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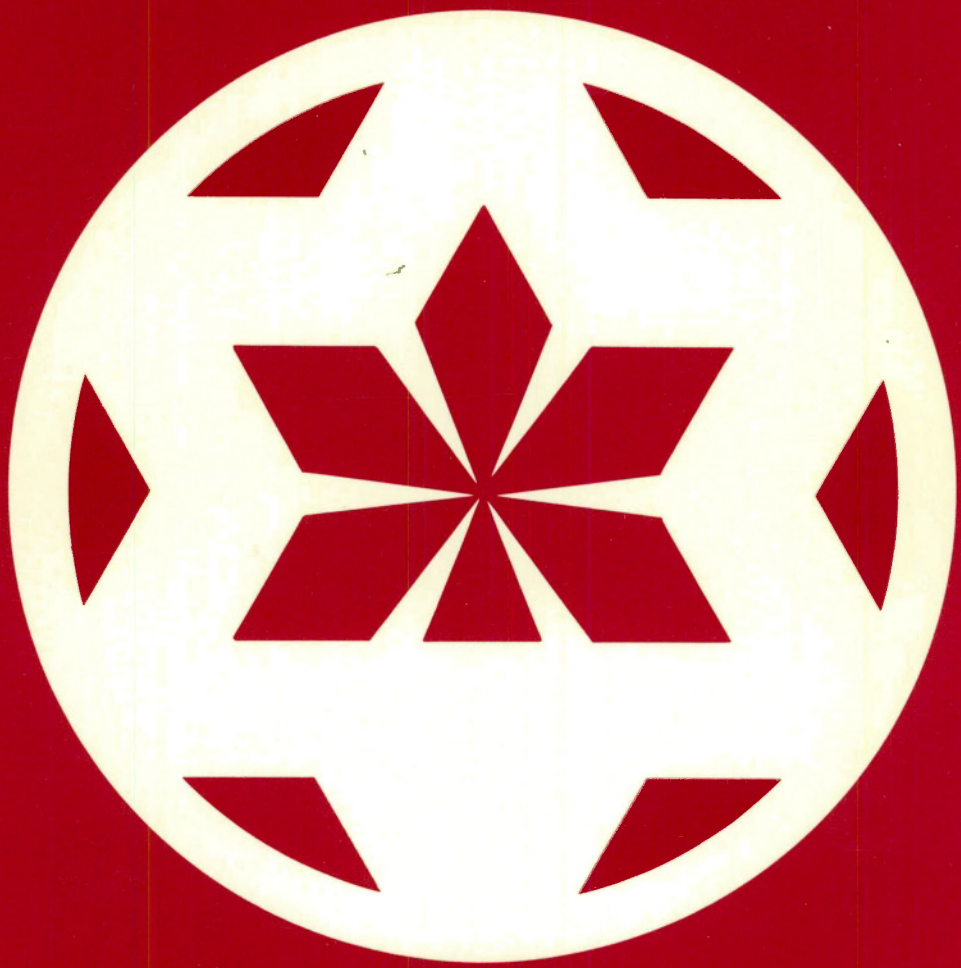

Current research in the Geological Sciences in Canada

May 1988 - April 1989

Compiled by
THOMAS E. BOLTON

Travaux en cours dans le domaine des sciences géologiques au Canada

mai 1988 à avril 1989

Préparé par
THOMAS E. BOLTON

Energy, Mines and Resources Canada
Énergie, Mines et Ressources Canada

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TRAVAUX EN COURS DANS LE DOMAINE DES SCIENCES GÉOLOGIQUES AU CANADA, DE MAI 1988 À AVRIL 1989

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1989

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INTRODUCTION

The present publication recording research in progress in Canada from May 1988 to April 1989 is the result of a survey conducted between January, 1989 and March, 1989.

The research projects listed in this compilation are being undertaken mainly within federal and provincial departments, and universities. A relatively complete overview of scientific research activities within Canada in the geological and allied sciences is provided for the survey period.

Using the data supplied for this compilation by the respondees, some indication as to the lines of research receiving the greatest and least attention can be formulated. At least 307 research projects have not been previously reported. The greatest increase during the 1988-89 period was in the fields of Mineral/Energy Geoscience (51), Geochemistry (32), and Geophysics (31). Research projects undertaken as graduate thesis in the universities are so specified wherever possible.

Additional details on research in the earth and related sciences underway in Canada during 1988 can be obtained through the annual reports prepared by individual university departments, research councils, and museums. Comprehensive reports on geophysical research and development, including volcanology and oceanography related research, are contained within the Canadian Geophysical Bulletin published by the Department of Energy, Mines and Resources. Summaries of progress and short research reports related to hydrology/water-related environmental research and glaciology are provided annually by the Water Resources Branch of the Department of Environment Canada and the Associate Committee on Hydrology, National Research Council. Quaternary research in Québec is reviewed annually in the "Bulletin d'information de l'Association québecoise pour l'étude de Quaternaire".

Again this year a listing is included of the 1988 awards provided for geological research within the Research Agreements program of the Department of Energy, Mines and Resources Canada. The 1988 Ontario Research Grants and Polar Continental Shelf Project field support to non-governmental activities are also listed.

Use of the compilation

The projects are grouped under main headings that cover the majority of disciplines within the geological and allied sciences. These groupings are unchanged from last years compilation (Geological Survey of Canada, Paper 88-5, 1988).

A complete list of organizations contributing to the present survey is included. *Acknowledgment is made in particular to those who assembled and forwarded the data on research projects underway in the organizations under their direction.* As a convenience, an alphabetically arranged index lists each investigator and the reference number(s) of the project(s).

INTRODUCTION

La présente publication, qui fait état de la recherche réalisée au Canada de mai 1988 à avril 1989, est le fruit d'une enquête effectuée entre Janvier 1989 et mars 1989.

Les projets de recherche enuméres sont exécutés surtout par des ministères fédéraux et provinciaux, et par des universités. Un aperçu assez complet de l'activité de recherche scientifique au Canada pour la periode visée dans le domaine de la géologie et des sciences connexes est cependant fourni.

À partir des renseignements donnés par les participants à l'enquête, il est possible de voir quels genres de recherche retiennent le plus et le moins l'attention. Au moins 307 projets nous ont été signalés pour la première fois. Les domaines où la recherche s'est le plus accrue durant l'année 1988-1989 sont les sciences de la Terre- Énergie/Minéraux (51), la Géochime (32) et la Géophysique (31). Les projets de recherche de 2^{e} cycle, dans les universités, sont également précisés, dans la mesure du possible.

On peut se procurer de plus amples détails sur la recherche réalisée en 1988 au Canada dans le domaine des sciences de la Terre et des sciences connexes en consultant les rapports annuels mis au point par les différents départements l'universités, conseils de recherche et musées. Le volume du Canadian Geophysical Bulletin, publié par le ministère de l'Énergie, des Mines et des Ressources, comprend des rapports complets sur les travaux de recherche et les dernières réalisations en géophysique, y compris la recherche connexe en volcanologie et en océanographie. Des résumés des progrès réalisés et de brefs rapports ayant trait à la glaciologie et à la recherche environnementale liée à l'hydrologie sont publiés annueullement par la Direction des ressources en eau d'Environnement Canada et par le Comité associé de l'hydrologie, du Conseil national de recherches du Canada. La recherche sur le Quaternaire au Québec est signalée anneullement dans le "Bulletin d'information de l'Association québecoise pour l'étude du Quaternaire".

Nous incluons à nouveau cette année une liste des prix décernés en 1988 pour la recherche géologique dans le cadre du programme d'accords de recherches du ministère de l'Énergie, des Mines et des Ressources du Canada. On a signalé également dans ce rapport les subventions de recherche de la Commission Géologique de l'Ontario (Ontario Research Grants) et l'aide de l'Étude du plateau continental polaire en faveur d'activités non gouvernementales pour 1988.

Présentation

Les projets sont groupés sous des titres généraux s'appliquant à la majorite des disciplines que comprennent la géologie et les sciences connexes. Ces catégories sont les mêmes que l'année dernière (Étude 88-5, Commission géologique du Canada, 1988).

Une liste complète des organismes qui ont contribué à l'enquête a été dressée. *Nous tenons à remercier particulièrement les personnes qui ont recueilli et envoyé les données concernant les projets de recherche en cours dans les organismes dont elles sont responsables.* Pour vous faciliter la consultation, un répertoire alphabétique donne les noms de tous les enquêteurs et le(s) numero(s) de reférence de son(ses) projets(s).

BRITISH COLUMBIA/ COLOMBIE-BRITANNIQUE

1
ALLDRICK, D.J., BRITTON, J.M., British Columbia Ministry Energy, Mines, Petrol. Res.:
Iskut-Sulphurets project (NTS 104 B), British Columbia, 1987-90.
See:
Sulphurets map area (104 A/SW, 12W, 104B/8E, 9E); British Columbia Ministry Energy, Mines, Petrol. Res., Paper 1988-1, p. 199-209, 1988.

Unuk map area (104B/7E, 8W, 9W, 10E); ibid., p. 241-250, 1988.

A study of the mineral deposits, and their geological setting, of the Iskut-Sulphurets gold belt – entails geological mapping of Jurassic and older island arc rocks and investigation of their mineral potential. Deposits include precious metal veins and disseminations, porphyry Cu-Mo, Fe SKARN, Cu-Ni in gabbro, placer Au.

2
ANDERSON, R.G., Geol. Surv. Can.:
Geology of the Iskut River – Telegraph Creek area, British Columbia, 1984-.
See:
A stratigraphic, plutonic, and structural framework for the Iskut River map area, northwestern British Columbia; Geol. Surv. Can., Paper 89-1E, p. 145-154, 1989.

3
BAILEY, D.G., British Columbia Ministry, Energy, Mines, Petrol Res.:
Quesnel mineral belt, NTS 93A, British Columbia, 1988-89.
See:
Geology of the Central Quesnel Belt, Swift River, south-central British Columbia (93B/16, 93A/12, 93G/1); British Columbia Ministry Energy, Mines, Petrol. Res., Paper 1989-1, 1989.

Geological mapping of Triassic/Jurassic island arc rocks and their underlying clastic rocks and investigation of their mineral potential, mainly Au and Cu-Au deposits related to early Jurassic alkalic plutons.

4
BLOODGOOD, M.A., REES, C.J., LEFEBURE, D.V., British Columbia Ministry Energy, Mines, Petrol. Res.:
Atlin Project, British Columbia, 1988-91.
See:
Geology and mineralization of the Atlin area, northwestern British Columbia (104N/11W; 12E); British Columbia Ministry Energy, Mines, Petrol. Res., Paper 1989-1, p. 311-322, 1989.

Mapping will continue in 1989.

5
BROWN, D.A., GUNNING, M.H., British Columbia Ministry Energy, Mines, Petrol. Res.:
Stikine Project, British Columbia, 1988-92.
See:
Geology of the Scud River area, northwestern British Columbia; British Columbia Ministry Energy,Mines, Petrol. Res., Paper 1989-1, p. 251-267, 1989.

To describe the Stikine assemblage in detail and provide updated 1:50,000 geology maps for the western part of the Telegraph Creek map sheet.

6
DIAKOW, L.J., DROBE, J., British Columbia Ministry Energy, Mines, Petrol. Res.:
Whitesail regional mapping project, British Columbia, 1986-90.
See:
Geology and mineral occurrences in North Newcombe Lake map sheet (93E/14); British Columbia Ministry Energy, Mines, Petrol. Res., Paper 1989-1, p. 183-188, 1989.

The Whitesail project is part of a regional mapping program initiated under the Canada/British Columbia Mineral Development Agreement. Economically important epithermal and mesothermal Au-Ag-Zn-Pb-Cu vein prospects and several porphyry Cu-Mo prospects occur in the area. In 1988 mapping proceeded on the northern half of Newcombe Lake (93E/14) and the southwest half of Chikamin Mountain (93E/6) map sheets.

7
DODDS, C.J., Geol. Surv. Can.:
Geology of Skagway (104M) map-area, British Columbia, 1982-.

8
FERRI, F., MELVILLE, D.M., British Columbia Ministry Energy, Mines, Petrol. Res.:
Geology of the Germansen Landing area, British Columbia, 1987-92.
See:
Geology of the Germansen Landing area, British Columbia (93N/10, 15); British Columbia Ministry Energy, Mines, Petrol. Res., Paper 1988-1, p. 209-220, 1989.

Detailed geological mapping (1:50,000) along the Manson Fault zone and within nearby upper Paleozoic platform carbonates. Some emphasis placed on associated mineral deposits.

9
GREIG, C.J., ARMSTRONG, R.L., MONGER, J.W.H., Univ. British Columbia (Geological Sciences), Geol. Surv. Can.:
Geology and geochronometry of the Coquihalla area, southwestern British Columbia, 1986-89; M.Sc. thesis (Greig).
Field and laboratory work completed; writing in progress.

10
LOGAN, J.M., KOYANAGI, V.M., British Columbia Ministry Energy, Mines, Petrol. Res.:
Iskut North, British Columbia, 1988-92.
See:
Geology and mineral deposits of the Galore Creek area, northwestern British Columbia; British Columbia Ministry Energy Mines, Petrol. Res., Paper 1989-1, 1989.

Galore/Iskut area is situated along the boundary between Intermontane Belt and Coast Belt in an area underlain by Stikinia. In the map area Stikinia is composed of Paleozoic to Middle Jurassic island arc suite including Stikine assemblage, Stuhini Group and Hazelton equivalent rock, Middle Jurassic to Late Cretaceous Bowser Lake Group. Mesozoic and Tertiary plutonic rocks intrude this stratigraphy.

Triassic-Jurassic volcanic stratigraphy, coeval intrusions and regional-scale structures host precious metal depoists and are presently under active exploration.

1989 work will extend mapping and mineral evaluation south to map sheet 104B/15 and parts of 104B/14.

11
MacINTYRE, D.G., DESJARDINS, P., TERCIER, P., British Columbia Ministry Energy, Mines, Petrol. Res.:
Telkwa/Babine project, British Columbia, 1984-90.
See:
Jurassic stratigraphic relationships in the Babine and Telkwa Ranges (93L 10, 11, 14, 15); British Columbia Ministry Energy, Mines, Petrol. Res., Paper 1989-1, p. 195-208, 1989.

12
MASSEY, N., FRIDAY, S.J., British Columbia Ministry Energy, Mines, Petrol. Res.:
Sicker Project, British Columbia, 1986-90.
See:
Geology of the Alberni-Nanaimo Lakes area, Vancouver Island; British Columbia Ministry Energy, Mines, Petrol. Res., Paper 1989-1, p. 61-7, 1989.

Three-year field program now completed. Final maps and report to be compiled and completed during coming year.

13
McMECHAN, M.E., Geol. Surv. Can.:
Detailed geological study of selected areas within the Foothills and Rocky Mountain Belts between Peace River and Smoky River with emphasis on structure, British Columbia and Alberta, 1981-.

14
MIHALYNUK, M., CARRIE, L., British Columbia Ministry Energy, Mines, Petrol. Res.:
Tagish project, British Columbia.
See:
Geology of the Tagish Lake area (Fantail Lake 104M/9W and Warm Creek 104M/10E); British Columbia Ministry Energy, Mines, Petrol. Res., Paper 1989-1, p. 293-310, 1989.

1989: Continuation of mapping in 104M with 104M/08 and 104M/09E to be completed in 1989. Fall 1989 & 1990 winter: publication of progress report and open file outlining summer of 1989 findings.

15
MOTT, J.A., DIXON, J.M., HELMSTAEDT, H., Queen's Univ. (Geological Sciences):
Structure and stratigraphy of the White River region, British Columbia, 1984-89; Ph.D. thesis (Mott).

16
NELSON, J.A., BRADFORD, J., HARMS, T., British Columbia Ministry Energy, Mines, Petrol. Res.:
Midway-Cassiar regional mapping project, British Columbia, 1986-90; M.Sc. thesis (Bradford).
See:
Geology and mineral deposits of the Cassiar and McDame map areas, British Columbia; British Columbia Ministry Energy, Mines, Petrol. Res., Paper 1989-1, p. 323-338, 1989.

Geology of the northeast Needlepoint Mountain and Erickson Mine areas, British Columbia; ibid., p. 339-346, 1989.

Ilucidation of major rock suites and their structural boundaries within the Sylvester allochthon, a northern outlier of Slide Mt. terrane, continues. Two suites exist: 1) oceanic marginal basin 2) island arc, both of Late Paleozoic age.

17
NIXON, G.T., ASH, C.H., CONNELLY, J.N., CASE, G., British Columbia Ministry Energy, Mines, Petrol. Res.:
Ultramafics project, British Columbia, 1987-.
See:
Alaskan type mafic-ultramafic rocks in British Columbia: the Knat Lakes, Hickman, and Menard Creek Complexes; British Columbia Ministry Energy, Mines, Petrol. Res., Paper 1989-1, p. 429-443, 1989.

The Ultramafics Project is an MDA-funded metallogenic mapping program designed to evaluate the potential of mafic and ultramafic rocks for economic concentrations of platinum group elements (PGEs), gold and other commodities (e.g. Ni, Cr, Co, Fe, Cu, Ti, V, asbestos, jade, and olivine).

18
PANTELEYEV, A., HANCOCK, K., British Columbia Ministry of Energy, Mines, Petrol. Res.:
Quesnel mineral belt, NTS 93A/5,6, British Columbia, 1986-89.
See:
Quesnel mineral belt: summary of the geology of the Beaver Creek-Horsefly River map area; British Columbia Ministry Energy, Mines, Petrol. Res., Paper 1989-1, 1989.

Geological mapping of Triassic/Jurassic island arc rocks and investigation of their mineral potential, mainly Au and Cu-Au deposits related to early Jurassic alkalic plutons.

19
PRICE, R.A., Geol. Surv. Can.:
Operation Bow-Athabasca, British Columbia and Alberta, 1965-.

20
PRICE, R.A., Geol. Surv. Can.:
Southern Canadian Cordillera regional geological maps, 1989-90.

21
RAY, G.E., DAWSON, G.L., ETTLINGER, A.D., British Columbia Ministry Energy, Mines, Petrol. Res.:
Hedley gold skarns; precious metal-enriched (PME) skarns of British Columbia, 1985-89.
See:
Precious metal-enriched skarns (PME) of British Columbia, – an overview and geological study; British Columbia Ministry Energy, Mines, Petrol. Res., Paper 89-3, 1989.

Regional geology and gold skarn mineralization of the Hedley mining camp. Distribution, controls, mineralogies and features of British Columbia precious metal enriched (PME) skarns.

22
SCAMMELL, R.J., DIXON, J.M., BROWN, R.L., PARRISH, R.R., Queen's Univ. (Geological Sciences), Carleton Univ. (Geology), Geol. Surv. Can.:
Structural and metamorphic evolution of the southern Scrip Range, north-central Shuswap Complex, British Columbia, 1988-; Ph.D. thesis (Scammell).
See:
Stratigraphy along the north flank of Frenchman Cap Dome, south Omineca Belt, British Columbia (82M/10,15); British Columbia Ministry Energy, Mines, Petrol. Res., Paper 1988-1, 1988.

Five composite lithostratigraphic units comprise a polydeformed succession several kilometres thick. These high-grade rocks have experienced several leucosome generating events, resulting in >50% leucosome at the mesoscopic-scale at some locations. Mapping north to Scrip Nappe, U-Pb and $^{40}Ar/^{39}Ar$ geochronology, plus geothermometry and geobarometry will constrain interpretation of regional tectonic events.

23
SCHIARIZZA, P., GABA, R.G., GARVER, J.I., GLOVER, K., British Columbia Ministry Energy, Mines, Petrol. Res., Univ. Washington:
Taseko-Bridge River area, British Columbia, 1986-89; Ph.D. thesis (Garver).
See:
Geology and mineral occurrences of the Tyaughton Creek area (92O/2, 92J/15,16), British Columbia; British Columbia Ministry, Energy, Mines, Petrol. Res., Paper 1989-1, p. 115-129, 1989.

Studying the structural and stratigraphic relationships of Late Paleozoic, Mesozoic and Tertiary rocks along the northeastern margin of the Coast Plutonic Complex (92O/2,3; 92J/15,16) with particular emphasis on controls of mineralization.

24
STRIUK, L.C., Geol. Surv. Can.:
Geology of McLeod Lake (93J) and Pine Pass (93O) southwest map area, British Columbia, 1987-.
See:
Regional geology of the McLeod Lake map area, British Columbia; Geol. Surv. Can., Paper 89-1E, p. 109-114, 1989.

Devonian, Silurian, Cambrian and Precambrian stratigraphy, McLeod Lake map area, British Columbia; ibid., p. 119-124, 1989.

Preliminary biostratigraphy of conodonts from McLeod Lake map area, British Columbia; ibid., p. 125, 126, 1989.

25
TEMPELMAN-KLUIT, D.J., Geol. Surv. Can.:
Penticton map area 82E, British Columbia, 1983-.

26
WOODSWORTH, G.J., Geol. Surv. Can.:
Eastern margin of the Coast Plutonic Complex, British Columbia, 1980-.
See:
A note on the Coast-Intermontane belt transition, Mount Waddington map area, British Columbia; Geol. Surv. Can., Paper 89-1E, p. 163-167, 1989.

MANITOBA/MANITOBA

27
BAILES, A.H., Manitoba Energy and Mines (Geological Services):
Chisel-Anderson Lakes project, Manitoba, 1986-92.
See:
Chisel-Morgan Lakes project; Manitoba Energy and Mines, Rept. Field Activities 1988, p. 53-61, 1988.

