

## SURFICIAL AND GLACIAL MAPPING

### SNOWSHOE POND, CENTRAL VOLCANIC BELT, NEWFOUNDLAND

by

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#### INTRODUCTION

During 1981, mapping was conducted in the Snowshoe Pond (12A/7) map area (Figure 1). This project is a continuation of the provincially funded Surficial and Glacial Mapping Program in the Central Volcanic Belt, designed to provide information as an aid to mineral exploration (Vanderveer and Sparkes, 1979; Sparkes and Vanderveer, 1980; Sparkes, 1981). This area was chosen because of its recognized mineral potential and its recent exploration activity. The area has limited access and relatively few till exposures or unweathered bedrock exposures exhibiting glacial flow indicators.

#### FIELD PROGRAM

Mapping was started in June and continued until September. Information was obtained along existing roads, lake shorelines and streams. Sixty pits were dug to obtain samples and to provide suitable exposures to do till fabrics. During the summer, 200 sites were noted and 80 sets of striae recorded, with directions and/or relative ages assigned to most of these. There were 75 till samples taken for particle size analysis and geochemistry, and a representative pebble fraction was obtained to determine the lithologic composition of the tills. This lithologic study also included silt/clay coating, weathering, staining, sphericity, fracturing, mineralogy and texture for the various lithologies present.

Some work was also conducted in the Star Lake (12A/11) map area. This work consisted of doing till fabrics, and sampling some exposures which were found late in the 1980 field season.

#### PHYSIOGRAPHY

The terrain in the area varies from nearly barren, boulder-strewn, rock-ridged plateaus in the area to the south of Hospital Pond and to the west of Cowey Lake (underlain by intrusive rocks), to the drift covered (rib moraines, etc.) lowland areas to the north of Rodeross and Quinn Lakes (underlain by volcanics and sediments). The lowland area to the northwest of Meelpaeg Lake is characterized by sparsely vegetated rock ridges which have either a thin veneer of till or are boulder-strewn. The areas between these ridges are generally bog or swamp covered.

#### GLACIAL STRIAE

Throughout the whole area, a major set of striae at 160-195 (azimuth) has been recorded, and at two locations in the northwest corner of the map area, a second set at 250-270 was recorded on the same outcrop. In all cases where directions have been assigned to these striae, one or more of the following indicators have been used: (a) miniature crag and tail, (b) crescentic or lunate fractures or gouges, (c) nailhead features, and (d) miniature stoss and lee forms.

#### GLACIAL INTERPRETATION

The dominant flow of ice over this area was southerly (Map 1). This flow was usually towards 160 in the central to eastern part of the area and 180-195 in the western part of the map area. The source for this southerly flow was probably in the area of Red Indian Lake. At one location to the east of Rodeross

