Scientific Excellence • Resource Protection & Conservation • Benefits for Canadians
Excellence scientifique • Protection et conservation des ressources • Bénéfices aux Canadiens

A Fish Habitat Survey Of The Jacquet River Watershed, Restigouche County, N.B. Volume 1: Hydraulic and Physiographic Data

Conlon, J.H. and D. Haché

Department of Fisheries and Oceans
Science Branch
Gulf Region
P.O. Box 5030
Moncton, N.B. E1C 9B6

February, 1989

Canadian Data Report of Fisheries and Aquatic Sciences No. 724 (Vol. 1)

Fisheries and Oceans Pêches et Océans

Canada

Canadian Data Report of Fisheries and Aquatic Sciences

Data reports provide a medium for filing and archiving data compilations where little or no analysis is included. Such compilations commonly will have been prepared in support of other journal publications or reports. The subject matter of data reports reflects the broad interests and policies of the Department of Fisheries and Oceans, namely, fisheries and aquatic sciences.

Data reports are not intended for general distribution and the contents must not be referred to in other publications without prior written authorization from the issuing establishment. The correct citation appears above the abstract of each report. Data reports are abstracted in *Aquatic Sciences and Fisheries Abstracts* and indexed in the Department's annual index to scientific and technical publications.

Numbers 1–25 in this series were issued as Fisheries and Marine Service Data Records. Numbers 26–160 were issued as Department of Fisheries and the Environment, Fisheries and Marine Service Data Reports. The current series name was introduced with the publication of report number 161.

Data reports are produced regionally but are numbered nationally. Requests for individual reports will be filled by the issuing establishment listed on the front cover and title page. Out-of-stock reports will be supplied for a fee by commercial agents.

Rapport statistique canadien des sciences halieutiques et aquatiques

Les rapports statistiques servent à classer et à archiver les compilations de données pour lesquelles il y a peu ou point d'analyse. Ces compilations auront d'ordinaire été préparées à l'appui d'autres publications ou rapports. Les sujets des rapports statistiques reflètent la vaste gamme des intérêts et des politiques du ministère des Pêches et des Océans, c'est-à-dire les sciences halieutiques et aquatiques.

Les rapports statistiques ne sont pas destinés à une vaste distribution et leur contenu ne doit pas être mentionné dans une publication sans autorisation écrite préalable de l'établissement auteur. Le titre exact paraît au-dessus du résumé de chaque rapport. Les rapports statistiques sont résumés dans la revue *Résumés des sciences aquatiques et halieutiques*, et ils sont classés dans l'index annuel des publications scientifiques et techniques du Ministère.

Les numéros 1 à 25 de cette série ont été publiés à titre de relevés statistiques, Services des pêches et de la mer. Les numéros 26 à 160 ont été publiés à titre de rapports statistiques du Service des pêches et de la mer, ministère des Pêches et de l'Environnement. Le nom actuel de la série a été établi lors de la parution du numéro 161.

Les rapports statistiques sont produits à l'échelon régional, mais numérotés à l'échelon national. Les demandes de rapports seront satisfaites par l'établissement auteur dont le nom figure sur la couverture et la page du titre. Les rapports épuisés seront fournis contre rétribution par des agents commerciaux.

Canadian Data Report of
Fisheries and Aquatic Sciences No.724 (Vol. 1)

February 1989

A Fish Habitat Survey of the Jacquet River Watershed, Restigouche County, N.B.
Volume 1 Hydraulic and Physiographic Data

by

Conlon, J.H. and D. Haché

Department of Fisheries and Oceans

Gulf Region

Science Branch

Fish Habitat and Enhancement Division

P.O. Box 5030, Moncton, NB E1C 9B6

Cat. No. Fs 97-13/724 (Vol.1)E ISSN 0706-6465

Correct citation for this publication:

Conlon, J, and D. Haché, 1989. A Fish Habitat Survey of the Jacquet River Watershed, Restigouche County, N.B. Volume 1 Hydraulic and Physiographic Data. Can. Data Rep. Fish. Aquat. Sci. 724 (Vol.1), 132p.

ABSTRACT

Conlon, J, and D. Haché, 1989. A Fish Habitat Survey of the Jacquet River Watershed, Restigouche County, N.B. Volume 1 Hydraulic and Physiographic Data. Can. Data Rep. Fish. Aquat. Sci. 724 (Vol.1), 132p.

This report, Volume 1 of a four volume series, is a compilation of physiographic and hydraulic data obtained from the Jacquet River watershed during August, 1984. Principal information concerning stream cross-sections, unit discharge and bed load material is presented. General physiographic data are summarized. Other topics are :

Volume 2 - Water and Sediment Chemistry Data
Volume 3 - Estimated Fish Densities and Biological Data for Salmonid Specimens
Volume 4 - Species Composition and Relative Abundance of Benthic Macro-invertebrates

RESUMÉ

Conlon, J, and D. Haché, 1989. A Fish Habitat Survey of the Jacquet River Watershed, Restigouche County, N.B. Volume 1 Hydraulic and Physiographic Data. Can. Data Rep. Fish. Aquat. Sci. 724 (Vol.1), 132p.

Ce rapport, le premier d'une série de quatre volumes, consiste d'une compilation de données physiographiques et hydrauliques obtenues de la ligne de partage des fonds de la rivière Jacquet en août 1984. L' information principale présentée se rapporte aux coupes transversales de cours d'eau, au rejet d'unité et aux matériaux de fond. Des données physiographiques générales sont résumées sommairement. D'autres sujets sont:

Volume 2 - Water and Sediment Chemistry Data
Volume 3 - Estimated Fish Densities and Biological Data for Salmonid Specimens
Volume 4 - Species Composition and Relative Abundance of Benthic Macro-invertebrates

TABLE OF CONTENTS

VOLUME 1

PAGE

Abstract / Resume iii

Introduction 1

Materials and Methods 1

Acknowledgements 1

References 1

LIST OF FIGURES

PAGE

Figure 1.1 Location of sampling sites, Jacquet River watershed 2

SITE 1, JACQUET RIVER
Figure 1.2 Location of hydraulic and physiographic sampling stations 3
Figure 1.3 Stream cross-sections 5

SITE 2, LOWER MCNAIR BROOK
Figure 1.4 Location of hydraulic and physiographic sampling stations 10
Figure 1.5 Stream cross-sections 12

SITE 3, BIG HOLE BROOK
Figure 1.6 Location of hydraulic and physiographic sampling stations 17
Figure 1.7 Stream cross-sections 19

SITE 4, UNAMED TRIBUTARY to BIG HOLE BROOK
Figure 1.8 Location of hydraulic and physiographic sampling stations 24

SITE 5, ANTINOURI LAKE
Figure 1.9 Location of hydraulic and physiographic sampling stations 26

SITE 6, ROCKY BROOK
Figure 1.10 Location of hydraulic and physiographic sampling stations 28
Figure 1.11 Stream cross-sections 30

SITE 7, UPPER MCNAIR BROOK
Figure 1.12 Location of hydraulic and physiographic sampling stations 34

SITE 8, LOWER SOUTH JACQUET RIVER
Figure 1.13 Location of hydraulic and physiographic sampling stations 37
Figure 1.14 Stream cross-section 39

SITE 9, BIG HOLE BROOK
Figure 1.15 Location of hydraulic and physiographic sampling stations 42
Figure 1.16 Stream cross-sections 44

SITE 10, TONGUE LAKE BROOK
Figure 1.17 Location of hydraulic and physiographic sampling stations 50
Figure 1.18 Stream cross-sections 52

SITE 11, HEAD LAKE
Figure 1.19 Location of hydraulic and physiographic sampling stations 55
Figure 1.20 Stream cross-sections 57

SITE 12, LOWER SOUTH BRANCH JACQUET RIVER
Figure 1.21 Location of hydraulic and physiographic sampling stations 59
Figure 1.22 Stream cross-sections 61

SITE 13, UPPER MCNAIR BROOK
Figure 1.23 Location of hydraulic and physiographic sampling stations 67
Figure 1.24 Stream cross-section 69

SITE 14, JACQUET RIVER
Figure 1.25 Location of hydraulic and physiographic sampling stations 74
Figure 1.26 Stream cross-sections 76

SITE 15, JACQUET RIVER
Figure 1.27 Location of hydraulic and physiographic sampling stations 82
Figure 1.28 Stream cross-sections 84

SITE 16, JACQUET RIVER
Figure 1.29 Location of hydraulic and physiographic sampling stations 87
Figure 1.30 Stream cross-sections 89

SITE 17, JACQUET RIVER
Figure 1.31 Location of hydraulic and physiographic sampling stations 95
Figure 1.32 Stream cross-sections 97

SITE 18, UPPER SOUTH BRANCH JACQUET RIVER
Figure 1.33 Location of hydraulic and physiographic sampling stations 103
Figure 1.34 Stream cross-sections 105

SITE 19, LOWER MCNAIR BROOK
Figure 1.35 Location of hydraulic and physiographic sampling stations 110
Figure 1.36 Stream cross-sections 112

SITE 20, CARL GULCH
Figure 1.37 Location of hydraulic and physiographic sampling stations 117

SITE 21, UNNAMED TRIBUTARY to UPPER SOUTH BRANCH JACQUET RIVER
Figure 1.38 Location of hydraulic and physiographic sampling stations 119
Figure 1.39 Stream cross-section 121

SITE 22, UNNAMED TRIBUTARY to UPPER SOUTH BRANCH JACQUET RIVER
Figure 1.40 Location of hydraulic and physiographic sampling stations 124
Figure 1.41 Stream cross-sections 125

SITE 23, JACQUET RIVER
Figure 1.42 Location of hydraulic and physiographic sampling stations 128

SITE 24, JACQUET RIVER
Figure 1.43 Location of hydraulic and physiographic sampling stations 131

LIST OF TABLES

PAGE

SITE 1, JACQUET RIVER
Table 1.1 General site observations and remarks....4
Table 1.2 Cross-sectional measurements, transect A-A....6
Table 1.3 Cross-sectional measurements, transect B-B....7
Table 1.4 Water velocity and unit discharge....8
Table 1.5 Mean diameter and ranking of bed load material....9

SITE 2, LOWER MCNAIR BROOK
Table 1.6 General site observations and remarks....11
Table 1.7 Cross-sectional measurements, transect A-A....13
Table 1.8 Cross-sectional measurements, transect B-B....14
Table 1.9 Cross-sectional measurements, transect C-C....15
Table 1.10 Water velocity and unit discharge....15
Table 1.11 Mean diameter and ranking of bed load material....16

SITE 3, BIG HOLE BROOK
Table 1.12 General site observations and remarks....18
Table 1.13 Cross-sectional measurements, transect A-A....20
Table 1.14 Cross-sectional measurements, transect B-B....20
Table 1.15 Cross-sectional measurements, transect C-C....21
Table 1.16 Cross-sectional measurements, transect D-D....22
Table 1.17 Water velocity and unit discharge....22
Table 1.18 Mean diameter and ranking of bed load material....23

SITE 4, UNNAMED TRIBUTARY to BIG HOLE BROOK
Table 1.19 General site observations and remarks....25

SITE 5, ANTINOURI LAKE
Table 1.20 General site observations and remarks....27

SITE 6, ROCKY BROOK
Table 1.21 General site observations and remarks....29
Table 1.22 Cross-sectional measurements, transect A-A....31
Table 1.23 Cross-sectional measurements, transect B-B....31
Table 1.24 Cross-sectional measurements, transect C-C....32
Table 1.25 Water velocity and unit discharge....32
Table 1.26 Mean diameter and ranking of bed load material....33

SITE 7, UPPER MCNAIR BROOK
Table 1.27 General site observations and remarks....35
Table 1.28 Water velocity and unit discharge....36

SITE 8, LOWER SOUTH BRANCH JACQUET RIVER
Table 1.29 General site observations and remarks....38
Table 1.30 Cross-sectional measurements, transect A-A....40
Table 1.31 Cross-sectional measurements, transect B-B....41
Table 1.32 Water velocity and unit discharge....41

SITE 9, BIG HOLE BROOK

Table 1.33 General site observations and remarks 43
Table 1.34 Cross-sectional measurements, transect A-A 45
Table 1.35 Cross-sectional measurements, transect B-B 46
Table 1.36 Cross-sectional measurements, transect C-C 47
Table 1.37 Cross-sectional measurements, transect D-D 48
Table 1.38 Water velocity and unit discharge 48
Table 1.39 Mean diameter and ranking of bed load material 49

SITE 10, TONGUE LAKE BROOK

Table 1.40 General site observations and remarks 51
Table 1.41 Cross-sectional measurements, transect A-A 53
Table 1.42 Cross-sectional measurements, transect B-B 53
Table 1.43 Water velocity and unit discharge 54

SITE 11, HEAD LAKE

Table 1.44 General site observations and remarks 56
Table 1.45 Cross-sectional measurements, transect A-A 58
Table 1.46 Water velocity and unit discharge 58

SITE 12, LOWER SOUTH BRANCH JACQUET RIVER

Table 1.47 General site observations and remarks 60
Table 1.48 Cross-sectional measurements, transect A-A 62
Table 1.49 Cross-sectional measurements, transect B-B 63
Table 1.50 Cross-sectional measurements, transect C-C 64
Table 1.51 Water velocity and unit discharge 65
Table 1.52 Mean diameter and ranking of bed load material 66

SITE 13, UPPER MCNAIR BROOK

Table 1.53 General site observations and remarks 68
Table 1.54 Cross-sectional measurements, transect A-A 70
Table 1.55 Cross-sectional measurements, transect B-B 71
Table 1.56 Cross-sectional measurements, transect C-C 72
Table 1.57 Water velocity and unit discharge 72
Table 1.58 Mean diameter and ranking of bed load material 73

SITE 14, JACQUET RIVER

Table 1.59 General site observations and remarks 75
Table 1.60 Cross-sectional measurements, transect A-A 77
Table 1.61 Cross-sectional measurements, transect B-B 78
Table 1.62 Cross-sectional measurements, transect C-C 79
Table 1.63 Water velocity and unit discharge 80
Table 1.64 Water velocity and unit discharge 80
Table 1.65 Mean diameter and ranking of bed load material 81

SITE 15, JACQUET RIVER

Table 1.66 General site observations and remarks 83
Table 1.67 Water velocity and unit discharge 85
Table 1.68 Water velocity and unit discharge 86

SITE 16, JACQUET RIVER

Table 1.69 General site observations and remarks 88
Table 1.70 Cross-sectional measurements, transect A-A 90
Table 1.71 Cross-sectional measurements, transect B-B 91
Table 1.72 Cross-sectional measurements, transect C-C 92
Table 1.73 Water velocity and unit discharge 93
Table 1.74 Mean diameter and ranking of bed load material 94

SITE 17, JACQUET RIVER

Table 1.75 General site observations and remarks 96
Table 1.76 Cross-sectional measurements, transect A-A 98
Table 1.77 Cross-sectional measurements, transect B-B 99
Table 1.78 Cross-sectional measurements, transect C-C 100
Table 1.79 Water velocity and unit discharge 101
Table 1.80 Mean diameter and ranking of bed load material 102

SITE 18, UPPER SOUTH BRANCH JACQUET RIVER

Table 1.81 General site observations and remarks 104
Table 1.82 Cross-sectional measurements, transect A-A 106
Table 1.83 Cross-sectional measurements, transect B-B 107
Table 1.84 Cross-sectional measurements, transect C-C 108
Table 1.85 Water velocity and unit discharge 108
Table 1.86 Mean diameter and ranking of bed load material 109

SITE 19, LOWER MCNAIR BROOK

Table 1.87 General site observations and remarks 111
Table 1.88 Cross-sectional measurements, transect A-A 113
Table 1.89 Cross-sectional measurements, transect B-B 114
Table 1.90 Cross-sectional measurements, transect C-C 115
Table 1.91 Water velocity and unit discharge 115
Table 1.92 Mean diameter and ranking of bed load material 116

SITE 20, CARL GULCH

Table 1.93 General site observations and remarks 118

SITE 21, UNNAMED TRIBUTARY to UPPER SOUTH BRANCH JACQUET RIVER

Table 1.94 General site observations and remarks 120
Table 1.95 Cross-sectional measurements, transect A-A 122
Table 1.96 Cross-sectional measurements, transect B-B 122
Table 1.97 Cross-sectional measurements, transect C-C 123

SITE 22, UNNAMED TRIBUTARY to UPPER SOUTH BRANCH JACQUET RIVER

Table 1.98 General site observations and remarks 125
Table 1.99 Cross-sectional measurements, transect A-A 127
Table 1.100 Cross-sectional measurements, transect B-B 127
Table 1.101 Cross-sectional measurements, transect C-C 127

SITE 23, JACQUET RIVER

Table 1.102 General site observations and remarks (below the falls) 129
Table 1.103 General site observations and remarks (above the falls) 130

SITE 24, JACQUET RIVER

Table 1.104 General site observations and remarks 132

INTRODUCTION

The Jacquet River, a medium sized salmon stream approximately 50 km in linear length in Restigouche Co., New Brunswick contains ideal spawning and rearing habitat for Atlantic Salmon *(Salmo salar)*. With the exception of logging activity, the watershed is largely undeveloped. In 1965, Brunswick Mining and Smelting, Ltd. installed a water intake structure approximately 2 km from the mouth of the Jacquet River. They are presently operating on a water license from the New Brunswick Department of Fisheries and Environment (now the N.B. Dept. of Municipal Affairs and Environment). This license, renewed in 1974, expiring in 1979 and not since renewed, entitles them to withdraw 39312 cu. meters/day for their consumption in the lead smelter and the fertilizer plant as well as for domestic use in two adjacent town sites in Belledune.

Five previous studies of the river have been undertaken within the last twenty years. Three were qualitative in scope offering visual descriptions of available habitat and fish present (Smith 1956, N.B.D.N.R. (unpublished 1969 report), and IEC Beak 1984). Two studied the microhabitat requirements of salmon in the area downstream from the water intake station (Morantz 1983, IEC Beak 1982). None of these studies presented quantitative data for water or sediment quality or hydrology.

In August, 1984, the Gulf Region's Fish Habitat Division conducted a survey on the Jacquet River to determine site-specific baseline conditions for hydrology, water chemistry, sediment chemistry, fish and macro-invertebrate populations, and habitat quality. The area of study consisted of 24 sites along the main stem of the river and seven of its major tributaries: Big Hole Brook, Antinouri Lake Brook, Lower South Branch, Lower McNair Brook, Upper South Branch, Upper McNair Brook and Rocky Brook.

This report, the first in a series of four data reports, presents the physiographic and hydraulic survey data collected on this survey.

MATERIALS AND METHODS

Study Sites

Twenty study sites were pre-selected in the office by biological, engineering and field technical staff with the aid of 1:50,000 topographic maps, 1:10,000 and 1:20,000 orthophotographic maps and aerial photographs flown for this study. Two sites were selected to coincide with the referenced IEC Beak (1984) and Morantz (1983) studies. These were representative of the two largest stream orders of the Jacquet River watersheds. All streams were ordered according to Strahler (1957). The dendritic pattern of the drainage basin was reflected in the selection of a large number of smaller order streams. As a result, these comprised the bulk of the remaining study sites. In the field, some sites were relocated because of access problems and an additional four sites were selected.

Procedures

Upon arrival at a site, barrier nets were erected to delimit the fish sampling area. Survey transects were then established above, within and below this area. Data were obtained using a Geocon self-leveling engineers level, employing plane survey techniques. Elevations were referenced to arbitrary datum. Distances were measured with survey tapes as well as optical range finders.

Water velocity data were obtained by means of either a Teledyne Gurley No. 622 Price Current Meter Type AA or where shallow conditions or low velocities warranted, a No. 625 Pygmy Type Current Meter suspended on a top setting wading rod. The depth of immersion was consistent with accepted practice; single reading at 60% depth measured from the surface for water less than one meter deep and dual readings at 20% and 80% depth measured from the surface for water depth greater than one meter. Revolutions of the bucket wheel were counted for preselected periods at regular intervals across a transect and recorded on the site investigation form. Velocities were computed using rating tables supplied by the equipment manufacturer.

Flow volumes were calculated for each study reach using ASTM Standard practice for open channel flow measurement of water by the velocity-area method (Designation: D 3858-79). Bedload material was sampled using the random walk method.

RESULTS

Survey results are summarized and presented in graphic and tabular form. Prevailing flows were calculated and are tabulated. Bedload material sampled has been ranked according to its mean axis dimension.

ACKNOWLEDGEMENTS

The authors thank Larry Haight whose figures form a coherent medium for the presentation of the data collected. The efforts of Daniel Caissie were invaluable in both the preparatory and field portions of this project.

REFERENCES

Annual Book of A.S.T.M. Standards, Part 31, Water. Am. Soc. Testing and Materials. 1982. Robert P. Lukens, managing Standard Editor, pp. 117-124

Department of Fisheries and Oceans. Scotia Fundy Region. 1983. Instream Flow Incremental Flow Methodology (IFIM) for minimum flow requirements in the Jacquet River. an unpublished report.

IEC Beak. 1982. An examination of Water Withdrawal Effects on Atlantic Salmon Habitats and Populations in the Lower Jacquet River, N.B. - a report for the Brunswick Mining and Smelting Corp. Ltd., Smelting Division, Belledune, N.B.

IEC Beak. 1984. Assessment of Juvenile Atlantic Salmon Stocks in the South Branch, Jacquet River. - a report for the Brunswick Mining and Smelting Corp. Ltd., Smelting Division, Belledune, N.B.

New Brunswick Dept. of Natural Resources. 1969. Habitat River Survey - unpublished data.

Smith, K. 1956. Jacquet River Salmon Survey. - an unpublished report for the Department of Fisheries and Oceans.

Strahler, A.N., 1957, Quantitative Analysis of Watershed Geomorphology: Am. Geophys. Union. Trans., V38, pp. 913-920

FIG. 1.1 LOCATION OF SAMPLING SITES, JACQUET RIVER WATERSHED, AUGUST 1984

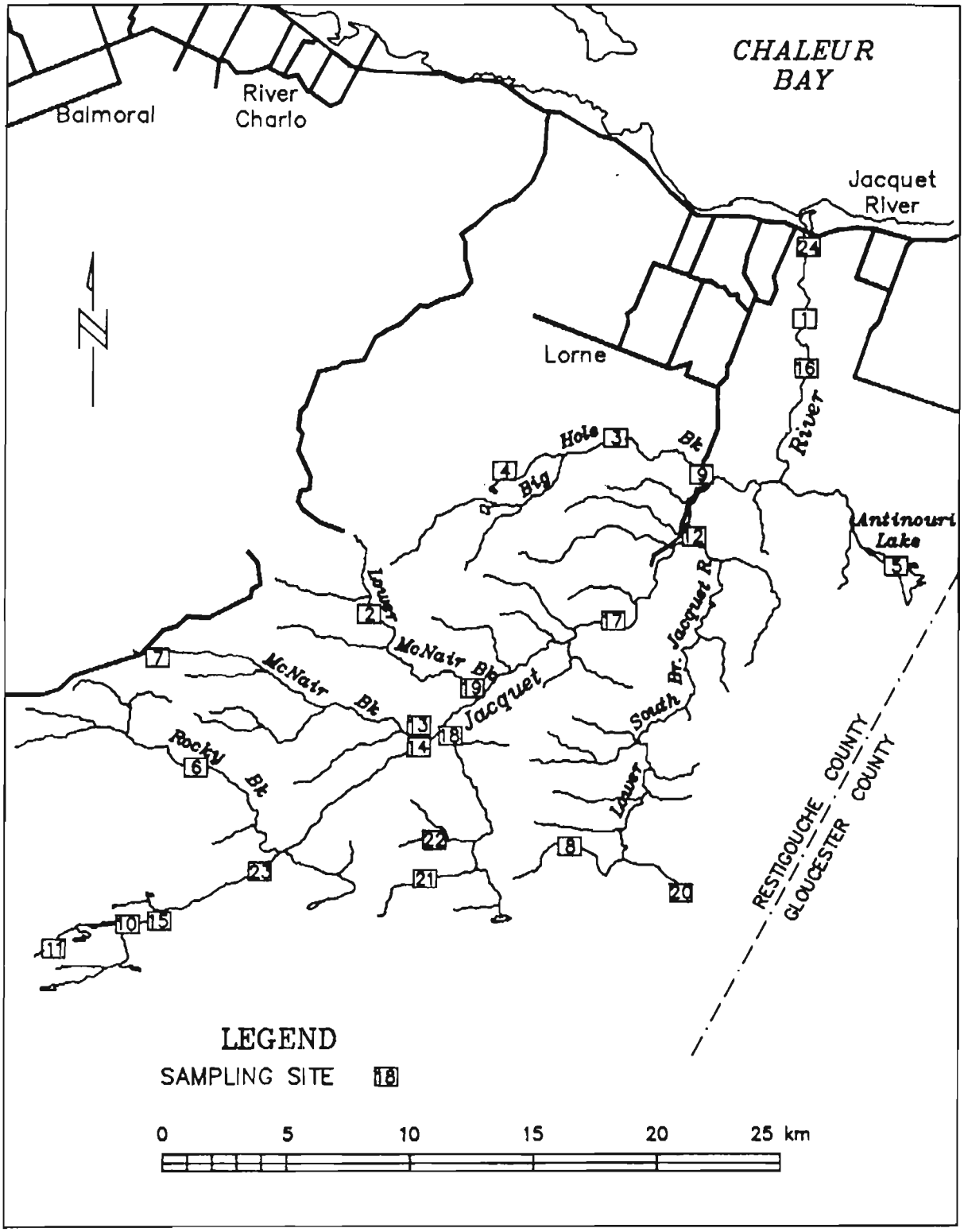
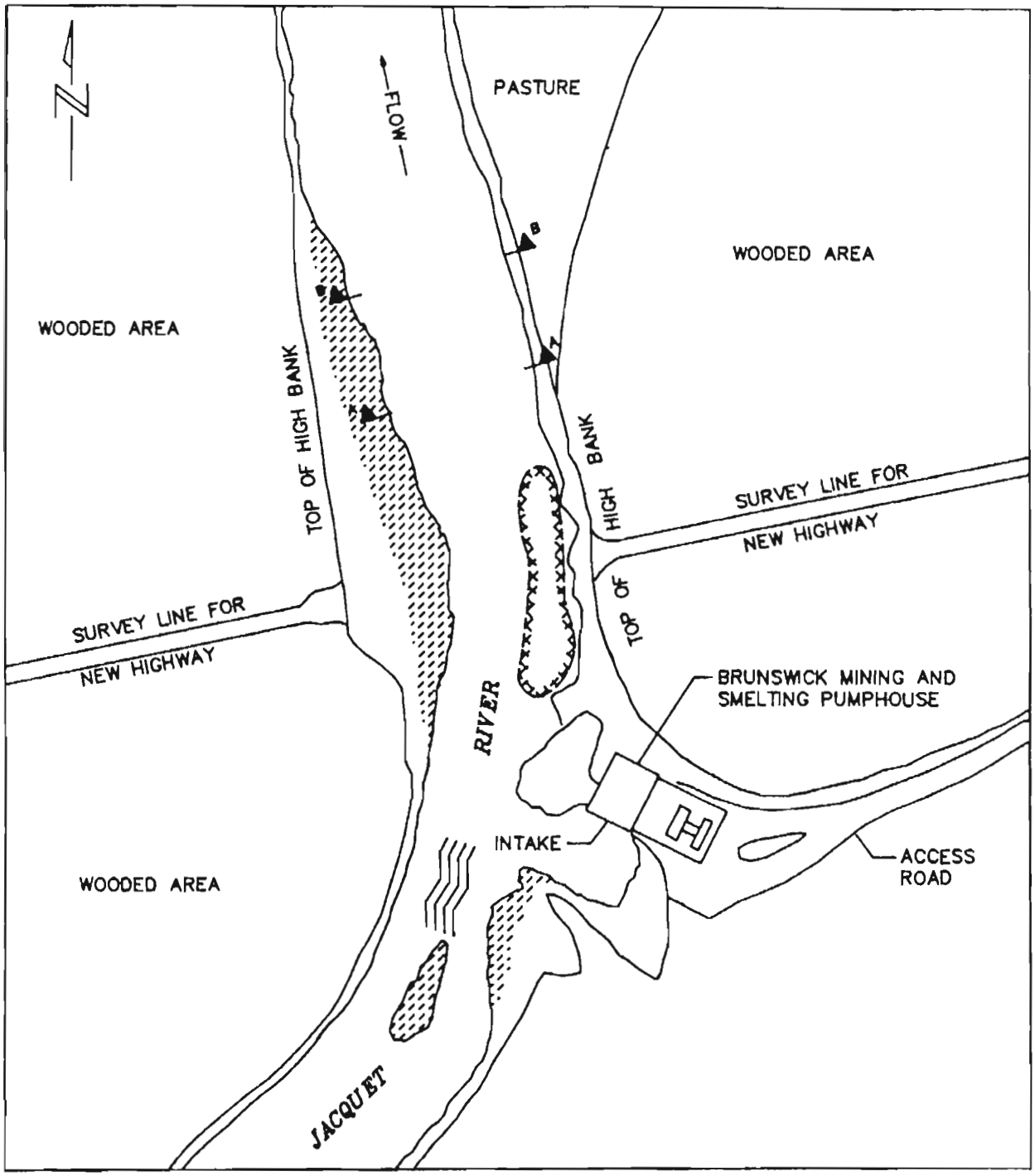


FIG. 1.2 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 1, JACQUET RIVER, AUGUST 9,1984



LEGEND

- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 10 20 m (APPROX.)
TOPOGRAPHIC MAP 21-O/16
MILITARY GRID 223 093

TABLE 1.1 General Site Observations and Remarks
SITE 1, JACQUET RIVER, August 9, 1984

Physical Characteristics	Description
Time	0930-2000
Weather	sunny
Air temperature (°C)	26
Electroseining conditions	difficult, strong current
Instream cover	rocks
Bottom	stable
Bottom type (visual est.,%)	boulder/cobble/gravel - 5/55/40
Features (estimate,%)	riffle/run - 30/70
Aquatic vegetation	nil
Stream cover	open, wide section of stream
Banks	stable
Shoreline vegetation	not noted
Surrounding terrain	pasture, mixed forest
Pollution sources	none identified
Resource utilization	water abstraction swimming canoeing
Order stream	5
Photographic series	FHD 84-8-NB-10 to 21
General	site of proposed hwy. 11 bridge

FIG. 1.3 STREAM CROSS-SECTIONS, SITE 1, JACQUET RIVER AUGUST 9,1984

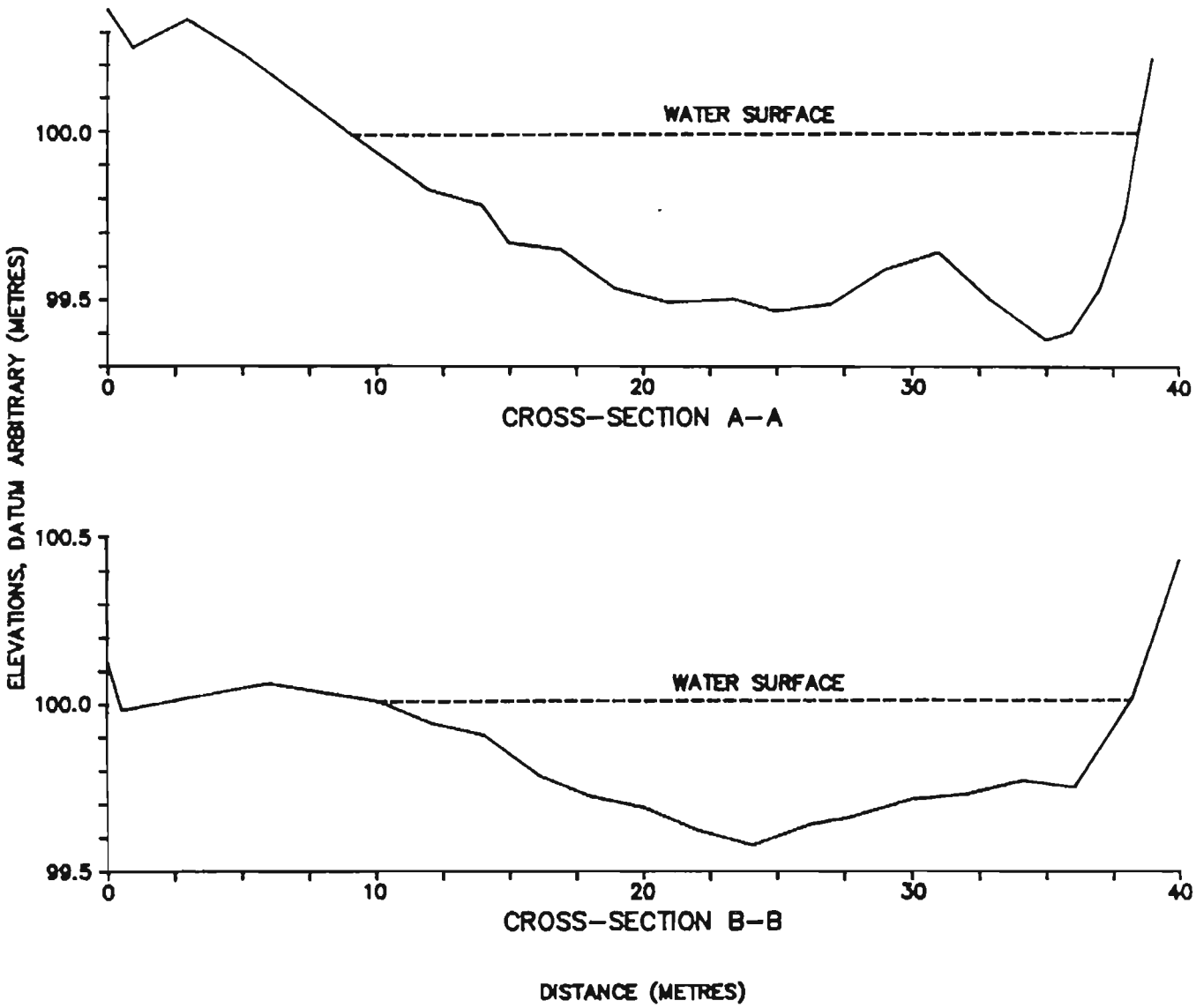


TABLE 1.2 Cross-Sectional Measurements, Transect A-A
SITE 1, JACQUET RIVER, August 9, 1984

