ZINC (ppm)

G.S.C. OPEN FILE 868
YUKON AND NORTHWEST TERRITORIES, 1981
NAHANNI MAP (NTS 105I)

GEOLOGICAL SURVEY OF CANADA — COMMISSION GÉOLOGIQUE DU CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES
MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES RESSOURCES

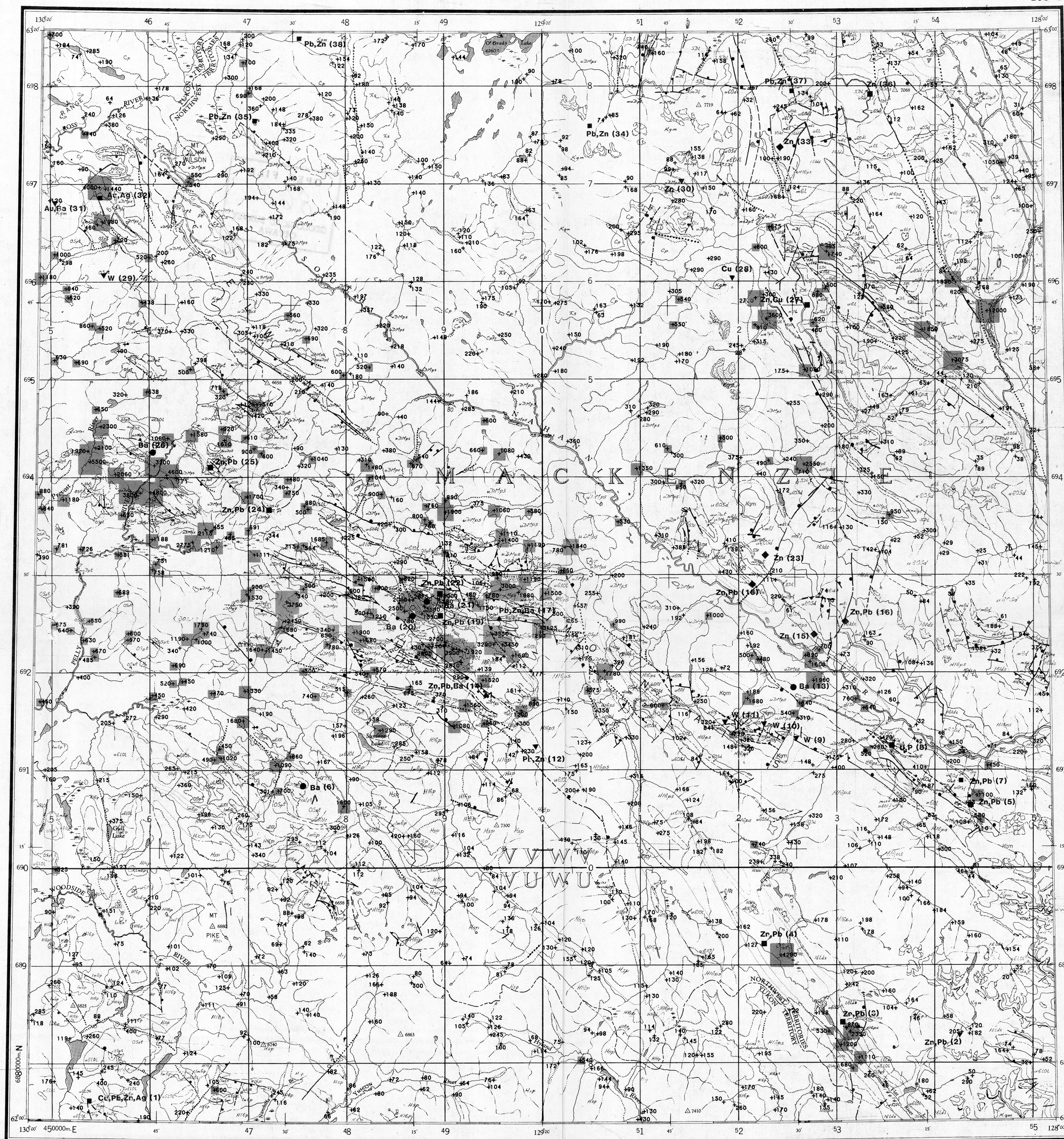
105 I

Geochemical Symbol and Data Presentation

The concentration of each element is represented by the actual value plotted adjacent to the sample site represented by a "+" symbol. In addition to enhance visual impact, values over the 75th percentile are designated by grey solid squares which are symmetrically arranged so that they increase in size from the 75th to the 99th percentile. The actual concentration range represented by each symbol is illustrated below with a histogram.

