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DESCRIPTIVE NOTES

INTRODUCTION

This map, previously included within a 1:250,000 scale reconnaissance mapping project (Taylor, 1977, 1979), shows the geology of part of the Archean Nain Province in the east and the eastern margin of the Paleoproterozoic Torngat Orogen, where these rocks and a variety of Paleoproterozoic metaplutonic and supracrustal rocks are deformed within the Komaktorvik shear zone (Van Kranendonk et al., 1993a).

The map area is well-exposed, except in the south, where the Eclipse River lies within a broad, sandy valley. North Aulatsivik Island is separated from the mainland at high tide, but is connected to it at low tide across a sinuous boulder train - the remnant of a glacial moraine - and an unnamed island. The highest topography occurs in the rugged southeast corner (>3000') and in the western one/third of the map area (ca. 2800'), where the mountains are more rounded. The high area on North Aulatsivik Island contains precipitous cirques with unstable valley walls and rock glaciers in some valley bottoms.

Map coverage of the Eclipse Harbour and Channel areas were accomplished by foot and inflatable boat traverses in 1991 from a campsite located at the southern end of Eclipse Harbour, where a natural shingle beach was used for landing by Twin Otter aircraft from Kuujjuaq, Québec. Coverage of the mountainous terrain was accomplished through helicopter-supported ground traverses in 1991-1993 from a basecamp located immediately north of the map area, at Iselin Harbour, from which boat traverses of the Noodleook Fiord and Saglarsuk Bay shorelines were accomplished.

On this map, geological contacts between units were divided into those known and those interpreted. Constraints for the drawing of known contacts include observed contacts from field traverses, airborne flybys of cliff sections and other unvisited areas, and interpretation of black and white airphotos which, in this excellently exposed, unvegetated terrain, reveal contacts between rock units of highly contrasting mafic content (in particular, contacts between the Hutton anorthositic suite and adjacent units). All ages on the map are by the U-Pb method on zircon (Uz) or titanite (Ut) (Scott et al., 1993; Scott and Machado, 1993, 1994).

REGIONAL GEOLOGY AND TECTONIC SETTING

Torngat Orogen is a Paleoproterozoic belt of highly strained Archean and Paleoproterozoic rocks metamorphosed to amphibolite- and granulite-facies grade, that is thought to represent the deeply exhumed roots of a continent-continent collision zone between the Archean Nain Province (North Atlantic Craton) in the east and the southeast arm of the Archean Rae Province (former Churchill Province) in the west (cf. Wardle et al., 1990). The high-grade core of the orogen is underlain by garnet paragneiss and mylonite known as the Tasiuyak gneiss, which reaches a maximum of 40 km in width across strike and is interpreted to represent a Paleoproterozoic accretionary complex built on the margin of the Rae Province (Van Kranendonk et al., 1994). In the northern part of the orogen, the DTG suite of Paleoproterozoic calc-alkaline plutons [**PiDTG**] (Van Kranendonk et al., 1994) was emplaced into the western margin of the Nain Province at 1910-1885 Ma (Scott and Machado, 1993, 1994), signifying a period of eastward subduction under Nain Province at this time. The DTG suite in the north produced a promontory on Nain Province margin and intruded the remnants of mafic volcanic rocks (Van Kranendonk et al., 1994). In the southern part of the orogen, however, Nain Province was not intruded by these magmas. Instead, a suite of tonalite-granodiorite plutons which occurs across the Tasiuyak gneiss-Rae Province contact zone has been interpreted as a Paleoproterozoic magmatic arc complex developed at ca. 1880 Ma during westerly subduction under Rae Province (Bertrand et al., 1993).

Post-magmatic deformational events occurred in three distinct episodes (Van Kranendonk and Ermanovics, ...

[illegible]

... "S" and "Z" asymmetry.

... steeply east-dipping in the east, through the vertical, to steep westerly ... fabric elements also vary in orientation across the map area, from ...

REFERENCES

[illegible]

Reid, L.,
1994: Mapping in the Torngat Orogen, northernmost Labrador: ... ultramafic dyke occurrences in northernmost Labrador); *in* ... Mines and Energy, Geological Survey, Report 94-1, p.399-...