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	1.250	100.38	Bank Full-Assumed
1.0	1.370	100.26	
3.0	1.278	100.35	
5.0	1.385	100.24	
9.0	1.632	100.00	Top/edge water
12.0	1.787	99.84	
14.0	1.842	99.79	
15.0	1.952	99.68	
17.0	1.977	99.65	
19.0	2.092	99.54	
21.0	2.132	99.50	
23.5	2.132	99.50	
25.0	2.162	99.47	
27.0	2.142	99.49	
29.0	2.042	99.59	
31.0	1.992	99.64	
33.0	2.132	99.50	
35.0	2.252	99.38	
36.0	2.232	99.40	
37.0	2.102	99.53	
38.0	1.882	99.75	
38.5	1.630	100.00	Top/edge Water
39.0	1.412	100.22	Bank Full Assumed

Drainage Area Tributary to Site: 505.5 Km^2

TABLE 1.3 Cross-Sectional Measurements, Transect B-B
SITE 1, JACQUET RIVER, August 9, 1984

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	1.585	100.12	Bank Full Assumed
0.5	1.910	99.80	
6.0	1.652	100.06	
10.0	1.710	100.00	Top/edge Water
12.0	1.770	99.94	
14.0	1.805	99.90	
16.0	1.932	99.78	
18.0	1.994	99.72	
20.0	2.030	99.68	
22.0	2.090	99.62	
24.0	2.140	99.57	
26.0	2.085	99.63	
28.0	2.046	99.66	
30.0	2.012	99.70	
32.0	1.990	99.72	
34.0	1.952	99.76	
36.0	1.973	99.74	
38.0	1.705	100.00	Top/Edge Water
40.0	1.287	100.42	Bank Full Assumed

TABLE 1.4 Water Velocity and Unit Discharge
SITE 1, JACQUET RIVER, August 9, 1984

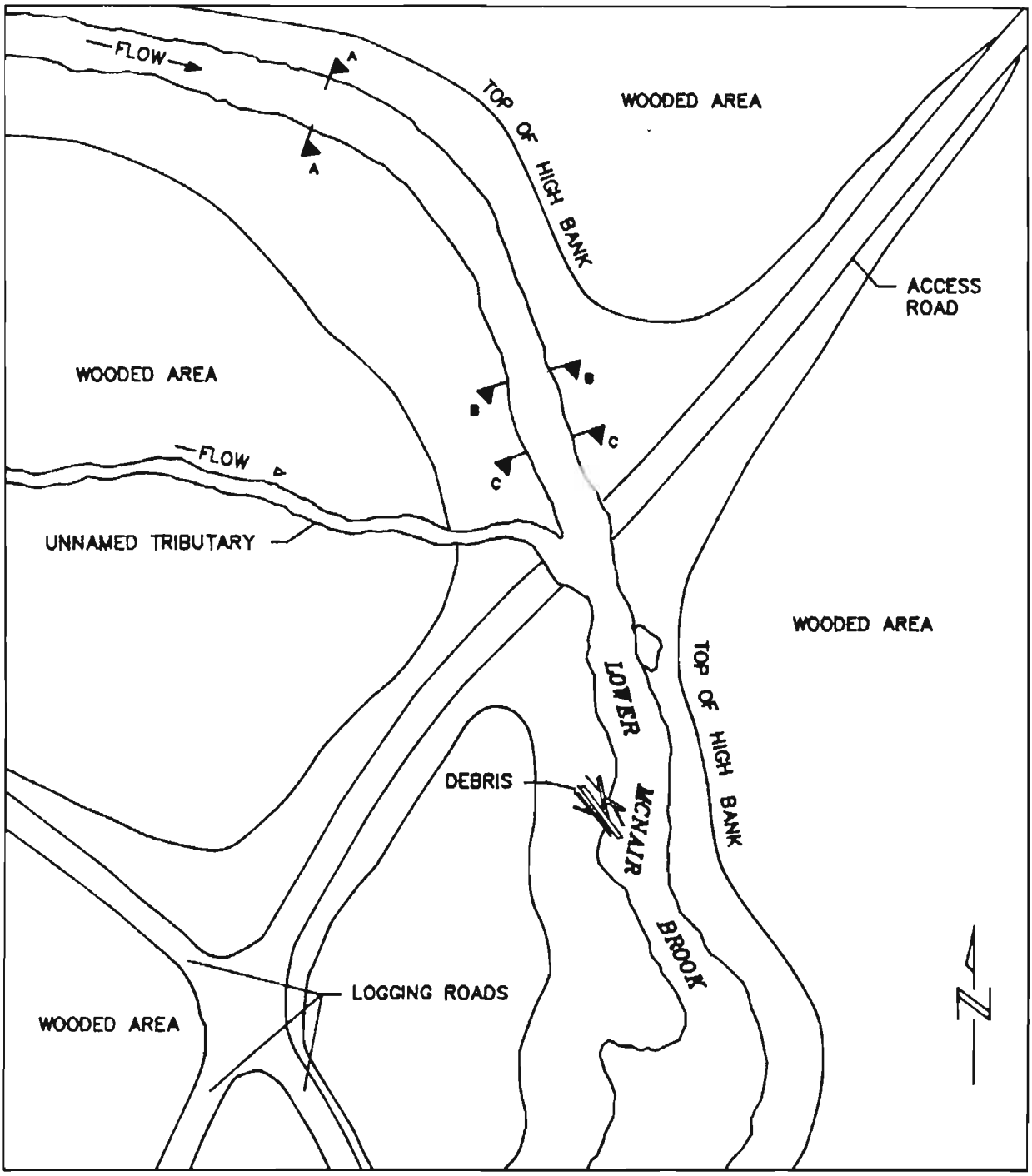
Station b(m)	Water Depth d(m)	Revolutions Per 30 sec.(1)	Water Velocity V(m/S)	Unit Discharge q(m^3/S)
10.0	0.00	0.0	0.0	0.0
12.0	0.15	9.0	0.205	0.063
14.0	0.21	4.0	0.094	0.029
15.0	0.32	13.0	0.294	0.141
17.0	0.34	14.5	0.327	0.225
19.0	0.46	15.0	0.338	0.311
21.0	0.50	18.0	0.404	0.454
23.5	0.50	21.0	0.471	0.471
25.0	0.53	19.5	0.438	0.406
27.0	0.51	16.0	0.360	0.367
29.0	0.42	17.0	0.382	0.320
31.0	0.36	16.5	0.371	0.267
33.0	0.50	18.0	0.405	0.405
35.0	0.62	15.0	0.338	0.314
36.0	0.60	15.5	0.349	0.209
37.0	0.47	16.5	0.371	0.174
38.0	0.25	4.0	0.095	0.035
40.0	0.00	0.0	0.0	0.0

$Q = \Sigma q = 4.19\ m^3/S$
(1) Price AA Wheel

TABLE 1.5 Mean Diameter and Ranking of Bed Load Material
SITE 1, JACQUET RIVER, August 9, 1984

Sample No.	Axis Measurements (cm) x	y	z	Mean Dimension ϕ (cm)	Rank
1	16	20	10	15	20
2	10	05	06	07	2
3	18	08	20	15	21
4	17	06	14	12	10
5	23	09	18	17	28
6	21	10	15	15	22
7	32	16	04	17	29
8	08	05	05	06	1
9	16	12	04	11	6
10	16	16	09	14	17
11	14	08	16	13	12
12	20	05	13	13	13
13	16	10	08	11	7
14	18	15	15	16	24
15	28	10	14	17	30
16	22	13	06	14	18
17	23	17	08	16	25
18	16	08	06	10	5
19	09	05	10	08	3
20	18	13	07	13	14
21	16	20	08	15	23
22	14	10	08	11	8
23	22	19	07	16	26
24	10	07	07	08	4
25	14	19	06	13	15
26	20	18	11	16	27
27	06	13	14	11	9
28	20	13	08	14	19
29	14	12	10	12	11
30	14	17	08	13	16

FIG. 1.4 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 2, LOWER MCNAIR BROOK, AUGUST 10,1984



LEGEND

- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 10 20 m (APPROX.)
TOPOGRAPHIC MAP 21-O/16
MILITARY GRID 052 956

TABLE 1.6 General Site Observations and Remarks
SITE 2, LOWER MCNAIR BROOK, August 10, 1984

Physical Characteristics	Description
Time	1100
Weather	sunny, warm
Air temperature (°C)	29
Electroseining conditions	good
Instream cover	partial undercut banks boulder along banks large cobble throughout
Bottom	stable
Bottom type (visual est.,%)	boulder/cobble/gravel - 20/40/40
Features (estimate,%)	riffle/run - 80/20
Aquatic vegetation	submergent, primarily mosses on rock
Stream cover	partly open
Banks	stable
Shoreline vegetation	riparian grasses, alder
Surrounding terrain	upland conifer - spruce, balsam fir
Pollution sources	logging activity
Resource utilization	unknown
Order stream	2
Photographic series	FHD 84-8-NB-22 to 38
General	turbidity noted from fording by timberjack, reflected in water quality data

FIG. 1.5 STREAM CROSS-SECTIONS, SITE 2, LOWER MCNAIR BROOK AUGUST 10,1984

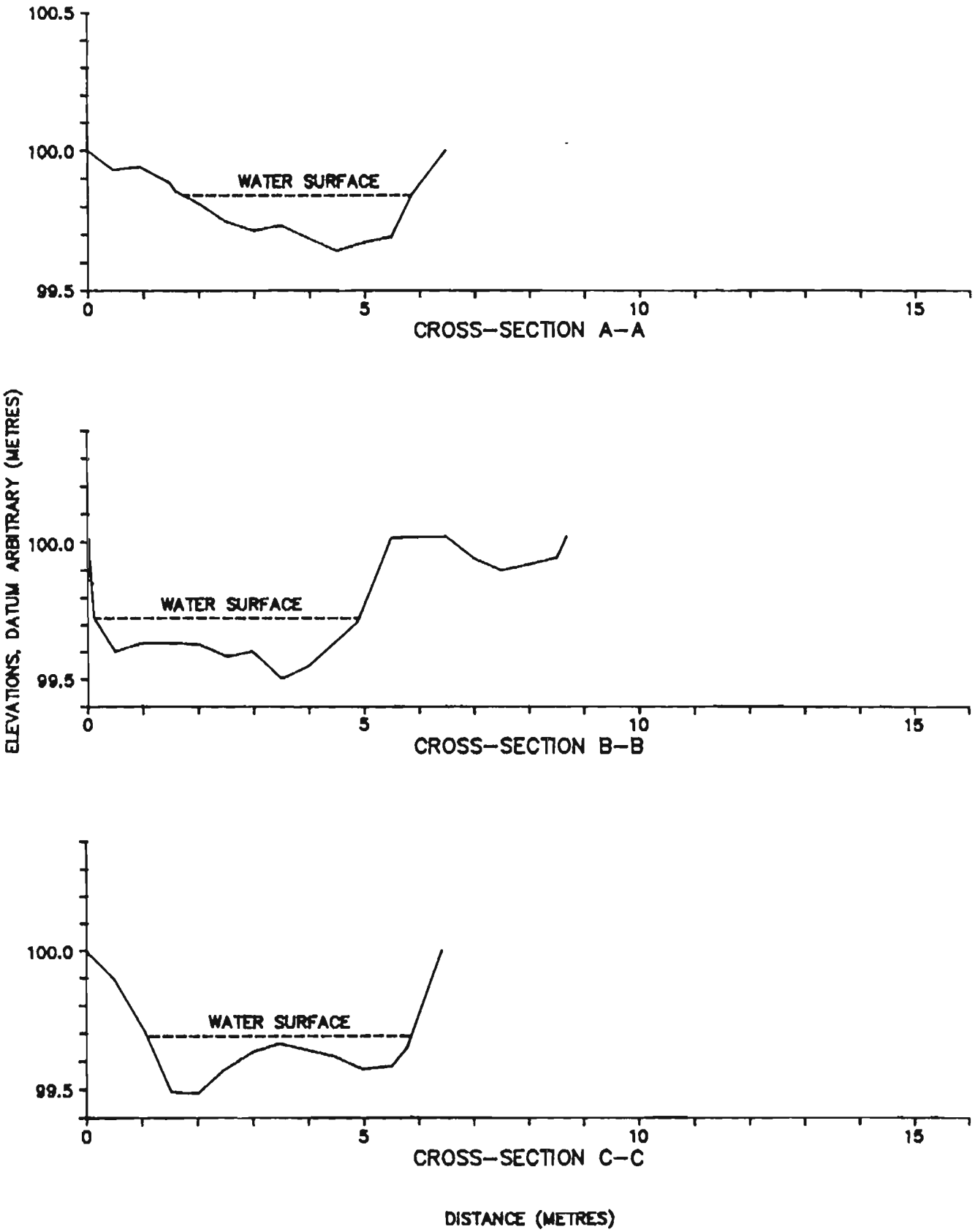


TABLE 1.7 Cross-Sectional Measurements, Transect A-A
SITE 2, LOWER MCNAIR BROOK, August 10, 1984

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	0.00	100.00	Bank Full Assumed
0.5	0.07	99.93	
1.0	0.065	99.94	
1.5	0.12	99.88	
1.6	0.15	99.85	Top/Edge Water
2.0	0.19	99.81	
2.5	0.26	99.74	
3.0	0.29	99.71	
3.5	0.27	99.73	
4.0	0.32	99.68	
4.5	0.36	99.64	
5.0	0.33	99.67	
5.5	0.31	99.69	
5.85	0.18	99.82	Top/Edge Water
6.5	0.00	100.00	Bank Full Assumed

Slope of Site: 1.1%

Drainage Area Tributary to Site: 14.0 Km^2

TABLE 1.8 Cross-Sectional Measurements, Transect B-B
SITE 2, LOWER MCNAIR BROOK, August 10, 1984

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	0.00	100.00	Bank Full Assumed
0.10	0.28	99.72	Top/Edge Water
0.50	0.41	99.59	
1.00	0.38	99.62	
1.50	0.38	99.62	
2.00	0.39	99.61	
2.50	0.43	99.57	
3.00	0.41	99.59	
3.50	0.51	99.49	
4.00	0.47	99.53	
4.90	0.30	99.70	Top/Edge Water
5.50	0.00	100.00	Bank Full Assumed
6.50	0.00	100.00	Flood Channel
7.00	0.07	99.93	
7.50	0.11	99.89	
8.00	0.10	99.90	
8.50	0.07	99.93	
8.70	0.00	100.00	Flood Channel

Note: Section between 6.50 and 8.70 serves as a Flood Channel.

TABLE 1.9 Cross-Sectional Measurements, Transect C-C
SITE 2, LOWER MCNAIR BROOK, August 10, 1984

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	0.00	100.00	Bank Full Assumed
0.5	0.11	99.89	
1.0	0.28	99.72	Top/Edge Water
1.5	0.51	99.49	
2.0	0.51	99.49	
2.5	0.43	99.57	
3.0	0.37	99.63	
3.5	0.34	99.66	
4.0	0.36	99.64	
4.5	0.39	99.61	
5.0	0.43	99.57	
5.5	0.42	99.58	
5.8	0.35	99.65	Top/Edge Water
6.4	0.00	100.00	Bank Full Assumed

TABLE 1.10 Water Velocity and Unit Discharge
SITE 2, LOWER MCNAIR BROOK
August 10, 1984

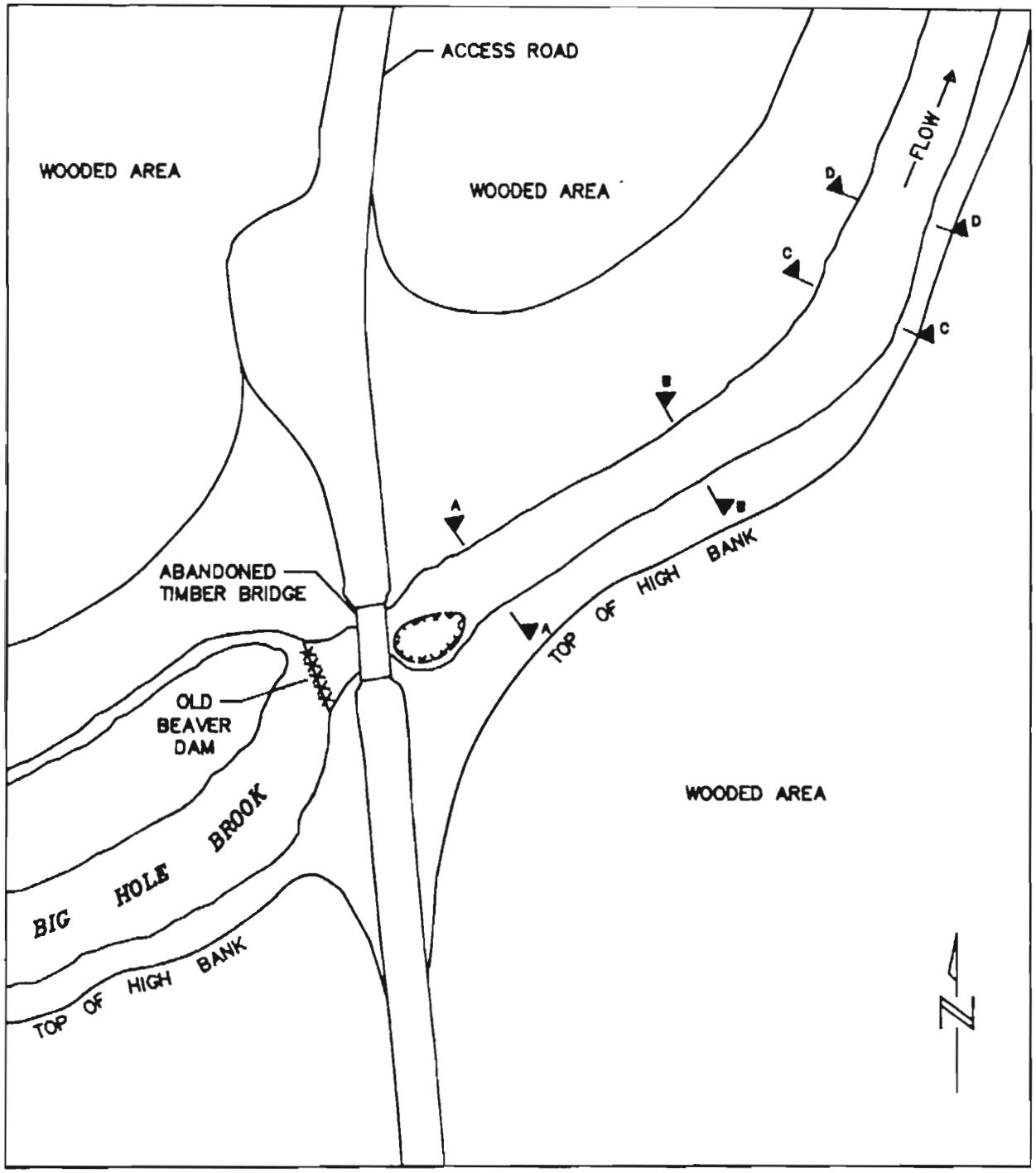
Station b(m)	Water Depth d(m)	Revolutions Per 30 sec.(1)	Water Velocity V(m/S)	Unit Discharge $q(m^3/S)$
0.0	.275	14.0 *	0.316	.015
0.35	.275	28.5	0.637	.061
0.70	.275	14.0 *	0.316	.015

$Q = \Sigma q = 0.09\ m^3/S$
(1) Price AA Wheel
*Estimated

TABLE 1.11 Mean Diameter and Ranking of Bed Load Material
SITE 2, LOWER MCNAIR BROOK, August 10, 1984

Sample No.	Axis Measurements (cm) x	y	z	Mean Dimension ϕ (cm)	Rank
1	10	12	26	16	23
2	14	09	03	09	4
3	14	25	09	16	24
4	15	07	06	09	5
5	07	07	08	07	1
6	06	07	08	07	2
7	09	05	16	10	8
8	18	13	10	14	19
9	06	10	05	07	3
10	14	12	12	13	15
11	15	08	04	09	6
12	20	12	07	13	16
13	26	08	32	22	32
14	21	11	05	12	10
15	14	08	05	09	7
16	15	25	10	17	28
17	12	23	08	14	20
18	11	06	15	11	9
19	13	20	18	17	29
20	23	15	09	16	25
21	16	13	20	16	26
22	13	13	09	12	11
23	22	10	09	14	21
24	18	07	10	12	14
25	19	08	10	12	12
26	10	16	11	12	13
27	21	28	13	21	31
28	16	20	13	16	27
29	16	20	07	14	22
30	14	11	15	13	17
31	36	26	24	29	34
32	15	16	07	13	18
33	26	19	11	19	30
34	27	40	17	28	33

FIG. 1.6 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 3, BIG HOLE BROOK, AUGUST 11,1984



LEGEND

- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 5 10 15 m (APPROX.)
TOPOGRAPHIC MAP 21-O/16
MILITARY GRID 139 019

TABLE 1.12 General Site Observations and Remarks
SITE 3, BIG HOLE BROOK, August 11, 1984

Physical Characteristics	Description
Time	1440
Weather	overcast
Air temperature (°C)	25
Electroseining conditions	not noted
Instream cover	some undercut bank
Bottom	not noted
Bottom type	not noted
Features	not noted
Aquatic vegetation	not noted
Stream cover	not noted
Banks	stable
Shoreline vegetation	some alder
Surrounding terrain	t.r. steep bank, mixed heavy forest, t.l. floodplain
Pollution sources	none identified
Resource utilization	unknown
Order stream	2
Photographic record	FHD 84-8-NB-45 to 59 FHD 84-8-NB-240 to 242
General	difficult access beaver dam noted upstream

FIG. 1.7 STREAM CROSS-SECTIONS, SITE 3, BIG HOLE BROOK AUGUST 11,1984

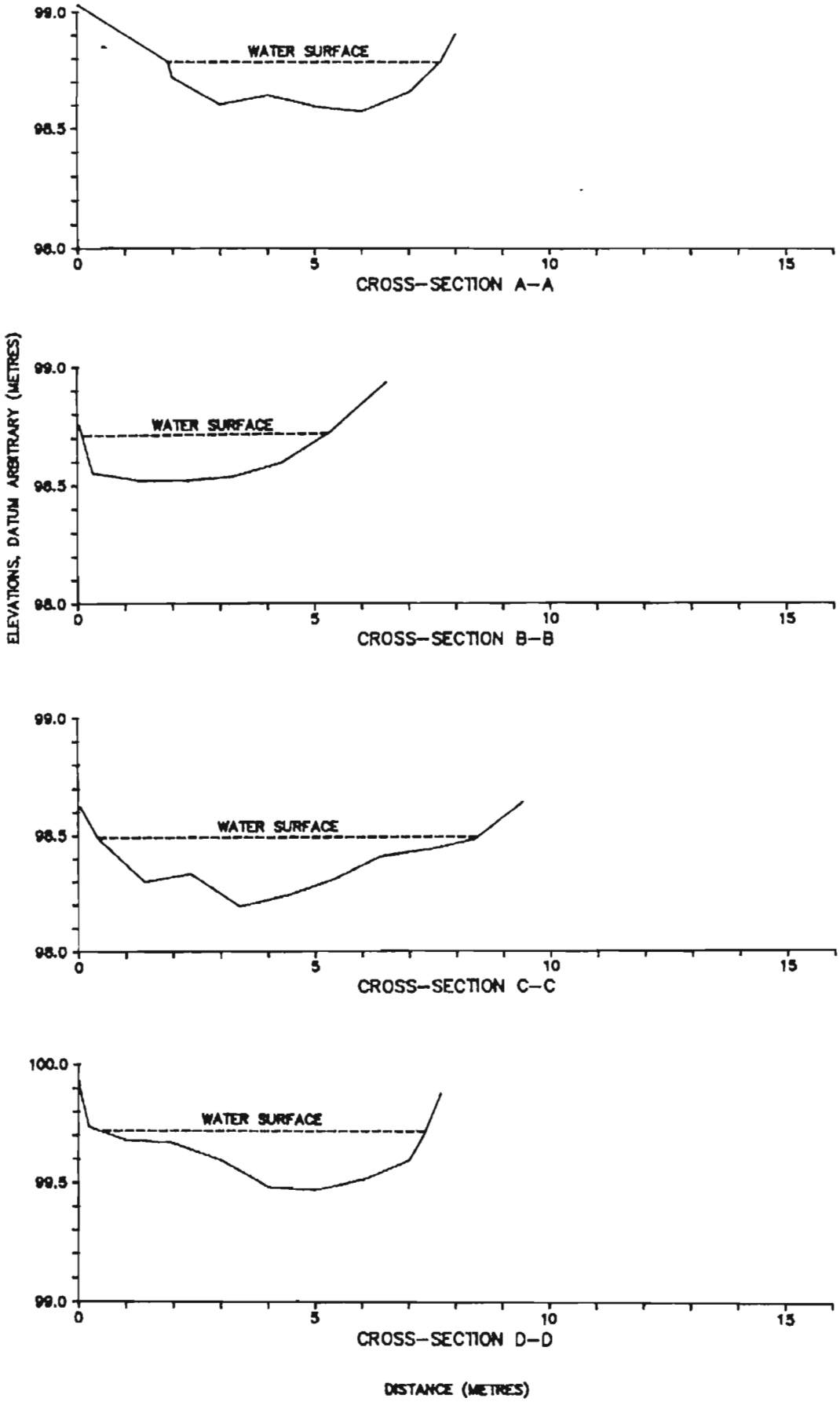


TABLE 1.13 Cross-Sectional Measurements, Transect A-A
SITE 3, BIG HOLE BROOK, August 11, 1984
(1m below Upper Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	0.97	99.03	Bank Full Assumed
1.9	1.21	98.79	Top/Edge Water
2.0	1.28	98.72	
3.0	1.39	98.61	
4.0	1.35	98.65	
5.0	1.40	98.60	
6.0	1.42	98.58	
7.0	1.34	98.66	
7.7	1.20	98.80	Top/Edge Water
8.0	1.09	98.91	Bank Full Assumed

TABLE 1.14 Cross-Sectional Measurements, Transect B-B
SITE 3, BIG HOLE BROOK, August 11, 1984
(25m below Upper Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	1.26	98.74	Bank Full Assumed
0.1	1.30	98.70	Top/Edge Water
0.3	1.45	98.55	
1.3	1.48	98.52	
2.3	1.48	98.52	
3.3	1.46	98.54	
4.3	1.40	98.60	
5.3	1.28	98.72	Top/Edge Water
6.5	1.07	98.93	Bank Full Assumed

TABLE 1.15 Cross-Sectional Measurements, Transect C-C
SITE 3, BIG HOLE BROOK, August 11, 1984
(at Lower Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	1.37	98.63	Bank Full Assumed
0.4	1.50	98.50	Top/Edge Water
1.4	1.69	98.31	
2.4	1.66	98.34	
3.4	1.80	98.20	
4.4	1.75	98.25	
5.4	1.68	98.32	
6.4	1.58	98.42	
7.4	1.55	98.45	
8.4	1.51	98.49	Top/Edge Water
9.4	1.35	98.65	Bank Full Assumed

TABLE 1.16 Cross-Sectional Measurements, Transect D-D
SITE 3, BIG HOLE BROOK, August 11, 1984
(10m below Lower Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	1.06	99.94	Bank Full Assumed
0.3	1.27	99.73	Top/Edge Water
1.0	1.32	99.68	
2.0	1.34	99.66	
3.0	1.41	99.59	
4.0	1.52	99.48	
5.0	1.53	99.47	
6.0	1.49	99.51	
7.0	1.40	99.60	
7.3	1.30	99.70	Top/Edge Water
7.7	1.12	99.88	Bank Full Assumed

Slope of Site: 0.97%

Drainage Area Tributary to Site: 33.4 Km^2

TABLE 1.17 Water Velocity and Unit Discharge
SITE 3, BIG HOLE BROOK, August 11, 1984

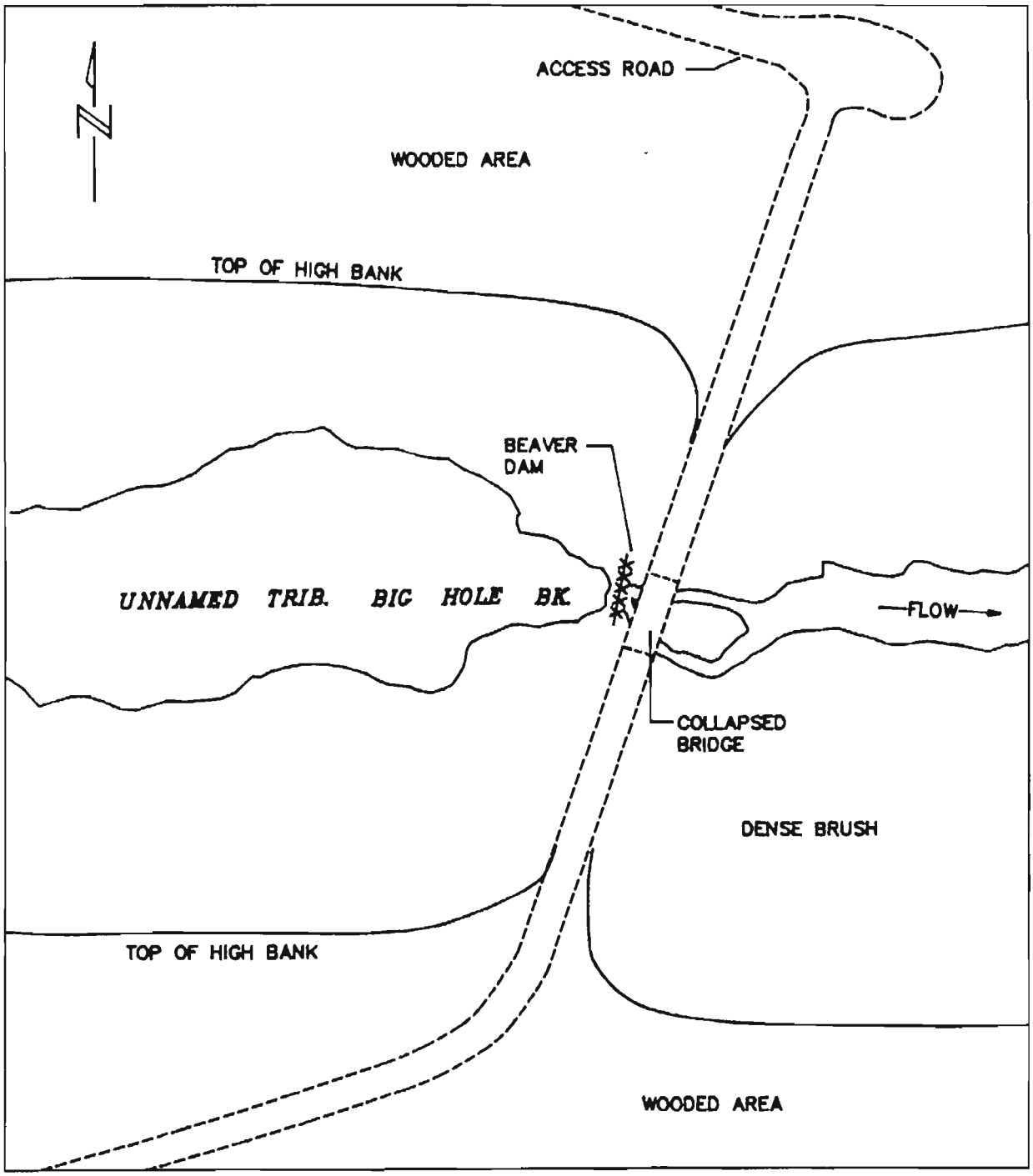
Station b(m)	Water Depth d(m)	Revolutions Per 30 sec.(2)	Water Velocity V(m/S)	Unit Discharge $q(m^3/S)$
0.0	0.265	32.0*	0.32	0.013
0.30	0.285	65.0	0.65	0.055
0.60	0.280	72.0	0.72	0.060
0.90	0.290	72.0	0.72	0.062
1.20	0.260	36.0*	0.36	0.014

$Q = \Sigma q = 0.204\ m^3/S$
(2) Pygmy Wheel
* estimated

TABLE 1.18 Mean Diameter and Ranking of Bed Load Material
SITE 3, BIG HOLE BROOK, August 11, 1984

Sample No.	Axis Measurements (cm) x	y	z	Mean Dimension ϕ (cm)	Rank
1	35	10	22	22	26
2	55	25	17	32	31
3	30	34	15	26	29
4	23	17	12	17	17
5	21	20	10	17	18
6	20	17	08	15	11
7	10	10	10	10	1
8	25	09	10	15	12
9	22	11	18	17	19
10	20	14	11	15	13
11	14	10	12	12	2
12	15	13	10	13	4
13	20	26	23	23	28
14	13	15	10	13	5
15	20	14	20	18	21
16	27	14	12	18	22
17	20	20	20	20	25
18	18	14	12	15	14
19	17	25	09	17	20
20	18	17	09	15	15
21	15	15	05	12	3
22	23	23	10	19	23
23	40	30	20	30	30
24	15	17	10	14	7
25	20	15	12	16	16
26	27	14	15	19	24
27	12	19	10	14	8
28	45	40	15	32	32
29	12	20	09	14	9
30	10	20	12	14	10
31	15	13	10	13	6
32	15	30	20	22	27

