

Project Summary

Projects 2000-1 and 2001-1 Thompson River at Kamloops Lake Outlet and Projects 2000-2 and 2001-2 Thompson, North & South Thompson Rivers at Kamloops

These reports are a compilation of data from field surveys in 2000 and 2001 for the above named projects, including data from previous surveys in 1961, 1962, 1971, 1973, 1978 for their respective river reaches.

Projects 2000-1 and 2001-1 Thompson River at Kamloops Lake Outlet

Cross Section 1-9, 9.1, 10, 10.1, 11, 11.1, 12-25

Project Nos.: 2000-1 and 2001-1

Requested by:
P. Woods, Inspector of Dikes
Water Protection Branch

Field Surveys: September 29 to October 3, 2000 XS1-18
 XS 9.1, 10.1, 11.1, 19-25
 April 10-12, 2001

Field Staff: B. Edward, J. Duncan and M. Pronk

The field surveys were carried out under favorable conditions by a three man crew under the supervision of M. Pronk.

Thompson River

A total of twenty-eight (28) cross sections were surveyed on the Thompson River from Kamloops Lake Outlet to approximately 2.5 kilometers downstream. Twenty-three (23) of these were re-surveyed cross sections (sounding lines) completed in July 1971 under Project 71-22 which were established by traverse and triangulation.

Survey Logistics:

Horizontal and vertical control established by EDM traverse using a total station theodolite. Cross section data obtained using a total station theodolite. Position control for bathymetry established by fixes using a total station theodolite set over coordinated shore stations and subaqueous depths obtained with an echo sounding depth recorder.

Datum:

Horizontal control for cross sections are based on stations 'Savona' and 'Green Ecc. West' established by Dominion Lands Survey of Canada in 1926, as listed in Geographic BC Survey Control Databank. Coordinates are Universal Transverse Mercator, Zone 10, Central Meridian 123 degrees, NAD83. Vertical control for cross sections are based on Geodetic Survey of Canada bench mark 89C081, as listed in Geographic Data BC Survey Control Databank. Elevations are in metres and referred to Canadian Geodetic Datum, CVD28.

Project Summary

Projects 2000-1 and 2001-1 Thompson River at Kamloops Lake Outlet and Projects 2000-2 and 2001-2 Thompson, North & South Thompson Rivers at Kamloops

These reports are a compilation of data from field surveys in 2000 and 2001 for the above named projects, including data from previous surveys in 1961, 1962, 1971, 1973, 1978 for their respective river reaches.

Projects 2000-2 and 2001-2 Thompson, North & South Thompson Rivers at Kamloops

Thompson	Cross Section 1-40 including 34.1, 35.1, 36.1, 38.1, 38.2, 38.3
North Thompson	Cross Section 2, 3, 5-20 including 1.1, 2.1, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2, 6.3, 7.1, 7.2, 7.3, 7.4, 8.1, 9.1, 9.2, 10.1, 10.2, 11.1, 12.1, 12.2, 13.1, 13.2, 14.1, 15.1, 16.1, 17.1, 17.2, 18.1, 18.2, 18.3, 19.1
South Thompson	Cross Section 1, 2, 5, 8-29, 32-33 including 0.1, 1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2, 7.1, 7.2, 7.3, 12.1, 13.1, 15.1, 18.1, 21.1, 22.1, 26.1, 29.1, 30.1, 30.2, 31.1

Project Nos.: 2000-2 and 2001-2

Requested by:
P. Woods, Inspector of Dikes
Water Protection Branch

Field Surveys:	Thompson	October 5-21, 2000	
	North Thompson	October 4, 24-30, 2000	XS 2, 3, 5, 6 including 1.1, 2.1, 3.1, 3.2, 3.3 XS 3.4, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2, 6.3, 7.1
		April 27- May 8, 2001	XS 7-20 including 7.2, 7.3, 7.4, 8.1, 9.1, XS 9.2, 10.1, 10.2, 11.1, 12.1, 12.2, 13.1, XS13.2, 14.1, 15.1, 16.1, 17.1, 17.2, 18.1, XS18.2, 18.3, 19.1
	South Thompson	April 13-26, 2001	

Field Staff: B. Edward, J. Duncan and M. Pronk

The field surveys were carried out under favorable conditions by a three man crew under the supervision of M. Pronk.