U-Pb zircon geochronology of the Richard Lake tonalite, a possible synvolcanic pluton in the Snow Lake area; ibid., p. 63-65, 1988.

Regional 1:20 000 scale mapping will document Early Proterozoic Amisk Group volcanic stratigraphy and the nature and extent of a major hydrothermal alteration system associated with volcanogenic base metal sulphide deposits. The stratigraphic setting of sulphide deposits and the geochemical character of both volcanic and plutonic units is being studied.

28
SYME, E.C., Manitoba Energy and Mines (Geological Services):
Athapapuskow Lake project, Manitoba, 1985-89.
See:
Athapapuskow Lake Project; Manitoba Energy and Mines, Rept. Field Activities, p. 20-34, 1988.

1:20 000 mapping of a 450 km^2 area southeast of Flin Flon documents Early Proterozoic Amisk Group volcanic stratigraphy and Missi Group fanglomerate stratigraphy. The stratigraphic and structural setting of mineral deposits and geochemical characteristics of volcanic and plutonic uints are also being investigated.

NEW BRUNSWICK/ NOUVEAU-BRUNSWICK

29
BARR, S.M., WHITE, C.E., Acadia Univ. (Geology):
Field relations, petrology, age, and economic potential of metavolcanic, metasedimentary, and plutonic rocks of the Caledonia Highlands, New Brunswick, 1985-90.
See:
Petrochemistry of contrasting late Precambrain volcanic and plutonic associations, Caledonian Highlands, southern New Brunswick; Maritime Sediments and Atlantic Geology, vol. 24, no. 3, p. 353-372, 1988.

A continuation of a project to complete the mapping of the Caledonia Highlands and describe and interpret the petrochemistry of igneous rocks inthe area.

30
McLEOD, M.J., New Brunswick Dept. Natural Res., Energy (Geological Surv. Branch):
Geology and mineral deposits of the Saint George Batholith, southwestern New Brunswick.
See:
Geology, $^{40}Ar/^{39}Ar$ geochronology and Sn-W-Mo-bearing sheeted veins of the Mount Douglas Granite, southwestern New Brunswick; CIM Bull., vol. 81, no. 918, p. 70-77, 1988.

Sn-W mineralization and age of the Mount Douglas Granite, southwestern New Brunswick; Geol. Assoc. Can. – Mineral Assoc. Can., Program with abstracts, vol. 13, 1988.

31
WILSON, R.A., New Brunswick Dept. Natural Resources, Energy (Geological Surv. Branch):
New Denmark project, 1986-89; Tobique project, 1988-.

Tobique project to continue in 1989 with investigations of Tobique Group volcano-sedimentary sequence deposited in an Early Devonian rifting environment. Petrography, whole-rock and rare-earth geochemistry, geochronology will be utilized to trace evolution of volcanic activity and interpret volcanic stratigraphy. Lithogeochemistry will also be used to evaluate metallic mineral potential.

NEWFOUNDLAND/LABRADOR/ TERRE-NEUVE/LABRADOR

32
DICKSON, W.L., O'BRIEN, S.J., HAYES, J.P., WILLIAMS, H., POOLE, J., Newfoundland Dept. Mines:
South coast granites, Newfoundland, 1984-89; M.Sc. thesis (Poole).
See:
Aspects of the Mid-Paleozoic magmatic history of the south-central Hermitage Flexure, Newfoundland; Newfoundland Dept. Mines, Rept. 89-1, 1989.

Preliminary report on a classification of Newfoundland granitic rocks and their relations to tectonostratigraphic zones and lower crustal blocks; Geol. Surv. Can., Paper 89-1B, p. 47-53, 1989.

To fully assess the geochemistry, petrology and structural history of granitoid rocks in southern Newfoundland.

33
LIVERMAN, D., TAYLOR, D., BATTERSON, M., SPARKES, B., PROUDFOOT, D.N., Newfoundland Dept. Mines:
1:500 000 map of surficial geology of The Island of Newfoundland, 1988-.

34
O'BRIEN, B.H., Newfoundland Dept. Mines, Geol. Surv. Can.:
La Poile – La Poile River project, Newfoundland; Lunenburg Meguma project, Nova Scotia.
See:
Gold mineralization in relation to fold and foliation development in Canadian Appalachian wrench fault terranes; Bicentennial Gold'88, Extended Abstracts Vol. 1, Geol. Soc. Australia, No. 23, p. 230-232, 1988.

Summary of the geology between La Poile Bay and Couteau Bay (110/9 and 110/16), southwestern Newfoundland; Newfoundland Dept. Mines, Rept. 89-1, 1989.

Silurian and Precambrian events along the southeast margin of the Newfoundland Central Mobile Belt; Lithoprobe East, Rept. of Transect Meeting (October 21-22, 1988), Memorial Univ., p. 73-75, 1988.

35
O'BRIEN, S.J., KNIGHT, I., Newfoundland Dept. Mines:
Avalonian geology of southwest Bonavista Bay, Newfoundland, 1986-.
See:
Stratigraphy and sedimentology of the Connecting Point Group and related rocks, Bonavista Bay, Nfld: an example of an Avalonian sedimentary basin; Newfoundland Dept. Mines, Rept. 88-1, p. 207-228, 1988.

Sedimentological studies in the Eastport basin: notes on the petrography of the Late Precambrian Connecting Point Group and provenance implications; ibid., Rept. 89-1, p. 63-79, 1989.

A part of a regional study of structure, stratigraphy and chemistry of Late Precambrian Avalonian rocks near Avalon-Gander boundary, to ascertain tectonic history of Avalonian rocks and their relationship to adjacent terranes.

36
O'NEILL, P.P., Newfoundland Dept. Mines:
1:50 000 mapping of the Gander Zone, Newfoundland, 1986-.
See:
Tectonothermal history and $^{40}Ar/^{39}Ar$ geochronology of northeastern Gander Zone, Weir's Poind area (2E/1); Newfoundland Dept. Mines, Rept. 89-1, 1989.

A proposal for revised stratigraphic nomenclature of the Gander and Davidsville groups and the Gander River Ultrabasic Belt, northeastern Newfoundland; ibid., 1989.

37
RYAN, B., LEE, D., Newfoundland Dept. Mines:
An investigation of Early Proterozoic gneisses and Middle Proterozoic intrusions between Voisey Bay and Strange Lake, Labrador, 1985-88.

To acquire a better understanding of the bedrock geology of the area, with emphasis on determining the existance of mineralized peralkaline granites as at Strange Lake, and to establish the geological evolution of the region relative to present models of crustal development.

NORTHWEST TERRITORIES/ TERRITOIRES DU NORD-OUEST

38
HENDERSON, J.B., Geol. Surv. Can.:
Keskarrah Bay map-area, District of Mackenzie, 1976-.

39
JACKSON, V.A., Indian and Northern Affairs Canada (Geology Division):
Compiled geology of the Quyta Lake area (NTS 85J/116), Northwest Territories, 1984-.

40
JACKSON, V.A., Indian and Northern Affairs Canada (Geology Division):
Geology of the Hepburn Island area (NTS 76M) compilation, Northwest Territories, 1985-.

The preliminary of this map (1:125 000 scale), will be released in April, 1989, accompanied by marginal notes.

41
JACKSON, V.A., Indian and Northern Affairs Canada (Geology Division):
Geology of the Kathawachaga Lake area (NTS 76L), Northwest Territories, 1986-.
See:
Preliminary geology of the Hood River area, NTS 76L/10,15,16; Indian and Northern Affairs Canada, EGS - 1986-014, maps with marginal notes.

Preliminary geology of the Kathawachaga Lake area (north half) NTS 76L/9,11,12,13; ibid., EGS 1987-10, maps with marginal notes.

Mapping of this area is aimed mainly of the supracrustal rocks, which constitute an Archean volcanic – sedimentary succession. Mapping and follow-up work is ongoing.

42
JACKSON, V.A., Indian and Northern Affairs Canada (Geology Division):
Geology of the Russell-Slemon Lakes area (NTS 85O/4), Northwest Territories, 1986-89.

The map area contains an extensive Archean greywacke – mudstone sequence, which is host to locally auriferous silicate facies iron formation. Mapping is concentrated largely on defining the structural history of the area and will be completed in June 1989.

43
JAMES, D.T., DIXON, J.M., CARMICHAEL, D.M., Queen's Univ. (Geological Sciences):
Metamorphic and structural evolution of the Slave-Churchill Boundary, 1983-89; Ph.D. thesis (James).
See:
Structural and metamorphic relationships along the boundary between the Slave and Churchill Structural Provinces; Geol. Assoc. Can. – Mineral. Assoc. Can., Program with abstracts, vol. 14, p. A9, 1989.

Structural and metamorphic study of a transect across the boundary between the Slave and Churchill structural provinces demonstrates that the boundary sharply separates Proterozoic granulites and granitoid rocks in the Churchill Province from Archean rocks in the Slave Province that are only slightly deformed as a result of ca 1.95 Ga Slave-Churchill juxtaposition.

44
KING, J.E., Geol. Surv. Can.:
Contwoyto-Nose Lake area, Slave Province, N.W.T., 1987-.

See:
Archean to Proterozoic deformation and plutonism of the western Contwoyto Lake map area, central Slave Province, District of Mackenzie, N.W.T.; Geol. Surv. Can., Paper 89-1C, p. 81-94, 1989.

45
SEATON, J.B., Indian and Northern Affairs Canada (Geology Division):
Geology 1:10 000 Ingraham Trail map area, Northwest Territories, 1987-.

To map an area predominantly underlain by Archean meta-turbidites in greater detail than previously; to investigate any possible relationship between structure, metamorphic grade, lithology and the numerous showings of auriferous quartz hosted by the metaturbidites.

46
THORSTEINSSON, R., Geol. Surv. Can.:
Cornwallis and adjacent smaller islands, District of Franklin, 1965-.

47
WILLIAMS, P.F., PARK, A.F., RALSER, S., Univ. New Brunswick (Geology), Geol. Surv. Can.:
Bedrock mapping and structural studies in the Tavani Greenstone Belt, N.W.T., 1988-89.
See:
Precambrian stratigraphy and structure of the southwest part of the Tavani map area, District of Keewatin, N.W.T.; Geol. Surv. Can., Paper 89-1C, p. 1-10, 1989.

To map parts of 55K/3,4,5,6 at 1:50 000 scale with emphasis on stratigraphy, structure, metamorphism, geochemistry and geochronology. These aspects of the area has considerable regional tectonic and metallogenic significance and their elucidation will provide an improved framework for mineral exploration in southern Keewatin.

NOVA SCOTIA/NOUVELLE-ÉCOSSE

48
BARR, S.M., MACDONALD, A.S., WHITE, C.E., VAN WAGONER, N.A., Acadia Univ. (Geology):
Stratigraphy and regional correlations of late Precambrian-Cambrian volcanic and sedimentary rocks, southeastern Cape Breton Island, Nova Scotia, 1989-91.

A continuation of a previous project involving geological mapping and geochemistry of volcanic and plutonic rocks in SE Cape Breton Island. It will include more detailed stratigraphic and geochemical studies, radiometric dating, and regional comparisons.

49
BOEHNER, R.C., RYAN, R.J., CARTER, D., Nova Scotia Dept. Mines and Energy:
Cumberland Basin project, Nova Scotia, 1984-89.
See:
Litho-stratigraphic, geology and paleogeographic setting at carbonate buildups in the Windsor and Horton Groups; Nova Scotia Dept. Mines and Energy, Rept. Activities, Pt. B, 1987, 1988.

Preliminary report on Windsor Group stratigraphy and correlation in the Cumberland Basin; ibid., 1988.

Basin mapping completed. 92, 10 000 geological map sheets released as 5 Open File Map sets, NSDME OFM 88-39 to 88-43. 1:50 000 final maps and final report in preparation.

50
COREY, M.C., Nova Scotia Dept. Mines and Energy:
South Mountain Batholith, Nova Scotia, 1985-89.
See:
The role of airborne Gamma-Ray spectrometry in bedrock mapping and mineral exploration: Case studies from granitic rocks within the Meguma Zone, Nova Scotia; Maritime Sediments and Atlantic Geol., vol. 24, no. 1, p. 47-60, 1988.

Work in progress includes granitic bedrock geology of map sheets 21A/11, 21A/03 to be released as Open File Maps in 1989. Abstract in GAC-MAC (1988, vol. 13): Ree and trace element variation associated with successive periods of metasomatism and mineralization within a portion of the South Mountain Batholith, Nova Scotia.

51
HORNE, R.J., MacDONALD, M.A., HAM, L.J., Nova Scotia Dept. Mines and Energy:
South Mountain Batholith project, Nova Scotia, 1984-89.
See:
Primary and secondary structural features in the eastern portion of the South Mountain Batholith: Implications for regional stress orientations during intrusion; Maritime Sediments and Atlantic Geol., vol. 24, no. 1, p. 71-82, 1988.

Petrology of the zoned, peralurinous Halifax Pluton, south-central Nova Scotia; ibid., p. 33-45, 1988.

Comprehensive 1:50 000 scale mapping of the South Mountain Batholith (~10 000 km^2) located in southwestern Nova Scotia. Related studies of the petrology, chemistry, mineralization and structure of the batholith have resulted from this mapping.

52
KONTAK, D.J., SMITH, P.K., REYNOLDS, P., KERRICH, R., CLARK, A.H., HAM, L.J., COREY, M.C., HORNE, R.J., MacDONALD, M.A., O'REILLY, G.A., Nova Scotia Dept. Mines and Energy:
(1) Meguma gold; (2) East Kemptville tin; (3) Ar-Ar geochronology of Liscomb area and gold deposits; (4) Stable isotope studies of gold deposits; (5) Metallogeny in central areas; (6) Metallogeny of South Mountain Batholith, Nova Scotia.
See:
Metasomatic origin of spessartine garnet in South Mountain Batholith, Nova Scotia; Can. Mineralogist, vol. 26, p. 315-334, 1988.

Geochronological data for Tertiary granites in southeastern Peru segment of Andean tin belt; Economic Geol., vol. 82, p. 1611-1618, 1988.

Plutonic and hydrothermal events in the Ackley Granite, Newfoundland; Can. J. Earth Sci., vol. 25, no. 8, p. 1151-1160, 1988.

Crystal-melt ± fluid phase equilibria versus late-stage fluid-rock interactions in granites of the South Mountain Batholith, Nova Scotia: Whole rock geochemistry and oxygen isotope evidence; Martime Sediments and Atlantic Geol., vol. 24, no. 1, p. 97-110, 1988.

53
RYAN, R.J., BOEHNER, R.C., DEAL, A.J., Nova Scotia Dept. Mines and Energy:
Cumberland Basin project, Nova Scotia, 1984-1989; M.Sc. thesis (Deal), Ph.D. thesis (Ryan).
See:
Paleocurrents and heavy minerals as tools for tin and gold paleoplacers on the Carboniferous strata of northern Nova Scotia; Prospecting in areas of Glaciated Terrane, 1989.

Determination of stratigraphy, sedimentology and structure to ascertain the basin evolution history and mineral and energy potential of the Basin.

ONTARIO/ONTARIO

54
ARMSTRONG, D.K., Ontario Geol. Surv.:
Bruce Peninsula Paleozoic mapping project, 1987-90.
See:
Paleozoic geology of the central Bruce Peninsula; Ontario Geol. Surv., Misc. Paper 141, 1988.

Paleozoic strata of the Bruce Peninsula are being mapped in order to better delineate such potential resources as building and crushed stone.

55
BERGER, B., Ontario Geol. Surv.:
Geology of the Manitou Stretch area, District of Kenora, Ontario, 1988.
See:
Ontario Geol. Surv., Misc. Paper 141, p. 145-148, 1988.

Ontario Geol. Surv., Preliminary Map 3146, 1989.

1:15 840 scale geological mapping to assess mineral potential and general geological relationships.

56
EASTON, R.M., Ontario Geol. Surv.:
Geological compilation of the central metasedimentary belt, Ontario, 1987-90.

As part of the Geology of Ontario Project, a series of 1:50 000 scale maps for the central metasedimentary belt, Grenville Province will be produced between 1987-1990; based mainly on existing information, with some field check, and represent a preliminary synthesis of the geology of the CMB in Ontario. Several maps will be released in 1989.

57
KRESZ, D., Ontario Geol. Surv.:
Geology of the Seagram Lake area, Ontario, 1988-89.
See:
Seagram Lake area, District of Thunder Bay; Ontario Geol. Surv., Misc. Paper 141, p. 173-178, 1988.

58
STONE, D., Ontario Geol. Surv.:
Geology of the Behrens Subprovince, Ontario, 1988.
See:
Ontario Geol. Surv., Misc. Paper 141, p. 75-80, 1988.

QUÉBEC

59
BARDOUX, M., Ministère de l'Énergie et des Ressources du Québec, Université de Montréal (Géologie):
Géologie de la région des Monts Stokes, Québec, 1989-90.
Le projet a pour but de réaliser la cartographie géologique au 1:20 000 du feuillet 21E12-200-0102; il doit également étudier la stratigraphie et la structurographie de la région.

60
BRISEBOIS, D., LACHAMBRE, G., Ministère de l'Énergie et des Ressources du Québec:
Compilation géologique de la Gaspésie, Québec, 1987-90.
Compilation systématique à l'échelle du 1:50 000 des feuillets de la Gaspésie. Le grand nord-est de la Gaspésie est prêt pour publication.

61
CHEVÉ, S., BROUILLETTE, P., CLARK, T., INRS-Géoressources:
Reconnaissance géologique et métallogénie de l'or dans le Complexe d'Ashuanipi au NW de Schefferville, Québec, 1987-91.
Reconnaissance et synthèse géologique du territoire visé par la cartographie. Evaluation métallogénique des indices aurifères.

62
COLPRON, M., Ministère de l'Énergie et des Ressources du Québec, Université de Burlington (Vermont):
Géologie de la région de Sutton, Québec, 1988-90; thèse de maîtrise en sciences.
Le projet a pour but de réaliser la cartographie géologique au 1:20 000 du feuillet 31H2-200-0102; il doit également étudier la stratigraphie et la structurographie de la rétion.

63
CÔTÉ, D., Ministère de l'Énergie et des Ressources du Québec:
Géologie de la région de rivière Taoti, Québec, 1988-89.
Établir des relations stratigraphiques et structurales et évaluer le potentiel économique des formations.

64
DUBOIS, J-M.M., Université de Sherbrooke (Géographie et Télédétection):
Géologie du Quaternaire de la Côte Nord du Saint-Laurent, Québec, 1974-89.
Les travaux de terrain sont complétés et un rapport géologique et une carte polychrome au 1:250 000 sont en cours.

65
DUBOIS, J-M.M., GWYN, Q.H.J., Université de Sherbrooke (Géographie et Télédétection):
Le Quaternaire de l'île d'Anticosti, Québec, 1979-89.
Voir:
Géomorphologie d'un lac à niveau variable dans une région Karstique du Québec, île d'Anticosti, Canada; Photo interprétation, no. 88-1, p. 1-10, 1988.
Aminostratigraphie des sédiments de l'île d'Anticosti: analyse préliminaire; Université de Sherbrooke, Bull. de recherche, no. 97-98, 1988.
Les travaux de terrain et la cartographie préliminaire sont terminés et un rapport géologique et une carte polychrome au 1:250 000 sont en cours.

66
DUPUY, H., SHARMA, K.N.M., Ministère de l'Énergie et des Ressources du Québec:
Projet Thurso-Papineauville, Québec, 1988-91.
Définir les lithologies, établir la stratigraphie, établir un modèle tectonique et métamorphique, études des minéralisations métallifères et des minéraux industriels.

67
GIRARD, R., CLARK, T., BÉLANGER, M., Ministère de l'Énergie et des Ressources du Québec:
Région du lac Deborah, Nouveau-Québec, 1988-90.
Reconnaissance géologique d'un territoire immédiatement à l'est de la Fosse du Labrador; étude préliminaire des indices minéralisées.

68
INDARES, A., Ministère de l'Énergie et des Ressources du Québec:
Gîtologie de la région du lac Caopacho, Québec, 1988-90.
Le projet vise l'étude du contexte régional et l'évaluation du potentiel en Ni, Cu et platinoïdes des roches mafiques et ultramafiques de la région sud de Fermont.

69
LANGLAIS, L., SAWYER, E., Ministère de l'Énergie et des Ressources du Québec, Université du Québec à Chicoutimi:
Projet Maniwaki-Calumet, Québec, 1987-90; thèse de doctorat (Langlais).
Définir les lithologies, établir la stratigraphie, établir un modèle tectonique et métamorphique, comprendre les principaux métallotectes pour les minéralisations plombo-zincifères et aurifères.

70
LEBEL, D., Ministère de l'Énergie et des Ressources du Québec, Université de Montréal (Géologie):
Géologie de la région de St-Raphaël, Québec, 1989-90.
Le projet a pour but de réaliser la cartographie géologique au 1:20 000 du feuillet 21L15-200-0101; il doit également étudier la stratigraphie et la structurographie de la région.

71
MARQUIS, R., Université de Montréal (Géologie):
Géologie, stratigraphie, structurographie de la région de Richmond, Estrie, Québec.

72
MARQUIS, R., ROSE, H., Ministère de l'Énergie et des Ressources du Québec, Université de Montréal (Géologie):
Géologie de la région du Mont Orford, Québec, 1989-90.
Le projet a pour but de réaliser la cartographie géologique au 1:20 000 du feuillet 32H8-200-0101; il doit également étudier la stratigraphie et la structurographie de la région.

