Edward Pretious
fonds

Originally compiled 1985
Revised by Erwin Wodarczak (2010), Stacy Paull (2016), and Manfred Nissley (2018)
Last revised November 2018

University of British Columbia Archives
Table of Contents

- **Fonds Description**
  - Title / Dates of Creation / Physical Description
  - Biographical Sketch
  - Scope and Content
  - Notes

- **Series Descriptions**
  - Fraser River Model series
  - Vancouver Harbour Model series
  - UBC Course Materials series
  - Miscellaneous Projects series
  - General Correspondence
  - Non-UBC Education and Lectures Series

- **File List**

- **Catalogue entry** (UBC Library catalogue)
Fonds Description

2.43 m of textual records.

Biographical Sketch
Edward S. Pretious was born in Calcutta, India. He obtained his B.A.Sc. in Civil Engineering from the University of British Columbia (1929) and M.Sc. in Hydraulics from Iowa State University (1939). He joined the Department of Civil Engineering at UBC in 1940, remaining there until his retirement in the early 1970s. Interested in hydraulic engineering and research projects relating to fish conservation in B.C., Pretious headed the Fraser River Model Project (1948-1961) and the Vancouver Harbour and Burrard Inlet Model Project (1953-1956). The Fraser River Model Project was designed to help improve navigation on the Fraser River Estuary. Located on a three-acre site on the western edge of the Point Grey campus, the project was a hydraulic, erodible-bed, tidal river model and one of the largest in the world. The Vancouver Harbour - Burrard Inlet Project had the primary objective of determining the effects on currents, tides, and navigation of proposed dredging in the First Narrows. A pilot model of the First Narrows was built by the National Research Council of Canada, in cooperation with UBC, on the site of the Fraser River Model, near the Arboretum.

Scope and Content
The fonds consists of records from the Fraser River Model Project (1949-1962); the Vancouver Harbour and Burrard Inlet Model Project (1953-1956); materials generated in teaching and taking UBC engineering courses (1922-1972), academic materials generated outside of the UBC system, and miscellaneous engineering projects that Pretious participated in his time at UBC (1942-1977). The records have been separated into six different series. Reports and memoranda which were issued as a series have been arranged in series order, but other items were filed arbitrarily under the two projects and have been maintained this way.

Notes
Title based on the contents of the fonds.

Related records can be found in the Fraser River Model Project fonds.
Series Descriptions

**Fraser River Model Series.** — 1949-1962.
1.18 meter of textual records.

Series includes records related to the Fraser River Model Engineering project. Including scientific notes, publications and reports generated by Pretious.

**Vancouver Harbour and Burrard Inlet Model Project.** – 1953-1956.
28 cm. of textual records.

The Vancouver Harbour - Burrard Inlet Project had the primary objective of determining the effects on currents, tides, and navigation of proposed dredging in the First Narrows.

**UBC Course Materials Series.** – 1922-1972.
51 cm. of textual records.

Series consists of notes and projects from Pretious’ time as a student and materials from different courses he taught as a professor.

37 cm. of textual records.

Series consists of a range of research materials relating to different engineering projects Pretious was involved in. They are arranged in no particular order.

**General Correspondence.** – 1947-1973
3 cm. of textual records.

Series consists of correspondence with scientists and other professionals during Pretious’s time at UBC.

6 cm. of textual materials

Series consists of notes taken during Pretious’s time as a student at Iowa State as well as lectures outside of UBC.
File List

FRASER RIVER MODEL SERIES

BOX 1

Scrapbook. 1949-1962.

[Primarily of clippings related to the Fraser River Model].

BOX 2

Fraser River Model. FRM reports.


FRM-203. Friction in hydraulic models involving non-uniform steady flow in open channels / E.S. Pretious. June 22, 1953.

FRM-204. Friction in hydraulic models involving non-uniform unsteady flow in open channels / E.S. Pretious. August 19, 1953.

FRM-205. A Stage verification for June 30, 1950, and probable effects of proposed structures an these stages / E.S. Pretious, I.D. Smith, E.D. Tharne. September 3, 1953.


FRM-217 (Revised). December 6, 1960.


BOX 3

Fraser River Model. FRM reports (cont.)


BOX 4

Fraser River Model. FRM reports (cont.)


FRM-228, Part B. Preliminary model studies to reduce dredging and improve navigation conditions from Steveston to the mouth of the Fraser River, B.C. / E.S. Pretious, E. Vollmer. May 31, 1960.


FRM-230. Model tests to determine the effects of proposed dredging by Fenco in the Port Mann-Sapperton Areas of the Fraser River / E. Vollmer. December 1, 1958.


BOX 5

Fraser River Model. Reports and Memoranda.


Laboratory flume studies, Deas Island Tunnel / E.S. Pretious, E. Vollmer, A.C, Mercer. November 18, 1957. [Several articles, memoranda, and reports related to the tunnel have been placed inside].