Thompson River

A total of forty six (46) cross sections were surveyed on the Thompson River from the confluence of North and South Thompson Rivers approximately 15 kilometres downstream to Kamloops City Boundary at Kamloops Lake. Forty three (43) of these were re-surveyed cross sections completed in July/August 1971 under Project 71-23 which were established by traverse and triangulation.

North Thompson River

A total of fifty four (54) cross sections were surveyed on the Thompson River from the confluence of North and South Thompson Rivers approximately 27 kilometres upstream to Kamloops City Boundary at Heffley. Eighteen (18) of these were re-surveyed cross sections completed in June 1978 under Project 77FDC07 which were established by aerial photograph identification and three (3) were re-surveyed cross sections completed in August 1971 under Project 71-23 which were established by traverse and triangulation.

South Thompson River

A total of fifty four (54) cross sections were surveyed on the Thompson River from the confluence of North and South Thompson Rivers approximately 23 kilometres upstream to Kamloops City Boundary at LaFarge Cement Plant Bridge. Twenty six (26) of these were re-surveyed cross sections completed in June 1973 under Project 73F2A which were established by aerial photograph identification and six (6) were re-surveyed cross sections completed in August 1971 under Project 71-23 which were established by traverse and triangulation.

Survey Logistics:

Horizontal and vertical control established by EDM traverse using a total station theodolite. Cross section data obtained using a total station theodolite. Position control for bathymetry established by fixes using a total station theodolite set over coordinated shore stations and subaqueous depths obtained with an echo sounding depth recorder.

Datum:

Horizontal control for cross sections are based on BC Control Survey posts 77H6406, 77H6415, 79H0338, 79H0368, 82H5250, 82H5268, 82H5273, 82H5277, 82H5283, 83H6114, 83H6150, 83H6166, 84H9537, 84H9550, 84H9795, 84H9871, 84H9882, 87H3103, 89H5352, 89H5375, 89H5403, 91H0361, 94H1296, 94H1309, 94H1320, 95H1775; Geodetic Survey of Canada bench mark 554J-2 and Water Resources Service bench mark 372, as listed in Geographic BC Survey Control Databank; City of Kamloops GPS Control Survey posts 9409, 9448 and bolts sta. 2 and sta 3. Coordinates are Universal Transverse Mercator, Zone 10, Central Meridian 123 degrees, NAD83. Vertical control for cross sections are based on BC Control Survey posts 77H6406, 79H0338, 82H5250, 82H5273, 82H5277, 82H5283, 83H6114, 84H9537, 84H9882, 89H5352, 89H5403, 94H1296, 94H1309, 95H1781; Geodetic Survey of Canada bench mark 554J-2 and 89C047, as listed in Geographic Data BC Survey Control Databank; City of Kamloops GPS Survey Control post 9409 and bolt sta. 3. Elevations are in metres and referred to Canadian Geodetic Datum, CVD28.

Data Returns

Four copies (packages) of one volume each, containing:

- **Thompson River at Kamloops Lake Outlet (see attached Index A)**
1 volume – 2000/2001 Survey Cross Section Data including 1971 and 1961 data
 - Project Summary includes copy of Memorandum, CD Readme.doc and Index A, B, C, D
 - Thompson River at Kamloops Lake Outlet Thompson, North & South Thompson Rivers at Kamloops
 - Plan - Showing Location of Cross Sections: Dwg. No. 2000-47, H1:2500
 - Plan Plots – Showing Location of Cross Section Sounding & Topographic Points, 4 sheets H1:1000
 - Profile – Cross Section Lowest Elevation and Sounding Water Level Elevation, H1:5000 V1:200
 - Hec-2 G.R. Cross Section Data (with decimals)
 - Cross section Plots (with photographs and point profile data) H1:1000 V1:100 or as noted
 - 1961 Survey Reference Drawings: Dwg. No. 4412R Sheets 1 to 3, 1 inch = 200 feet or as noted
 - Kamloops Lake Reference Drawings: Dwg. No's. 4630-6, 4630-6A-1, 4630-6B, 4630-6C, 4630-6D
 - Water Survey of Canada Gauge Descriptions: Thompson River 08LF033, Kamloops Lake 08LF046
 - Bridge Plans: M.O.T.H. Bridge #704 (1928), #704 (1993)
 - One CD with selective data of Projects Thompson River at Kamloops Lake Outlet and Thompson, North & South Thompson Rivers at Kamloops (see attached Readme.doc)