FIG. 1.8 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 4, UNNAMED TRIBUTARY TO BIG HOLE BROOK, AUGUST 11,1984



LEGEND

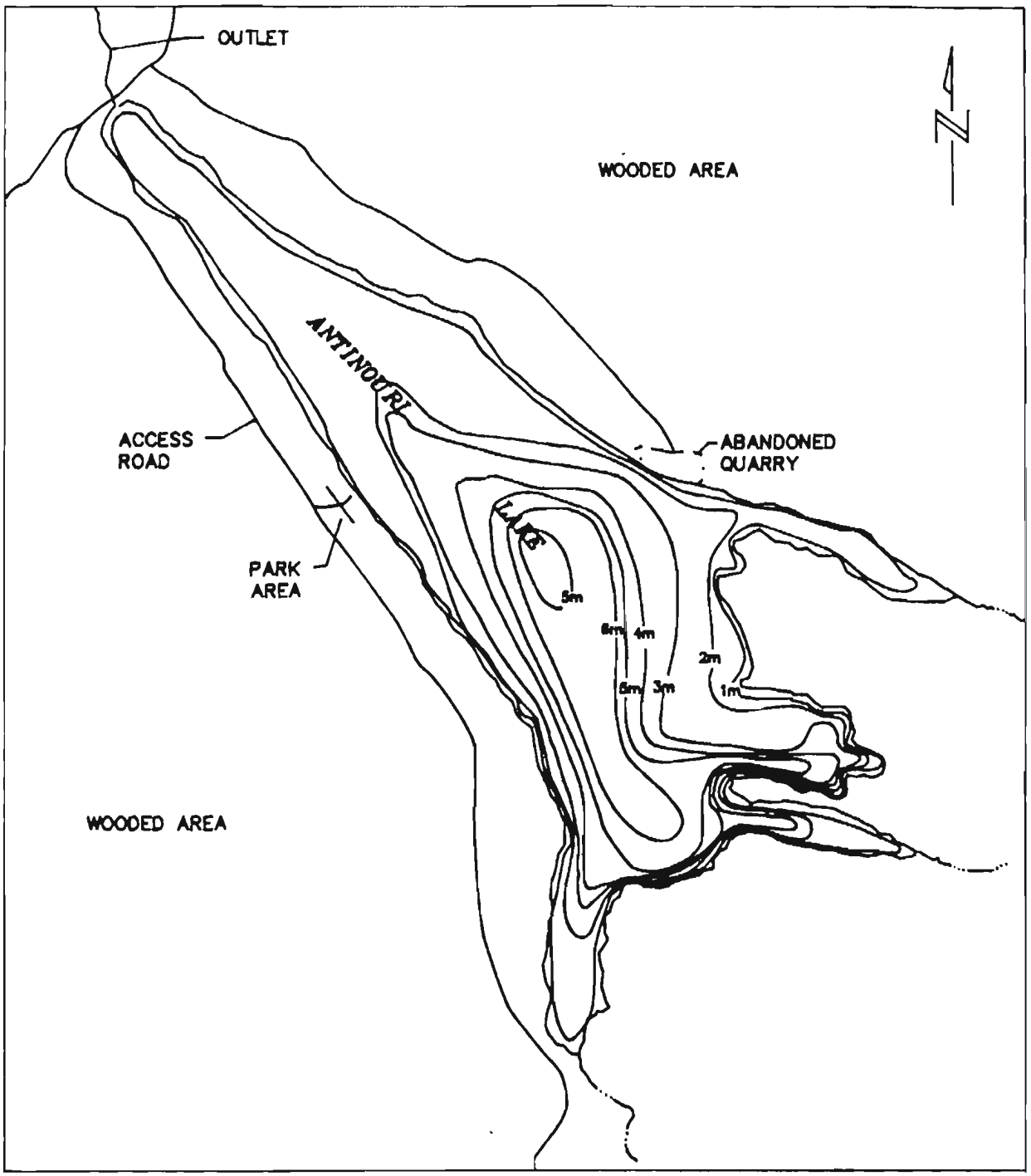
- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 5 10 m (APPROX.)
TOPOGRAPHIC MAP 21-O/16
MILITARY GRID 108 007

TABLE 1.19 General Site Observations and Remarks
SITE 4, UNNAMED TRIBUTARY to BIG HOLE BROOK
August 11, 1984

Physical Characteristics	Description
Time	1100
Weather	overcast
Air temperature (°C)	25
Electroseining conditions	not conducted
Instream cover	dense vegetation
Bottom	stable
Bottom type (visual est.,%)	fine gravel/sand
Features (estimate, %)	not noted
Aquatic vegetation	dense
Stream cover	dense alder
Banks	stable
Shoreline vegetation	dense alder
Surrounding terrain	not noted
Pollution sources	none identified
Resource utilization	unknown
Order stream	1
Photographic record	FHD-84-8-NB-39 to 44
General	small stream est. 1m wide beaver dam, small fish rising in beaver pond, frogs present

FIG. 1.9 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 5, ANTINOURI LAKE, AUGUST 12,1984



LEGEND

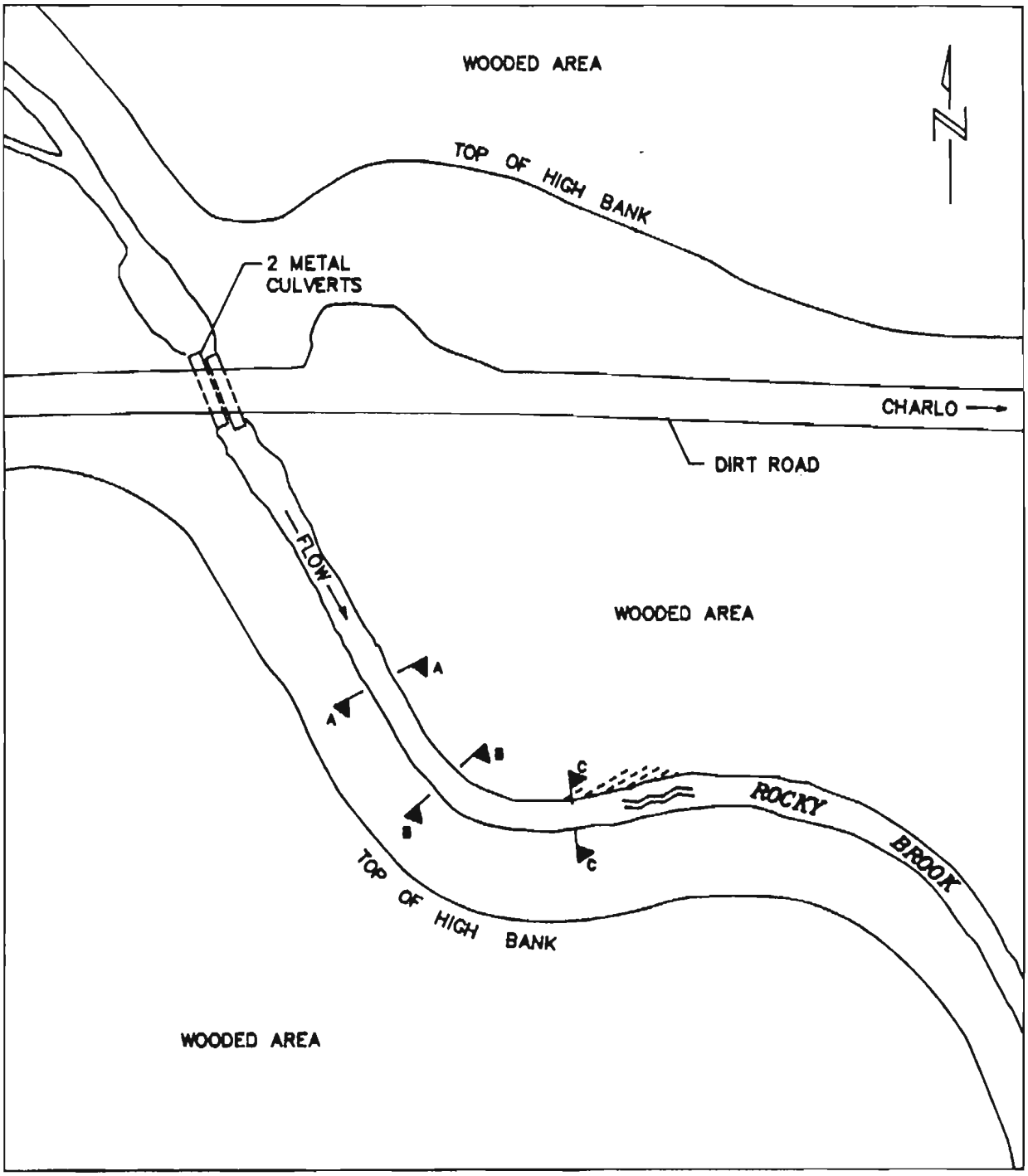
- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 200 400 m (APPROX.)
TOPOGRAPHIC MAP 21-P/13
MILITARY GRID 773 975

TABLE 1.20 General Site Observations and Remarks
SITE 5, ANTINOURI LAKE, August 12, 1984

Physical Characteristics	Description
Time	1000-1800
Weather	overcast
Air temperature (°C)	18
Electroseining conditions	not seined
Instream cover	
Bottom	
Bottom type	
Features	
Aquatic vegetation	
Stream cover	
Banks	
Shoreline vegetation	mixed forest surrounding most of shoreline
Surrounding terrain	hilly, forested
Pollution sources	recreational activity
Resource utilization	recreational activity fishing
Order stream	
Photographic record	FHD-84-8-NB-60 to 66
General	lake sampled by gill netting

FIG. 1.10 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 6, ROCKY BROOK, AUGUST 14,1984



LEGEND

- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 10 20 m (APPROX.)
TOPOGRAPHIC MAP 21-O/9
MILITARY GRID 986 885

TABLE 1.21 General Site Observations and Remarks
SITE 6, ROCKY BROOK, August 14, 1984

Physical Characteristics	Description
Time	1000 - 1400
Weather	sunny, partial cloud
Air temperature (°C)	28
Electroseining conditions	excellent
Instream cover	rocks
Bottom	sections stable, sections unstable
Bottom type (visual est.,%)	boulder/cobble/gravel/ sand - 5/30/60/5
Features (estimate, %)	riffle/run - 80/20
Aquatic vegetation	submergent - some moss growth on rocks
Stream cover	dense - heavy alder canopy in places
Banks	stable
Shoreline vegetation	sparse grass, heavy alder, conifer - fir, spruce, cedar
Surrounding terrain	upland conifer fir, spruce, cedar
Pollution sources	none identified
Resource utilization	unknown
Order stream	2
Photographic record	FHD-84-8-NB 67 to 85
General	falls noted below site heavy use of logging road

FIG. 1.11 STREAM CROSS-SECTIONS, SITE 6, ROCKY BROOK
AUGUST 14,1984

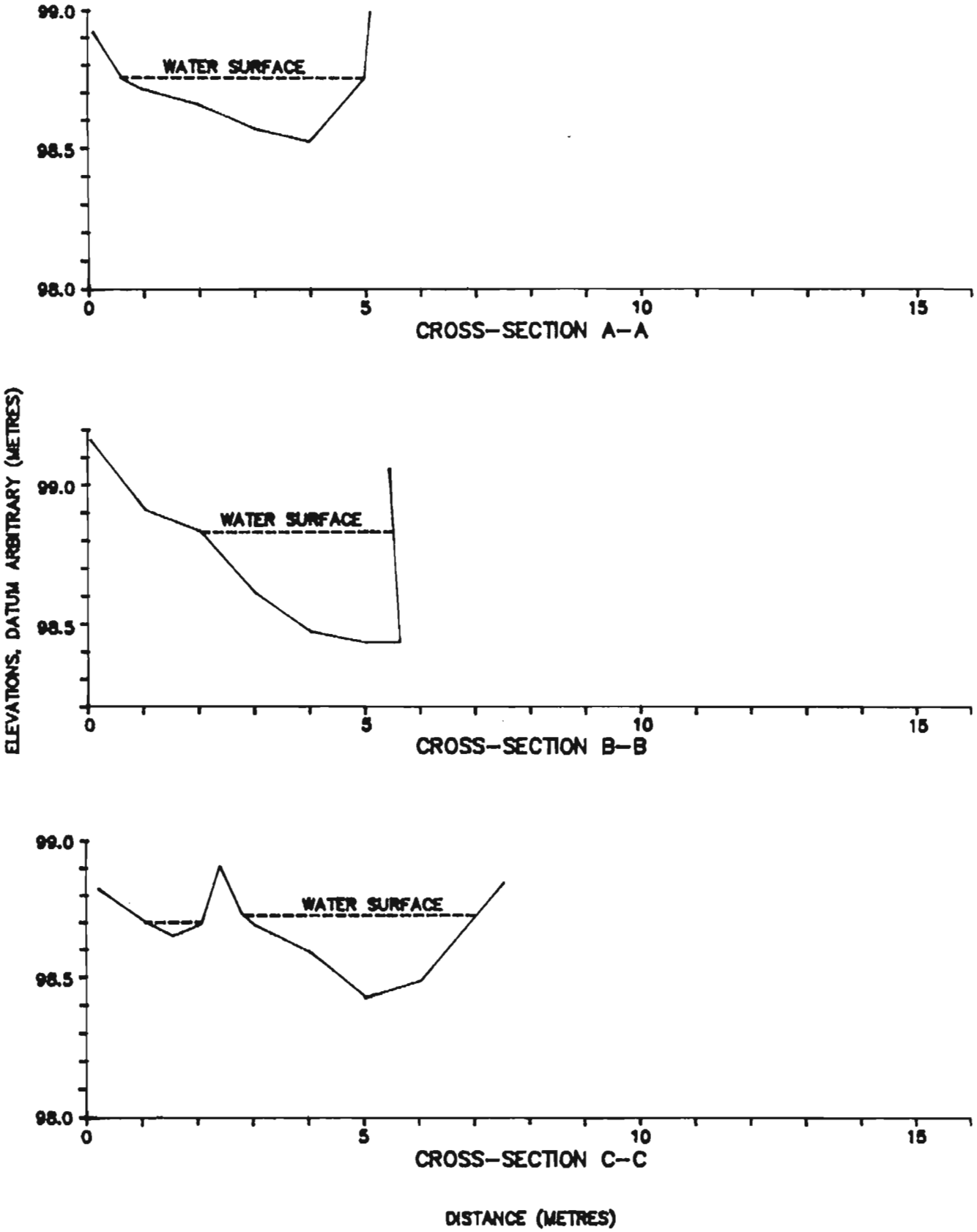


TABLE 1.22 Cross-Sectional Measurements, transect A-A
SITE 6, ROCKY BROOK, August 4, 1984

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.1	1.08	98.92	Bank Full Assumed
0.6	1.24	98.76	Top/Edge Water
1.0	1.28	98.72	
2.0	1.34	98.66	
3.0	1.42	98.58	
3.0	1.23	98.77	Top Water
4.0	1.48	98.52	
5.0	1.24	98.76	Edge Water
5.1	1.00	99.00	Bank Full Assumed

Slope of Site: 1.4%

Drainage Area Tributary to site: 25.5 Km^2

TABLE 1.23 Cross-Sectional Measurements, Transect B-B
SITE 6, ROCKY BROOK, August 14, 1984

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	0.85	99.15	Bank Full Assumed
1.0	1.10	98.90	
2.0	1.18	98.82	Top/Edge Water
3.0	1.40	98.60	
4.0	1.53	98.47	
5.0	1.58	98.42	
5.4	0.96	99.04	Bank Full Assumed
5.6	1.58	98.42	Undercut Bank/Edge Water

TABLE 1.24 Cross-Sectional Measurements, Transect C-C
SITE 6, ROCKY BROOK, August 14, 1984

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.2	1.18	98.82	Bank Full Assumed
1.0	1.29	98.71	Top/Edge Water
1.5	1.35	98.65	
2.0	1.30	98.70	Top Water
2.3	1.09	98.91	
2.8	1.27	98.73	Top/Edge Water
3.0	1.31	98.69	
4.0	1.41	98.59	
5.0	1.57	98.43	
6.0	1.51	98.49	
7.0	1.27	98.73	Top/Edge Water
7.5	1.15	98.85	Bank Full Assumed

TABLE 1.25 Water Velocity and Unit Discharge
SITE 6, ROCKY BROOK, August 14, 1984

(Flows through C.M.P., approx. 2.37m diameter)

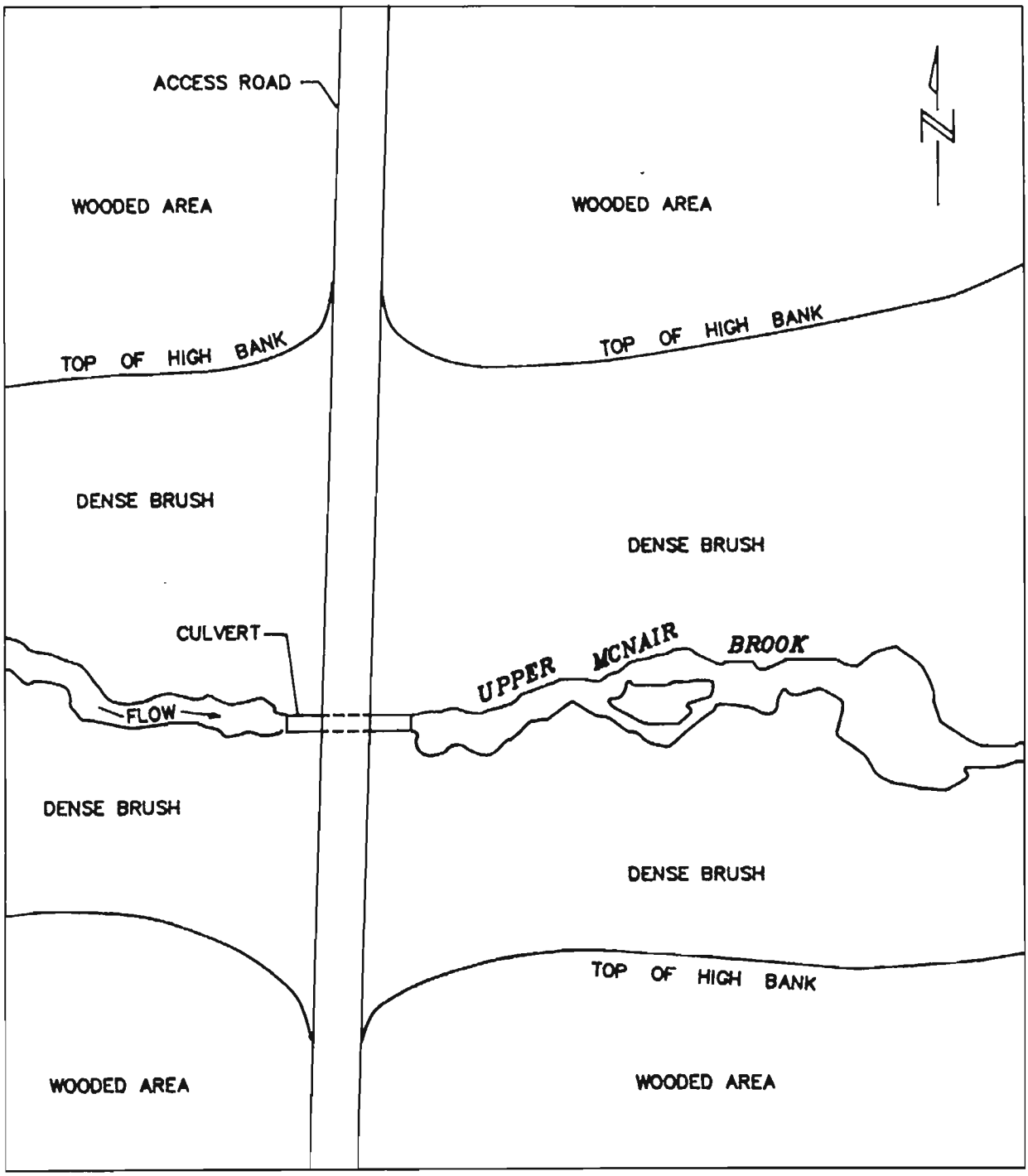
Station b(m)	Water Depth d(m)	Revolutions Per 30 sec.(2)	Water Velocity V(m/S)	Unit Discharge q(m^3/S)
0.0	0.00	0.0	-	-
0.28	0.20	18.0*	0.180	0.009
0.57	0.32	36.0	0.360	0.030
0.85	0.36	57.0	0.570	0.054
1.14	0.32	40.0	0.400	0.033
1.42	0.20	20.0*	0.200	0.010
1.70	0.00	0.0	-	-

$Q = \Sigma q = 0.14\ m^3/S$
(2) Pygmy Wheel
* Estimated

TABLE 1.26 Mean Diameter and Ranking of Bed Load Material
SITE 6, ROCKY BROOK, August 14, 1984

Sample No.	Axis Measurements (cm) x	y	z	Mean Dimension ϕ (cm)	Rank
1	24	17	18	20	21
2	15	20	20	18	15
3	16	17	20	18	16
4	47	20	30	32	29
5	12	32	33	26	24
6	30	13	19	21	22
7	16	20	14	17	14
8	40	27	30	32	30
9	10	15	12	12	5
10	24	15	16	18	17
11	12	12	09	11	2
12	26	13	08	16	10
13	20	30	27	26	25
14	13	20	12	15	9
15	32	43	32	36	32
16	36	30	32	33	31
17	09	15	10	11	3
18	16	09	09	11	4
19	25	30	25	27	26
20	18	16	08	14	8
21	31	30	22	28	28
22	10	18	12	13	7
23	11	22	14	16	11
24	16	22	18	19	19
25	10	17	09	12	6
26	14	20	13	16	12
27	11	11	08	10	1
28	17	30	10	19	20
29	35	26	20	27	27
30	15	24	08	16	13
31	15	19	33	22	23
32	20	18	16	18	18

FIG. 1.12 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 7, UPPER MCNAIR BROOK, AUGUST 14,1984



LEGEND

- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 5 m (APPROX.)
TOPOGRAPHIC MAP 21-O/16
MILITARY GRID 957 926

TABLE 1.27 General Site Observations and Remarks
SITE 7, UPPER MCNAIR BROOK, August 14, 1984

Physical Characteristics	Description
Time	not noted
Weather	sunny, some cloud
Air temperature (°C)	28
Electroseining conditions	difficult - dense alder cover
Instream cover	not noted
Bottom	not noted
Bottom type (visual est.,%)	sand and fine gravel
Features (estimate,%)	riffle/pool not estimated
Aquatic vegetation	not noted
Stream cover	boulder
Banks	stable
Shoreline vegetation	alder
Surrounding terrain	not noted
Pollution sources	none identified
Resource utilization	unknown
Order stream	2
Photographic record	FHD-84-8-NB-238, 239
General	spot check appears to be good trout habitat only one salamander captured

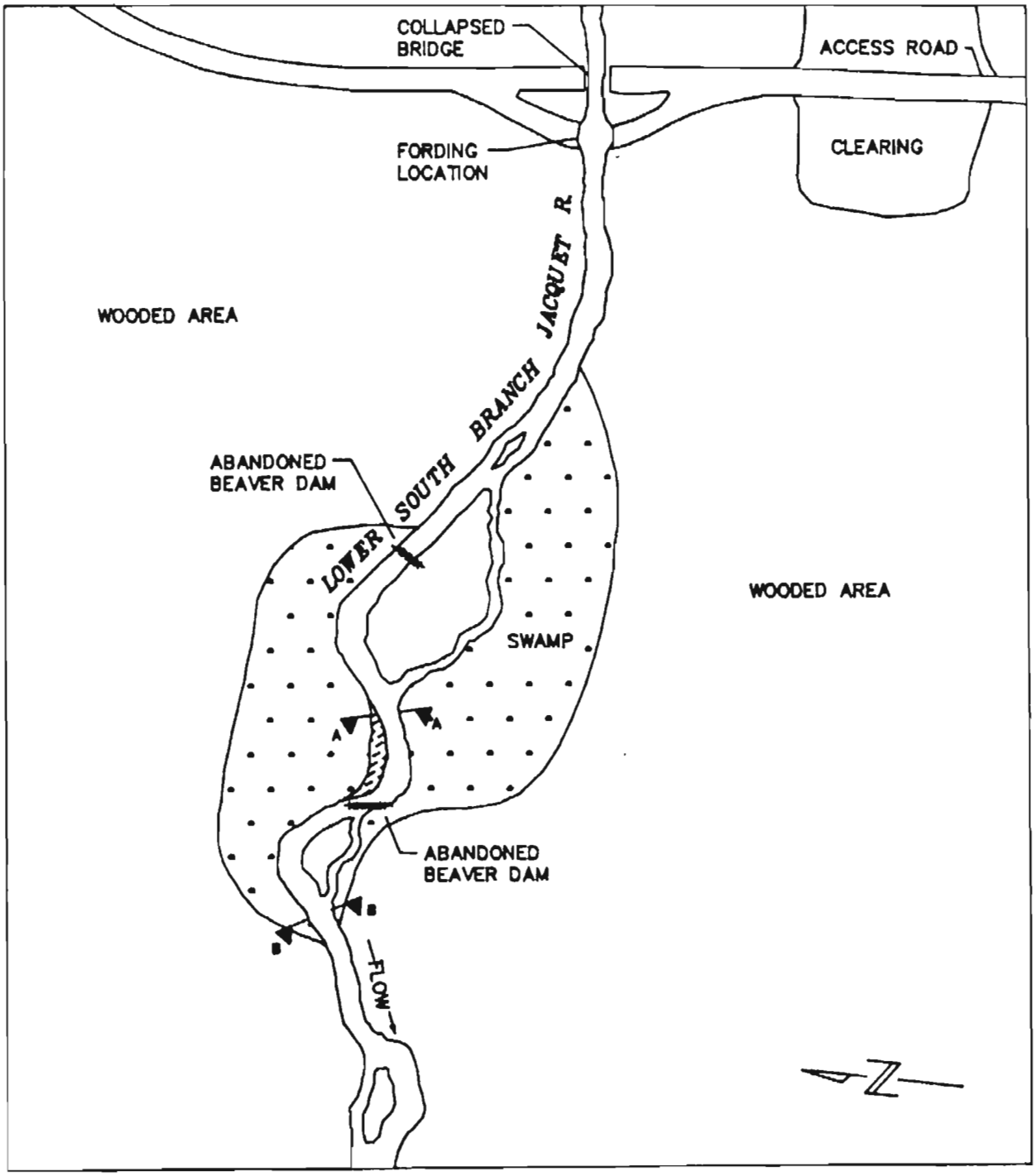
TABLE 1.28 Water Velocity and Unit Discharge
SITE 7, UPPER MCNAIR BROOK
August 14, 1984

(Flows through C.M.P., approx. 1.09m diameter)

Station b(m)	Water Depth d(m)	Revolutions Per 30 sec.(2)	Water Velocity V(m/S)	Unit Discharge $q(m^3/S)$
0.0	0.00	-	-	-
0.137	0.062	25.5*	0.255	0.002
0.342	0.085	51.0	0.510	0.006
0.411	0.062	25.5*	0.255	0.002
0.685	0.00	-	-	-

$Q = \Sigma q = 0.01\ m^3/S$
(2) Pygmy Wheel
* Estimated
Drainage Area Tributary to Site: 1.8 Km^2

FIG. 1.13 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 8, LOWER SOUTH BRANCH JACQUET RIVER, AUGUST 18,1984



LEGEND

- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 5 10 15 m (APPROX.)
TOPOGRAPHIC MAP 21-O/9
MILITARY GRID 133 859

TABLE 1.29 General Site Observations and Remarks
SITE 8, LOWER SOUTH BRANCH JACQUET RIVER
August 18, 1984

Physical Characteristics	Description
Time	0800 - 1800
Weather	sunny, some cloud
Air temperature (°C)	22
Electroseining conditions	fair
Instream cover	undercut bank scattered brush and logs
Bottom	stable
Bottom type (visual est.,%)	cobble/gravel/sand/ muck - 20/60/10/10
Features (estimate,%)	shallow riffles, one pool noted
Aquatic vegetation	submergent - small dense plants
Stream cover	generally dense partly open in impounded area
Banks	stable
Shoreline vegetation	heavy alder cover throughout
Surrounding terrain	upland hardwood - birch, aspen upland conifer - balsam fir
Pollution sources	none identified
Resource utilization	unknown
Order stream	2
Photographic record	FHD-84-8-NB-86 to 94
General	abandoned beaver dams noted

FIG. 1.14 STREAM CROSS-SECTIONS, SITE 8, LOWER SOUTH BRANCH JACQUET RIVER, AUGUST 18,1984

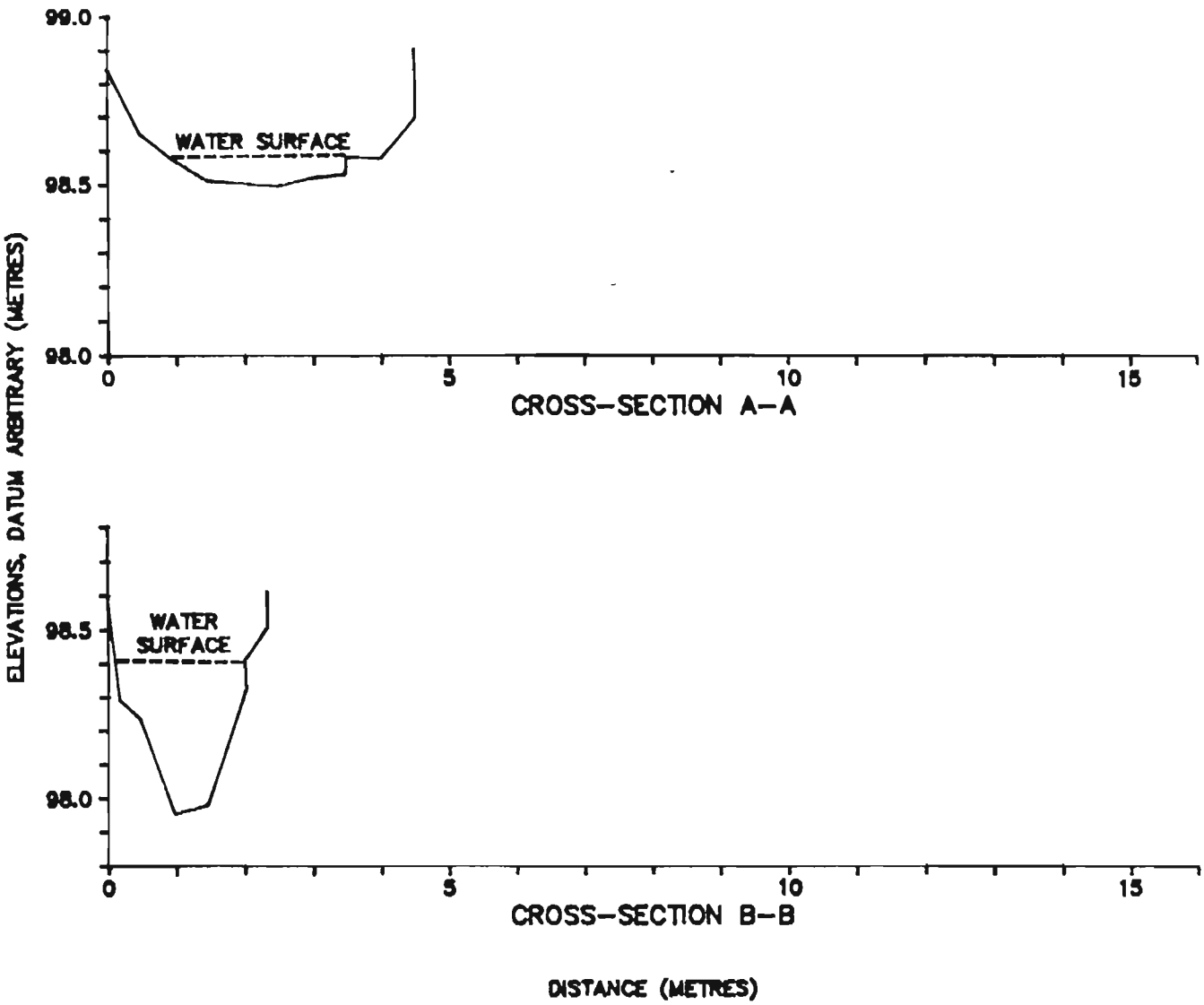


TABLE 1.30 Cross-Sectional Measurements, Transect A-A
SITE 8, LOWER SOUTH BRANCH JACQUET RIVER,
August 18, 1984
(67m Below upper electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	1.16	98.84	Bank Full Assumed
0.5	1.35	98.65	
1.0	1.42	98.58	Top/Edge Water
1.5	1.48	98.52	
2.0	1.49	98.51	
2.5	1.50	98.50	
3.0	1.48	98.52	
3.5	1.47	98.53	Edge Water
3.5	1.41	98.59	Top Water
4.0	1.42	98.58	
4.5	1.30	98.70	
4.5	1.09	98.91	Bank Full Assumed

Slope of Site : 0.5%

Drainage Area Tributary to Site: 5.4 Km^2

TABLE 1.31 Cross-Sectional Measurements, Transect B-B
SITE 8, LOWER SOUTH BRANCH JACQUET RIVER,
August 18. 1984
(7m Above Lower Electroseining Boundary)

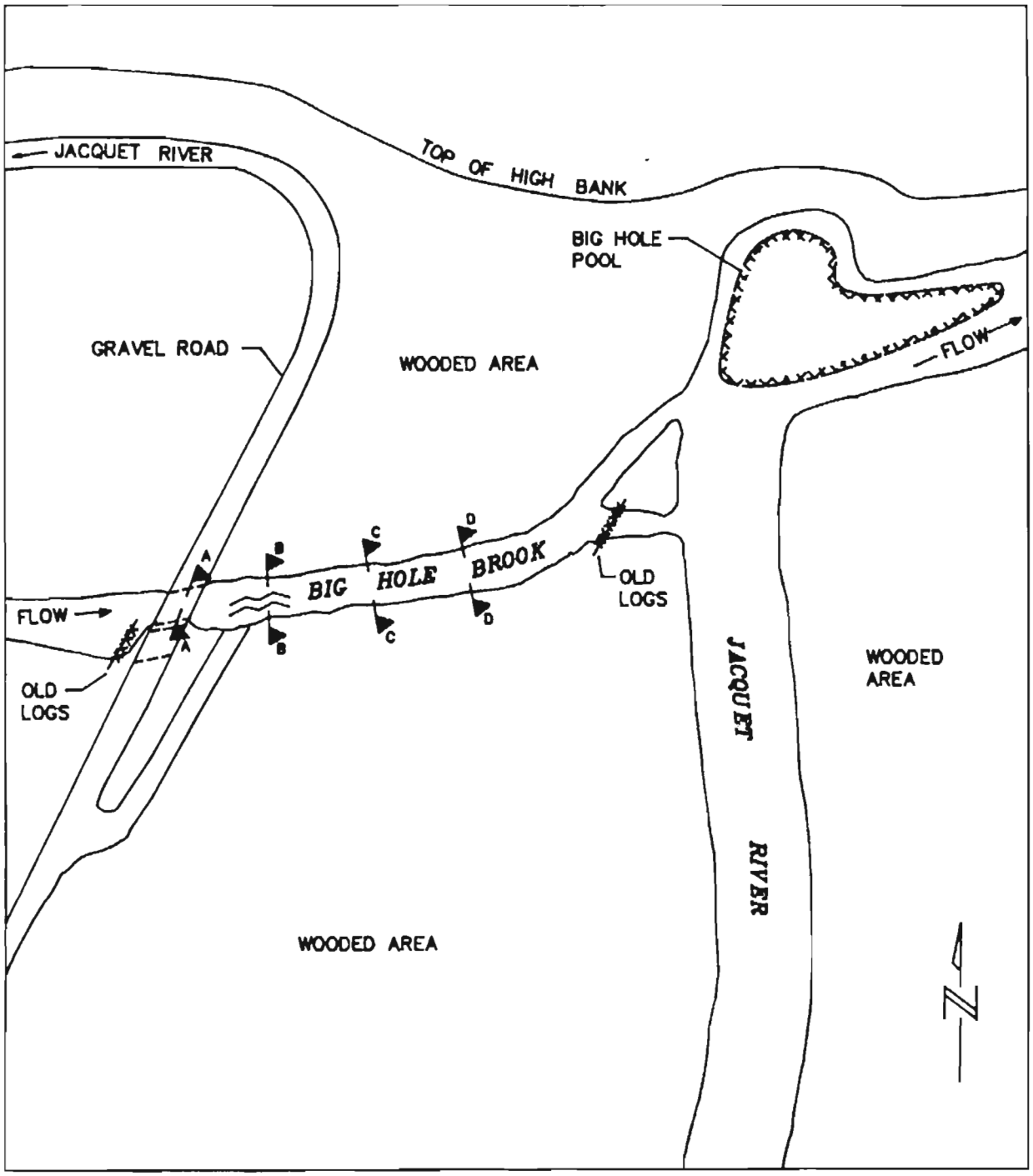
Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	1.41	98.59	Bank Full Assumed
0.1	1.60	98.40	Top/Edge Water
0.2	1.72	98.28	
0.5	1.77	98.23	
1.0	2.05	97.95	
1.5	2.03	97.97	
2.0	1.69	98.31	
2.0	1.60	98.40	Top/Edge Water
2.1	1.56	98.44	Top Bank
2.3	1.50	98.50	
2.3	1.40	98.60	Bank Full Assumed