In addition to 25 geochemical maps, each Open File contains an appendix consisting of a short discussion of the geochemistry, survey and analytical methodologies, listing of field and analytical data, and statistical data. The statistical data is provided for the total data set as well as for data subsets grouped on the basis of major stratigraphic units.

CONCENTRATION	PERCENTILES
3601. TO 12000.	99TH TO MAX.
2811. TO 3600.	98TH TO 99TH
1701. TO 2810.	95TH TO 98TH
1051. TO 1700.	90TH TO 95TH
431. TO 1050.	75TH TO 90TH



SELECTED MINERAL DEPOSITS AND OCCURRENCES

- ■ Stratabound Zn-Pb (Lower Silurian Age)
- ▲ Stratabound Zn-Pb-Ba (Devonian Age)
- ● Stratabound Barite (Devonian Age)
- ◆ Replacement Zn, Pb (age unknown)
- ■ Vein Zn, Pb, Ag, Au, Sb (age unknown)
- ▼ Skarn W, Zn (Cretaceous)

Note: Further information on each occurrence or deposit is given in the Appendix which accompanies this open file.

Geochemistry by W.D. Goodfellow
Geological Survey of Canada
Resource Geophysics and Geochemistry Division

CONTRACTORS

Sample collection by Marshall Macklin Monaghan Ltd., Toronto. Uranium in sediment chemical analysis by Nova Track Ltd., Vancouver. Other sediment chemical analysis by Bondar-Clegg and Company, Ottawa

This map forms one of a series of 26 maps released by the Geological Survey of Canada on Open File 868. Each Open File consists of maps for 19 elements for stream sediments, 5 elements for stream waters, and 1 each for water pH and sample site location.

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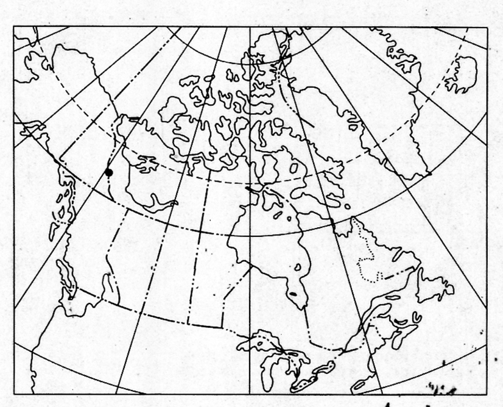
The data are also available in digital form. For further information please contact:

The Director
Computer Science Centre
Department of Energy, Mines and Resources
Ottawa, Ontario
K1A 0E4



INDEX MAP

Mean magnetic declination 1982, 32°58.1' East, decreasing 8.8 annually. Readings vary from 32°44.2' in the SE corner to 33°5.6' in the NW corner of the map.

ZINC (ppm)
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NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 51-1981

STREAM SEDIMENT AND WATER GEOCHEMICAL SURVEY

YUKON AND NORTHWEST TERRITORIES, 1981
NAHANNI MAP (NTS 105I)

Scale 1:250,000

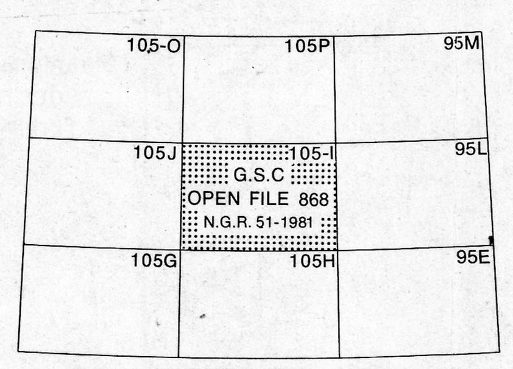
Kilometres 6 0 6 12 18 Kilometres

Miles 4 0 4 8 Miles

Universal Transverse Mercator Projection

Elevation in feet above mean sea level

Base map drawn and printed by the Army Survey Establishment R.C.E. 1949-54



NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX TO GEOLOGICAL SURVEY OF CANADA MAPS

LEGEND

CRETACEOUS

- Kqm — Grey weathering, resistant, medium-to coarse-grained, megacrystic (K-feldspar), biotite quartz monzonite
- hf — Pelitic hornfels: red-rust to brown weathering, extremely well indurated, massive, fine grained. Carbonate hornfels: white to grey weathering, extremely well indurated, fine-to coarse crystalline; large tremolite porphyroblasts abundant in hornfelsed u€OL

TRIASSIC

- ℞s — Tan weathering, thin bedded, ripple cross-laminated siltstone, fine grained sandstone, and shale

