	14	2800
	20*	8	1.0	36	6	70
	21*	58	1.0	3'x3'	11	90

\*Outlet to Creek

Table 6  
Inlet Sizing

Inlet No.	5 year Q street (cfs)	5 year Q inlet (cfs)	S (%)	Length (ft)
1-E	18	10	0.7	12
2-E	17	10	0.7	12
3-E	17	10	2.2	6
4-E	15	11	2.2	6
4-W	4	4	2.2	4
5-E	11	11	1.0	14
5-W	3	3	1.0	4
6-W	18	10	0.6	14
7-E	2	2	Sump	4
7-W	18	18	Sump	8
9-E	4	4	0.8	4
9-W	7	7	0.8	4
10-E	8	8	0.8	4
10-W	5	5	0.8	4
11-E	10	6	1.1	4
12-E	34	34	Sump	14
12-W	2	2	Sump	4
16-E	2	2	Sump	4
16-W	21	21	Sump	10
17-E	34	34	Sump	14

In some cases, the flow will be conveyed to the pipe in a lined ditch. The ditch design is shown in Table 7.

Table 7  
Ditch Sizing

Ditch No.	Q (cfs)	B (ft)	Z (Hiv)	n	S (%)	d (ft)	V (fps)
IB(E)	17	5	2	0.035	1	0.8	3
7*	88	10	3	0.035	7	0.8	9
ID	8	5	2	0.035	5	0.3	4
9	60	10	2	0.035	1	1.2	4
11*	979	15	2	0.035	3.3	3.3	14

\*100 year flows



Where flows enter Monument Creek with excessive velocities or through pipe outlets, rip-rap protection is proposed. Rip-rap sizing is shown in Table 8. Pipes will outlet at the bottom of the slope protection and discharge into a bed of rip-rap at least 10 feet square and twice as thick as the median stone size.

Table 8  
Rip-Rap Sizing

Pipe No.	Vel. (fps)	Med. Size (in)
5	13	12
7	6	6
9	9	6
10	6	6
12	6	6
16	14	12
17	8	6
18	9	6
19	14	12
20	6	6
21	11	9
Ditch No.		
7	9	6
11	14	12

Monument Creek:

In order to allow development of land adjacent to Monument Creek, certain improvements are proposed to stabilize the banks of the Creek.

It is proposed to realign the lower 800 feet of the channel in order to eliminate a major bend in the channel at this point. Banks along the entire channel through the site will be stabilized as needed in order to insure that bank erosion is controlled. The stabilization scheme will vary from revegetated slopes at 3:1 slopes, to revegetated slopes with protective Enkamat at 2:1 slopes to lined slopes consisting of Criblock lining material. The enclosed Monument Creek Improvement Plan shows the extent of the various improvements proposed. Typical details of the stabilization schemes as well as design criteria are included in the "Erosion Control and Stabilization Plan" prepared by Rocky Mountain Geotechnical.

The improvements have been designed to comply with the requirements of the City of Colorado Springs as specified in the Determination of Storm Runoff Determination and in the letter dated February 18, 1982 from Mr. Dewitt Miller to Mr. Charles Helenberg (as amended 2/22/82) and the associated attachments.

The channel bottom has been left intact in all areas except the lower 800 feet of the channel and in the area of the bend at approximately Station 40+00. The channel slope protection is designed to be compatible with a degrading channel bottom. Non-rigid linings are preferred, as the dynamic nature of the channel bottom will be maintained and could consequently undermine the foundation of rigid slope stabilization schemes. Grade control structures will be installed in the lower reach to control bottom slopes in the realigned area and the reach that will have the Criblock slope stabilization. In these reaches the channel has been realigned in order to improve the hydraulic response of the system and allow development of property and access roads. Bank stabilization was developed based on the findings of a hydraulic analysis of the channel and recommendations made by Rocky Mountain Geotechnical. Bank protection has been provided to the 100 year depth of flow plus one-fourth of the 100 year depth of flow. Maintenance roads have been provided at the top of the bank protection with an addition freeboard above the maintenance road of sufficient height to contain the 500 year storm. This additional freeboard will be provided via three horizontal to one vertical slopes which will be vegetated with grasses and bushes.

The hydraulic calculations for the proposed improvements and the computer generated cross sections of the improvements are included in the Appendix of this report. Cross section locations correspond to those of the existing condition as shown on the Flood Plain Plan.

### IMPACTS OF DEVELOPMENT

#### Flow:

The total 100 year flows generated on the site are approximately 770 cfs which, when compared with the 100 year flows generated upstream in the Monument Creek Basin, are 2.5% of the peak. In addition to the small percentage of total flow in Monument Creek, on-site generated flows will most likely occur substantially before peak flows from the upstream drainage basin reach the site of the Corporate Centre development. While time to peak figures were not provided by the Colorado Water Conservation Board it is reasonable to assume the peak from the 200 + square mile basin will be substantially later than that generated from a 166 acre site. Historic flow rates generated on the site are approximately 405 cfs.

Channelization of Monument Creek will also have a minimal affect on the peak flow rates. While some overbank flooding, and its associated storage, will be eliminated, it is reasonable to assume that this overbank storage area will be filled as the depth increases and consequently will be filled prior to the passage of the peak flow.

#### Velocity:

It is the intention of this design to control channel bank erosion and not to control channel bottom erosion. Erosion of the channel bottom will continue. As mentioned previously, existing 100 year velocities range from 9 to 22 feet per second in the main channel and existing velocities in the main channel for the 500 year event are between 8 and 26 feet per second. The proposed improvements result in velocities in the main channel for the 100 year event of between 10 and 21 feet per second and 500 year velocities of between 11 and 24 feet per second.

Adjacent Properties:

The downstream impact will be minimal since the hydraulic control section is further downstream. Since the flow is subcritical in this reach, the effects of downstream hydraulic response is transmitted in the upstream direction. As a result, there is no transmission of effects in the downstream direction as a result of this development.

Our hydraulic analysis indicates that there is no change in the water surface upstream of the Woodmen Road Bridge for the 100 year storm event. We have determined that the 500 year water surface upstream of the bridge will be 1.8 feet higher (a 7.5% increase in depth) as a result of the proposed Corporate Centre development.

Phasing:

Phasing should have no detrimental impacts on upstream and downstream properties for the reason described in the previous section. The first phase of development will be north of the Cottonwood Creek. The effects at the Woodmen Road Bridge will be as described above and the effects at the downstream property line will again be non-existent due to the control exerted by hydraulic phenomena further downstream.

Erosion:

Rocky Mountain Geotechnical has prepared an erosion control plan which addresses impacts of erosion and mitigating procedures.

## COST ESTIMATE

A cost estimate has been prepared for the drainage improvements associated with this site. Results are tabulated in Table 9.

Table 9  
Cost Estimate

Item	Estimated Quantity	Unit Cost	Cost
18" RCP	300 L.F.	\$ 21.34/L.F.	\$ 6,400
21" RCP	850 L.F.	\$ 22.50/L.F.	19,100
24" RCP	1000 L.F.	\$ 24.35/L.F.	24,000
27" RCP	600 L.F.	\$ 26.50/L.F.	15,900
30" RCP	50 L.F.	\$ 28.00/L.F.	1,400
33" RCP	400 L.F.	\$ 35.00/L.F.	14,000
36" RCP	300 L.F.	\$ 42.61/L.F.	12,800
42" RCP	50 L.F.	\$ 50.00/L.F.	2,500
3' x 3' RCBC	100 L.F.	\$ 96/L.F.	9,600
6' x 7' RCBC	350 L.F.	\$ 148/L.F.	51,800
12' x 10' RCBC	450 L.F.	\$ 402/L.F.	180,000
Inlet	150 L.F.	\$ 160/L.F.	24,000
MH	20	\$ 3,000/EA.	60,000
Rip-Rap	500 C.Y.	\$ 30/CY	15,000
<b>Total Cost</b>			<b>\$436,500</b>

## APPENDIX

1\*\*\*\*\*

\*\* PAGE 1

1\*\*\*\*\*  
\* WATER SURFACE PROFILES \*  
\* VERSION OF NOVEMBER 1976 \*  
\* UPDATED APRIL 1980 \*  
\* RUN DATE 03/05/82 TIME 22:21:20 \*  
\*\*\*\*\*

\*\*\*\*\*  
\* U. S. ARMY CORPS OF ENGINEERS \*  
\* THE HYDROLOGIC ENGINEERING CENTER \*  
\* 609 SECOND STREET, SUITE D \*  
\* DAVIS, CALIFORNIA, 95616 \*  
\* (916) 440-2105 (FTS) 448-2105 \*  
\*\*\*\*\*

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

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1 03/05/82 22:21:20

PAGE 1

THIS RUN EXECUTED 03/05/82 22:21:20

\*\*\*\*\*  
HEC2 RELEASE DATED NOV 76 UPDATED APR 1980  
ERROR CORR - 01,02,03,04  
MODIFICATION - 50,51,52,53,54  
\*\*\*\*\*

T1 COLORADO SPRINGS MONUMENT CREEK EXIST. CONDS. MOD. 3.05.82 STA. 10+00 to 82+50  
T2 BACKWATER CURVE 100 YEAR 30270 cfs  
T3 MONUMENT CREEK CENTERLINE CHANNEL = 1000 ft. RIGHT

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	2.	0.	0.	0.000000	0.00	0.0	0.	6216.000	0.000
J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	15.000
NC	0.045	0.042	0.031	0.300	0.500	0.000	0.000	0.000	0.000	0.000
QT	2.000	30270.000	53850.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	1000.000	25.000	950.000	1048.000	0.000	0.000	0.000	0.000	0.000	0.000
X4	1.000	6199.000	1000.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	6248.000	410.000	6246.000	485.000	6244.000	560.000	6242.000	650.000	6240.000	770.000
GR	6240.000	795.000	6238.000	835.000	6230.000	850.000	6228.000	855.000	6226.000	885.000
GR	6224.000	930.000	6222.000	937.000	6212.000	938.000	6210.000	950.000	6200.000	960.000
GR	6200.000	1040.000	6204.000	1048.000	6205.000	1080.000	6208.000	1090.000	6210.000	1108.000
GR	6212.000	1120.000	6214.000	1130.000	6224.000	1131.000	6226.000	1300.000	6228.000	1475.000

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\*\* PAGE 2

X1	1400.000	25.000	765.000	1042.000	439.000	360.000	400.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	807.000	6220.000	1085.000	6210.000	0.000	0.000	0.000
GR	6230.000	500.000	6228.000	582.000	6226.000	622.000	6224.000	690.000	6218.000	720.000
GR	6216.000	740.000	6214.000	760.000	6213.000	795.000	6220.000	807.000	6220.000	817.000
GR	6218.000	822.000	6216.000	840.000	6218.000	850.000	6216.000	868.000	6212.000	907.000
GR	6210.000	913.000	6208.000	960.000	6204.000	965.000	6202.000	970.000	6202.000	1030.000
GR	6204.000	1042.000	6210.000	1085.000	6220.000	1130.000	6238.000	1170.000	6240.000	1210.000
NC	0.045	0.032	0.031	0.300	0.500	0.000	0.000	0.000	0.000	0.000

X1	1810.000	21.000	980.000	1018.000	210.000	420.000	410.000	0.000	0.000	0.000
GR	6230.000	330.000	6228.000	435.000	6226.000	470.000	6224.000	525.000	6212.000	565.000
GR	6210.000	620.000	6210.000	790.000	6212.000	900.000	6212.000	910.000	6208.000	935.000
GR	6206.000	980.000	6204.400	985.000	6204.400	1010.000	6210.000	1018.000	6230.000	1040.000
GR	6240.000	1085.000	6250.000	1150.000	6260.000	1190.000	6262.000	1230.000	6264.000	1300.000
GR	6266.000	1350.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.045	0.045	0.030	0.300	0.500	0.000	0.000	0.000	0.000	0.000

03/05/82 22:21:20

PAGE 2

X1	2250.000	25.000	970.000	1020.000	205.000	445.000	440.000	0.000	0.000	0.000
GR	6230.000	550.000	6228.000	675.000	6226.000	720.000	6224.000	785.000	6220.000	800.000
GR	6218.000	810.000	6220.000	850.000	6216.000	880.000	6216.000	920.000	6214.000	935.000
GR	6212.000	958.000	6208.000	970.000	6207.000	1000.000	6208.000	1020.000	6210.000	1070.000
GR	6212.000	1090.000	6214.000	1120.000	6216.000	1168.000	6218.000	1195.000	6220.000	1215.000
GR	6230.000	1300.000	6224.000	1350.000	6230.000	1370.000	6240.000	1430.000	6248.000	1560.000
QT	2.000	30150.000	53650.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	2750.000	20.000	980.000	1020.000	500.000	350.000	500.000	0.000	0.000	0.000
GR	6250.000	700.000	6240.000	740.000	6230.000	793.000	6228.000	810.000	6226.000	850.000
GR	6224.000	890.000	6222.000	940.000	6220.000	965.000	6212.000	980.000	6211.000	1000.000
GR	6212.000	1020.000	6214.000	1032.000	6216.000	1105.000	6218.000	1170.000	6224.000	1220.000
GR	6226.000	1260.000	6228.000	1310.000	6226.000	1360.000	6228.000	1420.000	6230.000	1510.000
NC	0.042	0.042	0.030	0.300	0.500	0.000	0.000	0.000	0.000	0.000

X1	3240.000	17.000	965.000	1020.000	540.000	400.000	490.000	0.000	0.000	0.000
GR	6250.000	670.000	6240.000	680.000	6230.000	705.000	6228.000	718.000	6226.000	765.000
GR	6234.000	795.000	6220.000	920.000	6216.000	965.000	6213.000	1000.000	6220.000	1020.000
GR	6230.000	1028.000	6240.000	1045.000	6236.000	1060.000	6234.000	1080.000	6240.000	1110.000
GR	6250.000	1160.000	6251.500	1210.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	3660.000	16.000	975.000	1060.000	300.000	460.000	420.000	0.000	0.000	0.000
X4	2.000	6218.000	980.000	6218.000	1025.000	0.000	0.000	0.000	0.000	0.000
GR	6260.000	810.000	6250.000	840.000	6240.000	870.000	6230.000	910.000	6220.000	975.000
GR	6220.000	1050.000	6224.000	1060.000	6223.000	1115.000	6224.000	1140.000	6228.000	1155.000
GR	6231.000	1180.000	6230.000	1195.000	6228.400	1250.000	6230.000	1305.000	6240.000	1395.000
GR	6250.000	1490.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	4000.000	20.000	980.000	1030.000	400.000	220.000	340.000	0.000	0.000	0.000
GR	6260.000	930.000	6250.000	945.000	6240.000	960.000	6230.000	965.000	6220.000	980.000



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GR	6220.000	1020.000	6222.000	1030.000	6221.000	1040.000	6222.000	1050.000	6224.000	1055.000
GR	6236.000	1090.000	6228.000	1135.000	6230.000	1145.000	6232.000	1180.000	6234.000	1220.000
GR	6235.000	1260.000	6234.000	1335.000	6236.000	1360.000	6238.000	1410.000	6250.000	1540.000

X1	4310.000	19.000	970.000	1040.000	350.000	170.000	310.000	0.000	0.000	0.000
GR	6250.000	720.000	6240.000	780.000	6238.000	790.000	6236.000	830.000	6234.000	840.000
GR	6232.000	863.000	6230.000	885.000	6228.000	930.000	6226.000	970.000	6222.000	990.000
GR	6232.000	1018.000	6234.000	1040.000	6226.000	1085.000	6228.000	1095.000	6230.000	1100.000
GR	6236.000	1130.000	6238.000	1150.000	6240.000	1210.000	6250.000	1400.000	0.000	0.000

X1	4710.000	23.000	930.000	1020.000	420.000	370.000	400.000	0.000	0.000	0.000
X4	1.000	6224.700	1000.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	6240.000	520.000	6236.000	530.000	6240.000	575.000	6241.000	640.000	6240.000	685.000
GR	6238.000	700.000	6236.900	800.000	6236.000	810.000	6234.000	820.000	6232.000	840.000
GR	6230.000	925.000	6228.000	930.000	6226.000	975.000	6226.000	1010.000	6230.000	1020.000
GR	6240.000	1028.000	6250.000	1044.000	6260.200	1058.000	6260.000	1064.000	6258.000	1100.000

03/05/82 22:21:20

GR	6256.000	1140.000	6254.500	1195.000	6256.000	1250.000	0.000	0.000	0.000	0.000
OT	2.000	30000.000	53400.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.042	0.070	0.030	0.300	0.500	0.000	0.000	0.000	0.000	0.000

X1	5180.000	16.000	945.000	1020.000	180.000	520.000	470.000	0.000	0.000	0.000
X4	1.000	6227.300	1000.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	6240.000	625.000	6238.000	680.000	6240.000	710.000	6242.000	725.000	6240.000	790.000
GR	6238.000	820.000	6236.000	830.000	6234.000	865.000	6232.000	905.000	6230.000	945.000
GR	6238.000	980.000	6228.000	1010.000	6232.000	1020.000	6234.000	1140.000	6240.000	1185.000
GR	6250.000	1215.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.042	0.042	0.030	0.300	0.300	0.000	0.000	0.000	0.000	0.000

X1	5790.000	24.000	980.000	1025.000	540.000	650.000	610.000	0.000	0.000	0.000
GR	6264.500	715.000	6262.000	730.000	6260.000	740.000	6258.000	755.000	6254.000	790.000
GR	6256.000	810.000	6260.000	830.000	6262.000	847.000	6264.000	858.000	6262.000	870.000
GR	6260.000	880.000	6258.000	935.000	6238.000	970.000	6234.000	980.000	6232.000	984.000
GR	6232.000	1020.000	6234.000	1025.000	6234.500	1045.000	6234.000	1065.000	6236.000	1098.000
GR	6238.000	1110.000	6240.000	1135.000	6250.000	1175.000	6260.000	1230.000	0.000	0.000
NC	0.042	0.040	0.035	0.300	0.500	0.000	0.000	0.000	0.000	0.000

X1	6120.000	20.000	960.000	1060.000	300.000	360.000	400.000	0.000	0.000	0.000
X4	1.000	6234.000	1020.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	6270.000	535.000	6268.000	570.000	6265.000	595.000	6264.000	620.000	6262.000	695.000
GR	6260.000	715.000	6258.000	755.000	6256.000	800.000	6254.000	930.000	6250.000	945.000
GR	6240.000	960.000	6234.000	978.000	6234.000	998.000	6236.000	1060.000	6238.000	1075.000
GR	6240.000	1140.000	6242.000	1160.000	6244.000	1170.000	6246.000	1210.000	6248.000	1250.000

X1	6370.000	17.000	945.000	1040.000	250.000	250.000	250.000	0.000	0.000	0.000
X4	1.000	6236.500	1000.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	6268.000	550.000	6266.000	580.000	6264.000	720.000	6264.000	820.000	6260.000	833.000
GR	6258.000	903.000	6250.000	923.000	6240.000	945.000	6238.000	970.000	6238.000	1030.000



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X1	7980.000	15.000	972.000	1025.000	330.000	340.000	370.000	0.000	0.000	0.000
GR	6280.000	880.000	6278.000	905.000	6270.000	922.000	6268.000	937.000	6266.000	948.000
GR	6260.000	962.000	6254.000	972.000	6252.000	970.000	6252.000	1015.000	6254.000	1025.000
GR	6256.000	1062.000	6258.000	1110.000	6260.000	1205.000	6270.000	1245.000	6280.000	1310.000
X1	8250.000	13.000	950.000	1070.000	300.000	320.000	270.000	0.000	0.000	0.000
X4	1.000	6253.500	1000.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	6280.000	620.000	6274.000	732.000	6272.000	837.000	6270.000	845.000	6260.000	940.000
GR	6256.000	750.000	6254.000	985.000	6254.000	1015.000	6256.000	1050.000	6258.000	1058.000
GR	6260.000	1070.000	6270.000	1100.000	6280.000	1255.000	0.000	0.000	0.000	0.000
EJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

03/05/82 22:21:20

SECON	DEPTH	CNSEL	CRINS	NSELK	EG	HV	HL	GLOSS	BANK ELEV
Q	GLOB	GCH	GRDB	ALDB	ACH	ARDB	VOL	TVA	LEFT/RIGHT
TIME	VLOB	VCH	VRDB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLDBR	ITRIAL	IDC	ICQNT	CORAR	TOPWID	ENDST

\*PROF 1

CCHV=	0.300	CEHV=	0.500							
*SECON	1000.000									
1000.00	17.00	6216.00	0.00	6216.00	6219.37	3.37	0.00	0.00	6210.00	
30270.	314.	24510.	5446.	61.	1542.	658.	0.	0.	6204.00	
0.00	5.17	15.89	8.27	0.045	0.031	0.042	0.000	6199.00	937.60	
0.002984	0.	0.	0.	0	0	0	0.00	192.60	1130.20	

FLOW DISTRIBUTION FOR SECON=	1000.00	CNSEL=	6216.00							
STA=	938.	950.	1048.	1080.	1090.	1108.	1120.	1130.	1130.	
PER Q=	1.0	81.0	11.1	2.5	2.9	1.1	0.4	0.0	0.0	
AREA=	60.8	1512.0	352.0	90.0	126.0	60.0	30.0	0.2		
VEL=	5.2	15.9	9.5	8.3	7.0	5.6	4.0	0.4		

\*SECON 1400 000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=	807.0	1085.0	TYPE=	1	TARGET=	278.000				
ELENC=	6220.00	ELENCR=	6210.00							
1400.00	15.12	6217.12	0.00	0.00	6220.94	3.82	1.35	0.22	6204.00	
30270.	4871.	20740.	5059.	610.	1147.	549.	21.	2.	6204.00	
0.01	7.33	18.08	9.21	0.045	0.031	0.042	0.031	6202.00	829.91	
0.003914	430.	400.	360.	2	0	0	0.00	274.84	1117.05	

FLOW DISTRIBUTION FOR SECON=	1400.00	CNSEL=	6217.12									
STA=	830.	810.	846.	1400.00	868.	907.	913	960.	965.	1042.	1085.	1117.
PER Q=	0.0	0.0	0.0	1.8	0.8	10.5	1.6	68.5	14.8	1.9		
AREA=	5.7	3.1	5.7	121.7	36.7	381.7	55.6	1147.4	435.2	114.1		
VEL=	1.4	1.4	1.4	4.4	6.7	8.3	8.7	18.1	10.3	5.1		

CCHV= 0.300 CEHV= 0.500  
\*SECON 1810.000

3091 HV CHANGED MORE THAN HVINS

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1810.00	17.51	6221.91	0.00	0.00	6222.42	0.51	0.48	0.99	6206.00
30270	24447.	5545.	278.	5053.	639.	78.	46.	4.	6210.00
0.02	4.84	8.68	3.56	0.045	0.031	0.032	0.035	6204.40	531.98
0 000916	210.	410.	420.	3	0	0	0.00	499.12	1031.10

0  
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03/05/82 22:21:20

SECNO	DEPTH	CWSEL	CRINS	WSELK	EG	HV	HL	GLOSS	BANK ELEV
Q	GLOB	OCH	GRQB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 1810.00 CWSEL= 6221.91

STA=	532.	565.	620.	790.	900.	910.	935.	980.	1018.	1031.
PER Q=	1.4	9.2	32.9	18.4	1.4	4.8	12.7	18.3	0.9	
AREA=	163.6	599.9	2024.1	1199.7	99.1	297.7	670.8	638.9	78.0	
VEL=	2.7	4.6	4.9	4.6	4.4	4.9	5.7	8.7	3.6	

CCHV= 0.300 CEHV= 0.500  
\*SECNO 2250.000

3301 HV CHANGED MORE THAN HVINS

2250.00	14.56	6221.56	0.00	0.00	6223.70	2.14	0.47	0.81	6208.00
30270	5678.	11469.	13123.	896.	703.	1596.	75.	8.	6208.00
0.03	6.33	16.31	8.22	0.045	0.030	0.045	0.037	6207.00	794.13
0 003197	205.	440.	445.	3	0	0	0.00	434.16	1228.30

FLOW DISTRIBUTION FOR SECNO= 2250.00 CWSEL= 6221.56

STA=	794.	880.	920.	958.	970.	1020.	1070.	1090.	1120.	1168.	1228.
PER Q=	3.0	4.3	7.2	4.2	37.9	20.9	6.3	6.6	6.8	2.7	
AREA=	239.7	222.6	295.4	138.8	703.2	628.2	211.3	256.9	315.1	184.9	
VEL=	3.8	5.9	7.4	9.2	16.3	10.1	9.0	7.8	6.5	4.5	

\*SECNO 2750.000

3301 HV CHANGED MORE THAN HVINS

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

2750.00	14.30	6225.30	6225.30	0.00	6228.50	3.19	1.68	0.53	6212.00
30150.	2479.	11078.	16593.	379.	552.	1672.	103.	11.	6212.00
0.04	6.53	20.06	9.92	0.045	0.030	0.045	0.036	6211.00	863.91
0 004961	500.	500.	350.	20	6	0	0.00	382.18	1246.09

FLOW DISTRIBUTION FOR SECNO= 2750.00 CWSEL= 6225.30

STA=	854.	890.	940.	945.	980.	1020.	1032.	1105.	1170.	1220.	1246.
PER Q=	0.1	1.6	2.2	4.4	36.7	6.0	27.5	17.1	4.4	0.1	
AREA=	17.0	115.2	107.6	139.6	552.2	147.7	752.2	539.8	215.2	17.0	
VEL=	1.7	4.1	6.1	9.5	20.1	12.3	11.0	9.5	6.1	1.7	

1

03/05/82 22:21:20

SECNO	DEPTH	CWSEL	CRINS	WSELK	EG	HV	HL	GLOSS	BANK ELEV
Q	GLOB	OCH	GRQB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT

1\*\*\*\*\*

TIME SLOPE	VLOB XLOBL	VCH XLCH	VROB XLOBR	XNL ITRIAL	XNCH IDC	XNR ICNT	WTN CORAR	ELMIN TOPWID	SSTA ENDST
CCHV=	0.300	CEHV=	0.500						
*SECNO 3240.000									
3301 HV CHANGED MORE THAN HVINS									
7185 MINIMUM SPECIFIC ENERGY									
3720 CRITICAL DEPTH ASSUMED									
3240.00	13.97	6238.97	6228.97	0.00	6232.70	3.73	2.52	0.27	6216.00
30150	15970.	14011.	169.	1580.	701.	32.	130.	15.	6220.00
0.05	10.11	19.99	5.24	0.042	0.030	0.042	0.035	6215.00	711.68
0.005553	540.	490.	400.	3	5	0	0.00	315.49	1027.18

0 FLOW DISTRIBUTION FOR SECNO= 3240.00 CNSEL= 6228.97

STA=	712	718.	765.	795.	920.	965.	1020.	1027.
PER Q=	0.0	1.3	2.6	27.8	21.3	46.5	0.6	
AREA=	3.1	92.7	119.2	871.5	493.7	701.0	32.2	
VEL=	1.6	4.1	6.6	9.6	13.0	20.0	5.2	

\*SECNO 3660.000

TIME SLOPE	VLOB XLOBL	VCH XLCH	VROB XLOBR	XNL ITRIAL	XNCH IDC	XNR ICNT	WTN CORAR	ELMIN TOPWID	SSTA ENDST
3301 HV CHANGED MORE THAN HVINS									
7185 MINIMUM SPECIFIC ENERGY									
3720 CRITICAL DEPTH ASSUMED									
3660.00	13.65	6231.65	6231.65	0.00	6234.84	3.19	1.83	0.16	6220.00
30150	3444.	18758.	7948.	438.	1090.	1089.	131.	19.	6224.00
0.06	7.87	17.21	7.30	0.042	0.030	0.042	0.035	6218.00	903.41
0.004078	300.	420.	460.	2	8	0	0.00	416.42	1319.83

0 FLOW DISTRIBUTION FOR SECNO= 3660.00 CNSEL= 6231.65

STA=	903.	910.	975.	1060.	1115.	1140.	1155.	1180.	1195.	1250.	1305.	1320.
PER Q=	0.0	11.4	62.2	13.6	6.2	2.0	0.7	0.1	1.8	1.8	0.1	
AREA=	5.4	432.1	1090.1	448.1	203.7	84.7	53.7	17.2	134.6	134.6	12.2	
VEL=	2.0	7.9	17.2	9.2	9.2	7.0	3.8	2.5	4.1	4.1	2.0	

\*SECNO 4000.000

3685 20 TRIALS ATTEMPTED WSEL, CNSEL  
3673 PROBABLE MINIMUM SPECIFIC ENERGY  
3720 CRITICAL DEPTH ASSUMED

03/05/82 22:21:20

SECNO	DEPTH	CNSEL	CRINS	WSELK	EG	HV	HL	GLOSS	BANK ELEV
U	QLOB	GCH	GR0B	AL0B	ACH	AR0B	VOL	TWA	LEFT/RIGHT
TIME SLOPE	VLOB XLOBL	VCH XLCH	VROB XLOBR	XNL ITRIAL	XNCH IDC	XNR ICNT	WTN CORAR	ELMIN TOPWID	SSTA ENDST
4000.00	15.33	6235.33	6235.33	0.00	6238.94	3.61	1.25	0.21	6220.00
30150	1507.	14818	13823.	162.	757.	1490.	168.	21.	6222.00
0.06	9.31	19.58	9.28	0.042	0.030	0.042	0.034	6220.00	962.33
0.004197	400.	340.	220.	20	8	0	0.00	389.33	1351.66

0 FLOW DISTRIBUTION FOR SECNO= 4000.00 CNSEL= 6235.33

STA=	962.	980.	1030.	1040.	1050.	1090.	1135.	1180.	1352.
PER Q=	5.0	49.1	6.0	6.0	15.4	11.7	4.7	2.0	

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AREA= 162.1 756.6 138.3 138.3 423.3 375.0 215.0 200.2
VEL= 9.3 19.6 13.2 13.2 11.0 9.4 6.6 2.9

\*SECND 4310.000

3301 HV CHANGED MORE THAN HVINS

4310.00 16.50 6238.50 0.00 0.00 6240.22 1.72 0.72 0.37 6226.00
30150. 8314. 14544. 7292. 1274. 1093. 969. 185. 23. 6224.00
0.07 6.52 13.31 7.33 0.042 0.030 0.042 0.034 6222.00 787.51
0.001857 350. 310. 170. 4 0 0.00 377.43 1164.94

FLOW DISTRIBUTION FOR SECND= 4310.00

CWSEL= 6238.50

STA= 788. 885. 930. 970. 1040. 1085. 1100. 1165.
PER Q= 6.0 9.7 11.9 48.2 17.4 4.0 2.8
AREA= 386.9 427.4 459.9 1092.9 607.4 162.5 198.6
VEL= 4.7 6.9 7.8 13.3 8.7 7.3 4.2

\*SECND 4710.000

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

4710.00 13.59 6239.29 6239.29 0.00 6242.90 3.61 1.09 0.94 6228.00
30150. 9536. 20451. 163. 1218. 1154. 35. 211. 27. 6230.00
0.08 7.83 17.72 4.73 0.042 0.030 0.042 0.034 6224.70 521.77
0.004323 420. 400. 370. 4 11 0 0.00 382.38 1027.43

03/05/82 22:21:20

SECND DEPTH CWSEL CRIWS WSELK EG HV HL GLOSS BANK ELEV
G GLOB GCH GROB ALOB ACH ARGB VOL TWA LEFT/RIGHT
TIME VLOB VCH VROB XNL XNCH XNR WTN ELMIN SSTA
SLOPE XLOBL XLCH XLOBR ITRIAL IDC CORAR TOPWID ENDST

FLOW DISTRIBUTION FOR SECND= 4710.00

CWSEL= 6239.29

STA= 522. 530. 567. 700. 800. 810. 820. 840. 925. 930. 1020. 1027.
PER Q= 0.1 0.7 0.0 2.1 0.4 0.9 3.3 22.3 1.8 67.8 0.5
AREA= 13.5 61.0 6.3 184.2 28.4 42.9 125.8 704.8 51.5 1154.0 34.5
VEL= 3.1 3.2 1.7 3.5 4.7 6.1 7.9 9.5 10.5 17.7 4.7

00HV= 0.300 CEHV= 0.500

\*SECND 5180.000

3280 CROSS SECTION 5180.00 EXTENDED 3.38 FEET

3301 HV CHANGED MORE THAN HVINS

5180.00 16.08 6243.38 0.00 0.00 6244.57 1.18 0.94 0.73 6230.00
30000. 10933. 13168. 5899. 1961. 1109. 1550. 240. 30. 6232.00
0.09 5.57 11.87 3.81 0.042 0.030 0.070 0.034 6227.30 625.00
0.001508 180. 470. 520. 4 0 0.00 570.14 1195.14

FLOW DISTRIBUTION FOR SECND= 5180.00

CWSEL= 6243.38

STA= 625. 710. 820. 855. 905. 945. 1020. 1140. 1195.
PER Q= 4.6 3.3 6.7 9.3 12.5 43.9 16.8 2.9

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\*\* PAGE 9

AREA= 372.2 321.7 357.0 415.2 495.2 1108.9 1245.5 304.2  
VEL= 3.7 3.0 5.7 6.7 7.6 11.9 4.0 2.8

CCHV= 0.300 CEHV= 0.500  
\*SECND 5790.000

3301 HV CHANGED MORE THAN HVINS  
3685 20 TRIALS ATTEMPTED WSEL,CWSEL  
3693 PROBABLE MINIMUM SPECIFIC ENERGY  
3720 CRITICAL DEPTH ASSUMED

5790.00 13.83 6245.83 6245.83 0.00 6250.60 4.78 1.73 1.80 6234.00  
30000 1543. 13561. 14896. 152. 613. 1165. 285. 35. 6234.00  
0.10 10.16 22.11 12.79 0.042 0.030 0.042 0.034 6232.00 956.30  
0.006278 540. 610. 650. 20 15 0 0.00 202.01 1158.31

FLOW DISTRIBUTION FOR SECNO= 5790.00 CWSEL= 6245.83  
STA= 956. 970. 980. 1025. 1049. 1065. 1098. 1110. 1135. 1158.  
PER Q= 1.1 4.0 45.2 11.1 11.1 16.3 4.2 5.7 1.3  
AREA= 53.6 98.3 613.3 231.6 231.6 357.3 103.9 170.7 67.9  
VEL= 6.3 12.2 22.1 14.3 14.3 13.7 11.9 10.1 5.6

1 03/05/82 22:21:20

PAGE 10

SECNO DEPTH CWSEL CRINS WSELK EG HV HL GLOSS BANK ELEV  
Q CLOB GCH GROB ALOB ACH AROB VOL TWA LEFT/RIGHT  
TIME VLOB VCH VROB XNL XNCH XNR WTN ELMIN SSTA  
SLOPE XLOBL XLCH XLOBR ITRIAL IDC ICONT CORAR TOPWID ENDST

CCHV= 0.300 CEHV= 0.500  
\*SECND 6120.000

3280 CROSS SECTION 6120.00 EXTENDED 3.33 FEET

3301 HV CHANGED MORE THAN HVINS

6120.00 17.33 6251.33 0.00 0.00 6252.68 1.35 1.05 1.03 6240.00  
30000 405. 17626. 11969. 98. 1639. 1732. 308. 37. 6236.00  
0.11 4.13 10.76 6.91 0.042 0.035 0.040 0.034 6234.00 940.02  
0.001563 300. 400. 360. 4 0 0 0.00 309.98 1250.00

FLOW DISTRIBUTION FOR SECNO= 6120.00 CWSEL= 6251.33  
STA= 940. 949. 960. 1060. 1075. 1140. 1160. 1170. 1210. 1250.  
PER Q= 0.0 1.3 58.8 6.2 20.9 4.8 1.7 4.2 2.1  
AREA= 3.3 74.9 1638.8 214.9 801.3 206.6 83.3 253.1 173.1  
VEL= 1.0 4.2 10.8 8.6 7.8 6.9 6.0 5.0 3.7

\*SECND 6370.000

3301 HV CHANGED MORE THAN HVINS  
3685 20 TRIALS ATTEMPTED WSEL,CWSEL  
3693 PROBABLE MINIMUM SPECIFIC ENERGY  
3720 CRITICAL DEPTH ASSUMED

6370.00 15.83 6252.33 6252.33 0.00 6258.26 5.93 0.70 2.29 6240.00  
30000 1644. 27654. 702. 168. 1371. 87. 323. 37. 6240.00  
0.12 7.79 20.17 8.09 0.042 0.035 0.040 0.034 6236.50 917.19  
0.006455 250. 250. 250. 20 9 0 0.00 144.44 1061.63

FLOW DISTRIBUTION FOR SECD= 6370.00 CUSEL= 6252.33  
 STA= 917. 923. 945. 922. 1040. 1050. 1060. 1062.  
 PER Q= 0.1 5.4 92.2 2.2 0.2 0.0  
 AREA= 6.8 161.2 1370.9 73.3 13.3 0.3  
 VEL= 3.0 10.1 20.2 8.9 3.6 0.9

\*SECD 6650.000  
 3485 20 TRIALS ATTEMPTED WSEL,CUSEL  
 3693 PROBABLE MINIMUM SPECIFIC ENERGY.