73
TREMBLAY, A., BLAIS, D., Ministère de l'Énergie et des Ressources du Québec, Université Laval (Géologie):
Géologie de la région du Lac Massawippi, Québec, 1989-90.
Le projet a pur but de réaliser la cartographie géologique au 1:20 000 du feuillet 31H1-200-0202; il doit également étudier la stratigraphie et la structurographie de la région.

74
VALLIÈRES, A., Ministère de l'Énergie et des Ressources du Québec:
Stratigraphie et structure du cambro-ordovicien de la région de Rivière-du-Loup, Québec, 1973-89; thèse de doctorat.
Cartographie au 1:20 000 des feuillets 21N/12 est, 21N/13 est, 21N/14 est et ouest, 22C/3 est et ouest avec emphase sur la stratigraphie et la géologie structurale. Le projet est en phase finale de correction.

75
VALLIÈRES, A., Ministère de l'Énergie et des Ressources du Québec:
Stratigraphie et structure du cambro-ordovicien de la région de Rimouski, Québec, 1978-89.
Cartographie au 1:20 000 des feuillets 22C/2 ouest, 22C/7 est et ouest, 22C/8 nord-ouest, avec emphase sur la géologie structurale et la stratigraphie. Le projet est à l'étape de l'interprétation des résultats.

SASKATCHEWAN/SASKATCHEWAN

76
DELANEY, G., Saskatchewan Geol. Surv.:
Bedrock geological mapping, Laonil Lake area, northeastern Saskatchewan, 1986-89.
See:
Two U-Pb Zircon ages from eastern Glennie Lake Domain, Trans Hudson Orogen, Saskatchewan; Geol. Surv. Can., Paper 88-2, 1989.
To geologically map the Pine Lake greenstone belt, from the area around Laonil Lake to the confluence of the Reindeer and Churchill Rivers, at 1:20 000 scale in order to establish the detailed geological setting of gold and other mineral occurrences.

77
DELANEY, G., Saskatchewan Geol. Surv.:
Bedrock geological mapping, Brownell Lake area, northeastern Saskatchewan, 1988-89.
See:
Bedrock geological mapping, Brownell Lake area (part of NTS 63M-4 and 63L-13); Saskatchewan Geol. Surv., Misc. Rept. 88-4, p. 8-19, 1988.

78
HARPER, C., Saskatchewan Geol. Surv.:
Gold belt geology: Waddy-Windrum Lakes area, Saskatchewan, 1984-87.
See:
Controls on gold mineralization in the Reindeer Zone, an Early Proterozoic gold province, northern Saskatchewan, Canada; Bicentennial Gold 88, Melbourne, May 1988 (Extended Abstract).

1:20 000 scale geological mapping of the northern part of the Central Metavolcanic Belt between Waddy and Star Lakes has been completed. Petrographic studies and scrutiny of geochemical data continuing. Compilation at 1:50 000 in progress.

79
HARPER, C., Saskatchewan Geol. Surv.:
Mudjatik Domain, geology and gold studies, Saskatchewan, 1988-89.
See:
Mudjatik Domain, geology and gold studies: Ithingo Lake; Saskatchewan Geol. Surv., Misc. Rept. 88-4, p. 42-48, 1988.

Mudjatik Domain, geology and gold studies: Porter Lake; ibid., p. 49-53, 1988.

1:20 000 scale geological mapping of the area surrounding Ithingo Lake to investigate the geological setting and controls on gold mineralization in an area of transitional granulite facies metamorphism.

80
SLIMMON, W.L., Saskatchewan Geol. Surv.:
Gold belt geology, Saskatchewan, 1988-89.
See:
Bedrock geological mapping, Gee Lake area (part of NTS 63M-3 and -4); Saskatchewan Geol. Surv., Misc. Rept. 88-4, p. 26-31, 1988.

To establish a regional geological setting with respect to the areas of gold and other mineralization in the area.

YUKON TERRITORY/ TERRITOIRE DU YUKON

81
DODDS, C.J., Geol. Surv. Can.:
Operation Mount St. Elias, Yukon-British Columbia, 1973-.

82
THOMPSON, R.I., Geol. Surv. Can.:
Stratigraphy and structure of Dawson, Larsen Creek and Nash Creek map areas, Yukon Territory, 1980-.

AREAL MAPPING, LESS DETAILED THAN 1:50 000/CARTOGRAPHIE, À PLUS PETITE ÉCHELLE QU'AU 1:50 000

ALBERTA/ALBERTA

83
LIVERMAN, D., CATTO, N.R., HALSEY, L.A., RUTTER, N.W., Univ. Alberta (Geology):
Quaternary geology of the Grande Prairie map sheet, Alberta, 1984-90; Ph.D. thesis (Liverman), M.Sc. thesis (Halsey).
See:
Laurentide glaciation in west-central Alberta; a single (late Wisconsinan) event; Geol. Assoc. Can. – Mineral. Assoc. Can., Program with abstracts, vol. 14, p. A74, 1988; Can. J. Earth Sci., vol. 26, no. 2, p. 266-274, 1989.

BRITISH COLUMBIA/ COLOMBIE-BRITANNIQUE

84
EVENCHICK, C.A., Geol. Surv. Can.:
Northern Bowser Basin and Skeena Ranges Fold Belt, British Columbia, 1988-94.
See:
Stratigraphy and structure in east Spatsizi map area, north-central British Columbia; Geol. Surv. Can., Paper 89-1E, p. 133-138, 1989.

85
GABRIELSE, H., Geol. Surv. Can.:
Operation Finlay, British Columbia, 1970-.

86
GABRIELSE, H., Geol. Surv. Can.:
Operation Dease, British Columbia, 1977-
See:
Permian and Devonian plutonic rocks in the Sylvester Allochthon, Cry Lake and McDame map areas, northern British Columbia; Geol. Surv. Can., Paper 89-1E, p. 1-4, 1989.

87
HÒY, T., ANDREW, K., British Columbia Ministry Energy, Mines, Petrol. Res.:
Rossland Group, NTS 82F/6, British Columbia 1987-91.
See:
The Rossland Group, Nelson map-area, southeastern British Columbia; British Columbia Ministry Energy, Mines, Petrol. Res., Paper 1989-1, p. 33-43, 1989.

Geological mapping (1:20 000) of the Rossland Group with emphasis on differentiation of the Elise Formation. Evaluation of controls and distribution of mineral deposits with respect to lithologies and structures in the Group.

88
McLAREN, G.P., British Columbia Ministry Energy, Mines, Petrol. Res.:
Geology and mineral occurrences in the Tenquille Lake – Owl Mountain area 92J/7,10, British Columbia, 1988.

Mineral Resource Assessment of a candidate provincial park.

89
McLAREN, G.P., ROUSE, J.N., British Columbia Ministry Energy, Mines, Petrol. Res.:
Geology and mineral occurrences in the vicinity of Taseko Lakes (92O/3,4,5,6), British Columbia, 1988.
See:
Geology and mineral occurrences in the vicinity of Taseko Lakes; British Columbia Ministry Mines, Energy, Petrol. Res., Paper 1989-1, p. 153-158, 1989.

90
MONGER, J.W.H., Geol. Surv. Can.:
Geology of the Ashcroft and Hope map-areas, British Columbia, 1980-.

91
RADLOFF, J., ROSS, J.V., Univ. British Columbia (Geological Sciences):
Origin and evolution of fabrics in the Black Riders ultramafic klippe at Dunford Lake, central British Columbia, 1987-89; M.Sc. thesis (Radloff).

92
RODDICK, J.A., Geol. Surv. Can.:
Coast Mountains project, British Columbia, 1963-.

93
WHEELER, J.O., Geol. Surv. Can.:
Lardeau map-area, British Columbia, 1979-.

94
WOODSWORTH, G.J., Geol. Surv. Can.:
Kemano project, British Columbia, 1977-.

NEWFOUNDLAND/LABRADOR/ TERRE-NEUVE/LABRADOR

95
CURRIE, K.L., Geol. Surv. Can.:
Geology of the southern Long Range, Newfoundland, 1985-.
See:
Preliminary report on a classification of Newfoundland granitic rocks and their relations to tectonostratigraphic zones and lower crustal blocks; Geol. Surv. Can., Paper 89-1B, p. 47-53, 1989.

96
ERMANOVICS, I.F., Geol. Surv. Can.:
Archean rocks of the Nain Province in Hopedale (13N), Snegamook Lake (13K), and Makkovik (13O) map-areas, Labrador, 1978-.

97
GOWER, C.F., Newfoundland Dept. Mines:
Eastern Grenville project, 1979-.
See:
Crustal evolution in eastern Labrador; constraints from precise U-Pb ages; Precambrian Research, vol. 38, p. 405-421, 1988.

Proterozoic metamorphism in the Grenville Province: a study in the Double Mer-Lake Melville area, eastern Labrador; Can. J. Earth Sci., vol. 25, p. 1895-1905, 1988.

Geology of the St. Lewis River map region, Grenville Province eastern Labrador; Newfoundland Dept. Mines, Rept. 88-1, p. 59-73, 1988.

St. Lewis River; ibid., Map 88-87, 1988.

Port Hope Simpson; ibid., Map 88-88, 1988.

The field stage of the project was completed in 1987 and all geological maps are now published at 1:100 000 scale. The present

stage of the project is emphasizing geochronological studies in order to establish a more precise stratigraphic framework.

98
LIVERMAN, D., ST. CROIX, L., Newfoundland Dept. Mines:
Quaternary geology of the Baie Verte Peninsula, Newfoundland, 1988-.
See:
Quaternary geology of the Baie Verte Peninsula; Newfoundland Dept. Mines, Rept. 89-1, 1989.

99
WARDLE, R.J., Newfoundland Dept. Mines:
Geology of the Goose Bay region, central Labrador, 1985-89.
See:
Geology of the Goose-Pinus Rivers area, central Grenville Orogen, Labrador; Newfoundland Dept. Mines, Rept. 88-1, p. 49-58, 1988.

To complete regional 1:100 000 scale mapping of areas 13F/SW, 13F/SW (completed) and 13C/NW (1989).

NORTHWEST TERRITORIES// TERRITOIRES DU NORD-OUEST

100
BOSTOCK, H.H., Geol. Surv. Can.:
Geology of Fort Smith, District of Mackenzie, 1980-.

101
BOSTOCK, H.H., Geol. Surv. Can.:
Geology, Taltston Lake and Fort Resolution (86H) map-areas, District of Mackenzie, 1985-.
See:
The significance of ultramafic inclusions in gneisses along the eastern margin of the Taltston Magmatic Zone, District of Mackenzie, N.W.T.; Geol. Surv. Can., Paper 89-1C, p. 49-56, 1989.

102
CECILE, M.P., Geol. Surv. Can.:
Stratigraphic and structural analysis of Late Paleozoic strata in the northern Mackenzie and Selwyn Mountains, 1985-.
See:
Stratigraphy and structure of the Neruokpuk Formation, northern Yukon; Geol. Surv. Can., Paper 89-1G, p. 57-62, 1989.

103
CIESIELSKI, A., Geol. Surv. Can.:
Gneissic basement to the Fury and Hecla Formation and the Autridge Formation on Baffin Island, District of Franklin, 1979-.

104
FRISCH, T., Geol. Surv. Can.:
Precambrian geology of southeast Ellesmere, Devon and Cobourg Islands, District of Franklin, 1976-.
See:
Reconnaissance geology of the Precambrian Shield of Ellesmere, Devon and Cobourg Islands, Canadian Arctic Archipelago; Geol. Surv. Can., Mem. 409, 1988.

105
FRISCH, T., Geol. Surv. Can.:
Geology of Montresor River and lower Hayes River map areas, District of Keewatin, 1982-.

106
FRISCH, T., Geol. Surv. Can.:
Precambrian Shield of the central Boothia Uplift, District of Franklin, 1986-.

107
FRITH, R.A., Geol. Surv. Can.:
Geology of Indian Lake (86B) map-area, District of Mackenzie, 1972-.

108
FRITH, R.A., Geol. Surv. Can.:
Geology of Beechey-Duggan Lakes area, District of Mackenzie, 1980-.

109
FRITH, R.A., Geol. Surv. Can.:
Geology of Snowdrift (75L), N.W.T., 1988-89.
See:
Preliminary geological report of the Snowdrift map area, Slave Structural Province, District of Mackenzie; Geol. Surv. Can., Paper 89-1C, p. 377-384, 1989.

110
HENDERSON, J.B., Geol. Surv. Can.:
Healey Lake map-area, District of Mackenzie, 1978-.

111
HENDERSON, J.B., Geol. Surv. Can.:
Artilley Lake map area, District of Mackenzie, 1984-.

112
HENDERSON, J.R., Geol. Surv. Can.:
Geology of the Wager Bay "Shear Zone", District of Keewatin, 1985-.

113
JACKSON, G.D., Geol. Surv. Can.:
Operation Bylot, District of Franklin, 1967-.
See:
Neohelikian reef complexes, Borden Rift Basin, northwestern Baffin Island; Can. Soc. Petrol. Geol., Mem. 13, p. 55-63, 1989.

114
JACKSON, G.D., Geol. Surv. Can.:
Operation Penny Highlands, District of Franklin, 1969-.

115
LeCHEMINANT, A.N., Geol. Surv. Can.:
Macquoid Lake (W½), Thirty Mile and Tebesjuak Lake map-areas, District of Keewatin, 1978-.

116
LeCHEMINANT, A.N., Geol. Surv. Can.:
Geology of Aberdeen Lake and parts of adjoining map areas, District of Keewatin, 1982-.

117
MAYR, U., Geol. Surv. Can.:
Completion of reconnaissance geology, northern Ellesmere Island, District of Franklin, 1973-.

118
OKULITCH, A.V., Geol. Surv. Can.:
Geology of the Arctic Islands, 1984-.

119
SCHAU, M., Geol. Surv. Can.:
Geology of the Baker Lake map-area, District of Keewatin, 1980-.

120
TELLA, S., Geol. Surv. Can.:
Kamilukuak Lake map-area, District of Keewatin, 1979-.

121
TELLA, S., Geol. Surv. Can.:
Deep Rose Lake and parts of adjoining map areas, District of Keewatin, 1982-.

122
TELLA, S., Geol. Surv. Can.:
Chesterfield Inlet (55O), and parts of Tavani (55K/9,16) and Marble Island (55J/13,14) map areas, District of Keewatin, 1985-.

123
THOMPSON, P.H., Geol. Surv. Can.:
Tinney Hills (76J) – Overby Lake (76IW½) map areas, District of Mackenzie, 1983-.

124
THORSTEINSSON, R., Geol. Surv. Can.:
Baumann Fiord (49C), Vendom Fiord (49D) and Strathcona Fiord (49E), District of Franklin, 1986-.

ONTARIO/ONTARIO

125
BEAKHOUSE, G.P., Ontario Geol. Surv.:
Winnipeg River Sub-province, geological compilation for Geology of Ontario volume, 1988.

126
BRIGHT, G.E., Ontario Geol. Surv.:
Geology of the Whitestone Lake area, Grenville Province, Ontario, 1986-88.

The map area lies within the Central Gneiss Belt of the Grenville Province. It consists of three major Lithotectonic domains, the BRITT, PARRY SOUND and AHMIC Domains which are separated from each other by major ductile – shear related tectonite zones. The Whitestone anorthosite body lies in the southwestern part of the area.

127
CARTER, M.W., THURSTON, P.C., STOTO, G., Ontario Geol. Surv.:
Alkalic volcanics study, Thunder Bay area, Ontario, 1987; Ph.D. thesis (Carter).
See:
Alkalic rocks of the Thunder Bay area; Ontario Geol. Surv., Misc. Paper 141, p. 179-184, 1988.

Alkalic (shoshonitic) volcanic rocks occur in two suites – an earlier Keewatin-type sequence and a later Timiskaming-type sequence. This study concerns the characterization, stratigraphic setting, petrology and geochemistry of the alkalic rocks in the two sequences.

128
JENSEN, L.S., Ontario Geol. Surv.:
Caron Lake area, District of Kenora, Ontario, 1984-90.

A 500 km² area to be mapped in detail 100 km south of Pickel Lake, Ontario.

129
MONEY, P.L., Ontario Geol. Surv.:
Geological integration series, 1987-.
To replace the current 1 inch to 4 mile Geological Compilation Series. A computer processable database is planned (to include references, select bibliography, mineral deposit descriptions, lithologic and structural data).

130
MUIR, T.L., Ontario Geol. Surv.:
Helmo tectono-stratigraphic study, Ontario, 1985-90.

131
PERCIVAL, J.A., Geol. Surv. Can.:
Geology of the Chapleau and Groundhog River blocks, Ontario, 1986-.

132
SAGE, R.P., Ontario Geol. Surv.:
Kabenung Lake area, Ontario, 1987-.
Report in progress. Three maps ready for final editing.

133
THURSTON, P.C., STOTT, G.M., CORTIS, A.L., Ontario Geol. Surv.:
Geology of Ontario, 1987-91.
A summary of Ontario's geology in a volume and geological, lithotectonic Pleistocene, metallogenic, magnetic and gravity maps.

QUÉBEC

134
CIESIELSKI, A., Geol. Surv. Can.:
Metamorphism and structure in northeast Superior Province, Québec, 1980-.

135
CIESIELSKI, A., Geol. Surv. Can.:
Études des roches Archéennes et Protérozoïques dans la région du Front de Grenville entre Chibougamau et Val d'Or, Québec, 1984-.

136
KETTLES, I.M., Geol. Surv. Can.:
Surficial mapping in Fort Coulonge area, Québec, 1986-.

137
LAVOIE, D., Geol. Surv. Can.:
Cartographie géologique (1:20 000) du domaine océanique, région de Richmond, Estrie, Québec, 1988-89.
Voir:
Stratigraphie et structurographie de la Formation de St-Daniel et du Groupe de Magog, région de Richmond; Ministère de l'Énergie et des Ressources du Québec, MB 88-32, 1988.
Le domaine océanique, région de Richmond; ibid., MB 89-05, 1989.
Cartographie au 1:20 000 de la région. Stratigraphie fine du prisme d'accrétion (Fm de St-Daniel) et des dépôts océaniques (Groupe de Magog). Synthèse paléoenvironnementale et structurale de ce secteur.

138
PERCIVAL, J.A., Geol. Surv. Can.:
Geology of the Ashuanipi Granulite Complex in the Schefferville area, Quebec-Newfoundland, 1986-.

139
VALLIÈRES, A., Ministère de l'Énergie et des Ressources du Québec:
Synthèse et compilation géologique du cambro-ordovicien de la région Chaudière-Matapédia, Québec, 1973-90.
Unifier la stratigraphie et la structure de l'orogène taconique de cette région. Étape de la phase finale de synthèse.

YUKON TERRITORY/ TERRITOIRE DU YUKON

140
GORDEY, S.P., Geol. Surv. Can.:
Geology of Nahanni map-area, Yukon and Northwest Territories, 1979-.

141
GORDEY, S.P., Geol. Surv. Can.:
Geology of Sheldon Lake (105J) and Tay River (105K) map area, east central Yukon, 1982-.

ENVIRONMENTAL GEOSCIENCE/SCIENCES DE LA TERRE APPLIQUÉES À L'ENVIRONNEMENT

142
DUBOIS, J-M.M., PRUD'HOMME, P., Université de Sherbrooke (Géographie et Télédétection):
Artificialisation des côtes du Québec, 1986-91.
Voir:
Shorelines, encroachments and artificial structures of Québec (Canada); Artificial structures and shorelines, Kluwer Acad. Publ., p. 475-488, 1988.
Analyse de la répartition des équipements récréo-touristiques sur les côtes du Québec; Dép. de géographie et télédétection, Université de Sherbrooke, 1989, 61 p.
L'artificialisation des côtes québécoises; Annales de l'ACFAS, vol. 56, p. 108, 1988.

143
EGGINTON, P.A., Geol. Surv. Can.:
Relationship of flood frequency and heavy metal uptake in growth rings of trees, 1981-.

144
EGGINTON, P.A., Geol. Surv. Can.:
Periglacial processes, Canadian Arctic, 1983-.

145
GEURTS, M-A., Université d'Ottawa (Géographie):
Étude des tufs et travertins; Approche pluridisciplinaire, 1988-90.
Voir:
De l'aéropalynologie aux paléocirculations atmosphériques: cas des travertins holocènes; Géographie physique et quaternaire, vol. 42, no. 1, p. 97-99, 1988.

146
JÉBRAK, M., FAURE, S., Université du Québec à Montréal (Sciences de la Terre):
Étude structural du gîte de SELBAIE, 1988-90; thèse de maîtrise (Faure).
Voir:
Évolution structurale du gîte polymétallique (Cu-Zn-Au-Ag) de la mine Selbaie, Zone A, Joutel, Québec; Geol. Assoc. Can. – Mineral. Assoc. Can., Programme et résumés, vol. 14, p. A85, 1989.
La mine de Selbaie constitue un case atypique de gîte exhalatif polyphasé à Cu-Zn-Au. L'étude vise à en reconstituer l'histoire métallogénique.

147
KETTLES, I.M., Geol. Surv. Can.:
Sensitivity of surficial sediments to effects of acid precipitation, 1980-.

148
LAST, W.M., Univ. Manitoba (Geological Sciences):
Water quality changes and heavy metal pollution of Lake Manitoba, 1989-91.
To synthesize the existing water quality, hydrologic, geologic, and biological data on this major Prairie reservoir and to interprete this data in terms of likely overall processes and controls operating in the basin and watershed; investigate the specific roles of precipitation/dissolution of endogenic and authigenic mineral components in both short and long-term water chemistry fluctuations; and determine the magnitude of selected toxic metal contamination in the basin and examine the geochemistry of these trace metals in the water and sediments.