PERMIAN

- Pt — Orange to grey weathering, thin bedded, locally lenticular, pale green to blue-grey chert; minor dark dreen to brown weathering, pale green, splintery shale

CARBONIFEROUS

- Cp — Brown weathering, recessive, thin bedded, blue-grey shale, black laminated quartz siltstone, and pale green shale; minor fine- to medium-grained quartz arenite
- Cs — Grey weathering resistant, massive, fine-to medium-grained quartz arenite
- uDMps — Grey weathering, resistant, thin- to very thick-bedded, massive, chert pebble conglomerate, and medium- to coarse-grained, light- to dark-grey, chert-quartz arenite and wacke; minor brown weathering, blue-grey to black shale, siltstone, and slate

Brown weathering, recessive, thin bedded, laminated, blue-grey to black shale, siltstone, and slate; minor grey brown weathering, thin- to medium-bedded, fine- to medium-grained, chert-quartz arenite and wacke

Black to gun-blue weathering, massive, chert and shale clast granule to pebble conglomerate with mud matrix; contains minor quartz sand; clasts commonly matrix supported

- muDpt — Black weathering, thin- to medium-bedded, black chert; minor black weathering, black, siliceous shale

Black, gun-blue or silvery white weathering, thin bedded, siliceous, black shale, chert, and slate; merges with muDt to southwest by increase in proportion of chert

DEVONIAN

- mmDl2 — Light grey weathering, resistant, thin- to thick-bedded, fine- to medium crystalline, dark grey limestone
- mDl — Orange weathering, recessive, thin bedded, finely crystalline, dark blue-grey limestone
- mmDl1 — Orange-brown weathering, thin- to medium-bedded, finely crystalline, light- to dark-grey limestone
- lmDl1 — Light grey weathering, resistant, thin- to thick-bedded, fine- to medium crystalline, dark grey limestone, in part crinoidal
- lDl — Dark grey weathering, recessive, thin bedded, platy, finely crystalline, black limestone; minor grey weathering, medium bedded, finely crystalline, grey limestone
- mlDd — Dark grey weathering, thick bedded, finely crystalline black dolomite; white dolomite filling veins and vugs; sparse chert nodules
- lDd — Light grey weathering, medium bedded, fine- to medium crystalline light- to dark-grey dolomite; member in middle part of unit of dark grey weathering, medium-to thick-bedded, fine- to medium crystalline, in part crinoidal, dark grey dolomite; top of unit marked by alternating light and dark grey dolomite;
- ulDl — Blue-grey weathering, resistant, thin- to very thick-bedded, grey crinoidal limestone characterized by abundant crinoid stem fragments with twin axial canals; massive fine- to medium crystalline, grey limestone; minor limestone breccia

DEVONIAN, SILURIAN AND ORDOVICIAN

- SDl — Dark grey weathering, thin- to medium-bedded, finely crystalline, black limestone

Tan, buff or dark grey weathering, recessive, thin bedded, laminated, argillaceous, finely crystalline, black limestone; in the northeast, black weathering, finely crystalline, black, crinoidal limestone with crinoid stem fragments having twin axial canals occurs near top of unit

Blue-grey weathering, thin bedded, finely crystalline, porcellaneous, black or dark blue-grey limestone

Orange weathering, resistant, thick bedded, dolomitic, silty, grey mudstone characterized by discontinuous wispy black lamination and locally by abundant small pyrite cubes

- OSpt — Black, gun-blue or silvery white weathering, recessive, black slate; minor thin interbeds of finely crystalline, black limestone and black chert; merges with OSt to southwest by increase in proportion of chert, and with upper part of u€Ol to east by increase in proportion of limestone

Black weathering, thin- to medium-bedded, dark grey to black chert; rare black siliceous shale; minor tan to brown weathering, recessive dark grey shale at base

- uOSd — White to grey weathering, thick- to very thick-bedded, massive, medium crystalline, grey dolomite, locally containing abundant nodules of black or grey chert

SILURIAN, ORDOVICIAN AND CAMBRIAN

- u€OSd — Grey to white weathering, medium- to thick-bedded, massive, fine- to medium crystalline, grey dolomite; in upper part minor thick beds of medium crystalline, black dolomite

Brick red weathering, thin- to thick-bedded, maroon mudstone; orange to grey weathering, thick bedded, fine- to medium crystalline, light coloured dolomite; medium bedded, medium- to coarse-grained, dolomitic, grey quartz arenite; thick bedded, finely crystalline, blue-grey limestone