03/05/82 22:21:20

PAGE 11

SECD	DEPTH	CUSEL	CRIS	WSELK	EG	HV	HL	GLOSS	BANK	ELEV
Q	CLOB	GCH	GRB	ALOB	ACH	AROB	VOL	TWA	LEFT	RIGHT
TIME	VLOB	VCH	VRB	XNL	XNCH	XNR	WTN	ELMIN	SSTA	
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST	
3720	CRITICAL DEPTH ASSUMED									
6650.00	17.96	6257.96	6257.96	0.00	6264.14	6.18	1.80	0.12	6244.00	
30000.	3991.	23762.	2247.	311.	1107.	185.	333.	39.	6244.00	
0.12	12.83	21.46	12.16	0.042	0.035	0.040	0.034	6240.00	934.65	
0.006497	250.	280.	280.	20	8	0	0.00	133.18	1067.83	

FLOW DISTRIBUTION FOR SECD= 6650.00 CUSEL= 6257.96  
 STA= 935. 945. 955. 962. 970. 1040. 1053. 1060. 1068.  
 PER Q= 0.8 3.6 3.5 5.3 79.2 6.6 0.8 0.1  
 AREA= 41.2 89.6 76.7 103.7 1107.1 142.5 34.7 7.7  
 VEL= 6.1 12.1 13.7 15.4 21.5 13.9 7.2 2.9

\*SECD 6690.000  
 3289 CROSS SECTION 6690.00 EXTENDED 2.01 FEET

3301 HV CHANGED MORE THAN HVINS  
 3585 20 TRIALS ATTEMPTED WSEL,CUSEL  
 3593 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

6690.00	16.01	6260.01	6260.01	0.00	6265.45	5.44	0.24	0.22	6246.00	
30000.	3201.	24402.	2397.	266.	1215.	255.	335.	40.	6246.00	
0.12	12.03	20.08	9.39	0.042	0.035	0.040	0.034	6244.00	931.99	
0.005769	40.	40.	40.	20	12	0	0.00	183.01	1115.00	

FLOW DISTRIBUTION FOR SECD= 6690.00 CUSEL= 6260.01  
 STA= 932. 945. 955. 962. 1040. 1048. 1060. 1065. 1090. 1115.  
 PER Q= 1.5 4.8 4.4 81.3 4.4 2.7 0.3 0.3 0.3  
 AREA= 65.1 110.1 91.0 1215.4 96.0 84.1 15.0 30.1 30.1  
 VEL= 6.7 13.1 14.5 20.1 13.7 9.6 5.6 3.2 3.0

\*SECD 6780.000  
 3293 CROSS SECTION 6780.00 EXTENDED 8.33 FEET

3301 HV CHANGED MORE THAN HVINS

6780.00	21.23	6266.33	0.00	0.00	6267.02	0.69	0.15	1.43	6248.00	
20000.	2709.	11951.	13849.	602.	1398.	2802.	341.	40.	6250.00	
0.12	4.49	8.55	4.94	0.042	0.035	0.040	0.034	6245.00	848.76	
0.000750	90.	90.	90.	5	0	0	0.00	446.25	1295.00	



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03/05/82 22:21:20

SECNO	DEPTH	CNSEL	CRWS	WSELK	EG	HV	HL	GLOSS	BANK ELEV		
Q	GLOB	GCH	GRGB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT		
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA		
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST		
FLOW DISTRIBUTION FOR SECNO= 6780.00 CNSEL= 6266.33											
STA=	849.	950.	960.	1030.	1055.	1075.	1115.	1155.	1210.	1280.	1295.
PER Q=	5.6	3.9	41.9	8.5	4.7	5.9	5.0	10.1	12.8	1.7	
AREA=	428.4	173.3	1398.2	393.3	246.6	373.3	335.8	582.0	740.7	140.0	
VEL=	3.7	6.4	8.5	6.3	5.4	4.5	4.2	4.9	4.9	3.4	
CCHV= 0.300 CEHV= 0.500											
*SECNO 7110.000											
7110.00	19.24	6266.74	0.00	0.00	6267.29	0.55	0.23	0.04	6250.00		
27200.	6957.	7957.	12283.	1760.	925.	2625.	378.	44.	6250.00		
0.14	3.96	8.61	4.68	0.048	0.031	0.037	0.034	6247.50	714.45		
0.000559	330.	330.	300.	2	0	0	0.00	674.43	1388.88		

SECNO	DEPTH	CNSEL	CRWS	WSELK	EG	HV	HL	GLOSS	BANK ELEV			
Q	GLOB	GCH	GRGB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT			
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA			
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST			
FLOW DISTRIBUTION FOR SECNO= 7110.00 CNSEL= 6266.74												
STA=	714	890.	920.	950.	980.	1030.	1060.	1078.	1105.	1195.	1300.	1389.
PER Q=	4.6	5.3	7.0	8.7	29.3	12.9	6.9	6.2	10.4	7.4	1.4	
AREA=	522.9	352.2	412.2	472.2	924.5	509.7	287.8	317.0	696.6	602.7	210.7	
VEL=	2.4	4.1	4.6	5.0	8.6	6.9	6.6	5.3	4.1	3.3	1.8	
*SECNO 7250.000												
3301 HV CHANGED MORE THAN HVINS												
7250.00	18.26	6266.46	0.00	0.00	6267.85	1.39	0.14	0.42	6250.00			
27200.	15085.	10413.	1702.	2423.	797.	252.	392.	46.	6250.00			
0.14	6.23	13.06	6.75	0.048	0.031	0.037	0.034	6248.20	712.60			
0.001622	150.	140.	130.	2	0	0	0.00	349.60	1062.20			

SECNO	DEPTH	CNSEL	CRWS	WSELK	EG	HV	HL	GLOSS	BANK ELEV		
Q	GLOB	GCH	GRGB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT		
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA		
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST		
FLOW DISTRIBUTION FOR SECNO= 7250.00 CNSEL= 6266.46											
STA=	713.	740.	790.	820.	860.	890.	975.	985.	1030.	1048.	1062.
PER Q=	0.0	1.8	3.9	7.7	8.0	29.7	4.3	38.3	5.7	0.6	
AREA=	6.3	172.8	223.7	378.3	343.7	1143.8	154.6	797.2	206.2	45.9	
VEL=	0.5	2.8	4.8	5.6	6.3	7.1	7.6	13.1	7.5	3.3	
CCHV= 0.300 CEHV= 0.500											
*SECNO 7610.000											
7610.00	17.06	6267.06	0.00	0.00	6268.35	1.29	0.47	0.03	6252.00		
27200.	6474.	15418.	5308.	1100.	1405.	913.	419.	48.	6254.00		
0.16	5.89	10.97	5.81	0.042	0.030	0.042	0.034	6250.00	812.33		
0.001180	330.	360.	335.	2	0	0	0.00	316.52	1128.84		

03/05/82 22:21:20

SECNO	DEPTH	CNSEL	CRWS	WSELK	EG	HV	HL	GLOSS	BANK ELEV
Q	GLOB	GCH	GRGB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

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FLOW DISTRIBUTION FOR SECNO= 7610.00 CENSEL= 6267.05

STA=	812.	832.	860.	870.	900.	920.	945.	1030.	1082.	1097.	1102.	1129.
PER Q=	0.0	1.3	1.4	6.3	5.7	9.1	36.7	14.7	3.1	0.7	1.0	
AREA=	10.5	113.8	80.6	301.9	241.3	351.6	1405.4	627.3	151.0	40.3	94.8	
VEL=	0.8	3.0	4.8	5.7	6.4	7.1	11.0	6.4	3.6	4.7	2.8	

\*SECNO 7980.000

3201 HV CHANGED MORE THAN HVINS

7980.00	15.29	6267.29	0.00	0.00	6269.29	2.00	0.59	0.35	6254.00
27200.	1048.	11605.	14546.	168.	783.	1844.	444.	51.	6254.00
0.16	6.25	14.83	7.89	0.042	0.030	0.042	0.034	6252.00	940.87
0.004476	330.	370.	340.	2	0	0	0.00	293.31	1234.18

FLOW DISTRIBUTION FOR SECNO= 7980.00 CENSEL= 6267.29

STA=	941	948	962.	972.	1025.	1062.	1110.	1205.	1234.
PER Q=	0.0	1.0	2.9	42.7	15.7	15.2	21.0	1.6	
AREA=	4.6	60.1	103.0	782.7	454.9	494.2	788.1	106.4	
VEL=	1.3	4.4	7.5	14.8	9.4	8.4	7.2	4.1	

\*SECNO 8250.000

3301 HV CHANGED MORE THAN HVINS

8250.00	13.62	6267.12	6266.70	0.00	6271.34	4.22	0.93	1.11	6256.00
27200.	2218.	24577.	405.	332.	1427.	76.	459.	53.	6260.00
0.17	6.67	17.22	5.33	0.042	0.030	0.042	0.033	6253.50	872.40
0.004476	300.	270.	320.	6	15	0	0.00	218.93	1091.35

FLOW DISTRIBUTION FOR SECNO= 8250.00 CENSEL= 6267.12

STA=	872.	940.	950.	1070.	1091.
PER Q=	4.9	3.3	90.4	1.5	
AREA=	240.5	91.2	1427.4	75.9	
VEL=	5.5	9.8	17.2	5.3	

1 PROFILE FOR STREAM MENT CREEK CENTERLINE

PLOTTED POINTS (BY PRIORITY)-E-ENERGY, W-WATER SURFACE, I-INVERT, C-CRITICAL W. S., L-LEFT BANK, R-RIGHT BANK, M-LOWER END STA

ELEVATION	6190.	6200.	6210.	6220.	6230.	6240.	6250.	6260.	6270.	6280.
SECNO	0.									
1000.00	C		I R L	W E	M					
50.	C		I R L	W W W	E	M				
100.	C		I R L	W W W	E	M				
150.	C		I R L	W W W	E	M				
200.	C		I R L	W W W	E	M				
250.	C		I R L	W W W	E	M				
300.	C		I R L	W W W	E	M				
350.	C		I R L	W W W	E	M				
400.	C		I R L	W W W	E	M				
450.	C		I R L	W W W	E	M				
1400.00	C		I LR	W W W	E	M				
500.	C		I LR	W W W	E	M				
550.	C		I LR	W W W	E	M				
600.	C		I LR	W W W	E	M				
650.	C		I LR	W W W	E	M				

1\*\*\*\*\*4\*\*\*\*

700.	C		I	L	R	.	W	E		M	
750.	C		I	L	R	.	W	E		M	
800.	C		I	L	R	.	W	E		M	
1810.00	C		I	L	R	.	W	E		M	
850.	C		I	L	R	.	W	E		M	
900.	C		I	L	R	.	W	E		M	
950.	C		I	L	R	.	W	E		M	
1000.	C		I	L	R	.	W	E		M	
1050.	C		I	L	R	.	W	E		M	
1100.	C		I	L	R	.	W	E		M	
1150.	C		I	L	R	.	W	E		M	
1200.	C		I	L	R	.	W	E		M	
2250.00	C		I	L	R	.	W	E		M	
1250.	C		I	L	R	.	W	E		M	
1300.	C		I	L	R	.	W	E		M	
1350.	C		I	L	R	.	W	E		M	
1400.	C		I	L	R	.	W	E		M	
1450.	C		I	L	R	.	W	E		M	
1500.	C		I	L	R	.	W	E		M	
1550.	C		I	L	R	.	W	E		M	
1600.	C		I	L	R	.	W	E		M	
1650.	C		I	L	R	.	W	E		M	
1700.	C		I	L	R	.	W	E		M	
1750.	C		I	L	R	.	W	E		M	
2750.00	C		I	L	R	.	W	E		M	
1800.	C		I	L	R	.	W	E		M	
1850.	C		I	L	R	.	W	E		M	
1900.	C		I	L	R	.	W	E		M	
1950.	C		I	L	R	.	W	E		M	
2000.	C		I	L	R	.	W	E		M	
2050.	C		I	L	R	.	W	E		M	
2100.	C		I	L	R	.	W	E		M	
2150.	C		I	L	R	.	W	E		M	
2200.	C		I	L	R	.	W	E		M	
3240.00	C		I	L	R	.	W	E		M	
2250.	C		I	L	R	.	W	E		M	
2300.	C		I	L	R	.	W	E		M	
2350.	C		I	L	R	.	W	E		M	
2400.	C		I	L	R	.	W	E		M	
2450.	C		I	L	R	.	W	E		M	
2500.	C		I	L	R	.	W	E		M	
2550.	C		I	L	R	.	W	E		M	
2600.	C		I	L	R	.	W	E		M	
2650.	C		I	L	R	.	W	E		M	
3570.00	C		I	L	R	.	W	E		M	
2700.	C		I	L	R	.	W	E		M	
2750.	C		I	L	R	.	W	E		M	
2800.	C		I	L	R	.	W	E		M	
2850.	C		I	L	R	.	W	E		M	
2900.	C		I	L	R	.	W	E		M	
2950.	C		I	L	R	.	W	E		M	
3000.	C		I	L	R	.	W	E		M	
3050.	C		I	L	R	.	W	E		M	
3100.	C		I	L	R	.	W	E		M	
3150.	C		I	L	R	.	W	E		M	
3200.	C		I	L	R	.	W	E		M	
3250.	C		I	L	R	.	W	E		M	
3300.	C		I	L	R	.	W	E		M	
3350.	C		I	L	R	.	W	E		M	
3400.	C		I	L	R	.	W	E		M	
3450.	C		I	L	R	.	W	E		M	
3500.	C		I	L	R	.	W	E		M	
3550.	C		I	L	R	.	W	E		M	
3600.	C		I	L	R	.	W	E		M	
3650.	C		I	L	R	.	W	E		M	
3700.	C		I	L	R	.	W	E		M	
3750.	C		I	L	R	.	W	E		M	
3800.	C		I	L	R	.	W	E		M	
3850.	C		I	L	R	.	W	E		M	
3900.	C		I	L	R	.	W	E		M	
3950.	C		I	L	R	.	W	E		M	
4000.	C		I	L	R	.	W	E		M	
4050.	C		I	L	R	.	W	E		M	
4100.	C		I	L	R	.	W	E		M	
4150.	C		I	L	R	.	W	E		M	
4200.	C		I	L	R	.	W	E		M	
4250.	C		I	L	R	.	W	E		M	
4300.	C		I	L	R	.	W	E		M	
4310.00	C		I	L	R	.	W	E		M	
4350.	C		I	L	R	.	W	E		M	

1\*\*\*\*\*

	3500.		I	RL		W	E	M	
	3550.		I	L		W	E	M	
	3600.		I	LR		W	E	M	
	3650.		I	LR		W	E	M	
4710.00	3700.		I			W	E	M	
	3750.		I	LR		W	E	M	
	3800.		I	LR		W	E	M	
	3850.		I	LR		W	E	M	
	3900.		I	LR		W	E	M	
	3950.		I	LR		W	E	M	
	4000.		I	LR		W	E	M	
	4050.		I	LR		W	E	M	
	4100.		I	LR		W	E	M	
5180.00	4150.		I	LR		W	E	M	
	4200.		I	LR		W	E	M	
	4250.		I	LR		W	E	M	
	4300.		I	LR		W	E	M	
	4350.		I	LR		W	E	M	
	4400.		I	LR		W	E	M	
	4450.		I	LR		W	E	M	
	4500.		I	LR		W	E	M	
	4550.		I	LR		W	E	M	
	4600.		I	LR		W	E	M	
	4650.		I	LR		W	E	M	
	4700.		I	LR		W	E	M	
5790.00	4750.		I	LR		W	E	M	
	4800.		I	LR		W	E	M	
	4850.		I	LR		W	E	M	
	4900.		I	LR		W	E	M	
	4950.		I	LR		W	E	M	
	5000.		I	LR		W	E	M	
	5050.		I	LR		W	E	M	
	5100.		I	LR		W	E	M	
6120.00	5150.		I	LR		W	E	M	
	5200.		I	LR		W	E	M	
	5250.		I	LR		W	E	M	
	5300.		I	LR		W	E	M	
	5350.		I	LR		W	E	M	
6370.00	5400.		I	LR		W	E	M	
	5450.		I	LR		W	E	M	
	5500.		I	LR		W	E	M	
	5550.		I	LR		W	E	M	
	5600.		I	LR		W	E	M	
	5650.		I	LR		W	E	M	
	5700.		I	LR		W	E	M	
6450.00	5750.		I	LR		W	E	M	
6690.00	5800.		I	LR		W	E	M	
	5850.		I	LR		W	E	M	
6780.00	5900.		I	LR		W	E	M	
	5950.		I	LR		W	E	M	
	6000.		I	LR		W	E	M	
	6050.		I	LR		W	E	M	
	6100.		I	LR		W	E	M	
7110.00	6150.		I	LR		W	E	M	
	6200.		I	LR		W	E	M	
	6250.		I	LR		W	E	M	

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7250.00	6300.	C	.	.	.	I L	W	M	.	.	.
	6350.	C	.	.	.	I L	W	M	.	.	.
	6400.	C	.	.	.	I L R	W	M	.	.	.
	6450.	C	.	.	.	I L	W	M	.	.	.
	6500.	C	.	.	.	I L R	W	M	.	.	.
	6550.	C	.	.	.	I L R	W	M	.	.	.
	6600.	C	.	.	.	I L R	W	M	.	.	.
	6650.	C	.	.	.	I L R	W	M	.	.	.
	6700.	C	.	.	.	I L R	W	M	.	.	.
	6750.	C	.	.	.	I L R	W	M	.	.	.
	6800.	C	.	.	.	I L R	W	M	.	.	.
	6850.	C	.	.	.	I L R	W	M	.	.	.
	6900.	C	.	.	.	I L R	W	M	.	.	.
	6950.	C	.	.	.	I L R	W	M	.	.	.
	7000.	C	.	.	.	I L R	W	M	.	.	.
	7050.	C	.	.	.	I L	W	M	.	.	.
	7100.	C	.	.	.	I L	W	M	.	.	.
	7150.	C	.	.	.	I L R	W	M	.	.	.
	7200.	C	.	.	.	I L R	W	M	.	.	.
	7250.	C	.	.	.	I L R	W	M	.	.	.
	7300.	C	.	.	.	I L R	W	M	.	.	.
6250.00	7350.	C	.	.	.	I L R	W	M	.	.	.

1 03/05/82 22:21:20

THIS RUN EXECUTED 03/05/82 22:21:59

\*\*\*\*\*  
 HEC2 RELEASE DATED NOV 76 UPDATED APR 1980  
 ERROR CORR - 01,02,03,04  
 MODIFICATION - 50,51,52,53,54  
 \*\*\*\*\*

T1 COLORADO SPRINGS MONUMENT CREEK EXIST. CONDS. MOD 3.05.82 STA. 10+00 TO 82+50  
 T2 BACKWATER CURVE 500 YEAR Q=53850cfs  
 T3 MONUMENT CREEK CENTERLINE CHANNEL = 1000 FT. RIGHT

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSL	FG
	0.	3.	0.	0.	0.000000	0.00	0.0	0.	6221.700	0.000
J2	NPROF	IPLDT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	15.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	15.000

1 03/05/82 22:21:20

SECD	DEPTH	CNSL	CRINS	WSELK	EG	HV	HL	CLOSS	BANK ELEV.
Q	QLOB	GCH	GROB	ALOB	ACH	AROB	VOL	TNA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\*PROF 2  
 CCHV- 0.300 CEHV= 0.500

1\*\*\*\*\*

\*SECNO 1000.000

1000.00	22.70	6221.70	0.00	6221.70	6226.43	4.73	0.00	0.00	6210.00
53850.	1099.	40270.	12481.	133.	2101.	1128.	0.	0.	6204.00
0.00	8.26	19.17	11.06	0.045	0.031	0.042	0.000	6199.00	937.03
0.002874	0.	0.	0.	0	0	0	0.00	193.74	1130.77

0 FLOW DISTRIBUTION FOR SECNO= 1000.00

STA=	937.	950.	1048.	1080.	1090.	1108.	1120.	1130.	1131.
PER Q=	2.0	74.8	12.3	3.1	4.4	2.2	1.3	0.0	
AREA=	133.1	2100.6	534.4	147.0	228.6	128.4	87.0	3.0	
VEL=	6.3	19.2	12.4	11.2	10.3	9.1	7.9	1.0	

\*SECNO 1400.000

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 807.0 -1085.0 -TYPE= 1 -TARGET= 278.000

ELENC=	6230.00	ELENCR=	6210.00						
1400.00	23.93	6225.93	0.00	0.00	6228.00	2.07	0.77	0.80	6204.00
53850.	16008.	26956.	10886.	2653.	1826.	1345.	42.	3.	6204.00
0.01	6.03	14.76	8.09	0.045	0.031	0.042	0.031	6202.00	624.32
0.001406	430.	400.	360.	5	0	0	0.00	518.86	1143.18

0 FLOW DISTRIBUTION FOR SECNO= 1400.00

STA=	624.	795.	850.	907.	960.	965.	1042.	1085.	1130.	1143.
PER Q=	4.2	3.7	7.2	13.3	1.4	50.1	14.2	5.9	0.2	
AREA=	626.3	415.3	626.1	885.4	99.7	1825.8	814.1	491.9	39.1	
VEL=	3.6	4.8	6.2	8.1	7.7	14.8	9.4	6.4	2.6	

CCHV= 0.300 CEHV= 0.500

\*SECNO 1810.000

3301 HV CHANGED MORE THAN HVINS

1810.00	23.69	6228.09	0.00	0.00	6228.71	0.62	0.27	0.44	6206.00
53850.	44797.	8300.	753.	8069.	874.	180.	88.	7.	6210.00
0.02	5.55	9.50	4.18	0.045	0.031	0.032	0.036	6204.40	430.31
0.000543	210.	410.	420.	3	0	0	0.00	607.58	1037.90

03/05/82 22:21:20

SECNO	DEPTH	CWSEL	CRINS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
G	GLOB	GCH	GROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TORWID	ENDST

0 FLOW DISTRIBUTION FOR SECNO= 1810.00

STA=	430.	470.	525.	555.	620.	790.	900.	910.	935.	980.	1018.	1038.
PER Q=	0.1	0.6	2.8	9.7	33.0	19.4	1.6	4.8	11.3	15.4	1.4	
AREA=	38.1	169.9	403.6	939.9	3075.2	1879.8	160.9	452.2	949.0	873.8	180.0	
VEL=	0.9	1.8	3.8	5.6	5.8	5.6	5.3	5.7	6.4	9.5	4.2	

CCHV= 0.300 CEHV= 0.500

\*SECNO 2250.000

3265 DIVIDED FLOW

1\*\*\*\*\*

3301 HV CHANGED MORE THAN HVINS

2350.00	20.93	6227.93	0.00	0.00	6229.46	1.53	0.30	0.46	6208.00
53850.	14666.	15178.	24006.	2297.	1022.	3187.	139.	11.	6208.00
0.03	6.38	14.85	7.53	0.045	0.030	0.045	0.038	6207.00	676.44
0.001611	205.	440.	445.	2	0	0	0.00	651.93	1363.12

FLOW DISTRIBUTION FOR SECNO=

STA=	676.	850.	880.	920.	958.	970.	1020.	1070.	1090.	1120.	1168.	1195.	1282.
PER Q=	6.5	3.4	6.1	7.7	3.5	28.2	16.5	5.5	6.7	8.4	3.6	3.5	
AREA=	768.8	298.1	477.4	537.6	215.2	1021.8	946.8	338.7	448.1	620.9	295.3	446.4	
VEL=	4.5	6.1	6.9	7.7	8.8	14.9	9.4	8.7	8.0	7.3	6.5	4.3	

STA= 1282. 1353.

PER Q=	0.3
AREA=	90.4
VEL=	2.1

\*SECNO 2750.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY  
3720 CRITICAL DEPTH ASSUMED

2750.00	17.99	6228.99	6228.99	0.00	6232.41	3.42	1.07	0.95	6212.00
53650.	7357.	15733.	30560.	937.	700.	2892.	192.	17.	6212.00
0.04	7.85	22.49	10.57	0.045	0.030	0.045	0.037	6211.00	801.59
0.004548	500.	500.	350.	4	12	0	0.00	662.92	1464.51

03/05/82 22:21:20

SECNO	DEPTH	CNSEL	CRWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
G	GLOS	GCH	GROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VRDB	XLN	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO=

STA=	802.	940.	965.	980.	1020.	1032.	1105.	1170.	1220.	1420.	1465.
PER Q=	6.3	3.3	4.1	29.3	5.0	24.6	16.9	6.6	3.8	0.1	
AREA=	542.8	199.7	194.8	699.6	191.9	1021.2	779.3	399.5	477.8	22.0	
VEL=	6.2	8.9	11.3	22.5	14.0	12.9	11.7	8.9	4.2	1.4	

CCHV= 0.300 CEHV= 0.500

\*SECNO 3240.000

3501 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED USEL, CNSEL  
3593 PROBABLE MINIMUM SPECIFIC ENERGY  
3720 CRITICAL DEPTH ASSUMED

3240.00	17.59	6232.59	6232.59	0.00	6237.50	4.91	2.42	0.74	6216.00
53650.	31939.	21243.	468.	2527.	900.	66.	236.	22.	6220.00
0.05	12.64	23.60	7.04	0.042	0.030	0.042	0.035	6215.00	698.52
0.005545	540.	490.	400.	20	8	0	0.00	333.89	1032.41

FLOW DISTRIBUTION FOR SECNO=

STA=	659	705.	718.	765.	795.	920.	965.	1020.	1028.	1032.
PER Q=	0.0	0.5	4.1	4.3	31.4	19.2	39.6	0.8	0.0	

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AREA= 8.4 46.7 262.9 227.8 1324.2 456.7 900.1 60.7 5.7  
VEL= 3.0 6.1 8.3 10.2 12.7 13.7 23.6 7.4 2.8

\*SECNO 3660.000

3301 HV CHANGED MORE THAN HVINS

3660.00 18.93 6236.93 0.00 0.00 6239.55 2.61 1.36 0.69 6220.00  
53650. 7406. 25753. 20491. 871. 1539. 2586. 273. 26. 6224.00  
0.06 8.50 15.74 7.92 0.042 0.030 0.042 0.035 6218.00 882.29  
0.002448 300. 420. 460. 6 0 0 0.00 485.05 1367.34

FLOW DISTRIBUTION FOR SECNO= 3660.00

CWSEL= 6236.93

STA= 882. 910. 975. 1060. 1115. 1140. 1155. 1180. 1195. 1250. 1305. 1367.  
PER Q= 0.7 13.1 48.0 13.6 6.2 2.6 2.3 1.1 5.4 5.4 1.6  
AREA= 96.0 775.3 1538.8 738.5 335.7 163.9 185.7 96.4 425.0 425.0 215.9  
VEL= 3.9 9.1 16.7 9.9 9.9 8.4 6.6 6.0 6.8 6.8 4.0

03/05/82 22:21:20

SECNO DEPTH CWSEL CRWS NSELK EG HV HL GLOSS BANK ELEV  
G GLOB GCH GROB ALOB ACH AROB VOL TWA LEFT/RIGHT  
TIME VLOB VCH VROB XNL XNCH XNR WTN ELMIN SSTA  
SLOPE XLOBL XLCH XLOBR ITRIAL IDC ICONT CORAR TOPWID ENDST

\*SECNO 4000.000

3301 HV CHANGED MORE THAN HVINS

3585 20 TRIALS ATTEMPTED NSEL, CWSEL  
3593 PROBABLE MINIMUM SPECIFIC ENERGY  
3720 CRITICAL DEPTH ASSUMED

4000.00 19.08 6239.08 6239.08 0.00 6243.32 4.24 0.91 0.81 6220.00  
53650. 2579. 21473. 29599. 232. 944. 2834. 302. 27. 6222.00  
0.06 11.13 22.75 10.44 0.042 0.030 0.042 0.035 6220.00 960.46  
0.004217 400. 340. 220. 20 5 0 0.00 461.23 1421.69

FLOW DISTRIBUTION FOR SECNO= 4000.00

CWSEL= 6239.08

STA= 960. 980. 1030. 1040. 1050. 1070. 1135. 1180. 1220. 1335. 1422.  
PER Q= 4.8 40.0 5.1 5.1 14.4 12.2 6.9 3.5 6.2 1.9  
AREA= 231.8 944.0 175.8 175.8 573.2 543.6 383.6 243.2 526.6 212.2  
VEL= 11.1 22.7 15.5 15.5 13.5 12.1 9.6 7.6 6.3 4.7

\*SECNO 4310.000

3301 HV CHANGED MORE THAN HVINS

4310.00 20.02 6242.02 0.00 0.00 6244.61 2.59 0.80 0.49 6226.00  
53650. 16907. 22785. 13938. 1951. 1340. 1573. 327. 31. 6224.00  
0.07 8.67 17.01 8.87 0.042 0.030 0.042 0.035 6222.00 767.85  
0.002324 350. 310. 170. 5 0 0 0.00 490.62 1248.47

FLOW DISTRIBUTION FOR SECNO= 4310.00

CWSEL= 6242.02

STA= 768. 863. 885. 930. 970. 1040. 1085. 1100. 1130. 1248.  
PER Q= 5.8 3.8 10.3 11.6 42.5 16.1 4.0 3.7 2.3  
AREA= 521.3 242.5 566.1 601.0 1339.7 766.1 215.4 270.7 320.9  
VEL= 5.9 8.4 9.4 10.4 17.0 11.3 9.9 7.3 3.8

*Calculated*  
*Head*  
*Head*  
*eddy loss*  
*STA*  
*Current*  
*WS*  
PAGE 18





5790.00 18.55 6250.55 6250.55 0.00 6256.95 6.41 1.78 2.40 6234.00  
 53400. 3402. 21586. 28411. 283. 826. 1839. 477. 45. 6234.00  
 0.10 12.01 26.14 15.45 0.042 0.030 0.042 0.034 6232.00 948.04  
 0.005902 540. 610. 650. 20 11 0 0.00 229.97 1178.01

FLOW DISTRIBUTION FOR SECNO= 5790.00 CWSL= 6290.55  
 STA= 948. 970. 980. 1025. 1045. 1065. 1098. 1110. 1135. 1175. 1178.  
 PER Q= 2.2 4.2 40.4 10.7 10.7 16.3 4.7 7.5 3.5 0.0  
 AREA= 137.8 145.5 825.7 326.0 326.0 313.1 162.6 288.7 221.9 0.8  
 VEL= 8.4 15.4 26.1 17.5 17.5 16.9 15.3 13.9 8.3 1.1

CCHV= 0.300 CEHV= 0.500  
 \*SECNO 6120.000  
 3280 CROSS SECTION 6120.00 EXTENDED 9.68 FEET

3301 HV CHANGED MORE THAN HVINS  
 6120.00 23.68 6257.68 0.00 0.00 6259.27 1.58 0.87 1.45 6240.00  
 53400. 2337. 27005. 24058. 656. 2274. 2940. 515. 48. 6236.00  
 0.11 3.56 11.87 8.18 0.042 0.035 0.040 0.034 6234.00 762.11  
 0.001230 300. 400. 360. 4 0 0 0.00 487.89 1250.00

FLOW DISTRIBUTION FOR SECNO= 6120.00 CWSL= 6257.68  
 STA= 762. 800. 930. 945. 960. 1060. 1075. 1140. 1160. 1170. 1210. 1250.  
 PER Q= 0.1 1.6 0.6 2.1 50.6 5.7 20.9 3.3 2.1 6.7 4.4  
 AREA= 31.9 318.9 85.3 190.3 2274.4 310.3 1214.4 333.7 146.8 507.4 427.4  
 VEL= 1.1 2.4 3.9 6.0 11.9 9.8 9.2 8.5 7.7 7.1 5.5

\*SECNO 6370.000  
 3280 CROSS SECTION 6370.00 EXTENDED 1.45 FEET

3301 HV CHANGED MORE THAN HVINS  
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL  
 3593 PROBABLE MINIMUM SPECIFIC ENERGY  
 3720 CRITICAL DEPTH ASSUMED  
 6370.00 23.95 6259.45 6259.45 0.00 6264.02 4.57 0.48 1.49 6240.00  
 53400. 4433. 39645. 9322. 464. 2048. 1347. 542. 51. 6240.00  
 0.11 9.56 19.36 6.92 0.042 0.035 0.040 0.035 6236.50 852.20  
 0.003482 250. 250. 250. 20 8 0 0.00 447.80 1300.00

03/05/82 22:21:20 PAGE 21

SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	GLOSS	BANK ELEV
Q	GLOS	GCH	GROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOS	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 6370.00 CWSL= 6259.45  
 STA= 852. 903. 923. 945. 1040. 1050. 1060. 1070. 1190. 1255. 1300.  
 PER Q= 0.1 1.3 6.9 74.2 2.8 1.4 0.9 8.3 3.2 0.8  
 AREA= 35.9 109.0 317.9 2047.9 144.5 84.5 64.5 654.2 289.3 110.3  
 VEL= 1.7 6.2 11.6 19.4 10.3 9.0 7.5 6.8 5.9 3.9

\*SECNO 6650.000  
 3280 CROSS SECTION 6650.00 EXTENDED 6.85 FEET

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3301 HV CHANGED MORE THAN HVINS  
3685 20 TRIALS ATTEMPTED WSEL, CWSEL  
3693 PROBABLE MINIMUM SPECIFIC ENERGY  
3720 CRITICAL DEPTH ASSUMED

6650.00 24.85 6264.85 6264.85 0.00 6271.39 6.54 1.11 0.99 6244.00  
53400. 9007. 37031. 7362. 722. 1589. 632. 564. 53. 6244.00  
0.11 12.47 23.30 11.65 0.042 0.035 0.040 0.035 6240.00 850.75  
0.004727 250. 280. 280. 20 8 0 0.00 257.25 1108.00

0 FLOW DISTRIBUTION FOR SECNO= 6650.00 CWSEL= 6264.85  
STA= 851. 945. 955. 962. 970. 1040. 1053. 1090. 1108.  
PER Q= 3.4 4.5 3.8 5.2 69.3 7.1 5.2 1.5  
AREA= 220.2 158.5 124.9 158.8 1589.4 232.0 285.4 114.3  
VEL= 6.5 15.1 16.2 17.5 23.3 16.4 9.7 7.1

\*SECNO 6690.000  
3280 CROSS SECTION 6690.00 EXTENDED 7.95 FEET  
7185 MINIMUM SPECIFIC ENERGY  
3720 CRITICAL DEPTH ASSUMED

6690.00 21.95 6265.95 6265.95 0.00 6272.11 6.16 0.19 0.12 6246.00  
53400. 7613. 37850. 7937. 689. 1679. 701. 567. 53. 6246.00  
0.11 11.04 22.54 11.32 0.042 0.035 0.040 0.035 6244.00 845.24  
0.004725 40. 40. 40. 3 11 0 0.00 269.76 1115.00

0 FLOW DISTRIBUTION FOR SECNO= 6690.00 CWSEL= 6265.95  
STA= 845. 945. 955. 962. 1040. 1048. 1060. 1090. 1115.  
PER Q= 5.0 5.0 4.2 70.9 4.4 3.8 4.0 2.6  
AREA= 387.2 169.5 132.7 1679.3 143.6 155.4 223.6 178.8  
VEL= 7.0 15.8 16.8 22.5 16.3 13.1 9.7 7.9

1 03/05/82 22:21:20

SECNO DEPTH CWSEL CRWS WSELK EG HV HL DLOSS BANK ELEV  
Q CLOS GCH GROB ALOB ACH AROB VOL TWA LEFT/RIGHT  
TIME VLOB VCH VROB XNL XNCH XNR WTN ELMIN SSTA  
SLOPC XLOBL XLCH XLOBR ITRIAL IDC ICONT CORAR TOPWID ENDST

\*SECNO 6780.000  
3280 CROSS SECTION 6780.00 EXTENDED 15.08 FEET

3301 HV CHANGED MORE THAN HVINS  
6780.00 28.08 6273.08 0.00 0.00 6273.84 0.76 0.12 1.62 6248.00  
51000. 6814. 17022. 27164. 1455. 1871. 4590. 578. 54. 6250.00  
0.12 4.68 9.10 5.92 0.042 0.035 0.040 0.035 6245.00 818.00  
0.000583 90. 90. 90. 4 0 0 0.00 477.00 1295.00

0 FLOW DISTRIBUTION FOR SECNO= 6780.00 CWSEL= 6273.08  
STA= 810. 910. 950. 960. 1030. 1055. 1075. 1115. 1140. 1210. 1280. 1295.  
PER Q= 3.7 6.3 3.3 33.4 7.6 4.7 7.2 3.8 13.9 14.3 1.7  
AREA= 596.3 618.1 240.8 1870.5 552.0 381.6 643.1 364.5 1194.3 1213.0 241.2  
VEL= 3.2 5.2 7.0 9.1 7.0 6.3 5.7 5.3 5.9 6.0 3.6

CCHV= 0.300 CCHV= 0.500  
\*SECNO 7110.000  
3280 CROSS SECTION 7110.00 EXTENDED 3.66 FEET

1\*\*\*\*\*

7110.00	26 16	6273.66	0.00	0.00	6274.09	0.43	0.15	0.10	6250.00
49000.	13612.	10131.	25257.	3727.	1271.	5909.	644.	58.	6250.00
0.14	3.65	7.97	4.59	0.048	0.031	0.037	0.034	6247.50	690.00
0.000376	330.	330.	300.	2	0	0	0.00	802.10	1492.10

FLOW DISTRIBUTION FOR SECNO= 7110.00 CUSEL= 6273.66

STA=	690.	800.	865.	920.	950.	980.	1030.	1060.	1078.	1105.	1195.	1300.	1450.
PER Q=	3.5	4.1	7.8	5.7	6.7	20.7	9.5	5.3	5.5	12.6	11.5	7.1	1450.
AREA=	782.7	693.0	951.3	619.8	679.8	1270.5	717.3	412.4	503.8	1319.5	1329.4	1149.1	
VEL=	2.2	2.9	4.0	4.5	4.8	8.0	6.5	6.2	5.4	4.7	4.2	3.0	

STA= 1450. 1492.

PER Q=	0.2
AREA=	77.1
VEL=	1.2

\*SECNO 7250.000  
3280 CROSS SECTION 7250.00 EXTENDED 3.43 FEET

03/05/82 22:21:20

SECNO	DEPTH	CUSEL	CRISW	WSELK	EG	HV	HL	CLOSS	BANK	ELEV
0	GLOB	GCH	GRQB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT	
TIME	VLOB	VCH	VROB	XLN	XNCH	XNR	WTN	ELMIN	SSTA	
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICDNT	CORAR	TOPWID	ENDST	

3301 HV CHANGED MORE THAN HVINS

7250.00	25.23	6273.43	0.00	0.00	6274.49	1.06	0.08	0.32	6250.00
49000.	29624.	13976.	5200.	3072.	1111.	1142.	673.	61.	6250.00
0.14	5.88	12.58	4.55	0.048	0.031	0.037	0.034	6248.20	580.00
0.000967	130.	140.	130.	2	0	0	0.00	705.09	1285.09

FLOW DISTRIBUTION FOR SECNO= 7250.00 CUSEL= 6273.43

STA=	580.	740.	790.	820.	860.	890.	975.	985.	1030.	1048.	1220.	1285.
PER Q=	6.1	4.9	5.0	8.3	7.6	25.5	3.5	28.5	5.4	4.8	0.4	
AREA=	948.1	521.3	432.8	657.0	552.8	1736.2	224.3	1110.9	331.7	699.2	111.5	
VEL=	3.2	4.6	5.7	6.2	6.7	7.2	7.6	12.6	8.0	3.4	1.8	

CCHV= 0.300 CEHV= 0.500

\*SECNO 7610.000

7610.00	23.57	6273.57	0.00	0.00	6274.99	1.42	0.32	0.18	6252.00
49000.	14338.	23703.	10909.	2372.	1958.	1633.	725.	65.	6254.00
0.15	6.07	12.10	6.68	0.042	0.030	0.042	0.034	6250.00	660.79
0.000923	330.	360.	335.	2	0	0	0.00	490.62	1151.42

FLOW DISTRIBUTION FOR SECNO= 7610.00 CUSEL= 6273.57

STA=	661.	832.	860.	900.	920.	945.	1030.	1082.	1097.	1140.	1151.
PER Q=	3.2	3.1	9.0	5.7	8.5	48.4	14.8	3.5	3.8	0.1	
AREA=	547.7	295.9	642.7	371.4	514.2	1958.3	965.5	248.5	398.4	20.4	
VEL=	2.8	5.1	6.8	7.5	8.1	12.1	7.5	6.9	4.7	1.5	

\*SECNO 7980.000

3301 HV CHANGED MORE THAN HVINS

7980.00	21.69	6273.69	0.00	0.00	6275.71	2.02	0.42	0.30	6254.00
49000.	3055.	17203.	28712.	475.	1122.	3281.	768.	69.	6254.00

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0.16	6.49	15.34	8.75	0.042	0.030	0.042	0.034	6252.00	914.15			
0.001650	330.	370.	340.	2	0	0	0.00	354.86	1269.01			
FLOW DISTRIBUTION FOR SECNO= 7980.00 CWSEL= 6273.69												
STA=	914.	922.	937.	948.	962.	972.	1025.	1062.	1110.	1205.	1245.	1269.
PER Q=	0.1	0.6	0.8	2.0	2.9	35.1	14.3	15.3	24.6	4.2	0.2	
AREA=	14.5	70.4	73.6	149.7	166.9	1121.8	691.7	801.3	1395.9	347.7	44.3	
VEL=	2.0	4.0	5.0	6.6	8.5	15.3	10.1	9.4	8.6	6.0	2.1	

03/05/82 22:21:20 PAGE 24

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

\*SECNO 8250.000

3301 HV CHANGED MORE THAN HVINS

8250.00	19.67	6273.17	0.00	0.00	6277.47	4.30	0.62	1.14	6256.00
49000.	7757.	39213.	2029.	982.	2154.	323.	796.	71.	6260.00
0.17	7.90	18.20	6.28	0.042	0.030	0.042	0.034	6253.50	775.34
0.002889	300.	270.	320.	3	0	0	0.00	373.87	1149.21

0 FLOW DISTRIBUTION FOR SECNO= 8250.00 CWSEL= 6273.17

STA=	775.	837.	845.	940.	950.	1070.	1100.	1149.
PER Q=	0.1	0.1	12.2	3.4	80.0	3.7	0.4	
AREA=	36.2	17.4	775.6	151.7	2154.4	245.2	78.1	
VEL=	1.3	3.1	7.7	11.1	18.2	7.5	2.6	

1 PROFILE FOR STREAM MENT CREEK CENTERLINE

PLUTIED POINTS (BY PRIORITY)-E-ENERGY, W-WATER SURFACE, I-INVERT, C-CRITICAL W. S., L-LEFT BANK, R-RIGHT BANK, M-LOWER END STA

ELEVATION	SECNO	6190.	6200.	6210.	6220.	6230.	6240.	6250.	6260.	6270.	6280.
1000.00		C									
50.		C	I	R							
100.		C	I	R							
150.		C	I	R							
200.		C	I	R							
250.		C	I	R							
300.		C	I	R							
350.		C	I	R							
400.		C	I	R							
450.		C	I	R							
500.		C	I	R							
550.		C	I	R							
600.		C	I	R							
650.		C	I	R							
700.		C	I	R							
750.		C	I	R							
800.		C	I	R							

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	10	20	30	40
1810.00	850.			
	900.			
	950.			
	1000.			
	1050.			
	1100.			
	1150.			
	1200.			
2250.00	1230.			
	1300.			
	1350.			
	1400.			
	1450.			
	1500.			
	1550.			
	1600.			
	1650.			
	1700.			
	1750.			
2750.00	1800.			
	1850.			
	1900.			
	1950.			
	2000.			
	2050.			
	2100.			
	2150.			
	2200.			
3240.00	2250.			
	2300.			
	2350.			
	2400.			
	2450.			
	2500.			
	2550.			
	2600.			
	2650.			
3660.00	2700.			
	2750.			
	2800.			
	2850.			
	2900.			
	2950.			
	3000.			
4000.00	3050.			
	3100.			
	3150.			
	3200.			
	3250.			
	3300.			
4310.00	3350.			
	3400.			
	3450.			
	3500.			
	3550.			
	3600.			



