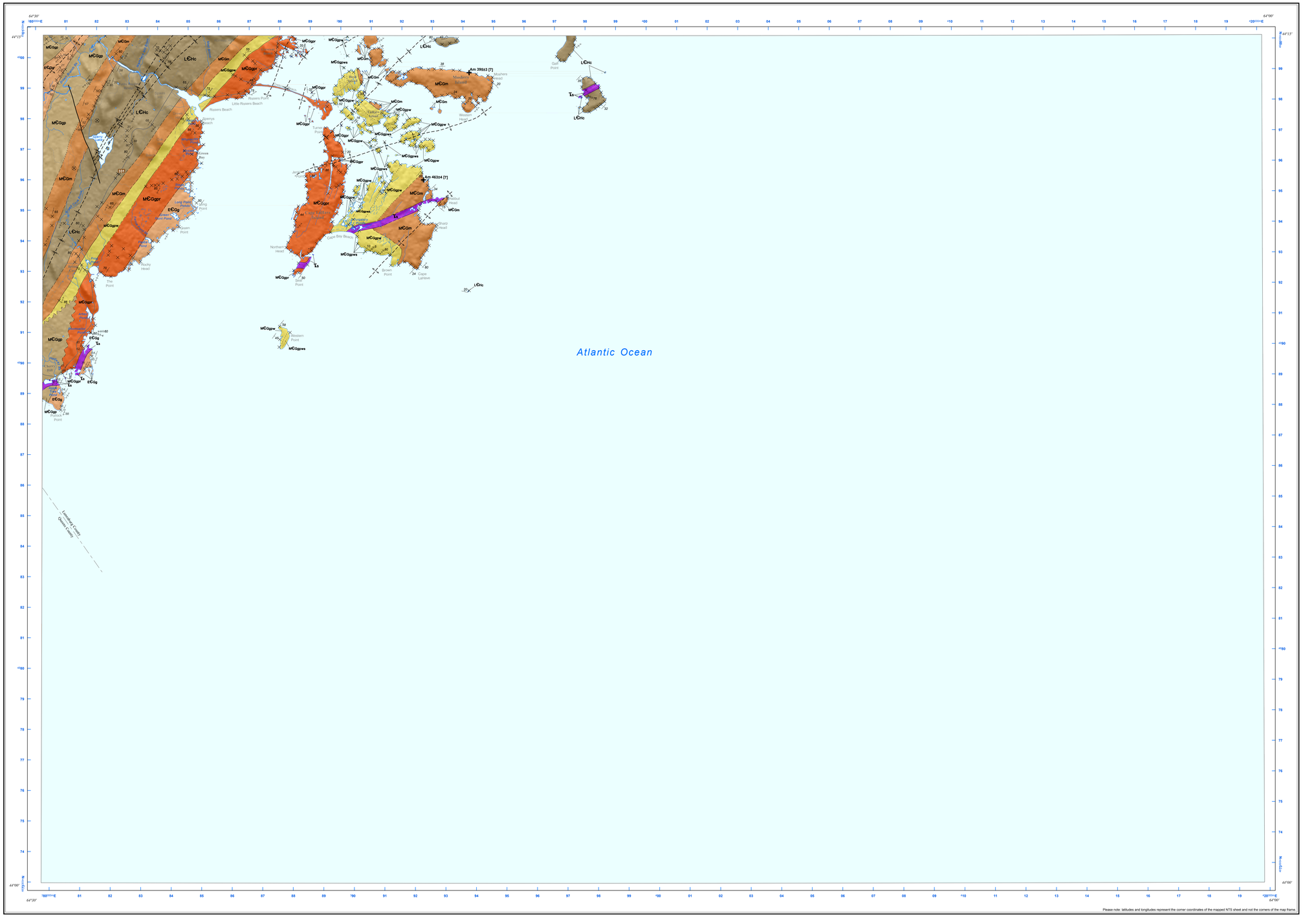


Please note: latitudes and longitudes represent the corner coordinates of the mapped NTS sheet and not the corners of the map frame.