- **Thompson, North and South Thompson Rivers at Kamloops (see attached Index B, C, D)**
 - Thompson 1 volume - 2000 Survey Cross Section Data including 1971 and 1962 data
 - North Thompson 1 volume - 2000/2001 Survey Cross Section Data including 1978, 1971 & 1962 data
 - South Thompson 1 volume - 2001 Survey Cross Section Data including 1973, 1971 and 1962 data
- Project Summary including copy of Memorandum, CD Readme.doc and Index A, B, C, D
- Thompson River at Kamloops Lake Outlet Thompson, North & South Thompson Rivers at Kamloops
- Plan - Showing Location of Cross Sections: Dwg. Nos. 2001-1, 2001-2, 2001-3, H1:20000
- Profile – Cross Section Lowest Elevation and Sounding Water Level Elevation, H1:10000 V1:200
- Hec-2 G.R. Cross Section Data (with decimals)
- Cross section Plots (with photographs) and point profile data H1:2000 V1:100
- 1962 Survey Reference Drawings: Dwg. No. 4412, 4412A to 4412S, reduced copy not to scale
- Water Survey of Canada Gauge Descriptions:

Thompson	08LF023, 08LF025
North Thompson	08LE031
South Thompson	08LB064
- Bridge Plans:

Thompson	M.O.T.H. Bridge #452, #1544
North Thompson	M.O.T.H. Bridge #2810 and C.N.R. Bridge #10
South Thompson	C.N.R Bridge #300 and M.O.T.H. Bridge #2487, #0098, #2404
- One CD with selective data of Projects Thompson River at Kamloops Lake Outlet and Thompson, North & South Thompson Rivers at Kamloops (see attached Readme.doc)

Four copies (packages) have been forwarded to P. Woods, Inspector of Dikes, Water Protection Branch, Ministry of Water, Land and Air Protection for his distribution.

Mike Pronk, Head
Water Surveys Unit
Water inventory Section
Environment Inventory Branch
Ministry of Sustainable Resource Management

INDEX A

Project Summary – Thompson River at Kamloops Lake Outlet

Thompson River

Plan – Showing Location of Cross Sections

2000/2001 Surveys – Thompson River at Kamloops Lake Outlet

Drawing No. 2000-47 Scale 1:2500

Plan Plots – Showing Location of Cross Section Sounding & Topography Points

2000/2001 Surveys Cross Sections 1-25 including 9.1, 101., 11.1

1971 Survey Cross Sections (Lines) 1-8, 20-27, 36, 40, 47, 53, 58, 63, 68

4 Sheets Scale 1:1000

Profile - Cross Section Lowest Elevation and Sounding Water Level Elevation

2000/2001 Surveys Cross Sections 1-25 including 9.1, 10.1, 11.1

1971 Survey Cross Sections (Lines) 1-8, 20-27, 36, 40, 47, 53, 58, 63, 68

Scale H1:5000 V1:200

HEC-2 G.R. Cross Section Data (with decimals)

2000/2001 Surveys Cross Sections 1-25 including 9.1, 10.1, 11.1

1971 Survey Cross Sections (Lines) 1-8, 20-27, 36, 40, 47, 53, 58, 63, 68

Cross Section Plots (with photographs and point profile data)

2000/2001 Surveys Cross Sections 1-25 including 9.1, 10.1, 11.1

1971 Survey Cross Sections (Lines) 1-8, 20-27, 36, 40, 47, 53, 58, 63, 68

Scale H1:1000 V1:100 or as noted)

1961 Survey Reference Drawings

Thompson River – Plan and Cross Sections, Drawing No. M126 (Multiplex) Sheets 1 to 3
(Drawing No. M126 same as Drawing No. 4412R but without the Profile)

Thompson River – Plan, Profile and Cross Sections, Drawing No. 4412R Sheets 1 to 3
(Enlargements of 105 mm Negatives Nos. 25062-64, Original Drawings destroyed)

Kamloops Lake Reference Drawings

Plan of Lake (1962) – Dwg. No. 4630-6; Bathymetric Plan of Outlet (1971) – Dwg. No. 4630-6A-1;
Spot Elevations of Outlet (1971) – Dwg. No. 4630-6B;
Bathymetric Plan of Thompson River Delta (1971) – Dwg. No. 4630-6C;
Bathymetric Plan of Tranquille Area (1978) – Dwg. No. 4630-6D