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6450.	C	I.L	W E
6500.	C	I.LR	WME
6550.	C	I.LR	WEM
6600.	C	I.LR	WE M
6650.	C	I.LR	WE M
7610.00	C	I.LR	WE M
6750.	C	I.LR	WE M
6800.	C	I.LR	WE M
6850.	C	I.LR	WE M
6900.	C	I.LR	WE M
6950.	C	I.LR	WE M
7000.	C	I.LR	WE M
7050.	C	I.L	W W
7980.00	C	I.L	W W
7100.	C	I.L	W W
7150.	C	I.LR	W W
7200.	C	I.LR	W W
7250.	C	I.LR	W W
7300.	C	I.LR	W W
8250.00	C	I.L R	W W
7350.	C	I.L R	W W

03/05/82 22:21:20

THIS RUN EXECUTED 03/05/82 22:22:29

HEC2 RELEASE DATED NOV 76 UPDATED APR 1980  
 ERROR CORR - 01, 02, 03, 04  
 MODIFICATION - 50, 51, 52, 53, 54

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

MENT CREEK CENTERLINE SUMMARY PRINTOUT TABLE 150

SECTNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRWS	EG	10K*S	VCH	AREA	.01K
1000.000	0.00	0.00	0.00	6199.00	30270.00	6216.00	0.00	6219.37	29.84	15.89	3261.00	5541.63
1000.000	0.00	0.00	0.00	6199.00	53850.00	6221.70	0.00	6226.43	28.74	19.17	3362.07	10044.73
1400.000	400.00	0.00	0.00	6202.00	30270.00	6217.12	0.00	6220.94	39.14	18.08	2306.95	4838.10
1400.000	400.00	0.00	0.00	6202.00	53850.00	6225.93	0.00	6228.00	14.06	14.76	5823.55	14363.07
1810.000	410.00	0.00	0.00	6204.40	30270.00	6221.91	0.00	6222.42	8.16	8.68	5771.63	10599.51
1810.000	410.00	0.00	0.00	6204.40	53850.00	6228.09	0.00	6228.71	6.43	9.50	9122.62	21231.76
2250.000	440.00	0.00	0.00	6207.00	30270.00	6221.56	0.00	6223.70	31.97	16.31	3196.10	5353.76
2250.000	440.00	0.00	0.00	6207.00	53850.00	6227.93	0.00	6229.46	16.11	14.85	6505.48	13415.95
* 2750.000	500.00	0.00	0.00	6211.00	30150.00	6225.30	6225.30	6228.50	49.61	20.06	2403.52	4280.59
* 2750.000	500.00	0.00	0.00	6211.00	53650.00	6228.99	6228.99	6232.41	45.48	22.49	4528.59	7955.59
* 3240.000	490.00	0.00	0.00	6215.00	30150.00	6228.97	6228.97	6232.70	55.53	19.99	2313.26	4045.94
* 3240.000	490.00	0.00	0.00	6215.00	53650.00	6232.59	6232.59	6237.50	55.45	23.60	3493.34	7204.58
* 3650.000	420.00	0.00	0.00	6218.00	30150.00	6231.65	6231.65	6234.84	40.98	17.21	2616.59	4709.81



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3650.000	420.00	0.00	0.00	6218.00	53650.00	6236.93	0.00	6239.55	24.48	16.74	4996.12	10844.26
* 4000.000	340.00	0.00	0.00	6220.00	30150.00	6235.33	6235.33	6238.94	41.97	19.58	2408.85	4653.75
* 4000.000	340.00	0.00	0.00	6220.00	53650.00	6239.08	6239.08	6243.32	42.17	22.75	4009.63	8262.11
4310.000	310.00	0.00	0.00	6222.00	30150.00	6238.50	0.00	6240.22	18.67	13.31	3335.66	6978.16
4310.000	310.00	0.00	0.00	6222.00	53650.00	6242.02	0.00	6244.61	23.24	17.01	4863.82	11129.75
* 4710.000	400.00	0.00	0.00	6224.70	30150.00	6239.29	6239.29	6242.90	43.23	17.72	2406.91	4585.46
* 4710.000	400.00	0.00	0.00	6224.70	53650.00	6242.98	6242.98	6247.08	40.21	20.23	4148.00	8460.50
5180.000	470.00	0.00	0.00	6227.30	30000.00	6243.38	0.00	6244.57	16.08	11.87	4619.73	7482.01
5180.000	470.00	0.00	0.00	6227.30	53400.00	6247.10	0.00	6248.71	17.48	14.38	6760.03	12772.66

1 03/05/82 22:21:20

SECND	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRWS	EG	10K*S	VCH	AREA	01K
* 5790.000	610.00	0.00	0.00	6232.00	30000.00	6245.83	6245.83	6250.60	62.78	22.11	1930.13	3786.41
* 5790.000	610.00	0.00	0.00	6232.00	53400.00	6250.55	6250.55	6256.95	59.02	26.14	2947.93	6950.77
6120.000	400.00	0.00	0.00	6234.00	30000.00	6251.33	0.00	6252.68	15.63	10.76	3469.26	7589.46
6120.000	400.00	0.00	0.00	6234.00	53400.00	6257.68	0.00	6259.27	12.30	11.87	5870.62	15225.78
* 6370.000	250.00	0.00	0.00	6236.50	30000.00	6252.33	6252.33	6258.26	64.55	20.17	1625.65	3733.65
* 6370.000	250.00	0.00	0.00	6236.50	53400.00	6259.45	6259.45	6264.02	34.82	19.36	3859.04	9049.64
* 6650.000	280.00	0.00	0.00	6240.00	30000.00	6257.96	6257.96	6264.14	64.97	21.46	1603.08	3721.85
* 6650.000	280.00	0.00	0.00	6240.00	53400.00	6264.85	6264.85	6271.39	47.27	23.30	2943.67	7767.27
* 6890.000	40.00	0.00	0.00	6244.00	30000.00	6260.01	6260.01	6265.45	57.69	20.08	1737.00	3949.73
* 6890.000	40.00	0.00	0.00	6244.00	53400.00	6265.95	6265.95	6272.11	47.25	22.54	3070.05	7768.49
6700.000	90.00	0.00	0.00	6245.00	28500.00	6266.33	0.00	6267.02	7.58	8.55	4801.68	10353.04
6700.000	90.00	0.00	0.00	6245.00	51000.00	6273.08	0.00	6273.84	5.83	9.10	7915.31	21127.13
7110.000	330.00	0.00	0.00	6247.50	27200.00	6266.74	0.00	6267.29	6.69	8.61	5308.64	10518.77
7110.000	330.00	0.00	0.00	6247.50	49000.00	6273.66	0.00	6274.09	3.76	7.97	10505.84	29263.44
7250.000	140.00	0.00	0.00	6248.20	27200.00	6266.46	0.00	6267.85	16.22	13.06	3472.47	6754.23
7250.000	140.00	0.00	0.00	6248.20	49000.00	6273.43	0.00	6274.49	9.67	12.58	7325.65	15757.47
7810.000	360.00	0.00	0.00	6250.00	27200.00	6267.06	0.00	6268.35	11.80	10.97	3418.41	7918.41
7810.000	360.00	0.00	0.00	6250.00	49000.00	6273.57	0.00	6274.99	9.23	12.10	5963.13	16129.87
7980.000	370.00	0.00	0.00	6252.00	27200.00	6267.29	0.00	6269.29	24.92	14.83	2794.01	5448.40
7980.000	370.00	0.00	0.00	6252.00	49000.00	6273.69	0.00	6275.71	16.50	15.34	4877.80	12063.79
8250.000	270.00	0.00	0.00	6253.50	27200.00	6267.12	6266.70	6271.34	44.76	17.22	1834.99	4065.45
8250.000	270.00	0.00	0.00	6253.50	49000.00	6273.17	0.00	6277.47	28.89	18.20	3459.72	9116.58

1 03/05/82 22:01:20

MENT CREW CENTERLINE

SUMMARY PRINTOUT TABLE 150

SECNO	Q	CINSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
1000.000	30270.00	6216.00	0.00	0.00	0.00	192.60	0.00
1000.000	53850.00	6221.70	5.70	0.00	0.00	193.74	0.00
1400.000	30270.00	6217.12	0.00	1.12	0.00	274.84	400.00
1400.000	53850.00	6225.93	8.81	4.23	0.00	518.86	400.00
1810.000	30270.00	6221.91	0.00	4.79	0.00	499.12	410.00
1810.000	53850.00	6228.09	6.18	2.16	0.00	607.58	410.00
2250.000	30270.00	6221.56	0.00	-0.35	0.00	434.16	440.00
2250.000	53850.00	6227.93	6.37	-0.16	0.00	651.93	440.00
* 2750.000	30150.00	6225.30	0.00	-3.74	0.00	382.18	500.00
* 2750.000	53650.00	6228.99	3.68	1.06	0.00	662.92	500.00
* 3240.000	30150.00	6228.97	0.00	3.67	0.00	315.49	490.00
* 3240.000	53650.00	6232.59	3.62	-3.60	0.00	333.89	490.00
* 3660.000	30150.00	6231.65	0.00	2.68	0.00	416.42	420.00
* 3660.000	53650.00	6236.93	5.28	4.34	0.00	485.05	420.00
* 4000.000	30150.00	6235.33	0.00	3.68	0.00	389.33	340.00
* 4000.000	53650.00	6239.08	3.73	2.15	0.00	461.23	340.00
4310.000	30150.00	6238.50	0.00	3.17	0.00	377.43	310.00
4310.000	53650.00	6242.02	3.52	2.94	0.00	480.62	310.00
* 4710.000	30150.00	6239.29	0.00	0.79	0.00	382.38	400.00
* 4710.000	53650.00	6242.98	3.69	0.96	0.00	512.76	400.00
5160.000	30000.00	6243.38	0.00	4.09	0.00	570.14	470.00
5160.000	53400.00	6247.10	3.71	4.12	0.00	581.29	470.00
* 5790.000	30000.00	6245.83	0.00	2.44	0.00	202.01	610.00
* 5790.000	53400.00	6250.55	4.72	3.45	0.00	229.97	610.00
6120.000	30000.00	6251.33	0.00	5.50	0.00	309.98	400.00
6120.000	53400.00	6257.68	6.36	7.14	0.00	487.89	400.00
* 6370.000	30000.00	6252.33	0.00	1.00	0.00	144.44	250.00
* 6370.000	53400.00	6259.45	7.13	1.77	0.00	447.80	250.00
* 6650.000	30000.00	6257.96	0.00	5.63	0.00	133.18	280.00
* 6650.000	53400.00	6264.85	6.89	5.40	0.00	257.25	280.00
* 6690.000	30000.00	6260.01	0.00	2.05	0.00	183.01	40.00
* 6690.000	53400.00	6265.95	5.95	1.10	0.00	269.76	40.00

03/05/02 22:21:20

SECNO Q CINSEL DIFWSP DIFWSX DIFKWS TOPWID XLCH

1\*\*\*\*\*

6780.000	28500.00	6266.33	0.00	6.33	0.00	446.25	90.00
6780.000	51000.00	6273.08	6.75	7.13	0.00	477.00	90.00
7110.000	27200.00	6266.74	0.00	0.40	0.00	674.43	330.00
7110.000	49000.00	6273.66	6.93	0.58	0.00	802.10	330.00
7250.000	27200.00	6266.46	0.00	-0.28	0.00	349.60	140.00
7250.000	49000.00	6273.43	6.97	-0.24	0.00	705.09	140.00
7610.000	27200.00	6267.06	0.00	0.61	0.00	316.52	360.00
7610.000	49000.00	6273.57	6.51	0.14	0.00	490.62	360.00
7980.000	27200.00	6267.29	0.00	0.23	0.00	293.31	370.00
7980.000	49000.00	6273.69	6.40	0.12	0.00	354.86	370.00
8250.000	27200.00	6267.12	0.00	-0.18	0.00	218.95	270.00
8250.000	49000.00	6273.17	6.06	-0.52	0.00	373.87	270.00

1 03/05/82 22:21:20

SUMMARY OF ERRORS

CAUTION SECNO= 2750.000 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 2750.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 2750.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
CAUTION SECNO= 2750.000 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 2750.000 PROFILE= 2 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 3240.000 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 3240.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 3240.000 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 3240.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 3240.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 3660.000 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 3660.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 4000.000 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 4000.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 4000.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
CAUTION SECNO= 4000.000 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 4000.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 4000.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 4710.000 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 4710.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 4710.000 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 4710.000 PROFILE= 2 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 5790.000 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 5790.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 5790.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

1\*\*\*\*\*

\*\* PAGE 30

CAUTION SECNO= 5790.000 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 5790.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 5790.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 6370.000 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 6370.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 6370.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
CAUTION SECNO= 6370.000 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 6370.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 6370.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 6650.000 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 6650.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 6650.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
CAUTION SECNO= 6650.000 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 6650.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 6650.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 6690.000 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 6690.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY

1  
03/05/82 22:21:20

PAGE 30

CAUTION SECNO= 6690.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
CAUTION SECNO= 6690.000 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 6690.000 PROFILE= 2 MINIMUM SPECIFIC ENERGY

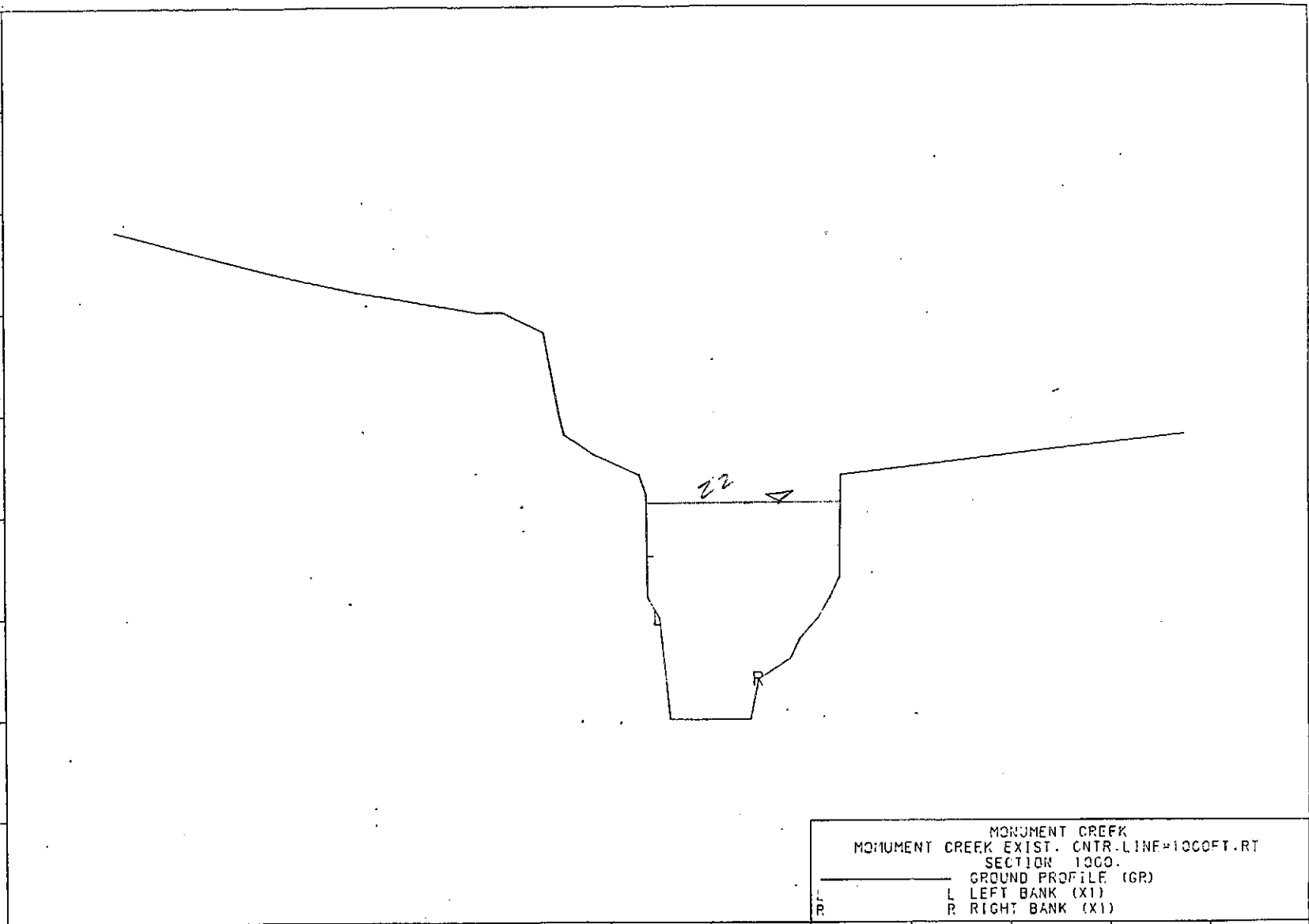
1  
03/05/82 22:22:34

PAGE 1

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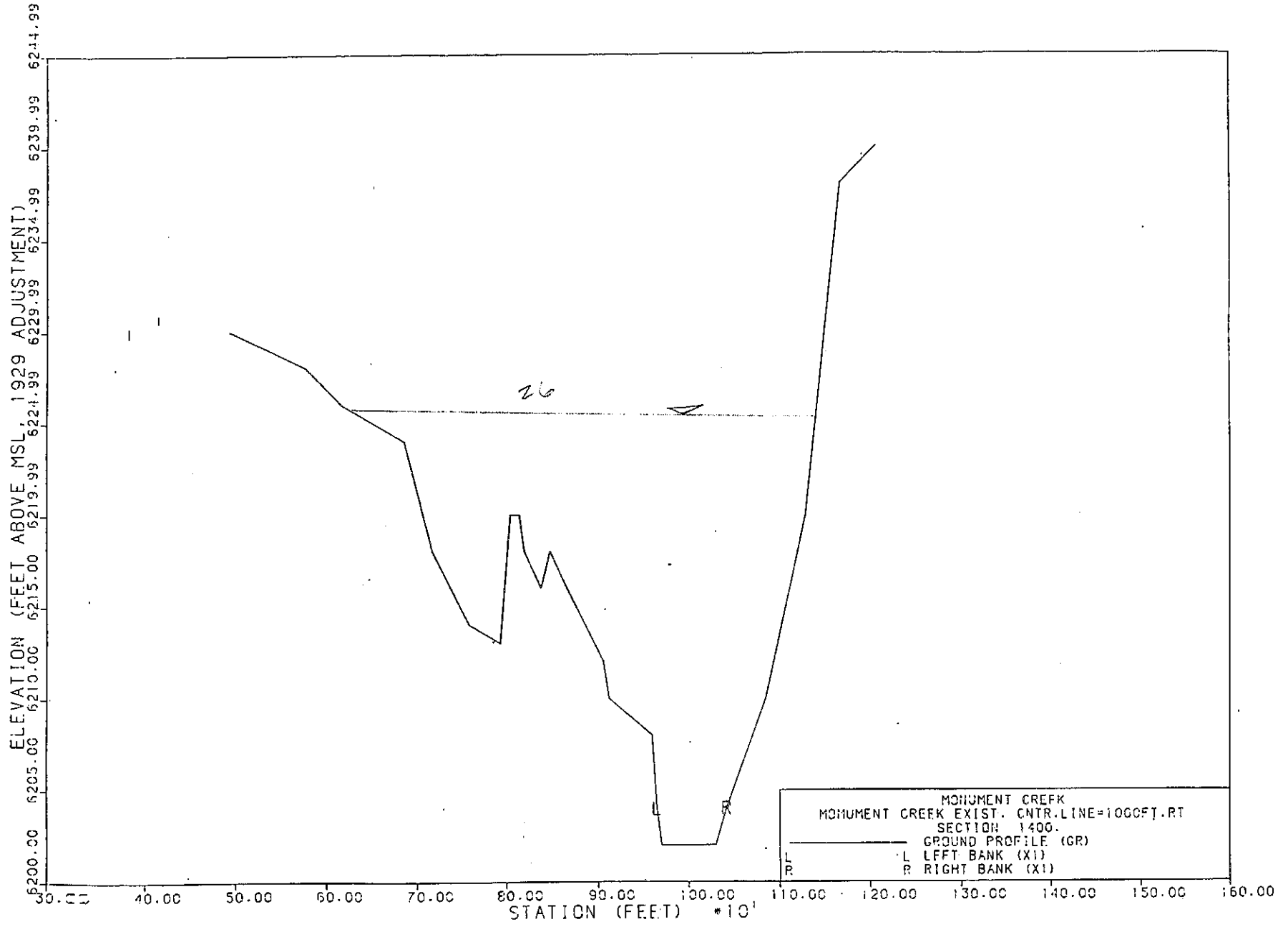
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HEC2 RELEASE DATED NOV 76 UPDATED APR 1980  
ERROR CORR - 01, 02, 03, 04  
MODIFICATION - 50, 51, 52, 53, 54  
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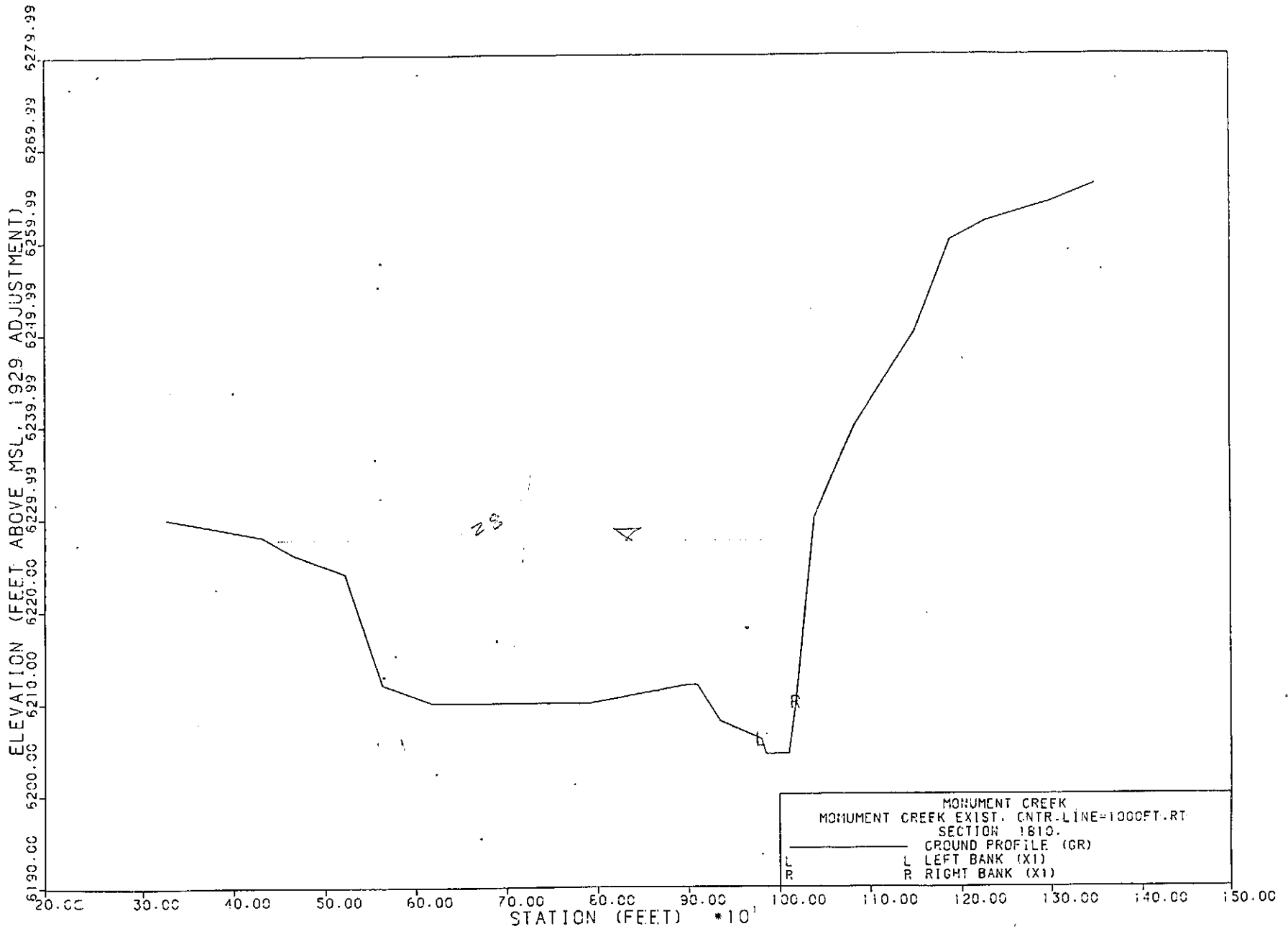
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6269.99  
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6249.99  
6239.99  
6229.99  
6219.99  
6210.00  
6200.00  
6190.00

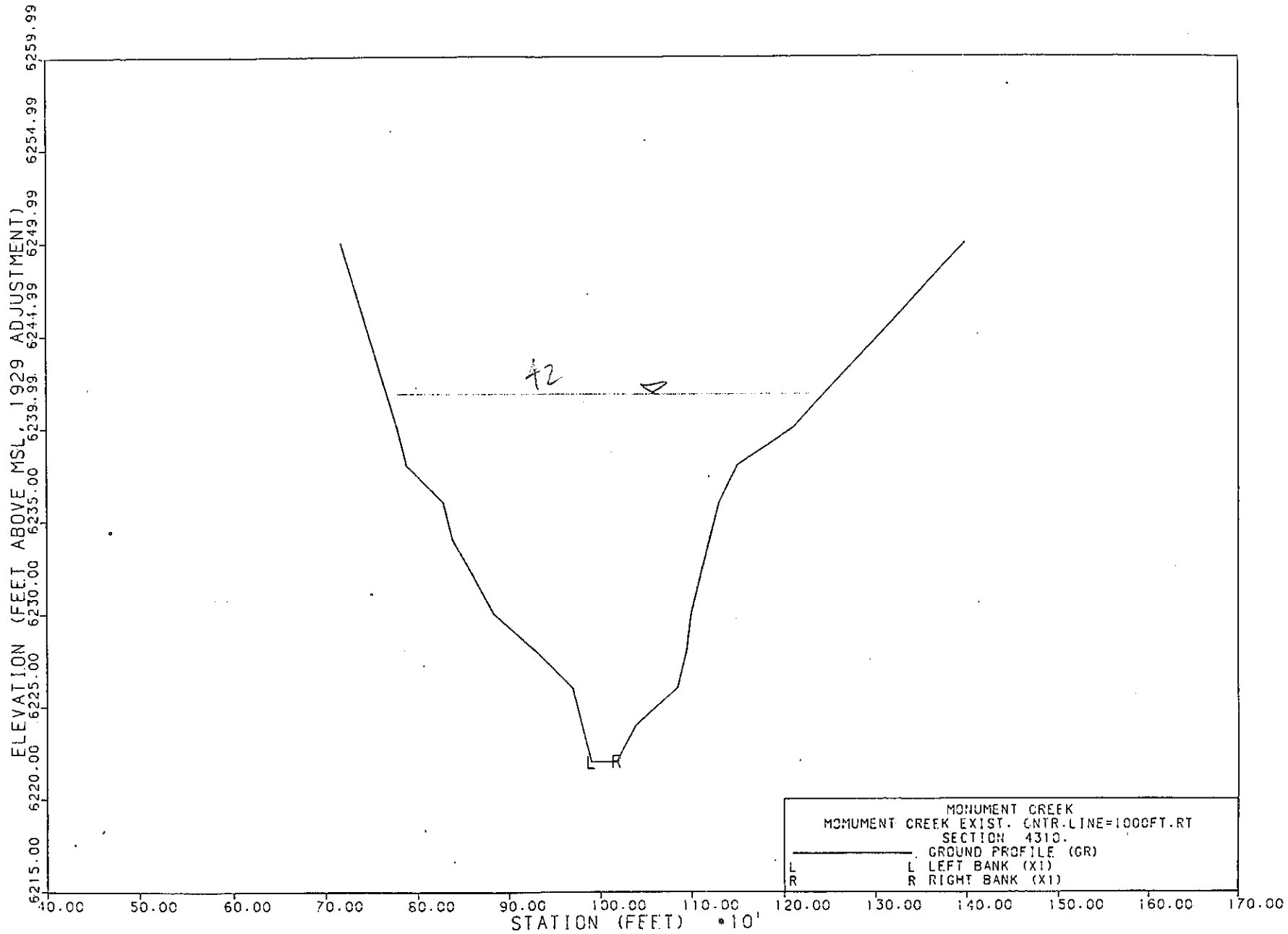


MONUMENT CREEK  
MONUMENT CREEK EXIST. CNTR. LINE=1000 FT. RT  
SECTION 1000.  
GROUND PROFILE (GR)  
L LEFT BANK (X1)  
R RIGHT BANK (X1)

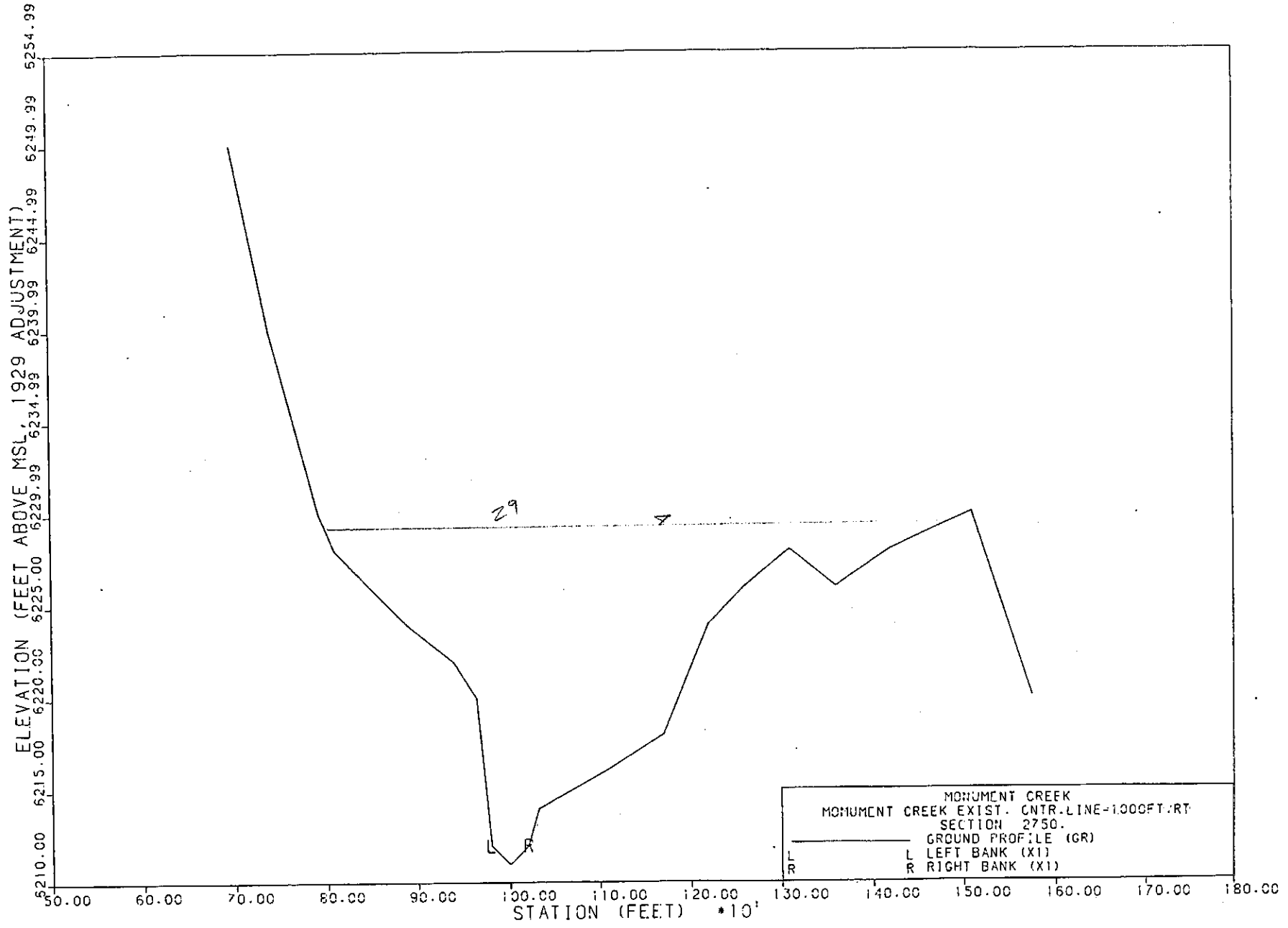
30.00 40.00 50.00 60.00 70.00 80.00 90.00 100.00 110.00 120.00 130.00 140.00 150.00 160.00  
STATION (FEET) \*10