LEGEND

MESOZOIC

LATE TRIASSIC

Ts — SHELBURNE DYKE (Ts): black to brown, fine- to coarse-grained gabbro

PALEOZOIC

EARLY CAMBRIAN TO EARLY ORDOVICIAN

HALIFAX GROUP

LCHc — *CUNARD FORMATION* (LCHc): black to rust-brown slate with thin beds and lenses of minor black metasiltstone; medium-bedded, fine-grained, crosslaminated metasandstone; sulphide minerals common

GOLDENVILLE GROUP

MCGm — *MOSHERS ISLAND FORMATION* (MCGm): green to greenish-grey to grey, well-laminated metasiltstone to slate; minor, very thin- to thin-bedded, fine-grained metasandstone; abundant manganiferous nodules, laminations and cobbules

MCGgp — *GOVERNMENT POINT FORMATION* (MCGgp): grey, thin- to thick- bedded metasandstone with minor calc-silicate nodules and rare manganese nodules; laminated, green to greyish-green to purple metasiltstone and rare black slate; trace fossils common

MCGgw — WEST DUBLIN MEMBER: grey, thin- to thick-bedded, fine-grained metasandstone with green and green-grey metasiltstone (MCGgpw); abundant sedimentary structures; green, slump-folded metasiltstone (MCGgpws)

MCGgr — RISSERS BEACH MEMBER (MCGggr): green metasiltstone and grey, thin-bedded, fine-grained, crosslaminated, metasandstone; rare trace fossils

ECGg — *GREEN HARBOUR FORMATION* (ECGg): grey, thick-bedded, medium-grained metasandstone with minor calc-silicate nodules; minor green, cleaved metasiltstone and slate; rare trace fossils

Symbols*

Outcrop, Float, Felsenmeer
Quarry (operating, abandoned)
Mine (abandoned)
Shaft
Fossil (F)
Drillhole (after Fisher, 2006)
Mineral occurrence (modified after O'Reilly, et al., 2009)
Ag - silver, As - arsenic, Au - gold, Be - beryllium, Bi - bismuth, Co - cobalt, Cu - copper, F - fluorine, Fe - iron, Li - lithium, Mo - molybdenum, Pb - lead, Sb - antimony, Si - silicon, Sn - tin, U - uranium, V - vanadium, W - tungsten, Zn - zinc) — Au
Radiometric date (Ma) [reference]**
U-Pb (z - zircon, m - monazite, dz - detrital zircon, zm - zircon monazite, t - titanite, wr - whole rock) — Uz 374±4 [1]
$^{40}Ar/^{39}Ar$ (b - biotite, h - hornblende, m - muscovite, p - phlogopite, wr - whole rock) — Ab 374±4 [1]
$^{207}Pb/^{206}Pb$ (wr - whole rock) — Pwr 374±4 [1]
Bedding; tops known (inclined, vertical, overturned)
Bedding; tops unknown (inclined, vertical)
Fold axis; first generation (fold style unknown, m fold, z fold)
Fold axis; second generation (fold style unknown, m fold, horizontal)
Fold axis; third generation (fold style unknown)
Fold axis; unknown generation (fold style unknown, horizontal)
Cleavage; first generation (inclined, vertical)
Cleavage; second generation (inclined, vertical)
Kink band; first generation, inclined (sinistral)
Geological contact (assumed, approximate, defined)
Fault (assumed, approximate, defined)

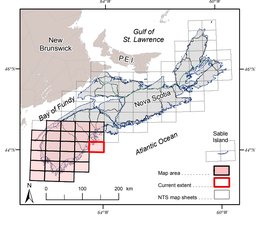
Anticline (assumed, approximate, defined)
Overturned anticline (approximate, defined)
Syncline (assumed, approximate, defined)
Overturned syncline (approximate)
Shear zone
Historical gold district (after Fisher, unpublished)
Area of concentrated drilling

Rock in water
Arterial highway — 102
Trunk highway — 4
Collector highway — 333
Hard surface road
Loose surface/resource access road
Trail, footpath, cart track
Railway (active, inactive)
Coastline
River, stream
County boundary
Transmission line (multi, single line)
National Park
Wetlands
Lake/ocean

* **Note:** Compiled symbols list for Open File Maps ME 2012-077 to 2012-101. All symbols may not appear on each map.

** **References for Selected Radiometric Age Dates**

[7] Hicks, R. J., Jamieson, R. A. and Reynolds, P. H. 1999: Detrital and metamorphic $^{40}Ar/^{39}Ar$ ages from muscovite and whole-rock samples, Meguma Supergroup, southern Nova Scotia; Canadian Journal of Earth Sciences, v. 36, p. 23-32.



Descriptive Text

In 1998 the Nova Scotia Department of Natural Resources initiated a program of geological mapping of the Meguma Terrane of southwestern Nova Scotia. The principal goals of this project are to produce a series of 1:50 000 scale geological bedrock maps of the area, to describe and interpret the sedimentary, igneous, metamorphic and deformational history of the Cambrian to Early Devonian metamorphic rocks, and to evaluate the area's economic potential. This map represents the fourteenth in a series of 25 maps highlighting the bedrock geology of southwestern Nova Scotia.