- u€Od — White to orange weathering, massive, fine- to medium crystalline, grey dolomite
- u€Ol — Rust-brown weathering, resistant, pyritic, amydgaloidal basalt; grey and rust-grey weathering, fissile, green tuff; minor dolomite

Buff to grey weathering, recessive, thin bedded, finely crystalline, dark grey to black limestone

- u€Odl — Blue-grey weathering, thin bedded, finely crystalline, porcellaneous, black limestone, minor grey weathering, thin bedded, finely crystalline, grey dolomite

Grey to white weathering, thick bedded, massive, fine- to medium crystalline, grey to black dolomite; local dolomite breccia with large blocks of finely crystalline, grey dolomite in matrix of coarsely crystalline, white dolomite

- u€lOl — White to buff weathering, laminated or thin bedded, finely crystalline, blue-grey limestone; includes in upper part northeast of Howard's Pass, thin bedded, finely crystalline, nodular, silty limestone; local thin bedded to massive, pale green, lapilli tuff

CAMBRIAN

- u€l — Tan to orange brown weathering, thin bedded, finely crystalline, blue-grey limestone, locally nodular; at base is minor thin bedded, fine grained, grey quartz arenite
- m€d — Light grey weathering, resistant, thick bedded, massive, fine- to medium crystalline, grey dolomite
- m€l — Tan to brown weathering, recessive, thin bedded, finely crystalline, grey limestone
- l€lds — Orange weathering, thin- to thick-bedded, finely crystalline, locally sandy, cream, orange, or grey dolomite; minor medium- to thick-bedded, medium grained, white quartz arenite; minor purple weathering, thin bedded, purple siltstone

upper - bright orange weathering, thin- to thick-bedded, finely crystalline light coloured dolomite
middle - purple weathering, recessive, thin- to thick-bedded, brown to purple siltstone and dolomitic siltstone, minor thin bedded, orange weathering dolomite
lower - light orange to brown weathering, resistant, medium- to thick-bedded, medium grained, grey quartz arenite and interbedded brown siltstone; thin to thick interbeds of orange weathering dolomite towards top

Grey to buff weathering, thin bedded, locally wavy bedded and nodular, finely crystalline blue-grey to black limestone; minor limestone conglomerate with rounded to subangular clasts of blue-grey weathering grey limestone and oolitic limestone in orange weathering, locally sandy, limestone matrix; upper 1/3 of l€ld is white weathering, massive, finely crystalline, grey dolomite

- lm€p — Tan weathering, resistant, medium bedded, variably calcareous and dolomitic, blue-grey siltstone and mudstone; parallel lamination in grey to black disrupted to discontinuous wispy lamination

Brown to orange brown weathering, recessive, thin bedded, blue-grey slate and siltstone; minor fine grained subarkose to quartz arenite

Lenticular bodies of white weathering limestone conglomerate and minor blue-grey finely crystalline limestone; conglomerate clasts include fine grained blue-grey limestone, oolitic limestone, and archeocyatha; matrix is orange to grey weathering, fine grained, locally sandy limestone

CAMBRIAN AND HADRYNIAN

- Hl€ps — Dark brown to rust weathering, thin- to thick-bedded, greenish grey siltstone; very fine grained quartz arenite and/or subarkose; slate; southwest of South Nahanni River - dark brown weathering, pale green to blue-grey slate and siltstone, and minor greenish grey, very fine grained, quartz sandstone

Buff weathering massive dolomite

- Hl€p — Maroon, purple or green weathering, recessive slate, thin bedded or laminated in like colours; minor thin intervals of thin- to medium-bedded, fine grained, pale green, quartz arenite to subarkose and interbedded pale green to tan slate

Orange, grey or tan weathering, thin- to medium-bedded, fine grained, pale green, quartz arenite to subarkose and interbedded pale green to tan slate

- Hsp — Grey to brown weathering, thin- to thick-bedded, coarse grained, calcareous, grey quartz arenite and subarkose; quartz pebble conglomerate; brown to pale green slate; minor thin bedded grey or white finely crystalline limestone; sandstone contains conspicuous blue quartz, minor plagioclase and orthoclase

Geology by S.P. Gordey 1977, 1978, 1979, 1980 (with contributions from previous work by S.L. Blusson, J.A. Roddick, and L.H. Green (1967))

Limit of outcrop..........

Geological boundary (defined, approximate, assumed or extrapolated beneath overburden)..........

Fault, steeply dipping (defined, approximate, assumed or extrapolated beneath overburden; barb on downthrown side)..........

No analytical result ....+

Geology by S.P. GORDEY (1981), Geological Survey of Canada, Open File 780

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