Quartz porphyry, tonalite, diabase

b Pegmatite, graphic granite

17 Granite, syenite, pegmatite

a Granite, granodiorite

b Pegmatitic hornblende gabbro

f Diorite, biotite diorite

12 Sandstone, derived schist and gneiss

14 Hornblende diorite, quartz diorite

d Hornblendite, biotite hornblendite

e Diabase, related amphibolite and schist

a Arkosic sandstone, pebbly sandstone **b** Muscovite-bearing arkose, pebbly arkose

e Biotite-bearing psammitic gneiss

a Conglomerate, arkose matrix

Zed Lake greywacke, rocks of uncertain affinity

c Staurolite schist, greywacke

Burntwood Group

Wasekwan tectonic collage

Sillimanite-bearing arkosic gneiss

10 Greywacke, siltstone, mudstone, minor volcanic rocks

b Conglomerate, greywacke matrix ± hornblende

a Biotite ± garnet-bearing metagreywacke, migmatite

Conglomerate, hornblende greywacke matrix

e Biotite±garnet-greywacke–mudstone migmatite

f Layered and massive amphibolite, calcillicate rock

b Conglomerate, biotite greywacke matrix

d Biotite greywacke, siltstone, minor argillite

8 Sedimentary rocks, coarse- to fine-grained, paragneiss

a Pebbly greywacke, paraconglomerate **b** Hornblende greywacke, siltstone

c Biotite greywacke, siltstone, mudstone

d Quartz-rich greywacke

Porphyroblastic schis Psammitic gneiss I Semipelitic gneiss **m** Pelitic gneiss

n Sillimanite gneiss and schist

Hornblende-plagioclase-biotite gneiss

d Polymictic volcanic breccia, conglomerate

b Conglomerate with volcanic and sedimentary clasts

Quartz-pebble conglomerate

i Iron Formation

Rhyolite, felsic gneiss

a Massive aphyric rhyolite **b** Massive porphyritic rhyolite

a Massive aphyric dacite

e Altered dacite, schist

b Porphyritic dacite

d Pyroclastic breccia

d Polymictic breccia

f Intermediate tuff

a Massive basalt **b** Pillowed basalt

a Massive basalt

b Pillowed basalt

c Autoclastic breccia

d Porphyritic and aphyric basalt

f Banded amphibolite, breccia

c Pillow breccia, hyaloclastite

f High-magnesia basalt, tuff, ultramafic rock, amphibo Layered and massive amphibolite, calcsilicate rock

b Massive porphyritic dacite

Intermediate and felsic volcanic rocks

Mafic and intermediate volcanic rocks, amphibolite

Mafic to intermediate schist and gneiss

Intermediate to felsic schist and gneiss **k** Undivided amphibolite and intermediate rocks

Massive porphyritic and aphyric basalt and andesite

c Intermediate tuff, lapilli tuff

b Pillowed basalt and andesite

g Garnetiferous amphibolite

 Siltstone and mafic mudstone f Mafic mudstone, tuff, greywacke

a Hornblende-biotite granodiorite

c Layered dioritic/quartz dioritic gneiss

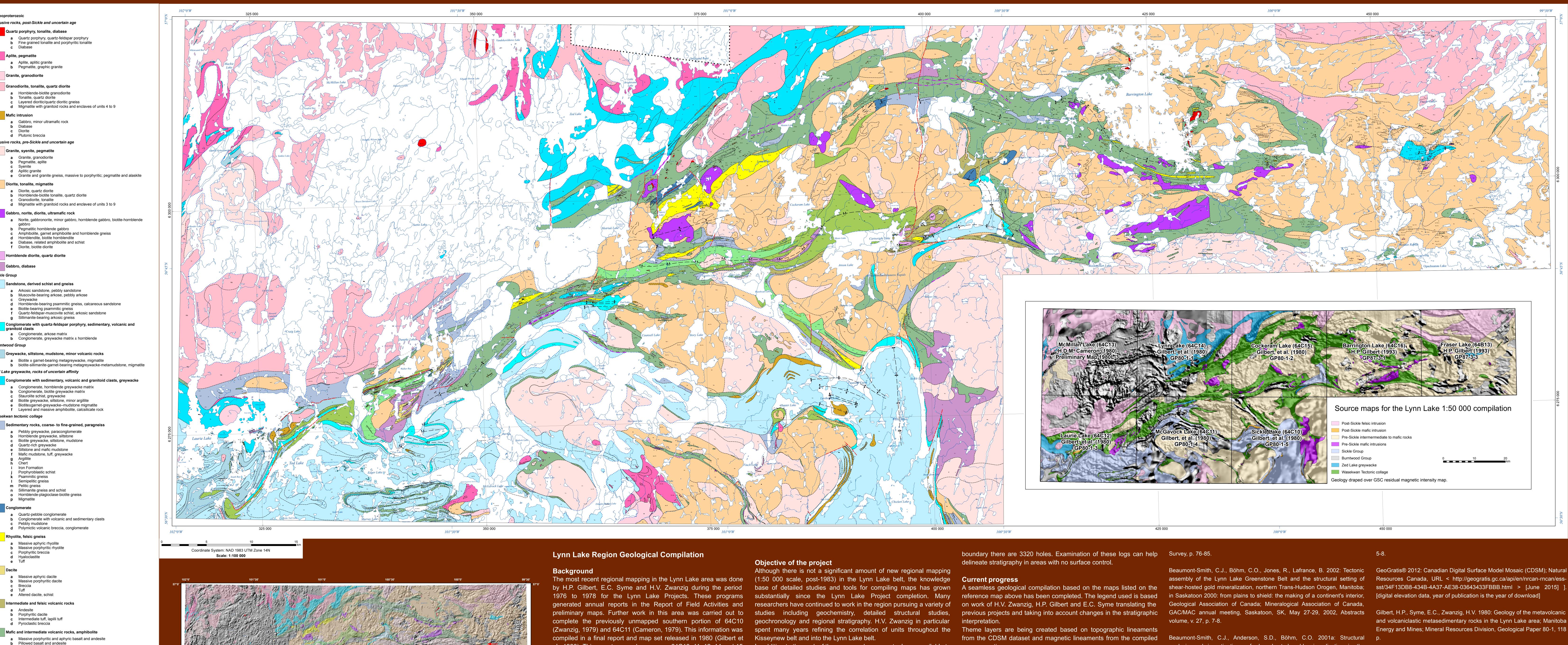
Migmatite with granitoid rocks and enclaves of units 3 to 9