These new maps, combined with stratigraphic, geochemical, geochronological, paleontological and isotopic data (White, 2010; White and Barr, 2010), have highlighted the need to produce a new stratigraphic paradigm together with the 1:50 000 scale geological maps for the Meguma Terrane.

Disclaimer

The information on this map may have come from a variety of government and nongovernment sources. The Nova Scotia Department of Natural Resources does not assume any liability for errors that may occur. This map is intended for use at the published scale of 1:50 000.

Map Notes

GIS databases, cartography and reproduction by Angie Ehler, Brian Fisher and Jeff McKinnon of the Nova Scotia Department of Natural Resources, Geoscience Information Services Section, 2009-2012. The GIS databases and map were developed using ArcGIS® 9.3.

Universal Transverse Mercator Projection (UTM), Zone 20, Central Meridian 63°00' West.

North American Datum (NAD) 1983 Canadian Spatial Reference System (CSRS) 98.

Base and digital data derived from the Nova Scotia Topographic Database (NSTDB). Copyright Her Majesty the Queen in Right of the Province of Nova Scotia. The NSTDB is available from Service Nova Scotia and Municipal Relations (SNSMR), Land Information Services Division (LIS), Nova Scotia Geomatics Centre (NSGC), Amherst, Nova Scotia.

Shaded relief image derived from a 25 m Digital Elevation Model of the Province of Nova Scotia, DP ME 56, version 2, 2006. Azimuth of 0°, sun angle of 45° and a vertical exaggeration of 5.

Nova Scotia Department of Natural Resources
Mineral Resources Branch

Open File Map ME 2012-090

Bedrock Geology Map of the LaHave Islands Area, NTS Sheet 21A/01, Lunenburg County, Nova Scotia

B. H. O'Brien and C. E. White

Scale 1:50 000

1 0 1 2 3 4 km

Halifax, Nova Scotia
2012

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Acknowledgments

S. Barr, R. Raeside and G. O'Reilly are thanked for numerous discussions regarding the geology of southwestern Nova Scotia and the use of samples and unpublished information. Summer student R. Toole contributed to the mapping on this sheet. T. Lenfesty and J. Brenton are thanked for their help in the departmental library. Map was critically reviewed by S. Barr.

Recommended Citation

O'Brien, B. H. and White, C. E. 2012: Bedrock geology map of the LaHave Islands area, NTS sheet 21A/01, Lunenburg County, Nova Scotia; Nova Scotia Department of Natural Resources, Mineral Resources Branch, Open File Map ME 2012-090, scale 1:50 000.

Selected References

Fisher, B. E. 2006: Nova Scotia drillholes database; Nova Scotia Department of Natural Resources, Digital Product ME 3; http://www.gov.ns.ca/natr/meb/download/dp003.asp [ISN:18535][†].

Fisher, B. E. unpublished: Nova Scotia historical gold district boundaries; Nova Scotia Department of Natural Resources, Digital Product ME 384.

O'Brien, B. H. 1985: Geological map of the La Have area; Geological Survey of Canada, Open File 1156, scale 1:25 000.

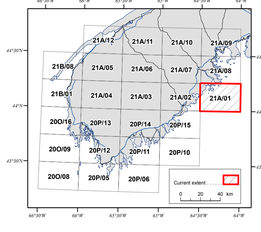
Selected References (continued)

O'Reilly, G. A., DeMont, G. J., Fisher, B. E. and Poole, J. C. 2009: Nova Scotia mineral occurrence database; Nova Scotia Department of Natural Resources, Digital Product ME 2; http://www.gov.ns.ca/natr/meb/download/dp002.asp [ISN:18752].

White, C. E. 2010: Stratigraphy of the lower Paleozoic Goldenville and Halifax groups in southwestern Nova Scotia; Atlantic Geology, v. 46, p. 136-154.

White, C. E. and Barr, S. M. 2010: Lithochemistry of the lower Paleozoic Goldenville and Halifax groups, southwestern Nova Scotia, Canada: implications for stratigraphy, provenance, and tectonic setting of the Meguma Terrane; *in* From Rodinia to Pangea: the Lithotectonic Record of the Appalachian Region, eds. R. P. Tollo, M. J. Bartholomew, J. P. Hibbard and P. M. Karabinos; Geological Society of America, Memoir 206, p. 347-366.

† Internal Search Number (ISN) is a unique identifier used in NovaScan - the Nova Scotia Geoscience Maps and Publications Database. The ISN can be used to retrieve a digital version of the listed citation - http://www.gov.ns.ca/natr/meb/default.asp



NOVA SCOTIA

Open File Map ME 2012-090

Oct 10, 2012