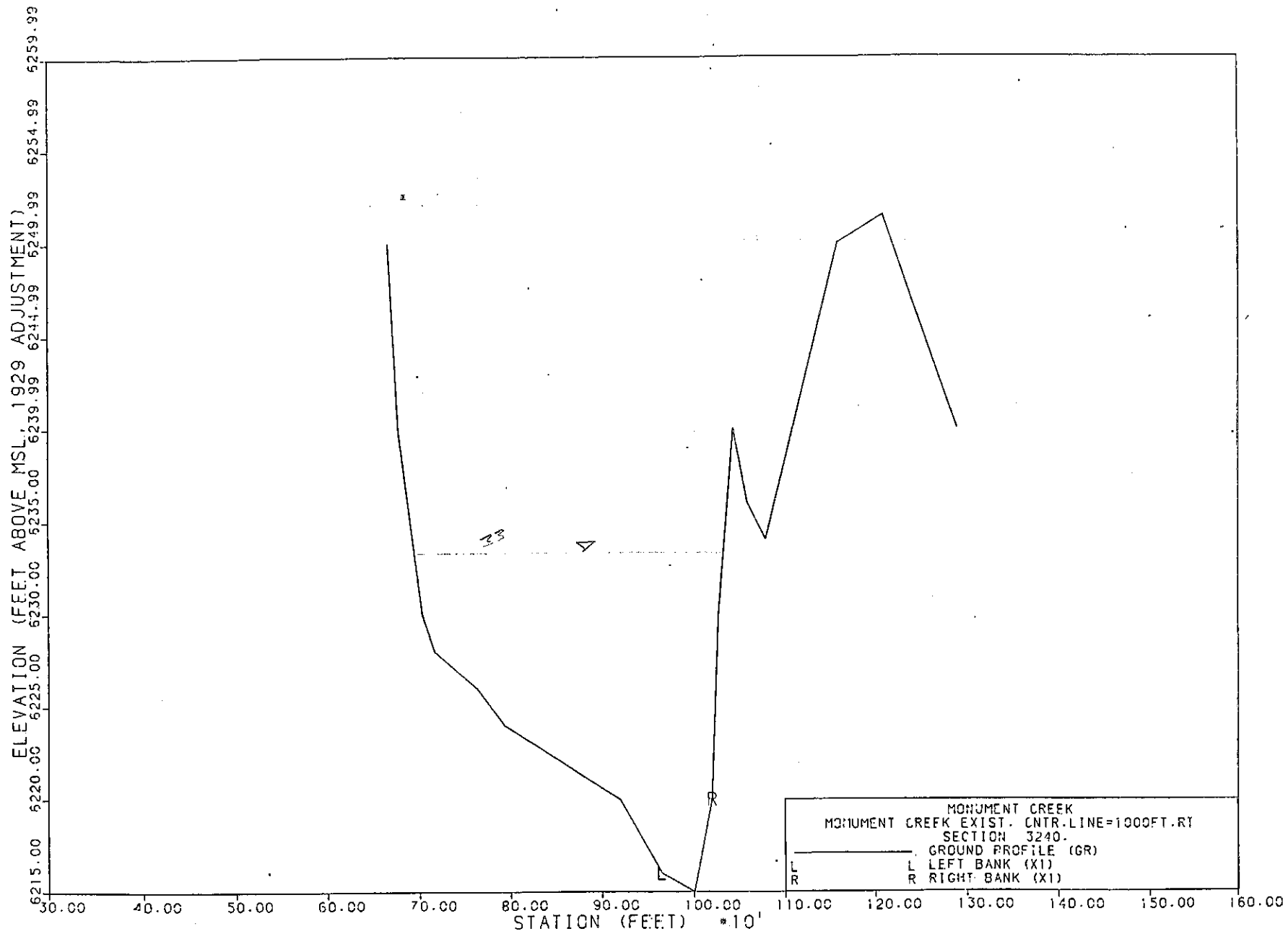


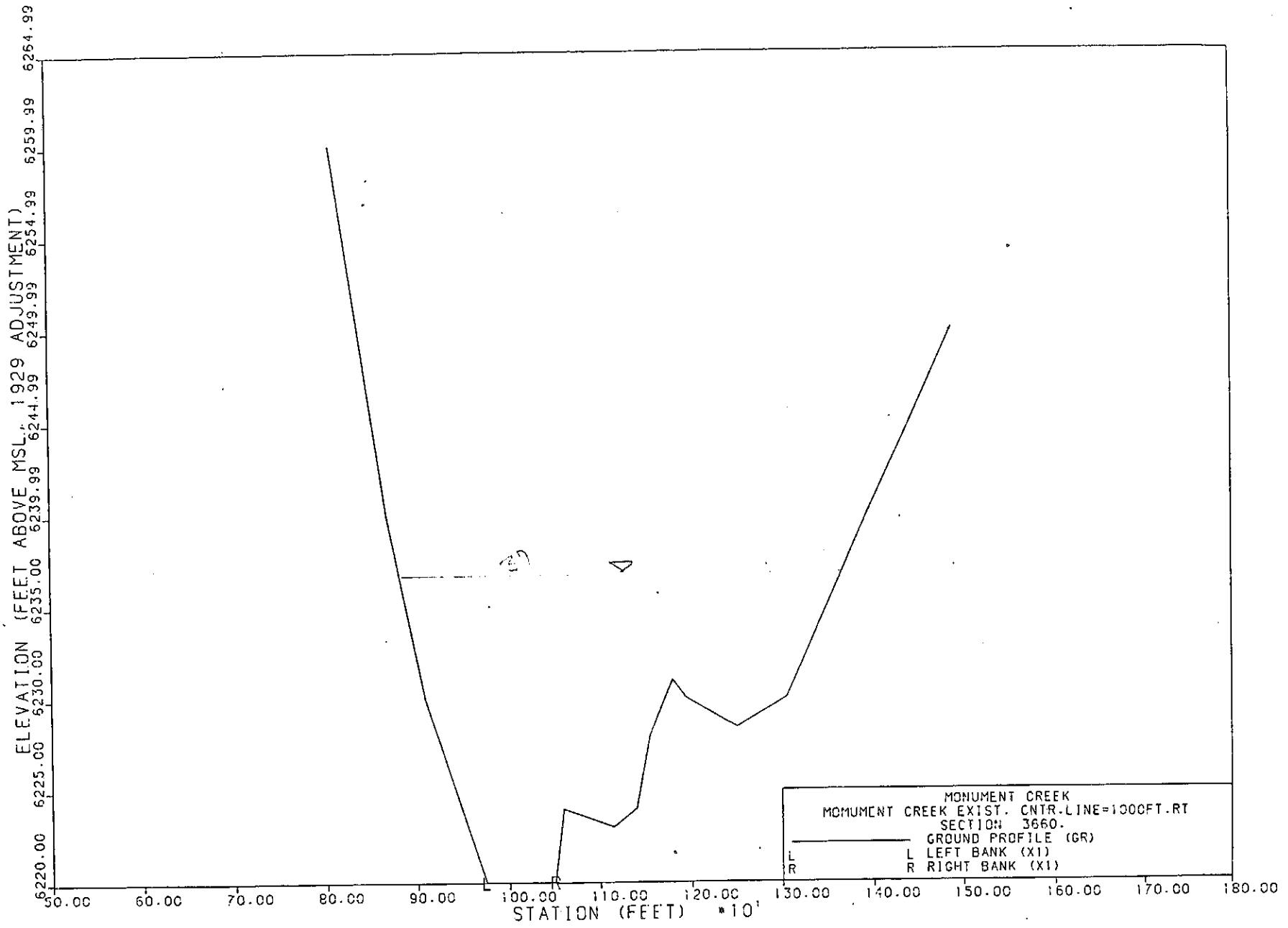


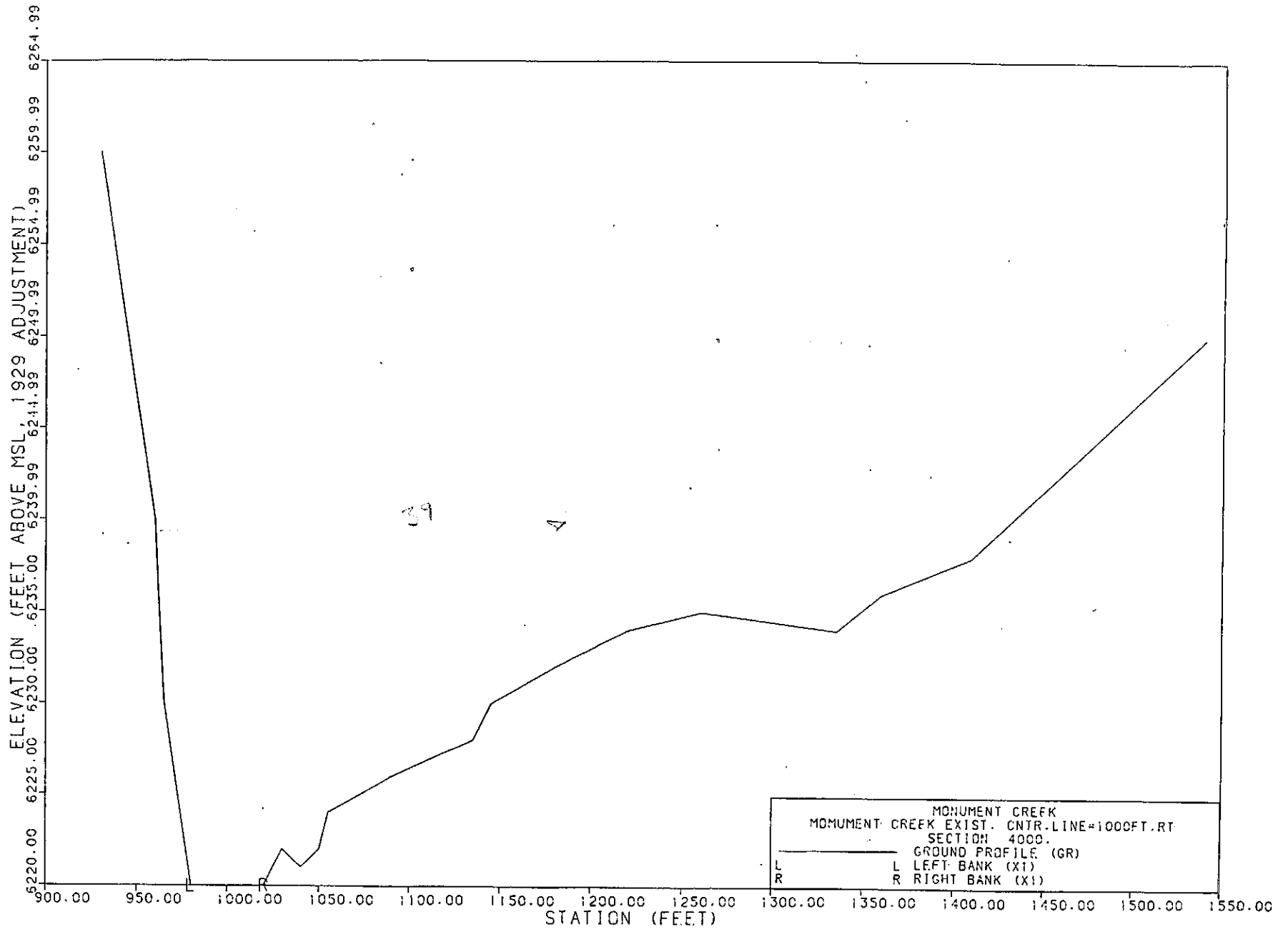


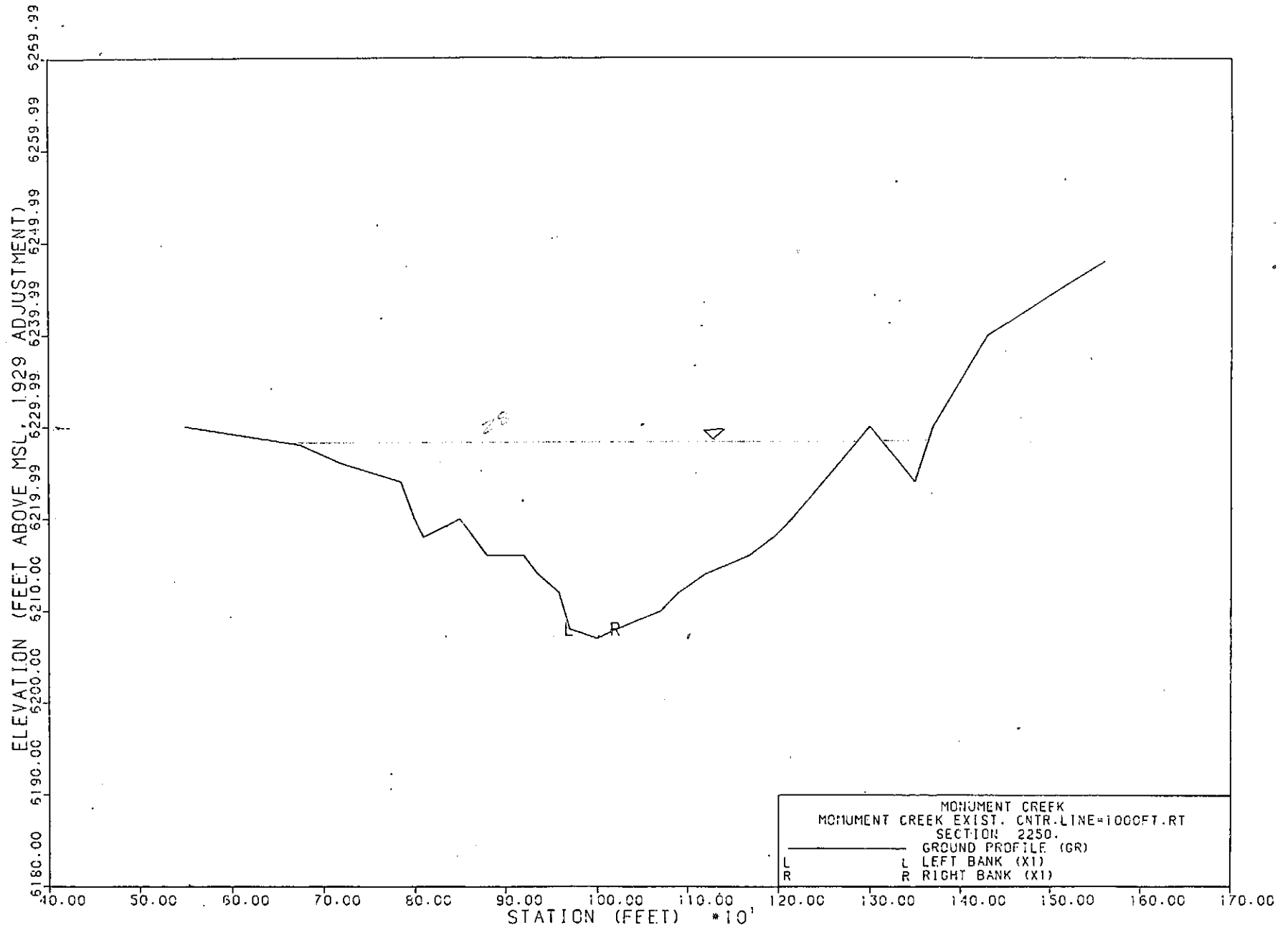


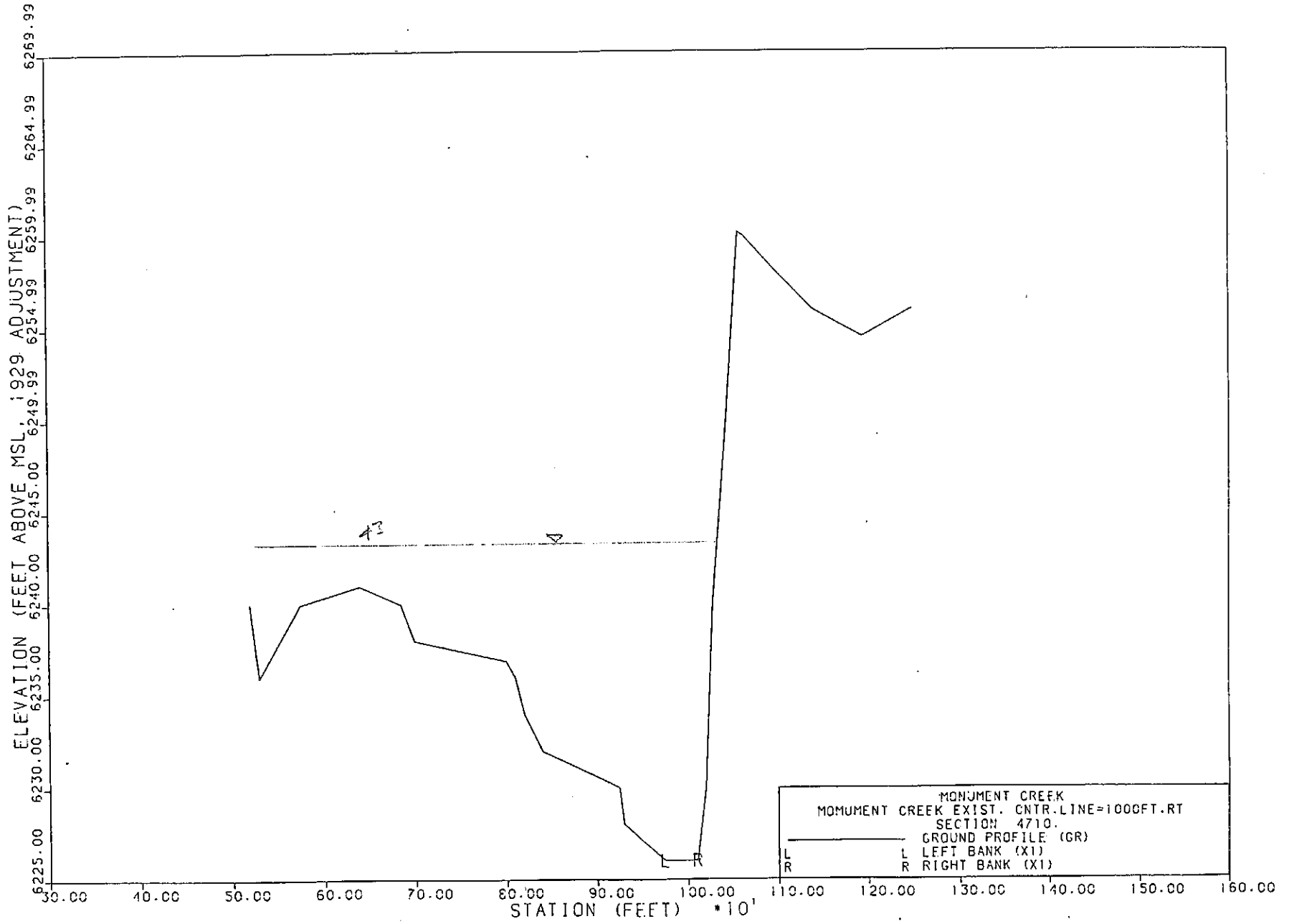


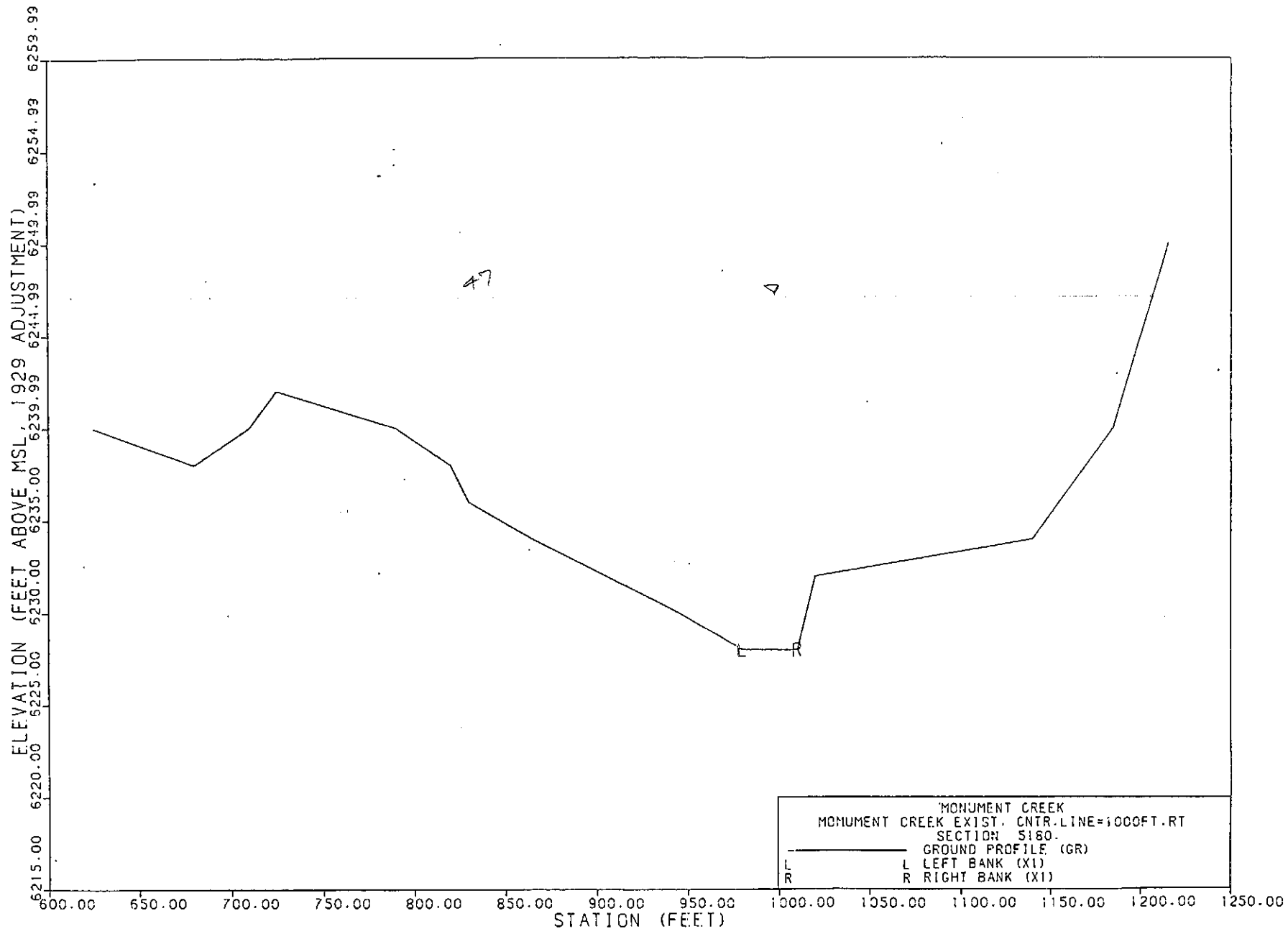


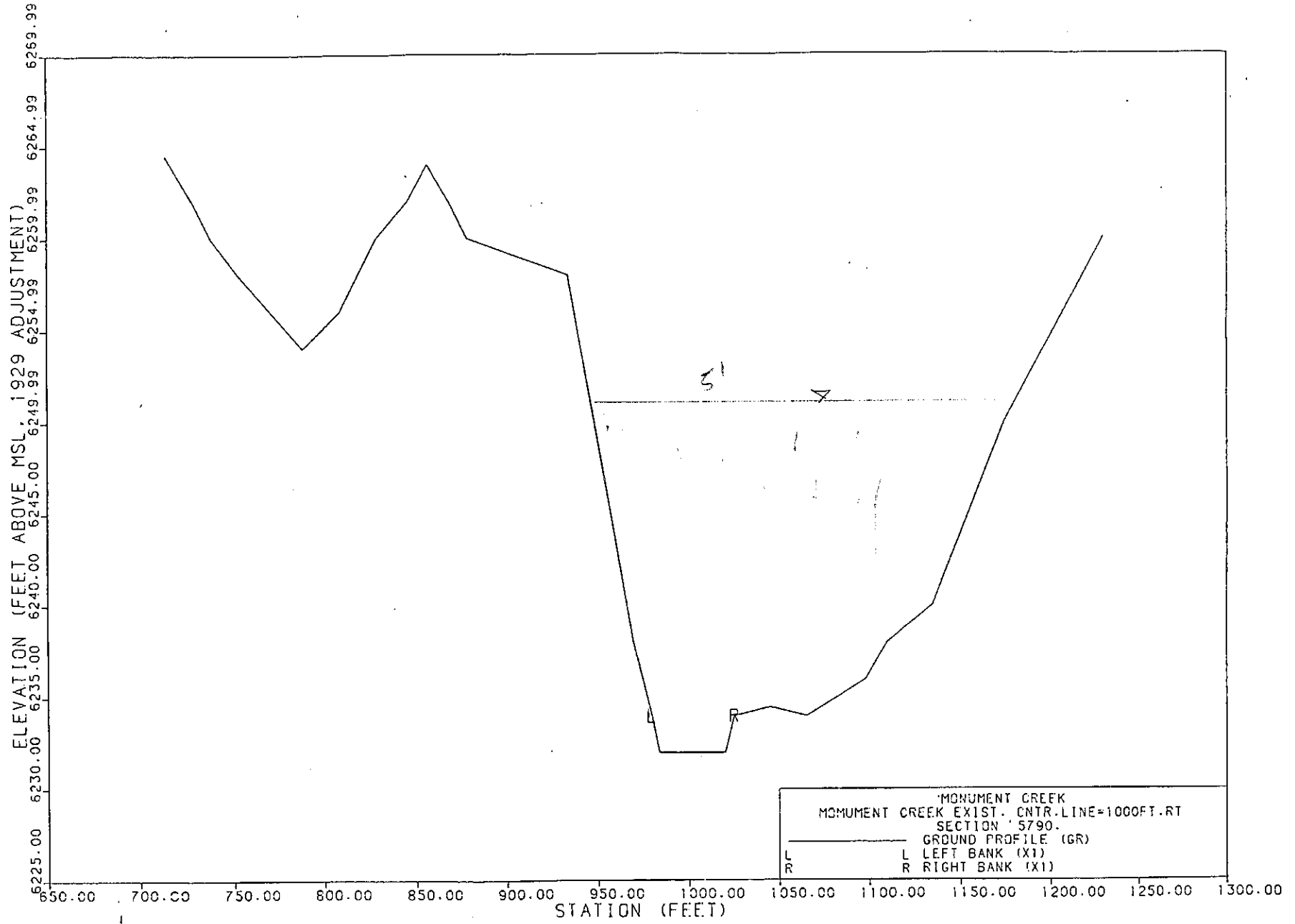




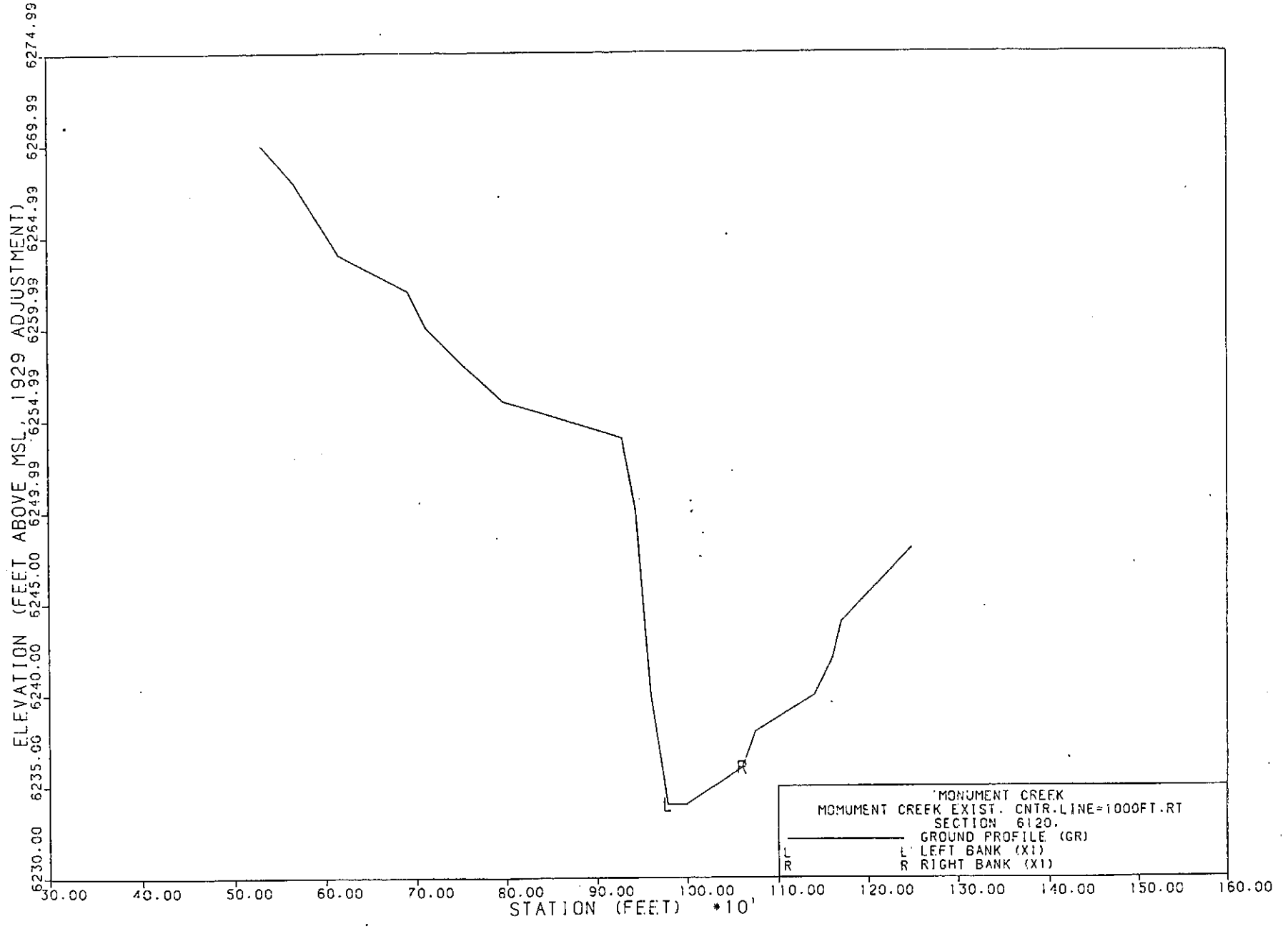




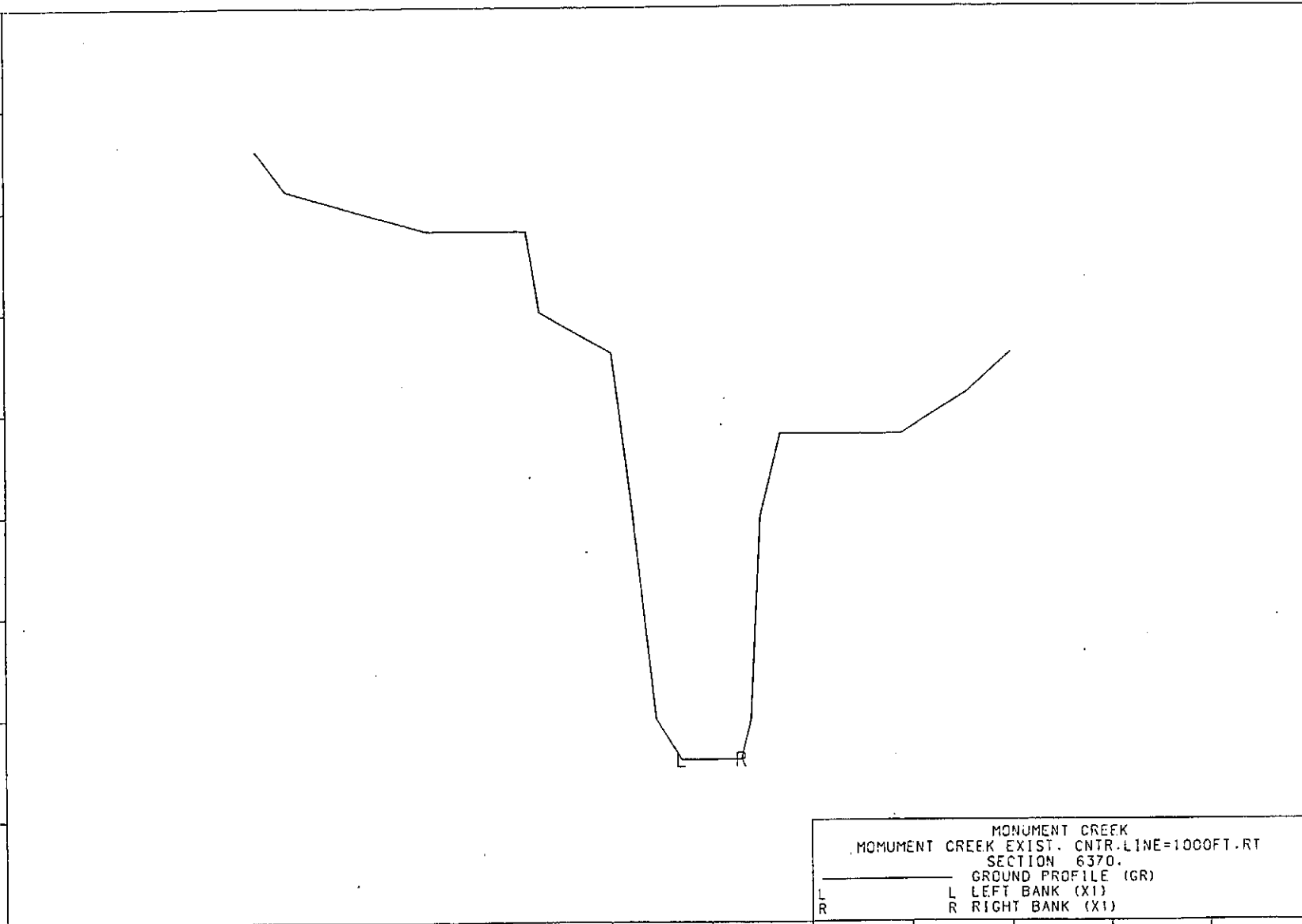






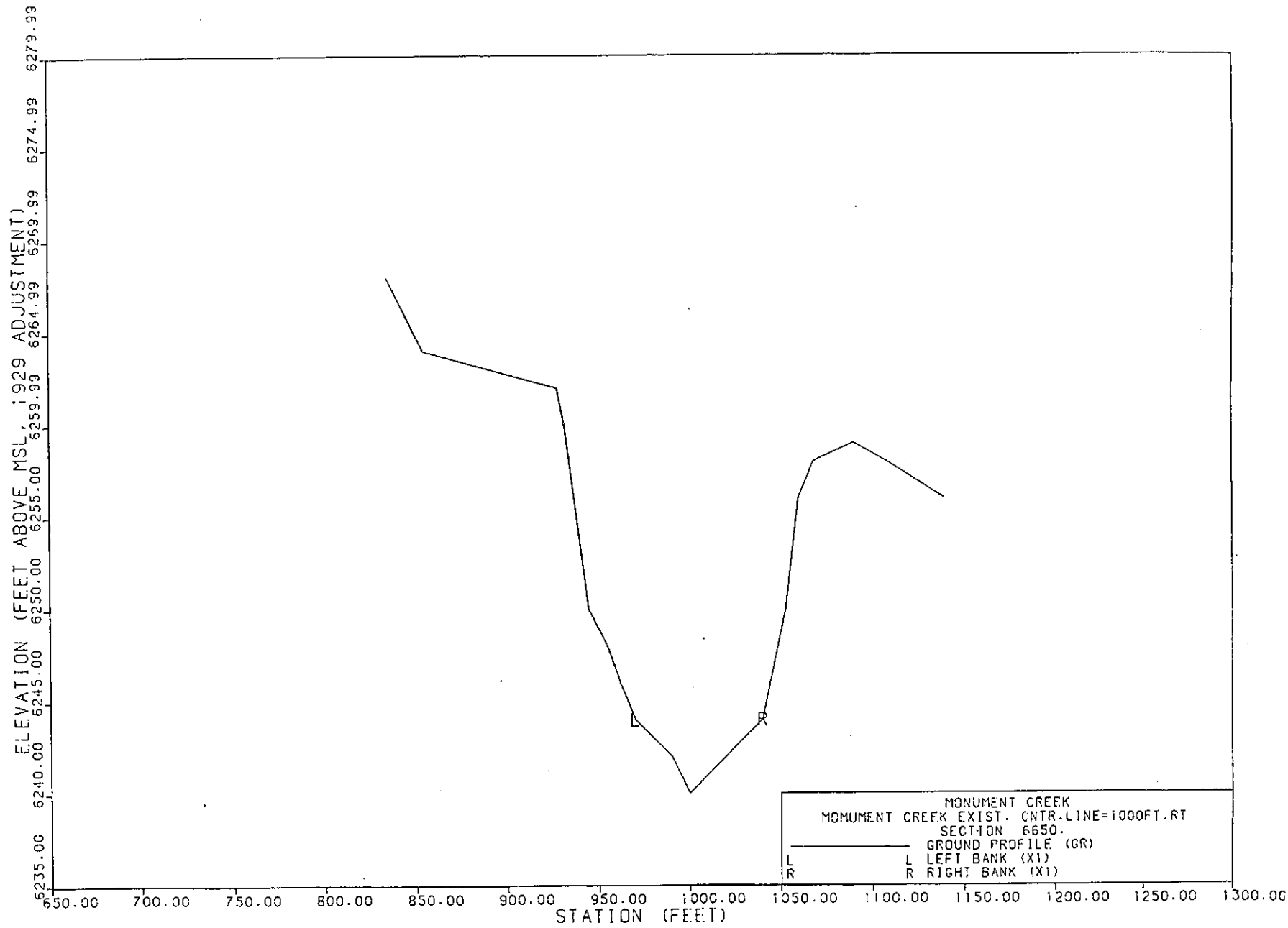


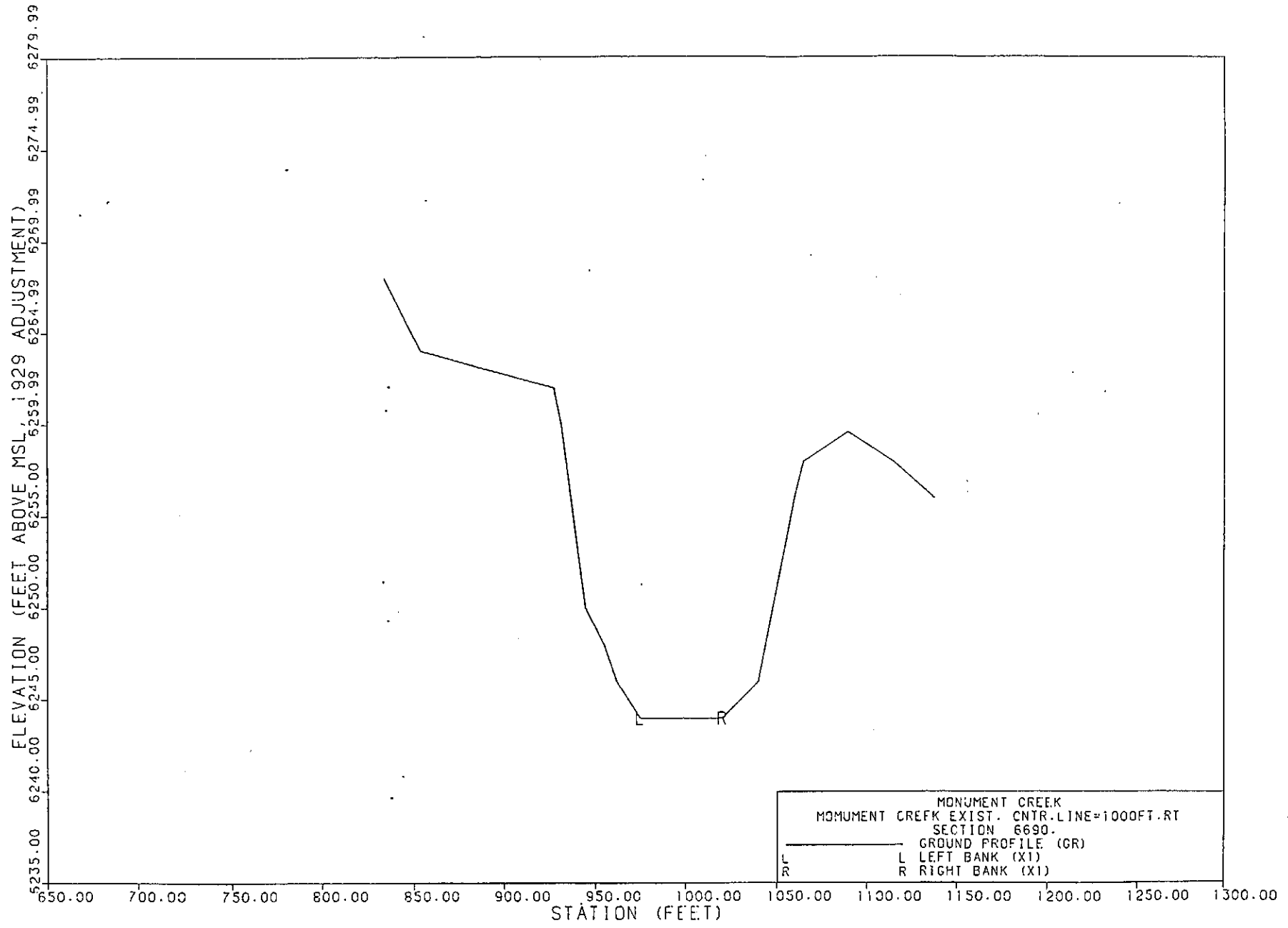
ELEVATION (FEET ABOVE MSL, 1929 ADJUSTMENT)  
6230.00 6235.00 6240.00 6245.00 6249.99 6254.99 6259.99 6264.99 6269.99 6274.99

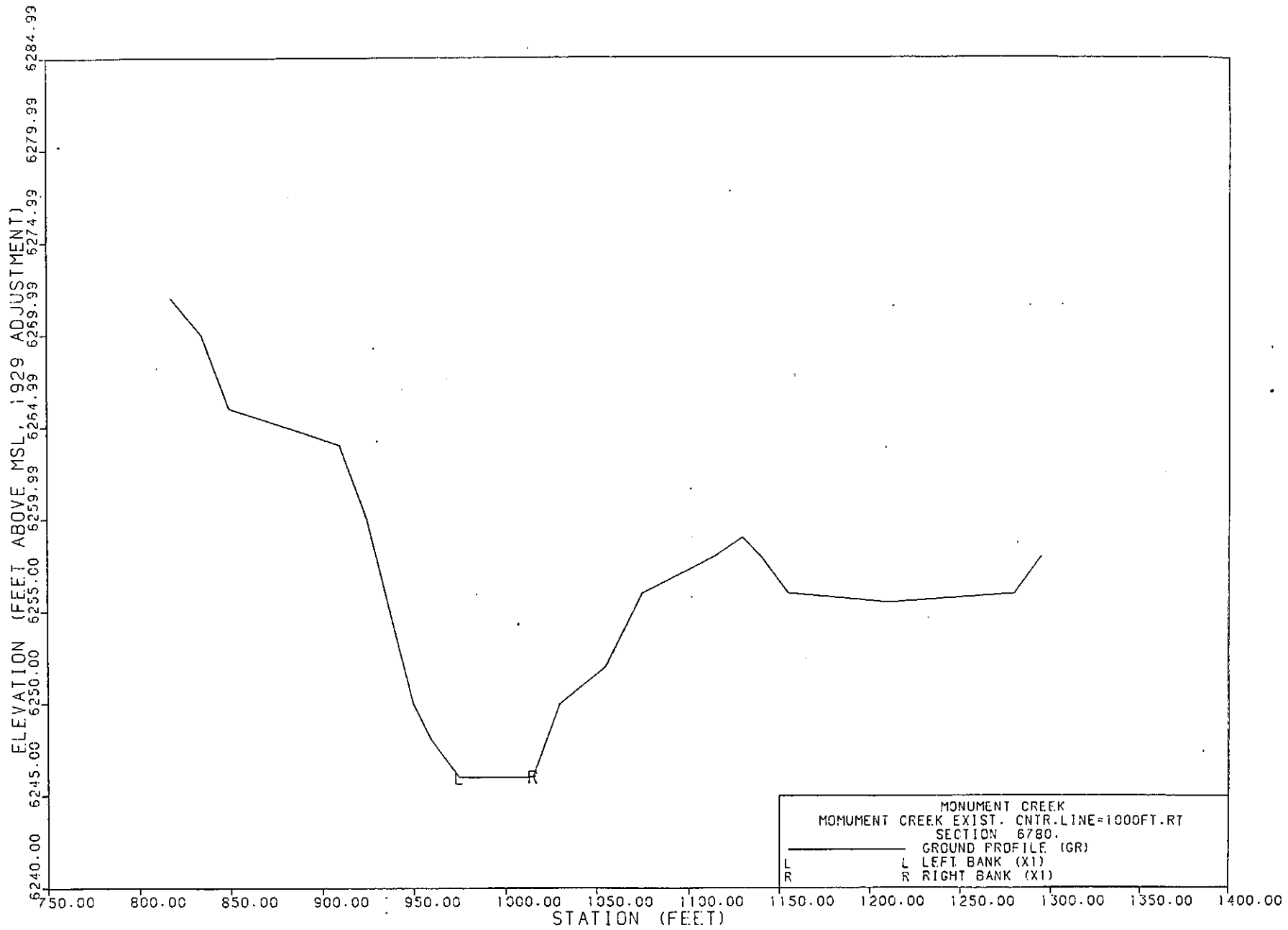


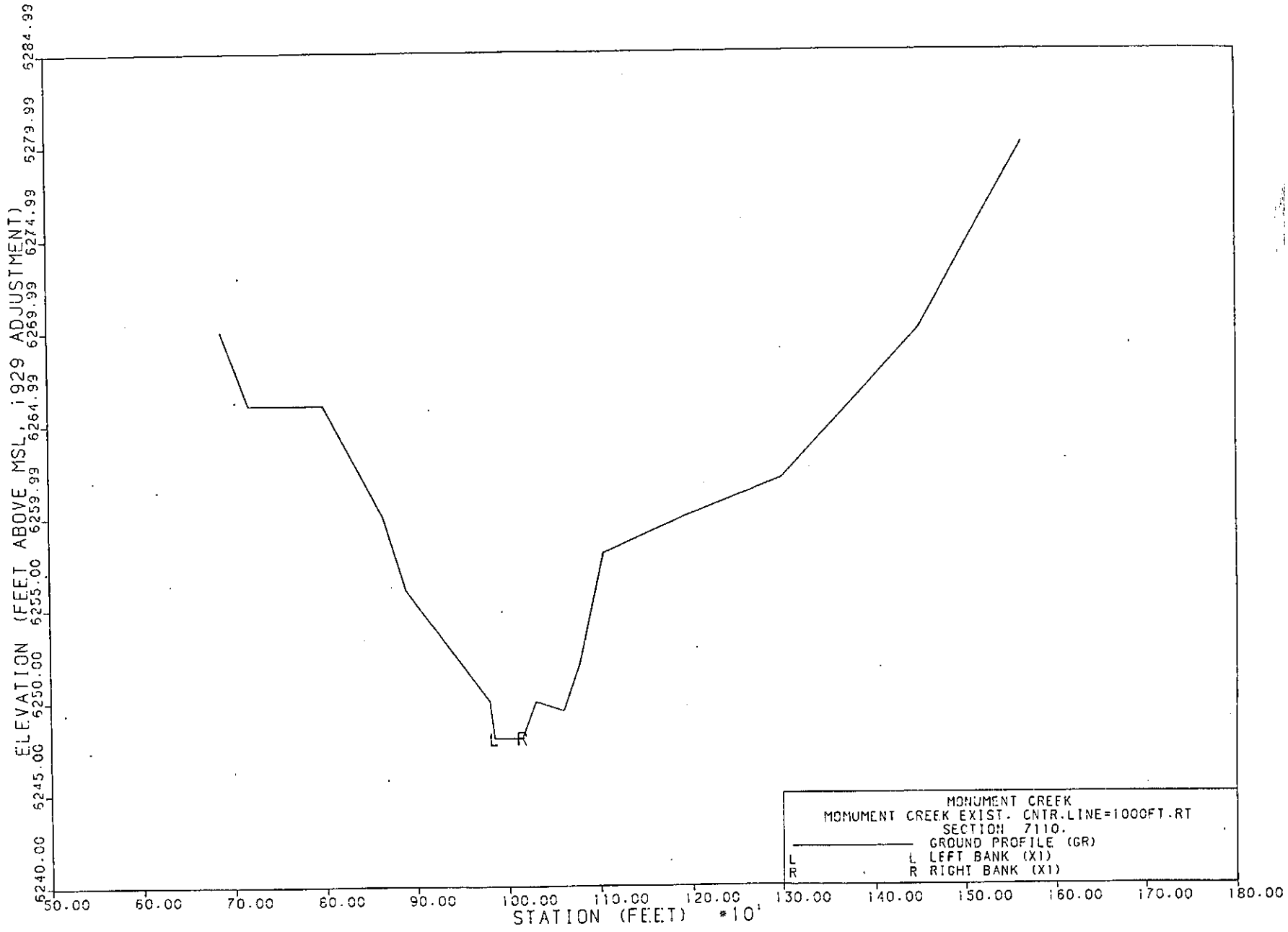
MONUMENT CREEK  
MONUMENT CREEK EXIST. CNTR. LINE=1000FT. RT  
SECTION 6370.  
GROUND PROFILE (GR)  
L LEFT BANK (X1)  
R RIGHT BANK (X1)

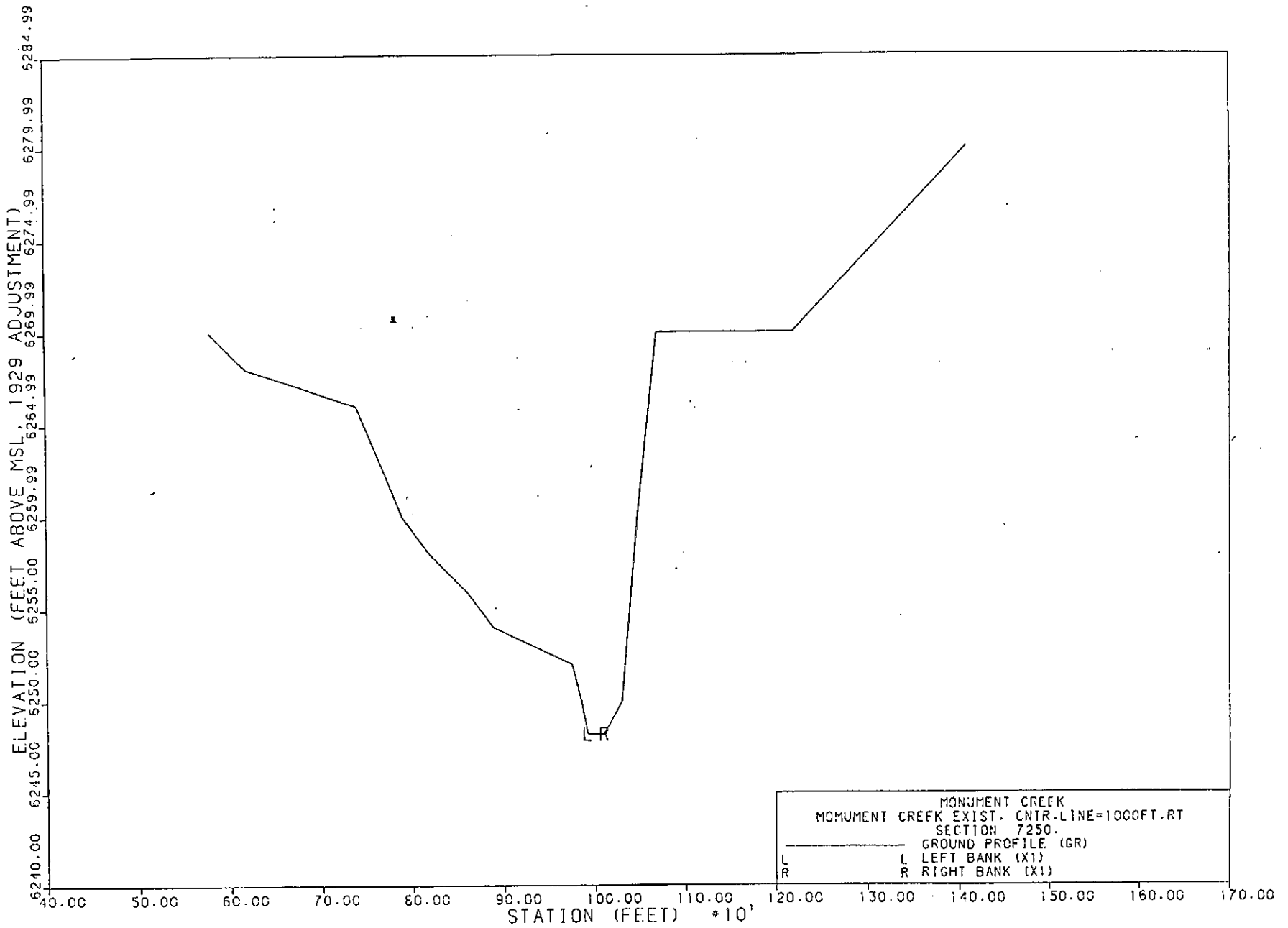
30.00 40.00 50.00 60.00 70.00 80.00 90.00 100.00 110.00 120.00 130.00 140.00 150.00 160.00  
STATION (FEET) \*10'

