

THE POINTE-DU-FORT MASS MOVEMENT DEPOSITS, UPPER SAGUENAY FJORD, CANADA: A MULTIPHASE BUILD-UP

M. J. DUCHESNE, B. F. LONG

National Scientific Research Institute on Water, Earth and Environment, Québec, Canada, G1S 2L2

P. LOCAT

Dept. of Civil Engineering, Université Laval, Québec, Canada, G1K 7P4

J. LOCAT

Dept. of Geology and Geological Engineering, Université Laval, Québec, Canada, G1K 7P4

M. MASSÉ

McGill University, Department of Earth and Planetary Sciences, Québec, Canada, H3A 2A7

Abstract

The Pointe-du-Fort deposits have been previously interpreted as the result of a single sedimentation event triggered by the 1663 $M_s \sim 7$ Charlevoix earthquake. It has been proposed that these deposits represent the spread of a failed mass coming from the south fjord wall. This paper presents multibeam, seismic and CAT-scan imagery evidences revealing that the Pointe-du-Fort deposits are the result of a multiphase build-up which includes many episodes of erosion and sedimentation by debris flows. These processes were induced by bottom slope erosion caused by the passage of a major debris flow coming upstream from the surveyed area, which was previously triggered by the 1663 $M_s \sim 7$ earthquake.

J. Locat, J. Mienert (eds), 2003, *Submarine Mass Movements and their Consequences 1st International Symposium*, Kluwer Academic Publishers, 499-508.