ANALYTICAL METHODS AND ANALYSIS/MÉTHODES ANALYTIQUES ET ANALYSES

149
BARNES, M.A., NIELSEN, B., Univ. British Columbia (Geological Sciences):
$\delta^{13}C$ analyses of tricyclic diterpene hydrocarbons, a cyanobacterial hydrocarbon and perylene from anoxic sediments from Powell Lake, British Columbia, 1989; M.Sc. thesis (Nielsen).
SCIMS is used to investigate: 1) precursor-product relationships for six diterpenoids with abietane skeletons; 2) $\delta^{13}C$ signatures in a fresh water anoxic environment for hydrocarbons from different precursors: diterpenes from conifers; 6-methyl hexadecane from cyanobacteria; perylene, whose source is unknown.

150
BERGON, M., BEAUMIER, M., INRS-Géoressources:
Étude de la représentativité des analyses de Pt et d'Ir en fonction de la quantité de matériel analysée, 1988-90.

La représentativité des analyses de Pt et d'Ir ayant été déterminée, il reste à mettre à point une méthode d'analyse de routine pour les EGP – peu chère et sur des quantités réduites (de l'ordre de cinq grammes).

151
CHAN, C., BINA, S., BAIG, A., Ontario Geol. Surv.:
A sensitive automated method for determination of mercury in geological materials by cold vapor atomic absorption, 1987-88. Semi-automated method for determination of Bi in rocks using FIA technique, 1988-90.

A sensitive automated method for the determination of Hg in rocks by cold vapor AA has been developed. The sample is digested at low heat with nitric and hydrochloric acids. Mercuric ions in the sample solution are reduced to Hg vapor and its concentration is measured by an LDC/Milton Roy Monitor. The detection limit is 1 ppb and the precision is 2.7%. The results on 53 international geochemical reference samples are presented.

152
DESJARDINS, M., CHAGNON, A., INRS-Géoressources:
Composition chimique des argiles, diagenèse et hydrothermalisme, 1988-89.

Ce projet vise à établir une relation entre la composition chimique des argiles et l'altération thermique ou chimique de la matière organique située près de fluides minéralisants dans des zones altérées.

153
DOHERTY, W., Ontario Geol. Surv.:
The determination of trace elements in geological samples by inductively coupled plasma mass spectrometry, 1984-.
See:
An internal standardization procedure for the determination of yttrium and the rare earth elements in geological materials by inductively coupled plasma mass spectrometry; Spectrochimica Acta, pt. B, vol. 44, no. 3, p. 263-280, 1988.

Continuing development of methods for other elements, including the platinum group. Other ongoing investigations include: sampler/skimmer design of the ICP-MS interface; nebulization of solutions of high salt content (fused samples).

154
HALDEN, N.M., HAWTHORNE, F.C., DUROCHER, J.J.G., McKEE, J.S.C., Univ. Manitoba (Geological Sciences, Physics):
High-energy PIXE analysis.

Analytical technique is based upon resolution of $K\alpha$, $K\alpha_2$, KB_1 and KB_2 x-ray lines for heavy elements eq. Au, Pt, U. Intend to explore applications in PIGE and NRA.

155
HALL, G.E.M., Geol. Surv. Can.:
Analytical services and development in geochemistry, 1958-.
See:
Determination of W and Mo in natural spring waters by ICP-AES (Inductively Coupled Plasma Atomic Emission Spectrometry) and ICP-MS (Inductively Coupled Plasma Mass Spectrometry): Application to South Nahanni River area, N.W.T., Canada; J. Geochem. Explor., vol. 30, no. 1, p. 63-84, 1988.

Review of methods to determine gold, platinum and palladium in production-oriented geochemical laboratories, with application of a statistical procedure to test for bias; ibid., vol. 30, no. 3, p. 255-286, 1988.

Relative merits of two methods of sample introduction in Inductively Coupled Plasma Mass Spectrometry: electrothermal vaporisation and direct sample insertion; J. Analytical Atomic Spectrometry, vol. 3, no. 6, p. 791-797, 1988.

Comparison of the determination of sulphur in geological materials by pyrohydrolysis and ion chromatography with other production-oriented methods; Geol. Surv. Can., Paper 89-1F, p. 17-21, 1989.

Effect of palladium as a matrix modifier in the determination of gold by graphite furnace atomic adsorption spectrometry; ibid., p. 27-30, 1989.

The determination of Pt and Pd in waters; Explore, No. 6, p. 12, 13, 1988.

Inductively coupled plasma mass spectrometry; in Handbook of Inductively coupled plasma spectrometry, p. 238-269, 1989.

156
HUTCHEON, I.E., Univ. Calgary (Geology and Geophysics):
Geochemistry of basin waters.
See:
Geochemistry of early carbonate cements in the Cardium Formation, central Alberta; J. Sedimentary Petrol., vol. 58, p. 136-147, 1988.

157
HUTCHEON, I.E., BLOCH, J.D., Univ. Calgary (Geology and Geophysics):
Mass transport in the Fort St. John Group, Alberta, 1987-89; Ph.D. thesis (Bloch).

158
HUTCHEON, I.E., NAHNYBIDA, C.G., SHEVALIER, M., Univ. Calgary (Geology and Geophysics):
Firefloods: oil-water-rock interaction and the sulphur problem, 1987-91.
See:
The diagenesis of the Aberfeldy Field, Saskatchewan and the effects of thermal recovery on well log response; Bull. Can. Petrol. Geol., vol. 36, p. 70-85, 1988.

A comparison of formation reactivity in quartz-rich and quartz-poor reservoirs during steam assisted recovery; UNITAR/UNDP Fourth Internat. Conf., Edmonton, vol. 3, Paper no. 235, p. 1-12, 1988.

159
LONGERICH, H.P., Memorial Univ. (Earth Sciences):
Development of ICP-MS, 1983-.

Trace element determinations PGE, $^{147}Nd/^{144}Sm$, $^{87}Rb/^{86}Sr$, Re-Os, Pb/Pb isotope ratios.

EXPLORATION, ORGANIC/ APPLIQUÉE, ORGANIQUE

160
BERTRAND, R., INRS-Géoressources:
Étalonnage d'indicateurs de la maturation thermique substituts à la réflectance de la vitrinite dans les séries du Paléozoïque inférieur, 1985-89.

L'étude des matières organiques dispersées du nord-est de la Gaspésie, Québec, a permis d'établir des échelles d'équivalences entre le pouvoir réflecteur des zooclastes et celui de la vitrinite, le macéral standard utilisé comme indicateur de maturation thermique (soumis pour publication).

161
BERTRAND, R., INRS-Géoressources:
Sédimentologie et diagenèse de la matière organique dans le bassin appalachien de l'est du Québec: application à la tectonique, à la connaissance géologique du bassin et à la géologie des hydrocarbures dans l'île d'Anticosti et dans le nord-est de la Gaspésie, 1985-91.
See:
Tectonic and burial history of Anticosti Island and northeastern Gaspe Peninsula sedimentary sequences, Quebec; Geol. Assoc. Can. – Mineral. Assoc. Can., Program with abstracts, vol. 13, p. A9, 1988.

L'étude des matières organiques dispersées du nord-est de la Gaspésie et de l'île d'Anticosti, Québec, a permis de bien évaluer les degrés de maturation thermique atteints par ces séries du Paléozoïque inférieur et de situer dans le temps géologique les mouvements tectoniques, la génération et la migration des hydrocarbures et l'enfouissement maximum des séries. Publications en préparation.

162
BERTRAND, R., MALO, M., INRS-Géoressources:
Rôle du métamorphisme de la matière organique, associé à la tectonique, sur la

minéralisation des zones de failles acadiennes de l'est de la Gaspésie, 1988-89.

L'étude des matières organiques dispersées dans le voisinage des indices minéralisés des failles majeures du sud de la Gaspésie a pour buts de trouver des indicateurs de la pétrographie organique dans ces zones minéralisées et d'apporter des éléments à la connaissance de l'histoire géologique de ces phénomènes. La rédaction d'un rapport est en cours.

163
BROOKS, P.W., Geol. Surv. Can.:
Development of extraction, identification and correlation systems for organic compounds from sedimentary rocks and crude oils, 1973-.
See:
A comparison between biomarker geochemistry of some samples from the Lower Jurassic Nordegg Member and western Canada Basin oil sands and heavy oil; Geol. Surv. Can., Paper 89-1D, p. 19-24, 1989.

164
FOWLER, M.G., Geol. Surv. Can.:
Hydrocarbon geochemistry Arctic Archipelago and Canadian East Coast offshore, 1976-.

165
HÉROUX, Y., ANDERSON, G.M., CHAGNON, A., RANDELL, R., INRS-Géoressources:
Organic matter and clay as a guide to ore, 1988-91.

Thermal and/or chemical alteration of the organic matter (microfossils) in the host rocks of lead-zinc bearing deposits must be related to the temperature, duration and direction of the brine flow. Preliminary results at the Polaris mine of Cominco Ltd. show that not only are there abundant microfossils, but they show a wide range of reflectance values, showing that there is a good possibility that they can be used to find an alteration halo.

166
HÉROUX, Y., SANGSTER, D.F., INRS-Géoressources, Geol. Surv. Can.:
Variation du pouvoir réflecteur des vitrinites associées aux minéralisations plombo-zincifères, en fonction de la lithologie.

L'objectif est d'examiner l'influence du type de lithologie (perméabilité aux fluides métallifères) sur l'altération de la matière organique, notamment l'évolution du pouvoir réflecteur.

167
JACKSON, T.A., SUPEENE, K., National Hydrology Research Institute:
Effects of toxic pollutants on microbial communities.
See:
Accumulation of mercury by plankton and benthic invertebrates in riverine lakes of northern Manitoba; Can. J. Fisheries and Aquatic Sci., vol. 45, no. 10, p. 1744-1757, 1988.

Effects of clay minerals, hydrated oxides, and humic matter on microbial methylation and...; Preprints, 3rd Chemical Congress of North America, vol. 28, no. 1, p. 589-594, 1988.

To complete the experimental microbiology project using sediments from Flin Flon area and northern Manitoba; to perform a new study of inhibitory and stimulatory effects of heavy metals on microbial activity in sediments; and collect samples from lake(s) near Flin Flon for a new series of experiments.

168
JONASSON, I.R., Geol. Surv. Can.:
Environmental geochemistry, 1974-.

169
ROGERS, P.J., LOMBARD, P.A., Nova Scotia Dept. Mines and Energy:
Geochemical atlas of Nova Scotia (MDA), 1984-89.

Production of coloured geochemical maps for multi-media and multi-elements in Nova Scotia.

170
ROGERS, P.J., MILLS, R.F., DUNN, C.E., OGDEN, P., Geol. Surv. Can., Nova Scotia Dept. Mines and Energy, Univ. Dalhousie (Geology):
Follow-up geochemistry (MDA), Nova Scotia, 1984-89.

Investigation of geochemical anomalies in Nova Scotia in laices, flora and streams; regional precious metal survey of northern Nova Scotia; regional biogeochemical survey of eastern Nova Scotia.

171
SNOWDON, L.R., Geol. Surv. Can.:
Hydrocarbon geochemistry of northern Interior Plains and Beaufort Sea, 1976-.

172
SNOWDON, L.R., Geol. Surv. Can.:
Petroleum geochemistry of Queen Charlotte Islands, British Columbia, 1987-.

173
WARREN, H.V., HORSKY, S.S., Univer. British Columbia (Geological Sciences):
Thallium and selenium pathfinder elements for hydrothermal ore deposits in British Columbia, 1989-91.

A paper being prepared for publication shows how thallium-selenium relationships in vegetation can usefully be used to suggest gold rich environments.

EXPLORATION, NON-ORGANIC/ APPLIQUÉE, NON-ORGANIQUE

174
BARNES, S-J., COUTURE, J-F., Université du Québec à Chicoutimi:
Platinum-group elements in the southwestern Abitibi, Québec, 1988-92.
Voir:
Evaluation du potentiel en EGP pour la region de Rouyn-Noranda; Ministère de l'Énergie et des Ressources du Québec, Rapport d'activite 1988.

There are numerous Ni-Cu sulphide showings associated with small mafic intrusion that are rich in PGE in the Baby Group of the southwestern Abitibi. The object of this study is to understand how this enrichment arises.

175
BARNES, S-J., GIOVENAZZO, D., Université du Québec à Chicoutimi:
Platinum-group elements in the Bravo Sill, Ungava, Québec, 1988-90.
See:
Platinum-group elements in the Bravo Intrusion, Ungava Trough, Quebec; 5'th Internat. Platinum Symp. 1989 August, Helsinki, 1989.

The Bravo Sill contains a lens of massive sulphide which is enriched in Cu and Pb and depleted in Pd, Ni and Au relative to igneous sulphides. The object of the project is to establish the origin of this enrichment and depletion.

176
BARNES, S-J., POITRAS, A., Université du Québec à Chicoutimi:
Platinum-group elements in the Chibougamau area of the Abitibi Greenstone Belt, Québec, 1987-91; Ph.D. thesis (Poitras).
Voir:
Evaluation du potentiel de la region de Chibougamau en elements group de platine Exploration au Québec-Études geo-scientifiques recentes; Ministère de l'Énergie et des Ressources du Québec, DV 87-25, p. 85-88. 1988.

Platinum-group element concentrations at the ppm level have been found in veins associated with mafic sills and dykes in the Chibougamau area. The project aims to establish how these veins formed.

177
BARNES, S-J., TREMBLAY, C., Université au Québec à Chicoutimi:
Platinum group elements in the Mequillon Dyke, Ungava, Québec, 1986-89; thèse de maïtrise (Tremblay).
Voir:
Platinum-group elements in Mequillon Dyke, Ungava Trough, New Quebec; Geol. Assoc. Can. - Mineral. Assoc. Can., Programme et Résumés, vol. 14, p. A79, 1989.

The Mequillon dyke is a 120 m thick dyke which shows a variation of PGE content from 10 ppb at the margins to 15 ppm in the sulphide rich portions. The project aims to study the distribution of the PGE, major and trace elements across the dyke.

178
BARRETT, T.J., JARVIS, I., FRALICK, P.W., CATTALANI, S., McGill Univ. (Geological Sciences):
Hydrothermal and sedimentological controls on the formation of Precambrian and modern stratiform sulfides and metalliferous sediments, 1987-; Ph.D. thesis (Cattalani).
Seè:
Two-stage hydrothermal formation of a lower Proterozoic sediment-hosted massive sulfide deposit, northern Labrador Trough, Quebec; Can. Mineral., vol. 26, p. 871-888, 1988.

Rare-earth element geochemistry of some Archean iron formations north of Lake Superior, Ontario; Can. J. Earth Sci., vol. 25, p. 570-580, 1988.

Characterization of the stratigraphic and geochemical: Controls on the formation of 1) different facies of Precambrian iron formations of the Canadian shield: 2) massive sulfides and exhalites in the Abitibi region of Quebec: and 3) metalliferous sediments in the eastern Pacific Ocean and Red Sea. Several papers have been published or are in press. Databases

for three further papers are about 50% complete, as is the overal project.

179
BERGERON, M., INRS-Géoressources:
Étude des mécanismes de transport de l'or dans les environnements de surface, 1986-.

Dans le cadre d'un programme à long terme visant à mieux comprendre le comportement des métaux précieux dans les environnements de surface, nous examinerons, au cours des trois prochaines années, les mécanismes de transport de l'or par formation d'un colloïde et par complexation organique. À cet effet, nous entreprendrons des expériences en laboratoire et des travaux de terrain.

180
FEDIKOW, M.A.F., AUGESTEN, B., GAGNON, J., Manitoba Energy and Mines (Geological Services):
Stratigraphy, structure and geochemistry of the Agassiz metallotect, Lynn Lake Greenstone Belt, Manitoba, 1986-; M.Sc. thesis (Gagnon).

181
FEDIKOW, M.A.F., DUNN, C.E., Manitoba Energy and Mines (Geological Services), Geol. Surv. Can.:
Vegetation geochemistry-Bernic Lake and Bird River areas, Manitoba, 1989-.

182
FEDIKOW, M.A.F., FROESE, E., Manitoba Energy and Mines (Geological Services), Geol. Surv. Can.:
Geochemistry of the Cook Lake alteration zone, 1986-.

183
FLETCHER, W.K., COOK, S.J., Univ. British Columbia (Geological Sciences):
Exploration geochemistry of Pt and associated elements in soils and sediments from southern British Columbia, 1987-; M.Sc. thesis (Cook).
See:
Preliminary investigation of platinum content of soils and sediments, southern British Columbia; British Columbia Ministry Energy, Mines, Petrol. Res., Paper 1989-1, 1989.

A comprehensive suite of soil profile and sediment samples has been collected from Grasshopper Mountain at the northern end of the Tulameen ultramafic complex, British Columbia. Preliminary analytical results show anomalous concentrations of Pt in colluvial material downslope of known Pt occurrences. Future study will involve detailed investigation of the form and residency sites of Pt in soils and sediments.

184
FLETCHER, W.K., DAY, S.J., WOLCOTT, J., Univ. British Columbia (Geological Sciences):
Behaviour and transport of gold and other heavy minerals by streams, 1985-; M.Sc. thesis (Day).
See:
Determination of gold by cyanidation and graphite furnace atomic absorption spectroscopy; J. Geochemical Expl., vol. 30, p. 29-34, 1988.

Behaviour of gold and other heavy minerals in drainage sediments: some implications for exploration geochemical surveys; in Prospecting in Areas of Glaciated Terrain, IMM-CIMM Halifax, 1988, p. 171-183.

Sediment traps have now (1988) been installed on a bar in a gold-rich stream (Harris Creek) in southern British Columbia. Results from the 1988 feshet in May-June indicate that: sediment load is closely related to stream discharge; load experienced at different sites on the bar is similar; and concentrations of sand size heavy minerals being transported increases as discharge increases. Experiements will be expanded in 1989.

185
FLETCHER, W.K., SIBBICK, S.J., Univ. British Columbia (Geological Sciences):
Exploration geochemistry of gold in soils and till, Nickel Plate Mine, British Columbia, 1987-; M.Sc. thesis (Sibbick).

Detailed studies of the distribution of gold in tills and soil profiles have been undertaken downice from the Nickel Plate deposit. The form and residency sites of gold is now being studied.

186
FORTESCUE, J.A.C., Ontario Geol. Surv.:
The use of the geochemistry of Long Lake sediment cores for verification of regional geochemical results: Goudreau Lake area, Ontario, 1987-89.
See:
The use of the geochemistry of Long Lake Sediment cores for verification of regional geochemical results: Goudreau Lake area, District of Algoma; Ontario Geol. Surv., M.P. 141, p. 482-488, 1988.

A program to verify positive geochemical results obtained in 1987 during a regional lake sediment geochemical survey in the Goudreau Lake area was completed. The verification procedure is based on the geochemistry of segments of long lake sediment cores which extend from the surficial sediment at the bottom of the lake into the mineral matter below the zone of organic matter. Experience indicated that the distribution of an element in a long lake sediment core was usually relatively uniform from 25 cm below the bottom of the lake to a metre depth or further. It was reasoned that long cores taken at the same sample points as those found to have positive geochemistry in the regional survey would provide a basis for verification of the regional survey results.

187
FORTESCUE, J.A.C., Ontario Geol. Surv.:
A regional geochemical survey of part of the Batchawana Greenstone Belt, 1987-90.
See:
A regional geochemical survey of part of the Batchawana Greenstone Belt, District of Algoma; Ontario Geol. Surv., M.P. 141, p. 478-481, 1988.

During July and August 1988, the remaining lake sediment and water sampling (947 samples) required for a regional geochemical survey of the Batchawana Greenstone Belt was completed. To provide geochemical information which is of direct importance to exploration in the Batchawana Greenstone Belt, either by confirming and, possibly, extending areas of known mineralization, or by indicating new areas within which mineralization may occur.

188
FORTESCUE, J.A.C., Ontario Geol. Surv.:
Regional geochemical survey of the Magpie River area, Ontario, 1988-90.
See:
A regional geochemical survey of the Magpie River area, District of Algoma; Ontario Geol. Surv., M.P. 141, p. 489-492, 1988.

During September 1988, a small-scale regional geochemical survey based on lake sediments and waters was completed in a 400 km^2 area in the vicinity of the Magpie River situated 30 km north of Wawa, Ontario. The Magpie River area is of particular interest at this time because it lies to the west of the Goudreau Lake area in which new gold deposits are currently being developed. The geochemical survey of the Magpie River area is important because parts of the area are covered by surficial deposits where outcrops of bedrock are relatively rare.

189
GAREAU, M., SINCLAIR, A.J., Univ. British Columbia (Geological Sciences):
Lithogeochemistry of the Golden Sunlight Mines, Montana, 1985-89; M.Sc. thesis (Gareau).

Multielement DCP data obtained. Assay data provided by company. Interpretation and writing in progress.

190
HORNBROOK, E.H.W., Geol. Surv. Can.:
National geochemical reconnaissance, 1975-.

191
JÉBRAK, M., BOISVERT, D., Universite du Québec à Montréal (Science de la terre), Ministère de l'Énergie et des Ressources du Québec:
Morpho-géochimie des minéraux lourds et minéralisations dans le sud-ouest de la province du Grenville, 1988-90.

Confronter les cartes multi-élémentaires avec la morphologie et le chimisme des minéraux accessoires afin de préciser la nature des anomalies. Tester une nouvelle méthode de prospection basée sur la définition des minéraux lourds de l'hydrothermalisme.