TABLE 1.32 Water Velocity and Unit Discharge
SITE 8, LOWER SOUTH BRANCH JACQUET RIVER
August 18, 1984

Station b(m)	Water Depth d(m)	Revolutions Per 30 sec.(2)	Water Velocity V(m/S)	Unit Discharge q(m^3/S)
0.0	0.125	20.0*	0.20	0.001
0.12	0.135	39.0	0.39	0.006
0.24	0.140	32.0	0.32	0.005
0.36	0.115	33.0	0.33	0.004
0.47	0.100	16.0*	0.16	0.0

$Q = \Sigma q = 0.02\ m^3/S$
(2) Pygmy Wheel
* Estimated

FIG. 1.15 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 9, BIG HOLE BROOK, AUGUST 17,1984



LEGEND

- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 10 20 m (APPROX.)
TOPOGRAPHIC MAP 21-1/16
MILITARY GRID 187 008

TABLE 1.33 General Site Observations and Remarks
SITE 9, BIG HOLE BROOK, August 17, 1984

Physical Characteristics	Description
Time	1000 - 1500
Weather	sunny, some cloud
Air temperature (°C)	19
Electroseining conditions	excellent - good visibility, flows
Instream cover	rocks, logs
Bottom	stable
Bottom type (visual est.,%)	boulder/cobble/gravel - 20/60/20
Features (estimate,%)	mostly riffle, some run noted below site
Aquatic vegetation	not noted
Stream cover	partly open
Banks	stable
Shoreline vegetation	riparian grasses, some alder
Surrounding terrain	upland hardwood - aspen, poplar upland conifer - scattered young fir
Pollution sources	none identified
Resource utilization	unknown
Order stream	3
Photographic record	FHD-84-8-NB-1 to 9
General	falls located approximately 0.5 km above site

FIG. 1.16 STREAM CROSS-SECTIONS, SITE 9, BIG HOLE BROOK AUGUST 17,1984

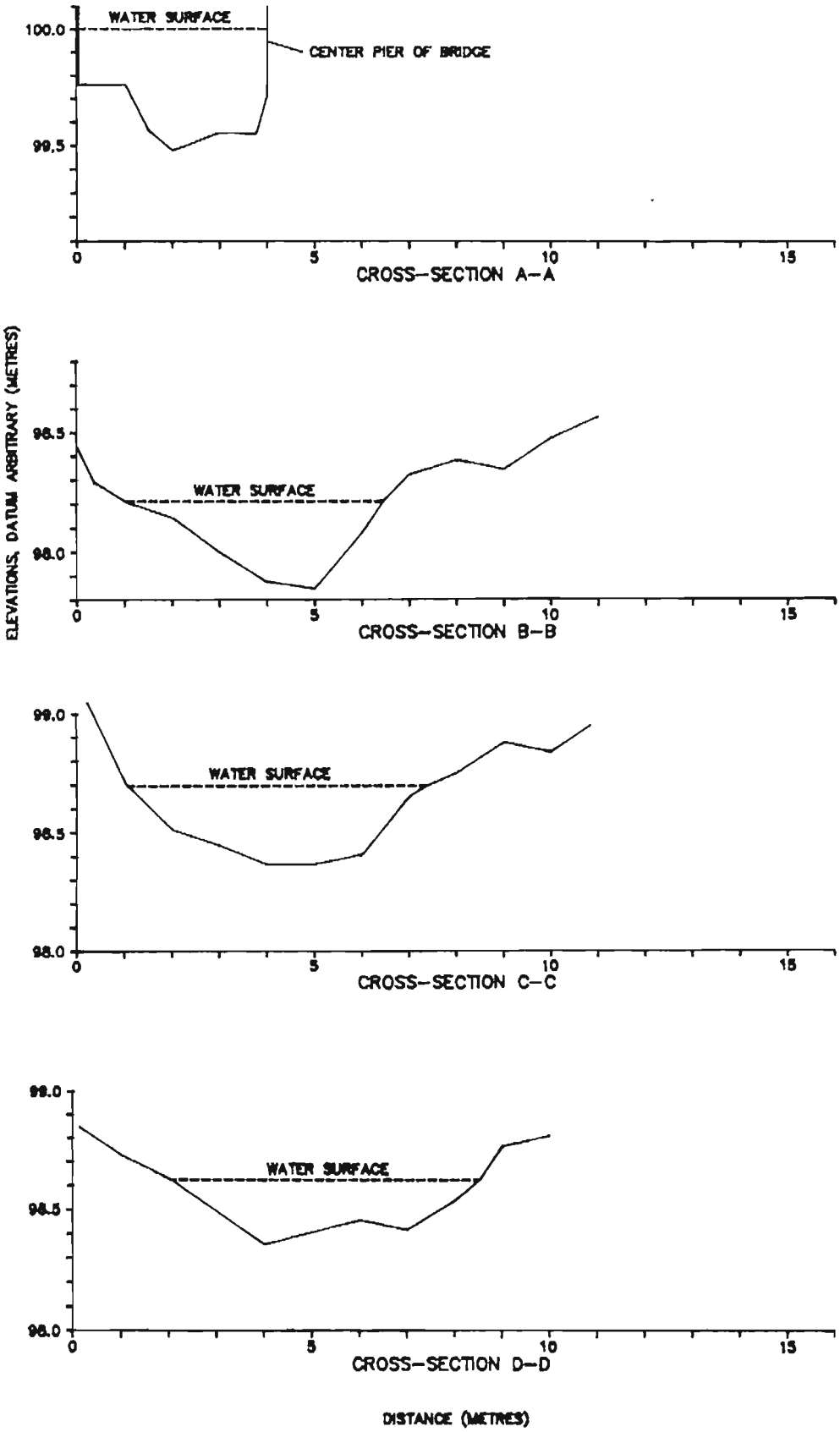


TABLE 1.34 Cross-Sectional Measurements, Transect A-A
SITE 9, BIG HOLE BROOK, August 16, 1984
True Left Span of Bridge

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.00	0.24	99.76	Centre Pier
0.25	0.24	99.76	
0.75	0.24	99.76	
1.00	0.28	99.72	
1.50	0.43	99.57	
1.75	0.00	100.00	Top Water
2.00	0.52	99.48	
2.50	0.48	99.52	
3.00	0.44	99.56	
3.50	0.45	99.55	
3.75	0.45	99.55	
4.00	0.28	99.72	T.L.Abutment

Slope of Site: 0.54%

Drainage Area Tributary to Site: 41.0 Km^2

TABLE 1.35 Cross-Sectional Measurements, Transect B-B
SITE 9, BIG HOLE BROOK, August 16, 1984
(4m Below Upper Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.4	1.56	98.44	Bank Full Assumed
1.0	1.71	98.29	
1.7	1.79	98.21	Top/Edge Water
2.0	1.86	98.14	
3.0	2.00	98.00	
4.0	2.12	97.88	
5.0	2.15	97.85	
6.0	1.92	98.08	
6.5	1.78	98.22	Top/Edge Water
7.0	1.68	98.32	
8.0	1.62	98.38	
9.0	1.66	98.34	
10.0	1.53	98.47	
11.0	1.43	98.57	Bank Full Assumed

TABLE 1.36 Cross-Sectional Measurements, Transect C-C
SITE 9, BIG HOLE BROOK, August 16, 1984
(20m Below Upper Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.2	0.95	99.05	Bank Full Assumed
1.0	1.29	98.71	Top/Edge Water
2.0	1.48	98.52	
3.0	1.54	98.46	
4.0	1.62	98.38	
5.0	1.62	98.38	
6.0	1.58	98.42	
7.0	1.33	98.67	
7.3	1.30	98.70	Top/Edge Water
8.0	1.24	98.76	
9.0	1.11	98.89	
10.0	1.15	98.85	
10.8	1.04	98.96	Bank Full Assumed

TABLE 1.37 Cross-Sectional Measurements, Transect D-D
SITE 9, BIG HOLE BROOK, August 16, 1984

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.1	1.15	98.85	Bank Full Assumed
1.0	1.27	98.73	Top/Edge Water
2.0	1.36	98.64	
3.0	1.50	98.50	
4.0	1.64	98.36	
5.0	1.59	98.41	
6.0	1.54	98.46	
7.0	1.58	98.42	
8.0	1.46	98.54	
8.5	1.38	98.62	Top/Edge Water
9.0	1.23	98.77	
10.1	1.17	98.83	Bank Full Assumed

TABLE 1.38 Water Velocity and Unit Discharge
SITE 9, BIG HOLE BROOK, August 16, 1984

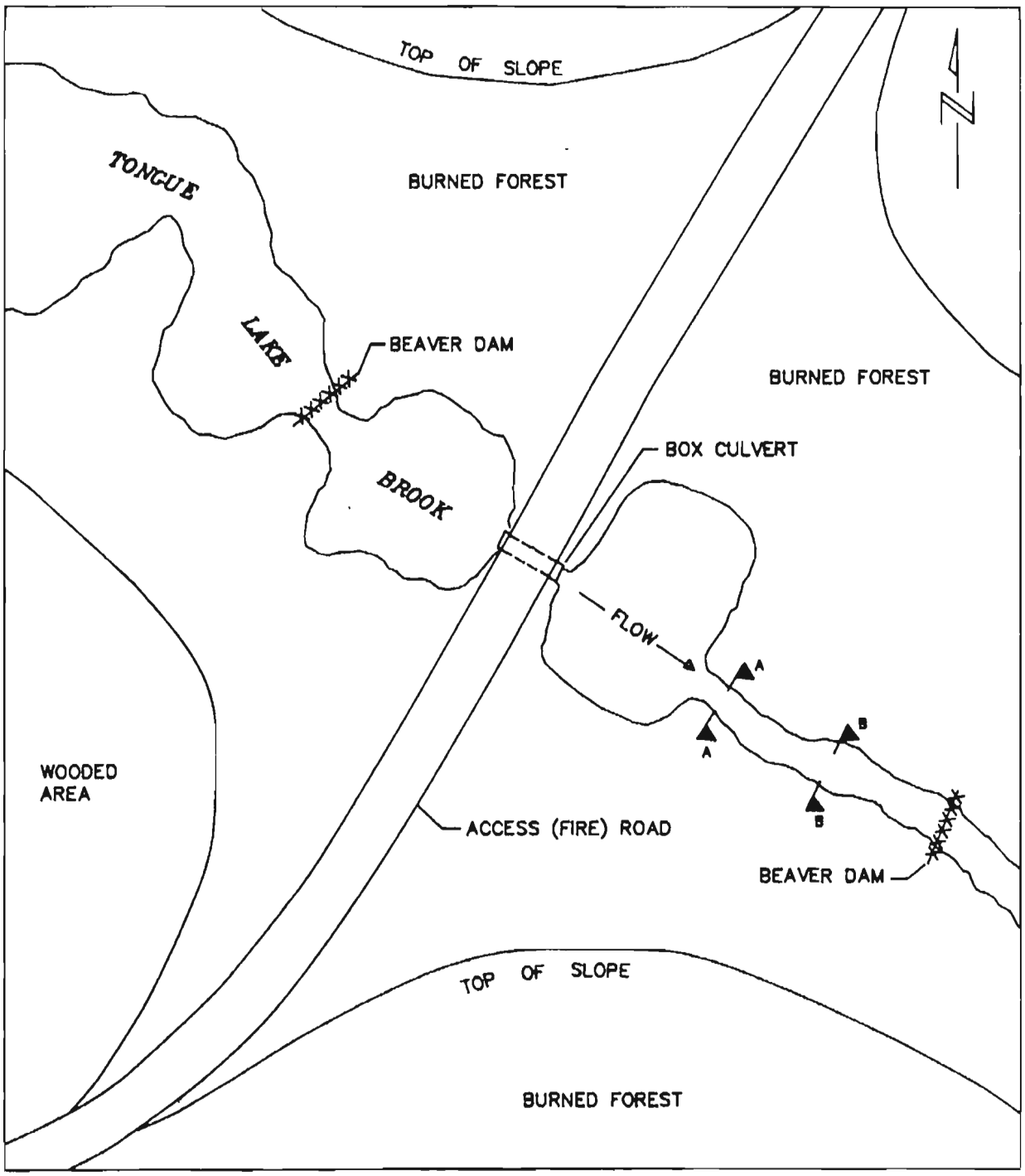
Station b(m)	Water Depth d(m)	Revolutions Per 30 sec.(2)	Water Velocity V(m/S)	Unit Discharge q(m^3/S)
0.0	0.24	-	-	-
0.25	0.24	-	-	-
0.75	0.24	17.0	0.17	0.015
1.00	0.28	20.0	0.20	0.021
1.50	0.43	25.0	0.25	0.054
2.00	0.52	33.0	0.33	0.085
2.50	0.48	43.0	0.43	0.103
3.0	0.44	27.0	0.27	0.059
3.50	0.45	37.0	0.37	0.062
3.75	0.45	22.0	0.22	0.025
4.00	0.28	-	-	-

$Q = \Sigma q = 0.42\ m^3/S$
(2) Pygmy Wheel

TABLE 1.39 Mean Diameter and Ranking of Bed Load Material
SITE 9, BIG HOLE BROOK, August 16, 1984

Sample No.	Axis Measurements (cm) x	y	z	Mean Dimension ϕ (cm)	Rank
1	22	17	11	17	3
2	34	18	07	20	9
3	22	09	04	12	1
4	35	25	24	28	30
5	22	15	09	15	2
6	43	30	20	31	32
7	35	22	12	23	17
8	30	19	19	23	18
9	45	11	13	23	19
10	32	15	13	20	10
11	44	20	15	26	28
12	28	18	15	20	11
13	26	22	15	21	13
14	12	27	24	21	14
15	20	16	14	17	4
16	30	26	13	23	20
17	20	22	15	19	8
18	21	17	12	17	5
19	30	24	10	21	15
20	25	31	16	24	24
21	29	28	15	24	25
22	22	26	13	20	12
23	30	23	20	24	26
24	34	20	14	23	21
25	30	23	16	23	22
26	25	27	19	24	27
27	28	18	08	18	6
28	25	18	11	18	7
29	30	29	21	27	29
30	32	22	14	23	23
31	28	22	13	21	16
32	23	33	30	29	31

FIG. 1.17 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 10, TONGUE LAKE BROOK, AUGUST 19,1984



LEGEND

- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 5 10 m (APPROX.)
TOPOGRAPHIC MAP 21-O/9
MILITARY GRID 958 812

TABLE 1.40 General Site Observations and Remarks
SITE 10, TONGUE LAKE BROOK, August 19, 1984

Physical Characteristics	Description
Time	1130
Weather	overcast, hazy, calm
Air temperature (°C)	19
Electroseining conditions	poor, dense alder thicket
Instream cover	undercut bank, scattered rocks, heavy alder, logs
Bottom	generally stable
Bottom type (visual est.,%)	boulder/gravel/sand/ silt - 5/60/5/30
Features (estimate,%)	small fire pond below culvert
Aquatic vegetation	submergent - eel grass
Stream cover	dense alder in riffle and run areas, open at beaver ponds and road crossing
Banks	stable
Shoreline vegetation	riparian grasses, heavy alder
Surrounding terrain	upland hardwood - scattered upland conifer - burn area - fir and spruce
Pollution sources	none identified
Resource utilization	unknown
Order stream	1
Photographic record	FHD-84-8-NB-95 to 104
General	f/w gastropods, bivalves on stream substrate, hirudinea

FIG. 1.18 STREAM CROSS-SECTIONS, SITE 10, TONGUE LAKE BROOK AUGUST 19,1984

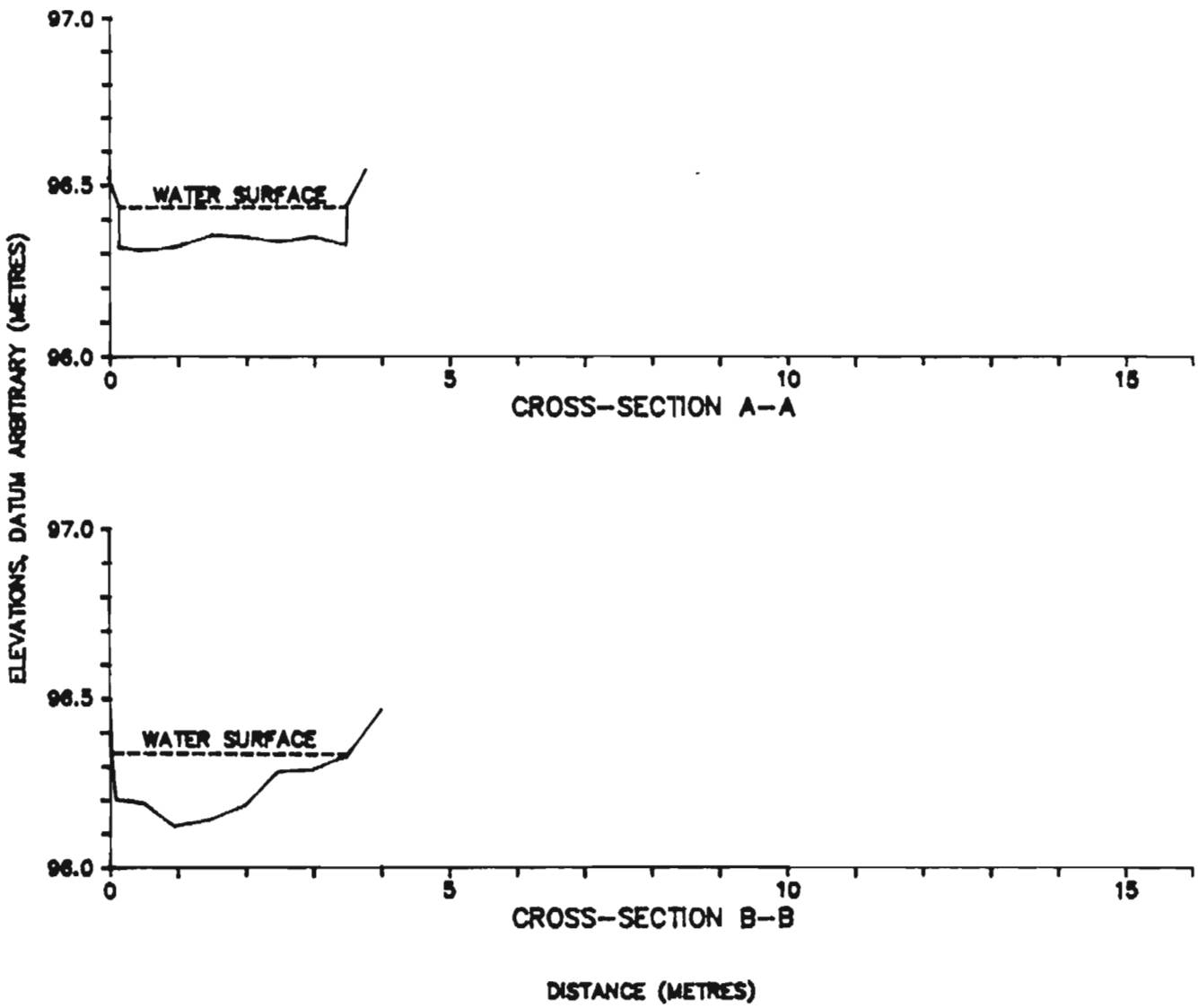


TABLE 1.41 Cross-Sectional Measurements, Transect A-A
SITE 10, TONGUE LAKE BROOK, August 19, 1984

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	3.48	96.52	Bank Full Assumed
0.2	3.57	96.43	Top/Edge Water
0.2	3.68	96.32	
0.5	3.69	96.31	
1.0	3.68	96.32	
1.5	3.65	96.35	
2.0	3.65	96.35	
2.5	3.66	96.34	
3.0	3.65	96.35	
3.5	3.68	96.32	
3.5	3.55	96.45	Top/Edge Water
3.8	3.45	96.55	Bank Full Assumed

Slope of Site: 0.75%

Drainage Area Tributary to Site: 6.2 Km^2

TABLE 1.42 Cross-Sectional Measurements, Transect B-B
SITE 10. TONGUE LAKE BROOK, August 19, 1984

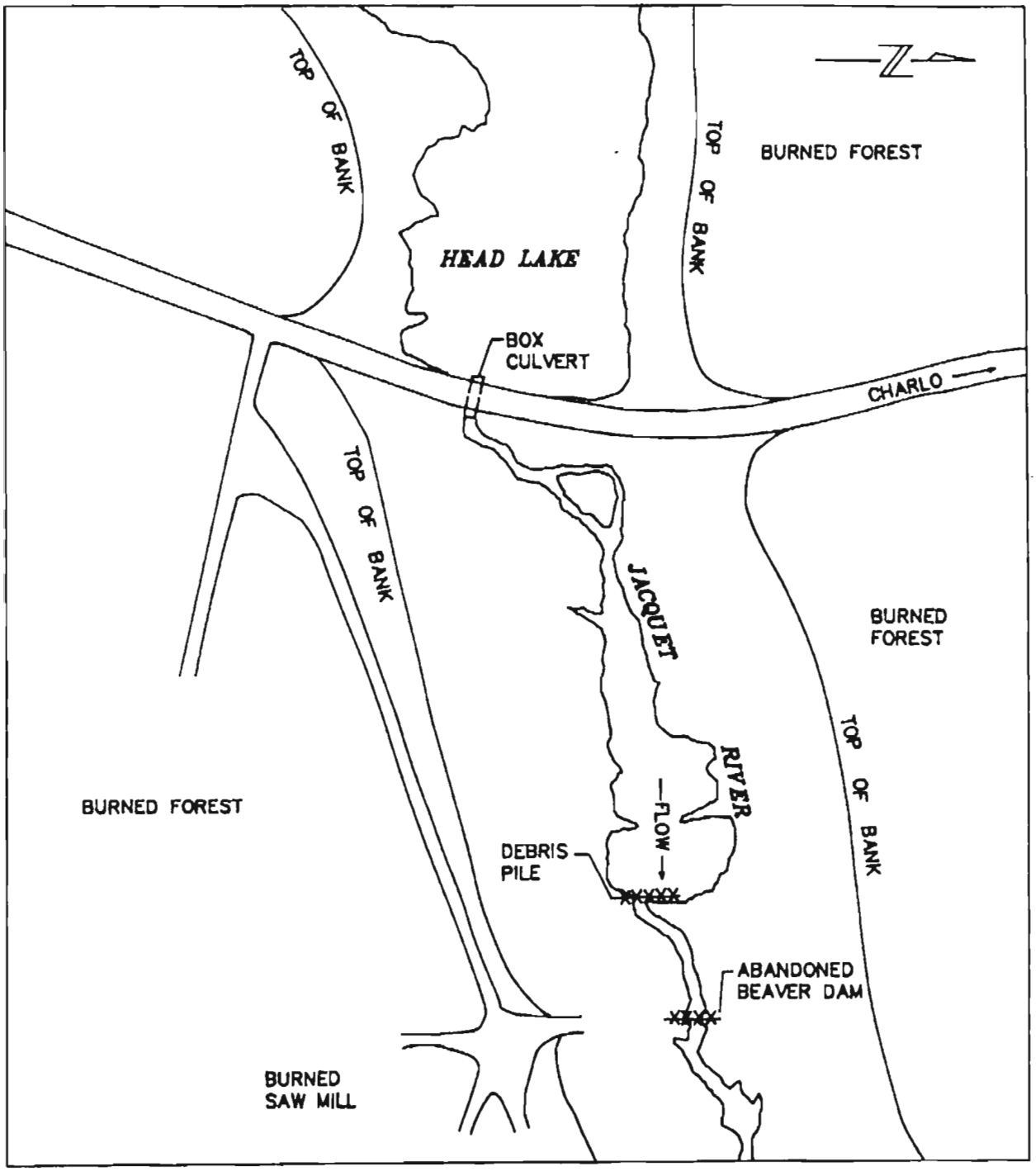
Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	3.54	96.46	Bank Full Assumed
0.0	3.65	96.35	Top/Edge Water
0.1	3.80	96.20	
0.5	3.81	96.19	
1.0	3.88	96.12	
1.5	3.86	96.14	
2.0	3.82	96.18	
2.5	3.72	96.28	
3.0	3.72	96.28	
3.5	3.68	96.32	Top/Edge Water
4.0	3.54	96.46	Bank Full Assumed

TABLE 1.43 Water Velocity and Unit Discharge
SITE 10, TONGUE LAKE BROOK
August 19, 1984

Station b(m)	Water Depth d(m)	Revolutions Per 30 sec.(2)	Water Velocity V(m/S)	Unit Discharge q(m^3/S)
0.0	0.20	-	-	
0.28	0.24	23.0	0.23	0.016
0.57	0.23	25.0	0.25	0.017
0.86	0.22	24.0	0.24	0.015
1.14	0.18	-	-	

$Q = \Sigma q = 0.05\ m^3/S$
(2) = Pygmy Wheel

FIG. 1.19 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 11, HEAD LAKE, AUGUST 21,1984



LEGEND

- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 10 20 30 m (APPROX.)
TOPOGRAPHIC MAP 21-O/9
MILITARY GRID 926 809

TABLE 1.44 General Site Observations and Remarks
SITE 11, HEAD LAKE, August 21, 1984

Physical Characteristics	Description
Time	1230
Weather	sunny, sóme cloud
Air temperature (°C)	21
Electroseining conditions	difficult-heavy cover, soft bottom
Instream cover	undercut bank, rock, logs
Bottom	unstable
Bottom type (visual est.,%)	gravel/marl/muck/ detritus
Features (estimate,%)	riffle/impoundment
Aquatic vegetation	submergent - eel grass
Stream cover	dense alder cover below small flowage, partly open in beaver flowage
Banks	stable
Shoreline vegetation	alder
Surrounding terrain	burned forest
Pollution sources	none identified
Resource utilization	unknown
Order stream	1
Photographic record	FHD-84-8-NB-107 to 119
General	lake sampled by gill netting heavy logging road use

FIG. 1.20 STREAM CROSS-SECTION, SITE 11, HEAD LAKE
AUGUST 21,1984

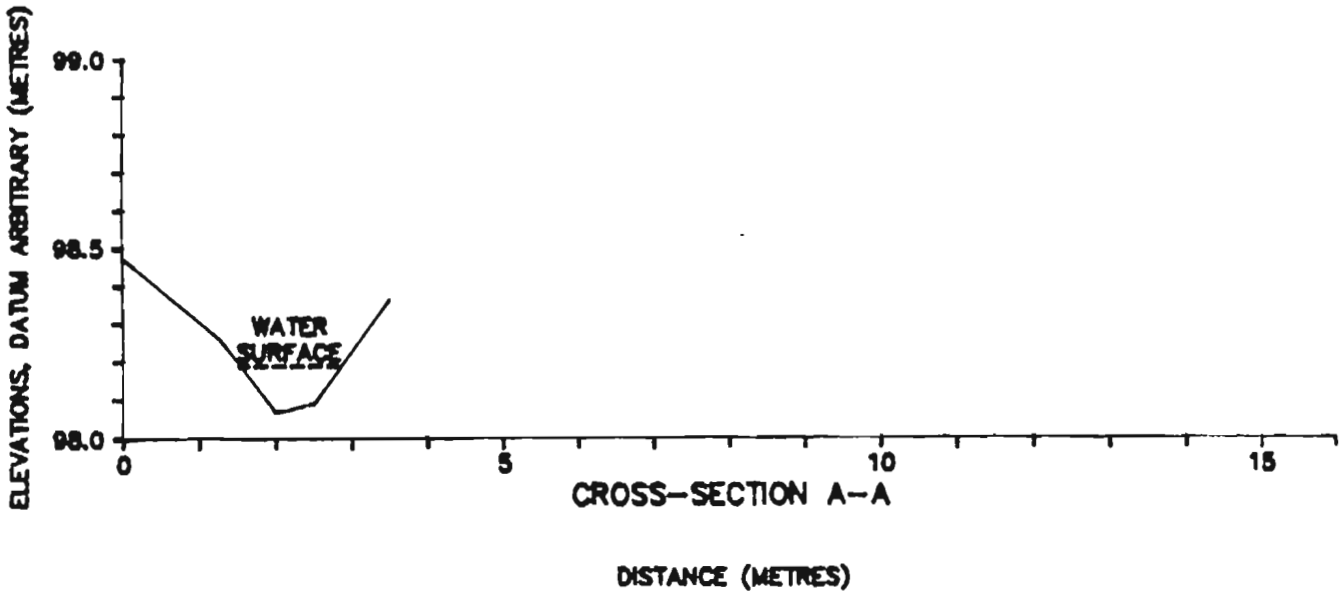


TABLE 1.45 Cross-Sectional Measurements, Transect A-A
SITE 11, HEAD LAKE, August 21, 1984

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	1.53	98.47	Bank Full Assumed
0.5	1.61	98.39	
1.0	1.70	98.30	
1.3	1.75	98.25	Top/Edge Water
1.5	1.80	98.20	
2.0	1.94	98.06	
2.5	1.92	98.08	
3.0	1.87	98.13	Top/Edge Water
3.5	1.64	98.36	Bank Full Assumed

Slope of Site: 0.71%

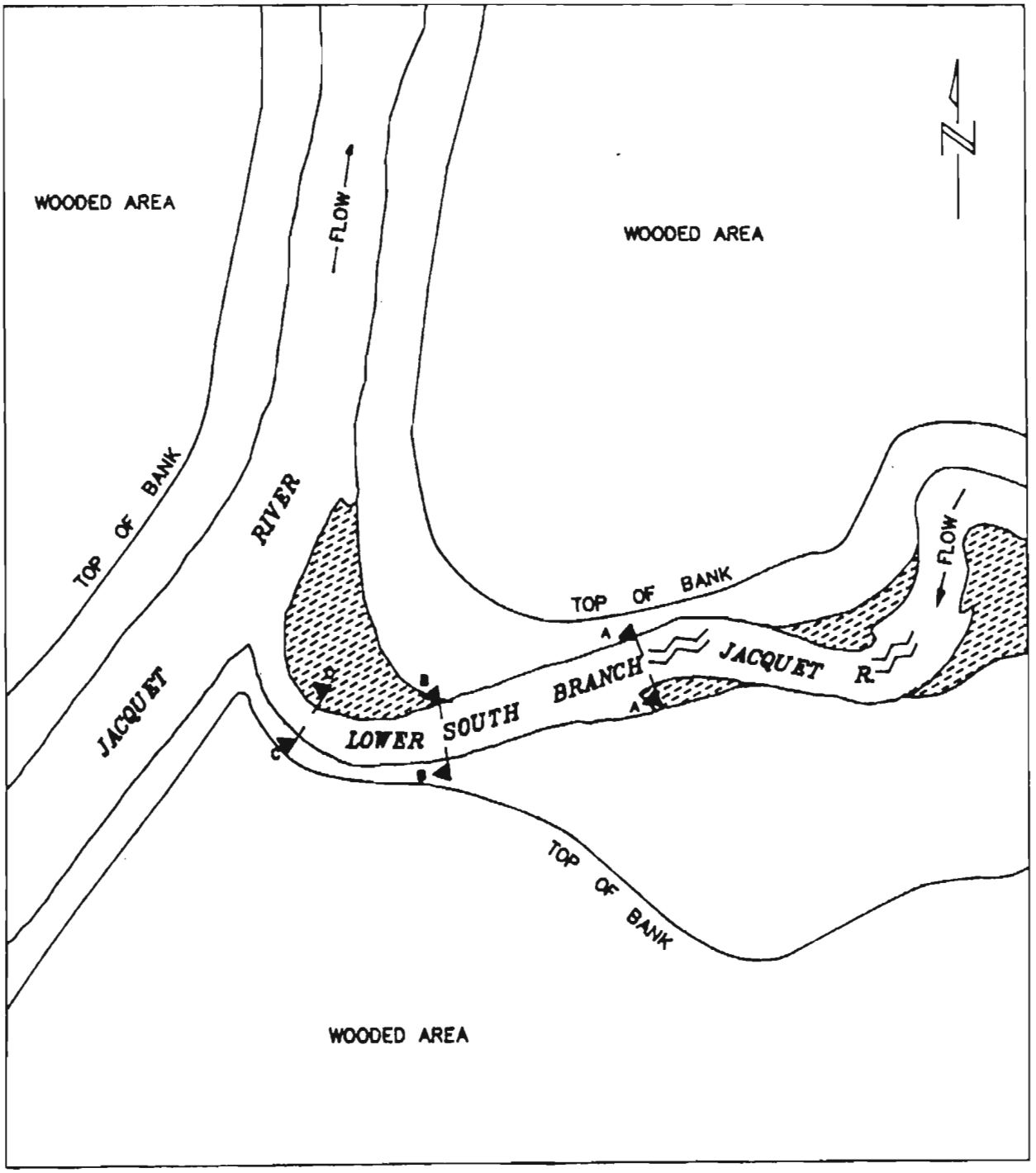
Drainage Area Tributary to Site: 1.4 Km^2

TABLE 1.46 Water Velocity and Unit Discharge
SITE 11, HEAD LAKE, August 21, 1984

Station b(m)	Water Depth d(m)	Revolutions Per 30 sec.(2)	Water Velocity V(m/S)	Unit Discharge q(m^3/S)
0.0	0.11	-	-	-
0.20	0.10	17.0	0.17	0.003
0.40	0.09	23.0	0.23	0.004
0.60	0.09	18.0	0.18	0.003
0.85	0.05	-	-	-

$Q = \Sigma q = 0.01\ m^3/S$
(2) Pygmy Wheel

FIG. 1.21 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 12, LOWER SOUTH BRANCH JACQUET RIVER, AUGUST 22,1984



LEGEND

- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 10 20 m (APPROX.)
TOPOGRAPHIC MAP 21-O/16
MILITARY GRID 179 989

TABLE 1.47 General Site Observations and Remarks
SITE 12, LOWER SOUTH BRANCH JACQUET RIVER
August 22, 1984