COOPERATION

COOPERATION AGREEMENT MINERAL DEVELOPMENT

ENTENTE DE COOPÉRATION SUR L'EXPLOITATION MINÉRALE

Contribution to Canada-Newfoundland Cooperation Agreement on Mineral Development (1990-1994), a subsidiary agreement under the Economic and Regional Development Agreement.

Contribution à l'Entente de coopération Canada-Terre-Neuve sur l'exploitation minérale (1990-1994), entente auxillaire négociée en vertu de l'Entente Canada/Terre-Neuve de développement économique et régional.

Canada

Newfoundland Terre-Neuve

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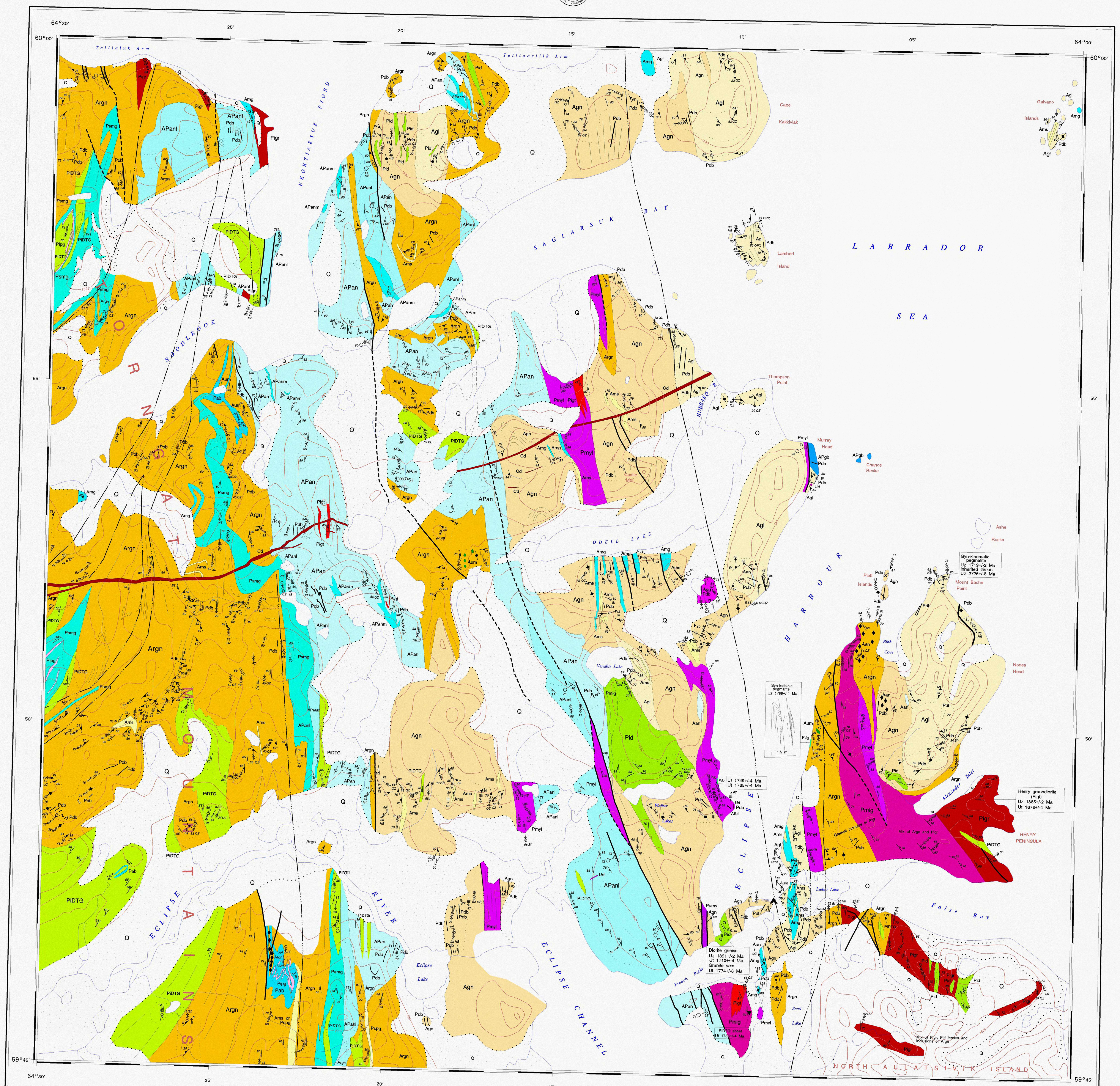
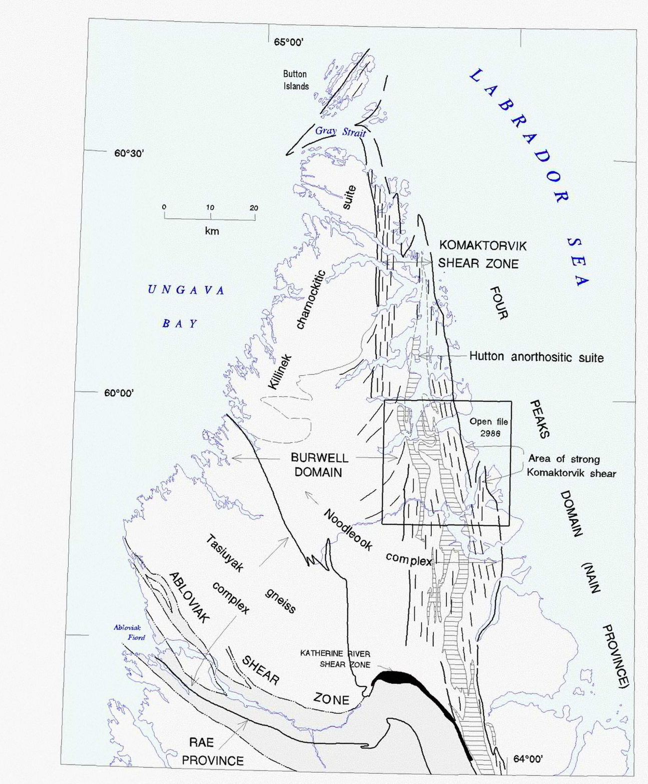
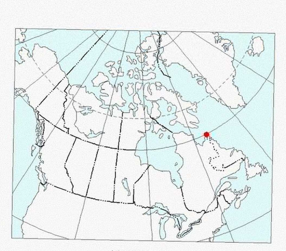