192
KRONBERG, B.I., FRALICK, P., Lakehead Univ. (Geology):
Geochemistry of altered granitic rocks underlying Gunflint sediments of northwestern Ontario, 1989.

193
KRONBERG, B.I., LESARGE, K., Univ. Western Ontario (Geology):
Geochemical mobilities of iron and copper in Solobo Copper deposit, Carajas, Amazonia, 1986-; M.Sc. thesis (Lesarge).

194
KRONBERG, B.I., MELFI, A.J., Lakehead Univ. (Geology), Univ. Sao Paulo (Geosciences):
Geochemistry of weathering of basaltic rocks from Parana Basin (Brasil), 1984-.

195
LAST, W.M., LAMBERT, S., Univ. Manitoba (Geological Sciences):

Hydrogeochemistry of saline lakes in the northern interior plains of western Canada and northern United States, 1989-92.

To describe the chemical variability of the lacustrine brines in the northern Interior Plains, and to attempt to decipher the controls of this variability on a regional basis.

196
LEVINSON, A.A., Univ. Calgary (Geology and Geophysics):
Exploration geochemistry, 1972-.
See:
Practical problems in exploration geochemistry; Applied Publishing Ltd., 1987.

197
MARCOTTE, D., École Polytechnique (Génie minéral):
Analyse multidimensionnelle des données géochimiques de sédiments de lacs des régions de Manicouagan et de Shefferville, 1988-89.
See:
Lake sediments in the Manicouagan area: Multivariate analysis and variography used to enhance anomalies response; Actes du colloque "Statistical Applications in the Earth Sciences" Ottawa, nov. 1988.

Application des méthodes d'analyse des données multidimensionneles et de variographie (variogrammes) au filtrge des valeurs originales des sédiments de lacs de façon à rehausser le signal anomalique.

198
MARCOTTE, D., École Polytechnique (Génie minéral):
Analyse multidimensionnelle des données géochimiques de sédiments de ruisseau dans la région de Gatineau, 1989.

Ce travail vise à rehausser le contenu utile dans une optique de prospection de relevés de sédiments de ruisseau. Des méthodes d'analyse des données multi-dimensionnelles et de géostatistique sont utilisées à cette fin.

199
MATYSEK, P.F., GRAVEL, J.L., DAY, S.J., British Columbia Ministry Energy, Mines, Petrol. Res.:
Applied geochemistry-regional geochemistry survey, British Columbia.
See:
Regional geochemical survey, northern Vancouver Island and adjacent mainland; British Columbia Ministry Energy, Mines, Petrol. Res., Paper 1988-1, 1988.

Using the regional geochemical survey database:examples from 1988 release; ibid., 1988.

Analytical results from 1987 R.G.S. (northwestern British Columbia) released during summer of 1987 – RGS open files 18, 19 and 20.

200
MAURICE, Y.T., Geol. Surv. Can.:
Geochemical exploration technology in ultrabasic complexes, 1983-.

201
McCONNELL, J., Newfoundland Dept. Mines:
Lake sediment geochemistry applied to exploration for rare earth/rare metal mineralization.
See:
Lake sediment and water geochemical surveys for rare-metal mineralization in Labrador; Newfoundland Dept. Mines, Rept. 89-1, 1989.

Lake sediment and water surveys in four areas of Labrador were made. Analyses of sediment by AA, ICP and neutron activation reflected known mineralization, areas of alkaline bedrock, and identified new target areas. The best indicator elements include REE, Re, F, Nb, Pb, TL, Zn and Zr. Yttrium in water is useful.

202
McCONNELL, J., HONARVAR, P., Newfoundland Dept. Mines:
The application of soil and stream sediment geochemistry to gold exploration, 1986-89.

A comprehensive open file report on the results of this research will be available in the spring of 1989.

203
McCONNELL, J., HONARVAR, P., Newfoundland Dept. Mines:
Appliation of lake sediment and soil geochemistry to gold exploration in Labrador, 1987-89.

An open file of the results of the work will be available in the summer of 1989.

204
McTAGGART, K.C., KNIGHT, J., Univ. British Columbia (Geological Sciences):
Composition of lode and placer gold, 1983-; M.Sc. thesis (Knight).
See:
Progress report on the composition of gold from southern British Columbia; British Columbia Ministry Mine, Energy, Petrol. Res., Paper 88-1, 1988.

205
PINTSON, H., LUDDEN, J.N., Université de Montréal (Géologie):
Late Archaean granitoid genesis in the Superior Province of Canada, 1986-; Ph.D. thesis (Pintson).

Evaluation using trace elements and isotopic traces of the origins of late Archaean granitoids from the Abitibi belt, in particular, and on a more general basis the Superior Province.

206
STEELE, K.G., Ontario Geol. Surv.:
Reconnaissance till sampling program, Matheson-Lake Abitibi area, Ontario, 1984-89.
See:
Gold grains in sonic drill core samples (1988) from the Lake Abitibi-Matheson area, District of Cochrane; Ontario Geol. Surv., Map P.3130, Geophysical/Geochemical Series-Preliminary Map, scale 1:100 000, Geology 1988.

Bedrock samples from the sonic drilling program (1987) in the Matheson area, District of Cochrane; Ontario Geol. Surv., Map P.3114, Geological Series-Preliminary Map, scale 1:100 000, Geology 1987, 1988, 1989.

Reconnaissance till sampling program, Matheson-Lake Abitibi area, District of Cochrane; Ontario Geol. Surv., M.P. 141, p. 472-477, 1988.

The fifth and final year of a reconnaissance till sampling project continued until March 1989. Clastic sections of the core are subjected to heavy mineral separation so that independent gold grains may be counted and examined for their size and shape to help in determining their provenance. Quaternary stratigraphy and till geochemistry data collected in 1987 and 1988 will be released in standard formats followed by a summary report in the near future.

207
TANGUAY, M.G., TRUDEL, P., PERRAULT, G., SEA, F., École Polytechnique (Génie minéral):
Dispersion de l'or en milieu latéritique autour de gisements volcano-sédimentaires birrimiens, au Mali et en Côte d'Ivoire, 1989-94; thèse de doctorat (Sea).

Étude des phénomènes de dispersion de l'or dans les latérites au-dessus de gisements connus afin de préciser les méthodes d'interprétation des levés géochimiques multi-éléments et mieux diriger l'orpaillage et la prospection.

208
WOOD, S., VLASSOPOULOS, D., Ministère de l'Énergie et des Ressources du Québec:
Mobilité chimique des EGP dans l'environnement secondaire, 1988-89.

Après avoir repéré quelques environnements minéralisés en EGP et prélevé des échantillons de roche, d'eau et de sol, le travail consiste à définir s'il y a dispersion chimique, dans quelle mesure elle opère et quels sont les éléments qui en sont affectés.

GENERAL/GÉNÉRALITÉS

209
AL-AASM, I.S., MUIR, I., Univ. Windsor (Geology), Esso Canada:
Sedimentology and isotopic studies of black shales and associated carbonates in the Middle-Upper Devonian Hare Indian and Canol Formations, 1989.

210
AMIREAULT, S., VALIQUETTE, G., École Polytechnique (Génie minéral):
Géochimie et pétrographie des intrusifs felsiques du centre nord de la Gaspésie, 1987-89; thèse de maîtrise en science (Amireault).

Les granitoides des monts Chaune, Hog's Back, Vallières-de-St-Réal et Brown sont analysés et comparés aux granitoides qui accompagnent les minéralisations des mines Gaspé à Murdochville. Les analyses de ces granitoides dévoniens seront traités par méthodes statistiques.

211
BALLANTYNE, S.B., Geol. Surv. Can.:
Applied geochemistry for the Cordillera, 1979-.

212
BARAGAR, W.R.A., Geol. Surv. Can.:
Stratigraphy and geochemistry of the volcanic rocks of the Circum-Ungava Belt, District of Keewatin, 1978-.

213
BRAND, U., McALLISTER, J., BATES, N., COLQUHOUN, I., Brock Univ. (Geological Sciences), McMaster Univ. (Geology):

Global changes in the marine biomass and hydrosphere, 1986-; M.Sc. theses (McAllister, Bates, Colquhoun).

214
BREAKS, F.W., Ontario Geol. Surv.:
The Petrunk W-Be property – an Archean holmquistite-bearing Greisan System, 1988.
See:
Ontario Geol. Surv., Misc. Paper 141, p. 89-97, 1988.

215
BOYLE, D.R., Geol. Surv. Can.:
Groundwater geochemistry in mineral and hydrocarbon exploration, 1983-.

216
CAMERON, E.M., Geol. Surv. Can.:
Isotopic geochemistry, Precambrian mineralized basins, District of Mackenzie and Ontario, 1980-.
See:
Geology of the Archean Murdock Creek intrusion, Kirkland Lake, Ontario; Geol. Surv. Can., Paper 89-1C, p. 313-323, 1989.

217
CERNY, P., MEINTZER, R.E., PAN, J., CLARK, G.S., MacDONALD, D., FRYER, B.J., LONGSTAFFE, F.J., BAADSGAARD, H., Univ. Manitoba (Geological Sciences), Memorial Univ. (Earth Sciences), Univ. Western Ontario (Geology), Univ. Alberta (Geology):
Geochemistry of granitic pegmatites, 1968-; M.Sc. thesis (MacDonald).

Trace elements in feldspar crystallization sequences; Rb-Tl fractionation in pollucite; Rb-Cs fractionation in feldspars and micas; Al-Ga fractionation; P abundances in feldspars; isotopic relationships in accessory minerals.

218
COKER, W.B., Geol. Surv. Can.:
Geochemical methodologies in glaciated terrains, Manitoba and Ontario, 1986-.

219
CRANSTON, R., Geol. Surv. Can.:
Diagenesis and geochemical cycling, 1987-.

220
DALPE, C., VALIQUETTE, G., École Polytechnique (Génie minéral):
Étude géochimique des brèches volcaniques de Ristigouche, Québec, 1988-90; thèse de maîtrise en science (Dalpe).

Les roches volcaniques de la région de Ristigouche sont représentées par un ensemble de coulées et de brèches volcaniques localement plus ou moins oxydés, ces brèches seront analysées en fonction de leur potentiel économique.

221
DOYON, M., VALIQUETTE, G., École Polytechnique (Génie minéral):
Géochimie des roches volcaniques du centre nord de la Gaspésie, 1988-91; thèse de doctorate (Doyon).

Les roches volcaniques montrent une distribution bimodale caractéristique d'un milieu en extension. Les basaltes sont légèrement alcalins et les rhyolites vont de sub-alcalines à peralcalines. Un mémoire de maîtrise a déja défini la stratigraphie et la pétrographie. Les analyses sont avancées pour les éléments majeurs, mineurs et terres-rares.

222
DYCK, W., Geol. Surv. Can.:
Disequilibrium in the uranium series, 1978-.

223
EASTON, R.M., THURSTON, P.C., JENSEN, L.J., GRUNSKY, E.C., Ontario Geol. Surv., CSIRO, Australia:
Geochemical classification of Archean volcanic rocks, 1985-91.

224
ELLWOOD, D.J., Geol. Surv. Can.:
Automated geochemical cartographic development, 1975-.

225
FINN, G.C., Brok Univ. (Geological Sciences):
Evolution of the Archaean Hopedale Block, Labrador, 1982-.

Geochronological component of the study has been written up and submitted for publication. Geochemistry and origin of the Maggo gneiss will be submitted separately for publication.

226
FOWLER, A.D., JENSEN, L.S., Univ. Ottawa (Geology), Ontario Geol. Surv.:
Trace element modelling of Archean metavolcanic rocks in the Abitibi Greenstone Belt, Ontario, 1985-88.

To model the sources of tholeiitic and calc-alkalic magmas and their subsequent crystallization.

227
GOODFELLOW, W.D., Geol. Surv. Can.:
Geochemistry of mineral occurrences and their host rocks in the northern Cordillera, 1979-.
See:
Isotopic geochemistry of the Jason stratiform sediment-hosted zinc-lead deposit, Macmillan Pass, Yukon; Geol. Surv. Can., Paper 89-1E, p. 21-30, 1989.

Interpretation of streams geochemistry leading to the discovery of a secondary zinc deposit, Pelly River, Nahanni map ara, Yukon; ibid., p. 31-50, 1989.

228
HALDEN, N.M., Univ. Manitoba (Geological Sciences):
Trace element geochemistry of mafic and ultramafic volcanic rocks at the Churchill-Superior boundary zone, Manitoba, 1986-88.
See:
Tectonic setting of Circum-Superior ultramafic and mafic volcanism in Manitoba; Manitoba Dept. Energy and Mines, GS-22, 1988.

Trace element and REE data is consistent with an interpretation that the mafic volcanic rocks were emplaced in a marginal basin type of tectonic setting.

229
HALDEN, N.M., Univ. Manitoba (Geological Sciences):
Granitic magmatism in the Trans-Hudson orogen, 1986-90.

Analytical work has also been directed at granitoids in the Churchill-Superior boundary zone and the Snow Lake Flin Flon terrane.

230
HOLM, P.E., SMITH, T.E., Univ. Windsor (Geology):
Geochemical and tectonic studies within the Elsevir terrane of the Grenville Province, 1984-91.

To use the geochemistry of the volcanic sequences and minor intrusions to identify the probable environment of eruption and to place constraints on the tectonic history of the area.

231
JÉBRAK, M., Universite du Québec à Montréal (Sciences de la Terre):

Analyse de la dispersion des minéraux lourds et des sédiments de ruisseau dans le bassin de Mont Laurier et sa bordure ouest.

232
KERR, A., DAVENPORT, P.H., FRYER, B.J., Newfoundland Dept. Mines, Memorial Univ. (Earth Sciences):
Granitoid rocks of the Central Mineral Belt, Labrador.
See:
Lake sediment and lithogeochemical patterns in relation to lithotectonic terranes in eastern Labrador; Egol. Assoc. Can. – Mineral. Assoc. Can., Program with abstracts, vol. 12, p. A65, 1988.

Isotopic and trace element characteristics of the Trans-Labrador Batholith: Implications for Middle Proterozoic crustal growth on the southern margin of Proto-Laurentia; ibid., p. A65, 1988.

Contrasting geochemical patterns in specialized granites of the ca. 1650 Ma Trans-Labrador Batholith, eastern Labrador; ibid., p. A65, 1988.

233
KRONBERG, B.I., MALEK, L., Lakehead Univ. (Geology, Biology):
Influences on tree seedling growth rates of rock and rock-derived fertilizers, 1989.

234
LAST, W.M., Univ. Manitoba (Geological Sciences):
Stable isotope geochemistry of Lake Manitoba, 1988-90.

To complement previous sedimentologic studies of Holocene sediments in Lake Manitoba, C and O stable isotopes are being examined in endogenic carbonates and organic matter in the sediments. The isotope data will help document the paleoclimatology and paleoproductivity of Lake Manitoba during the past 12,000 years.

235
LIGHTFOOT, P.C., Ontario Geol. Surv.:
Geochemistry of continental flood basalts, 1988-89.
See:
Origin of Deccan Trap lavas: evidence from combined trace element and Sr-, Nd-, and Pb-isotope studies; Earth and Planetary Sci. Letters, vol. 91, p. 84-104, 1988.

Geochemical studies of flood basalts and associated mafic intrusions provide new information on the origin and evolution of basaltic magmas. Studies on the Nipissing diabase, Keweenawan, and Siberian Traps continue to reveal important new constraints on these problems.

236
LUDDEN, J.N., Université de Montréal (Géologie):
Geochemical mass balances at subduction zones.

Evaluation of the composition of sediments subducted in Benioff zones. Implications for the compositions of one magmas and ancient volcanic rocks.

237
LUDDEN, J.N., FRANCIS, D., SKULSKI, T., CHARLAND, A., Université de Montréal (Géologie), McGill Univ. (Geological Sciences):
Cenozoic evolution of volcanic centers in southern Yukon, northern and central British Columbia, 1984-; Ph.D. theses (Skulski, Charland).

Geochemical studies pertaining to the petrogenesis of volcanic rocks from Cenozoic to Recent centers: 1) Fort Selkirk, Yukon, 2) Alligator Lake, Yukon, 3) Mt. Edziza, north-central British Columbia, 4) St-Clare volcanics, Yukon, and 5) Anahim volcanics, British Columbia.

238
LUDDEN J.N., PICARD, C., GAONAC'H, H., Université de Montréal (Géologie):
Nd. isotope geochemistry of a Proterozoic alkaline ocean island complex, 1987-89; M.Sc. thesis (Gaonac'h).

239
MATHEWS, W.H., BUSTIN, R.M., Univ. British Columbia (Geological Sciences):
Trace metal geochemistry in peat underlying a sanitary landfill, 1987-.

240
MAURICE, Y.T., Geol. Surv. Can.:
Heavy mineral studies, Gaspé, Québec, 1984-.

241
MOSSMAN, D.J., NAGY, B., Mount Allison Univ. (Geology), Univ. Arizona (Geoscience):
Comparative molecular and elemental analyses of stratiform and dispersed-globular kerogens in the Lower Proterozoic metasediments, Elliot Lake, Ontario, Canada; an investigation of kerogen paragenesis, 1987-89.

The stratiform ores at Elliot Lake provide a good example of the complex evolutionary, diagenetic, chemical and mobilization processes involved in kerogen paragenesis. The present study undertakes to delineate some of the relationships between uranium-poor kerogen globules and nearby U-rich kerogens.

242
MOSSMAN, P.J., WIGGERING, H., Mount Allison Univ. (Geology), Univ. Esen, West Germany (Geology):
Sulfides in lower Proterozoic paleosols, 1989-90.
See:
Geology of Precambrian paleosols at the base of the Huronian Supergroup, Elliot Lake, Ontario, Canada; Precambrian Research, vol. 42, p. 107-139, 1988.

Widespread occurrence of iron sulfides in some Lower Proterozoic paleosols as at Elliot Lake, Ontario may have originated by a combination of a) microbacteriological processes involved in an anaerobic sulfur cycle and, b) the solubility of FeS in an atmosphere dominated by N_2, CO_2, H_2 and H_2S, and the exposure of the soils to sulfidizing H_2S volcanic emissions.

243
ROGERS, P.J., Nova Scotia Dept. Mines and Energy:
Regional geochemical surveys, 1982-.

Continuing investigation of exploration geochemistry in surficial materials of Nova Scotia.

244
SIRAGUSA, G.M., Ontario Geol. Surv.:
Geology and mineralization of the southern margin of the Swayze Belt, Ontario, 1984-88.

245
SIRAGUSA, G.M., Ontario Geol. Surv.:
Geochemistry of gold settings, Swayze Belt, Ontario, 1988-89.
See:
Geological setting of gold mineralization in the southern Swayze Belt; Ontario Geol. Surv. Misc. Paper 141, p. 222-225, 1988.

246
SNOWDON, L.R., Geol. Surv. Can.:
Ocean drilling program geochemistry, 1988-91.

247
TAYLOR, B.E., Geol. Surv. Can.:
Light stable isotope geochemistry of rock and ore-forming processes, 1985-.
See:
Degassing of rhyolitic magmas: hydrogen isotope evidence and implications for magmatic-hydrothermal ore deposits; Can. Instit. Mining Metal., Sp. Vol. 39, p. 33-49, 1988.

248
THORPE, R.I., Geol. Surv. Can.:
Lead isotopic studies on genesis of ore deposits, 1978-.

249
WARREN, H.V., HORSKY, S.S., Univ. British Columbia (Geological Sciences):
A study of the links between environmental selenium and breast cancer in British Columbia, 1989-.

Dr. Band of Cancer Control Agency has offered guidance on selection of sampling localities and providing background epidemiological data.

250
WESTGATE, J., PREECE, S., Univ. Toronto (Geology):
Geochemistry of distal tephra beds in the Gold Hill Loess, Interior Alaska, 1988-90; M.Sc. thesis (Preece).

Identification and correlation of tephra beds in the Gold Hill Loess of interior Alaska by means of geochemical and petrographic criteria; geochemical distinction between tephra derived from vents in the Drangell Mountains and eastern Aleutians and implications for their respective petrogenetic environments.

251
WOOD, S.A., PUJING PAN., BARRETT, T.J., McGill Univ. (Geological Sciences):
Determination of the solubility of platinum, palladium and gold in hydroxide and sisulfide aqueous solutions at elevated temperatures and pressures, 1988-91.

The first phase of the project has been completed by February, 1989, preliminary experiments have shown that equilibrium is reached within two months, and the solubilities of gold, platinum and palladium are high enough so that experimented solutions may be adequately analysed by GFAAS and flame FAS.

252
ARCHIBALD, D.A., FARRAR, E., Queen's Univ. (Geological Sciences):
Tectonothermal history of the southern Kootenay Arc and Purcell Anticlinorium, southeastern British Columbia, 1976-.

253
ARCHIBALD, D.A., FARRAR, E., Queen's Univ. (Geological Sciences):
An isotopic study of granitoid rocks associated with W-skarn, Selwyn Mountains, Yukon and Northwest Territories, 1985-.

254
ARCHIBALD, D.A., FARRAR, E., CARMICHAEL, D.M., JOURNEAY, J.M., Queen's Univ. (Geological Sciences):
An isotopic study of the west flank of Frenchman's Cap dome, southeastern British Columbia, 1983-.

255
ARCHIBALD, D.A., FARRAR, E., CLARK, A.H., SEAL, R., Queen's Univ. (Geological Sciences), Univ, Michigan (Geological Sciences):
A K-Ar and $^{40}Ar/^{39}Ar$ study of the Lake George antimony deposit, southern New Brunswick, 1983-89; M.Sc. thesis (Seal).