Physical Characteristics	Description
Time	1200 - 1630
Weather	cloudy
Air temperature (°C)	24
Electroseining conditions	not noted
Instream cover	undercut banks, rocks, logs
Bottom	stable
Bottom type (visual est.,%)	boulder/cobble/gravel/ sand - 5/30/60/5
Features (estimate,%)	riffle/pool - 80/20
Aquatic vegetation	sparse
Stream cover	open
Banks	stable
Shoreline vegetation	riparian grasses, young hardwood
Surrounding terrain	upland hardwood - aspen, poplar upland conifer - spruce
Pollution sources	none identified
Resource utilization	unknown
Order stream	4
Photographic record	FHD 84-8-NB-120 to 133
General	

FIG. 1.22 STREAM CROSS-SECTIONS, SITE 12, LOWER SOUTH BRANCH JACQUET RIVER, AUGUST 22,1984

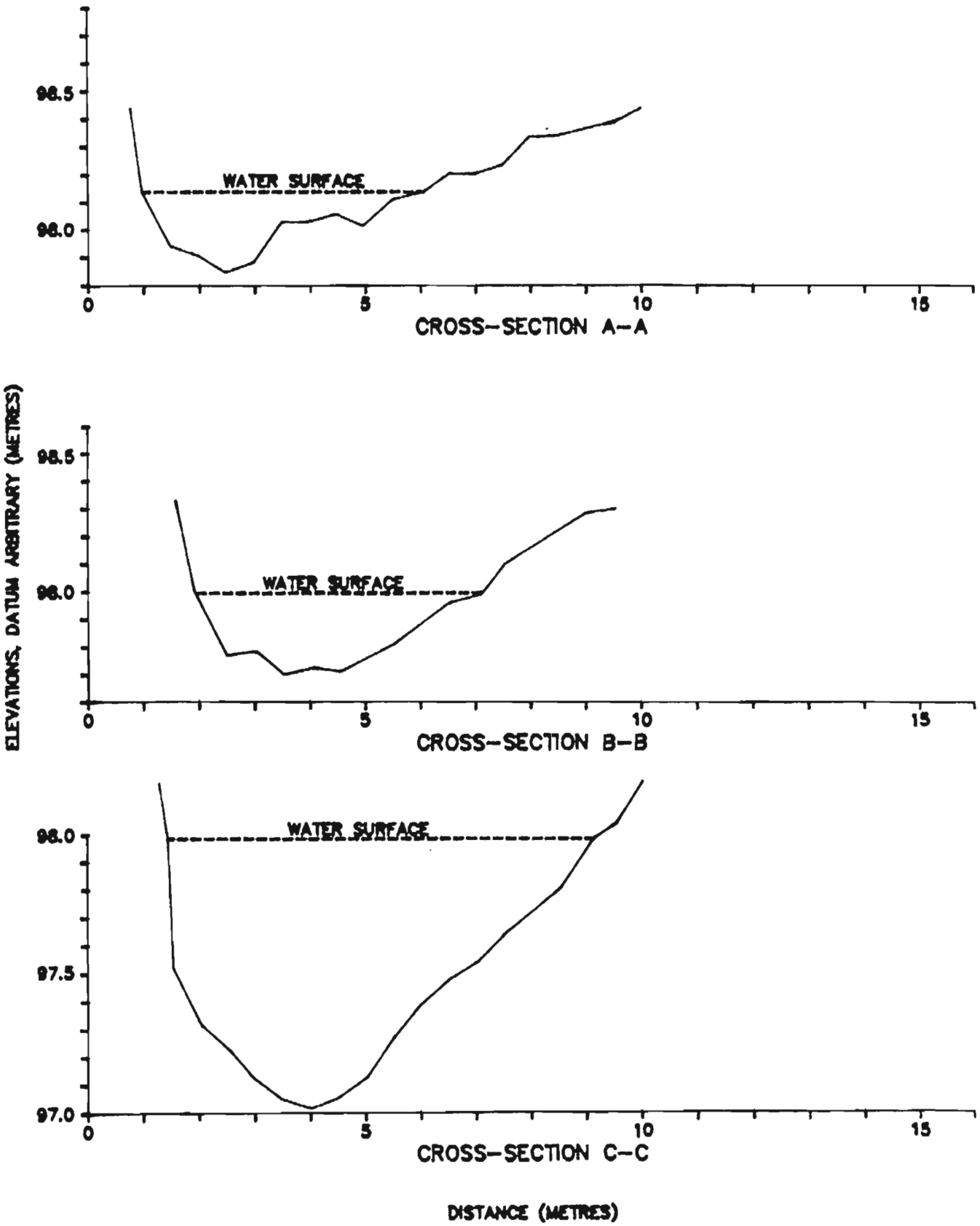


TABLE 1.48 Cross-Sectional Measurements, Transect A-A
SITE 12, LOWER SOUTH BRANCH JACQUET RIVER
August 22, 1984
(55m Above Lower Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.8	1.57	98.43	Bank Full Assumed
1.0	1.86	98.14	Top/Edge Water
1.5	2.06	97.94	
2.0	2.10	97.90	
2.5	2.16	97.84	
3.0	2.12	97.88	
3.5	1.98	98.02	
4.0	1.98	98.02	
4.5	1.95	98.05	
5.0	1.99	98.01	
5.5	1.90	98.10	
6.1	1.87	98.13	Top/Edge Water
6.5	1.80	98.20	
7.0	1.80	98.20	
7.5	1.76	98.24	
8.0	1.67	98.33	
8.5	1.66	98.34	
9.0	1.64	98.36	
9.5	1.61	98.39	
10.0	1.56	98.44	Bank Full Assumed

Slope of Site: 0.64%
Drainage Area Tributary to Site: 91.7 Km^2

TABLE 1.49 Cross-Sectional Measurements, Transect B-B
SITE 12, LOWER SOUTH BRANCH JACQUET RIVER
August 22, 1984
(25m Above Lower Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
1.6	1.69	98.31	Bank Full Assumed
1.9	2.01	97.99	Top/Edge Water
2.5	2.24	97.76	
3.0	2.30	97.70	
3.5	2.31	97.69	
4.0	2.29	97.71	
4.5	2.30	97.70	
5.0	2.24	97.76	
5.5	2.20	97.80	
6.0	2.13	97.87	
6.5	2.05	97.95	
7.1	2.02	97.98	Top/Edge Water
7.5	1.92	98.08	
8.0	1.86	98.14	
8.5	1.80	98.20	
9.0	1.73	98.27	
9.5	1.71	98.29	Bank Full Assumed

TABLE 1.50 Cross-Sectional Measurements, Transect C-C
SITE 12, LOWER SOUTH BRANCH JACQUET RIVER
August 22, 1984
(2m Above Lower Electroseining Barrier)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
1.1	1.57	98.43	Bank Full Assumed
1.4	2.01	97.99	Top/Edge Water
1.5	2.48	97.52	
2.0	2.68	97.32	
2.5	2.77	97.23	
3.0	2.89	97.11	
3.5	2.95	97.05	
4.0	2.98	97.02	
4.5	2.94	97.06	
5.0	2.87	97.13	
5.5	2.73	97.27	
6.0	2.61	97.39	
6.5	2.52	97.48	
7.0	2.44	97.54	
7.5	2.36	97.64	
8.0	2.28	97.72	
8.5	2.20	97.80	
9.1	2.02	97.98	Top/Edge Water
9.5	1.96	98.04	
10.0	1.80	98.20	
10.5	1.65	98.35	
11.0	1.52	98.48	Bank Full Assumed

TABLE 1.51 Water Velocity and Unit Discharge
SITE 12, LOWER SOUTH BRANCH JACQUET RIVER
August 22, 1984

Station b(m)	Water Depth d(m)	Revolutions Per 30 sec.(1)	Water Velocity V(m/S)	Unit Discharge $q(m^3/S)$
0.0	0.00	0.0	-	-
0.5	0.15	0.0	-	-
1.0	0.26	12.0	0.272	0.035
1.5	0.31	16.0	0.360	0.056
2.0	0.31	16.0	0.360	0.056
2.5	0.28	14.0	0.316	0.045
3.0	0.28	12.0	0.272	0.038
3.5	0.31	14.0	0.316	0.049
4.0	0.39	15.0	0.338	0.066
4.5	0.36	12.0	0.272	0.049
5.0	0.34	15.0	0.338	0.057
5.5	0.29	14.0	0.316	0.046
6.0	0.26	12.0	0.272	0.035
6.5	0.20	7.0	0.161	0.016
7.0	0.11	5.0	0.117	0.006
7.5	0.07	0.0	-	-
8.0	0.06	0.0	-	-
8.5	0.00	0.0	-	-

$Q = \Sigma q = 0.55\ m^3/S$
(1) Price AA Wheel

TABLE 1.52 Mean Diameter and Ranking of Bed Load Material
SITE 12, LOWER SOUTH BRANCH JACQUET RIVER
August 22, 1984

Sample No.	Axis Measurements (cm) x	y	z	Mean Dimension ϕ (cm)	Rank
1	22	17	08	16	14
2	23	15	12	17	18
3	21	17	10	16	15
4	37	25	16	26	31
5	15	14	05	11	1
6	14	18	10	14	7
7	30	23	16	23	29
8	26	15	05	15	11
9	20	12	10	14	8
10	27	16	12	18	21
11	30	26	09	22	28
12	23	12	05	13	6
13	36	25	16	26	32
14	17	14	10	14	9
15	24	16	05	15	12
16	34	22	17	24	30
17	28	23	10	20	26
18	23	18	09	17	19
19	16	11	07	11	2
20	18	14	11	14	10
21	25	24	12	20	27
22	21	17	08	15	13
23	15	13	06	11	3
24	22	17	10	16	16
25	23	16	09	16	17
26	18	25	09	17	20
27	32	30	23	28	33
28	25	25	08	19	25
29	23	20	12	18	22
30	16	12	05	11	4
31	23	20	10	18	23
32	30	30	30	30	34
33	16	10	07	11	5
34	31	16	07	18	24

FIG. 1.23 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 13, UPPER MCNAIR BROOK, AUGUST 23,1984

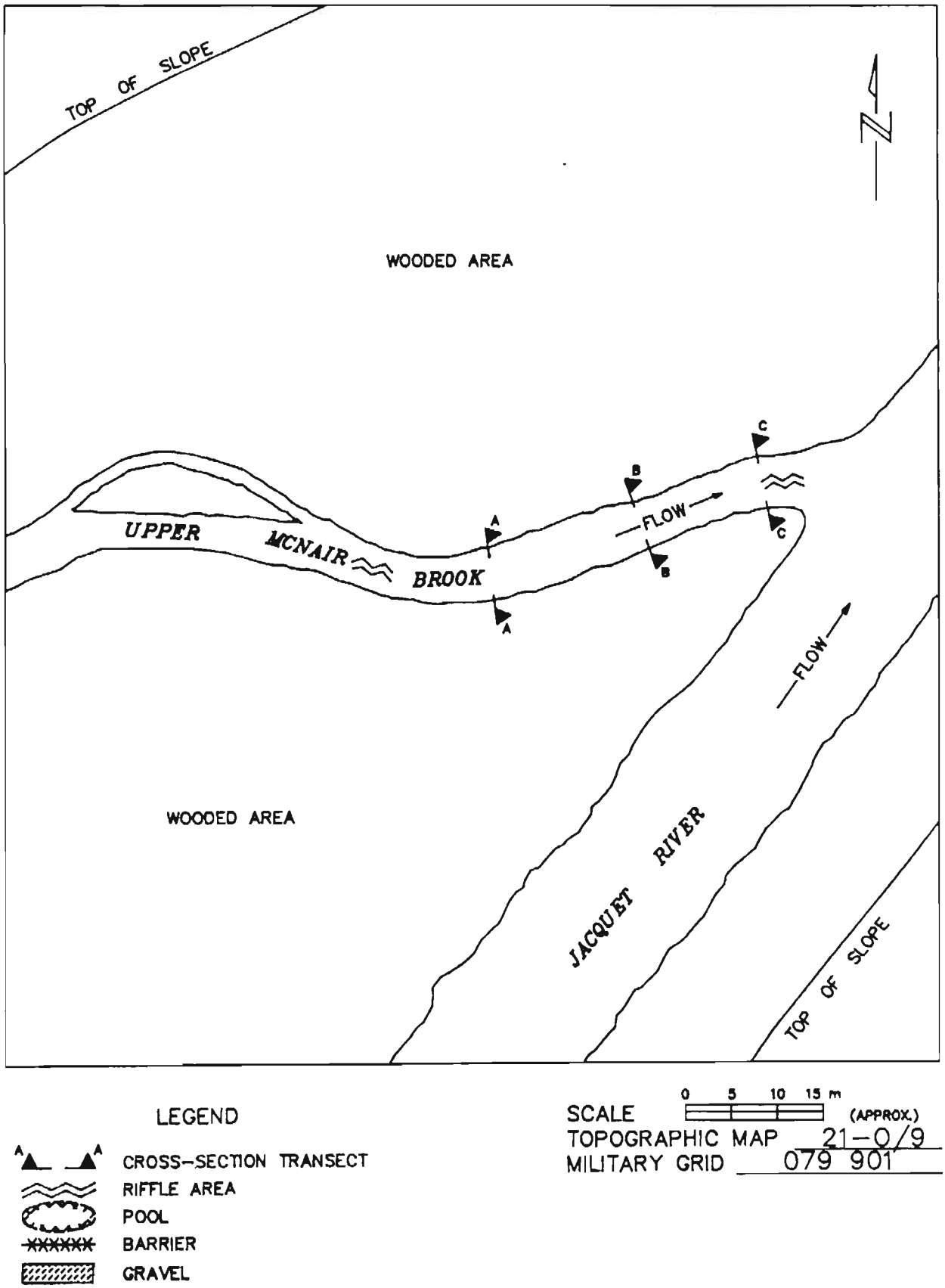


TABLE 1.53 General Site Observations and Remarks
SITE 13, UPPER MCNAIR BROOK, August 23, 1984

Physical Characteristics	Description
Time	0900 - 1200
Weather	overcast
Air temperature (°C)	not noted
Electroseining conditions	good
Instream cover	rocks
Bottom	stable
Bottom type (visual est.,%)	boulder/cobble/gravel - 30/30/40
Features (estimate,%)	riffle/run - 90/10
Aquatic vegetation	not noted
Stream cover	partly open
Banks	stable
Shoreline vegetation	grasses, shrubs, trees
Surrounding terrain	upland hardwood - aspen,balsam poplar
Pollution sources	none identified
Resource utilization	unknown
Order stream	3
Photographic record	FHD-84-8-NB-134 to 158
General	remote access

FIG. 1.24 STREAM CROSS-SECTIONS, SITE 13, UPPER MCNAIR BROOK AUGUST 23,1984

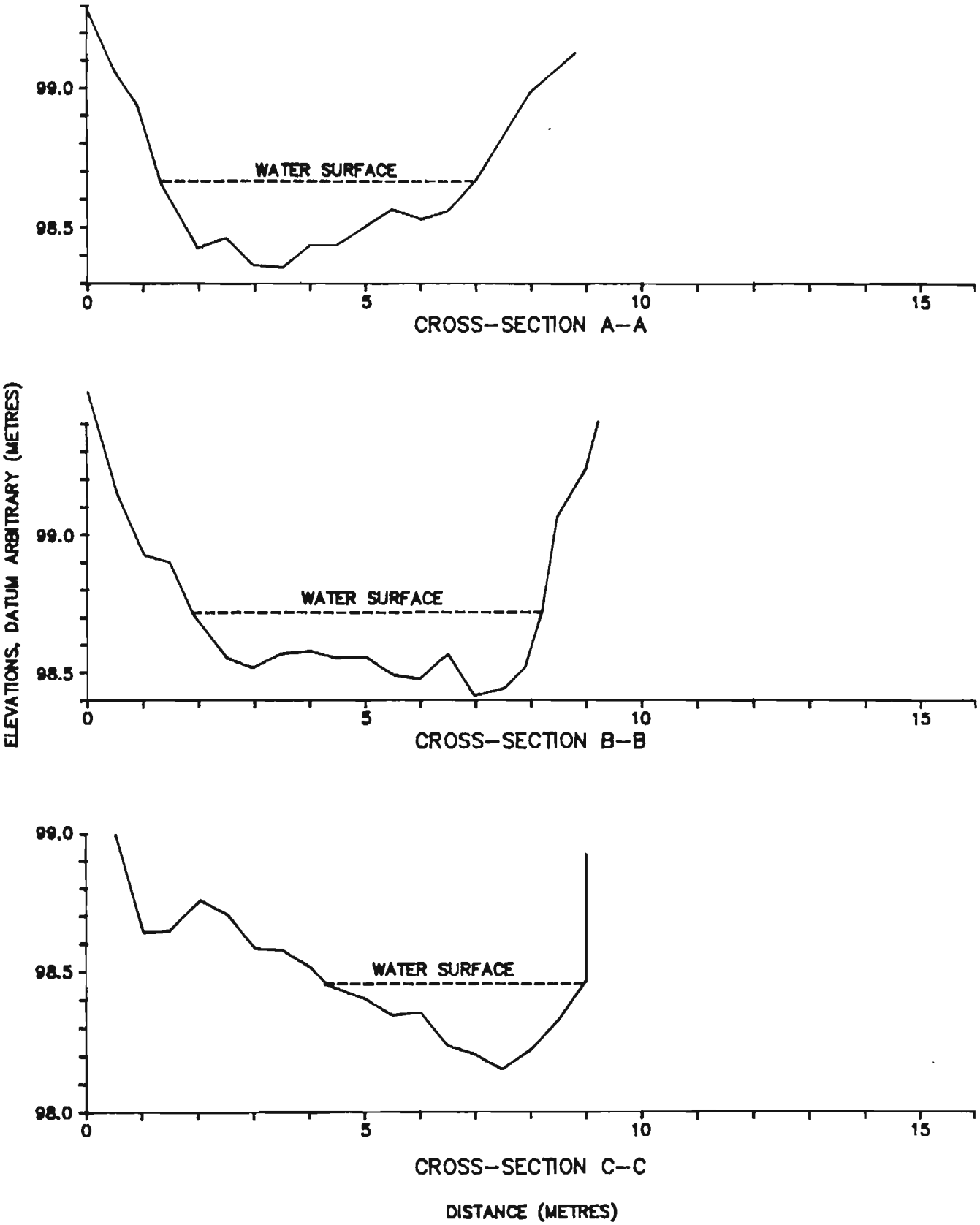


TABLE 1.54 Cross-Sectional Measurements, Transect A-A
SITE 13, UPPER MCNAIR BROOK at JACQUET RIVER
August 23, 1984
(6m Below Upper Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	0.72	99.28	Bank Full Assumed
0.5	0.95	99.05	
0.9	1.07	98.93	
1.3	1.35	98.65	Top/Edge Water
2.0	1.58	98.42	
2.5	1.54	98.46	
3.0	1.64	98.36	
3.5	1.65	98.35	
4.0	1.57	98.43	
4.5	1.57	98.43	
5.0	1.51	98.49	
5.5	1.44	98.56	
6.0	1.48	98.52	
6.5	1.45	98.55	
7.0	1.34	98.66	Top/Edge Water
7.5	1.19	98.81	
8.0	1.02	98.98	
8.5	0.93	99.07	
8.8	0.88	99.12	Bank Full Assumed

Slope of Site: 1%
Drainage Area Tributary to Site: 53.8 Km^2

TABLE 1.55 Cross-Sectional Measurements, Transect B-B
SITE 13, UPPER MCNAIR BROOK at JACQUET RIVER
August 23, 1984
(10m Above Lower Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	0.50	99.50	Bank Full Assumed
0.5	0.86	99.14	
1.0	1.09	98.91	
1.5	1.20	98.80	
1.9	1.29	98.71	Top/Edge Water
2.5	1.46	98.54	
3.0	1.50	98.50	
3.5	1.45	98.55	
4.0	1.44	98.56	
4.5	1.46	98.54	
5.0	1.46	98.54	
5.5	1.52	98.48	
6.0	1.54	98.46	
6.5	1.55	98.55	
7.0	1.60	98.40	
7.5	1.58	98.42	
7.9	1.50	98.50	
8.2	1.30	98.70	Top/Edge Water
8.5	0.95	99.05	
9.0	0.78	99.22	
9.2	0.61	99.39	Bank Full Assumed

TABLE 1.56 Cross-Sectional Measurements, Transect C-C
SITE 13, UPPER MCNAIR BROOK at JACQUET RIVER
August 23, 1984
(4m Below Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.5	1.01	98.99	Bank Full Assumed
1.0	1.36	98.64	
1.5	1.36	98.64	
2.0	1.25	98.75	
2.5	1.30	98.70	
3.0	1.42	98.58	
3.5	1.43	98.57	
4.0	1.49	98.51	
4.3	1.55	98.45	Top/Edge Water
5.0	1.60	98.40	
5.5	1.66	98.34	
6.0	1.65	98.35	
6.5	1.76	98.24	
7.0	1.80	98.20	
7.5	1.85	98.15	
8.0	1.78	98.22	
8.5	1.67	98.33	
9.0	1.53	98.47	Top/Edge Water
9.0	1.08	98.92	Bank Full Assumed

TABLE 1.57 Water Velocity and Unit Discharge
SITE 13, UPPER MCNAIR BROOK at JACQUET RIVER
August 23, 1984

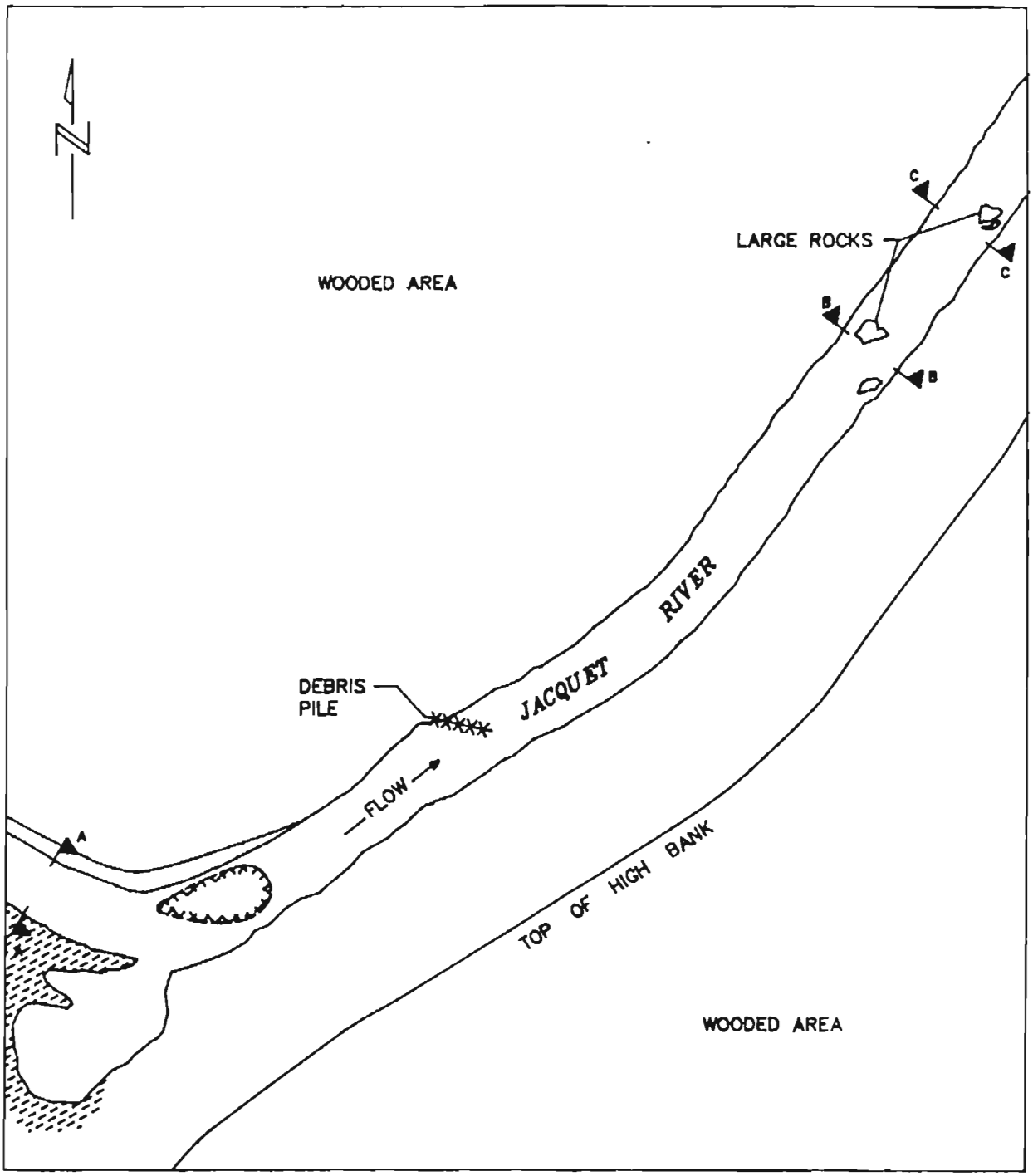
Station b(m)	Water Depth d(m)	Revolutions Per 30 sec.(2)	Water Velocity V(m/S)	Unit Discharge $q(m^3/S)$
0.00	0.20	-	-	
0.20	0.30	32*	0.320	0.29
0.60	0.33	65	0.650	0.75
0.90	0.33	50	0.500	0.49
1.20	0.30	70	0.700	0.63
1.50	0.30	35*	0.350	0.31
1.80	0.20	-	-	

$Q = \Sigma q = 0.25\ m^3/S$
(2) Pygmy Wheel
* Estimated

TABLE 1.58 Mean Diameter and Ranking of Bed Load Material
SITE 13, UPPER MCNAIR BROOK AT JACQUET RIVER
August 23, 1984

Sample No.	Axis Measurements (cm) x	y	z	Mean Dimension ϕ (cm)	Rank
1	45	20	14	26	29
2	18	16	10	15	7
3	20	28	14	21	22
4	18	13	09	13	3
5	28	13	11	17	11
6	30	20	13	21	23
7	29	19	11	20	20
8	20	22	10	17	12
9	25	18	06	16	9
10	16	20	16	17	13
11	37	27	17	27	31
12	26	18	08	17	14
13	24	13	05	14	6
14	24	30	20	25	27
15	24	32	12	23	25
16	20	16	09	15	8
17	20	27	06	18	17
18	18	27	05	17	15
19	35	24	22	20	21
20	44	12	10	22	24
21	30	45	20	32	33
22	30	23	15	23	26
23	39	15	20	25	28
24	13	22	12	16	10
25	34	18	16	12	1
26	39	28	19	29	32
27	39	18	20	26	30
28	25	17	12	18	18
29	30	16	10	19	19
30	17	14	08	13	4
31	22	11	04	12	2
32	15	16	07	13	5
33	25	15	12	17	16

FIG. 1.25 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 14, JACQUET RIVER, AUGUST 23,1984



LEGEND

- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 10 20 m (APPROX.)
TOPOGRAPHIC MAP 21-O/9
MILITARY GRID 079 900

TABLE 1.59 General Site Observations and Remarks
SITE 14, JACQUET RIVER, August 23, 1984

Physical Characteristics	Description
Time	1300 -1600
Weather	overcast, light rain
Air temperature (°C)	not noted
Electroseining conditions	good
Instream cover	some large rock, bedrock covered by vegetation
Bottom	stable
Bottom type (visual est.,%)	boulder/cobble/gravel/ sand - 20/30/40/10
Features (estimate,%)	riffle/run - 80/20
Aquatic vegetation	present
Stream cover	open, some shading along banks
Banks	stable
Shoreline vegetation	sparse grass, shrubs and trees
Surrounding terrain	upland hardwood upland conifer - fir, spruce, cedar
Pollution sources	none identified
Resource utilization	unknown
Order stream	4
Photographic record	FHD-84-8-NB-141 to 158
General	stream size anomaly noted

FIG. 1.26 STREAM CROSS-SECTIONS, SITE 14, JACQUET RIVER AUGUST 23,1984

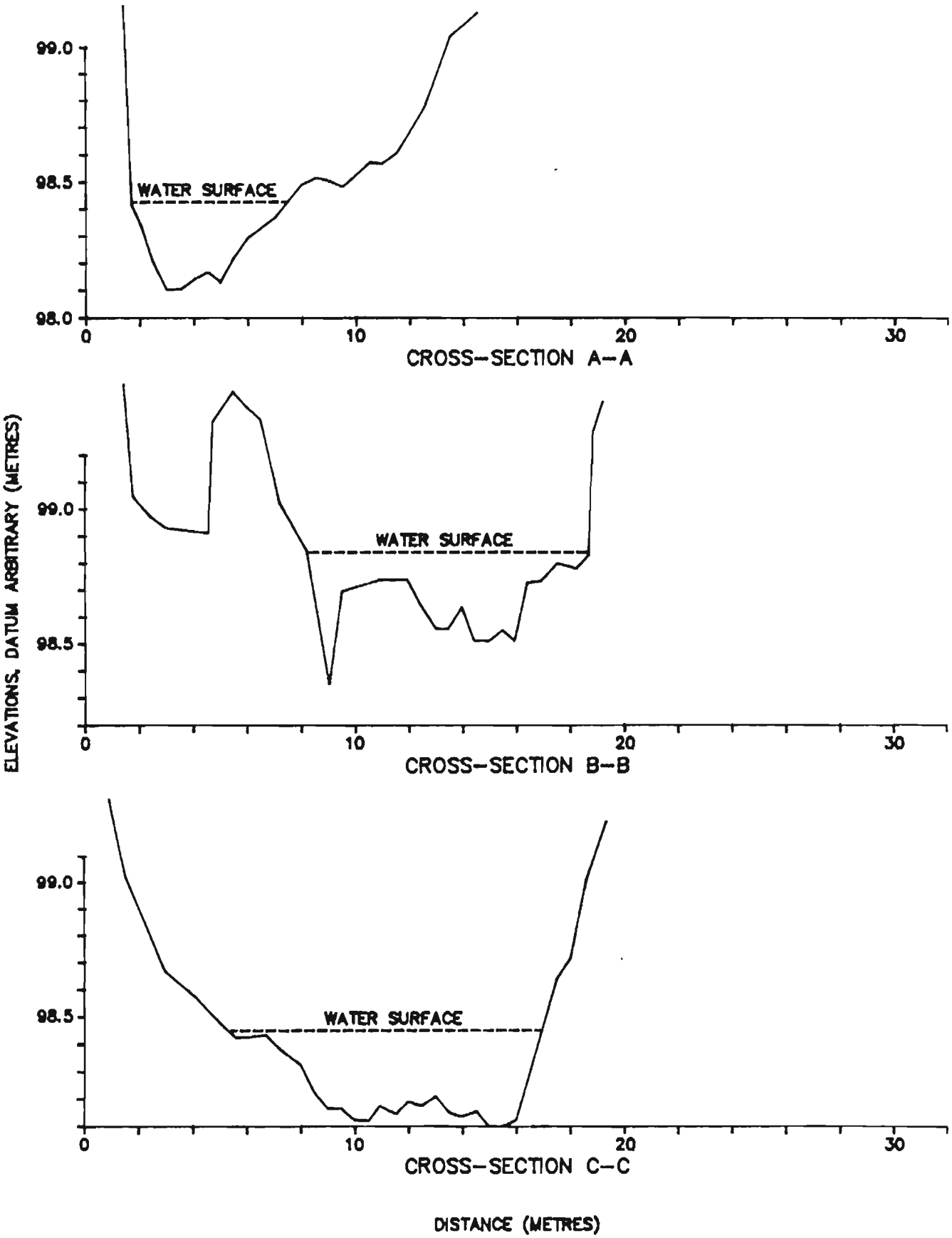


TABLE 1.60 Cross-Sectional Measurements, Transect A-A
SITE 14, JACQUET RIVER, August 23, 1984
(300m Above Upper Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
1.4	0.85	99.15	Bank Full Assumed
1.7	1.58	98.42	Top/Edge Water
2.0	1.66	98.34	
2.5	1.80	98.20	
3.0	1.90	98.10	
3.5	1.90	98.10	
4.0	1.86	98.14	
4.5	1.84	98.16	
5.0	1.87	98.13	
5.5	1.78	98.22	
6.0	1.71	98.29	
6.5	1.67	98.33	
7.0	1.63	98.37	
7.5	1.57	98.43	Top/Edge Water
8.0	1.51	98.49	
8.5	1.49	98.51	
9.0	1.50	98.50	
9.5	1.52	98.48	
10.0	1.48	98.52	
10.5	1.43	98.57	
11.0	1.43	98.57	
11.5	1.39	98.61	
12.5	1.24	98.76	
13.5	0.96	99.04	
14.5	0.87	99.13	Bank Full Assumed

Slope of Site: 0.8%
Drainage Area Tributary to Site: 93.7 Km^2

TABLE 1.61 Cross-Sectional Measurements, Transect B-B
SITE 14, JACQUET RIVER, August 23, 1984
(1m Below Lower Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
1.4	0.55	99.45	Bank Full Assumed
1.9	0.96	99.04	
2.5	1.04	98.96	
3.0	1.07	98.93	
4.6	1.10	98.90	
4.8	0.68	99.32	Top of Bank
5.5	0.58	99.42	
6.0	0.63	99.37	
6.5	0.68	99.32	
7.2	0.98	99.02	
8.2	1.16	98.84	Top/Edge Water
9.0	1.27	98.33	
9.5	1.31	98.69	
10.0	1.30	98.70	
10.5	1.29	98.71	
11.0	1.27	98.73	
11.5	1.27	98.73	
12.0	1.27	98.73	
12.5	1.37	98.63	
13.0	1.45	98.55	
13.5	1.46	98.54	
14.0	1.37	98.63	
14.5	1.50	98.50	
15.0	1.50	98.50	
15.5	1.46	98.54	
16.0	1.50	98.50	
16.5	1.28	98.72	
17.0	1.28	98.72	
17.5	1.21	98.79	
18.2	1.24	98.76	
18.7	1.18	98.82	Top/Edge Water
18.9	0.72	99.28	
19.2	0.61	99.39	Bank Full Assumed

TABLE 1.62 Cross-Sectional Measurements, Transect C-C
SITE 14, JACQUET RIVER, August 23, 1984
(25m Below Lower Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.9	0.68	99.32	Bank Full Assumed
1.5	0.98	99.02	
3.0	1.33	98.67	
4.0	1.42	98.58	
5.0	1.51	98.49	
5.6	1.57	98.43	Top/Edge Water
6.1	1.57	98.43	
6.7	1.56	98.44	
7.2	1.61	98.39	
8.0	1.68	98.32	
8.5	1.77	98.23	
9.0	1.83	98.17	
9.5	1.83	98.17	
10.0	1.87	98.13	
10.5	1.87	98.13	
11.0	1.82	98.18	
11.5	1.85	98.15	
12.0	1.81	98.19	
12.5	1.82	98.18	
13.0	1.79	98.21	
13.5	1.84	98.16	
14.0	1.86	98.14	
14.5	1.84	98.16	
15.0	1.90	98.10	
15.5	1.90	98.10	
16.0	1.80	98.20	
16.9	1.55	98.45	Top/Edge Water
17.5	1.36	98.64	
18.0	1.28	98.72	
18.6	0.99	99.01	
19.3	0.76	99.24	Bank Full Assumed