Field trip from P.W.C. Wharf No.1 Road, Steveston, to Deas Island / E. Vollmer, J.E. Barlow. September 19, 1957.
Fraser River Model, a joint project between the University of British Columbia and the Department of Public Works, Canada: some facts relating to the project and a summary of studies made / E.S. Pretious. July 1961.

Final report on special observations of bed movement in lower Fraser River at Ladner Reach during 1950 freshet and till June 1951. Including supplementary report no. 1 to Memorandum re. special observations, 1950 freshet / E.S. Pretious, T. Blench. Vancouver : National Research Council, July 6, 1951.


Technical memorandum: Critical mean velocities of various grades of sand as determined by flume studies / J.E. Barlow. March 29, 1962. [Follow-up of Technical Note 30].

Principles of river training as an aid to navigation, with occasional reference to the Fraser River, B.C.; basic laws of river behaviour / E.S. Pretious. (Technical report no. 5). July 22, 1960.


Progress reports / Fraser River Model. PR 1001-1094, 1953-1962.

Fraser River Model aids engineering studies of navigation requirements / E.S. Pretious. December 28, 1955.

Radii of bands, sand slopes. [Handwritten, n.d.].
Fraser River Model. Technical notes and reports.

Technical notes nos. 1-29 [No. 29 is missing]. 1950-1951.

1. Note on modelling Pitt Lake.
2. Tentative calculations of Fraser River tidal celerities and currents.
3. Proposal for training in practical sediment-transport observations.
5. Proposal to construct a 400-foot-long flume for sediment-transport experiments.
7. Supplementary report no. 1 to memorandum re. special observations 1950 freshet, September 1950.
8. Memorandum covering modifications and test on control equipment, Fraser River Model, October 1950.
9. Memorandum report on flume studies and bed movement of Fraser River sand, November 1950, with supplement to February 1951.
10. Instructional manual for electronic control equipment.
11. An Analysis of the Fraser River Model tidal control.
12. Memorandum on sand grading and analysis.
13. Memorandum on a visit to United Kingdom Hydraulic Laboratories.
14. Memorandum on sands available for model bed.
15. Notes on mapping, template making and contour plots pertinent to the Fraser River Model.
16. Preliminary investigations of temperature records on the Fraser River.
17. Memorandum to supplementary report no. 1, special observations 1950 freshet.
18. Memorandum on survey data, discharge and gauge height information available on the Fraser River.
19. River discharge and sand injection control equipment, and appendix.
21. Discharge observations for tidal rivers.
22. Effects of varying tides on Fraser River stages.
23. Note on bed load for Fraser River Model.
25. Preliminary survey of Fraser River (North Arm) bed sediment.
26. Second note on electric analogue for tides in estuaries.
27. Description of block diagram for control equipment.
28. Note on hunting of gates of Fraser River Model.


Fitting curves to empirical data / E.S. Pretious. (Technical note 31). February 8, 1956.


Items attached to technical note 35. [Correspondence, related articles].


Report nos. HY 101-103, 105-114.
109. Operating instructions for the Fraser River Model / J.E. Barlow. August
26, 1952.
111. A Brief report on controls and indicators of the Fraser River Model / E.S. Pretious, I.D. Smith. August 18, 1952.

Report nos. HY 115-122.

The Fraser River Model: a brief general report an scope and progress / E.S. Pretious. n.d.

BOX 7

Fraser River Model Progress Reports

FRM Progress reports U.B.C. nos. 1-4, 1949
FRM Progress reports U.B.C. nos. 5-7, 1950-51
Map: Vancouver First Narrows before dredging. 1955.

Drawings to accompany Progress report U.B.C. no. 3.
Drawings to accompany Progress report U.B.C. no. 4.
Drawings to accompany Progress report U.B.C. no. 5.
Drawings to accompany Progress report U.B.C. no. 7 (2 copies).

BOX 8

Fraser River Model and Vancouver Harbour Model

[All publications prepared or issued by the Fraser River Model Office from commencement of project up to and including March 1962.]

Fraser River Model library list. September 1961.

Fraser River Model index to map filing system. [1961].

Filing system for maps and drawings. 1953.


(continued)

VANCOUVERHarbour & Burrard Inlet Model Project Series

A Brief outline of the Vancouver Harbour Project / E.S. Pretious. 1954.


Vancouver Harbour Model. Miscellaneous electrical diagrams. n.d.


Maps to accompany memoranda. n.d.

Note on Vancouver Harbour Model reports.


Newsclippings, notes. 1953.
BOX 9

VHM-IR 2: Aerial view of Burrard Inlet (negative).

VHM-5: Negatives of photos to accompany report.