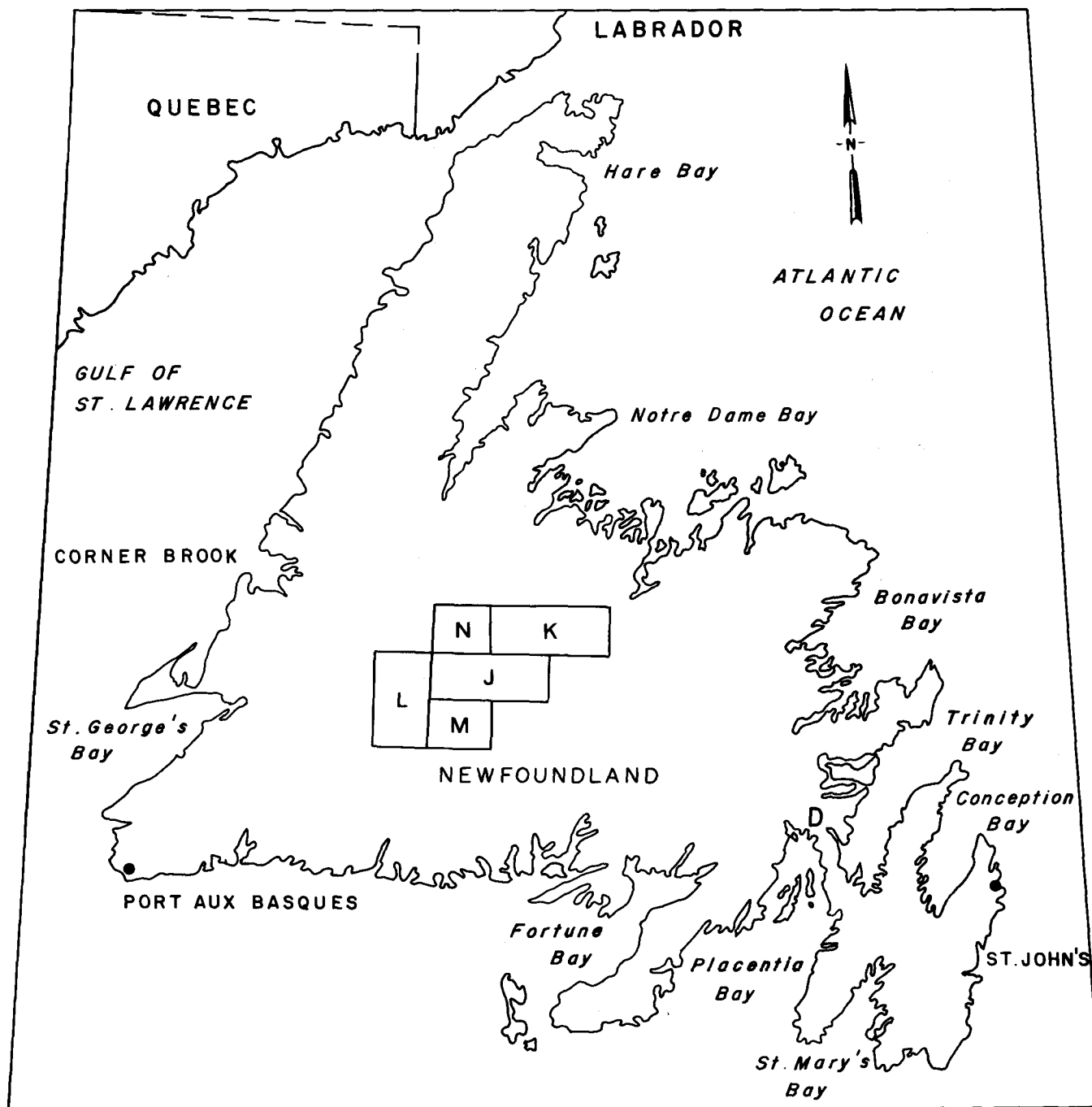










FIGURE 1

J. Lake Ambrose - Noel Paul's	(1978)	O.F. 12A (212)
K. Badger - Grand Falls	(1979)	O.F. NFLD (93)
L. Star Lake - Victoria Lake	(1980)	
M. Snowshoe Pond	(1981)	
N. Proposed Mapping	(1982)	