TABLE 1.63 Water Velocity and Unit Discharge
SITE 14, JACQUET RIVER, August 23, 1984

Velocity 1, Above Bend

Station b(m)	Water Depth d(m)	Revolutions Per 30 sec.(2)	Water Velocity V(m/S)	Unit Discharge q(m^3/S)
0.00	0.00	-	-	-
1.00	0.27	48.0	0.480	0.129
2.00	0.33	50.0	0.500	0.165
3.00	0.34	54.0	0.540	0.161
3.75	0.00	-	-	-

$Q = \Sigma q = 0.45\ m^3/S$
(2) Pygmy Wheel

TABLE 1.64 Water Velocity and Unit Discharge
SITE 14, JACQUET RIVER, August 23, 1984

Velocity 2, Immediately Above Confluence with Upper McNair Brook

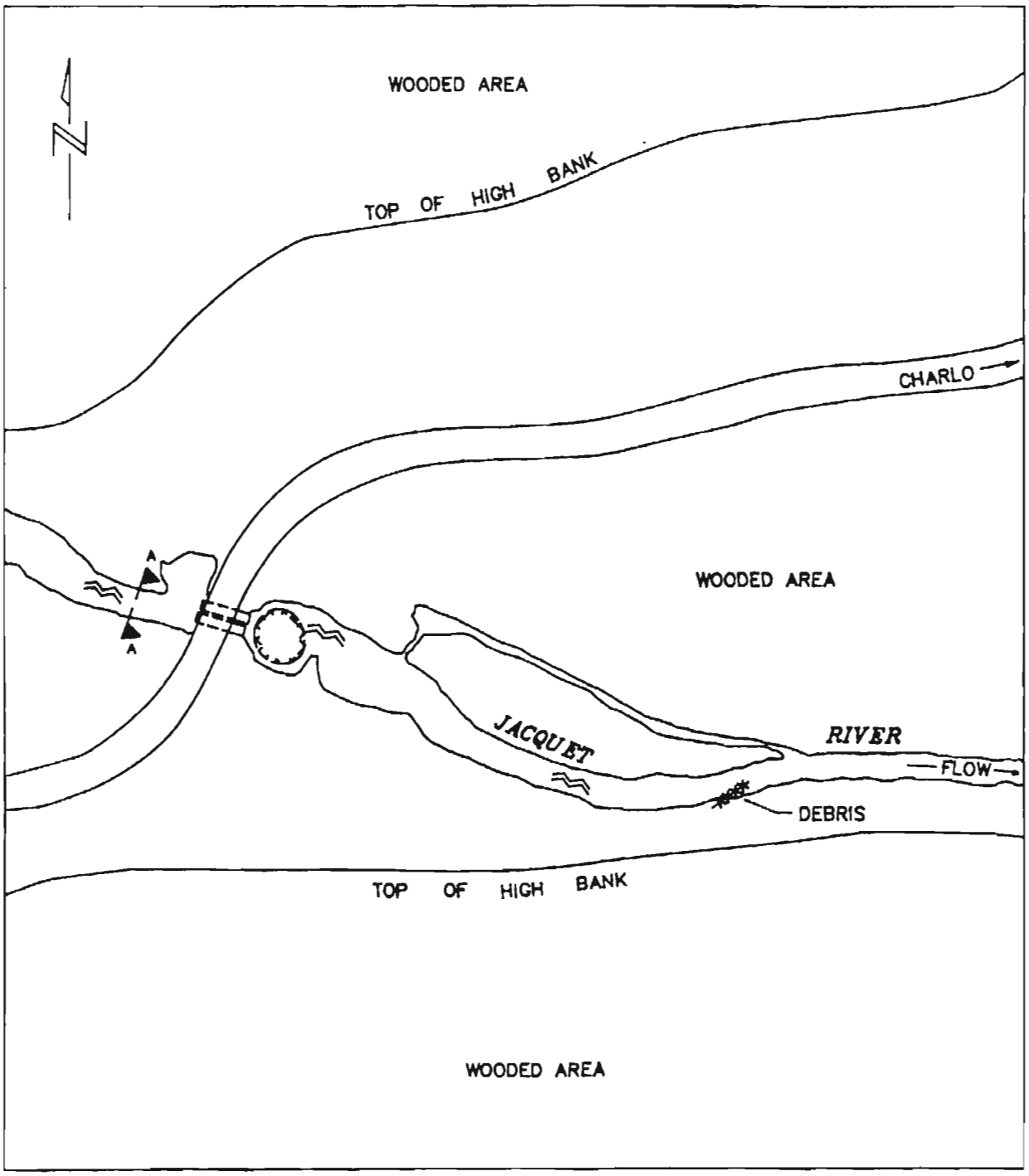
Station b(m)	Water Depth d(m)	Revolutions Per 30 sec.(2)	Water Velocity V(m/S)	Unit Discharge q(m^3/S)
0.0	0.00	-	-	-
5.2	0.10	-	-	-
6.5	0.30	18.0	0.180	0.075
8.0	0.30	22.0	0.220	0.099
9.5	0.28	19.0	0.190	0.079
11.0	0.40	25.0	0.250	0.125
12.0	0.50	27.0	0.270	0.155
13.3	0.40	15.0	0.150	0.072
14.4	0.30	-	-	-
15.0	0.00	-	-	-

$Q = \Sigma q = 0.60\ m^3/S$
(2) Pygmy Wheel

TABLE 1.65 Mean Diameter and Ranking of Bed Load Material
SITE 14, JACQUET RIVER, August 23, 1984

Sample No.	Axis Measurements (cm) x	y	z	Mean Dimension ϕ (cm)	Rank
1	8	17	10	12	2
2	29	22	15	22	15
3	24	11	10	15	6
4	45	23	26	31	17
5	23	14	13	17	12
6	55	34	15	34	19
7	22	13	07	14	3
8	21	16	10	16	9
9	50	30	30	37	20
10	36	36	20	31	18
11	48	37	30	38	21
12	24	15	05	15	7
13	18	13	03	11	1
14	24	19	05	16	10
15	30	20	10	20	14
16	60	48	20	43	22
17	25	15	10	17	13
18	27	14	05	15	8
19	16	16	11	14	4
20	39	26	25	30	16
21	17	14	10	14	5
22	23	16	10	16	11

FIG. 1.27 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 15, JACQUET RIVER, AUGUST 25,1984



LEGEND

- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 10 20 m (APPROX.)
TOPOGRAPHIC MAP 21-O/9
MILITARY GRID 976 827

TABLE 1.66 General Site Observations and Remarks
SITE 15, JACQUET RIVER, August 25, 1984

Physical Characteristics	Description
Time	1100 - 1430
Weather	clear, sunny
Air temperature (°C)	24
Electroseining conditions	good
Instream cover	heavy alder growth, logs
Bottom	stable
Bottom type (visual est.,%)	boulder/cobble/gravel/sand/ silt - 5/20/70/3/2
Features (estimate,%)	riffle/run - 80/20
Aquatic vegetation	dense instream vegetation
Stream cover	dense alder cover - balsam fir canopy
Banks	stable
Shoreline vegetation	riparian grass, ferns, plants, heavy alder
Surrounding terrain	predominantly balsam fir
Pollution sources	none identified
Resource utilization	unknown
Order stream	3
Photographic record	FHD-84-8-NB-159-178
General	logging activity

FIG. 1.28 STREAM CROSS-SECTION, SITE 15, JACQUET RIVER AUGUST 25,1984

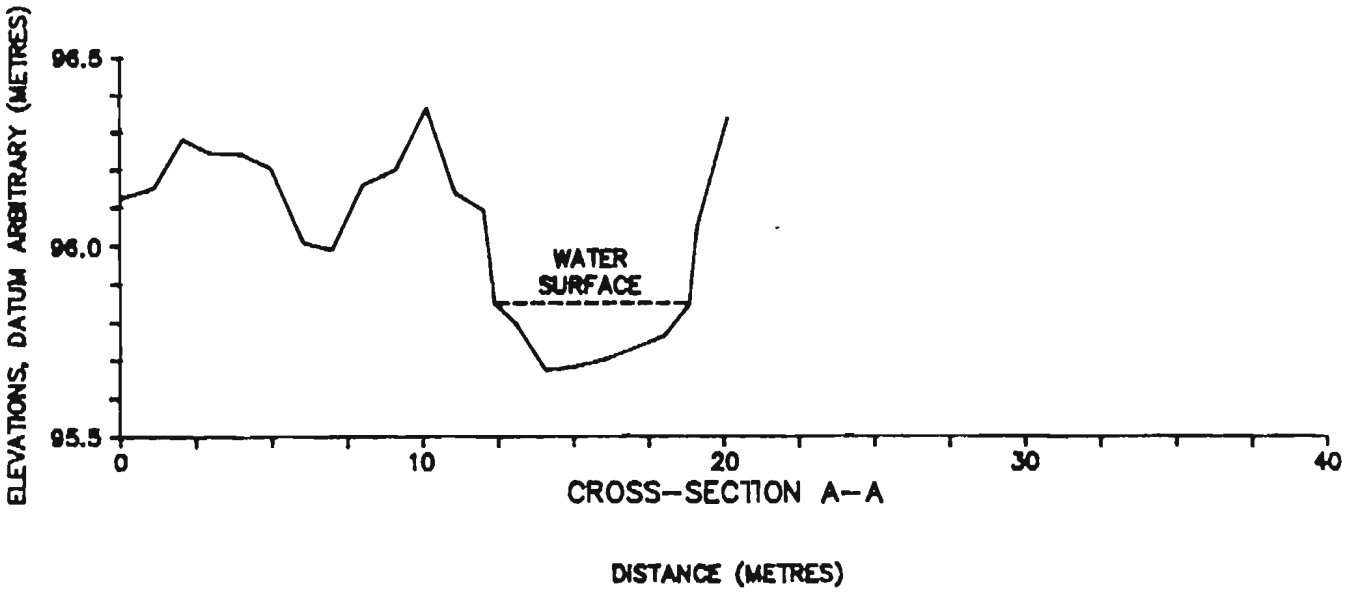


TABLE 1.67 Cross-Sectional Measurements, Transect A-A
SITE 15, JACQUET RIVER, August 25, 1984

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	3.87	96.13	
1.0	3.85	96.15	
2.0	3.72	96.28	
3.0	3.75	96.25	
4.0	3.76	96.24	
5.0	3.80	96.20	
6.0	3.99	96.01	
7.0	4.01	95.99	
8.0	3.84	96.16	
9.0	3.80	96.20	
10.0	3.63	96.37	
11.0	3.86	96.14	
12.0	3.91	96.09	
12.3	4.15	95.85	Top/Edge Water
13.0	4.20	95.80	
14.0	4.32	95.68	
15.0	4.32	95.68	
16.0	4.30	95.70	
17.0	4.27	95.73	
18.0	4.24	95.76	
18.7	4.15	95.85	Top/Edge Water
19.0	3.96	96.04	
20.0	3.66	96.34	Bank Full Assumed

TABLE 1.68 Water Velocity and Unit Discharge
SITE 15, JACQUET RIVER, August 25, 1984

Culvert 1

Station b(m)	Water Depth d(m)	Revolutions per 30 sec.(2)	Water Velocity V(M/S)	Unit Discharge q(m^3/S)
0.00	0.00	-	-	-
0.51	0.27	21.0	0.210	0.019
0.77	0.29	17.0	0.170	0.012
1.03	0.27	13.0	0.130	0.011
1.54	0.00	-	-	-

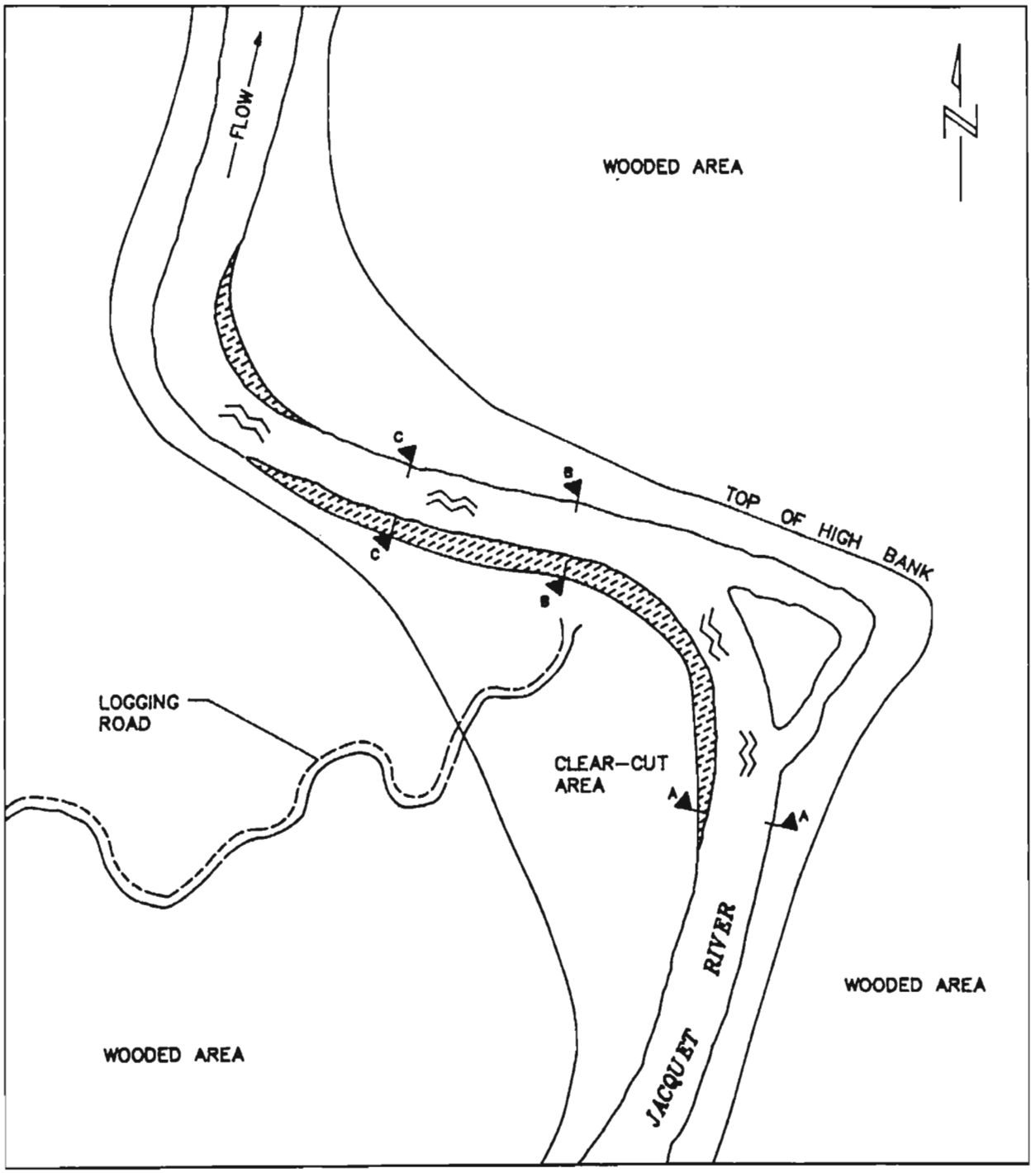
$Q_1 = \Sigma q = 0.04\ m^3/S$
(2) Pygmy Wheel

Culvert 2

Station b(m)	Water Depth d(m)	Revolutions per 30 sec.(2)	Water Velocity V(M/S)	Unit Discharge q(m^3/S)
0.0	0.00	-	-	-
0.58	0.36	28.0	0.28	0.056
0.87	0.41	33.0	0.33	0.038
1.16	0.36	21.0	0.21	0.042
1.74	0.00	-	-	-

$Q_1 = \Sigma q_1 = 0.04\ m^3/S$
$Q_2 = \Sigma q_2 = 0.14\ m^3/S$
$Q = Q_1 + Q_2 = 0.18\ m^3/S$
(2) Pygmy Wheel

FIG. 1.29 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 16, JACQUET RIVER, AUGUST 26,1984



LEGEND

- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 20 40 m (APPROX.)
TOPOGRAPHIC MAP 21-O/16
MILITARY GRID 226 057

TABLE 1.69 General Site Observations and Remarks
SITE 16, JACQUET RIVER, August 26, 1984

Physical Characteristics	Description
Time	1230
Weather	sunny, some cloud
Air temperature (°C)	25
Electroseining conditions	good
Instream cover	rocks
Bottom	stable
Bottom type (visual est.,%)	boulder/cobble/gravel - 20/50/30
Features (estimate,%)	riffle 100
Aquatic vegetation	very sparse, submergent
Stream cover	open
Banks	stable
Shoreline vegetation	riparian grasses, alder, small shrubs
Surrounding terrain	upland hardwood - elm, poplar, birch upland conifer - cedar, fir, spruce, pine
Pollution sources	none identified
Resource utilization	unknown
Order stream	5
Photographic record	FHD-84-8-NB-179 to 200
General	logging activity

FIG. 1.30 STREAM CROSS-SECTIONS, SITE 16, JACQUET RIVER AUGUST 26,1984

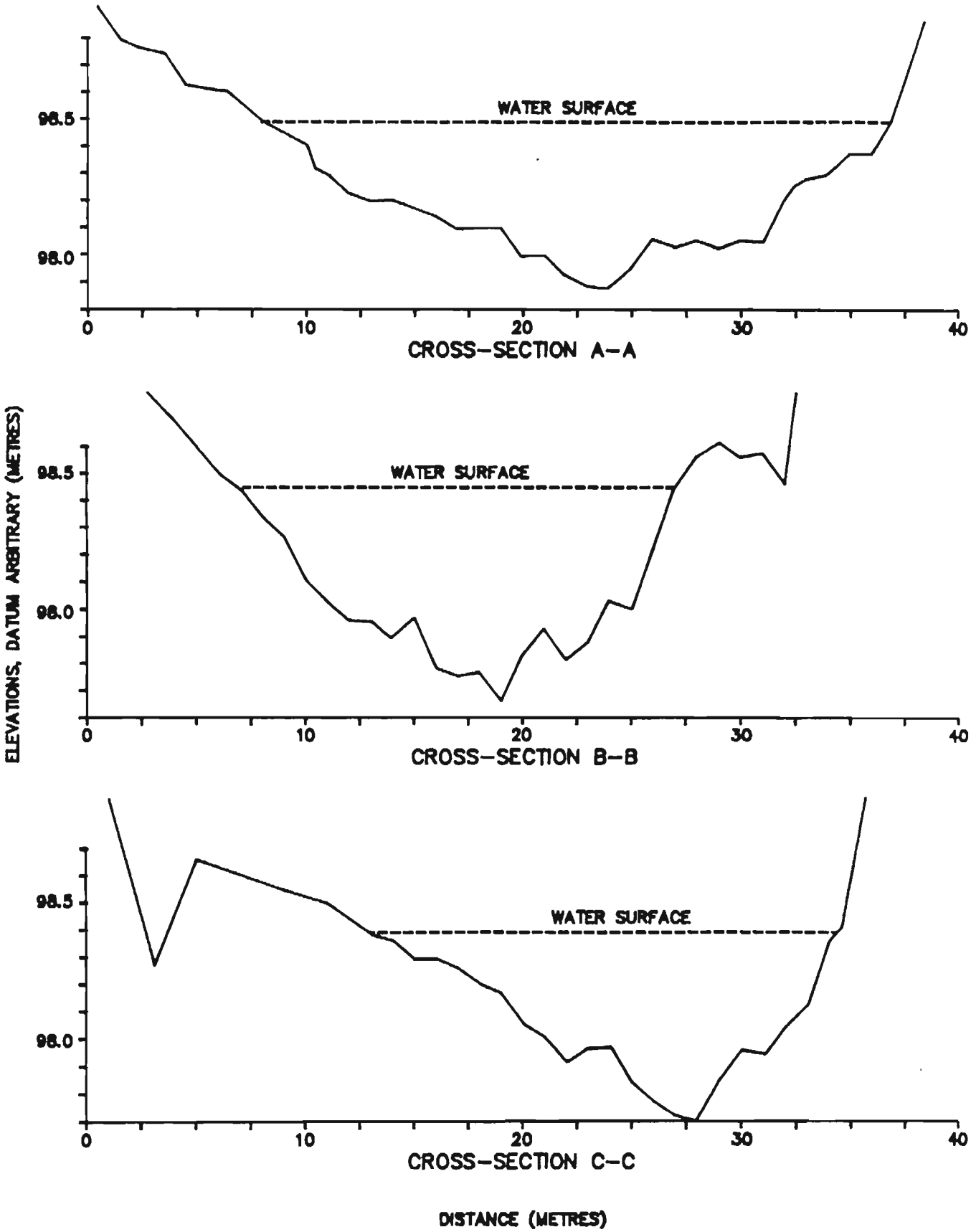


TABLE 1.70 Cross-Sectional Measurements, Transect A-A
SITE 16, JACQUET RIVER, August 26, 1984
(140m Above Upper Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
-9.5	1.080	98.92	Bank Full Assumed
-8.5	1.200	98.80	
-7.5	1.230	98.77	
-6.5	1.250	98.75	
-5.5	1.370	98.63	
-4.5	1.390	98.61	
-3.5	1.400	98.60	
-2.0	1.480	98.52	
0.0	1.495	98.50	Top Water
0.0	1.585	98.41	Edge Water
0.5	1.675	98.32	
1.0	1.695	98.30	
2.0	1.765	98.23	
3.0	1.795	98.20	
4.0	1.795	98.20	
5.0	1.825	98.17	
6.0	1.855	98.14	
7.0	1.895	98.10	
8.0	1.895	98.10	
9.0	1.895	98.10	
10.0	1.995	98.00	
11.0	1.995	98.00	
12.0	2.065	97.93	
13.0	2.115	97.88	
14.0	2.115	97.88	
15.0	2.045	97.95	
16.0	1.935	98.06	
17.0	1.965	98.03	
18.0	1.945	98.05	
19.0	1.975	98.02	
20.0	1.945	98.05	
21.0	1.945	98.05	
22.0	1.795	98.20	
22.5	1.745	98.25	
22.5	1.500	98.50	Top Water
23.0	1.720	98.28	
24.0	1.700	98.30	
25.0	1.620	98.38	
26.0	1.620	98.38	
27.0	1.500	98.50	Edge Water
27.5	1.400	98.60	
28.2	1.130	98.87	Bank Full Assumed

Slope of Site: 0.34%
Drainage Area Tributary to Site: 498 Km^2

TABLE 1.71 Cross-Sectional Measurements, Transect B-B
SITE 16, JACQUET RIVER, August 26, 1984
(25m Above Upper Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	0.71	99.29	Bank Full Assumed
1.0	1.02	98.98	
2.0	1.14	98.86	
4.0	1.32	98.68	
6.0	1.51	98.49	
7.0	1.57	98.43	Top/Edge Water
8.0	1.67	98.33	
9.0	1.75	98.25	
10.0	1.90	98.10	
11.0	1.98	98.02	
12.0	2.05	97.95	
13.0	2.06	97.04	
14.0	2.12	97.88	
15.0	2.04	97.96	
16.0	2.23	97.77	
17.0	2.26	97.74	
18.0	2.24	97.76	
19.0	2.35	97.65	
20.0	2.18	97.82	
21.0	2.08	97.92	
22.0	2.20	97.80	
23.0	2.13	97.87	
24.0	1.98	98.02	
25.0	2.01	97.99	
26.0	1.79	98.21	
27.0	1.57	98.43	Top/Edge Water
28.0	1.45	98.55	
29.0	1.40	98.60	
30.0	1.45	98.55	
31.0	1.44	98.56	
32.0	1.55	98.45	
33.0	0.83	99.17	
33.2	0.71	99.29	Bank Full Assumed

TABLE 1.72 Cross-Sectional Measurements, Transect C-C
SITE 16, JACQUET RIVER, August 26, 1984
(5m Below Lower Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	0.96	99.04	Bank Full Assumed
1.0	1.12	98.88	
3.0	1.26	98.24	
5.0	1.34	98.66	
7.0	1.40	98.60	
9.0	1.46	98.54	
11.0	1.50	98.50	
13.0	1.62	98.38	Top/Edge Water
14.0	1.64	98.36	
15.0	1.70	98.30	
16.0	1.70	98.30	
17.0	1.74	98.26	
18.0	1.80	98.20	
19.0	1.83	98.17	
20.0	1.95	98.05	
21.0	1.99	98.01	
22.0	2.08	97.92	
23.0	2.04	97.96	
24.0	2.03	97.97	
25.0	2.15	97.85	
26.0	2.22	97.78	
27.0	2.28	97.72	
28.0	2.30	97.70	
29.0	2.14	97.86	
30.0	2.04	97.96	
31.0	2.05	97.95	
32.0	1.95	98.05	
33.0	1.87	98.13	
34.0	1.63	98.37	
34.5	1.59	98.41	Top/Edge Water
35.0	1.40	98.60	
36.0	0.93	99.07	Bank Full Assumed

TABLE 1.73 Water Velocity and Unit Discharge
SITE 16, JACQUET RIVER, August 26, 1984

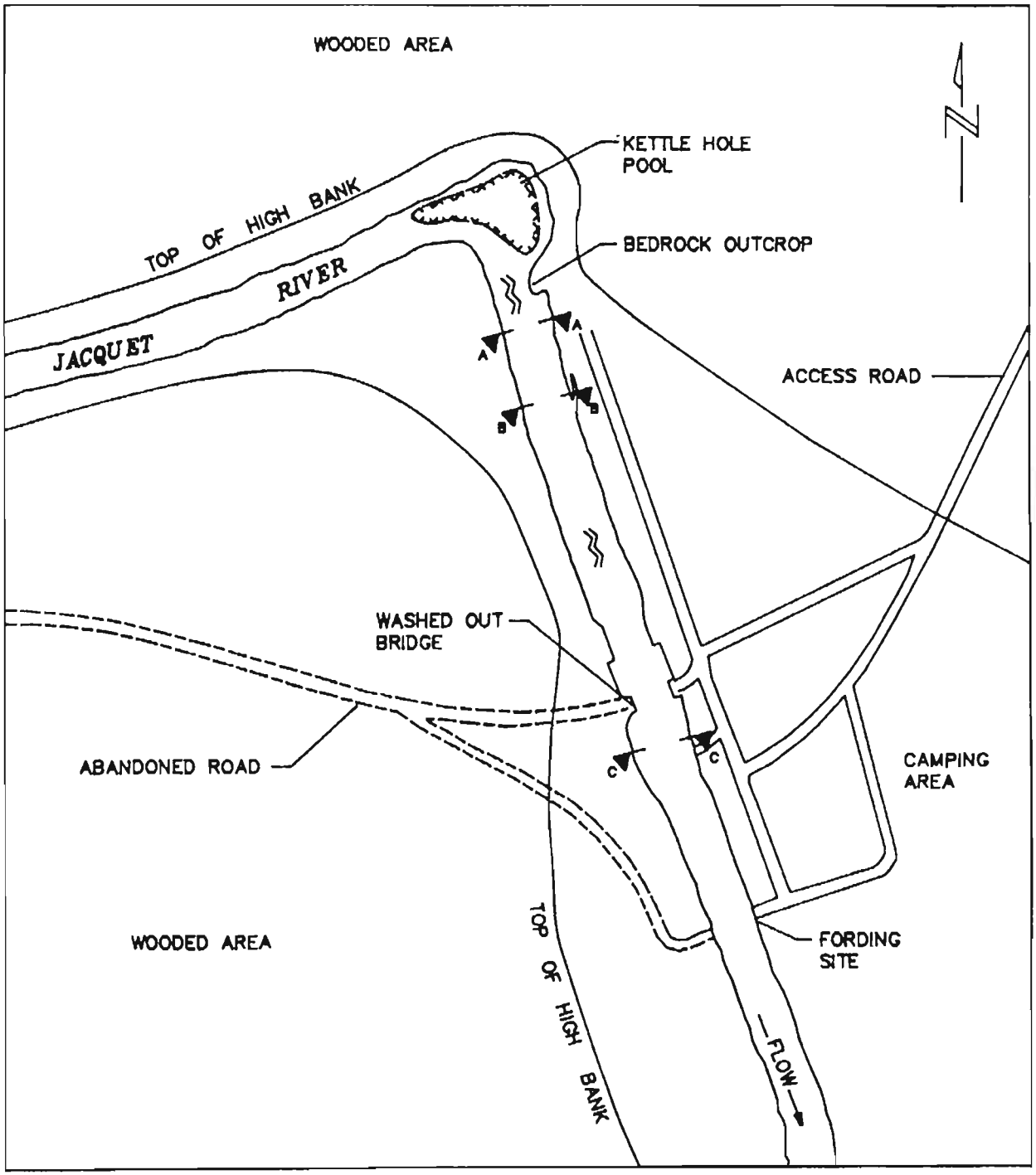
Station b(m)	Water Depth d(m)	Revolutions Per 30 sec.(2)	Water Velocity V(m/S)	Unit Discharge q(m^3/S)
0.0	0.09	-	-	-
0.5	0.18	19.0	0.190	0.017
1.0	0.20	16.0	0.160	0.024
2.0	0.27	30.0	0.300	0.081
3.0	0.30	35.0	0.350	0.105
4.0	0.30	33.0	0.330	0.099
5.0	0.33	38.0	0.380	0.125
6.0	0.36	47.0	0.470	0.169
7.0	0.40	23.0	0.230	0.092
8.0	0.40	20.0	0.200	0.080
9.0	0.40	32.0	0.320	0.128
10.0	0.50	27.0	0.270	0.135
11.0	0.50	33.0	0.330	0.165
12.0	0.57	29.0	0.290	0.165
13.0	0.62	43.0	0.430	0.267
14.0	0.62	37.0	0.370	0.229
15.0	0.55	38.0	0.380	0.209
16.0	0.44	44.0	0.440	0.193
17.0	0.47	44.0	0.440	0.207
18.0	0.45	33.0	0.330	0.148
19.0	0.48	29.0	0.290	0.139
20.0	0.45	26.0	0.260	0.117
21.0	0.45	25.0	0.250	0.112
22.0	0.30	30.0	0.300	0.090
22.5	0.25	-		-

$Q = \Sigma q = 3.09\ m^3/S$
(2) Pygmy Wheel

TABLE 1.74 Mean Diameter and Ranking of Bed Load Material
SITE 16, JACQUET RIVER, August 26, 1984

Sample No.	Axis Measurements (cm) x	y	z	Mean Dimension ϕ (cm)	Rank
1	33	24	05	21	16
2	45	32	10	29	26
3	26	20	10	19	14
4	38	27	05	24	19
5	50	30	10	30	27
6	46	26	20	31	28
7	20	18	06	15	2
8	42	40	14	32	29
9	50	19	08	26	22
10	26	20	06	17	7
11	43	20	10	24	20
12	47	20	09	25	21
13	60	39	25	41	32
14	35	26	06	22	17
15	22	25	08	18	11
16	53	35	22	19	15
17	30	31	20	27	24
18	13	03	33	16	5
19	30	18	07	18	12
20	40	26	17	28	25
21	30	15	05	17	8
22	48	31	26	35	30
23	22	15	07	15	3
24	25	20	07	17	9
25	17	11	05	11	1
26	54	33	19	35	31
27	34	24	08	22	18
28	25	16	06	16	6
29	32	17	06	18	13
30	37	26	15	26	23
31	27	13	10	17	10
32	11	21	13	15	4

FIG. 1.31 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 17, JACQUET RIVER, AUGUST 27,1984



LEGEND

- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 20 40 60 m (APPROX.)
TOPOGRAPHIC MAP 21-O/16
MILITARY GRID 153 951

TABLE 1.75 General Site Observations and Remarks
SITE 17, JACQUET RIVER, August 27, 1984

Physical Characteristics	Description
Time	1200 - 1530
Weather	sunny, clear
Air temperature (°C)	25
Electroseining conditions	good
Instream cover	rocks
Bottom	stable
Bottom type (visual est.,%)	bedrock/boulder/cobble/ gravel - 30/30/25/15
Features (estimate, %)	riffle - 100
Aquatic vegetation	sparse
Stream cover	open
Banks	stable
Shoreline vegetation	alder, shrubs
Surrounding terrain	upland hardwood - birch, aspen, maple upland conifer - fir, cedar
Pollution sources	none identified
Resource utilization	angling small park adjacent
Order stream	4
Photographic record	FHD-84-8-NB-201 to 210
General	former bridge site fording site