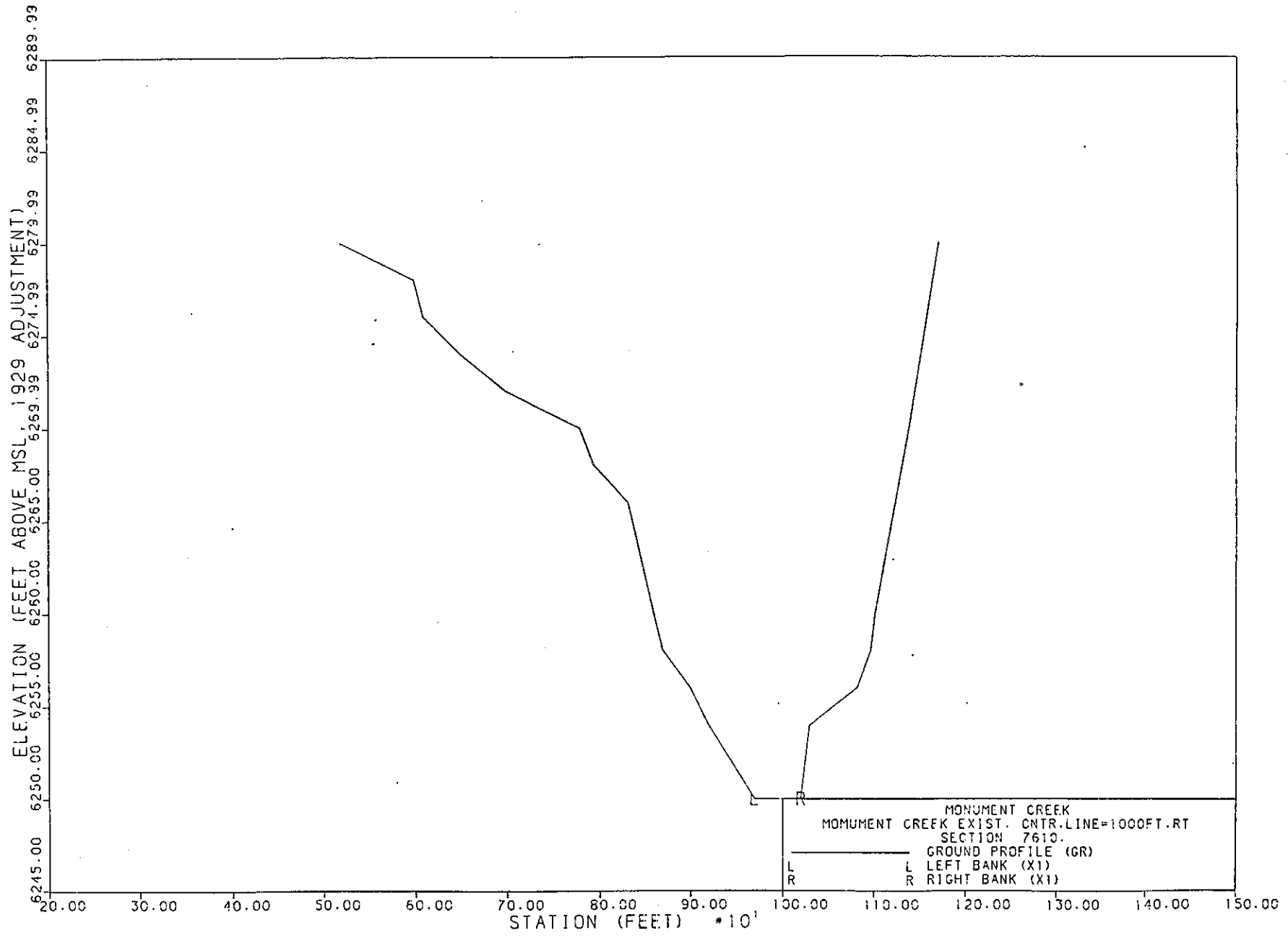






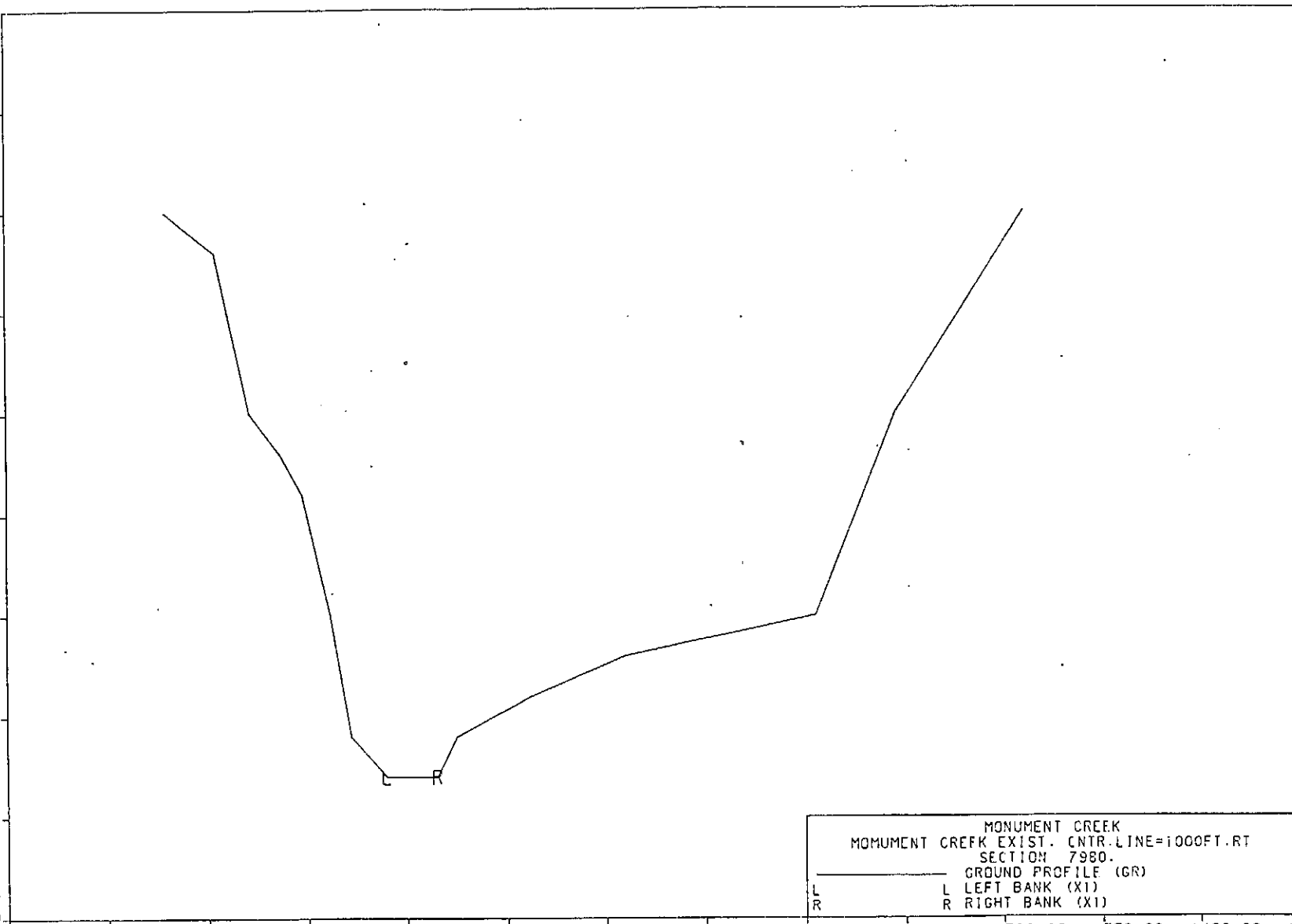






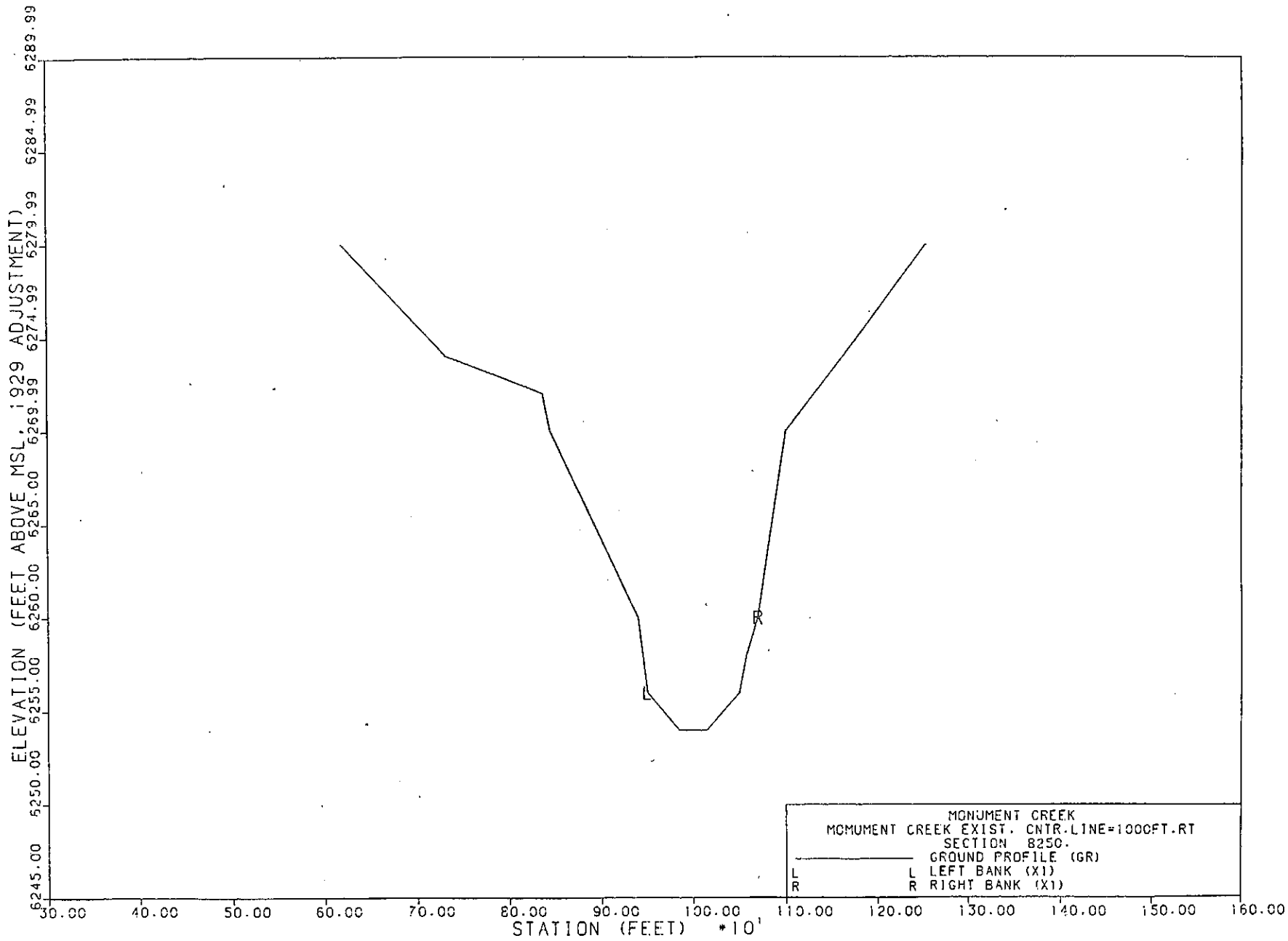


ELEVATION (FEET ABOVE MSL, 1929 ADJUSTMENT)



MONUMENT CREEK  
MONUMENT CREEK EXIST. CNTR. LINE=1000FT. RT  
SECTION 7980.  
GROUND PROFILE (GR)  
L LEFT BANK (X1)  
R RIGHT BANK (X1)

STATION (FEET)



1\*\*\*\*\*

\*\* PAGE 1

1\*\*\*\*\*

\* WATER SURFACE PROFILES \*
\* VERSION OF NOVEMBER 1976 \*
\* UPDATED APRIL 1980 \*
\* RUN DATE 03/14/82 TIME 15:43:56 \*
\*\*\*\*\*

\*\*\*\*\*
\* U.S. ARMY CORPS OF ENGINEERS \*
\* THE HYDROLOGIC ENGINEERING CENTER \*
\* 609 SECOND STREET, SUITE D \*
\* DAVIS, CALIFORNIA 95616 \*
\* (916) 440-2105 (FTS) 448-2105 \*
\*\*\*\*\*

X X XXXXXXX XXXXX XXXXX
X X X X X X
X X X X X X
XXXXXXXX XXXX X XXXXX XXXXX
X X X X X X
X X X X X X
X X XXXXXXX XXXXX XXXXXXX

03/14/82 15:43:56

PAGE 1

THIS RUN EXECUTED 03/14/82 15:43:56

\*\*\*\*\*
HEC2 RELEASE DATED NOV 76 UPDATED APR 1980
ERROR CORR - 01,02,03,04
MODIFICATION - 50,51,52,53,54
\*\*\*\*\*

T1 COLORADO SPRINGS-MONUMENT CREEK CHANNEL IMPROVEMENTS 3.14.82 MOD. 6
T2 BACKWATER CURVE 100 YEAR 30270 CES STA 10+00 TO 82+50
T3 MONUMENT CREEK CENTERLINE=1000 FT. RIGHT

Table with columns: J1, ICH=CK, ING, NINV, IDIR, STRT, METRIC, HVINS, Q, WSEL, FG, J2, NPROF, IPLIT, PRFVS, XSECV, XSECH, FN, ALLDC, IBW, CHNIM, ITRACE. Rows include data for NC, GT, X1, GR, and various flow rates.

1\*\*\*\*\*

GR	6224.500	938.000	6226.000	944.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.035	0.035	0.031	0.300	0.500	0.000	0.000	0.000	0.000	0.000
X1	1810.000	12.000	600.000	656.000	200.000	200.000	200.000	0.000	0.000	0.000
GR	6225.500	483.000	6224.000	490.000	6223.000	502.000	6205.400	537.000	6205.400	600.000
GR	6204.400	603.000	6204.400	653.000	6205.400	656.000	6205.400	730.000	6223.000	765.000
GR	6224.000	777.000	6226.500	784.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.035	0.035	0.030	0.300	0.500	0.000	0.000	0.000	0.000	0.000
X1	2250.000	15.000	904.000	960.000	240.000	240.000	240.000	0.000	0.000	0.000
GR	6229.500	775.000	6227.500	781.000	6226.500	793.000	6208.000	830.000	6208.000	904.000
GR	6207.000	907.000	6207.000	957.000	6208.000	960.000	6208.000	1020.000	6210.000	1070.000
GR	6212.000	1090.000	6213.000	1110.000	6226.500	1137.000	6227.500	1147.000	6227.500	1155.000
GT	2.000	30150.000	53650.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

03/14/82 15:43:56

X1	2750.000	15.000	980.000	1020.000	500.000	350.000	500.000	0.000	0.000	0.000
GR	6230.000	899.000	6229.000	902.000	6228.000	914.000	6222.500	925.000	6222.000	940.000
GR	6220.000	965.000	6212.000	980.000	6211.000	1000.000	6212.000	1020.000	6214.000	1032.000
GR	6216.000	1105.000	6217.000	1160.000	6228.000	1182.000	6229.000	1194.000	6230.000	1207.000
NC	0.035	0.035	0.030	0.300	0.500	0.000	0.000	0.000	0.000	0.000
X1	3240.000	14.000	965.000	1020.000	540.000	360.000	490.000	0.000	0.000	0.000
GR	6240.000	721.000	6240.000	724.000	6240.000	734.000	6225.500	747.000	6225.000	765.000
GR	6224.000	795.000	6220.000	920.000	6216.000	965.000	6215.000	1000.000	6220.000	1020.000
GR	6228.000	1036.000	6232.000	1044.000	6233.000	1056.000	6234.000	1059.000	0.000	0.000
X1	3660.000	14.000	975.000	1050.000	300.000	460.000	420.000	0.000	0.000	0.000
GR	6245.000	870.000	6245.000	871.000	6236.000	880.000	6232.000	900.000	6230.000	910.000
GR	6220.000	975.000	6218.000	980.000	6218.000	1025.000	6220.000	1050.000	6224.000	1060.000
GR	6223.000	1120.000	6235.000	1144.000	6235.000	1155.000	6237.000	1159.000	0.000	0.000
X1	4000.000	15.000	1108.000	1151.000	400.000	220.000	340.000	0.000	0.000	0.000
GR	6253.000	1008.000	6253.000	1011.000	6253.000	1021.000	6253.000	1029.000	6221.000	1051.000
GR	6221.000	1108.000	6220.000	1111.000	6220.000	1148.000	6221.000	1151.000	6231.000	1191.000
GR	6234.000	1220.000	6235.000	1260.000	6238.000	1272.000	6239.000	1284.000	6240.000	1287.000
X1	4310.000	16.000	970.000	1040.000	350.000	170.000	310.000	0.000	0.000	0.000
GR	6246.000	837.000	6245.000	840.000	6244.000	852.000	6230.000	880.000	6228.000	930.000
GR	6226.000	970.000	6222.000	990.000	6222.000	1018.000	6224.000	1040.000	6226.000	1085.000
GR	6228.000	1095.000	6230.000	1100.000	6231.000	1108.000	6244.000	1134.000	6245.000	1145.000
GR	6246.000	1149.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	4710.000	15.000	930.000	1010.000	420.000	370.000	400.000	0.000	0.000	0.000
GR	6246.000	785.000	6245.000	788.000	6244.000	800.000	6234.000	820.000	6232.000	840.000
GR	6230.000	925.000	6228.000	930.000	6226.000	975.000	6224.700	1000.000	6226.000	1010.000

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GR	6230.000	1018.000	6240.000	1038.000	6244.000	1046.000	6245.000	1058.000	6246.000	1061.000
GT	2.000	30000.000	53400.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.035	0.035	0.030	0.300	0.300	0.000	0.000	0.000	0.000	0.000
X1	5180.000	16.000	945.000	1020.000	180.000	520.000	470.000	0.000	0.000	0.000
GR	6250.000	789.000	6249.000	792.000	6248.000	804.000	6236.000	840.000	6234.000	865.000
GR	6232.000	905.000	6230.000	945.000	6228.000	980.000	6227.300	1000.000	6228.000	1010.000
GR	6232.000	1020.000	6234.000	1140.000	6237.000	1160.000	6248.000	1182.000	6249.000	1194.000
NC	0.035	0.035	0.030	0.300	0.300	0.000	0.000	0.000	0.000	0.000

03/14/82 15:43:56

X1	5790.000	18.000	980.000	1025.000	340.000	650.000	610.000	0.000	0.000	0.000
GR	6251.000	922.000	6250.000	925.000	6249.000	937.000	6247.000	943.000	6238.000	970.000
GR	6234.000	980.000	6232.000	984.000	6232.000	1020.000	6234.000	1025.000	6234.500	1045.000
GR	6234.000	1065.000	6236.000	1098.000	6238.000	1110.000	6240.000	1135.000	6243.000	1145.000
GR	6249.000	1152.000	6250.000	1164.000	6251.000	1167.000	0.000	0.000	0.000	0.000
NC	0.035	0.035	0.035	0.300	0.300	0.000	0.000	0.000	0.000	0.000

X1	6120.000	15.000	960.000	1060.000	300.000	360.000	400.000	0.000	0.000	0.000
GR	6257.000	914.000	6256.000	917.000	6255.000	920.000	6254.000	930.000	6250.000	945.000
GR	6240.000	960.000	6234.000	978.000	6234.000	998.000	6234.000	1020.000	6236.000	1060.000
GR	6238.000	1075.000	6240.000	1080.000	6252.000	1103.000	6253.000	1115.000	6254.000	1118.000

X1	6370.000	13.000	945.000	1030.000	250.000	250.000	250.000	0.000	0.000	0.000
GR	6259.000	893.000	6258.000	903.000	6250.000	923.000	6240.000	945.000	6238.000	970.000
GR	6236.500	1000.000	6238.000	1030.000	6240.000	1040.000	6250.000	1060.000	6252.000	1064.000
GR	6257.000	1074.000	6258.000	1086.000	6259.000	1089.000	0.000	0.000	0.000	0.000

X1	6650.000	18.000	970.000	1040.000	250.000	280.000	280.000	0.000	0.000	0.000
GR	6265.000	903.000	6263.000	909.000	6262.000	921.000	6260.000	925.000	6250.000	945.000
GR	6248.000	955.000	6246.000	962.000	6244.000	970.000	6242.000	990.000	6240.000	1000.000
GR	6242.000	1020.000	6244.000	1040.000	6250.000	1053.000	6256.000	1065.000	6258.000	1069.000
GR	6263.000	1079.000	6264.000	1091.000	6266.000	1097.000	0.000	0.000	0.000	0.000

X1	6690.000	17.000	962.000	1040.000	40.000	40.000	40.000	0.000	0.000	0.000
GR	6266.000	900.000	6265.000	903.000	6264.000	915.000	6262.000	921.000	6260.000	925.000
GR	6250.000	945.000	6248.000	955.000	6246.000	962.000	6244.000	975.000	6244.000	1020.000
GR	6246.000	1040.000	6250.000	1048.000	6256.000	1060.000	6258.000	1064.000	6264.000	1076.000
GR	6265.000	1088.000	6266.000	1094.000	0.000	0.000	0.000	0.000	0.000	0.000
GT	2.000	28500.000	51000.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	6780.000	17.000	960.000	1030.000	90.000	90.000	90.000	0.000	0.000	0.000
GR	6271.000	858.000	6269.000	864.000	6268.000	876.000	6265.000	885.000	6264.000	910.000
GR	6260.000	925.000	6250.000	950.000	6248.000	960.000	6246.000	975.000	6245.000	1000.000
GR	6246.000	1015.000	6250.000	1030.000	6252.000	1055.000	6254.000	1059.000	6268.000	1087.000
GR	6269.000	1099.000	6271.000	1105.000	0.000	0.000	0.000	0.000	0.000	0.000

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QT	2.000	27200.000	49000.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.035	0.035	0.031	0.300	0.500	0.000	0.000	0.000	0.000	0.000	0.000
X1	7110.000	15.000	980.000	1030.000	330.000	300.000	330.000	0.000	0.000	0.000	0.000
GR	6274.000	890.000	6272.000	894.000	6271.000	896.000	6254.000	930.000	6250.000	980.000	0.000
GR	6248.000	985.000	6247.500	1000.000	6248.000	1015.000	6250.000	1030.000	6249.500	1060.000	0.000
GR	6252.000	1078.000	6258.000	1090.000	6271.000	1116.000	6272.000	1128.000	6274.000	1134.000	0.000

03/14/82 15:43:56

X1	7250.000	14.000	985.000	1030.000	150.000	130.000	140.000	0.000	0.000	0.000	0.000
GR	6274.000	849.000	6271.500	894.000	6270.500	897.000	6254.000	890.000	6252.000	975.000	0.000
GR	6250.000	985.000	6248.200	992.000	6248.200	1010.000	6250.000	1030.000	6260.000	1048.000	0.000
GR	6270.000	1070.000	6271.500	1080.000	6272.000	1083.000	6274.000	1087.000	0.000	0.000	0.000
NC	0.035	0.035	0.030	0.300	0.500	0.000	0.000	0.000	0.000	0.000	0.000

X1	7610.000	14.000	945.000	1030.000	330.000	335.000	360.000	0.000	0.000	0.000	0.000
GR	6275.000	849.000	6273.000	893.000	6272.000	895.000	6257.000	885.000	6256.000	900.000	0.000
GR	6254.000	920.000	6252.000	945.000	6250.000	970.000	6250.000	1020.000	6254.000	1030.000	0.000
GR	6256.000	1082.000	6272.000	1114.000	6273.000	1116.000	6275.000	1122.000	0.000	0.000	0.000

X1	7980.000	14.000	972.000	1025.000	330.000	340.000	370.000	0.000	0.000	0.000	0.000
GR	6274.000	931.000	6272.000	935.000	6271.000	938.000	6266.000	948.000	6260.000	962.000	0.000
GR	6254.000	972.000	6252.000	990.000	6252.000	1015.000	6254.000	1025.000	6256.000	1062.000	0.000
GR	6257.000	1087.000	6271.000	1115.000	6272.000	1117.000	6274.000	1123.000	0.000	0.000	0.000

X1	8230.000	15.000	950.000	1070.000	300.000	320.000	270.000	0.000	0.000	0.000	0.000
GR	6279.000	862.000	6278.000	864.000	6277.000	866.000	6265.000	890.000	6260.000	940.000	0.000
GR	6256.000	950.000	6254.000	985.000	6253.500	1000.000	6254.000	1015.000	6256.000	1050.000	0.000
GR	6258.000	1058.000	6260.000	1070.000	6277.000	1104.000	6278.000	1106.000	6279.000	1108.000	0.000
EJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

03/14/82 15:43:56

SECNO	DEPTH	CWSEL	CRINS	WSELK	EG	HV	HL	GLOSS	BANK	ELEV
Q	GLOB	GCH	GRGB	ALOB	ACH	ARDB	VDL	TWA	LEFT/RIGHT	
TIME	VLOB	VCH	VRDB	XLN	XNCH	XNR	WTN	ELMIN	SSTA	
SLOPE	XLOBL	XLCH	XLDBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST	

? known water surface elevation

data's

\*PROF 1

CCHV= 0.300 CEHV= 0.500

\*SECNO 1000.000

1000.00	17.00	6216.00	0.00	6216.00	6219.37	3.37	0.00	0.00	6200.00	
30270.	1670.	23287.	5312.	236.	1432.	662.	0.	0.	6204.00	
0.00	6.53	16.26	8.02	0.045	0.031	0.042	0.000	6199.00	928.00	
0.002832	0.	0.	0.	0.	0.	0.	0.000	206.00	1134.00	

FLOW DISTRIBUTION FOR SECNO= 1000.00 CWSEL= 6216.00  
 STA= 928. 960. 1048. 1080. 1090. 1108. 1120. 1130. 1134.

1\*\*\*\*\*1

\*\* PAGE 5

PER Q=	5.5	76.9	10.8	2.4	2.9	1.1	0.4	0.0
AREA=	256.0	1432.0	352.0	90.0	126.0	60.0	30.0	4.0
VEL=	6.5	16.3	9.3	8.0	6.9	5.3	3.9	1.7

\*SECNO 1400.000

3301 HV CHANGED MORE THAN HVINS									
1400.00	17.25	6219.25	0.00	0.00	6220.82	1.57	0.91	0.54	6203.00
30270.	8717.	12131.	7382.	1151.	963.	1151.	28.	2.	6203.00
0.01	7.61	12.60	8.15	0.045	0.031	0.042	0.031	6202.00	688.29
0.001368	440.	440.	440.	3	0	0	0.00	229.41	917.71

FLOW DISTRIBUTION FOR SECNO= 1400.00 CWSEL= 6219.25  
 STA= 688. 720. 775. 831. 886. 918.

PER Q=	4.2	24.8	40.1	26.5	4.5
AREA=	257.6	893.7	963.0	893.7	257.6
VEL=	4.9	8.4	12.6	9.0	5.2

CCHV= 0.300 CEHV= 0.500

\*SECNO 1810.000

1810.00	15.35	6219.75	0.00	0.00	6221.16	1.41	0.30	0.05	6205.40
30270.	9652.	9478.	11140.	1109.	857.	1267.	43.	3.	6205.40
0.02	8.70	11.06	8.79	0.035	0.031	0.035	0.031	6204.40	508.46
0.001414	200.	200.	200.	2	0	0	0.00	250.08	758.54

03/14/82 15:43:56

PAGE 6

SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	GLDB	GCH	GRDB	ALDB	ACH	ARDB	VOL	TWA	LEFT/RIGHT
TIME	VLDL	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLDBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 1810.00 CWSEL= 6219.75  
 STA= 508. 537. 600. 656. 730. 759.

PER Q=	3.7	28.2	31.3	33.1	3.7
AREA=	204.8	904.1	856.7	1062.0	204.8
VEL=	5.5	9.4	11.1	9.4	5.5

CCHV= 0.300 CEHV= 0.500

\*SECNO 2250.000

2250.00	13.37	6220.37	0.00	0.00	6221.57	1.20	0.34	0.06	6208.00
30270.	8717.	7898.	13653.	1069.	746.	1711.	62.	3.	6208.00
0.03	8.15	10.59	7.98	0.035	0.030	0.035	0.031	6207.00	805.25
0.001457	240.	240.	240.	2	0	0	0.00	319.30	1124.75

FLOW DISTRIBUTION FOR SECNO= 2250.00 CWSEL= 6220.37  
 STA= 805. 830. 904. 960. 1020. 1070. 1090. 1110. 1125.

PER Q=	2.6	26.2	26.1	21.3	15.4	4.4	3.3	0.6
AREA=	153.2	915.8	746.1	742.6	568.8	187.5	197.5	54.4
VEL=	5.1	8.7	10.6	8.7	8.2	7.2	6.4	3.6

\*SECNO 2750.000

3301 HV CHANGED MORE THAN HVINS  
3685 20 TRIALS ATTEMPTED WSEL, CWSEL

1\*\*\*\*\*

\*\* PAGE 6

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

2750.00	13.28	6224.28	6224.28	0.00	6228.26	3.98	1.08	1.39	6212.00
30150.	2239.	10428.	17483.	240.	511.	1293.	89.	8.	6212.00
0.03	9.34	20.40	13.52	0.035	0.030	0.035	0.032	6211.00	921.44
0.005688	500.	500.	350.	20	5	0	0.00	253.11	1174.56

0 FLOW DISTRIBUTION FOR SECNO= 2750.00

CWSEL= 6224.28

STA=	921.	925.	940.	965.	980.	1020.	1032.	1105.	1160.	1175.
PER Q=	0.0	0.5	1.9	5.0	34.6	7.2	31.8	17.8	1.2	
AREA=	3.2	30.4	81.9	124.2	511.1	135.3	677.3	427.8	53.0	
VEL=	2.7	5.1	7.1	12.1	20.4	16.0	14.1	12.6	7.0	

1 03/14/82 15:43:56

PAGE 7

SECNO	DEPTH	CWSEL	CRINS	WSELK	EG	HV	HL	GLOSS	BANK ELEV
Q	GLOB	GCH	GROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

CCHV= 0.300 CEHV= 0.500

\*SECNO 3240.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

3240.00	13.59	6228.59	6228.59	0.00	6232.10	3.91	2.52	0.14	6216.00
30150.	16772.	12805.	573.	1432.	680.	74.	112.	11.	6220.00
0.04	11.55	18.84	7.77	0.035	0.030	0.035	0.032	6215.00	744.99
0.005137	540	490	360	2	5	0	0.00	292.18	1037.17

0 FLOW DISTRIBUTION FOR SECNO= 3240.00

CWSEL= 6228.59

STA=	745.	747.	765.	795.	920.	965.	1020.	1036.	1037.
PER Q=	0.0	0.7	2.5	29.2	23.1	42.5	1.9	0.0	
AREA=	2.1	42.1	107.6	823.4	476.4	679.8	73.4	0.3	
VEL=	2.5	5.4	7.1	10.7	14.6	18.8	7.8	1.2	

\*SECNO 3660.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

3660.00	13.40	6231.40	6231.40	0.00	6235.61	4.21	1.93	0.35	6220.00
30150.	4241.	18628.	7281.	421.	975.	638.	130.	13.	6220.00
0.05	10.08	19.11	11.41	0.035	0.030	0.035	0.032	6218.00	903.02
0.004911	300.	420.	460.	4	5	0	0.00	233.78	1136.79

F=0.89

0 FLOW DISTRIBUTION FOR SECNO= 3660.00

CWSEL= 6231.40

STA=	903.	910.	975.	1050.	1060.	1120.	1137.
PER Q=	0.0	14.0	61.8	3.9	18.5	1.7	
AREA=	4.9	415.8	974.7	94.0	473.8	70.5	
VEL=	2.3	10.2	19.1	12.6	11.8	7.2	

\*SECNO 4000.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL, CWSEL



1\*\*\*\*\*

\*\* PAGE 7

3693 PROBABLE MINIMUM SPECIFIC ENERGY  
3720 CRITICAL DEPTH ASSUMED

03/14/82 15:43:56

PAGE 8

SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	GLOSS	BANK ELEV
Q	GLDB	GCH	GROB	ALDB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XLN	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

4000.00	14.91	6234.91	6234.91	0.00	6239.75	4.84	1.62	0.31	6221.00
30150.	12038.	13260.	4852.	751.	638.	443.	144.	14.	6221.00
0.05	16.03	20.77	10.95	0.035	0.030	0.035	0.032	6220.00	1047.09
0.004868	400.	340.	220.	20	8	0	0.00	209.49	1256.57

*F = 0.95*

FLOW DISTRIBUTION FOR SECNO= 4000.00 CWSEL= 6234.91  
 STA= 1047. 1061. 1108. 1151. 1171. 1220. 1257.  
 PER Q= 2.8 37.2 44.0 14.8 1.2 0.1  
 AREA= 96.8 654.0 638.3 356.6 70.0 16.7  
 VEL= 8.6 17.1 20.8 12.5 5.3 1.8

\*SECNO 4310.000

3301 HV CHANGED MORE THAN HVINS

4310.00	18.04	6240.04	0.00	0.00	6241.41	1.37	0.62	1.04	6226.00
30150.	8542.	13434.	8174.	1175.	1201.	1021.	161.	16.	6226.00
0.06	7.27	11.19	8.01	0.035	0.030	0.035	0.032	6222.00	857.92
0.001163	350.	310.	170.	4	0	0	0.00	266.17	1126.08

FLOW DISTRIBUTION FOR SECNO= 4310.00 CWSEL= 6240.04  
 STA= 860. 880. 930. 970. 1040. 1085. 1095. 1100. 1108. 1126.  
 PER Q= 1.3 13.1 13.9 44.6 19.8 3.4 1.3 1.6 1.0  
 AREA= 100.8 352.1 321.7 1200.9 676.9 130.4 55.2 76.3 81.7  
 VEL= 3.9 7.2 8.0 11.2 8.8 7.9 6.8 6.5 3.7

\*SECNO 4710.000

3301 HV CHANGED MORE THAN HVINS

4710.00	15.15	6239.85	0.00	0.00	6243.12	3.27	0.75	0.95	6228.00
30150.	10168.	18170.	1813.	977.	1086.	192.	187.	18.	6226.00
0.07	10.40	16.74	9.45	0.035	0.030	0.035	0.032	6224.70	808.31
0.003537	420.	400.	370.	3	0	0	0.00	229.39	1037.69

FLOW DISTRIBUTION FOR SECNO= 4710.00 CWSEL= 6239.85  
 STA= 808. 820. 840. 925. 930. 1010. 1018. 1038.  
 PER Q= 0.5 4.1 26.9 2.1 60.3 3.8 2.2  
 AREA= 34.2 136.9 752.0 54.2 1085.5 94.8 97.0  
 VEL= 4.8 9.1 10.8 11.8 16.7 12.2 6.8

03/14/82 15:43:56

PAGE 9

SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	GLOSS	BANK ELEV
Q	GLDB	GCH	GROB	ALDB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XLN	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

1\*\*\*\*\*

\*\* PAGE 8

CCHV= 0.300 CEHV= 0.500  
\*SECNO 5180.000

3301 HV CHANGED MORE THAN HVINS

5180.00	16.12	6243.42	0.00	0.00	6244.93	1.11	0.76	0.65	6230.00
30000.	8499.	11568.	9933.	1207.	1112.	1450.	213.	20.	6232.00
0.08	7.04	10.40	6.85	0.035	0.030	0.035	0.032	6227.30	817.74
0.001232	180.	470.	520.	4	0	0	0.00	355.09	1172.84

0 FLOW DISTRIBUTION FOR SECNO= 5180.00 CWSSEL= 6243.42

STA=	818.	840.	865.	905.	945.	1020.	1140.	1160.	1173.
PER G=	0.9	4.3	9.9	13.2	38.6	29.6	3.1	0.4	
AREA=	82.6	210.5	416.7	496.7	1111.9	1250.2	158.4	41.2	
VEL=	3.4	6.1	7.1	8.0	10.4	7.1	5.9	3.0	

CCHV= 0.300 CEHV= 0.500  
\*SECNO 5790.000

3301 HV CHANGED MORE THAN HVINS

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

5790.00	13.33	6245.33	6245.33	0.00	6249.93	4.63	1.42	1.76	6234.00
30000.	1881.	12321.	13798.	174.	591.	1083.	253.	24.	6234.00
0.09	10.82	20.86	14.58	0.035	0.030	0.035	0.032	6232.00	948.02
0.005873	540.	610.	650.	20	15	0	0.00	199.69	1147.71

0 FLOW DISTRIBUTION FOR SECNO= 5790.00 CWSSEL= 6245.33

STA=	948.	970.	980.	1025.	1045.	1065.	1098.	1110.	1135.	1145.	1148.
PER G=	2.0	4.3	41.1	11.9	11.9	17.3	4.4	5.9	1.0	0.0	
AREA=	80.5	93.3	590.7	221.5	221.5	340.8	99.9	158.1	38.3	3.2	
VEL=	7.3	13.7	20.9	16.2	16.2	15.4	13.2	11.1	7.7	3.0	

CCHV= 0.300 CEHV= 0.500  
\*SECNO 6120.000

03/14/82 15:43:56

PAGE 10

SECNO	DEPTH	CWSL	CRINS	WSELK	EG	HV	HL	QLOSS	BANK	ELEV
G	GLOBAL	GCH	GROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT	
TIME	ULOB	UCH	UROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA	
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICDNT	CORAR	TDPWID	ENDST	

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY  
3720 CRITICAL DEPTH ASSUMED

6120.00	13.88	6247.88	6247.88	0.00	6253.55	5.67	2.49	0.52	6240.00
30000.	371.	25600.	4029.	47.	1294.	267.	268.	25.	6236.00
0.10	7.97	19.78	15.08	0.035	0.035	0.035	0.032	6234.00	948.18
0.007245	300.	400.	360.	2	8	0	0.00	146.92	1095.10

0 FLOW DISTRIBUTION FOR SECNO= 6120.00 CWSSEL= 6247.88

STA=	948.	960.	1060.	1075.	1080.	1095.			
PER G=	1.2	85.3	9.6	2.2	1.6				

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\*\* PAGE 9

AREA= 46.6 1293.9 163.2 44.4 59.5  
VEL= 8.0 19.8 17.6 14.7 8.3

\*SECNO 6370.000

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

6370.00 15.42 6251.92 6251.92 0.00 6257.55 5.63 1.72 0.01 6240.00  
30000 1799 24173 4028 157 1203 271 277 27 6238.00  
0.10 11.48 20.09 14.85 0.035 0.035 0.035 0.032 6236.50 918.21  
0.006398 250. 250. 250. 20 8 0 0.00 145.63 1063.83

FLOW DISTRIBUTION FOR SECNO= 6370.00 CWSEL= 6251.92  
STA= 918. 923. 949. 1030. 1040. 1060. 1064.

PER Q= 0.0 5.9 80.6 8.0 5.3 0.0  
AREA= 4.6 152.2 1203.0 129.2 138.3 3.7  
VEL= 3.2 11.7 20.1 18.7 11.6 3.1

\*SECNO 6650.000

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

6650.00 17.71 6257.71 6257.71 0.00 6263.55 5.84 1.77 0.10 6244.00  
30000 4687 22683 2631 323 1090 199 287 28 6244.00  
0.11 14.30 20.81 13.24 0.035 0.035 0.035 0.032 6240.00 929.38  
0.006241 250. 280. 280. 20 8 0 0.00 138.84 1068.42

03/14/82 15:43:56

PAGE 11

SECNO DEPTH CWSEL CRINS WSELK EG HV HL DLOSS BANK ELEV  
Q GLOB GCH GROB ALOB ACH AROB VOL TWA LEFT/RIGHT  
TIME VLOB VCH VROB XNL XNCH XNR WIN ELMIN SSTA  
SLOPE XLOBL XLCH XLOBR ITRIAL IDC ICONT CORAR TOPWID ENDST

FLOW DISTRIBUTION FOR SECNO= 6650.00 CWSEL= 6257.71  
STA= 930 945 955 962 970 1040 1053 1065 1068.

PER Q= 1.5 4.1 4.0 6.1 75.6 7.1 1.6 0.0  
AREA= 59.5 87.1 75.0 101.7 1089.7 139.2 36.3 2.9  
VEL= 7.7 14.0 15.9 17.9 20.8 15.3 8.7 2.8

\*SECNO 6690.000

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

6690.00 15.24 6259.24 6259.24 0.00 6265.08 5.84 0.25 0.00 6246.00  
30000 3900 23808 2292 273 1156 175 289 28 6246.00  
0.11 14.26 20.60 13.07 0.035 0.035 0.035 0.032 6244.00 926.52  
0.006496 40. 40. 40. 20 11 0 0.00 137.96 1066.48

FLOW DISTRIBUTION FOR SECNO= 6690.00 CWSEL= 6259.24  
STA= 927. 945. 955. 962. 1040. 1048. 1060. 1064. 1066.