256
ARCHIBALD, D.A., FARRAR, E., HANES, J.A., Queen's Univ. (Geological Sciences):
An $^{40}Ar/^{39}Ar$ study of the Kapuskasing structural zone, northern Ontario, 1979-.

An isotopic study of the sheared eastern margin of the KSZ is in progress. A regional-scale, isotopic transect of the KSZ and neighbouring regions has been initiated as part of LITHOPROBE.

257
ARCHIBALD, D.A., FARRAR, E., HELMSTAEDT, H., HALL, D., SCHULZE, D., Queen's Univ. (Geological Sciences):
An $^{40}Ar/^{39}Ar$ investigation of the age of kimberlites and the thermal history of their xenoliths, southeastern British Columbia, 1985-.

258
ARCHIBALD, D.A., FARRAR, E., IRVING, E., WOODSWORTH, G.J., Queen's Univ. (Geological Sciences), Geol. Surv. Can.:
$^{40}Ar/^{39}Ar$ thermal and paleomagnetic studies of the Smith Island Gabbro, British Columbia, 1985-89.

259
ARCHIBALD, D.A., FARRAR, E., MOUNTJOY, E., Queen's Univ. (Geological Sciences), McGill Univ. (Geological Sciences):
A K-Ar and $^{40}Ar/^{39}Ar$ study of metamorphic rocks near the Purcell thrust, southeastern British Columbia, 1983-.

260
ARCHIBALD, D.A., SCHIARIZZA, P., WYNNE, P.J., Queen's Univ. (Geological Sciences), British Columbia Ministry Energy, Mines, Petrol. Res., Geol. Surv. Can.:
$^{40}Ar/^{39}Ar$ study of igneous rocks in the Taseko Lakes-Bridge River area, British Columbia, 1987-.
See:
Preliminary report on $^{40}Ar/^{39}Ar$ geochronology of the Warner Pass, Noaxe Creek and Bridge River map areas (92 O/3, 2; 92 J/16); British Columbia Ministry Energy, Mines, Petrol. Res., Paper 1989-1, 1989.

To establish the timing of volcanism, mineralization and alteration related to small, shallow-level plutons in the area, and to investigate the thermal history of amphibole-bearing rocks in the Bridge River terrane.

261
ARCHIBALD, D.A., TAYLOR, R., FARRAR, E., Queen's Univ. (Geological Sciences), Carleton Univ. (Geology):
$^{40}Ar/^{39}Ar$ study of the Mt. Pleasant area, New Brunswick, 1985-.

262
ARMSTRONG, R.L., FRIEDMAN, R.M., GHOSH, D.K., VAN DER HEYDEN, P., Univ. British Columbia (Geological Sciences):
Southern Cordilleran Transect-geochron, radiogenic isotopes, and tectonics, 1975-.
See:
Eocene extensional tectonics and geochronology of the southern Omineca Belt, British Columbia and Washington; Tectonics, vol. 7, p. 181-212, 1988.

U-Pb, Rb-Sr, and K-Ar dating of magmatic rocks in southern B.C. (49°53°N) is continuing. Paleozoic metamorphism and granitic plutons have turned up at several places in the Cache Creek Terrane.

263
ARMSTRONG, R.L., GHOSH, D.K., VAN DER HEYDEN, P., PARRISH, R.R., Univ. British Columbia (Geological Sciences):
Basement under Quesnellia, 1975-.

U-Pb and Sm-Nd dating of Proterozoic basement exposures between the Kootenay Arc and Okanagan Valley is in progress. Indirect evidence arises from U-Pb, initial Sr, and initial Nd for granitic rocks in the region.

264
BAADSGAARD, H., Univ. Alberta (Geology):
Rb-Sr and K-Ca isotopic variations in salt minerals from the Lanigan mine, Saskatchewan, 1987-90.

The latest recrystallisation of salts in the ore-zone of the PCS Lanigan salt mine in Saskatchewan is under investigation by Rb-Sr and K-Ca isotope methods. The highly purified carnallites should reveal a Pleistocene age, if indicated. Material collected and separated.

265
BAADSGAARD, H., BEATTY, O., KOWALL, W., Univ. Alberta (Geology, Anthropology):
Forensic archeology by lead isotope measurement, 1987-91; Ph.D. thesis (Kowall).

Pb isotope analysis of lead from the Franklin men (bones, hair, tissue) is identical with that from solder in their food tins. Pb isotopes on control samples of eskimo bones, caribou is completely different. The Franklin expedition was poisoned by its own tinned food supplies.

266
BAADSGAARD, H., CAVELL, P.A., Univ. Alberta (Geology):
Age and genesis of the Kaminak Lake alkaline complex, N.W.T., 1987-91.

Field investigation and sampling completed in summer 1988. Chemical analysis of lithologies underway – U-Pb, Rb-Sr, Sm-Nd analyses in progress.

267
BAADSGAARD, H., CERNY, P., Univ. Alberta (Geology), Univ. Manitoba (Earth Sciences):
Isotope systematics of pegmatite formation in the Winnipeg River pegmatite fields, Manitoba, 1988-91.

Over 100 samples of various pegmatite minerals have been collected from 8 separate pegmatite occurrences. At least three separate events seem to be emerging from the isotopic evidence by Rb-Sr, Pb-Pb and V-Pb measurements. Complex metamoprhic processes are indicated.

268
BAADSGAARD, H., CONNOLLY, C.C., Univ. Alberta (Geology):
Sr isotope variation in diagenetic mineral reactions – Viking Formation, Alberta, 1986-89; Ph.D. thesis (Connolly).

Two-thirds of thesis work is completed. The final work on diagenetic source materials and products is yet to be done, but Sr isotope studies of the limestones and brines is completed.

269
BAADSGAARD, H., LERBEKMO, J.F., WIJBRANS, J.R., Univ. Alberta (Geology):
Time of emplacement of the Snakebite Bentonites, southwestern Saskatchewan, 1987-90.

U-Pb on zircon, Rb-Sr on biotite-sanidine and K-Ar dating on biotite, sanidine and plagioclase will give a multi-method age for the Campanian-Maastrichthian boundary. U-Pb and Rb-Sv completed with concordant camp Hs; K-Ar to follow.

270
BAADSGAARD, H., NUTMAN, A.P., FRIEND, C., Univ. Alberta (Geology), RSES, Australia, Univ. London:
Genesis and evolution of the Ikkattoq Gneiss, Nuuk region, west Greenland, 1984-91.

The Ikkattoq gneiss is a major new (allochthonous) lithology in the Nuuk region of West Greenland. Current results show it to be strongly mixed with older crustal material and it will be difficult to precisely sort out its genesis.

271
BAKSI, A.K., FARRAR, E., ARCHIBALD, D.A., Queen's Univ. (Geological Sciences):
The precise dating of episodes of flood basalt volcanism, 1987-89.

272
CHARUSIRI, P., FARRAR, E., CLARK, A.H., ARCHIBALD, D.A., Queen's Univ. (Geological Sciences):

Geochronology and metallogeny of Sn-W mineralization in Thailand, 1986-89; Ph.D. thesis (Charusiri).

273
CHEILLETZ, A., FARRAR, E., CLARK, A.H., Queen's Univ. (Geological Sciences):
Petrologic and geochronologic study of Sn/W enrichment of the Macusani volcanics, Peru, 1988-89.

274
DOIG, R., McGill Univ. (Geological Sciences):
The age of the Morin Anorthosite, Québec, 1987-89.

The Morin Anorthosite has no significant gabbroic components, making the search for zirconium minerals especially difficult. Of many samples tested, one contained large, clear, low-uranium zircons. Aliquots of these yield ages of 1150.1 to 1154.0 Ma. The marginal phase of quartz-monzodiorite (jotunite) yields a short discordia to 1148 ± 1 Ma, but with a negative lower intercept. The geographically associated granites (mangerite) are clearly younger (1130 Ma).

275
DOIG, R., McGill Univ. (Geological Sciences):
U-Pb geochronology, Cobequid Highlands, Avelon Terrane, Nova Scotia, 1988-90.

The Avelon Terrane consists of late Precambrian, mainly volcanic rocks, that may be an exotic component of the Appalachian orogen. The primary objective is to date gneisses in Nova Scotia and New Brunswick interpreted to be basement to the Avalonian supracrustal rocks, so as to link, or contrast, different parts of the Avelon terrane. A 734 ± 3 Ma date has been obtained for orthogneiss of the Great Village River Complex. Preliminary data for younger plutons considered to be of Carboniferous age suggest that they may be similar in age to the Late Devonian South Mountain batholith of the Meguma Terrane.

276
EASTON, R.M., Ontario Geol. Surv.:
Isotopic age compilation of Ontario, 1983-.

Initial compilation were completed and published in 1987. Compilation work is continuing with revisions of maps and reports planned for late 1989 – early 1990 release.

277
FARRAR, E., ANDERSON, A., CLARK, A.H., Queen's Univ. (Geological Sciences):
$^{40}Ar/^{39}Ar$ geochronology of the Kamativi Sn pegmatites, Zimbabwe, 1988-89; Ph.D. thesis (Anderson).

278
FARRAR, E., ARCHIBALD, D.A., CLARK, A.H., Queen's Univ. (Geological Sciences):
The timings of tungsten and tin mineralization, Korea, 1979-89.

279
FARRAR, E., YAMAMURA, B., CLARK, A.H., Queen's Univ. (Geological Sciences):
$^{40}Ar/^{39}Ar$ age data for magmatism and tungsten-polymetallic mineralization, Palca 11, Peru, 1988-89; M.Sc. thesis (Yamamura).

280
FRIEDMAN, R.M., ARMSTRONG, R.L., Univ. British Columbia (Geological Sciences):
Southern Coast Plutonic Complex – U-Pb geochronometry, 1988-90.

Collections from 1988 summer are being dated.

281
GHOSH, D.K., ARMSTRONG, R.L., Univ. British Columbia (Geological Sciences):
Whitehorse, Yukon regional geochronometry, 1988-89.

U-Pb, Rb-Sr, and K-Ar dating of intrusive, volcanic, and metamorphic rocks is in progress. Sample localities lie between Whitehorse and the Coast Mountains.

282
HEAH, T., ARMSTRONG, R.L., Univ. British Columbia (Geological Sciences):
Structure, metamorphism, and geochronometry in the Coast Plutonic Complex, Shames River area, British Columbia; M.Sc. thesis (Heah).

Field work will start in 1989 summer.

283
HEINRICH, S., FARRAR, E., CLARK, A.H., PARRISH, R.R., ARCHIBALD, D.A., Queen's Univ. (Geological Sciences):
Detailed geochronology of the Zongo section of the Zongo-San Gaban Zone, Bolivia, 1984-88; M.Sc. thesis (Heinrich).

284
HUNTLEY, D.J., GODFREY-SMITH, D.I., Simon Fraser Univ. (Physics):
Optical dating of sediments, 1984-; Ph.D. thesis (Godfrey-Smith).

285
HUNTLEY, D.J., GODFREY-SMITH, D.I., McMULLAN, W.G., THEWALT, M.L.W., Simon Fraser Univ. (Physics):
Recombination spectra of feldspars and zircons relevant to optical dating, 1988-89.

286
HUNTLEY, D.J., PRESCOTT, J.R., HUTTON, J.T., Simon Fraser Univ. (Physics), Univ. Adelaide (Physics):
Thermoluminescence dating of a sequence of stranded beach dunes in southeast South Australia, 1982-.

287
LANGRIDGE, R., FARRAR, E., CLARK, A.H., Queen's Univ. (Geological Sciences):
Paleomagnetic/geochronologic study to assess the tectonic history of southern Peru, 1982-89; Ph.D. thesis (Langridge).

288
MATHEWS, W.H., ROUSE, G.E., Univ. British Columbia (Geological Sciences, Botany):
Geochronology and palynological analyses of Tertiary rocks from the Nechako and Chilcotin basins of central British Columbia.
See:
Palynology and geochronology of Eocene beds from Cheslatta Falls and Nazko areas, central British Columbia; Can. J. Earth Sci., vol. 25, p. 1268-1276, 1988.

289
MORTENSEN, J.K., Geol. Surv. Can.:
Geochronological and field studies, northern Cordillera and Canadian Shield, 1988-92.

290
SIMONETTI, A., DOIG, R., McGill Univ. (Geological Sciences):
U-Pb and Rb-Sr study of granitic rocks of the southern Québec Appalachians, 1986-88; M.Sc. thesis (Simonetti).

Devonian granitic plutons of the southern Québec Appalachians occur in a cluster, subadjacent to a belt of more widespread plutonism in northern New England. Precise (concordant) U-Pb ages on zircon, titanite and monazite yield two age groups of 374 to 377 Ma (Winslow, Aylmer, Ste-Cécile) and 383 ± 3 (Lac aux Araignées). Rb-Sr data indicate a lower continental crust derivation (initial ratios of 0.706 or greater) and/or high-level contamination by host-rock fluids, because of much scatter on the isochron plots. Where scatter is least, the Rb-Sr date is within 5 Ma of the U-Pb date.

291
SUN MIN, ARMSTRONG, R.L., LAMBERT, R. ST.J., Univ. British Columbia (Geological Sciences), Univ. Alberta (Geology):
Geochronometry and petrochemistry of Precambrian rocks, Liaoning Province and nearby areas, north China; 1986-90; Ph.D. thesis (Sun).

Collecting and analytical work largely complete. U-Pb dating to be done. Paper on Shanxi Province results is in preparation.

292
TULYATID, J., FARRAR, E., CLARK, A.H., Queen's Univ. (Geological Sciences):
Geochronology of the Huahin and related areas, Thailand, 1988-; M.Sc. thesis (Tulyatid).

293
TUREK, A., KELLER, R., VAN SCHMUS, W.R., Univ. Windsor (Geology):
Geochronology of the Rice Lake area, southeastern Manitoba, 1986-89.

294
TUREK, A., KELLER, R., VAN SCHMUS, W.R., Univ. Windsor (Geology):
Geochronology of the Mishibishu Greenstone Belt, northwestern Ontario, 1987-89; M.S. thesis (Keller).

U-Pb ages for the Mishibishu Greenstone Belt near Wawa, Ontario.

295
VAN BREEMEN, O., Geol. Surv. Can.:
Isotopic age determinations and radiogenic trace element studies of rocks and minerals, 1983-.

296
WESTGATE, J., STEMPER, B., Univ. Toronto (Geology):
Fission-track ages of distal tephra beds in the Gold Hill Loess, interior Alaska, 1987-89; M.Sc. thesis (Stemper).

See:
Age of the loess record in interior Alaska: Dating distal tephra beds by the isothermal plateau fission-track method; 6th Internatl. Fission Track Dating Workshop, Abstract Vol. p. C1-6(0), 1988.

Dating hydrated volcanic glass shards of felsic composition by a variant of the 30 thermal plateau fission-track method; ibid., p. C1-2(0), 1988.

Isothermal plateau f-t age of the late Pleistocene Old Crow tephra, Alaska; Geophysical Res. Letters, vol. 15, p. 376-379, 1988.

297
XUE XIANYU, SCARFE, C.M., BAADSGAARD, H., Univ. Alberta (Geology):
Geochemical and isotopic studies of ultramafic xenoliths from West Kettle River, British Columbia, 1986-88; M.Sc. thesis (Xue).

A systematic geochemical and Nd, Sr, O isotopic study has been attempted on ultramafic xenoliths from a Pliocene basanitoid flow at West Kettle River to increase our understanding of the nature and evolution of the upper mantle beneath southern British Columbia.

298
ZODROW, E.L., University College of Cape Breton (Geology):
Tonstein ages for the Sydney Coalfield, Nova Scotia, 1988-.

As large-scale volcanism is evident in Carboniferous coalfields of Europe and the eastern USA, it is assumed that volcanic ash should also have been deposited here in Sydney. This has lead to a search for identifying altered volcanic bands. It appears that the best chances involve coal seams of older age in which tonstein can be found. Very precise ages can be obtained from it by Ar methods.

GEOLOGICAL COMPUTER APPLICATIONS/APPLICATIONS DE L'INFORMATIQUE À LA GÉOLOGIQUE

299
BERMAN, R.G., Geol. Surv. Can.:
Development of thermodynamic models and software for accurate geothermobarometry, 1988-94.

300
BRODARIC, B., FYON, J.A., Ontario Geol. Surv.:
Field based digital mapping and data retention system development, 1987-89.
See:
Field implementation of a developmental computer-based digital mapping and data storage system; Ontario Geol. Surv., Misc. Paper 141, p. 378-380, 1988.

A microcomputer oriented system intended for map construction and data archiving using AutoCAD cartographic software and the dBase database environment. Geological data are collected and stored into the computer, in the field, resulting in daily map and database growth. Project still under development.

301
CHUNG, C.F., Geol. Surv. Can.:
Development of computer-based statistical techniques applicable to regional geological and mineral deposit data, 1975-.

302
HOLM, P.E., Univ. Windsor (Geology):
Petrogenetic applications of spreadsheet software, 1987-90.
See:
Petrogenetic modelling with a spreadsheet program; J. Geol. Education, vol. 36, p. 157-159, 1988.

303
JONES, L.D., BORSHOLM, C.B., British Columbia Ministry Energy, Mines, Petrol. Res.:
MINFILE, 1984-.

MINFILE is the Geological Survey Branch's computerized mineral inventory and geology database of over 10,000 mineral occurrences in British Columbia. Coding of the database is 54% complete, of which 20% is released. Planned for 1989-90 is the coding of 3000 occurrences and the release of 22 map sheets, amounting to 43% of the Province. MINFILE/pc, a search and report for the personal computer, will be enhanced with a data entry module.

304
RICHARDSON, R.J.H., KRZANOWSKI, R.M., CHAO, D.K., Alberta Research Council (Geological Survey):
Coal Geology GeoScience Information System pilot study, 1987-89.

The coal data base's prime function is to support the coal-related information requirements of the Alberta Geological Survey's Coal Geology Group as well as industry and government. The consolidation and integration of data produced by the Coal Geology Group since 1983 was an important objective of the project. The data base must also provide a centralized collection of coal geoscience data in a consistent format, regardless of the source of the data, while simultaneously archiving costly-to-obtain data.

305
TESKEY, D.J., Geol. Surv. Can.:
Development of regional geophysical data processing and interpretation methods, 1982-.

306
ZODROW, E.L., University College of Cape Breton (Geology):
Emending *Pecopteris acadica* Bell, 1962, 1987-.

Granted that the eye can detect differences in lateral veination in general, an attempt is made to be more objective in pecopterid taxonomy. Accordingly, frequency analysis is applied to species which show fascicles and no mid-vein in an attempt to taxonomically delimit Bell's species from surrounding taxa with which it shares similarities.

307
AGTERBERG, F.P., Geol. Surv. Can.:
Probability models for estimating mineral potential and for geoprocessing, 1969-.
See:
Application of recent developments of regression analysis in regional mineral resource evaluation; NATO Advanced Sci. Instit. Ser. C: Mathematical and Physical Sci., vol. 223, p. 1-28, 1988.

Spatial analysis of patterns of land-based and ocean-floor ore deposits; ibid., p. 283-299, 1988.

Recent developments in quantitative stratigraphy; Earth-Science Rev., vol. 25, no. 1, p. 1-73, 1988.

Spatial and multivariate analysis of geochemical data from metavolcanic rocks in the Ben Neves area, Ontario; Internat. Assoc. for Mathematical Geol., vol. 20, no. 7, p. 825-861, 1988.

308
BOHMAN-CARTER, G.F., Geol. Surv. Can.:
Geomathematical applications in the integration of geoscience map data, 1983-.
See:
Numerical procedures and computer program for fitting on inverted Gaussian model to vegetation reflectance data; Computers and Geosciences, vol. 14, no. 3, p. 339-356, 1988.

Integration of geological datasets for gold exploration in Nova Scotia; Photogrammetric Engineering and Remote Sensing, vol. 54, no. 11, p. 1585-1592, 1988.

Lineament analysis of Cobquid Highlands, Nova Scotia, using Seasat, Landsat and Spot data; Proc. 11th Can. Symp. on Remote Sensing, p. 311-328, 1989.

309
GRADSTEIN, F.M., Geol. Surv. Can.:
Quantitative stratigraphy in paleo-oceanography and petroleum basin analysis, 1985-.

310
JOWETT, E.C., ROBIN, P-Y. F., Univ. Waterloo (Earth Sciences), Univ. Toronto (Geology):
Orientation data on the sphere – statistical analysis, 1985-.
See:
Statistical significance of clustered orientation data on the sphere: an empirical derivation; J. Geol., vol. 96, p. 591-599, 1988.

To develop a theoretical statistic that characterizes the significance of clusters of orientation data points – we have developed an empirial (Monte Carlo simulation) statistic, but no one has yet developed a theoretical statistic.

311
MARCOTTE, D., DAVID, M., École Polytechnique (Génie minéral):
Relations théoriques entre trend surface et fonctions aléatoires intrinsèques d'ordre k, 1987-88.
See:
Trend surface analysis as a special case of IRF-k Kriging; Mathematical Geol., vol. 20, no. 7, 1988.

L'article montre que le krigeage inclut le trend surface analysis comme cas très particulier.

312
MELLINGER, M., Saskatchewan Research Council (Data Analysis Group):
Usage of multivariate data analysis techniques for the interpretation of geological and geochemical data, 1981-.

Emphasis is on multivariate descriptive data analysis, extracting models from the data. The main technique used is correspondence (factor) analysis with relevant data recording schemes. Other techniques used are classification methods.

313
STANLEY, C.R., SINCLAIR, A.J., Univ. British Columbia (Geological Sciences):
Comparison of data classification procedures in applied geochemistry using Monte Carlo simulation, 1984-88; Ph.D. thesis (Stanley).