Structural (UPPER CASE) and lithological (lower case) subdivisions of the northern part of the Paleoproterozoic Torngat Orogen, Labrador, Québec and Northwest Territories (after Van Kranendonk et al., 1993a). Location of map area outlined by square box.



LOCATION MAP

OPEN FILE 2986

GEOLOGY

ECLIPSE HARBOUR

NEWFOUNDLAND (LABRADOR)

Scale 1:50 000 - Échelle 1/50 000

Kilometres 1 0 1 2 3 4 Kilomètres

Transverse Mercator Projection
CM 64°15', Scale Factor 1.0

Projection transverse de Mercator
M.C. 64°15', facteur d'échelle 1,0

Geology by M.J. Van Kranendonk, R.J. Wardle, D.J. Scott, F.C. Mengel, L.M. Campbell, L. Godin, S. Schwarz, B. Ryan, and H. Jennings, 1991-93, Geological Survey of Canada and Newfoundland Department of Mines and Energy

Digital map compilation by M.J. Van Kranendonk, Geological Survey of Canada

Digital cartography by E. Everett, Geological Survey of Canada

Electrostatic plot produced by the Geological Survey of Canada

Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada

Digital base map assembled and modified by the Geological Survey of Canada from digital bases compiled by the Surveys, Mapping and Remote Sensing Branch

Copies of the topographical edition of this map area may be obtained from the Canada Map Office, Natural Resources Canada, Ottawa, Ontario, K1A 0E9

Mean magnetic declination 1995, 33°02' W, decreasing 12.8' annually. Readings vary from 32°39' W in the SW corner to 33°25' W in the NE corner of the map

Elevations in feet above mean sea level

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OTTAWA
05/1995

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