56°00'
52°45'
55°30'
52°45'

WHITE BEAR ARM
JUNIPER ISLAND
SQUARE ISLAND
BIRCHY NARROWS ISLAND
ST. MICHAELS BAY
WILD BIGHT
CAPE ST. MICHAELS
LABRADOR SEA (ATLANTIC OCEAN)
DIAMOND HARBOUR
OCCASIONAL HARBOUR
833064
GILBERT BAY
REXONS ISLAND
Georges Cove
Kings Cove
833035
833037
833036
833034
833038
833039
833032,33
Williams Harbour
Francis Harbour
Trap
BARNS COVE WATER
CARTWRIGHT ISLAND
ALEXIS BAY

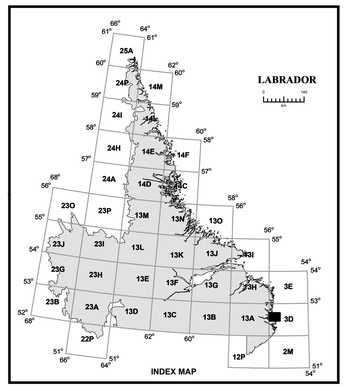
52°30'
56°00'
52°30'
55°30'

GRAIN-SIZE ANALYSES

Grain-size results from the 63, 32, 16 and 8 mm mesh sieves were obtained at the sample site location by sieving between 10 and 15 kg of material. A 500 to 1000 gm split of the <8 mm material (sand-silt-clay) was retained for laboratory sieve analysis. Laboratory sieve analyses included the use of seven sieves with mesh openings of 4, 2, 1, 0.5, 0.25, 0.125, 0.062 and the -0.062 mm pan fraction. Samples were wet and/or dry sieved (Kirby et al., 1983) depending on silt-clay content and consolidation of particles.

Table 1: Exposure thickness (Exp), estimated deposit thickness (Dep), petrographic number (PN), grain-size percentages (based on percent retained on the 63 mm down to the -0.062 mm mesh sieves) and gravel (Grv), sand and silt-clay (SL-CL) content of sample material collected in NTS area 3D/12.

Sample	Exp	Dep	PN	63	32	16	8	4	2	1	0.5	0.25	0.125	0.062	<0.062	Grv	Sand	SL-CL
833032	1.5	1.9	395	0.0	4.4	15.3	19.7	12.0	13.7	13.9	15.2	4.5	0.7	0.2	0.3	48.4	51.2	0.4
833033	1.5	1.2	100	11.8	19.4	18.8	14.6	8.6	5.5	4.0	3.7	5.9	3.3	2.0	2.5	71.0	26.0	3.0
833034	6.0	10.0	271	10.9	8.5	23.3	23.3	11.0	7.3	5.1	4.1	2.9	1.3	0.8	1.5	74.2	24.1	1.7
833035	2.5	5.0	127	14.0	9.8	16.5	15.9	9.4	6.3	5.1	4.8	5.6	4.6	2.9	5.2	63.2	30.9	6.0
833036	0.6	1.0	395	0.0	0.0	8.1	24.2	30.3	18.8	13.0	5.3	0.2	0.1	0.0	0.0	55.0	45.0	0.0
833037	8.0	10.0	120	20.0	11.5	15.4	13.1	7.9	7.0	5.1	4.4	4.7	4.2	2.9	3.8	65.9	29.6	4.5
833039	1.2	8.0	621	7.6	17.9	17.2	13.1	10.1	7.7	5.4	5.8	8.1	4.4	1.4	1.2	63.5	35.0	1.6
833064	7.0	15.0	375	12.8	17.3	17.3	16.7	13.6	11.8	6.9	2.9	0.6	0.1	0.1	0.1	74.3	25.6	0.1



Newfoundland Labrador

GEOLOGICAL SURVEY NEWFOUNDLAND AND LABRADOR 1864

GRANULAR-AGGREGATE RESOURCES OF THE FRANCIS HARBOUR MAP AREA (NTS 3D/12)