Water Survey of Canada Gauge Descriptions

08LF033 – Thompson River at Outlet of Kamloops Lake (Decommissioned)

08LF046 – Kamloops Lake at Savona (Decommissioned)

Ministry of Transportation & Highways Bridge Plans (reduced copy, not to scale)

Savona Bridge (1928) Decommissioned - Thompson River, Dwg. Nos. 704-1 to 704-3, and 704-19

Savona Bridge (1993) - Thompson River, Dwg. Nos. 704-101 to 704-108

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Project Summary – Thompson, North & South Thompson Rivers at Kamloops

Thompson River

Plan – Showing Location of Cross Sections

2000/2001 Surveys – Thompson, North and South Thompson Rivers at Kamloops

Drawing Nos. 2001-1, 2001-2 and 2001-3 Scale 1:20000

Profile – Cross Section Lowest Elevation & Sounding Water Level Elevation

2000 Survey Cross Sections 1-40 including 34.1, 35.1, 36.1, 38.1, 38.2, 38.3

1971 Survey Cross Sections 1-39 including 34.1, 35.1, 36.1 and 1978 Survey Cross Section 1 (NT1)

Scale H1:10000 V1:200

HEC2 G.R. Cross Section Data (with decimals)

2000 Survey Cross Sections 1-40 including 34.1, 35.1, 36.1, 38.1, 38.2, 38.3

1971 Survey Cross Sections 1-39 including 34.1, 35.1, 36.1

1978 Survey Cross Section 1 (NT1, 10 meters upstream of Overlander Bridge)

Cross Section Plots (with photographs) & Point Profile Data

2000 Survey Cross Sections 1-40 including 34.1, 35.1, 36.1, 38.1, 38.2, 38.3

1971 Survey Cross Sections 1-39 including 34.1, 35.1, 36.1 and 1978 Survey Cross Section 1 (NT1)

Scale H1:2000 V1:100

1962 Survey Reference Drawings (*reduced copy, not to scale*)

Kamloops Flooding Report – Drawing Nos. 4412, 4412A to 4412S

Original Drawings destroyed, Microfilm 105mm negative nos. 250035 to 25071, see index

Water Survey of Canada Gauge Descriptions

08LF023 - Thompson River at Kamloops (Overlander Bridge)

08LF025 - Kamloops Lake near Kamloops (Decommissioned)

08LE031 - South Thompson River at Chase

08LB064 - North Thompson River at McClure

Ministry of Transportation & Highways Bridge Plans (*reduced copy, not to scale*)

Kamloops Bridge #452 (Decommissioned) - Thompson River, Dwg. No. 452-6

Kamloops Bridge #1544 – Thompson River, Dwg. Nos. 1544-6, 1544-9 to 1544-21 and 6240-1

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Project Summary – Thompson, North & South Thompson Rivers at Kamloops

North Thompson River

Plan – Showing Location of Cross Sections

2000/2001 Surveys – Thompson, North and South Thompson Rivers at Kamloops

Drawing Nos. 2001-1, 2001-2 and 2001-3 Scale 1:20000

Profile – Cross Section Lowest Elevation & Sounding Water Level Elevation

2000/2001 Surveys Cross Sections 2, 3, 5-20 including

1.1, 2.1, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2, 6.3, 7.1, 7.2, 7.3, 7.4, 8.1, 91.1, 9.2, 10.1, 10.2, 11.1, 12.1, 12.2, 13.1, 13.2, 14.1, 15.1, 16.1, 17.1, 17.2, 18.1, 18.2, 18.3, 19.1

1978 Survey Cross Sections 2-20 and 1971 Survey Cross Sections 1-7

Scale H1:10000 V1:200

HEC2 G.R. Cross Section Data (with decimals)

2000/2001 Surveys Cross Sections 2, 3, 5-20 including

1.1, 2.1, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2, 6.3, 7.1, 7.2, 7.3, 7.4, 8.1, 91.1, 9.2, 10.1, 10.2, 11.1, 12.1, 12.2, 13.1, 13.2, 14.1, 15.1, 16.1, 17.1, 17.2, 18.1, 18.2, 18.3, 19.1