PER Q= 2.5 5.4 5.1 79.4 4.8 2.7 0.2 0.0  
AREA= 85.4 102.4 85.7 1155.7 89.9 74.9 9.0 1.3  
VEL= 8.8 15.9 17.7 20.6 15.9 10.8 5.4 2.3

1\*\*\*\*\*

\*\* PAGE 10

\*SECNO 6780.000

7185 MINIMUM SPECIFIC ENERGY  
3720 CRITICAL DEPTH ASSUMED

6780.00	15.81	6260.81	6260.81	0.00	6266.19	5.35	0.38	0.15	6248.00
28200.	3291.	20358.	4531.	265.	1012.	323.	292.	28.	6250.00
0.11	13.58	20.12	14.10	0.035	0.035	0.035	0.033	6245.00	921.97
0.006468	90.	90.	90.	3	8	0	0.00	150.65	1072.62

FLOW DISTRIBUTION FOR SECNO= 6780.00 CWSSEL= 6260.81

STA=	922.	950.	960.	1030.	1055.	1059.	1073.
PER Q=	5.4	7.2	71.4	13.4	1.4	1.2	
AREA=	146.4	118.1	1011.6	245.2	31.2	46.4	
VEL=	10.4	17.5	20.1	15.4	12.5	7.2	

CCHV= 0.300 CEHV= 0.500  
\*SECNO 7110.000

03/14/82 15:43:56

PAGE 12

SECNO	DEPTH	CWSSEL	CRISWS	WSELK	EG	HV	HL	GLOSS	BANK ELEV
Q	QLOB	GCH	GRWB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3301 HV CHANGED MORE THAN HVINS

7110.00	19.01	6266.51	0.00	0.00	6268.09	1.59	0.81	1.13	6250.00
27200.	7338.	10850.	9012.	882.	913.	997.	308.	29.	6250.00
0.12	8.32	11.88	9.04	0.035	0.031	0.035	0.032	6247.50	904.98
0.001296	330.	330.	300.	4	0	0	0.00	202.04	1107.02

FLOW DISTRIBUTION FOR SECNO= 7110.00 CWSSEL= 6266.51

STA=	905.	930.	980.	1030.	1060.	1078.	1090.	1107.
PER Q=	2.8	24.2	39.9	18.5	10.0	3.7	1.0	
AREA=	156.3	725.5	913.0	502.8	283.7	138.1	72.4	
VEL=	4.8	9.1	11.9	10.0	9.5	7.2	3.7	

\*SECNO 7250.000

7250.00	18.30	6266.50	0.00	0.00	6268.54	2.04	0.22	0.23	6250.00
27200.	14301.	11001.	1898.	1459.	799.	251.	317.	30.	6250.00
0.12	9.80	13.76	7.35	0.035	0.031	0.035	0.032	6248.20	865.00
0.001795	150.	140.	130.	2	0	0	0.00	198.63	1081.62

FLOW DISTRIBUTION FOR SECNO= 7250.00 CWSSEL= 6266.50

STA=	855.	890.	975.	985.	1030.	1048.	1062.
PER Q=	3.3	43.0	6.3	40.4	6.4	0.6	
AREA=	156.3	1147.7	155.0	799.3	207.0	44.3	
VEL=	5.7	10.2	11.0	13.8	8.4	3.7	

CCHV= 0.300 CEHV= 0.500  
\*SECNO 7610.000

3301 HV CHANGED MORE THAN HVINS

7610.00	17.98	6267.98	0.00	0.00	6269.22	1.24	0.44	0.24	6252.00
27200.	6483.	15231.	5485.	927.	1483.	818.	340.	32.	6254.00
0.13	7.00	10.27	6.70	0.035	0.030	0.035	0.032	6250.00	863.04

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0 0.000962 330 360 335 3 0 0 0.00 242.91 1105.96

FLOW DISTRIBUTION FOR SECNO= 7610.00 CWSL= 6267.98  
 STA= 863. 885. 900. 920. 945. 1030. 1082. 1106.  
 PER Q= 1.7 4.2 6.9 11.0 36.0 18.0 2.1  
 AREA= 120.5 172.2 259.6 374.4 1483.1 674.9 143.3  
 VEL= 3.8 6.7 7.3 8.0 10.3 7.3 4.0

03/14/82 15:43:56

SECNO	DEPTH	CWSL	CRHS	WSELK	EG	HV	HL	OLOSS	BANK	ELEV
Q	GLOB	GCH	GROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT	
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA	
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST	

\*SECNO 7980.000

3301 HV CHANGED MORE THAN HVINS  
 7980.00 15.07 6267.07 0.00 0.00 6271.38 4.31 0.63 1.53 6254.00  
 27200. 1561. 14818. 10821. 157. 771. 813. 350. 33. 6254.00  
 0.14 9.82 19.22 13.31 0.035 0.030 0.035 0.032 6252.00 945.85  
 0.004271 330. 370. 340. 3 0 0 0 0.00 161.30 1107.15

FLOW DISTRIBUTION FOR SECNO= 7980.00 CWSL= 6267.07  
 STA= 946. 962. 972. 1025. 1062. 1087. 1107.  
 PER Q= 1.4 4.3 54.5 24.0 13.0 2.8  
 AREA= 58.2 100.8 771.0 446.8 264.4 101.9  
 VEL= 6.6 11.7 19.2 14.6 13.4 7.6

\*SECNO 8250.000

3301 HV CHANGED MORE THAN HVINS  
 8250.00 17.22 6270.72 0.00 0.00 6272.75 2.03 0.69 0.68 6256.00  
 27200. 4019. 22631. 549. 571. 1859. 115. 374. 35. 6260.00  
 0.15 7.04 12.17 4.79 0.035 0.030 0.035 0.032 6253.50 878.57  
 0.001972 300. 270. 320. 5 0 0 0 0.00 212.86 1091.43

FLOW DISTRIBUTION FOR SECNO= 8250.00 CWSL= 6270.72  
 STA= 879. 890. 940. 950. 1070. 1091.  
 PER Q= 0.4 10.3 4.1 83.2 2.0  
 AREA= 32.7 410.8 127.2 1859.4 114.8  
 VEL= 3.1 6.8 8.7 12.2 4.8

1 PROFILE FOR STREAM ENT CREEK CENTERLINE=10

PLOTTED POINTS (BY PRIORITY)-E-ENERGY, W-WATER SURFACE, I-INVERT, C-CRITICAL W.S., L-LEFT BANK, R-RIGHT BANK, M-LOWER END STA

ELEVATION	6190.	6200.	6210.	6220.	6230.	6240.	6250.	6260.	6270.	6280.
SECNO	6190.	6200.	6210.	6220.	6230.	6240.	6250.	6260.	6270.	6280.
1000.00	CUMDIS									
	0. C		IL R		W E M					
	50. C		IL R		W E M					
	100. C		IL R		W E M					
	150. C		IL R		W E M					

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	200		IL	R	10	W	20	M	30	40
	250	CCCC	ILR			W	W	M		
	300	CCCC	ILR			W	W	M		
	350	CCCC	ILR			W	W	M		
1400.00	400	CCCC	IL			W	W	M		
	450	CCCC	IL			W	W	M		
	500	CCCC	IL			W	W	M		
	550	CCCC	IL			W	W	M		
	600	CCCC	IL			W	W	M		
1810.00	650	CCCC	IL			W	W	M		
	700	CCCC	IL			W	W	M		
	750	CCCC	IL			W	W	M		
	800	CCCC	IL			W	W	M		
2250.00	850	CCCC	IL			W	W	M		
	900	CCCC	IL			W	W	M		
	950	CCCC	IL			W	W	M		
	1000	CCCC	IL			W	W	M		
	1050	CCCC	IL			W	W	M		
	1100	CCCC	IL			W	W	M		
	1150	CCCC	IL			W	W	M		
	1200	CCCC	IL			W	W	M		
	1250	CCCC	IL			W	W	M		
2750.00	1300	CCCC	IL			W	W	M		
	1350	CCCC	IL			W	W	M		
	1400	CCCC	IL			W	W	M		
	1450		ILR			W	W	M		
	1500		ILR			W	W	M		
	1550		ILR			W	W	M		
	1600		ILR			W	W	M		
	1650		IL	R		W	W	M		
	1700		IL	R		W	W	M		
	1750		IL	R		W	W	M		
	1800		IL	R		W	W	M		
3240.00	1850		IL	R		W	W	M		
	1900		IL	R		W	W	M		
	1950		IL	R		W	W	M		
	2000		IL	R		W	W	M		
	2050		IL	R		W	W	M		
	2100		IL	R		W	W	M		
	2150		IL	R		W	W	M		
	2200		IL	R		W	W	M		
3660.00	2250		IL	R		W	W	M		
	2300		IL	R		W	W	M		
	2350		IL	R		W	W	M		
	2400		IL	R		W	W	M		
	2450		IL	R		W	W	M		
	2500		IL	R		W	W	M		
	2550		IL	R		W	W	M		
4000.00	2600		IL	R		W	W	M		
	2650	CCCC	IL	R		W	W	M		
	2700	CCCC	IL	R		W	W	M		
	2750	CCCC	IL	R		W	W	M		
	2800	CCCC	IL	R		W	W	M		
4310.00	2850	CCCC	IL	R		W	W	M		
	2900	CCCC	IL	R		W	W	M		
	2950	CCCC	IL	R		W	W	M		



7110.00	5800	C	I	L	W	W	M
	5850	C	I	L	W	W	M
	5900	C	I	L	W	W	M
	5950	C	I	L	W	W	M
7230.00	6000	C	I	L	W	W	M
	6050	C	I	L	W	W	M
	6100	C	I	L	W	W	M
	6150	C	I	L	W	W	M
	6200	C	I	L	W	W	M
	6250	C	I	L	W	W	M
7610.00	6300	C	I	L	W	W	M
	6350	C	I	L	W	W	M
	6400	C	I	L	W	W	M
	6450	C	I	L	W	W	M
	6500	C	I	L	W	W	M
	6550	C	I	L	W	W	M
	6600	C	I	L	W	W	M
7980.00	6650	C	I	L	W	W	M
	6700	C	I	L	W	W	M
	6750	C	I	L	W	W	M
	6800	C	I	L	W	W	M
	6850	C	I	L	W	W	M
	6900	C	I	L	W	W	M
	6950	C	I	L	W	W	M
8230.00	7000	C	I	L	W	W	M

THIS RUN EXECUTED 03/14/82 15:44:27

\*\*\*\*\*  
 HEC2 RELEASE DATED NOV 76 UPDATED APR 1980  
 ERROR CORR - 01,02,03,04  
 MODIFICATION - 50,51,52,53,54  
 \*\*\*\*\*

T1 COLORADO SPRINGS MONUMENT CREEK CHANNEL IMPROVEMENTS 3.14.82 MOD. 6  
 T2 BACKWATER CURVE 500 YEAR 53850 CFS STA. 10+00 TO 82+50  
 T3 MONUMENT CREEK CENTERLINE CHANNEL=1000 FT. RIGHT

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FG
	0.	3.	0.	0.	0.000000	0.00	0.0	0.	6221.700	0.000
J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	15.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	15.000

SECNO	DEPTH	CWSEL	CRISW	NSELK	EG	HV	HL	QLOSS	BANK	ELEV
G	GLOB	GCH	GROB	ALOB	ACH	AROB	VOL	TWA	LEFT	RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA	
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST	



1\*\*\*\*\*144

\*PROF 2

CCHV= 0.300 CEHV= 0.500  
\*SECNO 1000.000

1000.00	22.70	6221.70	0.00	6221.70	6226.26	4.56	0.00	0.00	6200.00
53850.	3828.	37608.	12414.	482.	1934.	1195.	0.	0.	6204.00
0.00	7.95	19.45	10.38	0.045	0.031	0.042	0.000	6199.00	904.90
0.002714	0.	0.	0.	0	0	0	0.00	232.20	1157.10

FLOW DISTRIBUTION FOR SECNO= 1000.00 CWSSEL= 6221.70

STA=	905.	919.	960.	1048.	1080.	1090.	1108.	1120.	1130.	1143.	1155.	1157.
PER Q=	0.0	7.1	69.8	11.9	3.0	4.2	2.1	1.2	1130.	0.5	0.0	0.0
AREA=	12.1	469.4	1933.6	534.4	147.0	228.6	128.4	87.0	57.8	11.4	0.7	0.7
VEL=	1.6	8.1	19.4	12.0	10.9	10.0	8.9	7.7	4.6	1.8	0.9	0.9

\*SECNO 1400.000

3301 HV CHANGED MORE THAN HVINS

1400.00	23.32	6225.52	0.00	0.00	6227.83	2.30	0.89	0.68	6203.00
53850.	16143.	20412.	17296.	1749.	1314.	1749.	43.	3.	6203.00
0.01	9.23	15.53	9.89	0.045	0.031	0.042	0.031	6202.00	663.93
0.001575	440.	440.	440.	3	0	0	0.00	278.14	942.07

FLOW DISTRIBUTION FOR SECNO= 1400.00 CWSSEL= 6225.52

STA=	664.	680.	720.	775.	831.	886.	926.	938.	942.
PER Q=	0.1	5.9	24.0	37.9	25.8	6.3	0.1	0.0	
AREA=	20.3	490.7	1238.5	1314.0	1238.5	490.7	18.2	2.1	
VEL=	1.6	6.5	10.5	15.5	11.2	6.9	1.9	0.9	

CCHV= 0.300 CEHV= 0.500

\*SECNO 1810.000

1810.00	22.00	6226.40	0.00	0.00	6228.24	1.84	0.27	0.14	6205.40
53850.	17283.	15731.	20336.	1793.	1227.	2024.	63.	4.	6205.40
0.02	9.92	12.80	10.05	0.035	0.031	0.035	0.031	6204.40	483.28
0.001169	200.	200.	200.	2	0	0	0.00	300.44	783.72

03/14/82 15:43:56

SECNO	DEPTH	CWSSEL	CRINS	NSELK	EG	HV	HL	DLOSS	BANK ELEV
Q	QLOB	GCH	GROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	YTRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 1810.00 CWSSEL= 6226.40

STA=	483.	490.	502.	537.	600.	656.	730.	765.	777.	784.
PER Q=	0.0	0.2	5.7	27.2	29.2	31.9	5.7	0.2	0.0	
AREA=	8.1	34.8	427.0	1323.0	1229.0	1554.0	427.0	34.8	8.1	
VEL=	1.6	2.9	7.1	11.1	12.8	11.1	7.1	2.9	1.6	

CCHV= 0.300 CEHV= 0.500

\*SECNO 2250.000

2250.00	20.25	6227.25	0.00	0.00	6228.63	1.38	0.25	0.14	6208.00
53850.	15624.	12877.	25350.	1798.	1131.	2893.	95.	6.	6208.00
0.02	8.69	11.39	8.74	0.035	0.030	0.035	0.031	6207.00	784.03
0.000968	240.	240.	240.	2	0	0	0.00	361.94	1145.97

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0  
 FLOW DISTRIBUTION FOR SECNO= 2250.00 CWSEL= 6227.25  
 STA= 784. 830. 904. 960. 1020. 1070. 1090. 1110. 1137. 1146.  
 PER Q= 3.9 25.1 23.9 20.4 15.5 5.1 4.3 1.8 0.0  
 AREA= 373.3 1424.3 1130.9 1134.9 712.4 323.0 293.0 202.4 3.4  
 VEL= 5.6 9.5 11.4 9.5 9.2 8.4 7.9 4.7 0.7

\*SECNO 2750.000

3301 HV CHANGED MORE THAN HVINS  
 3685 20 TRIALS ATTEMPTED WSEL, CWSEL  
 3693 PROBABLE MINIMUM SPECIFIC ENERGY  
 3720 CRITICAL DEPTH ASSUMED

2750.00 17.21 6228.21 6228.21 0.00 6233.60 5.39 0.80 2.00 6212.00  
 53650. 5988. 15883. 31779. 485. 668. 1916. 138. 7. 6212.00  
 0.03 12.34 23.77 16.59 0.035 0.030 0.035 0.032 6211.00 911.53  
 0.005400 500. 500. 350. 20 12 0 0.00 272.93 1184.47

0  
 FLOW DISTRIBUTION FOR SECNO= 2750.00 CWSEL= 6228.21  
 STA= 912. 923. 940. 965. 980. 1020. 1032. 1105. 1160. 1182. 1184.  
 PER Q= 0.4 1.7 3.9 5.2 29.6 6.3 31.3 19.3 2.2 0.0  
 AREA= 32.8 89.3 180.1 183.1 658.2 182.5 944.0 643.8 125.5 0.3  
 VEL= 5.9 10.2 11.6 15.2 23.8 19.0 17.4 16.1 9.2 0.7

03/14/82 15:43:56

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

CCHV= 0.300 CEHV= 0.500

\*SECNO 3240.000

7185 MINIMUM SPECIFIC ENERGY  
 3720 CRITICAL DEPTH ASSUMED

3240.00 16.91 6231.91 6231.91 0.00 6236.96 5.04 2.53 0.10 6216.00  
 53650. 32569. 19553. 1528. 2187. 863. 142. 172. 12. 6220.00  
 0.04 14.88 22.66 10.76 0.035 0.030 0.035 0.032 6215.00 741.79  
 0.005411 540. 490. 360. 2 8 0 0.00 302.04 1043.83

0  
 FLOW DISTRIBUTION FOR SECNO= 3240.00 CWSEL= 6231.91  
 STA= 742. 747. 765. 795. 920. 965. 1020. 1036. 1044.  
 PER Q= 0.1 1.9 4.4 33.3 21.0 36.4 2.7 0.1  
 AREA= 14.1 102.0 207.4 1237.3 626.2 862.8 126.6 13.3  
 VEL= 4.8 9.9 11.3 14.4 18.0 22.7 11.5 4.5

\*SECNO 3660.000

3301 HV CHANGED MORE THAN HVINS  
 3685 20 TRIALS ATTEMPTED WSEL, CWSEL  
 3693 PROBABLE MINIMUM SPECIFIC ENERGY  
 3720 CRITICAL DEPTH ASSUMED

3660.00 17.58 6235.58 6235.58 0.00 6241.18 5.59 1.90 0.27 6220.00  
 53650. 10038. 28912. 14700. 766. 1289. 1021. 198. 14. 6220.00  
 0.04 13.11 22.43 14.40 0.035 0.030 0.035 0.032 6218.00 882.08

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0.004663 300. 420. 460. 20 8 0 0.00 268.92 1151.00

FLOW DISTRIBUTION FOR SECNO= 3660.00 CWSEL= 6235.58  
 STA= 892. 900. 910. 975. 1050. 1050. 1120. 1144. 1151.  
 PER G= 0.3 0.7 17.8 33.9 4.0 20.6 2.8 0.0  
 AREA= 32.1 45.8 687.9 1288.8 135.8 725.0 158.0 2.0  
 VEL= 4.2 7.9 13.9 22.4 15.7 15.3 9.5 1.3

\*SECNO 4000.000  
 3685 20 TRIALS ATTEMPTED WSEL, CWSEL  
 3693 PROBABLE MINIMUM SPECIFIC ENERGY  
 3720 CRITICAL DEPTH ASSUMED  
 4000.00 19.87 6239.87 0.00 6245.93 6.06 1.49 0.23 6221.00  
 53650. 19672. 20571. 13407. 1055. 851. 1042. 220. 18. 6221.00  
 0.05 18.47 24.16 12.87 0.035 0.030 0.035 0.032 6220.00 1042.13  
 0.004484 400. 340. 220. 20 8 0 0.00 244.49 1286.62

03/14/82 13:43:56

SECNO	DEPTH	CWSEL	CRINS	WSELK	EQ	HV	HL	GLOSS	BANK ELEV
G	GLOB	GCH	GROB	ALOB	ACH	ARDB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOB1	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 4000.00 CWSEL= 6239.87  
 STA= 1042. 1061. 1108. 1151. 1191. 1220. 1260. 1272. 1284. 1287.  
 PER G= 3.3 33.3 38.3 16.6 4.3 3.5 0.5 0.1 0.0  
 AREA= 178.1 887.0 851.5 554.9 213.8 214.9 40.5 16.5 1.1  
 VEL= 10.1 20.2 24.2 16.1 10.7 8.7 6.3 3.5 1.6

\*SECNO 4310.000

3301 HV CHANGED MORE THAN HVINS  
 4310.00 23.79 6245.79 0.00 0.00 6247.74 1.95 0.58 1.23 6226.00  
 53650. 16969. 21594. 15086. 1853. 1603. 1561. 246. 18. 6224.00  
 0.05 7.16 13.47 9.66 0.035 0.030 0.035 0.032 6222.00 837.64  
 0.001147 350. 310. 170. 4 0 0 0.00 310.73 1148.36

FLOW DISTRIBUTION FOR SECNO= 4310.00 CWSEL= 6245.79  
 STA= 838. 930. 970. 1040. 1085. 1095. 1108. 1148.  
 PER G= 17.4 14.2 40.3 18.9 3.5 3.4 2.2  
 AREA= 1101.8 751.5 1603.1 935.4 187.9 205.2 231.9  
 VEL= 8.9 10.2 13.5 10.9 10.0 8.9 5.2

\*SECNO 4710.000

3301 HV CHANGED MORE THAN HVINS  
 4710.00 20.82 6245.52 0.00 0.00 6249.37 3.85 0.67 0.95 6228.00  
 53650. 21182. 28317. 4151. 1710. 1539. 391. 285. 21. 6225.00  
 0.06 12.39 18.40 10.61 0.035 0.030 0.035 0.032 6224.70 786.49  
 0.002683 420. 400. 370. 3 0 0 0.00 273.10 1059.55

FLOW DISTRIBUTION FOR SECNO= 4710.00 CWSEL= 6245.52  
 STA= 786. 800. 820. 840. 925. 930. 1010. 1018. 1038. 1046. 1058. 1060.  
 PER G= 0.1 1.7 5.5 30.1 2.1 930. 52.8 3.6 3.8 0.2 0.1 0.0

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\*\* PAGE 18

AREA= 12.6 130.3 250.3 1233.9 82.6 1539.1 140.1 210.3 28.1 12.2 0.4  
VEL= 2.2 7.1 11.8 13.1 13.6 18.4 13.8 9.8 4.7 2.2 0.9

CCHV= 0.300 CEHV= 0.500

03/14/82 15:43:56

PAGE 19

SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	QLOSS	BANK ELEV
G	GLOB	GCH	GRGB	ALOB	ACH	ARQB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\*SECNO 5180.000

3301 HV CHANGED MORE THAN HVINS

5180.00	22.03	6249.33	0.00	0.00	6250.69	1.35	0.37	0.75	6230.00
53400	16243	17848	19307	2018	1535	2395	327	23	6232.00
0.07	8.05	11.48	8.06	0.035	0.030	0.035	0.032	6227.30	791.03
0.000958	180.	470.	520.	3	0	0	0.00	403.94	1194.97

0 FLOW DISTRIBUTION FOR SECNO= 5180.00

CWSEL= 6249.33

STA=	791.	804.	840.	865.	905.	945.	1020.	1140.	1160.	1182.	1194.	1195.
PER Q=	0.0	2.4	5.2	10.3	12.5	33.4	31.0	3.9	1.2	0.0	0.0	0.0
AREA=	10.0	263.6	358.1	652.9	732.9	1554.7	1958.8	276.5	150.1	9.9	0.2	0.2
VEL=	1.1	4.8	7.7	8.4	9.1	11.5	8.5	7.5	4.4	1.2	0.4	0.4

CCHV= 0.300 CEHV= 0.500

\*SECNO 5790.000

3301 HV CHANGED MORE THAN HVINS

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

5790.00	18.04	6250.04	6250.04	0.00	6256.12	6.08	1.15	2.36	6234.00
53400	4750	19267	29383	363	803	1681	388	28	6234.00
0.08	13.09	24.00	17.48	0.035	0.030	0.035	0.032	6232.00	924.88
0.002163	540	610	650	20	13	0	0.00	239.24	1164.12

0 FLOW DISTRIBUTION FOR SECNO= 5790.00

CWSEL= 6250.04

STA=	925.	970.	980.	1025.	1045.	1065.	1098.	1110.	1135.	1164.
PER Q=	4.5	4.4	36.1	11.4	11.4	17.3	4.9	7.8	2.3	2.3
AREA=	222.3	140.4	802.8	315.8	315.8	496.3	156.9	276.0	120.2	120.2
VEL=	10.7	16.9	24.0	19.2	17.2	18.6	16.7	15.1	10.4	10.4

CCHV= 0.300 CEHV= 0.500

\*SECNO 6120.000

3301 HV CHANGED MORE THAN HVINS

03/14/82 15:43:56

PAGE 20

SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	QLOSS	BANK ELEV
G	GLOB	GCH	GRGB	ALOB	ACH	ARQB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

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

6120.00	19.79	6253.79	6253.79	0.00	6261.02	7.22	2.07	0.57	6240.00
53400.	1736.	42831.	8833.	139.	1883.	522.	412.	30.	6236.00
0.09	10.92	22.72	16.93	0.035	0.035	0.035	0.032	6234.00	930.77
0.005782	300.	400.	360.	20	8	0	0.00	186.61	1117.38

FLOW DISTRIBUTION FOR SECNO= 6120.00 CWSEL= 6253.79  
 STA= 931. 945. 960. 1060. 1075. 1090. 1103. 1115. 1117.  
 PER G= 0.2 3.0 80.2 9.9 2.6 3.9 0.1 0.0  
 AREA= 27.0 131.9 1885.4 251.9 74.0 179.3 15.3 0.9  
 VEL= 4.8 12.2 22.7 21.0 18.5 11.7 3.8 1.7

\*SECNO 6370.000  
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL  
 3693 PROBABLE MINIMUM SPECIFIC ENERGY  
 3720 CRITICAL DEPTH ASSUMED

6370.00	21.23	6257.73	6257.73	0.00	6265.05	7.32	1.42	0.05	6240.00
53400.	5106.	39573.	8721.	355.	1697.	504.	426.	31.	6238.00
0.09	14.39	23.32	17.29	0.035	0.035	0.035	0.033	6236.50	903.67
0.005579	250.	250.	250.	20	8	0	0.00	179.12	1082.79

FLOW DISTRIBUTION FOR SECNO= 6370.00 CWSEL= 6257.73  
 STA= 904. 923. 945. 1030. 1040. 1060. 1064. 1074. 1083.  
 PER G= 1.0 8.5 74.1 7.7 7.7 0.5 0.4 0.0  
 AREA= 74.7 280.1 1697.3 187.3 254.7 26.9 32.3 3.2  
 VEL= 7.4 16.2 23.3 22.1 16.1 10.5 6.4 1.6

\*SECNO 6650.000  
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL  
 3693 PROBABLE MINIMUM SPECIFIC ENERGY  
 3720 CRITICAL DEPTH ASSUMED

6650.00	23.92	6263.92	6263.92	0.00	6271.23	7.32	1.49	0.00	6244.00
53400.	10614.	36269.	6518.	627.	1324.	418.	442.	32.	6244.00
0.09	16.92	23.79	15.60	0.035	0.035	0.035	0.033	6240.00	906.24
0.005213	250.	280.	280.	20	8	0	0.00	183.78	1090.02

03/14/82 19:43:56

SECNO	DEPTH	CWSEL	CRIBS	WSELK	EG	HV	HL	DLOSS	BANK ELEV
G	GLOBAL	GCH	GROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VR0B	XLN	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XL0BL	XLCH	XL0BR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 6650.00 CWSEL= 6263.92  
 STA= 906. 945. 955. 962. 970. 1040. 1053. 1065. 1090.  
 PER G= 4.3 5.1 4.4 6.0 67.9 7.8 3.4 1.0  
 AREA= 208.3 149.2 118.4 151.3 1524.3 219.9 131.0 66.9  
 VEL= 11.1 18.3 19.7 21.3 23.8 18.9 14.0 7.7

\*SECNO 6690.000  
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL  
 3693 PROBABLE MINIMUM SPECIFIC ENERGY  
 3720 CRITICAL DEPTH ASSUMED

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6690.00	21.49	6265.49	6265.49	0.00	6272.72	7.23	0.21	0.02	6246.00
53400.	9082.	38463.	3854.	349.	1643.	390.	445.	32.	6245.00
0.09	16.53	23.41	15.00	0.035	0.035	0.035	0.033	6244.00	901.33
0.005245	40.	40.	40.	20	11	0	0.00	189.42	1090.95

0 FLOW DISTRIBUTION FOR SECNO= 6690.00 CWSEL= 6265.49  
 STA= 902. 945. 955. 962. 1040. 1048 1060. 1091.  
 PER G= 5.9 6.1 5.1 72.0 5.0 4.3 1.6  
 AREA= 235.0 164.7 127.4 1643.3 137.7 149.7 100.3  
 VEL= 12.3 19.7 20.9 23.4 19.2 15.4 8.6

\*SECNO 6780.000

3301 HV CHANGED MORE THAN HVINS

6780.00	23.25	6270.25	0.00	0.00	6274.07	3.82	0.32	1.02	6248.00
51000.	10578.	29709.	10712.	719.	1673.	833.	451.	32.	6250.00
0.10	11.32	17.76	12.86	0.035	0.035	0.035	0.033	6245.00	860.24
0.002577	90.	90.	90.	9	0	0	0.00	242.52	1102.76

0 FLOW DISTRIBUTION FOR SECNO= 6780.00 CWSEL= 6270.25  
 STA= 860. 923. 950. 960. 1030. 1055. 1087. 1103.  
 PER G= 4.5 9.4 6.8 58.3 14.6 6.3 0.1  
 AREA= 324.8 381.3 212.5 1672.7 481.3 328.1 23.4  
 VEL= 7.1 12.6 16.3 17.8 15.4 9.8 3.0

CCHV= 0.300 CEHV= 0.500

1 03/14/82 15:43:56

SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	DCOSS	BANK	ELEV
G	GLDB	GCH	GRDB	ALOB	ACH	ARDB	VOL	TWA	LEFT/RIGHT	
TIME	VLOB	VCH	VRDB	XNL	XNCH	XNR	WTN	ELMIN	SSTA	
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICDNT	CORAR	TOPWID	ENDST	

\*SECNO 7110.000

3301 HV CHANGED MORE THAN HVINS

7110.00	25.28	6272.78	0.00	0.00	6275.10	2.32	0.58	0.45	6250.00
49000.	14417.	17856.	16726.	1391.	1226.	1532.	479.	34.	6250.00
0.10	10.36	14.54	10.92	0.035	0.031	0.035	0.033	6247.50	892.45
0.001313	330.	330.	300.	3	0	0	0.00	237.88	1130.33

0 FLOW DISTRIBUTION FOR SECNO= 7110.00 CWSEL= 6272.78  
 STA= 892. 930. 980. 1030. 1060. 1078. 1090. 1116. 1128. 1130.  
 PER G= 4.8 24.6 36.4 17.6 9.7 4.2 2.6 0.1 0.0  
 AREA= 352.5 1038.8 1226.3 690.8 376.5 213.3 215.2 15.3 0.9  
 VEL= 6.7 11.6 14.6 12.5 12.0 9.7 5.8 1.8 0.8

\*SECNO 7250.000

7250.00	24.54	6272.74	0.00	0.00	6275.55	2.81	0.21	0.24	6250.00
49000.	26909.	17562.	4528.	2249.	1080.	506.	492.	35.	6250.00
0.11	11.97	16.26	8.96	0.035	0.031	0.035	0.033	6248.20	851.51
0.001676	150.	140.	130.	2	0	0	0.00	233.72	1085.23

0 FLOW DISTRIBUTION FOR SECNO= 7250.00 CWSEL= 6272.74  
 STA= 852. 857. 890. 975. 985. 1030. 1048. 1070. 1080. 1083. 1085.

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PER Q=	0.0	5.5	43.5	5.9	35.8	7.0	2.1	0.1	0.0	0.0
AREA=	6.8	346.3	1678.3	217.4	1080.2	319.4	164.9	17.4	3.0	0.8
VEL=	2.1	7.7	12.7	13.4	16.3	10.8	6.2	2.5	1.7	0.9

CCHV= 0.300 CEHV= 0.300  
 \*SECNO 7610.000

3301 HV CHANGED MORE THAN HVINS

7610.00	24.38	6274.58	0.00	0.00	6274.29	1.71	0.41	0.33	6252.00
49000.	12853.	24898.	11247.	1511.	2044.	1365.	526.	37.	6254.00
0.11	8.30	12.18	8.24	0.035	0.030	0.035	0.033	6250.00	849.84
0.000882	330.	360.	335.	3	0	0	0.00	270.91	1120.74

03/14/82 15:43:55

SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	LOSS	BANK	ELEV
G	GLOB	GCH	GROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT	
TIME	VLOB	VCH	VROB	XLN	XNCH	XNR	WTN	ELMIN	SSTA	
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	QRAR	TOPWID	ENDST	

FLOW DISTRIBUTION FOR SECNO= 7610.00 CWSEL= 6274.58  
 STA= 850. 855. 885. 900. 920. 945. 1030. 1082. 1114. 1116. 1121.

PER Q=	0.0	3.4	4.8	7.3	10.7	50.8	19.0	3.9	0.0	0.0
AREA=	6.7	302.4	271.2	371.6	339.5	2044.4	1018.2	338.6	4.2	3.8
VEL=	1.6	5.5	8.7	9.1	9.8	12.2	9.2	5.6	1.9	1.0

\*SECNO 7980.000

3301 HV CHANGED MORE THAN HVINS

7980.00	21.36	6273.36	0.00	0.00	6278.99	5.23	0.54	1.76	6254.00
49000.	4261.	23754.	20985.	365.	1104.	1370.	557.	39.	6254.00
0.12	11.68	21.31	13.32	0.035	0.030	0.035	0.032	6252.00	932.27
0.003313	330.	370.	340.	3	0	0	0.00	188.83	1121.10

FLOW DISTRIBUTION FOR SECNO= 7980.00 CWSEL= 6273.36  
 STA= 932. 938. 948. 962. 972. 1022. 1062. 1087. 1115. 1117. 1121.

PER Q=	0.0	0.6	3.3	4.7	48.5	23.6	13.8	5.4	0.0	0.0
AREA=	7.5	48.7	145.1	163.7	1104.4	679.5	421.6	262.2	3.7	2.8
VEL=	3.1	6.5	11.0	14.2	21.5	17.0	16.1	10.1	3.4	1.8

\*SECNO 8250.000

3301 HV CHANGED MORE THAN HVINS

8250.00	23.78	6277.28	0.00	0.00	6279.93	2.65	0.57	0.77	6256.00
49000.	9653.	37521.	1826.	1082.	2647.	298.	580.	40.	6260.00
0.13	8.92	14.18	6.12	0.035	0.030	0.035	0.032	6253.50	845.45
0.001332	300.	270.	320.	4	0	0	0.00	239.10	1104.55

FLOW DISTRIBUTION FOR SECNO= 8250.00 CWSEL= 6277.28  
 STA= 855. 890. 940. 950. 1070. 1104.

PER Q=	1.5	14.0	4.2	76.6	3.7
AREA=	150.6	738.8	192.8	2646.6	298.4
VEL=	4.9	9.3	10.6	14.2	6.1

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PROFILE FOR STREAM ENT CREEK CENTERLINE CH

PLOTTED POINTS (BY PRIORITY)-E-ENERGY, W-WATER SURFACE, I-INVERT, C-CRITICAL W. S., L-LEFT BANK, R-RIGHT BANK, M-LOWER END STA

ELEVATION	6190.	6200.	6210.	6220.	6230.	6240.	6250.	6260.	6270.	6280.
SECNO	CUMDIS									
1000.00	0.		IL							
	50.		IL	R						
	100.		IL	RR						
	150.		IL	RR						
	200.		IL	R						
	250.		ILR							
	300.		ILR							
	350.		ILR							
1400.00	400.		IL							
	450.		IL							
	500.		IL							
	550.		IL							
1810.00	600.		IL							
	650.		IL							
	700.		IL							
	750.		IL							
	800.		IL							
	850.		IL							
2250.00	900.		IL							
	950.		IL							
	1000.		IL							
	1050.		IL							
	1100.		IL							
	1150.		IL							
	1200.		IL							
	1250.		IL							
	1300.		IL							
2750.00	1350.		IL							
	1400.		IL							
	1450.		ILR							
	1500.		ILR							
	1550.		ILR							
	1600.		ILR							
	1650.		ILR							
	1700.		IL							
	1750.		IL							
	1800.		IL							
3240.00	1850.		IL							
	1900.		IL							
	1950.		IL							
	2000.		IL							
	2050.		IL							
	2100.		IL							
	2150.		IL							
	2200.		IL							
	2250.		IL							
3660.00	2300.		IL							
	2350.		IL							
	2400.		IL							





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\*\* PAGE 24

CROSS-SECTION NUMBER	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
	5250												
	5300												
	5350												
6650.00	5400												
6690.00	5450												
6780.00	5500												
	5550												
	5600												
	5650												
	5700												
7110.00	5750												
	5800												
	5850												
	5900												
7230.00	5950												
	6000												
	6050												
	6100												
	6150												
	6200												
	6250												
7610.00	6300												
	6350												
	6400												
	6450												
	6500												
	6550												
	6600												
7980.00	6650												
	6700												
	6750												
	6800												
	6850												
	6900												
8250.00	6950												
	7000												

03/14/82 15:43:56

PAGE 24

THIS RUN EXECUTED 03/14/82 15:44:55

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 HEC2 RELEASE DATED NOV 76 UPDATED APR 1980  
 ERROR CORR - 01,02,03,04  
 MODIFICATION - 30,31,32,33,34  
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NOTE- ASTERISK (\*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

ENT CREEK CENTERLINE=10  
SUMMARY PRINTOUT TABLE 150

SECND	XLCH	ELTRD	ELLC	ELMIN	Q	CNSL	CRHS	EG	1OK#S	VCH	AREA	.01K
1000.000	0.00	0.00	0.00	6199.00	30270.00	6216.00	0.00	6219.37	28.32	16.26	2350.00	5688.58
1000.000	0.00	0.00	0.00	6199.00	53850.00	6221.70	0.00	6226.26	27.14	19.45	3610.57	10337.00

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1400.000	440.00	0.00	0.00	6202.00	30270.00	6219.25	0.00	6220.62	15.68	12.60	3265.70	7645.29
1400.000	440.00	0.00	0.00	6202.00	33850.00	6223.52	0.00	6227.83	13.75	13.53	4813.00	13568.75
1810.000	200.00	0.00	0.00	6204.40	30270.00	6219.73	0.00	6221.16	14.14	11.06	3232.34	8051.27
1810.000	200.00	0.00	0.00	6204.40	33850.00	6226.40	0.00	6228.24	11.69	12.80	5045.62	15748.66
2250.000	240.00	0.00	0.00	6207.00	30270.00	6220.37	0.00	6221.57	14.57	10.59	3525.87	7929.66
2250.000	240.00	0.00	0.00	6207.00	33850.00	6227.23	0.00	6228.63	9.68	11.39	5821.39	17306.13
* 2750.000	500.00	0.00	0.00	6211.00	30150.00	6224.28	6224.28	6228.26	56.88	20.40	2044.15	3997.68
* 2750.000	500.00	0.00	0.00	6211.00	33650.00	6228.21	6228.21	6233.60	54.00	23.77	3069.58	7300.83
* 3240.000	490.00	0.00	0.00	6215.00	30150.00	6228.59	6228.59	6232.10	51.37	18.84	2205.14	4206.52
* 3240.000	490.00	0.00	0.00	6215.00	33650.00	6231.91	6231.91	6236.96	54.11	22.66	3173.77	7293.60
* 3660.000	420.00	0.00	0.00	6218.00	30150.00	6231.40	6231.40	6235.61	49.11	19.11	2033.67	4302.52
* 3660.000	420.00	0.00	0.00	6218.00	33650.00	6235.58	6235.58	6241.18	46.63	22.43	3075.59	7856.52
* 4000.000	340.00	0.00	0.00	6220.00	30150.00	6234.91	6234.91	6239.75	48.68	20.77	1832.40	4321.09
* 4000.000	340.00	0.00	0.00	6220.00	33650.00	6239.87	6239.87	6245.93	44.84	24.16	2958.12	8011.62
4310.000	310.00	0.00	0.00	6222.00	30150.00	6240.04	0.00	6241.41	11.63	11.19	3395.99	8839.92
4310.000	310.00	0.00	0.00	6222.00	33650.00	6245.79	0.00	6247.74	11.47	13.47	5017.87	15838.63
4710.000	400.00	0.00	0.00	6224.70	30150.00	6239.85	0.00	6243.12	35.37	16.74	2254.72	5069.61
4710.000	400.00	0.00	0.00	6224.70	33650.00	6245.52	0.00	6249.37	26.83	18.40	3640.13	10357.87
5180.000	470.00	0.00	0.00	6227.30	30000.00	6243.42	0.00	6244.53	12.30	10.40	3768.20	8554.99
5180.000	470.00	0.00	0.00	6227.30	33400.00	6249.33	0.00	6250.69	9.58	11.48	5967.65	17256.40

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SECNO	XLCH	ELTRD	ELLC	ELMIN	G	CHSEL	CRWS	EG	10K*S	VCH	AREA	.01K
* 5790.000	610.00	0.00	0.00	6232.00	30000.00	6245.33	6245.33	6249.95	58.73	20.86	1847.70	3914.69
* 5790.000	610.00	0.00	0.00	6232.00	33400.00	6250.04	6250.04	6256.12	51.63	24.00	2846.22	7431.87
* 6120.000	400.00	0.00	0.00	6234.00	30000.00	6247.88	6247.88	6253.55	72.45	19.78	1607.57	3524.53
* 6120.000	400.00	0.00	0.00	6234.00	33400.00	6253.79	6253.79	6261.02	57.82	22.72	2565.96	7022.80
* 6370.000	250.00	0.00	0.00	6236.50	30000.00	6251.92	6251.92	6257.55	65.58	20.09	1630.91	3704.42
* 6370.000	250.00	0.00	0.00	6236.50	33400.00	6257.73	6257.73	6265.05	55.79	23.32	2556.59	7149.00
* 6650.000	280.00	0.00	0.00	6240.00	30000.00	6257.71	6257.71	6263.55	62.41	20.81	1611.64	3797.59
* 6650.000	280.00	0.00	0.00	6240.00	33400.00	6263.92	6263.92	6271.23	52.13	23.79	2569.45	7396.09
* 6690.000	40.00	0.00	0.00	6244.00	30000.00	6259.24	6259.24	6265.08	64.96	20.60	1604.46	3722.26
* 6690.000	40.00	0.00	0.00	6244.00	33400.00	6265.49	6265.49	6272.72	52.45	23.41	2582.89	7373.54
* 6780.000	90.00	0.00	0.00	6245.00	28500.00	6260.81	6260.81	6266.15	64.68	20.12	1598.92	3543.69
* 6780.000	90.00	0.00	0.00	6245.00	31000.00	6270.25	0.00	6274.07	23.77	17.76	3424.15	10047.36
7110.000	330.00	0.00	0.00	6247.50	27200.00	6266.51	0.00	6268.09	12.96	11.88	2791.88	7554.11
7110.000	330.00	0.00	0.00	6247.50	49000.00	6272.78	0.00	6275.10	13.13	14.56	4149.53	13521.72

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7250.000	140.00	0.00	0.00	6248.20	27200.00	6266.50	0.00	6268.54	17.95	13.76	2509.64	6420.50
7250.000	140.00	0.00	0.00	6248.20	49000.00	6272.74	0.00	6273.55	16.76	16.26	3834.64	11968.73
7610.000	360.00	0.00	0.00	6250.00	27200.00	6267.98	0.00	6269.22	9.62	10.27	3228.15	8768.03
7610.000	360.00	0.00	0.00	6250.00	49000.00	6274.58	0.00	6276.29	8.82	12.18	4920.68	16498.02
7980.000	370.00	0.00	0.00	6252.00	27200.00	6267.07	0.00	6271.38	42.71	19.22	1742.76	4162.15
7980.000	370.00	0.00	0.00	6252.00	49000.00	6273.36	0.00	6278.57	33.13	21.51	2839.25	8512.98
8250.000	270.00	0.00	0.00	6253.50	27200.00	6270.72	0.00	6272.73	15.72	12.17	2544.83	6860.06
8250.000	270.00	0.00	0.00	6253.50	49000.00	6277.28	0.00	6279.93	13.32	14.18	4027.21	13424.65

03/14/82 15:43:56

ENT CREEK CENTERLINE=10  
SUMMARY PRINTOUT TABLE 150

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
1000.000	30270.00	6216.00	0.00	0.00	0.00	206.00	0.00
1000.000	53850.00	6221.70	5.70	0.00	0.00	252.20	0.00
1400.000	30270.00	6219.25	0.00	3.25	0.00	229.41	440.00
1400.000	53850.00	6225.52	6.27	3.82	0.00	278.14	440.00
1810.000	30270.00	6219.75	0.00	0.50	0.00	250.08	200.00
1810.000	53850.00	6226.40	6.65	0.87	0.00	300.44	200.00
2250.000	30270.00	6220.37	0.00	0.62	0.00	319.50	240.00
2250.000	53850.00	6227.25	6.87	0.85	0.00	361.94	240.00
* 2750.000	30150.00	6224.28	0.00	3.90	0.00	253.11	500.00
* 2750.000	53650.00	6228.21	3.93	0.96	0.00	272.93	500.00
* 3240.000	30150.00	6228.59	0.00	4.31	0.00	292.18	490.00
* 3240.000	53650.00	6231.91	3.33	3.71	0.00	352.04	490.00
* 3660.000	30150.00	6231.40	0.00	2.81	0.00	233.78	420.00
* 3660.000	53650.00	6235.58	4.19	3.67	0.00	268.92	420.00
* 4000.000	30150.00	6234.91	0.00	3.52	0.00	209.49	340.00
* 4000.000	53650.00	6239.87	4.96	4.29	0.00	244.49	340.00
4310.000	30150.00	6240.04	0.00	5.13	0.00	266.17	310.00
4310.000	53650.00	6245.79	5.75	5.92	0.00	310.73	310.00
4710.000	30150.00	6238.85	0.00	-0.20	0.00	229.39	400.00
4710.000	53650.00	6245.52	5.67	-0.27	0.00	273.10	400.00
5180.000	30000.00	6243.42	0.00	3.57	0.00	355.09	470.00
5180.000	53400.00	6249.33	5.91	3.81	0.00	403.94	470.00
* 5790.000	30000.00	6245.33	0.00	1.91	0.00	199.69	610.00
* 5790.000	53400.00	6250.04	4.71	0.71	0.00	239.24	610.00

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*	6120.000	30000.00	6247.88	0.00	2.55	0.00	146.92	400.00
*	6120.000	53400.00	6253.79	5.92	3.75	0.00	186.61	400.00
*	6370.000	30000.00	6251.92	0.00	4.04	0.00	145.63	250.00
*	6370.000	53400.00	6257.73	5.82	3.94	0.00	179.12	250.00
*	6650.000	30000.00	6257.71	0.00	5.79	0.00	138.84	280.00
*	6650.000	53400.00	6263.92	6.21	6.19	0.00	183.78	280.00
*	6690.000	30000.00	6259.24	0.00	1.53	0.00	139.96	40.00
*	6690.000	53400.00	6265.49	6.25	1.57	0.00	189.42	40.00

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	SECNO	Q	CNSEI	DIFWSP	DIFWSX	DIFKNS	TOPWID	XLCH
*	6780.000	28500.00	6260.81	0.00	1.57	0.00	150.65	90.00
	6780.000	51000.00	6270.25	9.44	4.76	0.00	242.52	90.00
	7110.000	27200.00	6266.51	0.00	5.70	0.00	202.04	330.00
	7110.000	49000.00	6272.78	6.27	2.53	0.00	237.88	330.00
	7250.000	27200.00	6266.50	0.00	-0.01	0.00	196.63	140.00
	7250.000	49000.00	6272.74	6.24	-0.03	0.00	233.72	140.00
	7610.000	27200.00	6267.98	0.00	1.48	0.00	242.91	360.00
	7610.000	49000.00	6274.58	6.60	1.84	0.00	270.91	360.00
	7980.000	27200.00	6267.07	0.00	-0.90	0.00	161.30	370.00
	7980.000	49000.00	6273.36	6.29	-1.22	0.00	188.83	370.00
	8250.000	27200.00	6270.72	0.00	3.64	0.00	212.86	270.00
	8250.000	49000.00	6277.28	6.56	3.91	0.00	239.10	270.00

