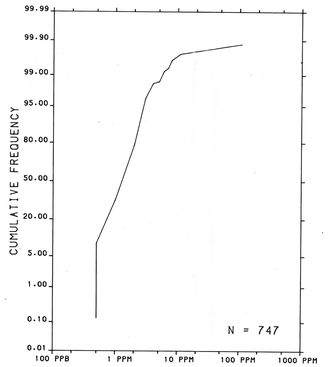
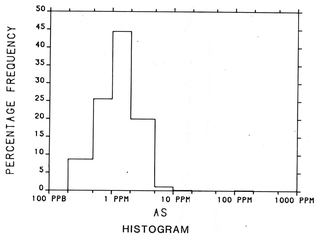
Manitoba
Department of Energy and Mines

Canada
Department of Energy, Mines and Resources
Geological Survey of Canada

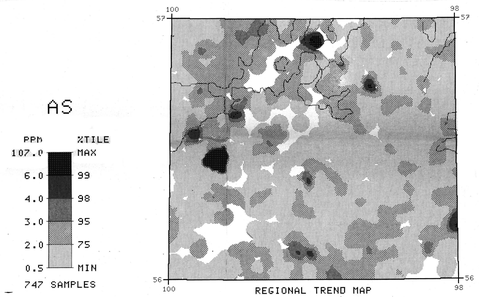
ARSENIC (ppm)

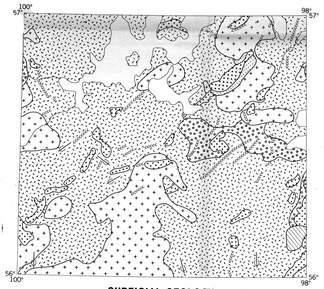
GSC OPEN FILE 1103
NORTH-WEST MANITOBA, 1984





HISTOGRAM





SURFICIAL GEOLOGY

Kilometres 0 20 40
Scale 1:1 000 000

PROGLACIAL AND GLACIAL ENVIRONMENT

GLACIOLACUSTRINE DEPOSITS: beach and nearshore deposits: sand and gravel 1-4 m thick, forming distinct ridges

GLACIOLACUSTRINE DEPOSITS: deep basin deposits: silt, clay and sand, 1-30 m thick

GLACIOFLUVIAL DEPOSITS: gravel, sand and silt, 1-100 m thick

GLACIAL ENVIRONMENT

GLACIAL DEPOSITS: till: 1-5 m thick, derived primarily from Precambrian bedrock

NONGLACIAL ENVIRONMENT

BEDROCK

ORGANIC DEPOSITS: marsh, fen, swamp and bog deposits up to 6 m thick, characterized by seasonal flooding

Striations

Flutings, drumlins, and drumlinoid ridges, oriented parallel to ice flow direction

Esker (flow direction known or inferred)

Geological Survey of Canada
Resource Geophysics and Geochemistry Division
and
Manitoba Department of Energy and Mines
Mineral Resources Division

CONTRACTORS

Sample collection by Marshall Macklin Monaghan Ltd., Toronto
Sample preparation by Golder Associates, Ottawa

Sediment chemical analysis by Barringer Magenta Ltd., Rexdale, Ontario
Water chemical analyses by Barringer Magenta Laboratories (Alberta) Ltd., Calgary

Copies of map material and listings of field observations and analytical data, from which the material was prepared, may be available at users expense by application to:

K.G. Campbell Corporation
880 Wellington St.
Bay 238
Ottawa, Ontario
K1R 6K7

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

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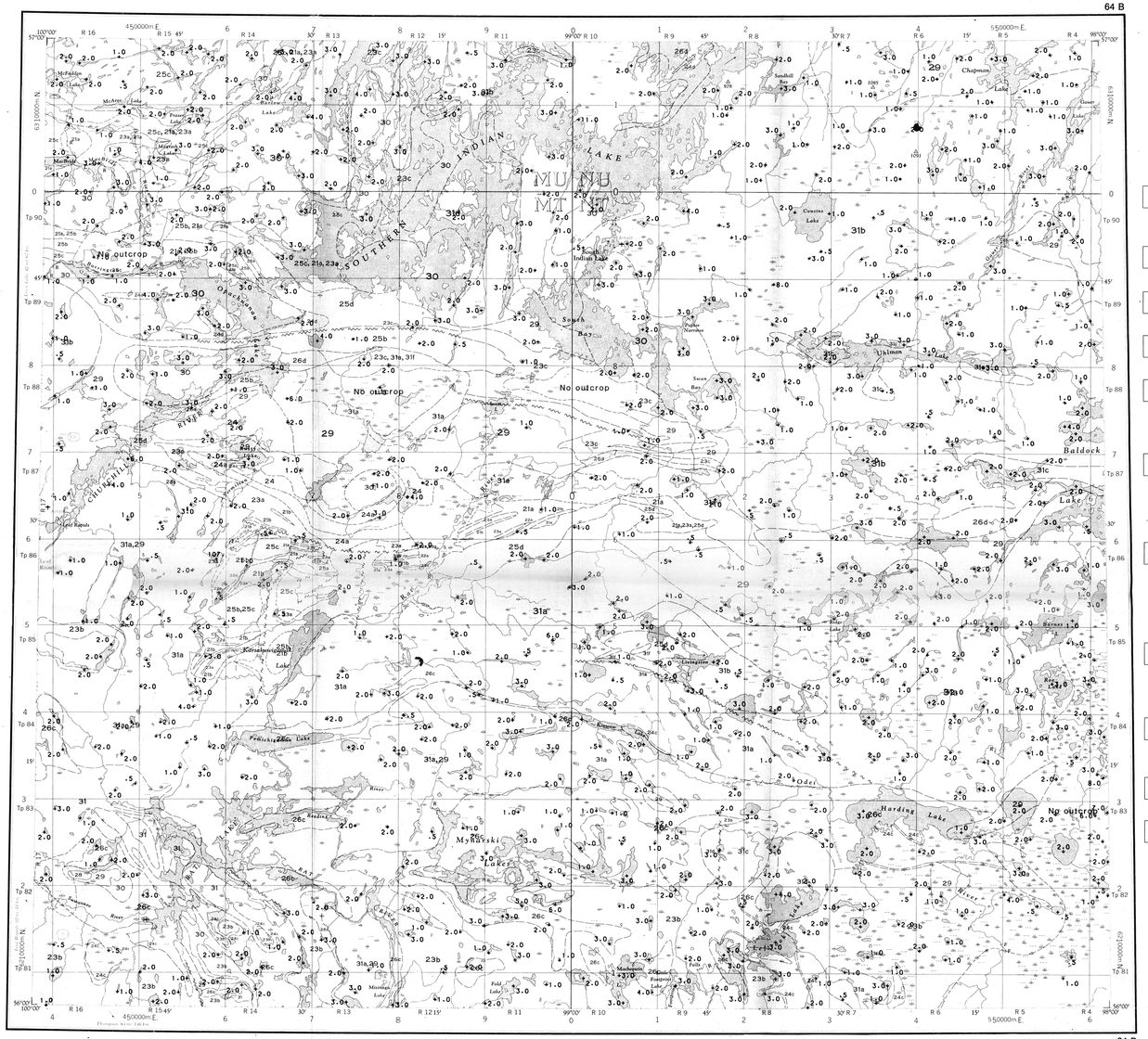

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LEGEND

Note: This legend is common for Regional Geochemical Reconnaissance Map 68-1984, Open File 1103.