FIG. 1.32 STREAM CROSS-SECTIONS, SITE 17, JACQUET RIVER AUGUST 27,1984

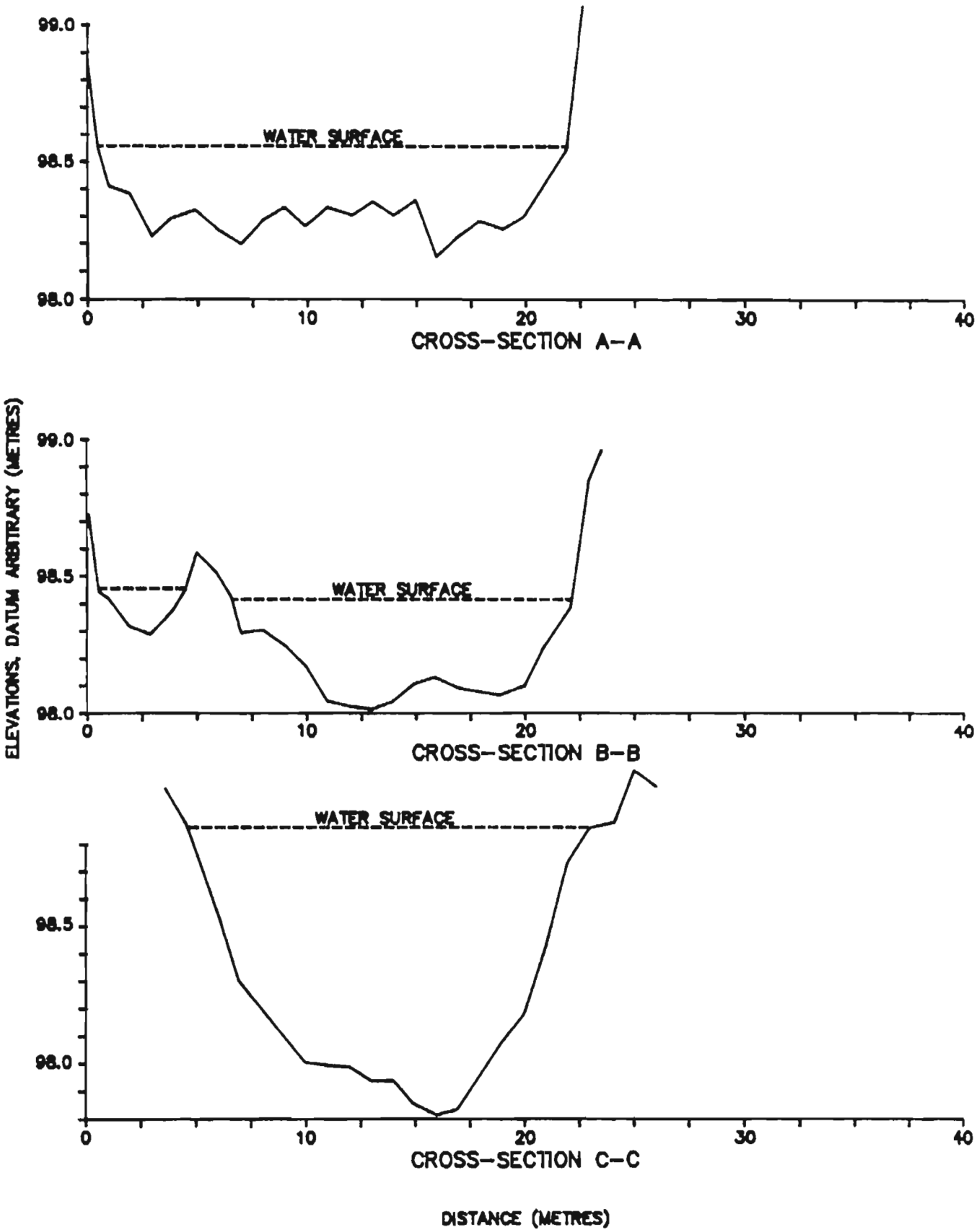


TABLE 1.76 Cross-Sectional Measurements, Transect A-A
SITE 17, JACQUET RIVER, August 27. 1984
(20m Above Upper Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	1.11	98.89	Bank Full Assumed
0.4	1.46	98.56	Top/Edge Water
1.0	1.59	98.41	
2.0	1.62	98.38	
3.0	1.78	98.22	
4.0	1.71	98.29	
5.0	1.68	98.32	
6.0	1.75	98.25	
7.0	1.80	98.20	
8.0	1.72	98.28	
9.0	1.67	98.33	
10.0	1.74	98.26	
11.0	1.67	98.33	
12.0	1.70	98.30	
13.0	1.65	98.35	
14.0	1.70	98.30	
15.0	1.64	98.36	
16.0	1.85	98.15	
17.0	1.78	98.22	
18.0	1.72	98.28	
19.0	1.75	98.25	
20.0	1.70	98.30	
21.0	1.57	98.43	
21.9	1.46	98.54	Top/Edge Water
22.3	0.93	99.07	

Slope of Site: 0.65%
Drainage Area Tributary to Site: 267.1 Km^2

TABLE 1.77 Cross-Sectional Measurements, Transect B-B
SITE 17, JACQUET RIVER, August 27, 1984
(Midway Between Electroseining Boundaries)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	1.28	98.72	Bank Full Assumed
0.5	1.56	98.44	Top/Edge Water
1.0	1.59	98.41	
2.0	1.69	98.31	
3.0	1.73	98.27	
4.0	1.63	98.37	
4.5	1.55	98.45	Top/Edge Water
5.0	1.42	98.58	Top Bank
6.0	1.50	98.50	
6.5	1.58	98.42	Top/Edge Water
7.0	1.71	98.29	
8.0	1.71	98.29	
9.0	1.76	98.24	
10.0	1.84	98.16	
11.0	1.96	98.04	
12.0	1.99	98.01	
13.0	2.00	98.00	
14.0	1.97	98.03	
15.0	1.91	98.09	
16.0	1.88	98.12	
17.0	1.92	98.08	
18.0	1.93	98.07	
19.0	1.94	98.06	
20.0	1.91	98.09	
21.0	1.76	98.24	
22.1	1.62	98.38	Top/Edge Water
23.0	1.16	98.84	Bank Full Assumed
23.5	1.05	98.95	

TABLE 1.78 Cross-Sectional Measurements, Transect C-C
SITE 17, JACQUET RIVER, August 27, 1984
(Below Lower Electroseining Boundary, At Velocity Transect)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	0.36	99.64	Bank Full Assumed
1.0	0.66	99.34	
4.8	1.14	98.86	Top/Edge Water
6.0	1.46	98.54	
7.0	1.70	98.30	
8.0	1.79	98.21	
9.0	1.89	98.11	
10.0	1.99	98.01	
11.0	2.01	97.99	
12.0	2.01	97.99	
13.0	2.06	97.94	
14.0	2.06	97.94	
15.0	2.14	97.86	
16.0	2.18	97.82	
17.0	2.16	97.84	
18.0	2.04	97.96	
19.0	1.92	98.08	
20.0	1.82	98.18	
21.0	1.57	98.43	
22.0	1.27	98.73	
23.0	1.14	98.86	Top/Edge Water
24.0	1.12	98.88	
25.0	0.98	99.08	
26.0	0.99	99.01	
27.0	0.52	99.48	Bank Full Assumed

TABLE 1.79 Water Velocity and Unit Discharge
SITE 17, JACQUET RIVER, August 27, 1984

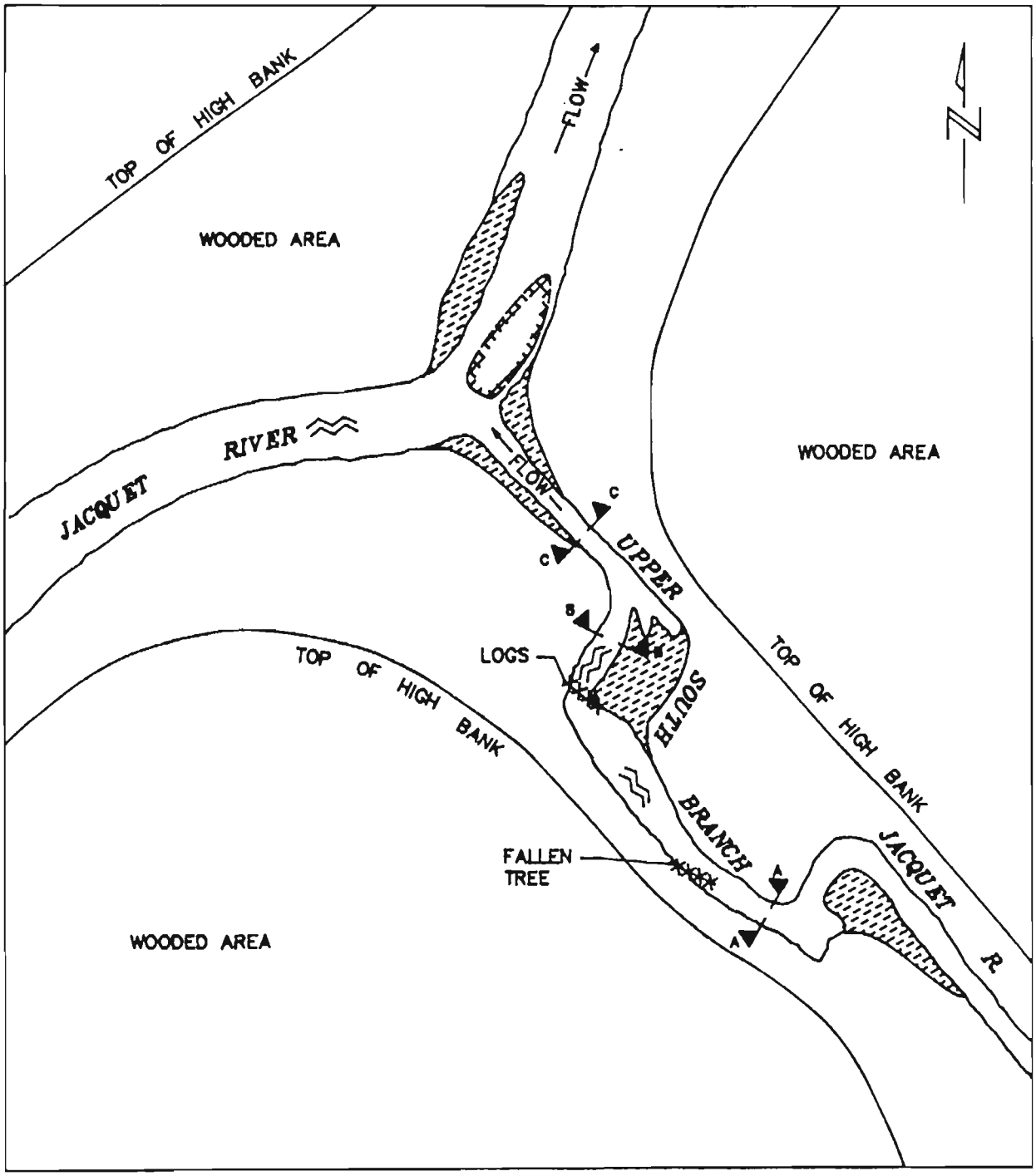
Station b(m)	Water Depth d(m)	Revolutions Per 30 sec.(1)	Water Velocity V(m/S)	Unit Discharge q(m^3/S)
4.8	0.00	-	-	-
6.0	0.32	6.0	0.090	0.030
7.0	0.56	7.0	0.102	0.057
8.0	0.65	8.0	0.110	0.071
9.0	0.75	8.5	0.126	0.094
10.0	0.85	9.5	0.138	0.117
11.0	0.87	8.0	0.110	0.095
12.0	0.87	11.5	0.146	0.127
13.0	0.92	13.5	0.172	0.158
14.0	0.92	9.0	0.138	0.127
15.0	1.00	11.0	0.140	0.140
16.0	1.04	13.0	0.165	0.172
17.0	1.02	14.0	0.192	0.196
18.0	0.90	12.0	0.156	0.140
19.0	0.78	10.0	0.119	0.093
20.0	0.68	8.5	0.126	0.085
21.0	0.43	6.0	0.090	0.039
22.0	0.13	-	-	-
23.0	0.00	-	-	-

$Q = \Sigma q = 1.74\ m^3/S$
(1) Price AA Wheel

TABLE 1.80 Mean Diameter and Ranking of Bed Load Material
SITE 17, JACQUET RIVER, August 27, 1984

Sample No.	Axis Measurements (cm) x	y	z	Mean Dimension ϕ (cm)	Rank
1	70	45	25	47	32
2	43	13	10	22	20
3	37	43	20	33	29
4	26	20	06	17	7
5	23	20	12	18	10
6	27	13	07	16	5
7	20	14	11	15	3
8	24	18	10	17	8
9	30	29	20	26	24
10	08	15	09	11	1
11	25	14	14	18	11
12	40	26	17	28	26
13	29	16	10	18	12
14	40	30	12	27	25
15	17	20	15	17	9
16	23	27	10	20	15
17	33	30	20	28	27
18	40	14	05	20	16
19	24	30	15	23	21
20	30	23	08	20	17
21	20	19	06	15	4
22	38	29	24	30	28
23	25	20	15	20	18
24	14	24	10	16	6
25	45	20	05	23	22
26	20	26	13	20	19
27	22	15	06	43	31
28	16	30	06	52	33
29	30	28	13	24	23
30	32	18	04	18	13
31	50	33	26	36	30
32	18	11	05	11	2

FIG. 1.33 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 18, UPPER SOUTH BRANCH JACQUET RIVER, AUGUST 28,1984



LEGEND

- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 10 20 m (APPROX.)
TOPOGRAPHIC MAP 21-O/9
MILITARY GRID 084 903

TABLE 1.81 General Site Observations and Remarks
SITE 18, UPPER SOUTH BRANCH JACQUET RIVER
August 28, 1984

Physical Characteristics	Description
Time	0930 - 1230
Weather	sunny, some cloud
Air temperature (°C)	26
Electroseining conditions	difficult in places - dense canopy
Instream cover	rocks, undercut banks, logs, stumps
Bottom	stable
Bottom type (visual est.,%)	boulder/cobble/gravel - 5/20/75
Features (estimate,%)	riffle - 100
Aquatic vegetation	sparse
Stream cover	open
Banks	stable
Shoreline vegetation	ferns, riparian grasses, alder shrub, trees
Surrounding terrain	upland hardwood - birch, poplar upland conifer - fir, spruce, cedar
Pollution sources	none identified
Resource utilization	unknown
Order stream	3
Photographic record	FHD-84-8-NB-211 to 219
General	

FIG. 1.34 STREAM CROSS-SECTIONS, SITE 18, UPPER SOUTH BRANCH JACQUET RIVER, AUGUST 28,1984

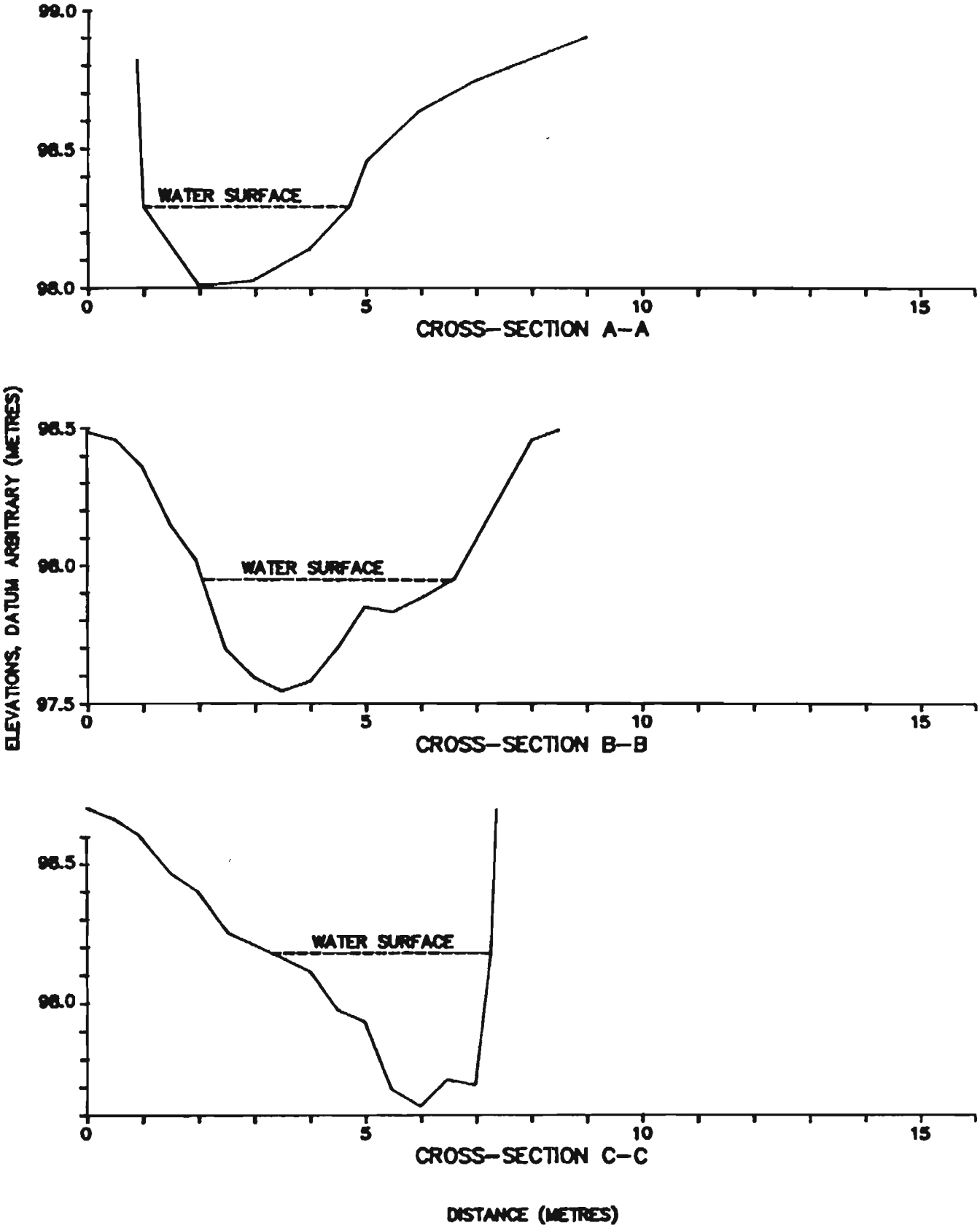


TABLE 1.82 Cross-Sectional Measurements, Transect A-A
SITE 18, UPPER SOUTH BRANCH JACQUET RIVER
August 28, 1984
(1m Above Upper Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.9	1.18	98.82	Bank Full Assumed
1.0	1.70	98.30	Top/Edge Water
2.0	1.99	98.01	
3.0	1.97	98.03	
4.0	1.86	98.14	
4.7	1.70	98.30	Top/Edge Water
5.0	1.55	98.45	
6.0	1.36	98.64	
7.0	1.25	98.75	
9.0	1.09	98.91	Bank Full Assumed

TABLE 1.83 Cross-Sectional Measurements, Transect B-B
SITE 18, UPPER SOUTH BRANCH JACQUET RIVER
August 28, 1984
(1m Above Lower Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	1.53	98.47	Bank Full Assumed
0.5	1.55	98.45	
1.0	1.65	98.35	
1.5	1.86	98.14	
2.0	2.00	98.00	
2.1	2.07	97.93	Top/Edge Water
2.5	2.31	97.69	
3.0	2.41	97.59	
3.5	2.46	97.54	
4.0	2.43	97.57	
4.5	2.31	97.69	
5.0	2.26	97.74	
5.5	2.28	97.72	
6.0	2.23	97.77	
6.6	2.06	97.94	Top/Edge Water
7.0	1.93	98.07	
7.5	1.73	98.27	
8.0	1.55	98.45	
8.5	1.52	98.48	Bank Full Assumed

TABLE 1.84 Cross-Sectional Measurements, Transect C-C
SITE 18, UPPER SOUTH BRANCH JACQUET RIVER
August 28, 1984
(25m Below Lower Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.0	1.29	98.71	Bank Full Assumed
0.5	1.33	98.67	
1.0	1.40	98.60	
1.5	1.53	98.47	
2.0	1.60	98.40	
2.5	1.74	98.26	
3.0	1.79	98.21	
3.4	1.82	98.18	Top/Edge Water
4.0	1.88	98.12	
4.5	2.02	97.98	
5.0	2.06	97.94	
5.5	2.30	97.70	
6.0	2.36	97.64	
6.5	2.27	97.73	
7.0	2.29	97.71	
7.3	1.82	98.18	Top/Edge Water
7.4	1.29	98.71	Bank Full Assumed
7.5	1.12	98.88	

Slope of Site: 1%
Drainage Area Tributary to Site: 41.3 Km^2

TABLE 1.85 Water Velocity and Unit Discharge
SITE 18, UPPER SOUTH BRANCH JACQUET RIVER
August 28, 1984

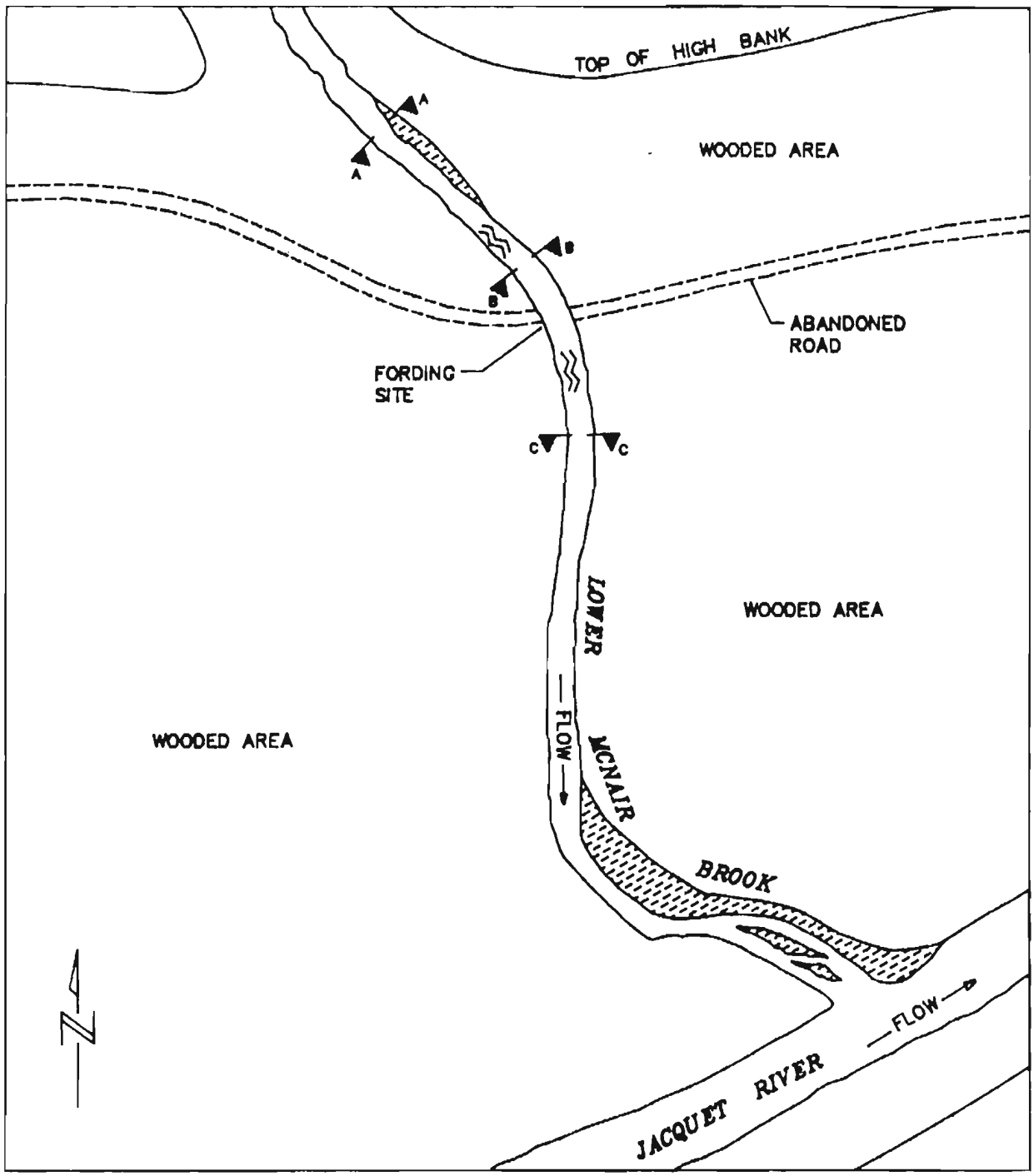
Station b(m)	Water Depth d(m)	Revolutions Per 30 sec.(2)	Water Velocity V(m/S)	Unit Discharge $q(m^3/S)$
0.0	0.17	10.0	0.100	0.002
0.3	0.24	20.0	0.200	0.014
0.6	0.26	45.0	0.450	0.035
0.9	0.32	52.0	0.520	0.050
1.2	0.32	30.0	0.300	0.029
1.5	0.39	15.0	0.150	0.009

$Q = \Sigma q = 0.14\ m^3/S$
(2) Pygmy Wheel

TABLE 1.86 Mean Diameter and Ranking of Bed Load Material
SITE 18, UPPER SOUTH BRANCH JACQUET RIVER
August 28, 1984

Sample No.	Axis Measurements (cm) x	y	z	Mean Dimension ϕ (cm)	Rank
1	21	18	06	15	16
2	20	09	13	14	13
3	53	22	20	32	32
4	22	21	09	17	24
5	17	15	02	11	5
6	12	05	09	09	2
7	37	33	20	30	30
8	23	08	16	16	22
9	13	16	22	17	25
10	10	25	07	14	14
11	33	08	13	18	26
12	15	11	11	12	8
13	17	17	12	15	17
14	18	04	09	10	4
15	14	15	14	14	15
16	25	04	10	13	10
17	20	07	06	11	6
18	14	15	16	15	18
19	47	22	20	30	31
20	15	08	10	11	7
21	12	07	21	13	11
22	16	28	05	16	23
23	15	20	05	13	12
24	08	05	04	06	1
25	16	09	20	15	19
26	25	29	06	20	29
27	10	03	15	09	3
28	14	21	18	18	27
29	13	07	15	12	9
30	16	15	15	15	20
31	20	30	08	19	28
32	20	17	08	15	21

FIG. 1.35 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 19, LOWER MCNAIR BROOK, AUGUST 28,1984



LEGEND

- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 10 20 m (APPROX.)

TOPOGRAPHIC MAP 21-O/9

MILITARY GRID 098 919

TABLE 1.87 General Site Observations and Remarks
SITE 19, LOWER MCNAIR BROOK, August 28, 1984

Physical Characteristics	Description
Time	1400 - 1630
Weather	overcast
Air temperature (°C)	22
Electroseining conditions	difficult in areas of heavy alder cover
Instream cover	undercut banks, rocks, logs
Bottom	stable
Bottom type (visual est.,%)	boulder/cobble/gravel - 15/25/60
Features (estimate,%)	riffle/run - 70/30
Aquatic vegetation	nil
Stream cover	partly open
Banks	stable
Shoreline vegetation	sparse riparian grasses, ferns shrubs, trees
Surrounding terrain	upland hardwood - elm, aspen, birch, maple
Pollution sources	none identified
Resource utilization	unknown
Order stream	3
Photographic record	FHD-84-8-NB-220 to 224
General	

FIG. 1.36 STREAM CROSS-SECTIONS, SITE 19, LOWER MCNAIR BROOK AUGUST 28,1984

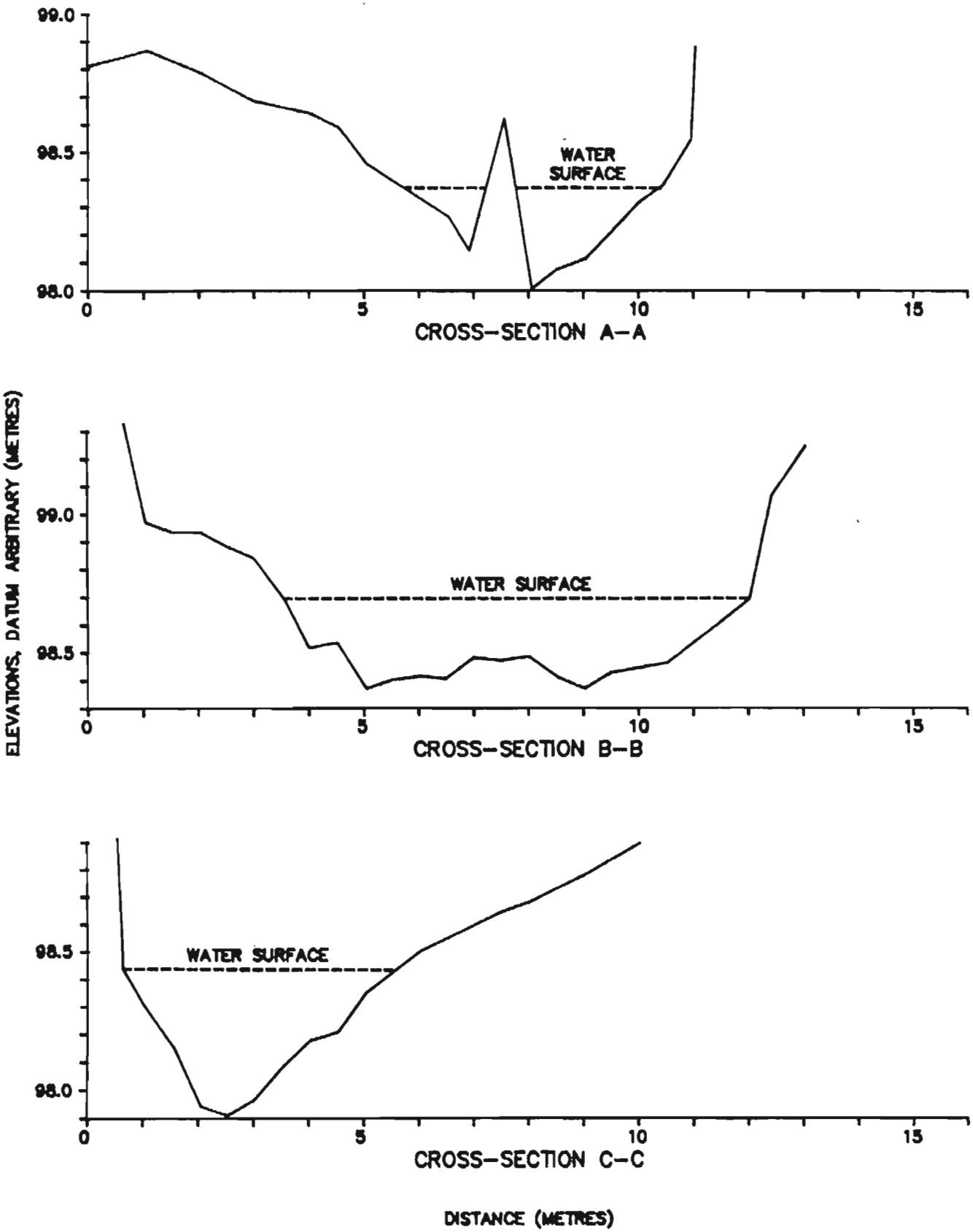


TABLE 1.88 Cross-Sectional Measurements, Transect A-A
SITE 19, LOWER MCNAIR BROOK, August 28, 1984
(15m Below Upper Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
1.0	1.12	98.88	Bank Full Assumed
1.1	1.46	98.54	
1.6	1.63	98.37	Top/Edge Water
2.0	1.69	98.31	
2.5	1.79	98.21	
3.0	1.89	98.11	
3.5	1.93	98.07	
4.0	2.00	98.00	
4.5	1.38	98.62	
5.1	1.87	98.13	
5.5	1.74	98.26	
6.0	1.66	98.34	
6.3	1.63	98.37	Top/Edge Water
7.0	1.54	98.46	
7.5	1.42	98.58	
8.0	1.37	98.63	
9.0	1.32	98.68	
10.0	1.22	98.78	
11.0	1.15	98.85	Bank Full Assumed
12.0	1.18	98.82	

Slope of Site: 1.3%
Drainage Area Tributary to Site: 36.8 Km^2

TABLE 1.89 Cross-Sectional Measurements, Transect B-B
SITE 19, LOWER MCNAIR BROOK, August 28, 1984
(10m Above Lower Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.6	0.68	99.32	Bank Full Assumed
1.0	1.04	98.96	
1.5	1.07	98.93	
2.0	1.09	98.91	
2.5	1.13	98.87	
3.0	1.17	98.83	
3.5	1.32	98.68	Top/Edge Water
4.0	1.50	98.50	
4.5	1.48	98.52	
5.0	1.64	98.36	
5.5	1.61	98.39	
6.0	1.60	98.40	
6.5	1.60	98.40	
7.0	1.53	98.47	
7.5	1.54	98.46	
8.0	1.53	98.47	
8.5	1.60	98.40	
9.0	1.64	98.36	
9.5	1.58	98.42	
10.0	1.57	98.43	
10.5	1.55	98.45	
11.0	1.47	98.53	
12.0	1.32	98.68	Top/Edge Water
12.4	0.95	99.05	
13.0	0.76	99.24	Bank Full Assumed

TABLE 1.90 Cross-Sectional Measurements, Transect C-C
SITE 19, LOWER MCNAIR BROOK, August 28, 1984
(30m Below Lower Electroseining Boundary)

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
0.5	1.08	98.92	Bank Full Assumed
0.6	1.56	98.44	Top/Edge Water
1.0	1.70	98.30	
1.5	1.85	98.15	
2.0	2.05	97.95	
2.5	2.09	97.91	
3.0	2.03	97.97	
3.5	1.91	98.09	
4.0	1.82	98.18	
4.5	1.79	98.21	
5.0	1.65	98.35	
5.6	1.56	98.44	Top/Edge Water
6.0	1.50	98.50	
7.0	1.44	98.56	
7.5	1.35	98.65	
8.0	1.32	98.68	
9.0	1.22	98.78	
10.0	1.10	98.90	Bank Full Assumed

TABLE 1.91 Water Velocity and Unit Discharge
SITE 19. LOWER MCNAIR BROOK
August 28, 1984

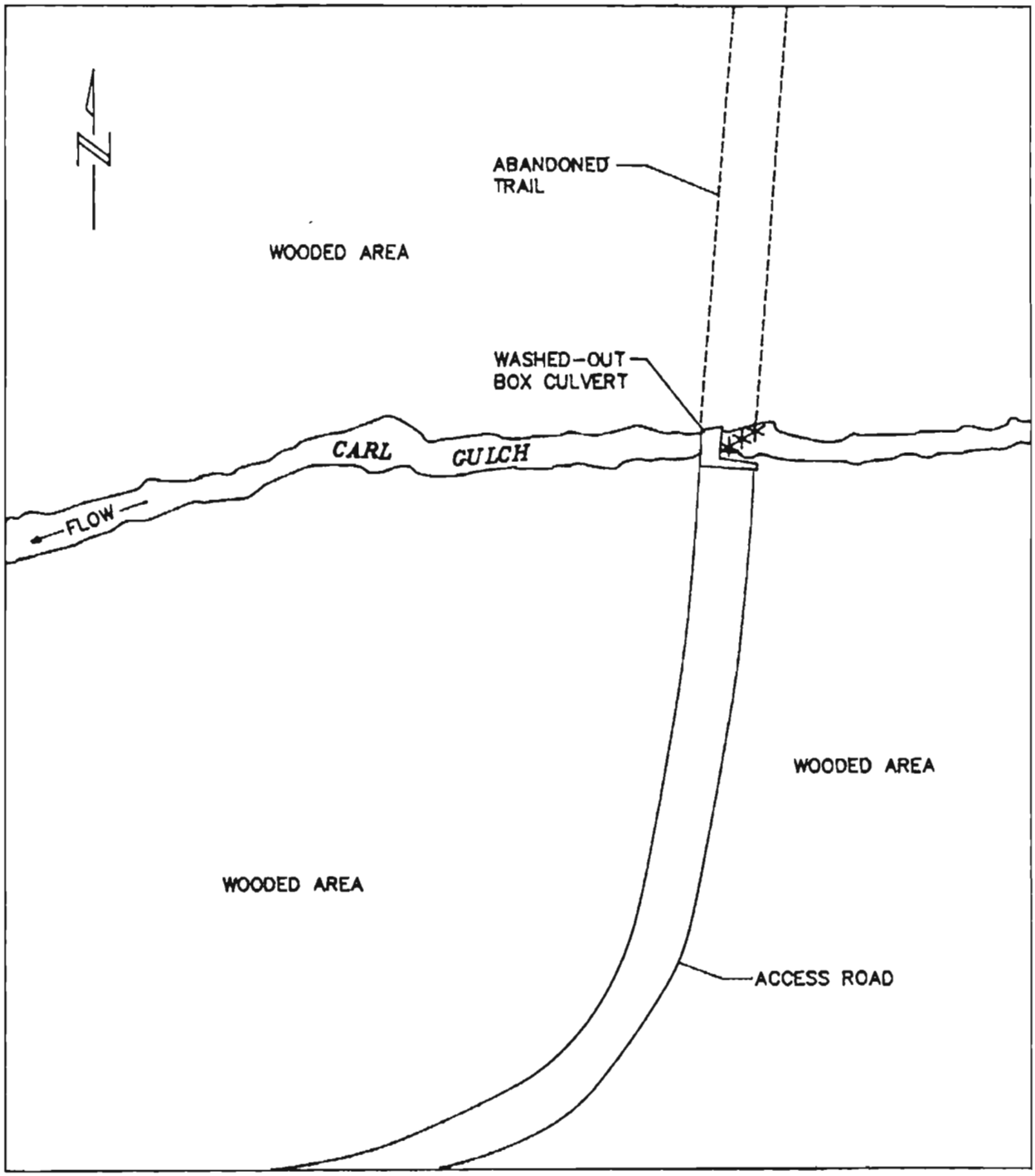
Station b(m)	Water Depth d(m)	Revolutions Per 30 sec.(2)	Water Velocity V(m/S)	Unit Discharge q(m^3/S)
0.0	0.25	-	-	-
0.5	0.27	10.0	0.100	0.013
1.0	0.36	26.0	0.260	0.047
1.5	0.49	29.0	0.290	0.071
2.0	0.54	25.0	0.250	0.067
2.5	0.49	21.0	0.210	0.046
2.9	0.25	-	-	-