1 03/14/82 15:43:56

SUMMARY OF ERRORS

CAUTION	SECNO= 2750.000	PROFILE= 1	CRITICAL DEPTH ASSUMED
CAUTION	SECNO= 2750.000	PROFILE= 1	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION	SECNO= 2750.000	PROFILE= 1	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION	SECNO= 2750.000	PROFILE= 2	CRITICAL DEPTH ASSUMED
CAUTION	SECNO= 2750.000	PROFILE= 2	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION	SECNO= 2750.000	PROFILE= 2	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION	SECNO= 3240.000	PROFILE= 1	CRITICAL DEPTH ASSUMED
CAUTION	SECNO= 3240.000	PROFILE= 1	MINIMUM SPECIFIC ENERGY
CAUTION	SECNO= 3240.000	PROFILE= 2	CRITICAL DEPTH ASSUMED
CAUTION	SECNO= 3240.000	PROFILE= 2	MINIMUM SPECIFIC ENERGY
CAUTION	SECNO= 3660.000	PROFILE= 1	CRITICAL DEPTH ASSUMED

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\*\* PAGE 28

CAUTION SECNO= 3660.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 3660.000 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 3660.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 3660.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 4000.000 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 4000.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 4000.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
CAUTION SECNO= 4000.000 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 4000.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 4000.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 5790.000 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 5790.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 5790.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
CAUTION SECNO= 5790.000 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 5790.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 5790.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 6120.000 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 6120.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 6120.000 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 6120.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 6120.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 6370.000 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 6370.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 6370.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
CAUTION SECNO= 6370.000 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 6370.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 6370.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 6630.000 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 6630.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 6630.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
CAUTION SECNO= 6630.000 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 6630.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY

03/14/82 15:43:56

PAGE 29

CAUTION SECNO= 6630.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 6690.000 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 6690.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 6690.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
CAUTION SECNO= 6690.000 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 6690.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 6690.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 6780.000 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 6780.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY

03/14/82 15:45:00

PAGE 1

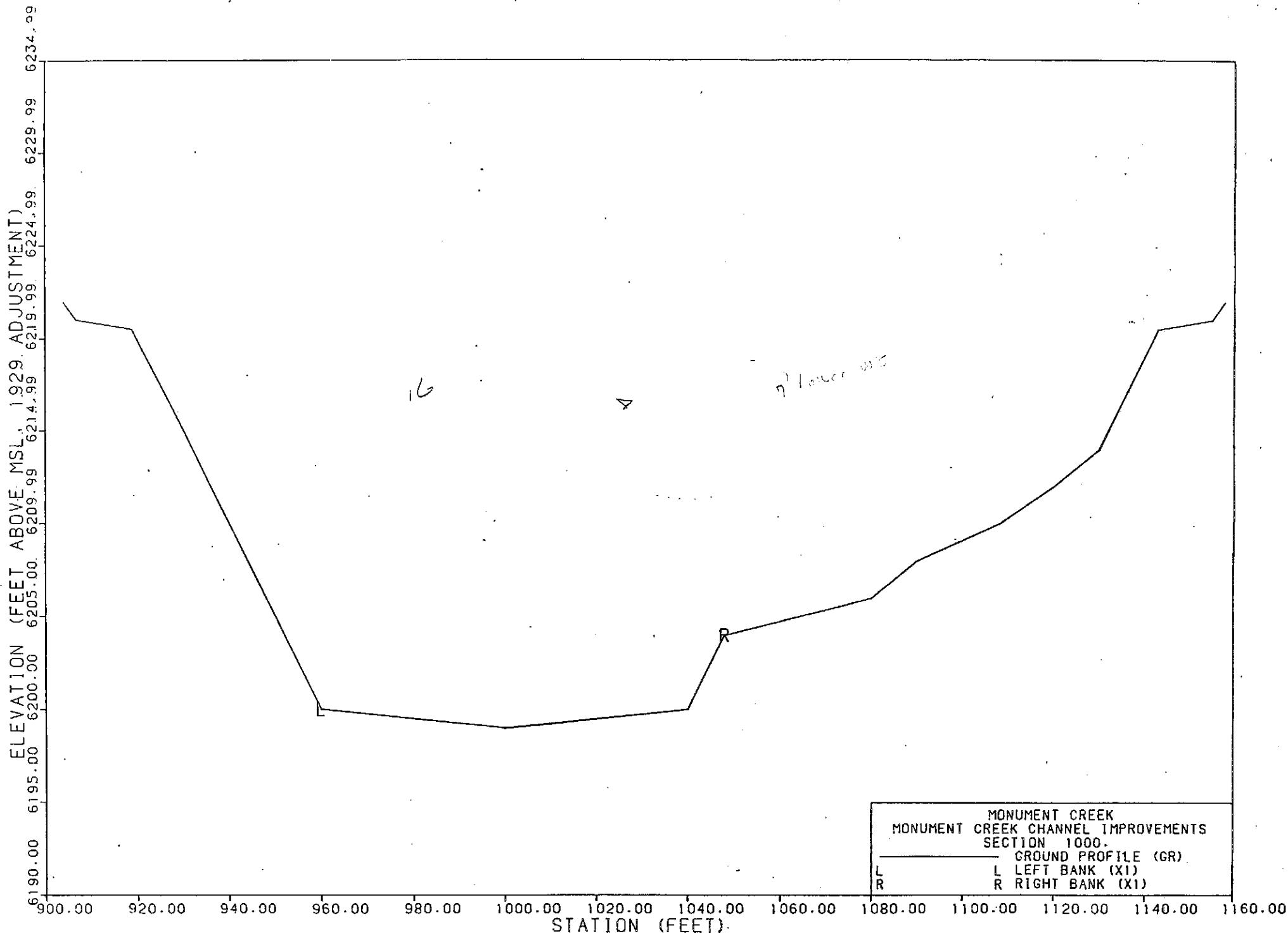
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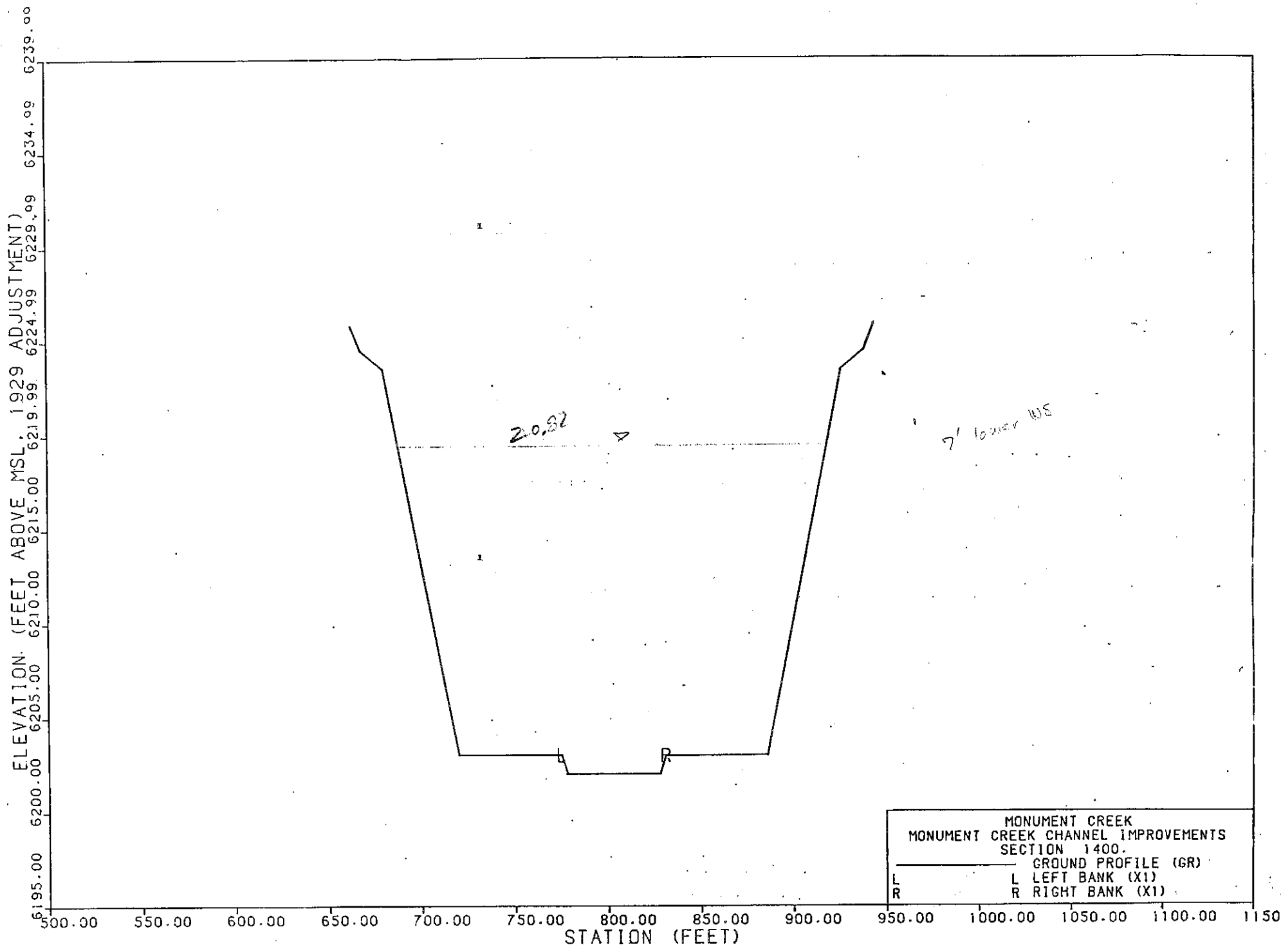
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HEG2 RELEASE DATED NOV 76 UPDATED APR 1980  
ERROR CORR - 01,02,03,04  
MODIFICATION - 50,51,52,53,54  
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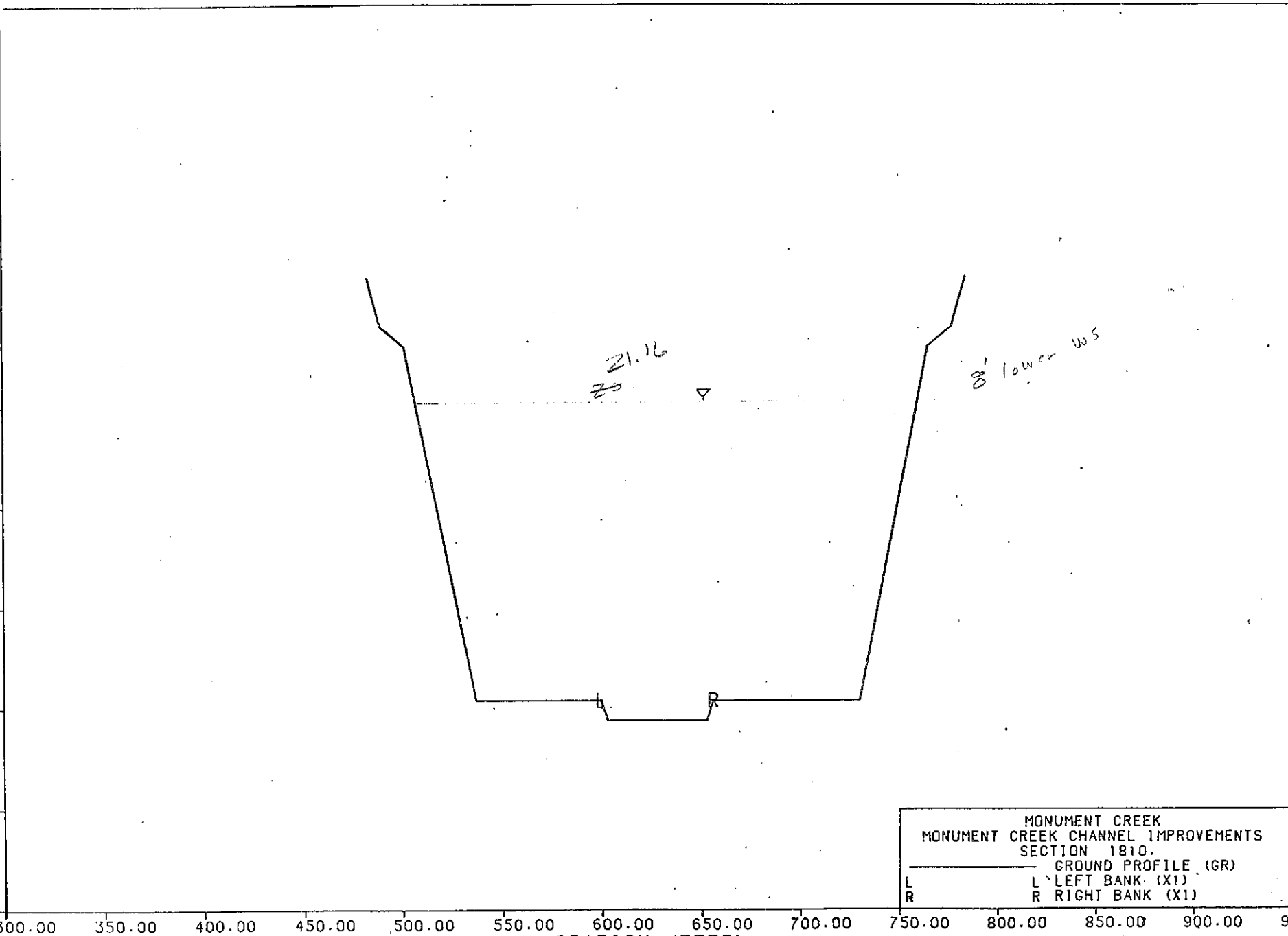






ELEVATION (FEET ABOVE MSL, 1929 ADJUSTMENT)

6195.00 6200.00 6205.00 6210.00 6215.00 6219.99 6224.99 6229.99 6234.99 6239.99



STATION (FEET)

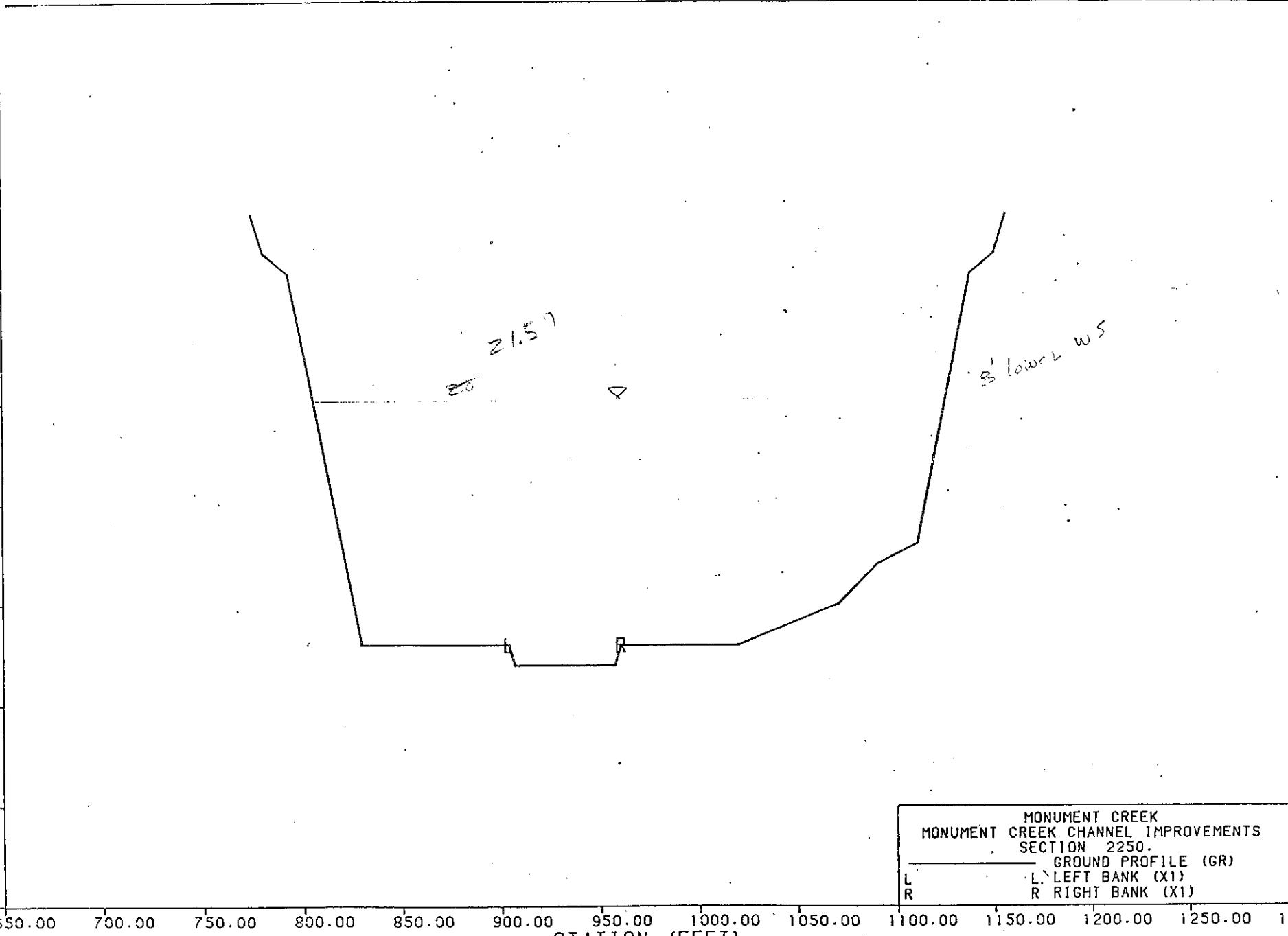
MONUMENT CREEK  
MONUMENT CREEK CHANNEL IMPROVEMENTS  
SECTION 1810.  
— GROUND PROFILE (GR)  
L LEFT BANK (X1)  
R RIGHT BANK (X1)

21.16

8% lower WS

ELEVATION (FEET ABOVE MSL, 1929 ADJUSTMENT)

6195.00 6200.00 6205.00 6210.00 6215.00 6219.99 6224.99 6229.99 6234.99 6239.99



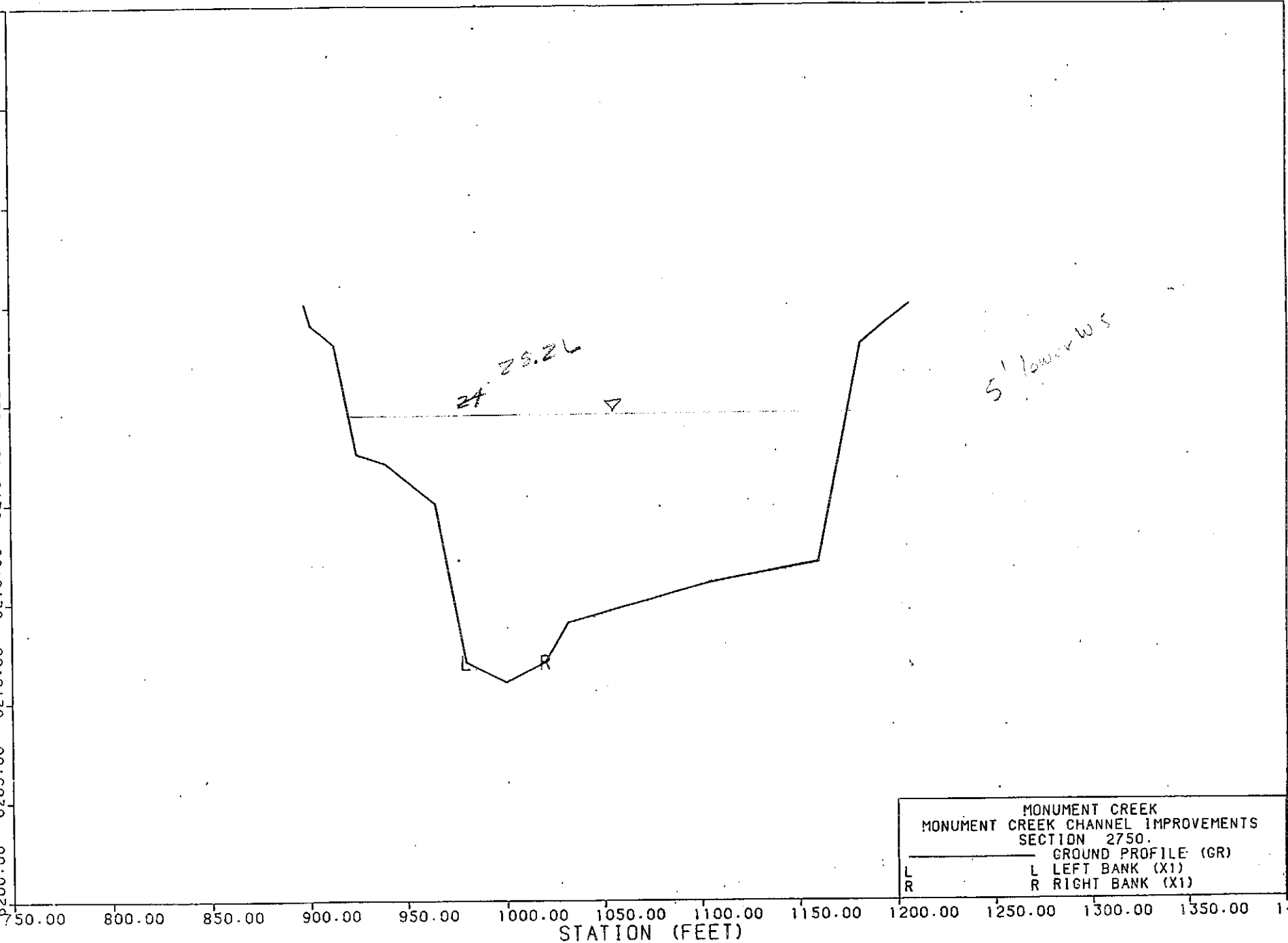
MONUMENT CREEK  
MONUMENT CREEK CHANNEL IMPROVEMENTS  
SECTION 2250.  
GROUND PROFILE (GR)  
L LEFT BANK (X1)  
R RIGHT BANK (X1)

STATION (FEET)

650.00 700.00 750.00 800.00 850.00 900.00 950.00 1000.00 1050.00 1100.00 1150.00 1200.00 1250.00 1300.00

ELEVATION (FEET ABOVE MSL, 1929 ADJUSTMENT)

6200.00 6205.00 6210.00 6215.00 6219.99 6224.99 6229.99 6234.99 6239.99 6244.99



MONUMENT CREEK  
MONUMENT CREEK CHANNEL IMPROVEMENTS  
SECTION 2750.  
— GROUND PROFILE (GR)  
L LEFT BANK (X1)  
R RIGHT BANK (X1)

STATION (FEET)

5' lower WS

24 28.26

ELEVATION (FEET ABOVE MSL, 1929 ADJUSTMENT)

6205.00 6210.00 6215.00 6220.00 6225.00 6229.99 6234.99 6239.99 6244.99 6249.99

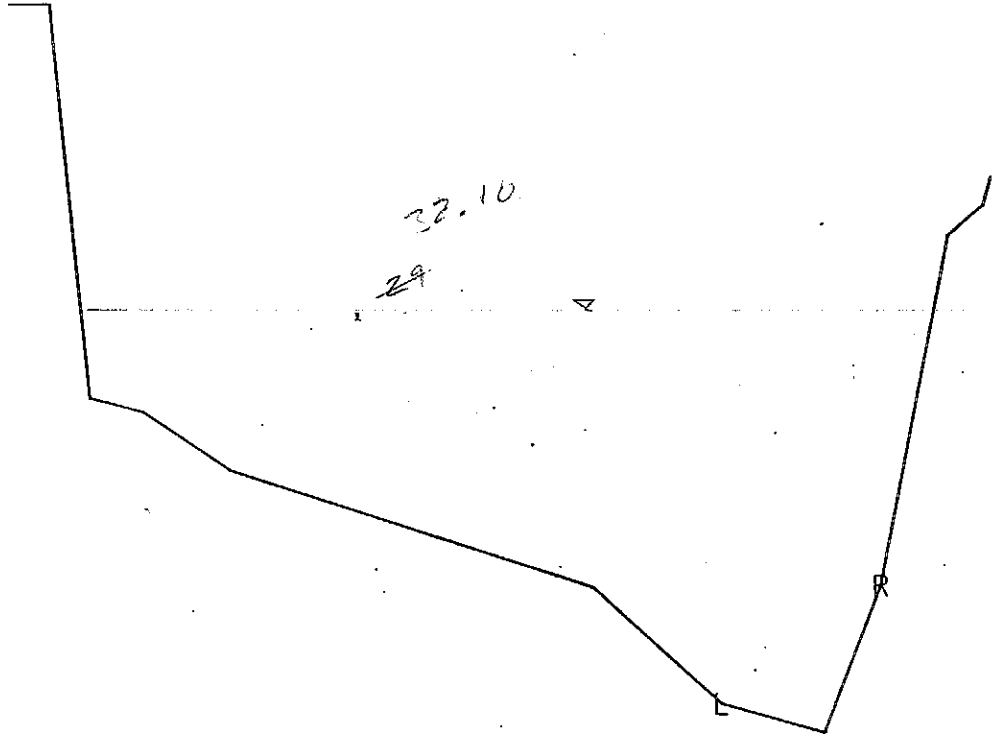
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STATION (FEET)

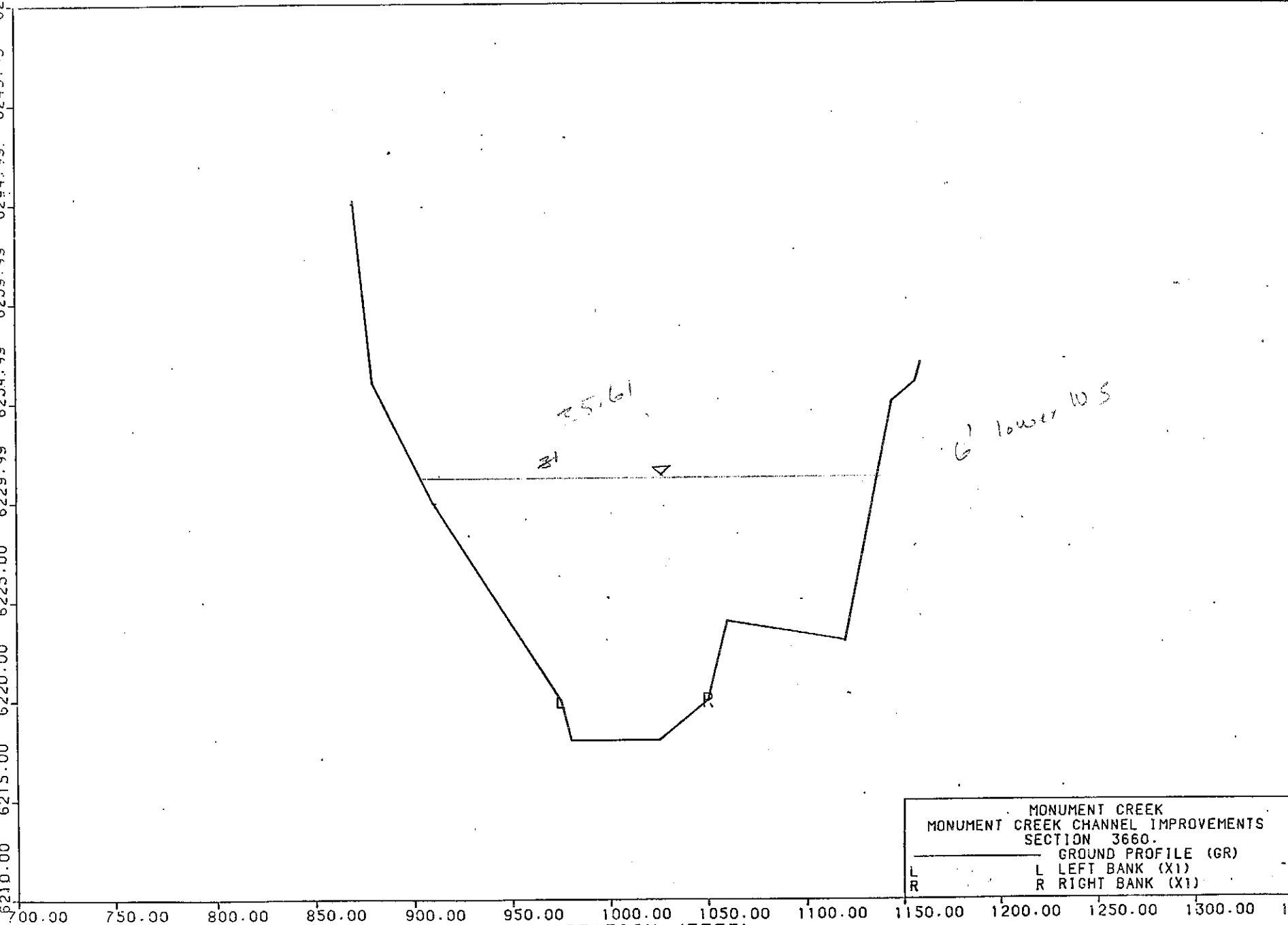
MONUMENT CREEK  
MONUMENT CREEK CHANNEL IMPROVEMENTS  
SECTION 3240.  
— GROUND PROFILE (GR)  
L LEFT BANK (X1)  
R RIGHT BANK (X1)

29  
32.10

4' lower WS



ELEVATION (FEET ABOVE MSL, 1929 ADJUSTMENT)  
6210.00 6215.00 6220.00 6225.00 6229.99 6234.99 6239.99 6244.99 6249.99 6254.99



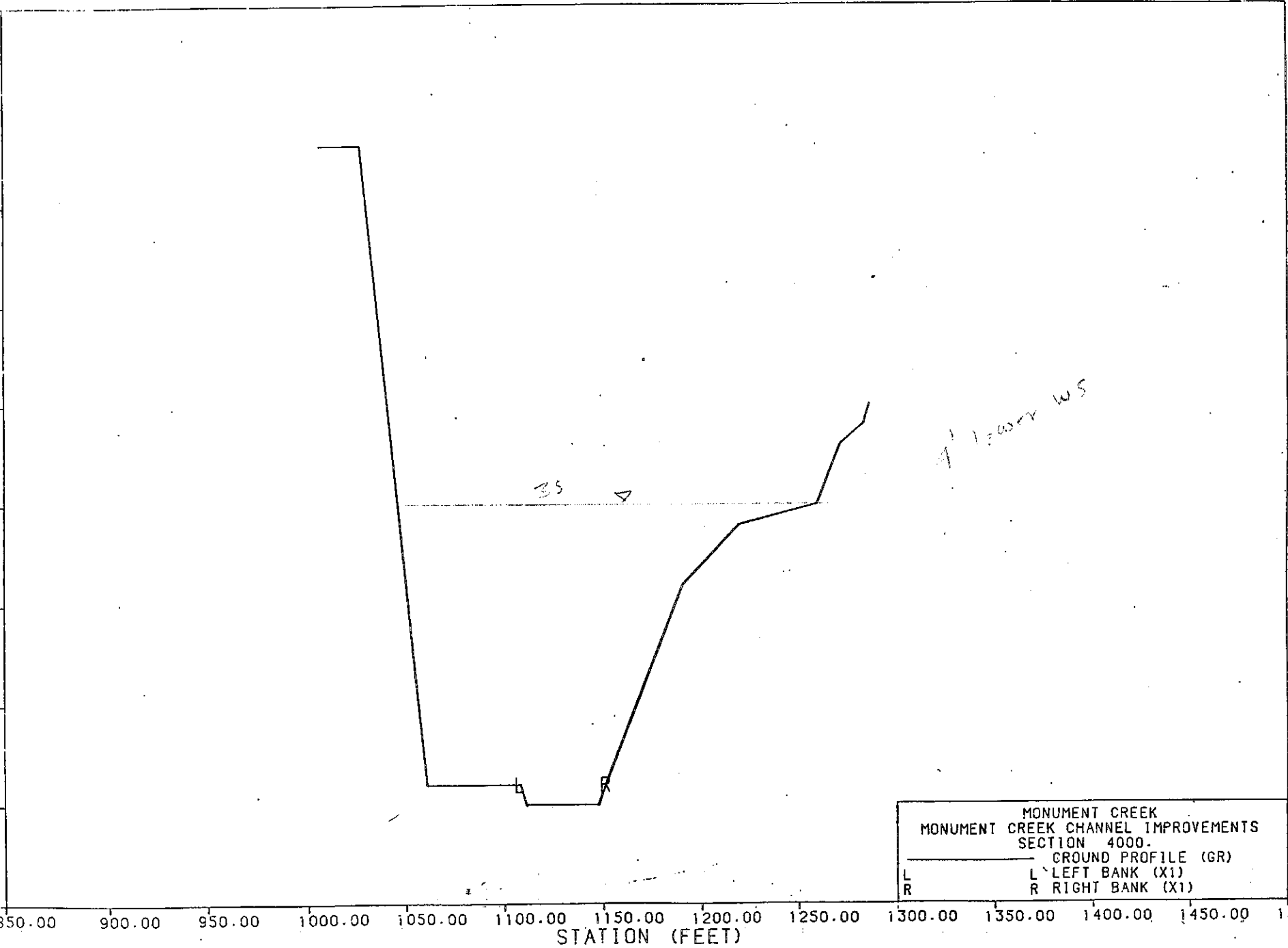
MONUMENT CREEK  
MONUMENT CREEK CHANNEL IMPROVEMENTS  
SECTION 3660.  
— GR — GROUND PROFILE (GR)  
L LEFT BANK (X1)  
R RIGHT BANK (X1)

STATION (FEET)

G lower WS

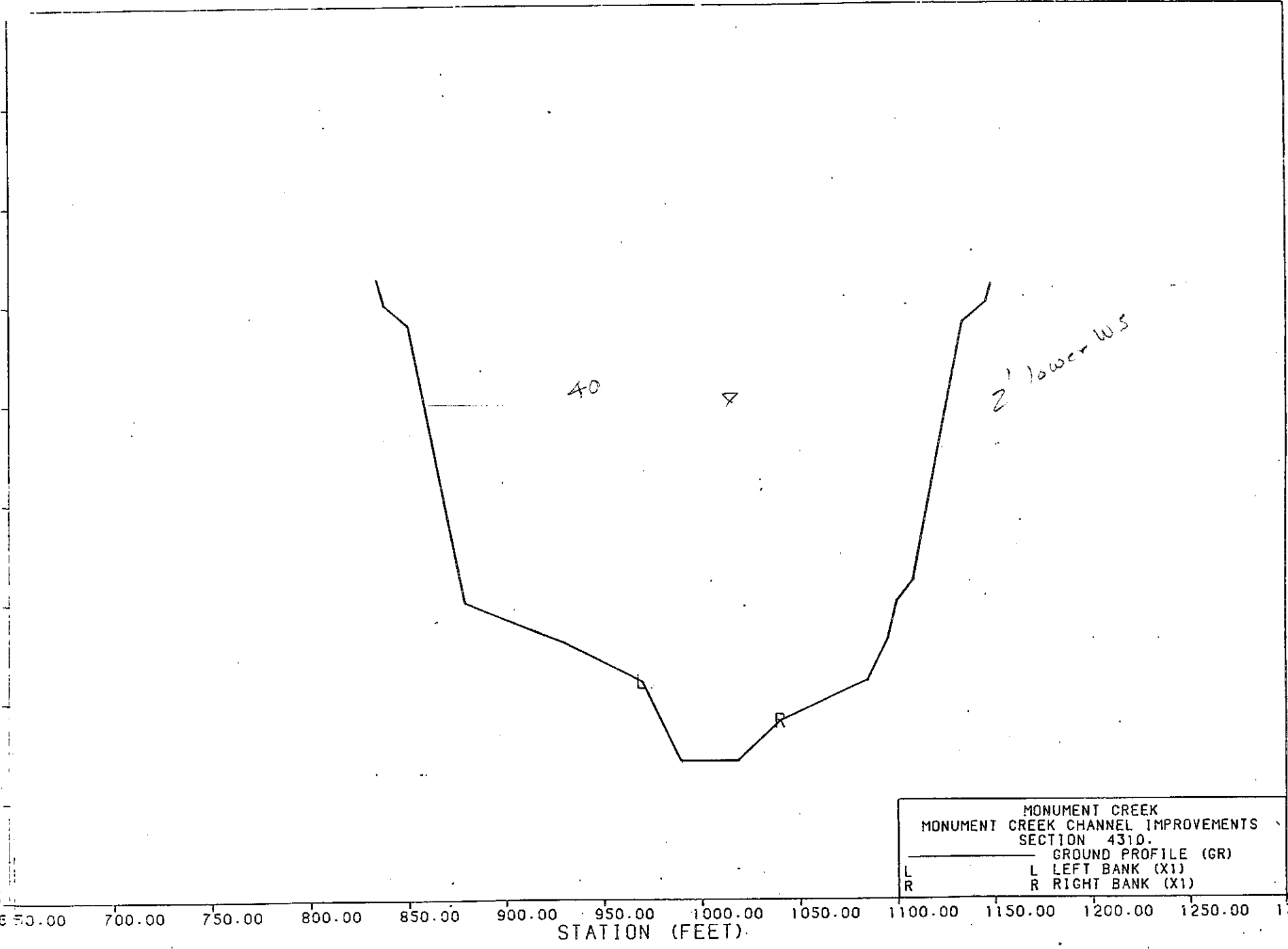
25.61

ELEVATION (FEET ABOVE MSL, 1929 ADJUSTMENT)  
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MONUMENT CREEK  
MONUMENT CREEK CHANNEL IMPROVEMENTS  
SECTION 4000.  
— GROUND PROFILE (GR)  
L LEFT BANK (X1)  
R RIGHT BANK (X1)

ELEVATION (FEET ABOVE MSL, 1929 ADJUSTMENT)  
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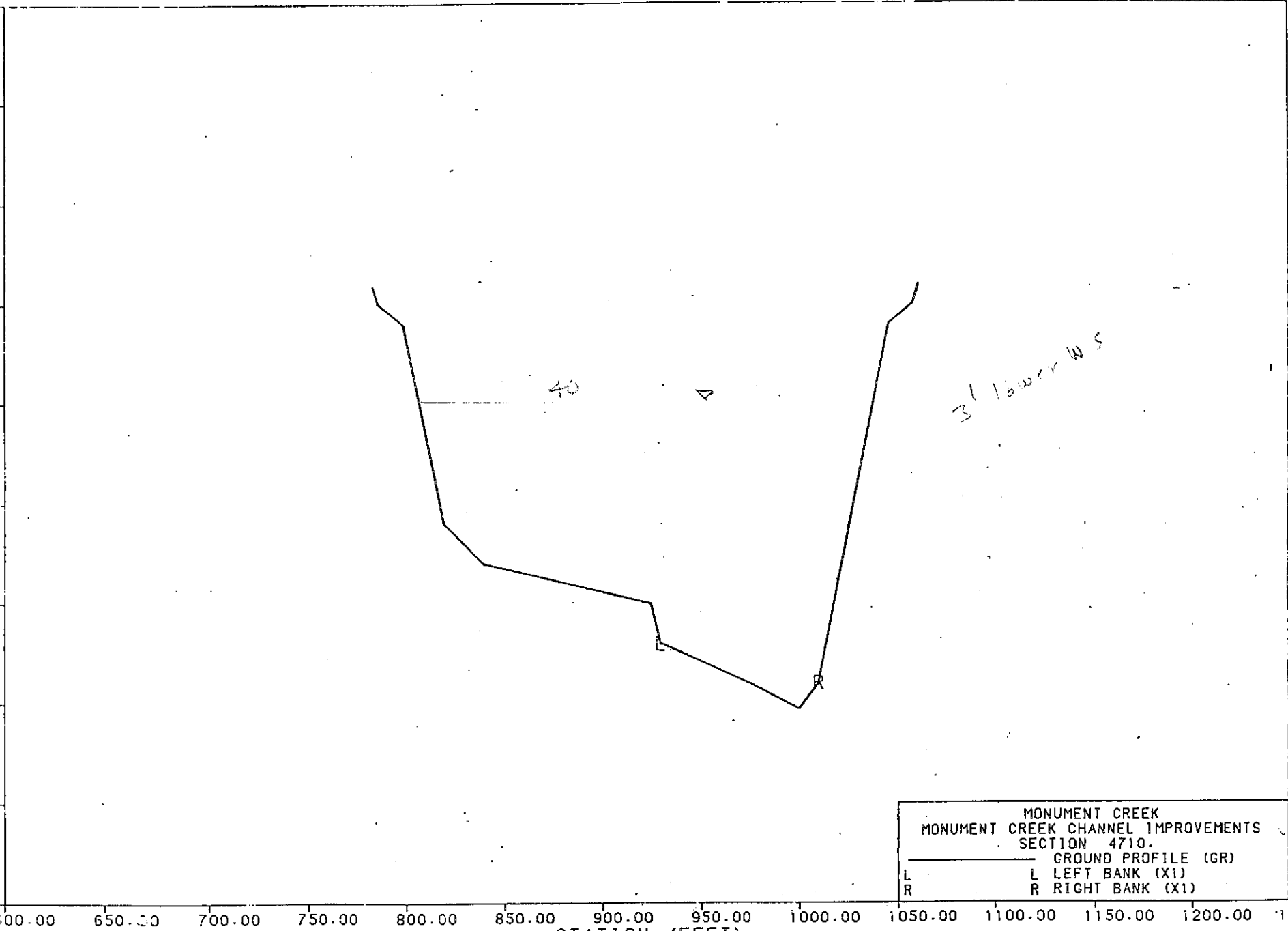


MONUMENT CREEK  
MONUMENT CREEK CHANNEL IMPROVEMENTS  
SECTION 4310.  
— GROUND PROFILE (GR)  
L LEFT BANK (X1)  
R RIGHT BANK (X1)



ELEVATION (FEET ABOVE MSL, 1929 ADJUSTMENT)