PROTEROZOIC (APHEBIAN)

31 GRANITIC INTRUSIVE ROCKS, POST-SICKLE (HUDSONIAN) (AHia to AHif)*
31 granite (AHia) 31a-granodiorite, tonalite 31b-megacrystic granite; 31c - granite, granodiorite ± muscovite ; 31d leucogranite, tonalite ; 31e monzonite, syenite 31f pegmatite

30 GRANITIC INTRUSIVE ROCKS, POST-SICKLE and remobilized PRE-SICKLE
30 - granite, granodiorite (AHig)

29 INTERMEDIATE INTRUSIVE ROCKS, POST-SICKLE and remobilized PRE-SICKLE
29 - tonalite, granodiorite, quartz diorite (AHit), 29a - pyroxene tonalite (AHip)

28 MAFIC INTRUSIVE ROCKS, POST-SICKLE
28 - gabbro, minor ultramafic rock (AHir)

27 BLACK TROUT INTRUSIVE SUITE
27 - quartz diorite, diorite (ATiq)

SICKLE GROUP | SICKLE METAMORPHIC SUITE | SOUTHERN INDIAN GNEISS

26 ARKOSIC METASEDIMENTARY ROCKS, DERIVED GNEISS
26a - conglomerate (ASac)
26b - arkosic sandstone (ASas)
26c - sandstone-derived gneiss, migmatite (ASan)
26d - felsic, minor mafic gneiss (age unknown) (AImt)

unconformable — conformable ? on Burntwood River M.S.

25 PRE-SICKLE INTRUSIVE ROCKS
25a - gabbro, norite, ultramafic rock (APir)
25b - tonalite, granodiorite, diorite (APit)
25c - granite (APig), 25d gabbro - quartz diorite (APd)

WASEKWAN or SICKLE GROUP | GNEISSIC ROCKS OF PROBABLE WASEKWAN AGE

24 AMPHIBOLITE, CALC-SILICATE ROCK, METASEDIMENTARY ROCKS
24 - greywacke (ABsw)
24a - conglomerate, greywacke (AGm), 24b - felsic gneiss (AGmf)

unconformable ?

WASEKWAN GROUP | BURNTWOOD RIVER METAMORPHIC SUITE

23 METASEDIMENTARY ROCKS
23a - greywacke, conglomerate, mafic mudstone (AWsw)
23b - greywacke-derived gneiss, migmatite (ABsw)
24c mafic gneiss, volcanic rock greywacke, quartzite, marble (ABm)
24d - amphibolite, tuff (AIma)
23c - greywacke-derived gneiss and migmatite (AIsw)

— conformable — — conformable —

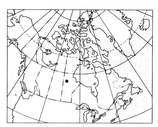
22 FELSIC, INTERMEDIATE VOLCANICS
22a - dacite, rhyolite (AWvd)

21 MAFIC, INTERMEDIATE VOLCANICS
21a - basalt andesite (AWva) tuffy amphibolite
21b - basalt (AWvb)

Geological boundary (approximate, inferred)
Fault approximate or inferred
Area of no outcrop
No analytical result *

* A four character mnemonic name recorded rock type as part of the 1984 field observations

Provisional Compilation map by H.W. Zwanzig, Manitoba Department of Energy and Mines



INDEX MAP

Elevation in feet above mean sea level

Mean magnetic declination 1985, 9°08' East, decreasing 21.3' annually. Readings vary from 7°44' in the NE corner to 10°25' in the SW corner of the map area

ARSENIC (ppm)

GSC OPEN FILE 1103

REGIONAL GEOCHEMICAL RECONNAISSANCE MAP 68-1984

CANADA - MANITOBA
MINERAL DEVELOPMENT AGREEMENT (1984-89)
LAKE SEDIMENT AND WATER GEOCHEMICAL SURVEY
NORTH-WEST MANITOBA, 1984

Scale 1:250 000

Kilometres 5 0 5 10 15 20 Kilometres

Universal Transverse Mercator Projection

Base map at the same scale published by the Surveys and Mapping Branch in 1963

This map forms one of a series of maps released by the Geological Survey of Canada, Open File 1103 to 1105. Each Open File consists of maps of various geochemical variables: 16 for lake sediment, 3 for lake water and 1 sample site location

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