GEOMORPHOLOGY/GÉOMORPHOLOGIE

314
DUBOIS, J-M.M., NADEAU, L., LESSARD, G., Université de Sherbrooke (Géographie et Télédétection):
Géomorphologie et évolution littorales de la Côte Nord du Saint-Laurent et de l'île d'Anticosti, Québec, 1976-89.
Voir:
Flèches transversales de plate-forme rocheuse à l'île d'Anticosti, Québec; Le Géographe Canadien, vol. 33, p. 98-107, 1989.

315
DUBOIS, J-M.M., PROVENCHER, L., Université de Sherbrooke (Géographie et Télédétection):
Géomorphologie des littoraux lacustres et fluviaux et essai de télédétection, 1980-89.
Voir:
Télé-interprétation de la dynamique fluviale par les méthodes analogique et numérique; Université de Sherbrooke, 1988, 155 p.

Télé-interprétation de l'habitat du saumon atlantique pour la restauration des rivières; Université de Sherbrooke, 1989, 31 p.

Erosion des berges de la rivière Moisie; Université de Sherborrke, 1988, 9 p.

Délimitation du lac Louise (Weedon) et de la rivière Saint-François; Université de Sherbrooke, rapport au Ministère de la Justice du Québec, 1989, 6 p.

La télé-interprétation: un outil au service des amateurs d'eau vive; Annales de l'ACFAS, vol. 56, p. 109, 1988.

Airphoto interpretation for the evaluation of Atlantic Salmon habitat for river restauration; 2nd Symp. on the Ecology of Fluvial Fishes, Lòdz, Pologne, 1988.

316
DYKE, L.D., MICHAUD, Y., Queen's Univ. (Geological Sciences):
The mechanics of bedrock frost heaving in permafrost regions, 1986-90; Ph.D. thesis (Michaud).

To determine the mechanism responsable for frost-heaved bedrock features. Field and laboratory data are used to identify the main factors.

317
FORBES, D.L., Geol. Surv. Can.:
Morphology, sedimentology, and dynamics of Newfoundland coast, 1981-.

318
HEGINBOTTOM, J.A., Geol. Surv. Can.:
Geomorphic processes, Mackenzie Valley – Arctic Coast, 1968-.

319
HICKIN, E.J., BRIERLEY, G., BROOKS, G., SICHINGABULA, H., Simon Fraser Univ. (Geography):
Geomorphic control of sediment supply and river behavior in the British Columbia coastal mountains, 1988-; Ph.D. theses (Brierley, Brooks, Sichingabula).
See:
The geomorphic impact of the catastrophic October flood on the plan form of Squamish River, southwestern British Columbia; Can. J. Earth Sci., vol. 25, p. 1078-1087, 1988.

Ongoing project on the fluvial geomorphology and sedimentology of British Columbia coastal rivers and estuaries.

320
LAURIOL, B., Université d'Ottawa (Géographie):
Les karsts du nord du Yukon-Canada, 1983-.
See:
Topoclimatic zones and ice dynamics in the caves of the northern Yukon; Arctic, vol. 41, no. 3, p. 215-220, 1988.

Les terraces de cryoplanation dans le nord du Yukon-Canada; Géographie physique et quaternaire, vol. 42, no. 3, p. 303-314, 1988.

Notre objectif est d'étudier les phenomènes periglaciaires actuels associés aux cavernes du nord du Yukon dans le but de mieux interpreter le paleoforme de tirage ou la segregation de glace trouvées dans le cavernes temjerées. On pourrait epayer de cette faconde déterminer la profondun et les limites méridionales du pergelisol en Amèrique du Nord et en Europe.

321
LEWKOWICZ, A.G., STOKER, K.J.L., Univ. Toronto (Erindale College-Geography):

Influence of climate on earth surface processes, Arctic Canada, 1988-; M.Sc. thesis (Stoker).

To assess the current climatic influences on geomorphic processes in order to predict the effects of future climatic change in permafrost areas.

322
ROBERTS, M.C., Williams, H.F.L., JOL, H., Simon Fraser Univ. (Geography):
Depositional sequences and facies architecture of Fraser River delta, British Columbia, 1983-; Ph.D. thesis (Williams), M.Sc. thesis (Jol).

See:
The seismic facies of a delta onlapping an offshore island: Fraser River delta, British Columbia; Can. Soc. Petrol. Geol., Mem. 15, p. 137-142, 1988.

GEOPHYSICS/GÉOPHYSIQUE

ELECTRICAL/MÉTHODES ÉLECTRIQUES

323
BOERNER, D.E., Geol. Surv. Can.:
Electromagnetic studies in the Gaspé Peninsula, Quebec, 1988-89.

324
CHAKRIDI, R., CHOUTEAU, M., MARESCHAL, M., École Polytechnique (Génie minéral):
Interprétation des données magnétotelluriques de régions à géologie complexe, 1987-90; thèse de doctorat (Chakridi).

Mise au point d'une technique permettant d'éliminer les effets des hétérogeneités de surface.

325
CHOUTEAU, M., BOUCHARD, K., École Polytechnique (Génie minéral):
Evaluation par méthodes géophysiques de la qualité des microgabbros comme pierre de taille, 1988.
Voir:
Geophysical evaluation of microgabbro for dimension stone, Uruguay; 51e congrès annuel de l'EAEG, Berlin-Ouest, Allemagne Fédérale, 29 mai – 2 juin, 1989.

Tentative d'utilisation de la résistivité D.C., du magnétisme et de la sismique réfraction comme outils d'évaluation du degré d'altération et de fracturation de dykes de microgabbro noir utilisé comme piere de taille.

326
DELAURIER, J.M., Geol. Surv. Can.:
Mangetotelluric depth sounding over western Cordillera, 1987-.

327
DYCK, A.V., Geol. Surv. Can.:
Borehole geophysics (electrical and magnetic techniques), 1974-.

328
EDWARDS, R.N., EVERETT, M.E., Univ. Toronto (Physics):
3/2-D finite element analysis of transient electromagnetic exploration of the seafloor, 1987-90; Ph.D. thesis (Everett).
See:
Interpretation of seafloor electromagnetic data in applied geophysics; Proc. ISEM, Japan 1988, Internat. J. appl. electromagnetics in materials, vol. 1, 1989.

We are currently involved with: electrical expression of axial magma chambers, an investigation of EM response of magma chambers at a typical midocean ridge using finite element analysis.

329
EDWARDS, R.N., FERGUSON, I.J., KWAN, C.H., Univ. Toronto (Physics):
Numerical modelling of thin sheet conductors, 1987-89; M.Sc. thesis (Kwan).
See:
A novel method for computing the EM response of a conductive plate in a conductive host (Astract); SEG 58th Annual Internat. Exposition, Oct. 30 - Nov. 3, 1988.

Existing thin sheet solutions tend to fail to generate strong vortex in resistive medium. We developed a novel plate, whose solution can describe the channeling and vortex currents equally well in condutive medium.

330
EDWARDS, R.N., UTADA, H., LAW, L.K., FERGUSON, I.J., Univ. Toronto (Physics):
Controlled source EM sounding beneath Georgia Strait, 1988-.

To determine the conductivity structure of the shallow crust beneath Georgia Strait. A preliminary survey has confirmed the feasibility of the method and a more detailed survey is planned for June 1989.

331
HANNESON, J.E., HUXTER, R.S., Ontario Geol. Surv.:
Detection and mapping of basement conductors under areas covered by thick Huronian sedimentary rocks, Ontario, 1986-90.
See:
UTEM Profile Data (1987), Cobalt Geophysical Research Project, Cobalt ara, District of Timiskaming, Ontario: Ontario Geol. Surv., Maps P.3133, P.3141, Geophysical Series-Preliminary maps, scale 1:20 000, 1989.

The detection and mapping of basement conductors under areas covered by thick Huronian sedimentary rocks, District of Timiskaming; Ontario Geol. Surv., M.P. 141, p. 464-469, 1988.

During the 1988 field season, a project to research the potential for detecting and tracing conductive strata in Precambrian rocks under thick Huronian sediments continued. Approximately 110 km of gravity and 80 km of transient electromagnetic coverage was completed at 50 m intervals near the town of Cobalt, Ontario. A further 95 km of transient electromagnetic data and 8 km of EM sounding experiments were completed during the Fall of 1988. Field surveying on this project followed extensive computer modelling and field orientation so as to optimize surveying parameters and procedures.

332
JONES, A.G., Geol. Surv. Can.:
Electromagnetic studies of the Canadian landmass and adjacent offshore regions, 1987-.
See:
Magnetotelluric observations along the LITHOPROBE southeastern Canadian Cordilleran transect; Geophys. Res. Letters, vol. 15, no. 7, p. 677-680, 1988.

Static shift of magnetotelluric data and its removal in a sedimentary basin environment; Geophysics, vol. 53, no. 7, p. 967-978, 1988.

333
KNIGHT, R., KNOLL, M., Univ. British Columbia (Geological Sciences):
The use of ground penetrating radar for contaminant detection, 1989-; Ph.D. thesis (Knoll).

334
LAW, L.K., Geol. Surv. Can.:
Electromagnetic soundings of specific onshore and offshore regions in Western Canada, 1986-.

335
LEFEBVRE, D.L., GRAVEL, C., BOIVIN, R., Ministère de l'Énergie et des Ressources du Québec:
Vérification d'anomalies EM dans la Fosse du Labrador, Québec, 1988-89.

Les mesures de terrain ont été effectuées en août – septembre '88. L'analyse des données est en cours et un rapport sera rédigé pour le mois d'avril '89.

336
THEVENIN, J., CHOUTEAU, M., École Polytechnique (Génie minéral):
Interprétation de sondages magnétotelluriques à travers la ceinture de l'Abitibi, 1985-89.

Un levé de sondage MT a été effectué en 1983 à travers la ceinture volcanique de l'Abitibi, afin de construire un modèle géotectonique pour l'origine et l'évolution de la région. On propose une méthode de correction des courbes de sondage qui réduit l'effet statique, et on propose un modèle bidimensionnel.

EXPLORATION/PROSPECTION

337
CHARBONNEAU, B.W., Geol. Surv. Can.:
Integrated airborne geophysical surveys, N.W.T., 1988-90.

338
CHOUTEAU, M., BOUCHARD, K., École Polytechnique (Génie minéral):
Cartographie de galleries à l'aide de la géophysique – Applications à Salacta (Tunisie), 1988-89.
Voir:
La géophysique appliquée à la détection des catacombes; Chapitre 4, Cahiers des Etudes Anciennes XXII, Sellecthum I, Univ. du Québec à Trois-Rivières, décembre, 1988.

Détection of Catacombs in Salacta (Tunisia), using microgravity, magnetic, EM and resistivity methods; 51e congrès annuel de l'EAEG, Berlin-ouest, Allemagne Fédérale, 29 mai - 2 juin, 1989.

Nous avons évalué les possibilités de cartographier des gallènes (catacombes) creusées à 2 m de profondeur à l'aide des méthodes géophysiques. Ces travaux ont montré la grande utilité de la micro-gravimétrie et l'apport intéressant de la conductivité EM.

339
CHOUTEAU, M., MARCOTTE, D., BRODEUR, P., École Polytechnique (Génie minéral):
Interprétation de signaux TBF (très basse fréquence) par reconnaissance de forme, 1988; thèse de maîtrise en science (Brodeur).

Il s'agit de développer une méthode d'interprétation quantitative de signaux TBF par classification statistique. Cette méthode est déjà éprouvée en sismique mais n'a jamais été appliquée à une méthode électromagnétique. Mes cours sont terminés, j'achève les lectures et je prévois encore 1 an pour terminer ma maîtrise.

340
EDWARDS, R.N., CHEESMAN, S.J., Univ. Toronto (Physics, Geophysics):
Transient EM Systems for use on the Ocean Floor, 1985-89; Ph.D. thesis (Cheesman).
See:
On the theory of sea-floor conductivity mapping using transient electromagnetic systems; Geophysics, vol. 52, no. 2, p. 204-217, 1988.

A novel transient EM system, 50 m in spread, was constructed using a coaxial magnetic transmitter and receiver. The first test of the system was conducted in January, 1988 and produced data which provided a direct measurement of the conductivity of the seafloor sediments, despite the fact that the sea water is substantially more conductive.

341
FERGUSON, I.J., EDWARDS, R.N., Univ. Toronto (Physics):
EM sounding beneath Georgia Strait using converted-mode magnetotelluric method with a high-sensitivity seafloor magnetometer, 1988-.
To determine the electrical conductivty structure of the crust beneath Georgia Strait. Construction of the high-sensitivity magnetometer will be completed in 1989 and subsequent seafloor soundings are planned.

342
MACNAB, R.F., Geol. Surv. Can.:
East coast poetntial fields, 1973-.

343
QUENNEVILLE J., CHOUTEAU, M., École Polytechnique (Génie minéral):
Interprétation des données TBF par filtrage Wiener à multiples canaux, 1987-89; thèse de maîtrise en science (Quenneville).
See:
Multichannel digital filters applied to VLF data interpretation; 51e congrè annuel de l'EAEG, Berlin-ouest, Allemagne Fédérale, 29 mai – 2 juin, 1989.

Progress in automatic VLF interpretation; Can. Geophysical Union 16th Ann. General Meeting, Montreal, May 17-19, 1989.

Une technique d'interprétation semi-automatique des données TBF a été développée. Elle fait appel aux filtres multicanaux de Wiener. Pour détecter le type de réponse recherchée, un filtre est établi et son apliction isole l'anomalie au lieu où elle est recontrée dans le levé.

344
VALLEE, M.A., CHOUTEAU, M., PALACKY, G., École Polytechnique (Génie minéral):
Améliorations à la technique de VLF aéroporté, 1987-89; thèse de doctorat (Palacky).

Notre étude porte sur les problèmes reliés à la mesure du champs magnétique total émis par des stations VLF et à son utilisation comme outil de cartographie géologique. Dans un premier temps, nous avons mesuré les variations temporelles à l'aide de deux récepteurs dont la séparation allait jusqu'à 30 km. Ces résultats ont été analysés et nous avons développé une technique de prédiction des variations temporelles.

En ce moment, nous poursuivons une étude à l'aide de modèles numériques sur les variations spatiales du champs magnétique et sur le développement de techniques pour corriger leur influence.

GEOMAGNETISM-PALEOMAGNETISM/ GÉOMAGNÉTISME-PALÉOMAGNÉTISME

345
ARKANI-HAMED, J., McGill Univ. (Geological Sciences):
Crustal rifting in Labrador Sea: Implications to the characteristics of the ocean-continent boundary and development of sedimentary basin, 1988-.

346
BUCHAN, K.L., Geol. Surv. Can.:
Vertical movements of the Precambrian Shield, 1980-.

347
BUCHAN, K.L., Geol. Surv. Can.:
Paleomagnetism of Nipissing diabase and Abitibi dykes, Ontario and Quebec, 1982-.

348
BUCHAN, K.L., Geol. Surv. Can.:
Paleomagnetism of the Appalachian orogen of Eastern Canada, 1985-.

349
CHRISTIE, K.W., Geol. Surv. Can.:
Paleomagnetism and rock magnetism instrumentation and technological development, 1970-.

350
FAHRIG, W.F., Geol. Surv. Can.:
Paleomagnetism of Proterozoic igneous and sedimentary rocks of the Precambrian Shield, 1984-.

351
GRIEVE, R.A.F., Geol. Surv. Can.:
Aeromagnetic applications, 1988-93.

352
GUPTA, V.K., Ontario Geol. Surv.:
Magnetic and gravity maps of Ontario, 1988-91.

A compliation of reconnaissance scale gravity and magnetic data in the Province together with a summary of the major potential field geophysical anomalies began and will be completed over the next few years.

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HALL, D.H., AJAKAIYE, D.E., SEABROOK, R., Univ. Manitoba (Geological Sciences), Univ. Jos, Nigeria:
Geophysics, Benue Rift, Nigeria, 1986-89; M.Sc. thesis (Seabrook).

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HALL, D.H., MILLAR, T.W., Univ. Manitoba (Geological Sciences):
Crustal magnetization, Aulneau and Sabaskong Batholiths, northwestern Ontario, 1983-88.
See:
Crustal magnetization beneath the Aulneau and Sabaskong batholiths; Geoexploration, vol. 25, p. 61-89, 1988.

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HALL, D.H., SEABROOK, R., AJAKAIYE, D.E., Univ. Manitoba (Geological Sciences), Univ. Jos, Nigeria:
Geophysics, Benue Rift, Nigeria, 1986-89; M.Sc. thesis (Seabrook).

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HODYCH, J.P., Memorial Univ. (Earth Sciences):
Mechanisms and timing of remanence acquisition in lower Paleozoic limestones of western Newfoundland, 1987-90.
See:
Limestones of western Newfoundland that magnetized before Devonian folding but after Middle Ordovician lithification; Geophysical Res. Letters, vol. 16, p. 93-96, 1989.

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IRVING, E., Geol. Surv. Can.:
Paleomagnetic studies, 1986-.
See:
Paleomagnetism of Cretaceous volcanic rocks of the Sverdrup Basin – magnetostratigraphy, paleolatitudes, and rotations; Can. J. Earth Sci., vol. 25, no. 8, p. 1220-1239, 1988.

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KNAPPERS, W.A., Geol. Surv. Can.:
Aeromagnetic survey – Laurentian channel, 1985-.

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LERBEKMO, J.F., Univ. Alberta (Geology):
Magnetostratigraphy of the Lower Campanian in southern Alberta, 1986-89.
See:
The stratigraphic position of the 33-33r (Campanian) polarity chron boundary in southeastern Alberta; Bull. Can. Petrol. Geol., vol. 37, no. 1, 1989.

The Campanian 33-33r polarity chron boundary occurs approximately at the Foremost-Pakowki formational boundary just east of the crest of the Sweetgrass Arch.

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LERBEKMO, J.F., Univ. Alberta (Geology):
Magnetostratigraphy of the Paleocene Paskapoo Formation in the Red Deer Valley of central Alberta, 1987-89.

The Paskapoo Formation in the Red Deer Valley encompasses polarity zones 27r to 25r. The sub-Paskapoo disconformity represents polarity zones 28 and part of 28r in the Scollard Canyon area.

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LONCAREVIC, B.D., Geol. Surv. Can.:
Magnetic and gravity anomalies over sedimentary basins, 1988-92.

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PARK, J.K., Geol. Surv. Can.:
Paleomagnetic history of the Mackenzie Arc, 1986-.

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ROHR, K., Geol. Surv. Can.:
Paleomagnetic studies in western Canada.

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SEABROOK, R., HALL, D.H., Univ. Manitoba (Geological Sciences):
Geophysical modelling, Lac du Bonnet Batholith, 1988-89.

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STONE, P.E., Geol. Surv. Can.:
Aeromagnetic survey, Grand Banks, 1987-.

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SYMONS, D.T.A., LEWCHUK, M.T., PAN, H., CHIASSON, A.D., Univ. Windsor (Geology):
Paleomagnetic studies in the Precambrian and in MVT Ore Genesis, 1988-91; Ph.D. thesis (Pan), M.Sc. thesis (Lewchuk).

Paleomagnetic studies are in progress on: 1) Keweenawan alkalic intrusions in The Superior Province including the Coldwell (Lewchuk), Clay-Howells (Lewchuk), Firesand, Lackner Lake, Seabrook Lake and Chipman Lake complexes; 2) Cambrian alkalic intrusions in the Grenville Province including Callander (Chiasson) and Manitou Islands; 3) Archean granite plutons such as Kabenung Lake (Pan) in the Wawa Supborvince; 4) Mississippi Valley-type Pb-Zn deposits in the Missouri area (Pan); and 5) Permian red beds of the Pictou Group of Prince Edward Island.

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YOLE, R.W., IRVING, E., Carleton Univ. (Earth Sciences), Geol. Surv. Can.:
Paleomagnetic studies of Paleozoic and Mesozoic rocks in Cowichan Valley, Duncan area, Vancouver Island, British Columbia, 1989-91.
See:
Tectonic rotations and translations in western Canada: new evidence from Jurassic rocks of Vancouver Island; Geophysical J. Roy. Astron. Soc., vol. 91, p. 1025-1048, 1988.

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DRURY, M.J., Geol. Surv. Can.:
Thermotectonics and thermal processes of the lithosphere, 1987-.

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JESSOP, A.M., Geol. Surv. Can.:
Geothermics of sedimentary basins, 1988-91.

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LEWIS, T.J., Geol. Surv. Can.:
Heat flow studies, western Canada, 1986-.
See:
Note on the thermal structure of Queen Charlotte Basin, British Columbia; Geol. Surv. Can., Paper 89-1H, p. 121-125, 1989.

Subduction of the Juan de Fuca Plate: thermal consequences; J. Geophysical Res., vol. 93, no. B12, p. 15207-15225, 1988.

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MARESCHAL, J-C., ZHU PEI DING, LE QUENTREC, M-F., PARPHENUK, O., Université du Québec à Montréal (Sciences de la Terre):
Thermal and mechanical evolution of the lithosphere, 1986-89.
See:
Fractal reconstruction of sea floor topography; PAGEOPH., v. 131, p. 275-289, 1989.

Delamination and the development of the Thyrrenian Rift; Geol. Soc. London, Sp. Publ.: Alpine Tectonics, p. 285-302, 1989.

Comment on orogen-parallel extension and oblique tectonics: The relationship between stretching lineations and relative plate motion; Geology, v. 16, p. 857-861, 1988.

