Province of British Columbia
Ministry of Energy, Mines and Petroleum Resources

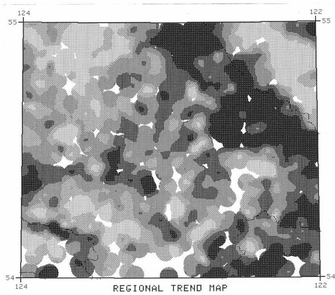
Provincial Open File
BC RGS-13-1985

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

pH in water

GSC OPEN FILE 1216

EAST-CENTRAL BRITISH COLUMBIA, 1985



REGIONAL TREND MAP

0 20 40 60

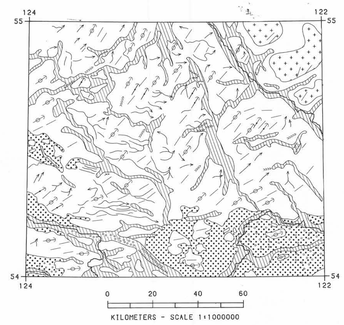
KILOMETERS - SCALE 1:1000000

PH

	%TILE
8.9	MAX
7.6	75
7.2	55
6.8	35
6.4	18
4.0	MIN

876 SAMPLES

The regional geochemical trend map displayed above utilized a moving weighted average using an inverse distance function ($1/d^2$) to filter out minor irregularities and emphasize broad-scale regional features. Single point anomalies may be suppressed or eliminated, however, geological units which are chemically enriched, or large metallic deposits undergoing weathering would be expected to produce identifiable anomalies



0 20 40 60

KILOMETERS - SCALE 1:1000000

SURFICIAL GEOLOGY

PROGLACIAL DEPOSITS

LACUSTRINE DEPOSITS: Varved silt, clay, and sand, locally drumlinized and fluted through minor ice re-advance, fringed by beach deposits

GLACIOFLUVIAL DEPOSITS: Meltwater or outwash channel deposits bounded by cutbanks or terraces; sand, silt, clay, gravel with local accumulations up to 70 m thick along valley bottoms

GLACIAL DEPOSITS

Undivided glacial till and ground moraine. Areas of low relief include abundant drumlins, rock drumlins, fluting, and esker complexes. Bedrock exposures predominate above 1,700 m elevation

BEDROCK

BEDROCK exposures predominate: talus, scree and cirque formation; below 1,700 m includes discontinuous veneers of glacial till, ground moraine and colluvial deposits; valley bottoms may contain drumlinoid features, fluting, kame and esker complexes

