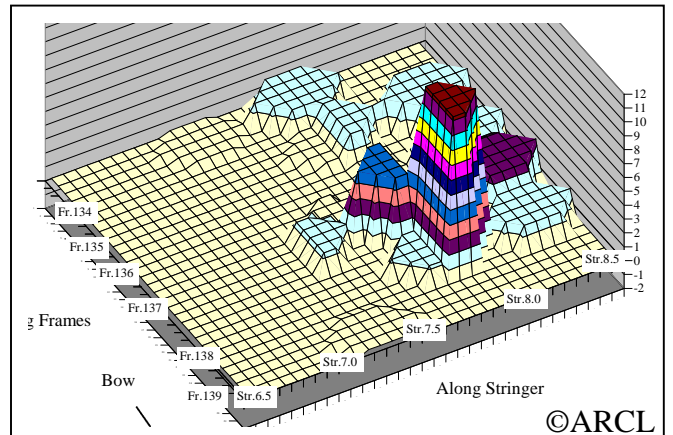
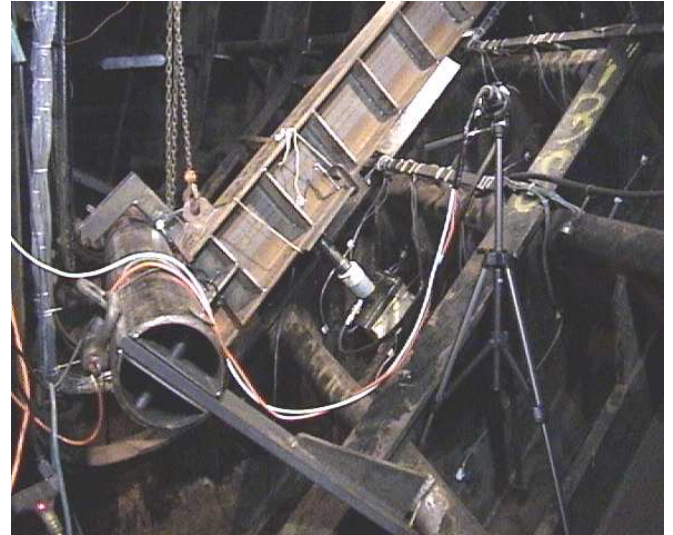


2001 Terry Fox Bergy Bit Impact Trials

Client: Institute for Marine Dynamics



ARCL was responsible for the instrumentation of the bow of the CCGS Terry trials, conducted in June 2001, to measure ice loads during controlled impacts with Bergy bits. In total, 120 shear strain gauges located in 60 locations were installed on the port bow of the *Terry Fox*. The overall measurement area was 5.4m² with a minimum panel size of 0.08m². As part of the installation phase, insitu calibrations were performed to measure the response of the gauges to a known force. The data will be used to calibrate the Finite Element (FE) model.

A total of 178 impacts with bergy bits were conducted during the trials with 18 different bergy bit masses ranging from 21 tonnes to 142,000 tonnes. Based on these calculated pressures, various analyses are carried out. This includes, but not limited to, the pressure distribution over the loaded area, peak pressures and peak loads. The correlation between pressures, forces, loaded areas, bergy bit mass and speeds are studied.