1978 Survey Cross Sections 2-20

1971 Survey Cross Sections 1-7

Cross Section Plots (with photographs) & Point Profile Data

2000/2001 Surveys Cross Sections 2, 3, 5-20 including

1.1, 2.1, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2, 6.3, 7.1, 7.2, 7.3, 7.4, 8.1, 91.1, 9.2, 10.1, 10.2, 11.1, 12.1, 12.2, 13.1, 13.2, 14.1, 15.1, 16.1, 17.1, 17.2, 18.1, 18.2, 18.3, 19.1

1978 Survey Cross Sections 2-20 and 1971 Survey Cross Sections 1-7

Scale H1:2000 V1:100

1962 Survey Reference Drawings (*reduced copy, not to scale*)

Kamloops Flooding Report – Drawing Nos. 4412, 4412A to 4412S

Original Drawings destroyed, Microfilm 105mm negative nos. 250035 to 25071, see index

Water Survey of Canada Gauge Descriptions

08LF023 - Thompson River at Kamloops (Overlander Bridge)

08LF025 - Kamloops Lake near Kamloops (Decommissioned)

08LE031 - South Thompson River at Chase

08LB064 - North Thompson River at McClure

M.O.T.H. (#2810) & C.N.R. (#10) Bridge Plans (*reduced copy, not to scale*)

Kamloops Bridge #2810 - North Thompson River, Dwg. Nos. 2810-6/7, 2810-11/15, 2810-55

Kamloops Bridge #10 - North Thompson River, Dwg. Nos. D433-1, D433-1Neg, D433-2A, E433-2

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Project Summary – Thompson, North & South Thompson Rivers at Kamloops

South Thompson River

Plan – Showing Location of Cross Sections

2000/2001 Surveys – Thompson, North and South Thompson Rivers at Kamloops

Drawing Nos. 2001-1, 2001-2 and 2001-3 Scale 1:20000

Profile – Cross Section Lowest Elevation & Sounding Water Level Elevation

2001 Survey Cross Sections 1, 2, 5, 8-29, 32-33 including
0.1, 1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2, 7.1, 7.2,
7.3, 12.1, 13.1, 15.1, 18.1, 21.1, 22.1, 26.1, 29.1, 30.1, 30.2, 31.1

1973 Survey Cross Sections 1-24, 26-33 and 1971 Survey Cross Sections 1-9
Scale H1:10000 V1:200

HEC2 G.R. Cross Section Data (with decimals)

2001 Survey Cross Sections 1, 2, 5, 8-29, 32-33 including
0.1, 1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2, 7.1, 7.2,
7.3, 12.1, 13.1, 15.1, 18.1, 21.1, 22.1, 26.1, 29.1, 30.1, 30.2, 31.1

1973 Survey Cross Sections 1-24, 26-33
1971 Survey Cross Sections 1-9

Cross Section Plots (with photographs) & Point Profile Data

2001 Surveys Cross Sections 1, 2, 5, 8-29, 32-33 including
0.1, 1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2, 7.1, 7.2,
7.3, 12.1, 13.1, 15.1, 18.1, 21.1, 22.1, 26.1, 29.1, 30.1, 30.2, 31.1
1973 Survey Cross Sections 1-24, 26-33 and 1971 Survey Cross Sections 1-9
Scale H1:2000 V1:100

1962 Survey Reference Drawings (*reduced copy, not to scale*)

Kamloops Flooding Report – Drawing Nos. 4412, 4412A to 4412S

Original Drawings destroyed, Microfilm 105mm negative nos. 250035 to 25071, see index

Water Survey of Canada Gauge Descriptions

08LF023 - Thompson River at Kamloops (Overlander Bridge)
08LF025 - Kamloops Lake near Kamloops (Decommissioned)
08LE031 - South Thompson River at Chase
08LB064 - North Thompson River at McClure

C.N.R. (#300) & M.O.T.H. (#2487, 98, 2404) Bridge Plans (*reduced copy, not to scale*)

Kamloops Bridge #300 - South Thompson River, Dwg. Nos. D300-9, D300-11A/14A, D300-16A,
D300-25, E300-1A, E300-2

Kamloops East Bridge #2487 - South Thompson River, Dwg. Nos. 2487-15/16, 2487-19/21, 2487-39

Kamloops East Bridge #98 - South Thompson River, Dwg. Nos. 98-33/34, 98-36/38, 98-40

Lafarge Cement Bridge #2404 - South Thompson River, Dwg. Nos. KS7001, KS7002, KS7003