$Q = \Sigma q = 0.24\ m^3/S$
(2) Pygmy Wheel

TABLE 1.92 Mean Diameter and Ranking of Bed Load Material
SITE 19, LOWER MCNAIR BROOK, August 28, 1984

Sample No.	Axis Measurements (cm) x	y	z	Mean Dimension ϕ (cm)	Rank
1	26	10	04	13	7
2	26	20	08	18	18
3	20	15	09	15	11
4	20	16	09	15	12
5	14	24	10	16	15
6	45	27	22	31	32
7	20	05	14	13	8
8	42	23	16	27	31
9	33	20	11	21	24
10	14	12	06	11	2
11	22	18	05	15	13
12	30	26	17	24	28
13	26	26	13	22	25
14	11	20	06	12	4
15	43	20	12	25	30
16	32	23	12	22	26
17	20	25	13	19	20
18	25	14	08	11	3
19	22	20	17	20	23
20	14	10	06	10	1
21	19	18	11	16	16
22	09	25	06	13	9
23	25	27	15	22	27
24	32	18	07	19	21
25	16	14	06	12	5
26	15	18	10	14	10
27	10	19	17	15	14
28	16	13	07	12	6
29	17	23	10	17	17
30	34	18	21	24	29
31	23	22	10	18	19
32	30	20	08	19	22

FIG. 1.37 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 20, CARL GULCH, AUGUST 29,1984



LEGEND

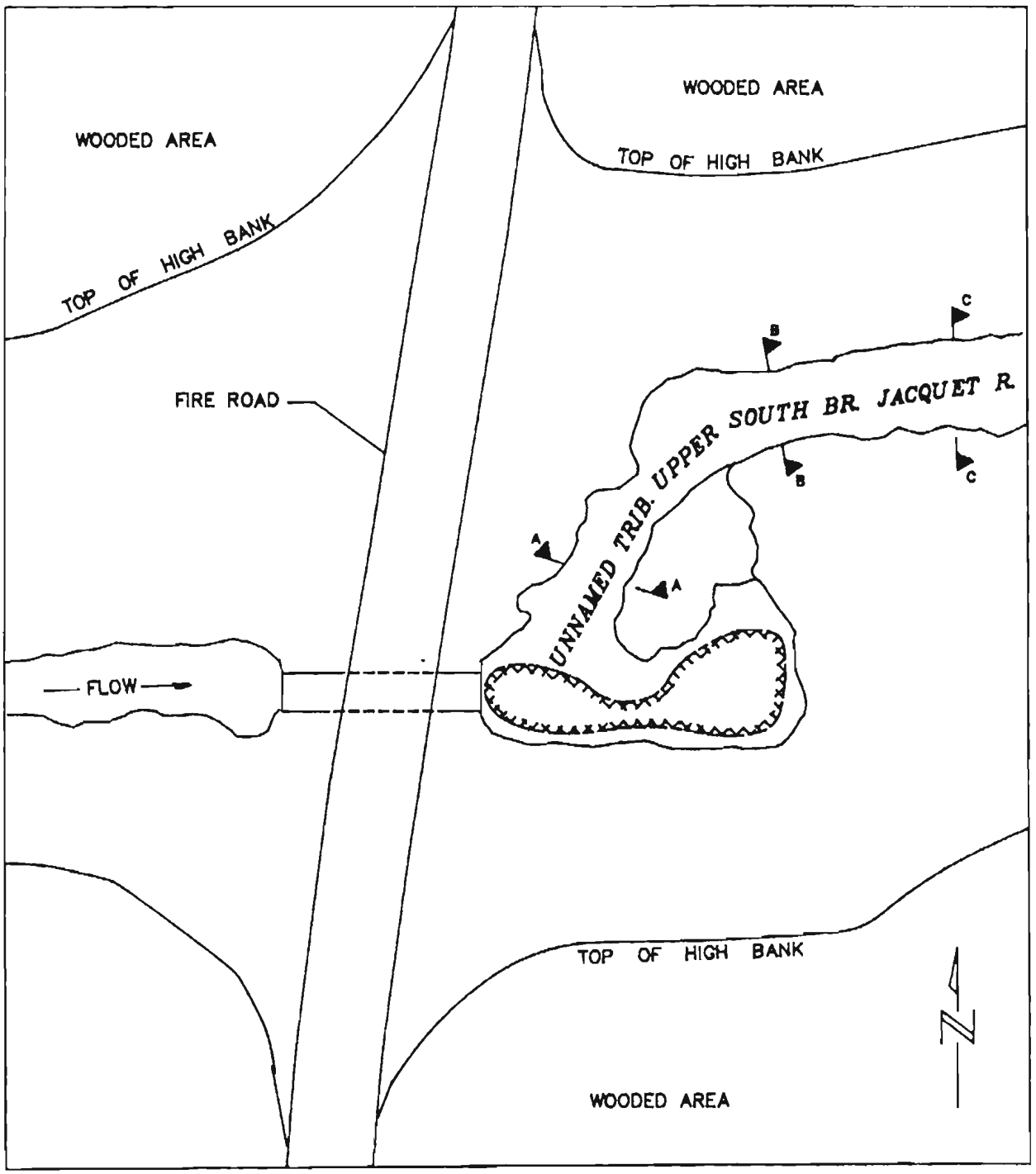
- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 5 10 m (APPROX.)
TOPOGRAPHIC MAP 21-O/9
MILITARY GRID 183 854

TABLE 1.93 General Site Observations and Remarks
SITE 20, CARL GULCH, August 29, 1984

Physical Characteristics	Description
Time	1230
Weather	sunny, clear
Air temperature (°C)	28
Electroseining conditions	very difficult - heavy cover
Instream cover	not noted
Bottom	stable
Bottom type (visual est.,%)	gravel/cobble/sand - 80/10/10
Features (estimate,%)	riffle - 100
Aquatic vegetation	not noted
Stream cover	dense
Banks	stable
Shoreline vegetation	alder
Surrounding terrain	upland hardwood - aspen upland conifer - present
Pollution sources	none identified
Resource utilization	unknown
Order stream	2
Photographic record	FHD-84-8-NB-225 to 228
General	

FIG. 1.38 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 21, UNNAMED TRIBUTARY TO UPPER SOUTH BRANCH JACQUET RIVER, AUGUST 29,1984



LEGEND

- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 5 10 m (APPROX.)
TOPOGRAPHIC MAP 21-O/9
MILITARY GRID 083 844

TABLE 1.94 General Site Observations and Remarks
SITE 21, UNNAMED TRIBUTARY to UPPER SOUTH BRANCH JACQUET RIVER, August 29, 1984

Physical Characteristics	Description
Time	1300
Weather	sunny, clear
Air temperature (°C)	28
Electroseining conditions	not noted
Instream cover	moderate amounts eel grass
Bottom	stable
Bottom type (visual est.,%)	gravel/cobble/sand - 80/15/5
Features (estimate,%)	riffle - 100
Aquatic vegetation	eel grass
Stream cover	partly open
Banks	stable
Shoreline vegetation	alder, sedge, riparian grass
Surrounding terrain	upland conifer dominant, fir some cedar
Pollution sources	none identified
Resource utilization	unknown
Order stream	2
Photographic record	FHD-84-8-NB-230 to 233
General	spotcheck only

FIG. 1.39 STREAM CROSS-SECTIONS, SITE 21, UNNAMED TRIBUTARY UPPER SOUTH BRANCH JACQUET RIVER, AUGUST 29,1984

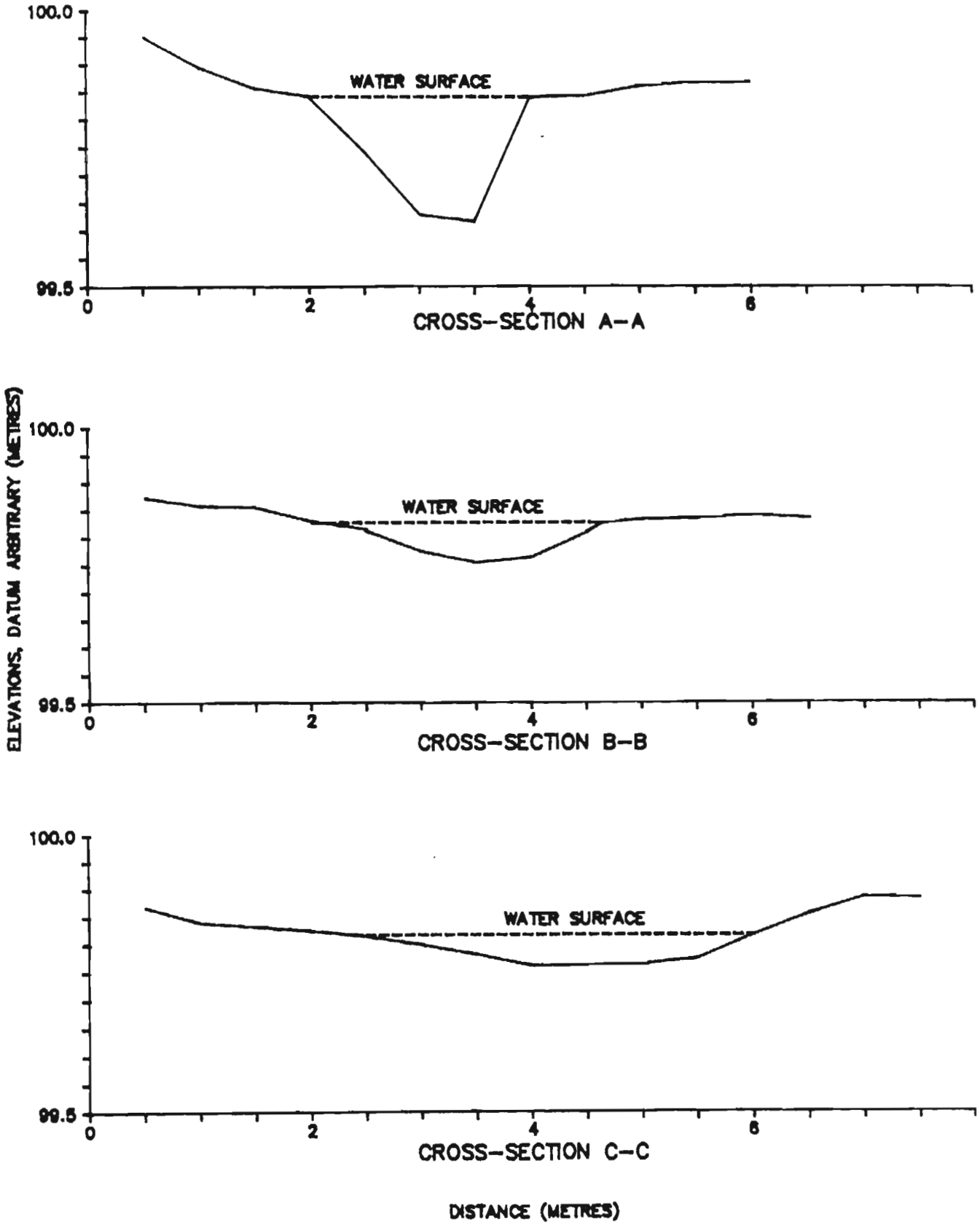


TABLE 1.95 Cross-Sectional Measurements, Transect A-A
SITE 21, UNNAMED TRIBUTARY to UPPER SOUTH
BRANCH JACQUET RIVER, August 29, 1984

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
.0	1.00	99.00	E/W, T/W
0.5	1.10	98.90	
1.0	1.26	98.34	
1.5	1.18	98.82	
2.0	1.00	99.00	E/W, T/W

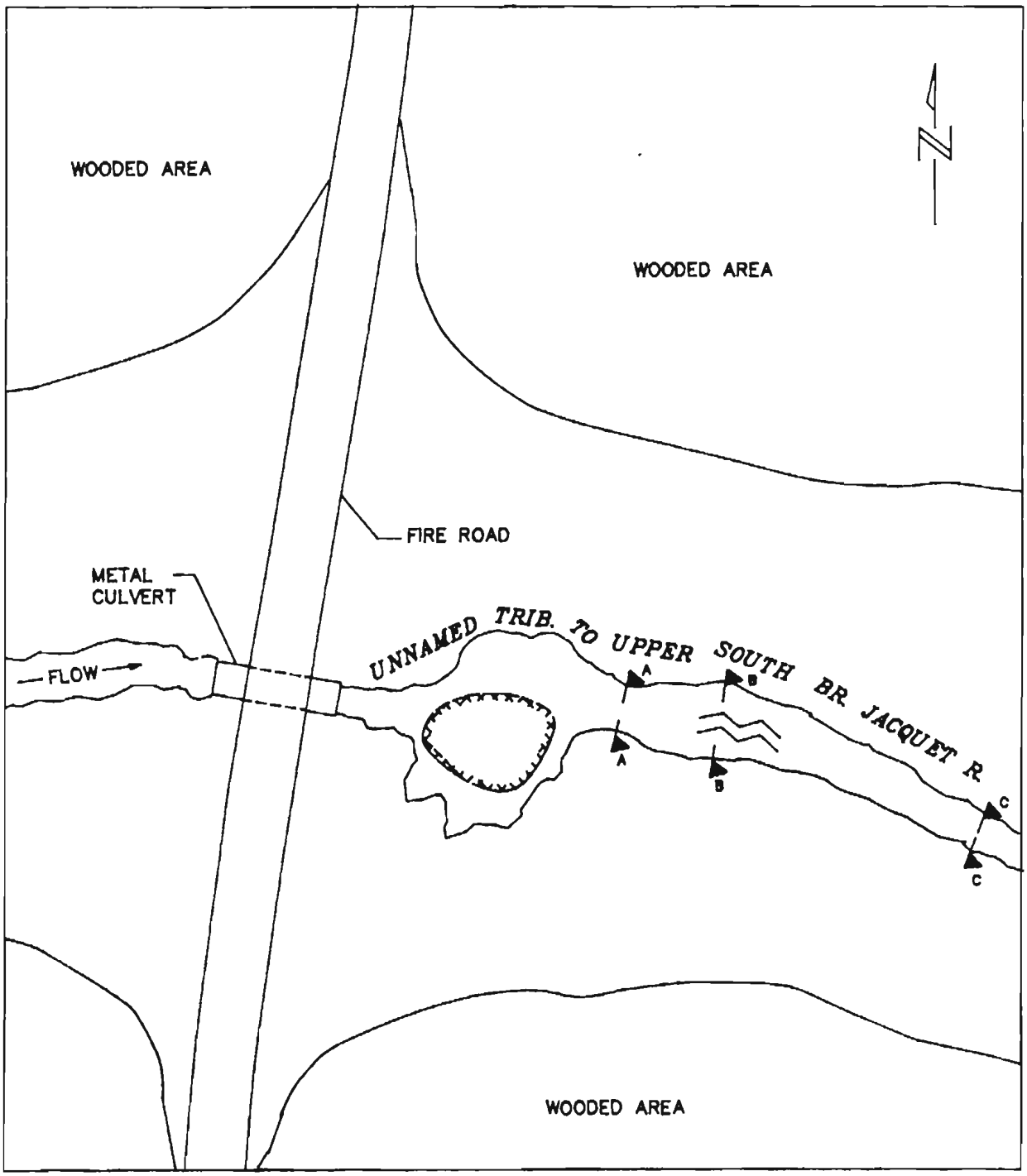
TABLE 1.96 Cross-Sectional Measurements, Transect B-B
SITE 21, UNNAMED TRIBUTARY to UPPER SOUTH
BRANCH JACQUET RIVER, August 29, 1984

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
.0	1.00	99.00	E/W, T/W
0.5	1.06	98.94	
1.0	1.08	98.92	
1.5	1.10	98.90	
2.0	1.05	98.95	
2.6	1.00	99.00	E/W, T/W

TABLE 1.97 Cross-Sectional Measurements, Transect C-C
SITE 21, UNNAMED TRIBUTARY to UPPER SOUTH
BRANCH JACQUET RIVER, August 29, 1984

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
.0	1.00	99.00	T/W, E/W
0.5	1.03	98.97	
1.0	1.04	98.96	
1.5	1.03	98.97	
2.0	1.05	98.95	
2.5	1.05	98.97	
3.0	1.03	98.97	
3.6	1.00	99.00	T/W, E/W

FIG. 1.40 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 22, UNNAMED TRIBUTARY TO UPPER SOUTH BRANCH JACQUET RIVER, AUGUST 29,1984



LEGEND

- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 5 10 m (APPROX.)
TOPOGRAPHIC MAP 21-O/9
MILITARY GRID 088 859

TABLE 1.98 General Site Observations and Remarks
SITE 22, UNNAMED TRIBUTARY to UPPER SOUTH BRANCH JACQUET RIVER, August 29, 1984

Physical Characteristics	Description
Time	1430
Weather	sunny, clear
Air temperature (°C)	28
Electroseining conditions	generally good, difficult in pool
Instream cover	culvert
Bottom	stable
Bottom type (visual est.,%)	boulder/cobble/gravel - 20/40/40
Features (estimate,%)	riffle, swift run, shallow pool, deep pool
Aquatic vegetation	not noted
Stream cover	heavy alder cover
Banks	stable
Shoreline vegetation	sparse riparian grasses
Surrounding terrain	upland conifer, mostly fir
Pollution sources	none identified
Resource utilization	unknown
Order stream	2
Photographic record	FHD-84-8-NB-234 to 236
General	spotcheck only

FIG. 1.41 STREAM CROSS-SECTIONS, SITE 22, UNNAMED TRIBUTARY UPPER SOUTH BRANCH JACQUET RIVER, AUGUST 29,1984

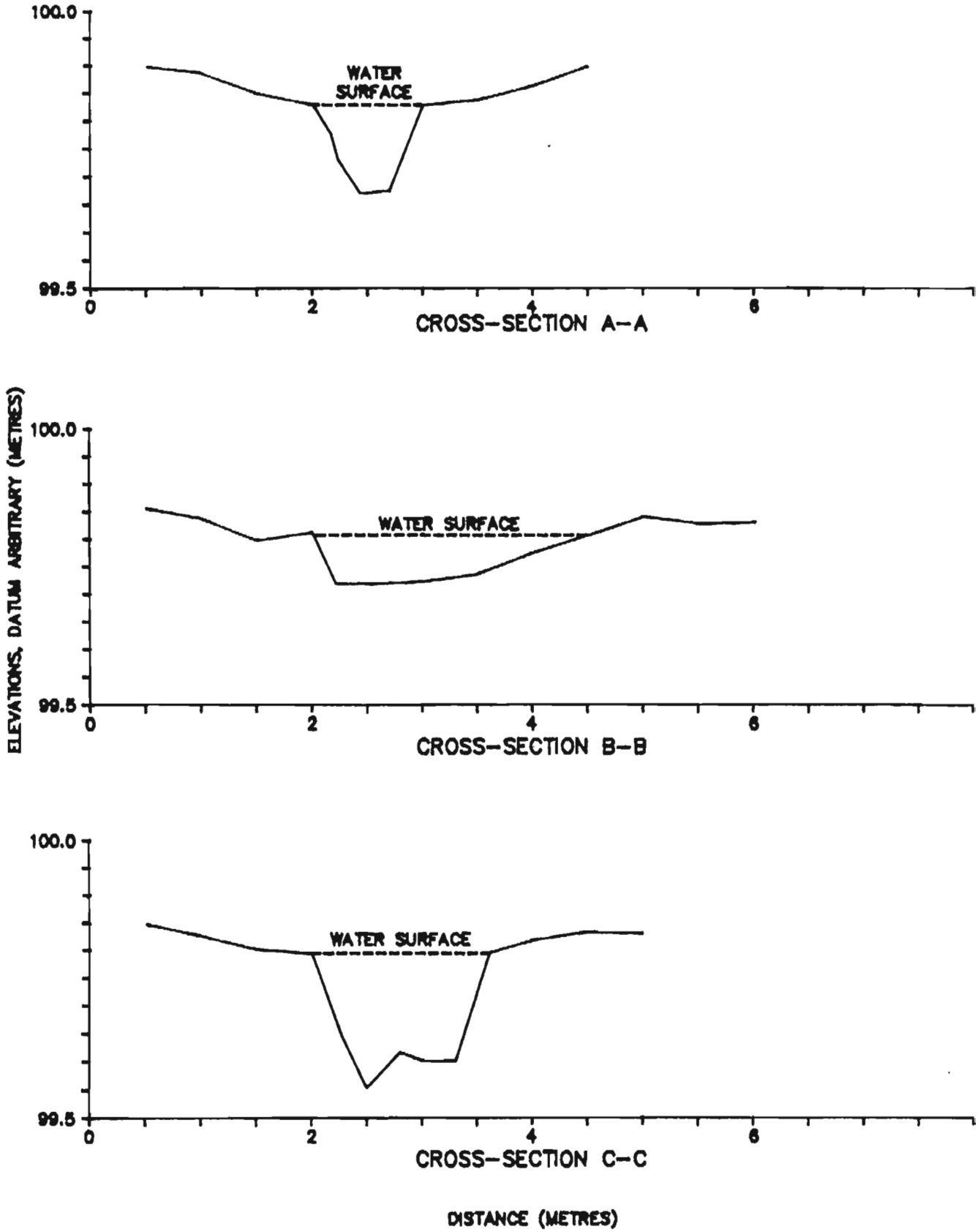


TABLE 1.99 Cross-Sectional Measurements, Transect A-A
SITE 22, UNNAMED TRIBUTARY to UPPER SOUTH
BRANCH JACQUET RIVER, August 29, 1984

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
.0	1.00	99.00	E/W, T/W
0.25	1.10	98.90	
0.50	1.16	98.84	
0.75	1.10	98.90	
1.00	1.00	99.00	E/W, T/W

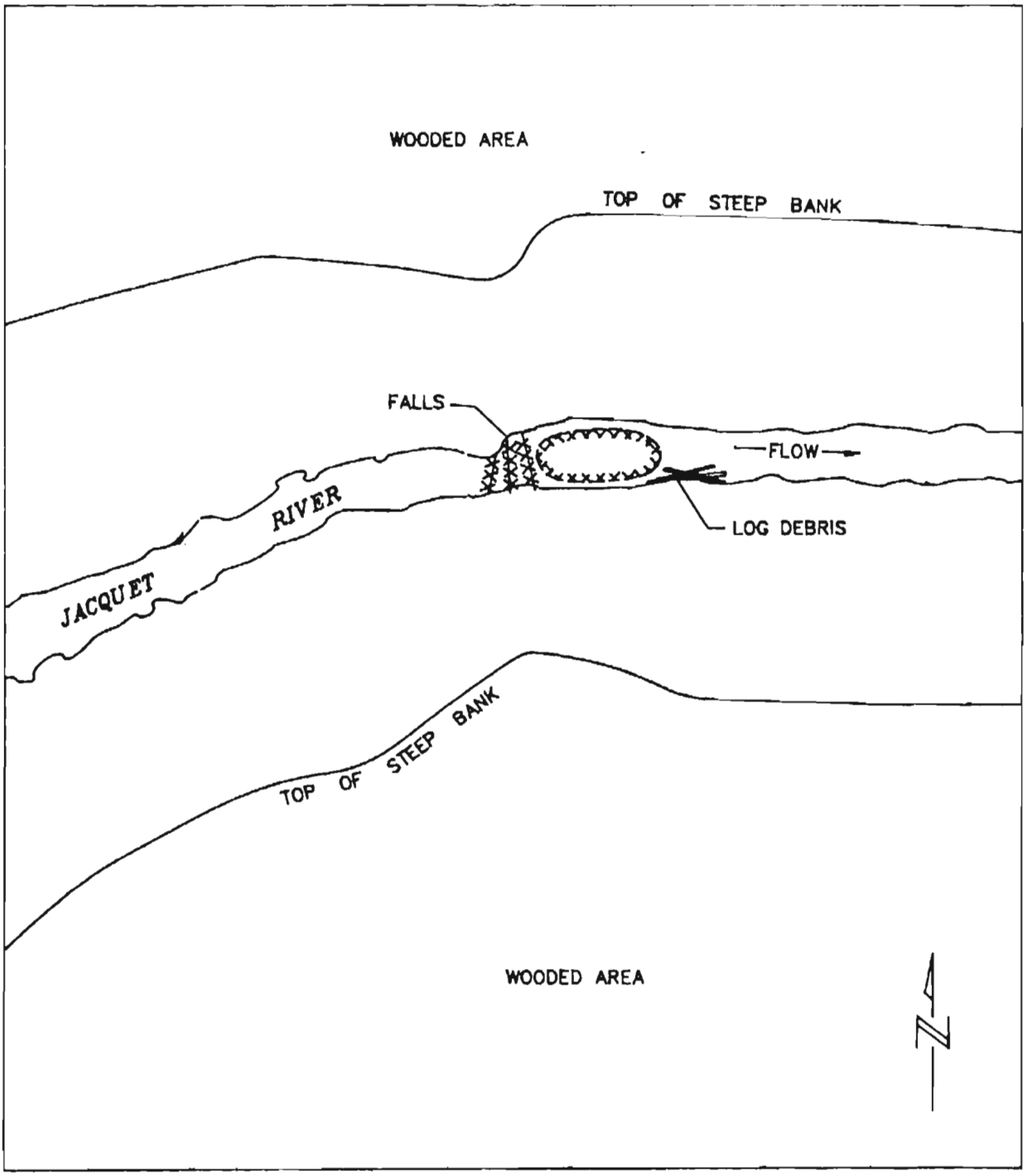
TABLE 1.100 Cross-Sectional Measurements, Transect B-B
SITE 22, UNNAMED TRIBUTARY to UPPER SOUTH
BRANCH JACQUET RIVER, August 29, 1984

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
.0	1.00	99.00	E/W, T/W
0.5	1.09	98.91	
1.0	1.07	98.93	
1.8	1.06	98.94	
2.6	1.00	99.00	E/W, T/W

TABLE 1.101 Cross-Sectional Measurements, Transect C-C
SITE 22, UNNAMED TRIBUTARY to UPPER SOUTH
BRANCH JACQUET RIVER, August 29, 1984

Chainage Ordinate (m)	Rod Reading (m)	Relative Elevation Abscissa (m)	Remarks
.0	1.00	99.00	E/W, T/W
0.25	1.15	98.85	
0.80	1.25	98.75	
0.75	1.10	98.90	
1.25	1.20	98.80	
1.60	1.00	99.00	E/W, T/W

FIG. 1.42 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 23, JACQUET RIVER, AUGUST 30,1984



LEGEND

- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 10 20 m (APPROX.)
TOPOGRAPHIC MAP 21-O/9
MILITARY GRID 998 838

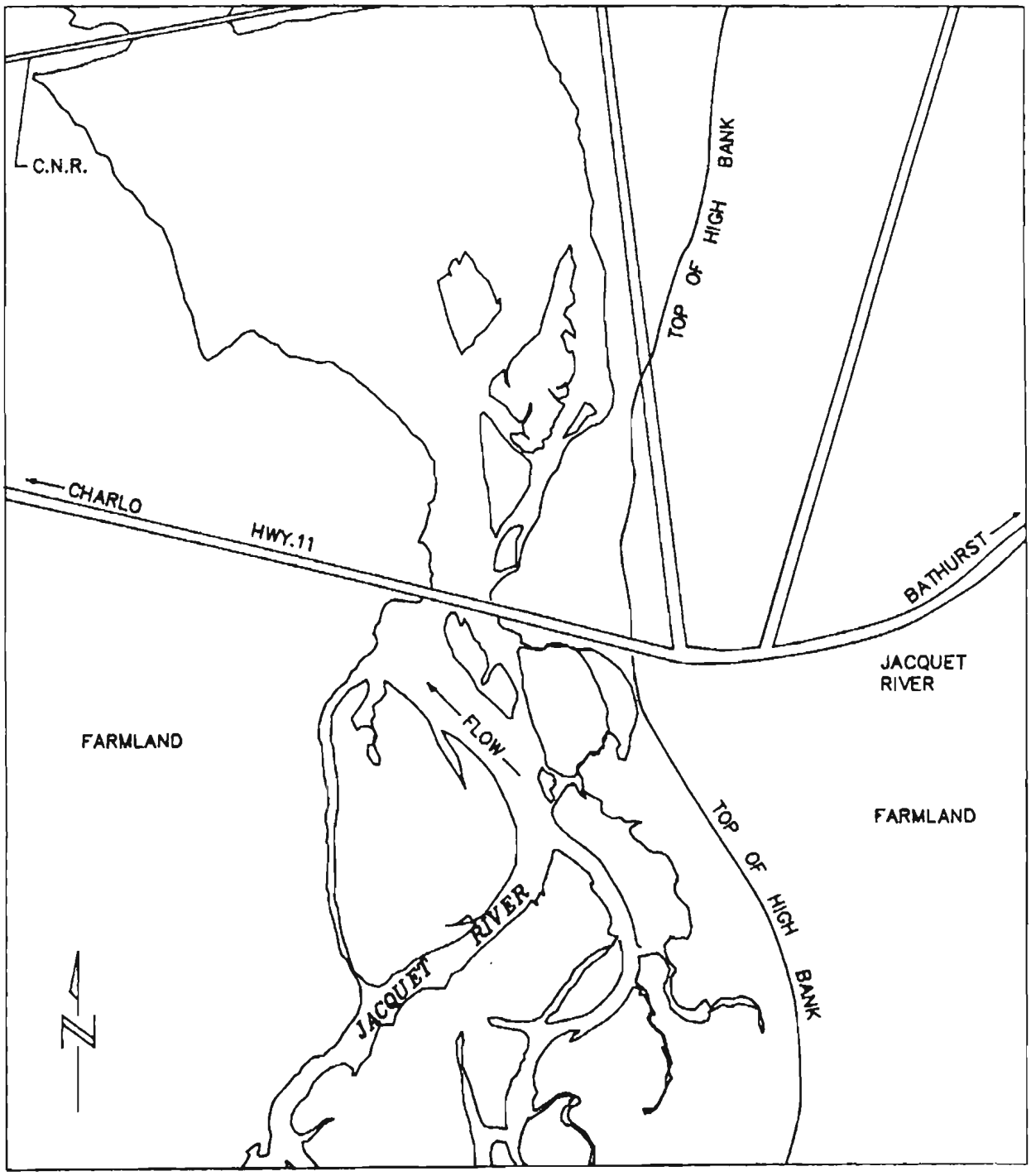
TABLE 1.102 General Site Observations and Remarks
SITE 23, JACQUET RIVER - Below Falls
August 30, 1984

Physical Characteristics	Description
Time	not noted
Weather	sunny, warm
Air temperature (°C)	not noted
Electroseining conditions	good, poor in plunge pool below falls
Instream cover	logs from abandoned cribwork, undercut banks
Bottom	stable
Bottom type (visual est.,%)	cobble/gravel/boulder - 60/30/10
Features (estimate,%)	shallow run/riffle/pool - 60/30/10
Aquatic vegetation	nil
Stream cover	not noted
Banks	stable
Shoreline vegetation	dense alder
Surrounding terrain	upland conifer
Pollution sources	none identified
Resource utilization	unknown
Order stream	3
Photographic record	FHD-84-8-NB-P2 to P4
General	spotcheck - below falls

TABLE 1.103 General Site Observations and Remarks
SITE 23, JACQUET RIVER - Above Falls
August 30, 1984

Physical Characteristics	Description
Time	not noted
Weather	warm, sunny
Air temperature (°C)	not noted
Electroseining conditions	fair
Instream cover	small logs
Bottom	stable
Bottom type (visual est.,%)	boulder/cobble/gravel - 10/30/60
Features (estimate,%)	riffle/shallow pool/run - 40/30/30
Aquatic vegetation	nil
Stream cover	partly open
Banks	stable
Shoreline vegetation	dense alder
Surrounding terrain	upland conifer large boulders, steep slopes
Pollution sources	none identified
Resource utilization	unknown
Order stream	3
Photographic record	FHD-84-8-NB-P1
General	spotcheck above falls

FIG. 1.43 LOCATION OF HYDRAULIC AND PHYSIOGRAPHIC SAMPLING STATIONS, SITE 24, JACQUET RIVER, AUGUST 30,1984



LEGEND

- CROSS-SECTION TRANSECT
- RIFFLE AREA
- POOL
- BARRIER
- GRAVEL

SCALE 0 50 100 150 m (APPROX.)

TOPOGRAPHIC MAP 21-0/16

MILITARY GRID 224 108

TABLE 1.104 General Site Observations and Remarks
SITE 24, JACQUET RIVER, August 30, 1984

Physical Characteristics	Description
Time	1030
Weather	warm, sunny
Air temperature (°C)	not noted
Electroseining conditions	n.a.
Instream cover	n.a.
Bottom	stable
Bottom type (visual est.,%)	not noted
Features (estimate,%)	estuary
Aquatic vegetation	not noted
Stream cover	not noted
Banks	stable
Shoreline vegetation	grasses
Surrounding terrain	estuarian
Pollution sources	some habitation, farming activity
Resource utilization	unknown
Order stream	5
Photographic record	FHD-84-8-NB-244 and 245
General	mouth of estuary being dredged during study, water samples collected at bridge and upstream near head of estuary