Pamphlet bound, finished copies of:

VHM-IR 1
VHM-IR 2
VHM-1
VHM-2
VHM-3
VHM-4
VHM-5
VHM-6
VHM-7

UBC COURSE MATERIALS SERIES

9-1  Class Notes, CE 547, 1971-1972
9-2  Class Notes, CE 546, 1971-1972
9-3  Class Notes, CE 546 Spring Term, 1971-1972

BOX 10

10-1 Class Materials, CE 560
10-2  CE 360 Lab
10-3 Class Notes, CE 553
10-4 Class Notes, CE 476
10-5  Fortran IV, 1966
10-6  Math 355, 1962
10-7  Computer & Hydraulics [lecture notes], 1965-1967
10-8  CE 12, 21, 29, 1928
10-9  CE 9 Structural Design, 1923-1928

BOX 11

11-1  Class Notes, CE 19, 1923-1928
11-2  CE 23 Notes, 1923-1928
11-3 CE 2 Notes on Surveying, 1923-1928
11-4 Legal Aspects [of Engineering], 1923-1928
11-5 [Legal Aspects of Construction Industry], 1923-1928
11-6 Theory of Earth Pressures Notes, 1923-1928
11-7 The Tides, 1923-1928
11-8 NRC Grants
11-9 Cost Records, 1954
11-10 Hydraulic Notes
11-11 Precious Thesis
11-12 Class of 29 Reunion

(continued)

BOX 12

MISC. PROJECT SERIES

12-1 Wind-Generated Surface Water Waves Technical Report, No. 6, 1962
12-2 Report of Orifice Calibration, 1966
12-3 Hydraulic Model of Hell’s Gate Canyon Part 1, 1942
12-4 Hells’s Gate, Right Bank Low Level Fishway Model Studies of Diffusion Chamber, 1947-1948
12-5 Odyssey of a Pioneer family & Rough Notes, 1986 (Contains photo negatives and photos)
12-6 Calibration of Weir and Orifice, 1954
12-7 UBC Campus maps
12-8 Railway maps, 1940-1977
12-9 Fisheries and Salmon [Fraser River], 1950-1952
12-10 Wave Research Equipment Correspondence, 1964-1968
12-11 Fisheries Research, 1957-1958
12-12 UBC Rowing Channel, 1965
12-13 Mouth of North Arm, Fraser River, 1973
12-15 Pipeline Crossing, 1976-1977
12-16 Big Qualicum Report, 1973
BOX 13

13-1  McGregor R. Diversion into Parsnip R. Correspondence and Notes, 1973
13-2  Foreign Job Recruitment Report, 1974-1975
13-3  North Arm Reports, 1949-1953
13-4  Railway Tunnel at White Rock, 1975
13-5  Northwest Hydraulic Consultants, 1974
13-6  Illecillewaet River at Revelstoke, BC, 1976
13-7  Irrigation Correspondence, 1970-1971
13-8  Correspondence-River Bed Degradation below Moran Dam, 1971-1972
13-9  Basic Theory, Hydrodynamics
13-10 Flow in Pipe Networks
13-11 Unsteady Flow in Conduits
13-12 Hydraulic Ram

(continued)

FRASER RIVER MODEL SERIES (cont.)

13-13 Fraser River Model, Hydraulic Flume Tests, 1958
13-14 Navigation and Engineering on the Delta, 1949
13-15 Surveying Manual, 1944
13-16 Wave Report, 1964
13-17 Fraser River Model Project, 1962
13-18 [Load Based Transport in Fraser River], 1958

BOX 14

14-1 Report on Navigation Commerce and Engineering on Fraser Delta – Draft 1949

UBC COURSE MATERIALS SERIES (cont.)

14-2 Class Notes, CE 20, 1925-1937
14-3 Class Notes, Applied Science 270 - 1st term 1962-63
14-4 Walter Hardwick Thesis – Effect of the Proposed Moran Dam 1958
MISC. PROJECT SERIES (cont.)

14-5 Material used for Moran Dam study and Fraser Delta – Front Sediment Budget Report 1971 - 1972
14-6 Stream Flow Data for Moran Dam Study and Report 1971
14-7 Literature From Coastal Engineering Research Centre, Wash, DC, USA 1963-1996
14-8 Correspondence with F.O. Diercks – RE: US Army Core of Engineers - Wave Field Studies 1965
14-9 Correspondence with [Ernest Sackville Turner], RE: wave machines design. 1964-1965
14-10 Correspondence with Robert S. Arthur, Re: Wave Theory Class Notes 1955
14-11 Canadian Fisheries Reports V1 [1946] - 1972
14-12 Canadian Fisheries Reports V2 [1946] - 1972

BOX 15

15-1 Copy of Report: An Introduction to the Mathematical Theories of Two-Dimensional Periodic Progressive Gravity Waves 1960

GENERAL CORRESPONDENCE SERIES

15-2 Correspondence 1947 – 73 V1
15-3 Correspondence 1947 – 73 V2

NON-UBC EDUCATION AND LECTURES SERIES

15-4 Master’s of Science Class notes from Iowa State – V1 1935 – [1939]
15-5 Master’s of Science Class notes from Iowa State – V2 1935 – [1939]
15-6 Lecture at Prince of Wales High School – March 1962