OPEN FILE 3D/12/0030
MAP 2009-44

LEGEND

Sample types (based on laboratory sieve analysis - see Table 1)

Sample Symbol	Definition
○	Commonly gravel or sand, having silt-clay content < 5 percent. Deposits are commonly graded and stratified.
▲	Commonly till, poorly graded and of variable grain size, having a silt-clay content (≥ 5 and ≤ 15 percent) and stone size exceeding allowable limits for most geotechnical purposes (except subgrade uses) without processing (i.e., washing, screening or crushing).
+	Commonly silty till, silt or clay samples, having silt-clay content > 15 percent.

Multiple samples taken from the same site in different years are listed in order from oldest to youngest. Multiple samples taken at the same site in the same year are listed in order, from the top of the exposure to bottom.

Note
This is a composite legend for all granular-aggregate resource maps. All aggregate zones, study areas, and sample types shown in the legend may not appear on this map. Aggregate zone classification is based on airphoto interpretation, field investigation and sieve analyses. Areas outside the coloured zones have no known potential for granular materials; however silty tills, rock rubble suitable for fill, and bedrock suitable for aggregate may be present. Classification criteria used on this map do not consider current or conflicting land uses, nor do they guarantee either access to, or the quality of, the material located within these zones.

ZONES OF AGGREGATE POTENTIAL

- Contains granular materials; probability of locating economic deposits is moderate to high
- Contains thin (less than 2 m) or discontinuous granular materials; also includes areas where extent of thicker deposits could not be determined by field investigation; probability of locating economic deposits is moderate to low
- May contain granular materials but deposits are not substantiated by field investigation; probability of locating economic deposits is moderate to low
- Material of granular composition (e.g., sandy tills and colluvium) that generally contains up to 8 percent silt-clay content, but could be improved for higher grade uses by washing or screening
- Contains sand-size granular materials; high potential for economic exploitation of sand; low to moderate potential for coarser granular materials
- <><><><> Eskers: sinuous ridges of granular materials; moderate to high potential for economic exploitation
- Study Area within the dashed outline

In addition to this map data, a granular-aggregate database is accessible in the Geoscience Resource Atlas of Newfoundland and Labrador **(http://gis.geosurv.gov.nl.ca)** for all granular-aggregate maps and sample data. The database provides information on more than 13 000 samples collected from 230, 1:50 000-scale-map areas in Newfoundland and Labrador.

This map was originally produced in a series of blueline maps from airphoto interpretation and field work (Ricketts, 1988).

The location of roads added to topographic map base are approximate.

Elevation in feet above mean sea level. Contour interval 40 feet.

Digital Cartography by T.J. Sears, Geological Survey, Department of Natural Resources, Government of Newfoundland and Labrador.

Copies of this map may be obtained from the Geoscience Publication and Information Section, Geological Survey, Department of Natural Resources, Government of Newfoundland and Labrador, P.O. Box 8700, St. John's, NL, Canada, A1B 4J6.

This map is subject to review and revision. Comments to the author concerning errors or omissions are invited.

Base from maps published by Surveys and Mapping Branch, Department of Natural Resources, Ottawa, Canada.

OPEN FILE 3D/12/0030
This map supercedes Map 88-037, Open File LAB/0642

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Website: http://www.nr.gov.nl.ca/mines&en/geosurvey/

REFERENCES

Kirby, F.T., Ricketts, R.J. and Vanderveer, D.G
1983: Inventory of aggregate-resources in Newfoundland and Labrador; information report and index maps. Newfoundland Department of Mines and Energy, Mineral Development Division, Report 83-2, 36 pages.

Ricketts, M.J.
1988: Francis Harbour coastal Labrador aggregate resource map (NTS 3D/12). Newfoundland Department of Mines, Mineral Development Division, Map 88-037, Open File Lab/0642.

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MAP 2009-44

FRANCIS HARBOUR

NEWFOUNDLAND & LABRADOR

1 0.5 0 1 2 3 4
Kilometres

3D/12