

PROJECT SUMMARY

PROJECT 91 11 F004  
SKEENA/BULKLEY RIVER

at

Hazelton

Requested By: D. Nichols, Special Projects Section  
R. White, Smithers Regional office

Time Code No.: 020004

Filed Time: 42.9 man days (300.5 hours)

Field Book No.: 2574

Survey Date  
April 24 and May 3-10, 1991

Personnel  
M. Pronk, J. Duncan, H. Brazier  
R. Barclay, T. Stewart

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This field survey was conducted under favourable conditions under the supervision of M. B. Pronk, Party Chief. Accommodation for the crew was in South Hazelton. Alumaweld riverboat was launched on left bank of Skeena River near XS 10 at Hazelton each day because of the high risk of theft if left overnight. This project was done on a field trip which also included surveys in Stewart and Terrace.

Dick Nichols requested the floodplain survey in Hazelton and Reid White requested a monitoring study using 11 of the 24 1991 cross sections for comparison with cross sections obtained in 1979 under Project 76 FDC-7. These cross sections were relocated by traverse using reference points established in 1979.

1. Field Survey

- Traverse, 24 cross sections (16 Skeena and 8 Bulkley) and longitudinal profile (Skeena and Bulkley).
- Established temporary bench marks 4166 to 4172.
- Established bench mark 91 HAW 031.
- A video of the project area was filmed by J. Duncan using a Camcorder.

## 2. Survey Data

- Horizontal control was established by E. D. M. traverse using a total station theodolite.
- Vertical control was established by differential levelling and confirmed by reciprocal height traversing using a total station theodolite.
- Cross section topography and bathymetric fixes were obtained using a total station theodolite.
- Subaqueous depths were obtained using an echo sounding depth recorder.
- Traverse stations and cross sections were referenced with either a bolt or spike.

## 3. Datum

- Horizontal control is based on cross section reference points established in June 1979 by Water Management Division under Project 76 FDC-7 which were traversed from a reference point with assigned scaled coordinates.
- Bearings were derived from solar observations in June 1979.
- Coordinates are Universal Transverse Mercator, Zone 9, Central Meridian 129 degrees (NAD27).
- Vertical control is based on Water Resources Service bench mark 1174 and temporary bench marks 3786 and 3823 established by Water Management Division in June 1979 from Geodetic Survey of Canada bench mark 1835-J.
- Elevations are in metres and referred to geodetic datum.

## 4. Data Returns

### Technical Support Section File

- Reduced field survey data including traverse, levels, cross section and longitudinal sounding charts, list of temporary bench marks established (4166 to 4172), description of bench mark 91HAW031.
- List of map spot elevations checked by level.
- 1991 cross section data for Skeena River XS 1-4, 4A, 5-15 and Bulkley River XS 1-8 with plot at scale H1:2000 V1:200.
- Longitudinal profile data of Skeena and Bulkley River with cross section water level elevations and plot at scale H1:10,000 V1:200.
- Topographic plan showing locations of cross sections Drawing No. 91-28-1 Scale 1:5000.
- 1991 and 1979 monitoring cross section data for Skeena river XS 4A, 5, 7-13 and Bulkley River XS 1 and 3.

Skeena/Bulkley River  
at Hazelton

Project 91 11 F004  
Special Projects Section File

List of Contents

1. File Pouch Containing:
  - copy of Drawing No. 91-28-1 (Scale 1:5000)
  - Topographic plan showing locations of cross sections
  - Copy of historical flood information provided by The Village of Hazelton office
  - 3.5 inch floppy disk with cross section G. R. data (with and without decimals)
  - VHS tape of Project area
    - 0000 - 1243 Bulkley River XS 1 to 8
    - 1244 - 1556 Bulkley River thalweg XS 7 to 1 at confluence
    - 1557 - 2371 Skeena River XS 1 to 15
2. Project Request
3. Mapping Spot Elevation checks in Hazelton
4. Skeena River XS 1-4, 4A, 5-15 and Bulkley River XS 1-8
  - a) Cross Sections
    - listing of G. R. data
    - listing of written profile
    - plot at scale H1:2000 V1:200
  - b) Longitudinal Profile
    - listing of XS water level elevations
    - listing of written profile
    - plot at scale H1:10,000 V1:200
5. Monitoring Cross Sections 1991 and 1979
  - a) Skeena River XS 4A, 5, 7-13
    - listing of written profile for 1991 and 1979
    - plot at scale H1:2000 V1:200
  - b) Bulkley River XS 1 and 3
    - listing of written profile for 1991 and 1979
    - plot at scale H1:2000 V1:200

Skeena/Bulkley River  
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Project 91 11 F004  
Monitoring Cross Sections  
1991 and 1979  
Smithers Office File

In March 1991, Dick Nichols, Special Projects Section, requested a floodplain survey at Hazelton. The field survey which was completed in May 1991 included 24 cross sections, 16 on the Skeena River and 8 on the Bulkley River.

Eleven of the 24 cross sections in May 1991 are a re-survey of cross sections established in June 1979 under Project 76FDC7. Mr. Reid White, Smithers Regional office, requested this for a monitoring study with the 1991 and 1979 cross section data.

The cross section reference numbers for both years of the monitoring study are listed below:

Skeena River	
1991	1979
4A	9
5	8
7	7
8	1
9	2
10	3
11	4
12	5
13	6

Bulkley River	
1991	1979
1	10
3	11

Monitoring cross section data includes:

- Written profile for 1991 and 1979
- Plot at scale H1:2000 V1:200
- Topographic plan showing location of 1991 cross sections, Drawing No. 91-28-1 Scale 1:5000

In addition to the above, this folder contains:

- Written profile and plot (H1:2000 V1:200) for the remaining 13 1991 cross sections, 7 on the Skeena and 6 on the Bulkley
- Description of 2 Water Management Division bench marks established in Hazelton (WRS MON 1174 and 91 HAW 031)
- VHS Tape of project area
  - 0000 - 1243 Bulkley River XS 1 to 8
  - 1244 - 1556 Bulkley River thalweg XS 7 to 1 at confluence
  - 1557 - 2371 Skeena River XS 1 to 15