6215.00 6220.00 6225.00 6230.00 6235.00 6239.99 6244.99 6249.99 6254.99 6259.99



40

31 lower WS

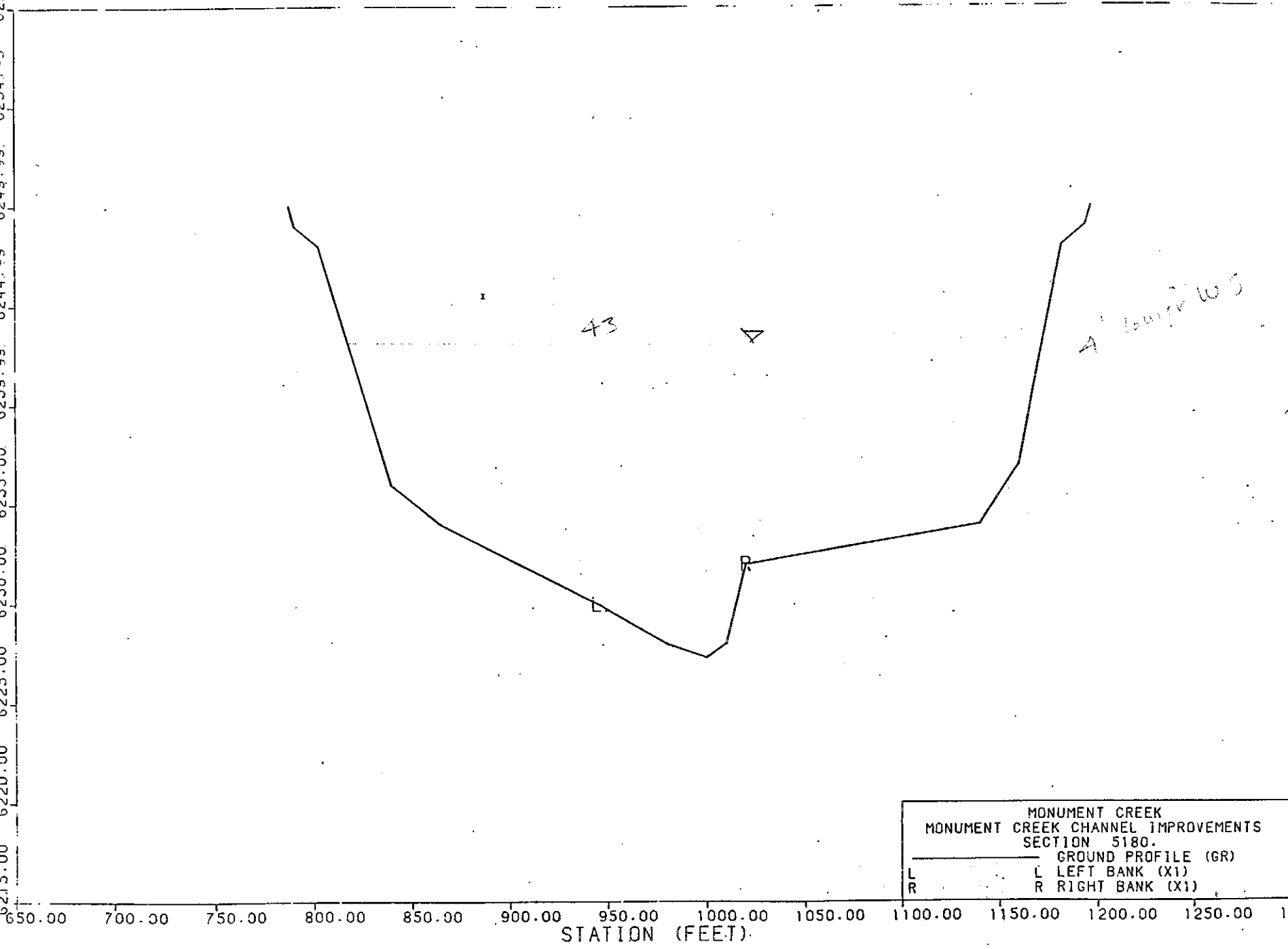
MONUMENT CREEK  
MONUMENT CREEK CHANNEL IMPROVEMENTS  
SECTION 4710.  
— GROUND PROFILE (GR)  
L L LEFT BANK (X1)  
R R RIGHT BANK (X1)

STATION (FEET)

600.00 650.00 700.00 750.00 800.00 850.00 900.00 950.00 1000.00 1050.00 1100.00 1150.00 1200.00 1250.00

ELEVATION (FEET ABOVE MSL, 1929 ADJUSTMENT)

6215.00 6220.00 6225.00 6230.00 6235.00 6239.99 6244.99 6249.99 6254.99 6259.00

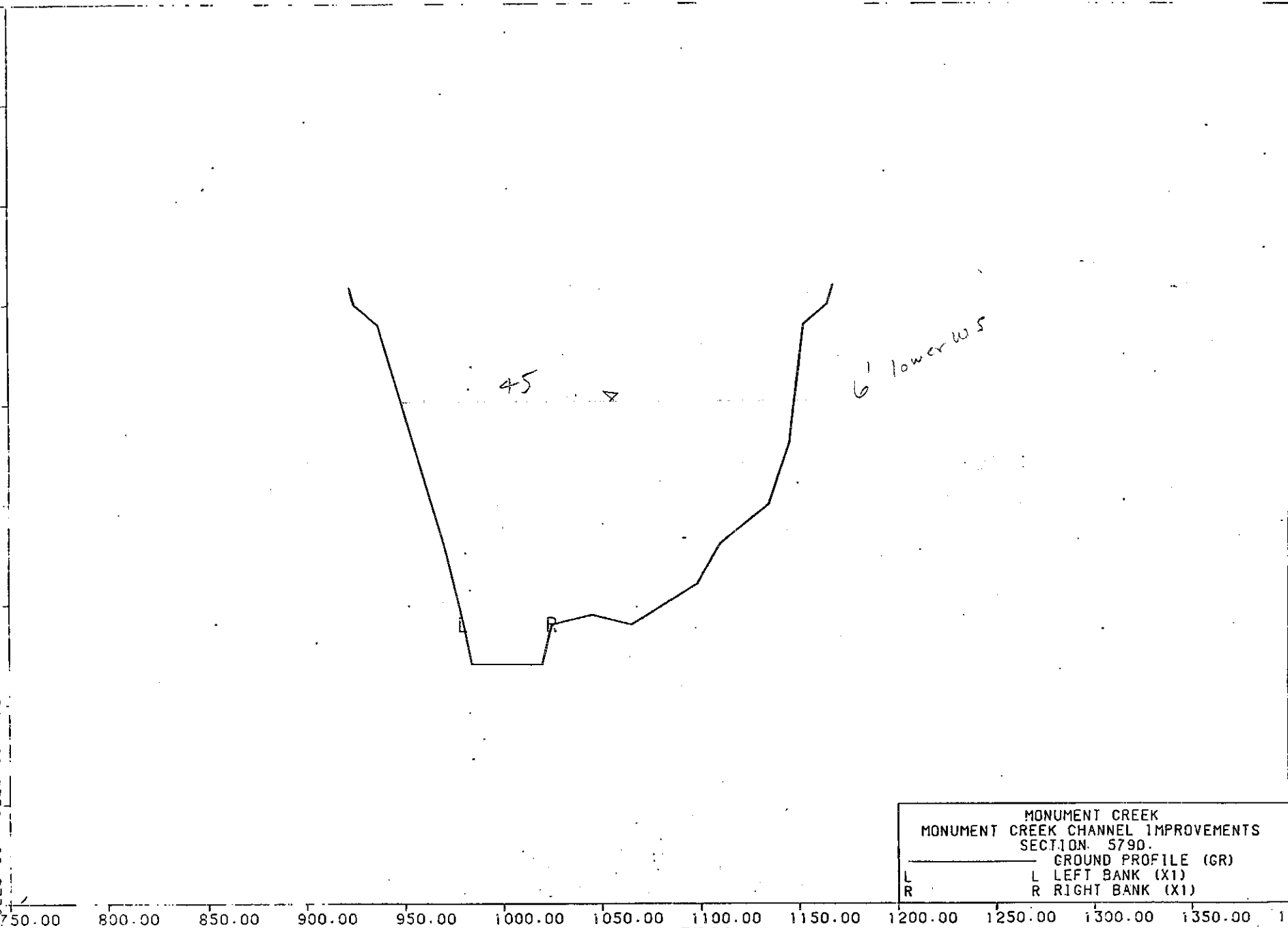


MONUMENT CREEK  
MONUMENT CREEK CHANNEL IMPROVEMENTS  
SECTION 5180.  
— GROUND PROFILE (GR)  
L LEFT BANK (X1)  
R RIGHT BANK (X1)

STATION (FEET)

ELEVATION (FEET ABOVE MSL, 1929 ADJUSTMENT)

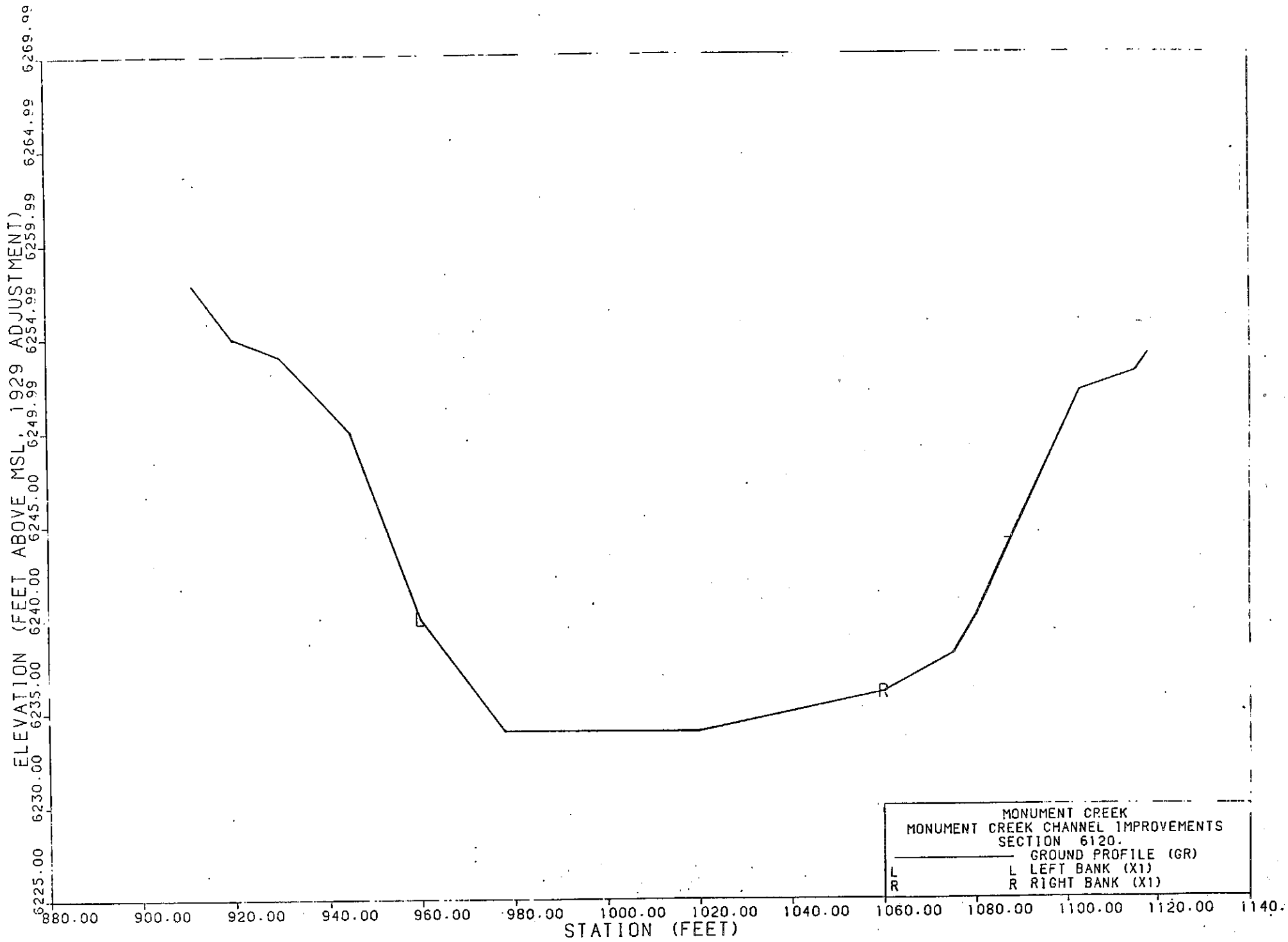
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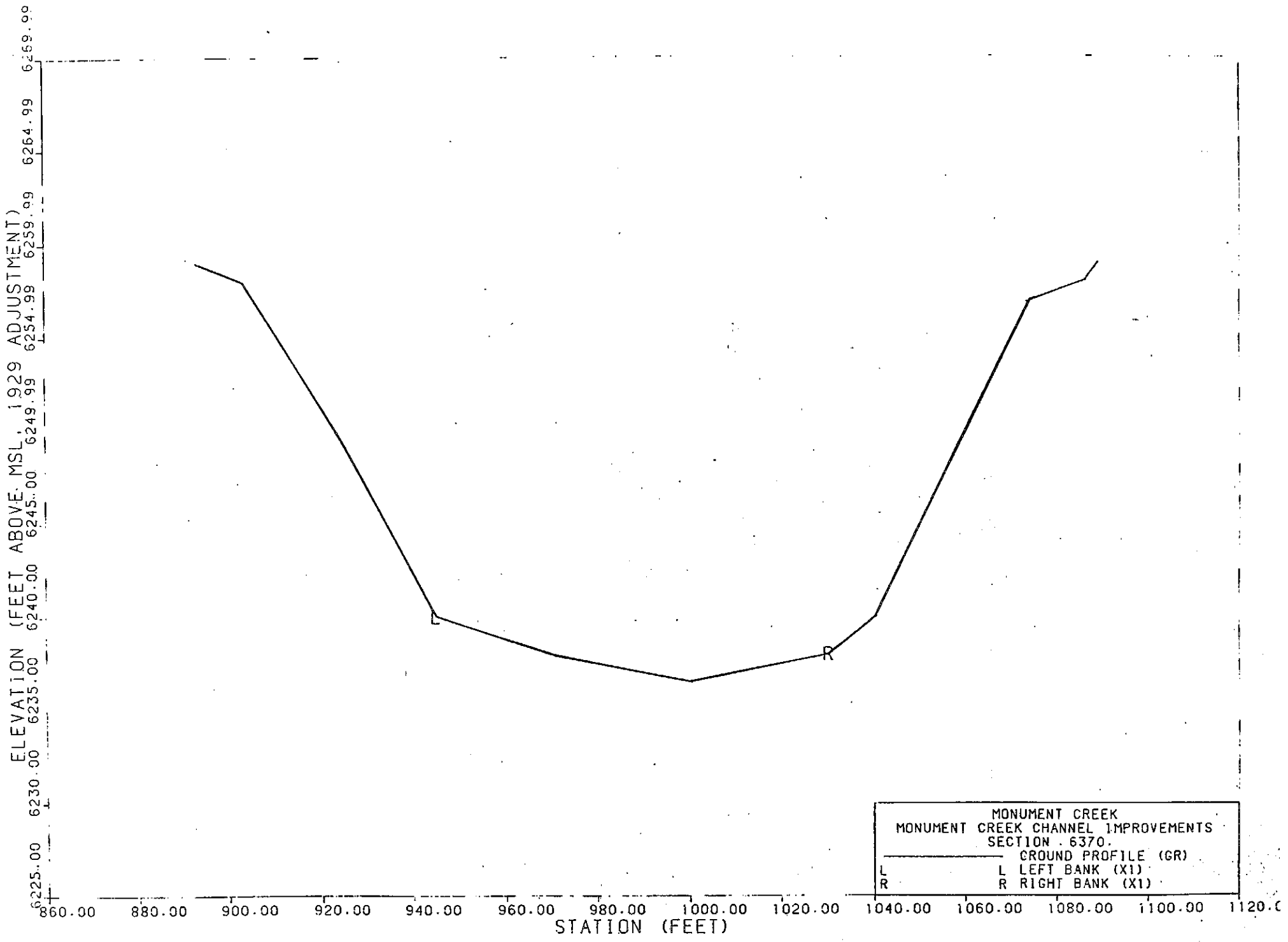


MONUMENT CREEK  
MONUMENT CREEK CHANNEL IMPROVEMENTS  
SECTION: 5790.  
— GROUND PROFILE (GR)  
L LEFT BANK (X1)  
R RIGHT BANK (X1)

750.00 800.00 850.00 900.00 950.00 1000.00 1050.00 1100.00 1150.00 1200.00 1250.00 1300.00 1350.00 1400.00

STATION (FEET)





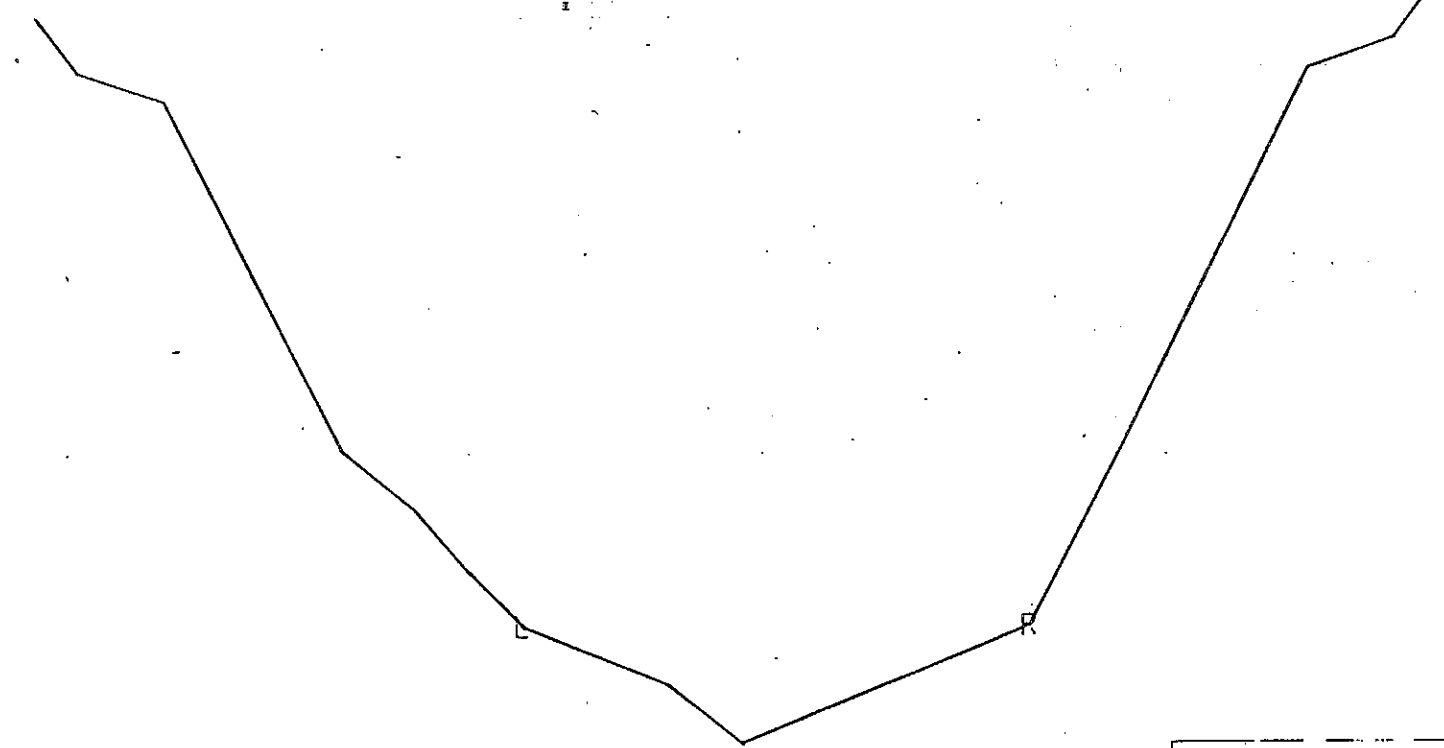
ELEVATION (FEET ABOVE M.S.L., 1929 ADJUSTMENT)

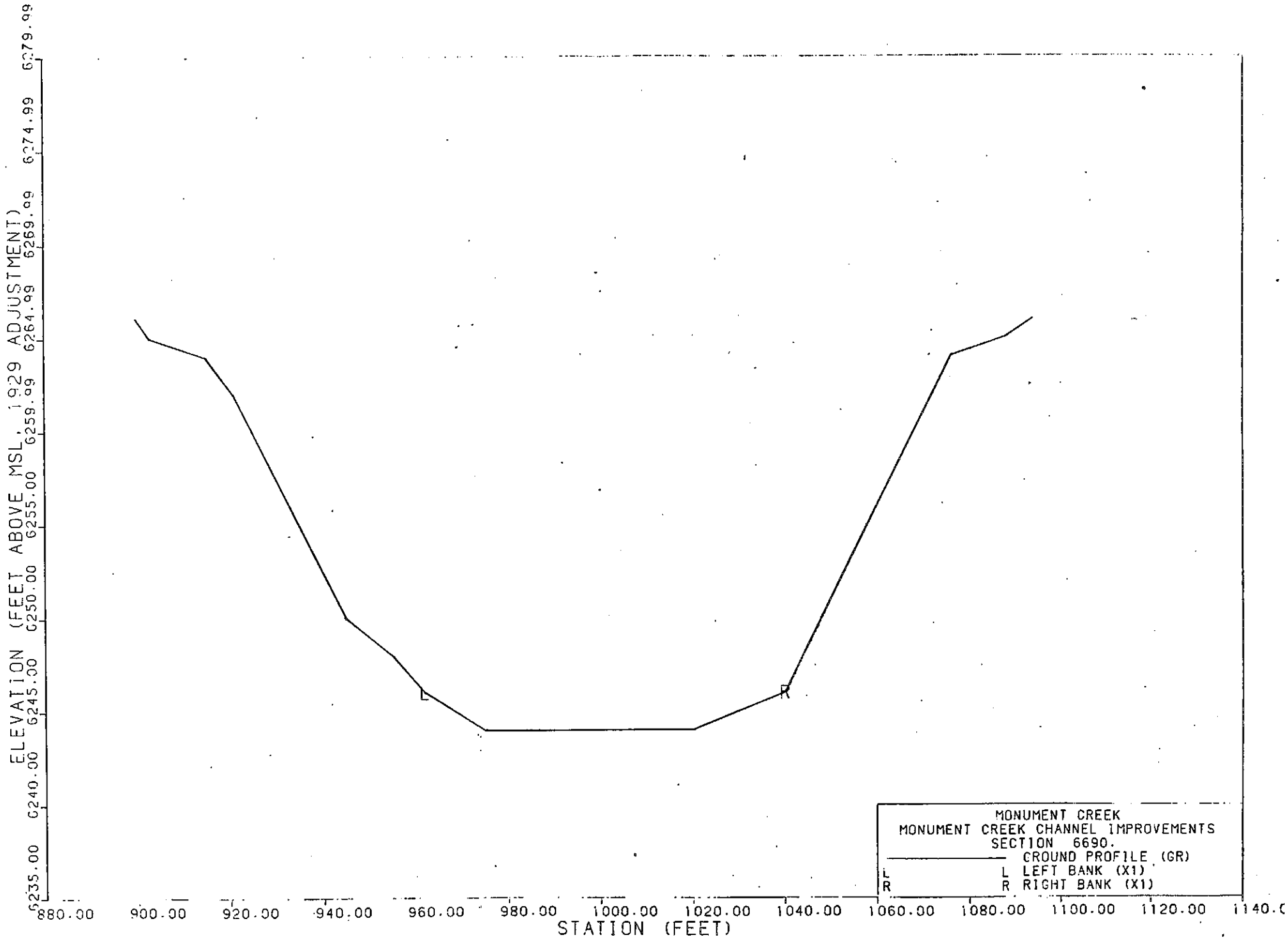
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6240.00  
6235.00

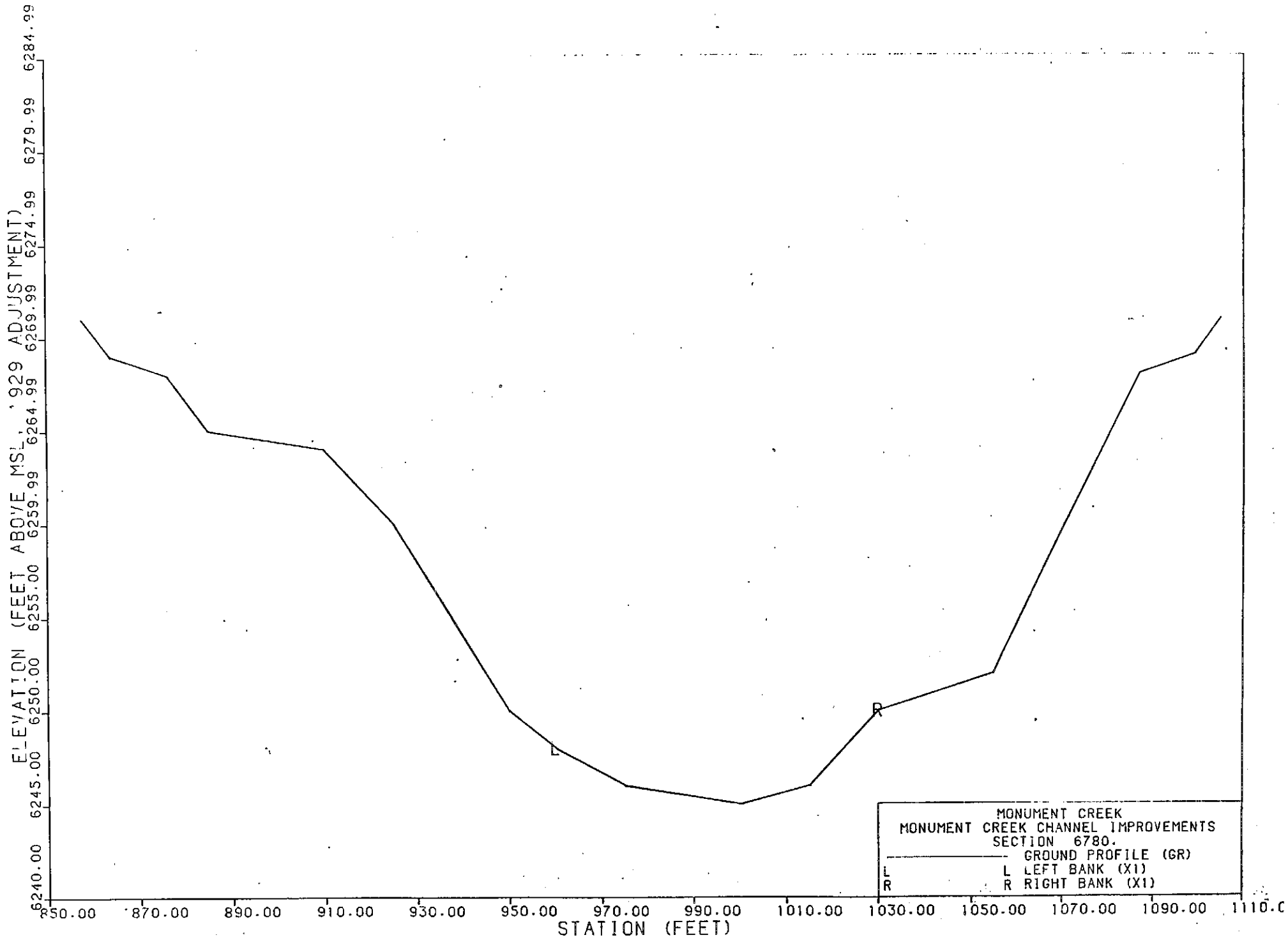
880.00 900.00 920.00 940.00 960.00 980.00 1000.00 1020.00 1040.00 1060.00 1080.00 1100.00 1120.00 1140.00

STATION (FEET)

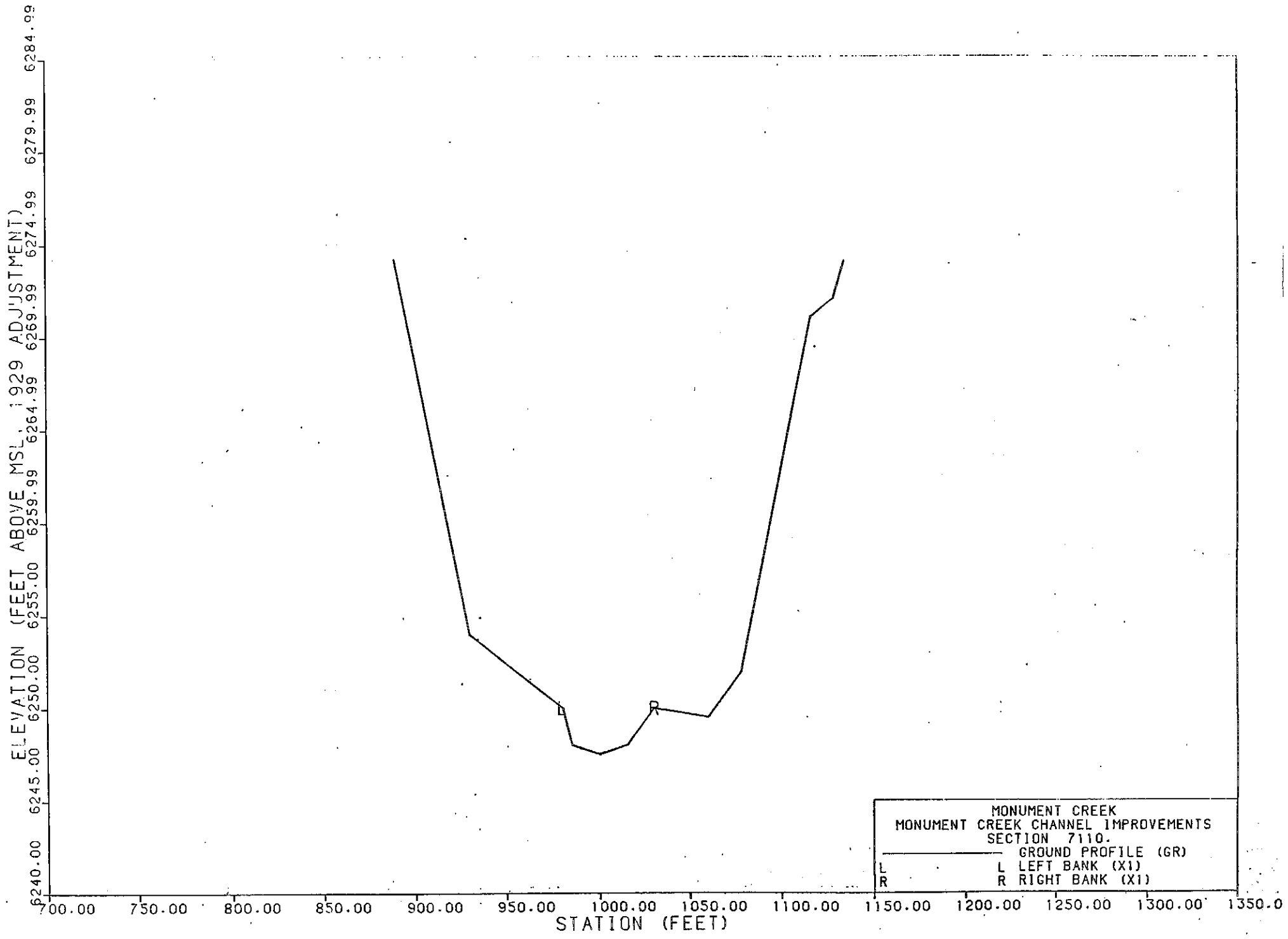
MONUMENT CREEK  
MONUMENT CREEK CHANNEL IMPROVEMENTS  
SECTION 6650.  
GROUND PROFILE (GR)  
L LEFT BANK (X1)  
R RIGHT BANK (X1)

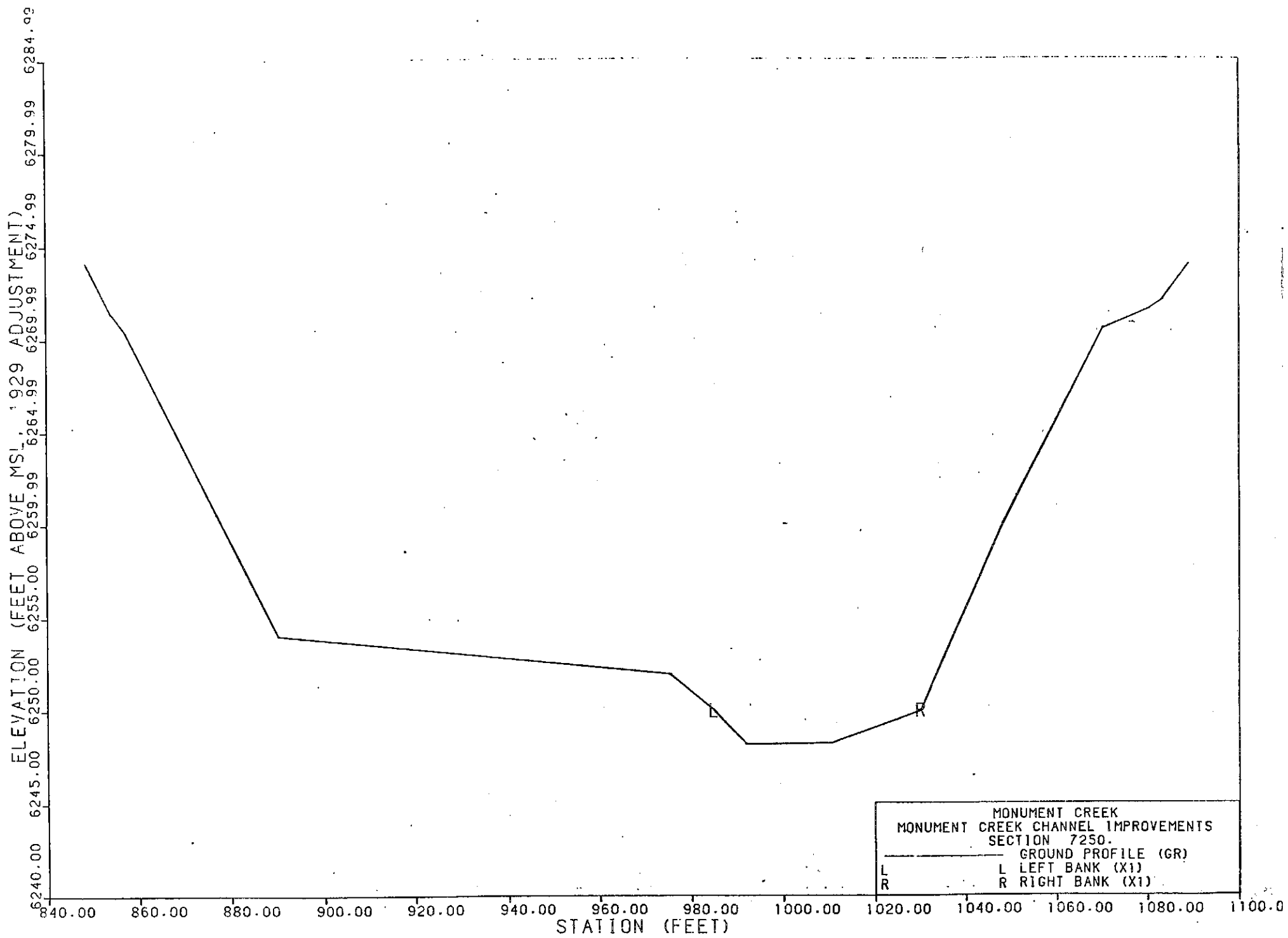






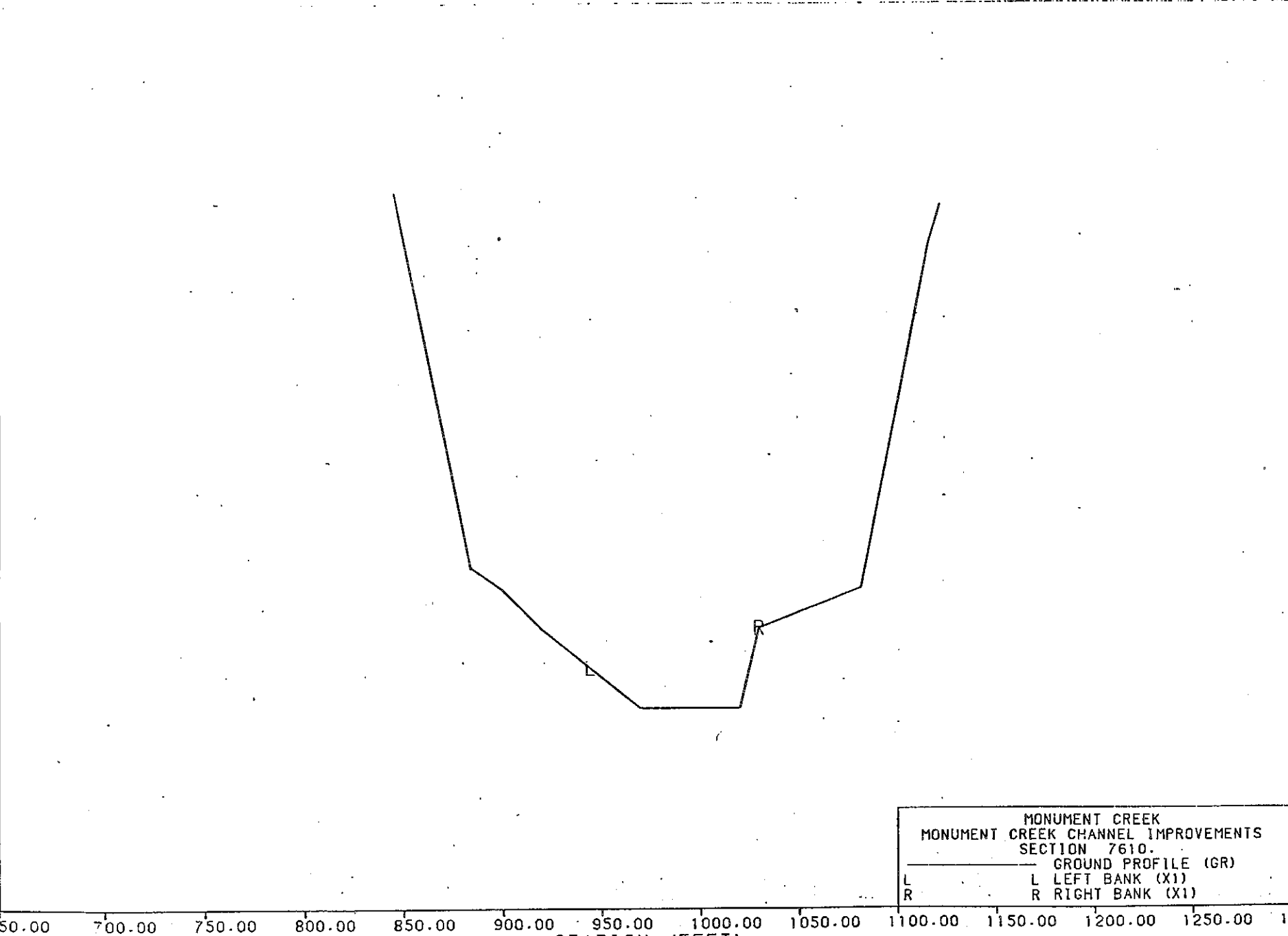






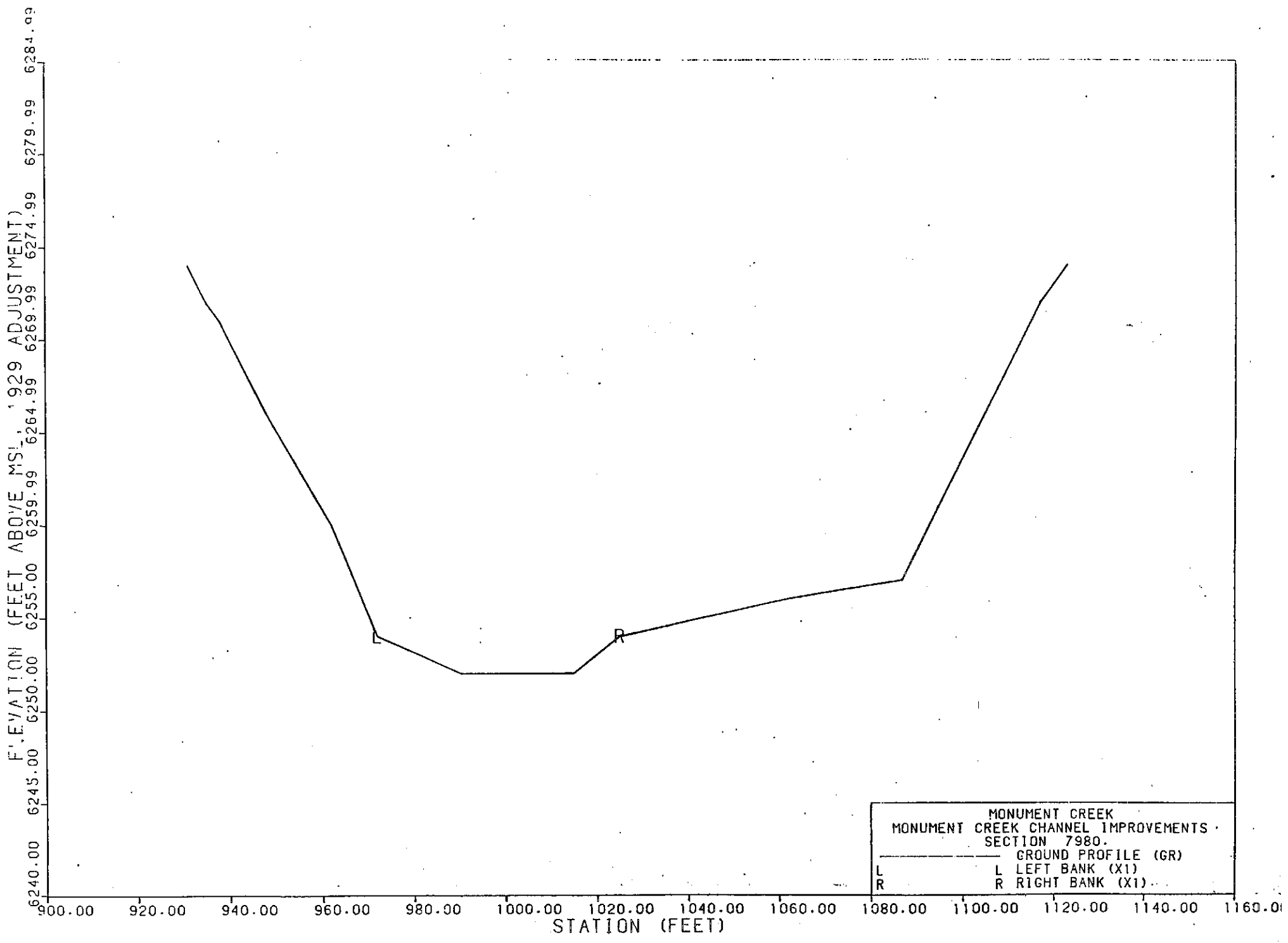
MONUMENT CREEK  
 MONUMENT CREEK CHANNEL IMPROVEMENTS  
 SECTION 7250.  
 ———— GROUND PROFILE (GR)  
 L LEFT BANK (X1)  
 R RIGHT BANK (X1)

ELEVATION (FEET ABOVE MSL, 1929 ADJUSTMENT)  
6284.99  
6279.99  
6274.99  
6269.99  
6264.99  
6259.99  
6255.00  
6250.00  
6245.00  
6240.00



MONUMENT CREEK  
MONUMENT CREEK CHANNEL IMPROVEMENTS  
SECTION 7610.  
— GROUND PROFILE (GR)  
L LEFT BANK (X1)  
R RIGHT BANK (X1)

650.00 700.00 750.00 800.00 850.00 900.00 950.00 1000.00 1050.00 1100.00 1150.00 1200.00 1250.00 1300.00  
STATION (FEET)



MONUMENT CREEK  
 MONUMENT CREEK CHANNEL IMPROVEMENTS  
 SECTION 7980.  
 ——— GROUND PROFILE (GR)  
 L LEFT BANK (X1)  
 R RIGHT BANK (X1)