LEGEND

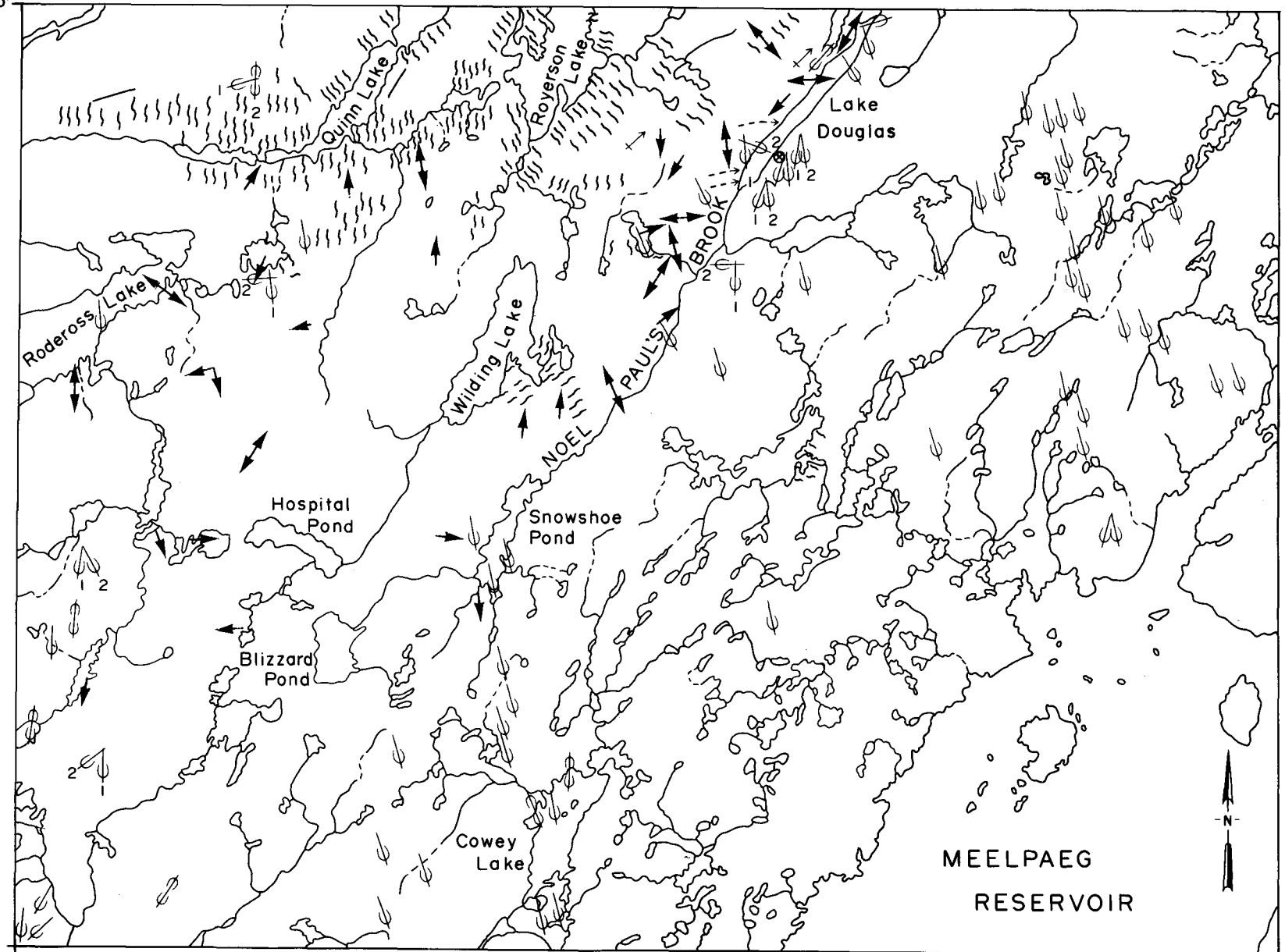
Glacial striae (direction of ice movement known, unknown) . . . . .	
Number indicates relative age, 1 being the oldest . . . . .	
Till fabrics (ice direction known, unknown) . . . . .	
Esker (direction of flow known, unknown) . . . . .	
Minor moraines, rib moraines, washboard moraines, annual moraines, till ridges transverse to ice flow (irregular, straight) . . . . .	
Drumlins and drumlinoid ridges . . . . .	
Glacial linear feature . . . . .	
Glacial meltwater channel . . . . .	

# STAR LAKE GLACIAL FLOW FEATURES

48°30'

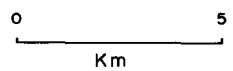
231

48°15'

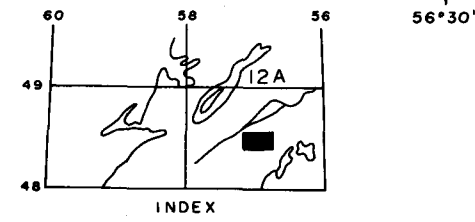


57°

12A/7



MEELPAEG  
RESERVOIR



Lake, crossing striae indicate a later westerly flow of ice, which may be related to the 250-270 flow recorded in the Victoria Lake map area (Sparkes, 1981), or may represent late stage topographic control of the southerly ice flow. Numerous transverse (rib) moraines in the area of Quinn Lake and Rogerson Lake been mapped and may be related to the northeast (060-070) flow of ice recorded in the Lake Ambrose and Noel Paul's Brook map areas (Vanderveer and Sparkes, 1979), although no northeast trending striae were found in the Snowshoe Pond map area. The absence of any northeasterly striae and the fact that the south trending striae (presumably older) are present could indicate that the rib moraines were formed at the front of the retreating southerly directed ice flow which became topographically controlled during its later stages.

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