



DESCRIPTIVE NOTES

INTRODUCTION
This map sheet depicts the bathymetry of Bay d'Espoir, a major fjord on the south coast of the island of Newfoundland, suitable for navigation purposes on the continental shelf of Atlantic Canada (700 m).

MULTIBEAM BATHYMETRIC DATA COLLECTION
The earliest data collection was in 1995, when CGS Matthew surveyed the entrance to Bay d'Espoir using the full-mounted Simrad EM100 system. In 1998 surveys were conducted using the Frederick G. Crowl's SMATH (Small Water Area Twin Hull) vessel equipped with a Simrad EM100 multibeam system.

Table 1. Remarks on surveys carried out in study area. Columns: YEAR, REMARKS. Rows include survey years from 1995 to 2008 and specific survey details.

DATA DISPLAY
Artificial sun illumination from 060° azimuth and 35° inclination was applied in the GRASS GIS. Vertical exaggeration is 10:1. Colour palette was applied to bathymetric data; warm colours represent deep water.

MORPHOLOGY
This region is tectonically complex, and shows evidence of strong bedding structural control, post-dating by glaciation, and the effects of lower sea levels in the early Holocene.

Mouth of Bay d'Espoir
The shoal (A) at the entrance to the bay (see also Fig. 1) is an accurate submarine ridge 60 m high and composed of eastward-protruding blocks.

North Arm
The deep trough (I) has a flat floor mostly at depths of 700-750 m, and has a maximum depth of 900 m. The North Arm was used to scullie unmetallized wastes, but these are not observed, as they are below the resolution of the data.

North Bay and East Bay
North Bay (see also Fig. 2) is a flat-bottomed with depths averaging 300 m, and has steep sides, producing a U-shaped profile. At the head of the bay the seafloor shelves upward to a submerged ridge (E).

Lampitoid Passage
A narrow ridge (H) at the entrance to Lampitoid Passage. The irregular surface (J) in the narrow, just south of Pointe Cove (Fig. 9), was caused by massive rock falls from vertical and overhanging bed substrate.

Northeastern Bay d'Espoir
A narrow ridge (A) at the entrance to the bay (see also Fig. 1). North of Little Cove Head the bath floor (C) is flat where the valley walls have been channelled and smoothed. Several blocks submarine ridge (D) probably result from falls of glacially derived sediments on the flat substrate.

ACKNOWLEDGMENTS
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REFERENCES
Shaw, J., 2003. Submarine moorings in Newfoundland coastal waters: implications for the depiction of Newfoundland's underwater coastline. Geomatics International, 15(2): 115-121.

MAP 2156A
SHADED SEAFLOOR RELIEF
BAY D'ESPOIR
NEWFOUNDLAND AND LABRADOR
Scale 1:50 000/Echelle 1/50 000

Map metadata including scale, projection (Universal Transverse Mercator), datum (North American Datum 1983), and contact information for the Geological Survey of Canada. Includes a small locator map of Newfoundland and Labrador.