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Abstract

This map synthesizes the field observations and initial interpretations for the Grinnell Glacier area following two years of bedrock mapping in the central portion of the eastern Meta Incognita Peninsula, Baffin Island, Nunavut. Under the Geo-mapping for Energy and Minerals (GEM) Program, this area was targeted in 2014 to upgrade the geoscience knowledge and document the economic potential of the greater Iqaluit area south of Frobisher Bay. Field observations have constrained the distribution of metasedimentary units and orthogneisses of the Paleoproterozoic Lake Harbour Group in the type area north of Kimmirut. The spatial distribution of a suite of layered mafic to ultramafic sills and associated metasedimentary rocks in the southern portion of the Grinnell Glacier map area was also documented and will be the focus of further study. Mapping of the Paleoproterozoic rocks was completed at metre scale, with many bodies containing disseminated sulphide, some associated with ferricrete. The distribution of high-grade felsic and mafic plutonic rocks, tentatively interpreted as part of the middle Paleoproterozoic Narsajuaq arc, has been further delineated. Four distinct phases of deformation and two metamorphic episodes were recognized. The Paleoproterozoic rocks underwent ductile deformation with similar features and assemblages previously documented both on Baffin Island and on the Ungava Peninsula of northern Quebec, and will be utilized to compare, and improve on, existing regional tectonic models.

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ᑲᓇᑕ ᓄᓇᕗᑦ ᓄᓇᕗᒻᒥᔪᖅᑐᑦᑎᔨᖅᑐᑦ ᑎᑎᕋᖕᒐᖓ

ᒪᓗᐃᖕᒐᖅ ᐆᒃᑯᖕᒪᓂᒃ/ᒪᓗᐃᖕᒐᖅ ᓄᓇᕗᒻᒥᔪᖅ 2015-04S

ᐅᖃᑐᒥᒃ ᓄᓇᕗᒻᒥᔪᖅᑐᑦᑎᔨᖅ

GRINNELL GLACIER

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ᑕᒪᑎᓪᓗᒍ ᓄᓇᕗᒻᒥᒃᑯᓐᓂᖅᑐᑦ ᑲᓇᑕᒥᒃ ᓄᓇᕗᒻᒥᔪᖅᑐᑦᑎᔨᖅᑐᑦ ᑎᑎᕋᖕᒐᖓ ᒪᓗᐃᖕᒐᖅ ᐆᒃᑯᖕᒪᓂᒃ/ᒪᓗᐃᖕᒐᖅ ᓄᓇᕗᒻᒥᔪᖅ 2015-04S

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ᓄᓇᕗᒻᒥᒃᑯᓐᓂᖅᑐᑦ ᑲᓇᑕᒥᒃ ᑭᒃᑲᔪᓐᓂᖅᑐᑦ ᓄᓇᕗᑦ 2175

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GRINNELL GLACIER

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