c Amphibolite, garnet amphibolite and hornblende gneiss

d Hornblende-bearing psammitic gneiss, calcareous sandstone

Quartz-feldspar-muscovite schist, arkosic sandstone





Lynn Lake geology draped over the Canadian Digital Surface Model (CDSM) 20 m DEM. Note the clear definition of the Johnson shear zone as a depression running from Opachuanau Lake in the east to Tod Lake in the west (red arrows).

Also of note are clearly defined N-S and E-W lineaments through most of the upper half of the map area. Lineaments in the southern portion appear to be more strata-bound than structural in nature.

al., 1980). This report covered map areas 64C10, 11, 12, 14 and 15 In addition to the work of these researchers, new tools are available to aeromagnetic maps. and was published with a map scale of 1:50 000. Further additions help improve the Lynn Lake regional map base. These include: in 1979-80. The results were reported in Gilbert (1990). Although over most of the Lynn Lake belt between 1981 and 1983. As part of extrapolation of know geology into areas of no outcrop. Gilbert's mapping was a spatial continuation of the earlier mapping this project these surveys were merged into one grid to use as a base of Gilbert et al., (1980) the maps had a different legend and unit for compilation. also used a different legend for the McMillan Lake map.

Beaumont-Smith, 2015b.

projects were focused on thematic work such as belt structure and 74745).

studies, alteration and mineralization (Anderson and Beaumont- > The Canadian Digital Surface Model (CDSM) covers the entire 1:50 000 in PDF format will also be available for download Smith, 2001; Beaumont-Smith et al., 2002; Beaumont-Smith et al., belt with a 20 m DEM that is providing a new view of surface 2001a; Beaumont-Smith et al., 2001b). Areal mapping has been lineaments and traces of major faults and shears that are visible, even References:

restricted to small, detailed studies such as Yang and Beaumont- in areas of no surface exposure.

the mapping of the Barrington Lake-Fraser Lake-Melvin Lake area The GSC did magnetic gradiometer surveys at line spacing of 300 m valuable in this process. Drill hole logs can add confidence to Geological Survey, p. 67-75.

70 m to 100 m available in the cancelled assessment files of the base to be used in a new project on the MGS Map Gallery. The Map Minerals Convention 2001, Winnipeg, Manitoba, Mineral Resources, Manitoba Geological Survey, p. 52–67 Although work continued in the Lynn Lake region after 1980, the Mines Branch (assessment file numbers 74309, 74523, 74583, 74684 Gallery will be a 1:50 000 based project similar to the NATMAP Shield November 15-17, 2001, Program, p. 43. Margin project currently on the Map Gallery. A set of 8 digital maps at

Anderson, S.D., Beaumont-Smith, C.J. 2001: Structural analysis of the Pool Smith, 2015a or regional sampling projects such as Yang and - J. Payne of the Mines Branch compiled a database in GIS format - Lake-Boiley Lake Area, Lynn Lake greenstone belt (NTS 64C/11); in Report of - Cameron, H.D.M. 1980: Geology of the McMillan Lake area; in Report of Field for all drill holes in Manitoba. Within the current compilation project Activities 2001, Manitoba Industry, Trade and Mines, Manitoba Geological Activities 1980, Manitoba Energy and Mines; Mineral Resources Division, p.

analysis and investigations of shear-hosted gold mineralization in the Areas of no exposure are being examined through analysis of the Southern Lynn Lake Greenstone Belt (parts of NTS 64C/11, /12, /15, /16); in Gilbert, H.P. 1993: Geology of the Barrington Lake-Melvin Lake-Fraser to the Lynn Lake Project mapping were made by H.P. Gilbert with F Geological Surveys done by the Geological Surveys done by

Beaumont-Smith, C.J., Anderson, S.D., Ma, G., Jones, R. 2001b: Lynn Lake Yang, X.M. and Beaumont-Smith, C.J. 2015a: Geological investigations of TGI: structural analysis of the Lynn Lake Greenstone Belt and investigations the Keewatin River area, Lynn Lake greenstone belt, northwestern numbering which made it difficult to compile all the maps. Cameron > There are also 5 detailed magnetic surveys with line spacing of The principal output of this project is to produce a new geological into structural controls on gold mineralization; Manitoba Industry, Trade and Manitoba (parts of NTS 64C14, 15); in Report of Activities 2015, Manitoba

Cameron, H.D.M. 1979: McGavock Lake; in Report of Field Activities 1979, Lake region, northwestern Manitoba: preliminary results of reconnaissance Manitoba Department of Mines, Natural Resources and Environment; Mineral mapping and sampling; in Report of Activities 2015, Manitoba Mineral Resources Division, p. 16.

and volcaniclastic metasedimentary rocks in the Lynn Lake area; Manitoba

Report 87-3, 97 p. + 4 maps at 1:50 000

Yang, X.M. and Beaumont-Smith, C.J. 2015b: Granitoid rocks in the Lynn Resources, Manitoba Geological Survey, p. 68-78.