SYMBOLS

Outwash channel, cutbank or terrace

Small meltwater or abandoned stream channel indicating direction of flow

Fluting or glacial striation

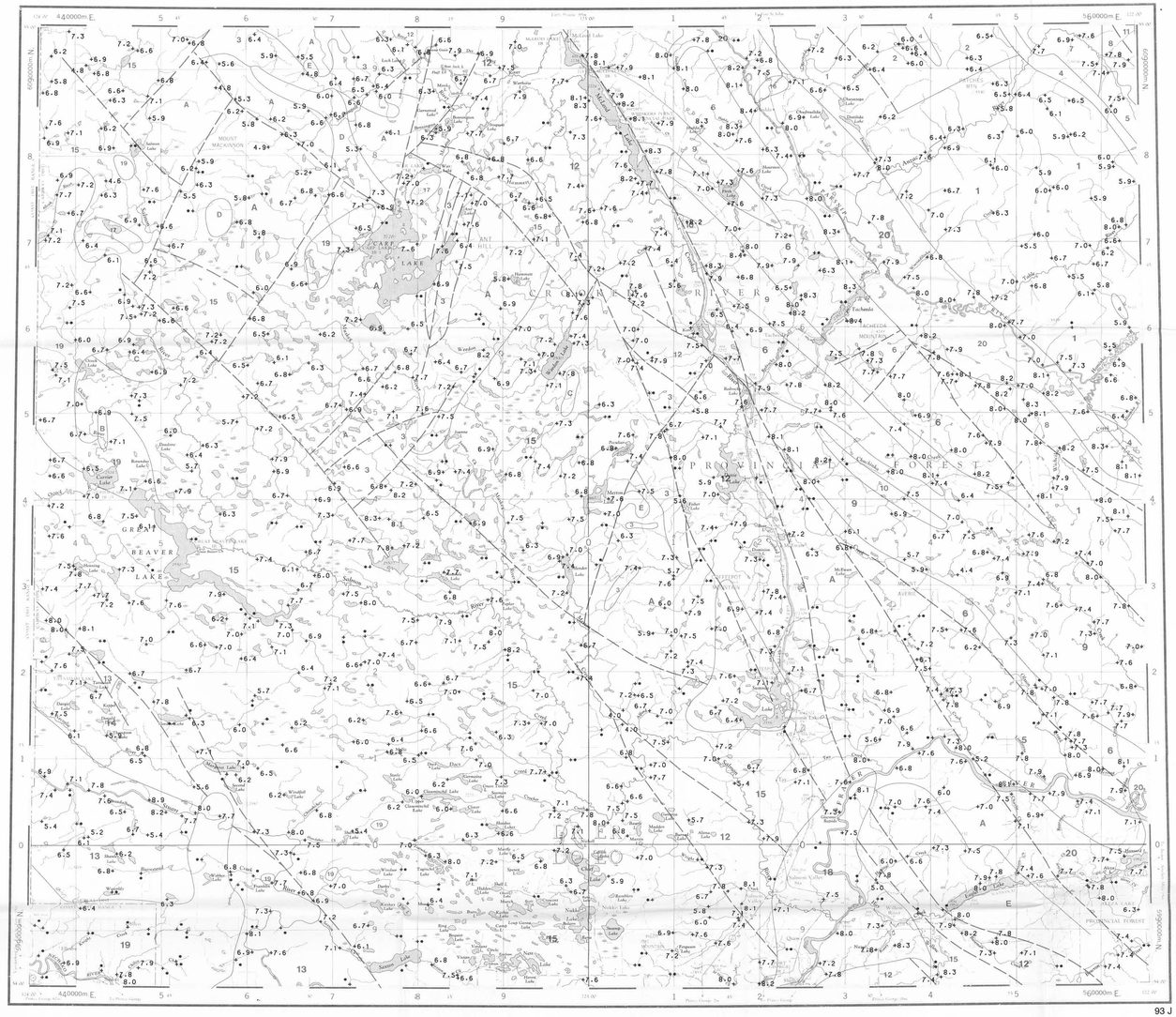
Drumlin, direction of flow known

Rock drumlin, direction known from crag and tail

Eskers and esker complexes

Kettled and pitted terrain

Sources of information:
Tipper, H.W. (1971) Surficial Geology - McLEOD LAKE, British Columbia, NTS Map Area 93J, Geological Survey of Canada Map 1287A (Scale 1:250 000)



INDEX MAP

Elevation in feet above mean sea level

Mean magnetic declination 1986, 24°24' East, decreasing 15.9' annually. Readings vary from 23°50'E in the SE corner to 24°58'E in the NW corner of the map area

pH in water
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REGIONAL GEOCHEMICAL RECONNAISSANCE MAP 81-1985

CANADA - BRITISH COLUMBIA
MINERAL DEVELOPMENT AGREEMENT (1985-89)
STREAM SEDIMENT AND WATER GEOCHEMICAL SURVEY
EAST-CENTRAL BRITISH COLUMBIA, 1985

Scale 1:250 000

Kilometres 5 0 5 10 15 20 Kilometres

Universal Transverse Mercator Projection

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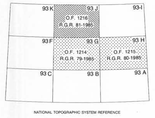
Base-map at the same scale published by the Surveys and Mapping Branch in 1961
Streams were revised by the Geological Survey of Canada for this edition



NATIONAL TOPOGRAPHIC SYSTEM REFERENCE

LEGEND

CENOZOIC
QUATERNARY
PLEISTOCENE AND RECENT

20 (TILL* 44) TILL, GRAVEL, SAND, CLAY, SILT

TERTIARY
MIOCENE AND PLIOCENE

19 (BSLT 42) OLIVINE BASALT FLOWS, BRECCIA, TUFF

18 (SNDS 42) SANDSTONE, SHALE, CONGLOMERATE, DIATOMITE, LIGNITE

MESOZOIC – CENOZOIC
UPPER CRETACEOUS AND LOWER TERTIARY

17 (RYLT 41) **OOTSA LAKE GROUP:** RHYOLITE, DACITE, TRACHYTE, SANDSTONE, SHALE, CONGLOMERATE

16 (CGLM 41) **SUSTUT GROUP:** CONGLOMERATE, SHALE, GREYWACKE

JURASSIC
UPPER TRIASSIC AND LOWER JURASSIC

15 (ANDS 33) **TAKLA GROUP:** ANDESITE, BASALT, TUFF, BRECCIA, CONGLOMERATE, GREYWACKE, SHALE, LIMESTONE

PALEOZOIC
PENNSYLVANIAN AND PERMIAN

14 (LMSN 23) **CACHE CREEK GROUP:** LIMESTONE, MINOR CHERT, ARGILLITE, GREENSTONE

13 (CHRT 23) **CACHE CREEK GROUP:** RIBBON CHERT, BLACK ARGILLITE, LIMESTONE, GREENSTONE

MISSISSIPPIAN AND (?) YOUNGER

12 (BSLT 21) **SLIDE MOUNTAIN GROUP:** BASALT, BRECCIA, TUFF, CHERT, ARGILLITE, SANDSTONE, LIMESTONE, CONGLOMERATE

DEVONIAN
MIDDLE DEVONIAN

11 (DLMT 18) **STONE, MUNCHO–McCONNELL, PINE POINT FORMATIONS:** DOLOMITE, LIMESTONE, SHALE (MAY INCLUDE UPPER DEVONIAN FLUME)

SILURIAN (?) AND DEVONIAN

10 (LMSN 17) LIMESTONE, DOLOMITE, SANDY DOLOMITE, QUARTZITE, SHALE

SILURIAN

9 (LMSN 16) LIMESTONE, DOLOMITE, QUARTZITE, SHALE, GREENSTONE SILLS AND FLOWS

ORDOVICIAN

8 (LMSN 14) **CHUSHINA, MONKMAN, BEAVERFOOT FORMATIONS:** LIMESTONE, SANDSTONE, DOLOMITE, SHALE, QUARTZITE

CAMBRIAN AND ORDOVICIAN

7 (SHLE 13) SHALE, CALCAREOUS SHALE, LIMESTONE, DOLOMITE

6 (LMSN 13) LIMESTONE, SHALE, QUARTZITE

CAMBRIAN

5 (LMSN 12) **LYNX, HOTA, TATEI, CHETANG, TITKANA, ARCTOMYS, WATERFOWL, MURAL, MAHTO FORMATIONS:** LIMESTONE, DOLOMITE, SHALE, SANDSTONE, QUARTZITE, SILTSTONE

LOWER CAMBRIAN

4 (QRTZ 12) **GOG GROUP:** QUARTZITE, SILTSTONE, LIMESTONE, SHALE

PROTEROZOIC AND PALEOZOIC
HADRYNIAN AND LOWER DEVONIAN

3 (MSDM 11) UNDIVIDED SEDIMENTARY AND METASEDIMENTARY ROCKS OF HADRYNIAN TO LOWER DEVONIAN AGE

PROTEROZOIC
HADRYNIAN

2 (PLLT 04) **MIETTE GROUP (UPPER):** PHYLLITE, ARGILLITE, SANDSTONE, LIMESTONE, CONGLOMERATE

1 (SMRK 04) **MIETTE GROUP (UNDIVIDED)**

INTRUSIVE AND METAMORPHIC COMPLEX ROCKS

TERTIARY
EARLY TERTIARY

E (QZMZ 42) QUARTZ MONZONITE, GRANODIORITE, QUARTZ DIORITE

CRETACEOUS
EARLY CRETACEOUS (IN WHOLE OR PART)

D (QZMZ 36) **NAVER INTRUSIONS:** QUARTZ MONZONITE, SYENITE, MONZONITE, GRANODIORITE, DIORITE

C (GRDR 36) GRANODIORITE, QUARTZ DIORITE, MINOR GRANITE, SYENITE, GABBRO, PYROXENITE

PERMIAN AND/OR TRIASSIC

B (SRPN 31) **TREMBLEUR INTRUSIONS** AND SIMILAR BODIES, PERIDOTITE, DUNITE, PYROXENITE, SERPENTINITE

AGE UNKNOWN

A (GRNG 50) **WOLVERINE METAMORPHIC COMPLEX:** GRANITOID GNEISS, PEGMATITE, SCHIST, AMPHIBOLITE, QUARTZITE

Geological boundary
Fault (mapped, assumed)
No analytical result

GEOLOGY AND MINERAL DEPOSITS

Generalized geology after Geological Survey of Canada, Map 1204A, **Geology — McLeod Lake, British Columbia,** 1 inch to 4 miles, by J. E. Armstrong, H.W. Tipper, J.W. Hoadley, and J. E. Muller, 1946–1969; Geological Survey of Canada, Preliminary Map 47–13A, **Bedrock Geology — Carp Lake,** 1 inch to 4 miles, to accompany Paper 47–13 by J. E. Armstrong, H. W. Tipper, and J. W. Hoadley; and Geological Survey of Canada, Map 1424A, **Parsnip River, British Columbia,** 1:1 000 000, compilation by H. W. Tipper, R. B. Campbell, G. C. Taylor, and D. F. Stott, 1979, used to determine dominant catchment basin rock type for grouping geochemical data.

* The four-letter mnemonic name indicates rock type and the two-digit number indicates age, after Geological Survey of Canada, Paper 74–52, **Field Data Acquisition Methods for Applied Geochemical Surveys at the Geological Survey of Canada,** by R. G. Garrett, 1974.

For location of the following specific information for this area refer to British Columbia Ministry of Energy, Mines and Petroleum Resources: Mineral Deposits, refer to **Mineral Inventory Map MI 93J – McLeod Lake;** Assessment Reports, refer to **Assessment Report Index Map AR 93J – McLeod Lake;** Bedrock Geological Mapping Reports, refer to **Index to Bedrock Geological Mapping, 1983;** Mineral and Placer Claim Maps, contact Ministry of Energy, Mines and Petroleum Resources, Mineral Titles Branch, Victoria, for current editions and status.

RGS–13 map compilation produced under contract by H. R. Schmitt.

This map forms one of a series of maps released by the Geological Survey of Canada, Open Files 1214 to 1216. This Open File consists of maps of various geochemical variables: 20 for stream sediment, 3 for stream water and 1 sample site location

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GSC OPEN FILE 1216
EAST-CENTRAL BRITISH COLUMBIA, 1985

CONTRACTORS

HI-TECH Resource Management Ltd.,
Vancouver

Sample preparation by Golder Associates, Ottawa

Sediment chemical analyses 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:

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

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Province of British Columbia — Ministry of Energy, Mines and Petroleum Resources

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