GRAVITY/GRAVITÉ

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BOYD, J.B., Geol. Surv. Can.:
Gravity mapping of Eastern Canada, 1986-.

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CHOUTEAU, M., DESCHAMPS, F., École Polytechnique (Génie minéral):
Recherche et développement de modèles géophysiques et géologiques de la région à l'ouest de Rouyn-Noranda, Québec, 1987-89.

En traitant les données gravimétriques (krigeage) et aéromagnétiques, on a produit des cartes de transformées des champs qui ont permis d'améliorer la cartographie géologique et structurale du camp minier de Rouyn et ainsi définir des aires favorables pour l'exploration minérale; le projet est au stade de la rédaction finale.

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COOPER, R.V., Geol. Surv. Can.:
Gravity mapping of Arctic Island Channels, 1986-.

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GUPTA, V.K., SUTCLIFFE, R.H., Ontario Geol. Surv.:
Gravity studies of mafic and ultramafic intrusions in the Lac des Iles area, Ontario, 1986-89.

An interpretation of recent gravity data acquired over the Archean mafic to ultramafic intrusions in the Lac des Iles area, approximately 80 km northwest of Thunder Bay has been completed. Gravity models over the main intrusion (mean density 3.13 g/cm^3) and the Tib Gabbro (mean density 2.97 g/cm^3) show these bodies to be shallow features with depth extents ranging between 3 to 5 km. The intrusions of the Lac des Iles area appear, from the results, to represent emplacements by discrete pulses of mantle-derived magma.

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LAMBERT, A., Geol. Surv. Can.:
Determination of regional and large scale deformation in Canada.

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MERRIAM, J.B., REYNOLDS, S.R., Univ. Saskatchewan (Geological Sciences):
A gravity study of a Winnipegosis mound under the Cory Potash mine, Saskatchewan, 1989-90; M.Sc. thesis (Reynolds).

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MILLER, H.G., Memorial Univ. (Earth Sciences):
Geophysical investigations of Newfoundland geology, 1980-.
See:
Geophysical interpretation of the geology of the northeast Gander Terrane, Newfoundland; Can. J. Earth Sci., vol. 25, p. 1161-1174, 1988.

Geophysical studies of the Ackley Intrusive Suite and the northeastern Gander Zone, Newfoundland; Newfoundland Dept. Mines, Report 88-3.

Geophysical framework and the Appalachian-Caledonian connection; Geol. Soc. Sp. Publ., no. 38, p. 3-20, 1988.

To examine the geophysical signatures of specific geological features, mainly in the Newfoundland portion of the Canadian Appalachians. These signatures are used in correlating with similar features elsewhere in the Appalachian-Caledonian system.

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MILLER, H.G., Memorial Univ. (Earth Sciences):
Geophysical investigations of Carboniferous basin in western Newfoundland, 1981-.
See:
Basin architecture and thermal maturation in the strike-slip Deer Lake Basin, Carboniferous of Newfoundland; Basin Research, no. 1, p. 85-105, 1988.

Part of a multidisciplinary project to investigate all aspects of the Carboniferous basins in Newfoundland. The gravity and magnetic studies are concentrating on the basin geometry, both laterally and vertically, by delineating the basement topography.

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NAGY, D., Geol. Surv. Can.:
Gravitational field modelling, analysis and interpretation techniques, 1986-.
See:
Fast Fournier transform and modelling in geoid computation; Bollettino di geodesia e scienzi affini, vol. 47, no. 1, p. 33-43, 1988.

A short program for three-dimensional gravity modelling; Acta Geodaetica, Geophysica et Montanistica, vol. 23, no. 2-4, p. 449-459, 1988.

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SEEMAN, D.A., Geol. Surv. Can.:
Gravity mapping, Canada Cordillera and Pacific Margin, 1986-.
See:
Gravity measurements over the Burnaby Island pluton, Queen Charlotte Islands, British Columbia; Geol. Surv. Can., Paper 89-1H, p. 113-115, 1989.

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VIGRASS, L.W., HUTCHENCE, K., Univ. Regina (Geology):
Investigations of gravity field in the Regina and Yorkton areas, Saskatchewan, 1988-89.

The Regina area (1800 stations) and Yorkton area (3200 stations) have been mapped to assess the effect of Winnipegosis reeef and salt solution features on the gravity field. Interpretation is in progress.

SEISMOLOGY AND PHYSICS OF INTERIOR/SISMOLOGIE ET PHYSIQUE DE L'INTÉRIEUR DE LA TERRE

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ADAMS, J.E., Geol. Surv. Can.:
Seismotectonics and seismic hazard on the eastern and northern continental margin, 1986-.
See:
Turbidites off the Oregon-Washington margin record paleo-earthquakes on the Cascadia subduction zone; Geol. Surv. Can., Paper 89-1F, p. 37-43, 1989.

Subbottom profiling of Quebec Appalachian lakes and its potential application to assessing seismic hazard; Geol. Surv. CAn., Paper 89-1B, p. 143-154, 1989.

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BROMLEY, D.S., Geol. Surv. Can.:
High resolution seismic investigations of Carboniferous rocks, Nova Scotia, 1987-.

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BURKE, K.B.S., GERD'SON, A., Univ. New Brunswick (Geology):
Historical earthquakes in the Saint John region of New Brunswick, 1988.

Five previously unlisted events were found in a search of microfilmed newspapers from the region for the period 1811 to the present. These events, together with 10 previously listed small events, suggest that the Saint John region has a sporadic but relatively minor amount of earthquake activity.

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EDWARDS, A., Geol. Surv. Can.:
Regional geophysics of Mesozoic-Cenozoic of Baffin Bay – Labrador Margin, 1985-.

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EDWARDS, A., Geol. Surv. Can.:
Montagnais "impact" geophysical investiation, 1988-89.

To investigate by geophysical methods the area of the Montagnais "impact" and to provide the basic information required to try and resolve the origin of the unique feature of the Scotian margin.

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GAGNE, R.M., Geol. Surv. Can.:
Shallow seismic, 1979-.

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GUEST, W.S., THOMSON, C.J., Queen's Univ. (Geological Sciences):
Reflected and transmitted wave modelling in anisotropic media 1988-; M.Sc. thesis (Guest).

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HAMILTON, T.S., Geol. Surv. Can.:
The geology of the Strait of Georgia, British Columbia, 1982-.

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HORNER, R.B., Geol. Surv. Can.:
Determination of Cordilleran seismicity, 1986-.
See:
Earthquakes in western Canada from January 1987 to September 1988; Geol. Surv. Can., Paper 89-1E, p. 269-273, 1989.

Low-level seismic monitoring at the Windy Craggy deposit in northwestern British Columbia, ibid., p. 275-278, 1989.

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JACKSON, H.R., Geol. Surv. Can.:
Arctic Ocean: seismic refraction and related geophysical measurements, 1978-.

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KEEN, C.E., Geol. Surv. Can.:
Marine deep seismic reflection studies-offshore eastern Canada, 1986.
See:
Upper crustal structure derived from seismic refraction experiments: Grand Banks of eastern Canada; Bull. Can. Petrol. Geol., vol. 36, no. 4, p. 388-396, 1988.

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KENDALL, J.M., THOMSON, C.J., Queen's Univ. (Geological Sciences):
Ray theory in anisotropic media, 1986-; Ph.D. thesis (Kendall).

To model a realistic subduction zone incorperating anisotropy in the model. Waveforms will be calculated using the Maslev method for anisotropic media.

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KREBES, E.S., SLAWINSKI, M.A., PARNEY, R.W., Univ. Calgary (Geology and Geophysics):
Theoretical and computational studies of seismic wave propagation in anelastic media, 1980-.

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LUDDEN, J.N., Ministère de l'Énergie et des Ressources du Québec:
Section vibroséismique expérimentale à travers le district minier de Noranda, Québec, 1988-89.

Le levé de sismique réfraction a été réalisé durant l'hiver '87-'88. Les données sont traitées par la CGC (GSC). Un article scientifique est en cours de préparation pour la revue NATURE.

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LUDDEN, J.N., GREEN, A., HUBERT, C., MAYRAND, L., Université de Montréal (Géologie):
Geological interpretation of Lithoprobe seismic line in the Noranda Mining Camp, Quebec.

Geological interpretation of LITHOPROBE seismic lines 12 and 14 across the Blake River Group of the Abitibi belt.

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LUDDEN, J.N., HUBERT, C., Université de Montréal (Géologie):
Lithoprobe studies in the Abitibi greenstone belt, Quebec.

Implications of recent seismic reflection studies on the origin and evolution of the Abitibi greenstone belt.

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MACLEAN, B.C., Geol. Surv. Can.:
Interpretation of geophysical data from the Scotian Margin and adjacent areas as an aid to basin synthesis and estimation of hydrocarbon potential, 1984-.

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MACRIDES, C.G., Univ. Manitoba (Geological Sciences):
VSP (Vertical Seismic Profile) tomographic imaging of igneous intrusion in the Canadian Shield, 1988-89.
See:
Multiborehole seismic imaging in steam injection heavy oil recovery projects; Geophysics, vol. 53, p. 65-75, 1988.

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MARILLIER, F., Geol. Surv. Can.:
Geophysical study of the Gulf of St. Lawrence region, 1988-93.

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MERRIAM, J.B., Univ. Saskatchewan (Geological Sciences):
Pressure core-mantle coupling, 1986-.
See:
Limits on lateral pressure gradients in the outer core from geodetic observations; Phys. Earth Planet. Internat. vol. 56, p. 280-290, 1988.

Planetary scale flow in the Earths' core and geodetic observations; Proc. IUGG symp. on Instability within the Earth and Core Dynamics.

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PULLAN, S.E., Geol. Surv. Can.:
High resolution seismic (equipment development), 1980-.

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REID, I., Geol. Surv. Can.:
Seismic studies of continental margins and ocean basins of the North Atlantic, 1980-.

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RICHARDSON, K.A., Geol. Surv. Can.:
Geophysical studies – Nova Scotia Mineral Development Agreement, 1984-.

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ROCHESTER, M.G., WU, W.J., PENG, Z.R., WEBB, S., Memorial Univ. (Earth Sciences):
Theoretical global geodynamics, 1961-; M.Sc. theses (Peng, Webb).
See:
Normal modes of rotating self-gravitating compressible stratified fluid bodies: the subseismic wave equation; in Proc. Canadian Applied Mathematics Conf. on Continuum Mechanics and its Applications, Hemisphere Publishing, 1988.

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ROGERS, G.C., Geol. Surv. Can.:
Seismotectonics of western Canada, 1986-.

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SATO, H., SACKS, I.S., SCARFE, C.M., Univ. Alberta (Geology), Carnegie Institut. Washington (Terrestrial Magnetism):
Laboratory measurement of seismic velocities and attenuation in peridotite at high temperatures and pressures, 1988-.
See:
Thermal structures of the low velocity zone derived from laboratory and seismic investigations; Geophys. Res. Lett., vol. 15, p. 1227-1230, 1988.

Geotherms in the Pacific Ocean from laboratory and seismic attenuation studies; Nature, vol. 336, p. 154-156, 1988.

Thermal structure of low velocity zone was estimated using laboratory seismic measurement method and seismic observations.

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SPENCER, C., Geol. Surv. Can.:
Seismological studies of the Canadian landmass and adjacent regions, 1987-.

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THOMSON, C.J., Queen's Univ. (Geological Sciences):
Short-wave diffraction theory for seismology, 1987-.

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WEICHERT, D.H., Geol. Surv. Can.:
Beaufort/Queen Charlotte Islands seismicity, 1986-.

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WEICHERT, D.H., Geol. Surv. Can.:
Beaufort seismic data reduction and seismic risk, 1988-92.

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WEICHERT, D.H., Geol. Surv. Can.:
Seismicity of active faults in Queen Charlotte area, British Columbia, 1982-92.

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WRIGHT, J.A., HALL, J., HOFFE, B., HOLMES, H., Memorial Univ. (Earth Sciences):
Deep crustal structure in western Botswana from reflection seismic profiling, 1986-90; M.Sc. thesis (Hoffe).

Deep seismic profiling in the Kalahari of western Botaswana reveals structure indicative of a continuous, though thinned, Archean Kaapvaal crust underlying the later sediments.

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YOUNG, R.P., FALLS, S., Queen's Univ. (Geological Sciences):
Acoustic emission analyses and ultrasonic imaging in the study of fracturing within rocks, 1987-; Ph.D. thesis (Falls).
See:
Acoustic emission analyses and tomographic velocity imaging in the study of failure in Brazilian discs; Proc. 30th U.S. Symp. Rock Mechanics, 1988.

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BRISTOW, Q., Geol. Surv. Can.:
Nuclear and analytical instrumentation, 1981-.

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CHUN KIN-YIP, WEST, G.F., ZHU TIANFEI, DAI, TING-FAN Univ. Toronto (Physics):
Nuclear test ban verification research, 1985-.
See:
Network calibration for Lg magnitude-method and test results from Eastern Canada; Bull. Seismological Soc. Amer., vol. 79, no. 1, p. 15-30, 1989.

Source spectral characteristics of Miramichi: earthquakes: Results from 115 P-Wave observations; ibid., p. 127-140, 1989.

This project is funded by Arms Control and Disarmament Division, External Affairs: improve the seismological capability of monitoring the compliance of future nuclear test ban treaties.

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DESCHAMPS, F., Ministère de l'Énergie et des Ressources du Québec:
Recherche et développement de modéles géophysiques pour une intégration de données géophysiques et géologiques de la région à l'ouest de Rouyn-Noranda, Québec, 1987-89.

Par une étude poussée des données géophysiques surtout, les travaux ont permis de vérifier les orientations du Groupe de Blake River vers l'ouest, de définir les structures majeures et de cartographier avec plus de précision la région de Dasserat. Le rapport final sera remis en mars 1989.

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DOIG, R., McGill Univ. (Geological Sciences):
History of seismicity from silting events in lake sediments, 1986-90.

Severe earthquakes have occurred in eastern Canada, but we have an imperfect record of the frequency because of the short period since colonization. A new method based on silting events (landslides, etc.) in lake sediments has been demonstrated for the epicentral region of Charlevoix, Québec. Work this year resulted in the identification of all known and inferred large earthquakes for the period 1535 to the present, and the dating of these using the accellerator mass-spectrometric ^{14}C method. Deeper cores obtained this year document the seismic events in the Charlevoix region for the past 2,500 years.

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DRAGERT, H., Geol. Surv. Can.:
Contemporary crustal deformation, western Canada, 1986-.

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DRAGERT, H., Geol. Surv. Can.:
Crustal strain of western Canada, 1986-.

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FORSYTH, D., Geol. Surv. Can.:
Geophysical investigations of the Canadian Arctic, 1989-.

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GREEN, A., Geol. Surv. Can.:
GLIMPCE: Geophysical investigations of the Great Lakes region, 1987.

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GREEN, A., Geol. Surv. Can.:
Lithoprobe: Geophysical investigations across key geological targets, 1987-.

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GREENHOUSE, J.P., MONIER-WILLIAMS, M., ROSS, S., Univ. Waterloo (Earth Sciences):
Geophysical surveys for contaminated groundwater, Sao Paulo State, Brazil, 1986-; M.Sc. theses (Monier-Williams, Ross).
See:
Geophysical methods in groundwater contamination studies; Exploration '87, Ontario Geol. Surv., 1988.

A cooperative programme with the University of Sao Paulo to examine existing groundwater contamination sites and to develop guidelines for evaluating contamination potential of sites in Sao Paulo State.

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GREENHOUSE, J.P., NOBES, D.C., Univ. Waterloo (Earth Sciences):
Shallow seismic reflection imaging of the overburden, Waterloo region, Ontario, 1986-.

Seismic reflection techniques are being used along the railroad right-of-ways in the Waterloo region in an attempt to accumulate detailed information on the Quaternary stratigraphy. The techniques of data collection are also being investigated.

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GREENHOUSE, J.P., NOBES, D.C., BAUMAN, P., BALFOUR, J., Univ. Waterloo (Earth Sciences):
Geophysical characterization of a 15m × 15m × 7m volume of a shallow, sandy aquifer prior to, during, and after a controlled organic solvent spill, 1988-89; M.Sc. theses (Bauman, Balfour),

A unique opportunity to study the physical and geophysical properties of an aquifer contaminated by chlorinated organic solvents. Techniques used include radar (surface and borehole) and complex resistivity. Detailed hydrogeological information will also be collected.

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GRIEVE, R., Geol. Surv. Can.:

Impact processes and evolution of the Earth's Crust, 1986-.

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GRIEVE, R., Geol. Surv. Can.:
Crustal genesis and evolution studies, 1986-.

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HUNTER, J.A., Geol. Surv. Can.:
Beaufort Sea permafrost geotechnics, 1984-.

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HYNDMAN, R.D., Geol. Surv. Can.:
Geophysical studies, western Canada, 1986-.

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KEEN, C.E., Geol. Surv. Can.:
Rift processes and the development of passive continental margins, 1980-.
See:
The continent-ocean boundary at the rifted margin off eastern Canada: new results from deep seismic reflection studies; Tectonics, vol. 7, no. 1, p. 107-124, 1988.

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KNIGHT, R., ENDRES, A., Univ. British Columbia (Geological Sciences):
Inversion of geophysical data for reservoir rock properties, 1988-; Ph.D. thesis (Endres).

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KOUBA, J., Geol. Surv. Can.:
Develop mathematical models and software to facilitate world wide satellite positioning and navigation and optimize their applications in geophysics, 1986-.

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MERRIAM, J.B., VERRALL, J., Univ. Saskatchewan (Geological Sciences):
Secular changes in the time and latitude residuals of the Bureau International de L'Heane, 1988-90; M.Sc. thesis (Verall).

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MWENIFUMBO, C.J., Geol. Surv. Can.:
Borehole geophysics applications to coal, 1982-.
See:
The symmetical lateral resistivity log in coal seam mapping, Highvale Mine, Alberta; Geol. Surv. Can., Paper 89-1D, p. 1-8, 1989.

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PALACKY, G.J., Geol. Surv. Can.:
Airborne resistivity mapping, 1985-.
See:
Resistivity characteristics of geologic targets; Investig. in Geophysics, vol. 3, no. 1, p. 53-129, 1988.

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RANALLI, G., LOWE, C., YIN ZHAOMIN, ERNST, R.E., TYRCHA, K., Carleton Univ. (Earth Sciences):
Rheology and dynamics of lithosphere and mantle, 1987-90; Ph.D. theses (Yin, Ernst), M.Sc. thesis (Tyrcha).
See:
Host creep of single crystals by bending – procedure, theory, and pilot experiment on enstatite; Phys. Earth Plant. Inter., vol. 52, p. 132-149, 1988.

Archean Ocean Flake Tectonics; Geophys. Res. Letters, vol. 15, p. 1077-1080, 1988.

Role of episodic creep in global mantle deformation; Am Geophys. Union Monograph, 1989.

Regional variations in lithosphere rheology from heat flow observations; in V. Cermak (ed.), Heat Flow and Structure of the Lithosphere, Heidelberg: Springer-Verlag, 1989.

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ROGERS, G.C., Geol. Surv. Can.:
Lithospheric structure from earthquake depth, 1987-.

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SEGUIN, M.K., ALLARD, M., PAYETTE, S., Université Laval (Géologie):
Incidence des feux de forest vis le distribution du pergélisol, 1988-89.
Voir:
Permafrost geophysical investiation at the new airport site of Kangiqsualujjuaq, northern Quebec; Proc., 5th Internat. Permafrost Conf., Trondheim, Norway, vol. 2, p. 930-938, 1988.

Shoreline permafrost in Kangiqsualujjuaq Bay, Ungava, Quebec, ibid., vol. 1, p. 113-119, 1988.

On pose l'hypothèse selon laquelle l'Âge, la nature et l'etendue du pergelisol sont a la fois contrôles par les facteurs climatiques globaux et les facturs stationnels associés a la presence d'un couvert forestîer, cette hypothèse est en train d'etre restée dans la region de riviere Boniface, P.Q., située a la limite des forêts. on determine la presence ou l'absence ou pergelisol par methodes geophysiques et forages.

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WEICHERT, D.H., Geol. Surv. Can.:
Beaufort earthquake station array, Beaufort Sea area, N.W.T., 1984-92.

GEOTECHNIQUE/GÉOTECHNIQUE

ENGINEERINGEOLOGY/GÉOLOGIE DE L'INGÉNIEUR

442
CHAGNON, J.Y., LOCAT, J., Université Laval (Géologie):
Geological evolution of the seismicity of the Charlevoix area, Québec, 1985-88.
See:
The effects of seismic activity on the soils of the Charlevoix area, Canada; Procs. Natural and Man Made Hazards Symp., p. 125-136, 1988.

The study of geomorphological and geological features in Recent deposits resulting from seismic activity (sand dykes, sand volcanoes, liquefaction features).

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CHAGNON, J.Q., LOCAT, J., Université Laval (Géologie):
Évaluation du potentiel de liquéfaction des sols par la mesure de la vitesse de propagation des ondes de cisaillement, 1987-88.

Mise ou point d'une méthode simple de mesure de la vitesse de propogation des ondes de cisaillement dans les sols granulaires basée sur l'utilisation d'un appareil portotif de réfraction.

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CHAGNON, J.Y., LOCAT, J., Université Laval (Géologie):
Développement d'une méthodologie de microzonage sismique applicable aux régions urbaines du Canada, 1987-89.

Mise au point d'une méthodologie simple, peu coûteuse et efficace de microzonage sismique. La méthode dévelopée sera appliquée à la région de Québec initialement on pourra par la suite l'appliquer à d'autres régions du Canada. Travail complété à 75%.

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CHAGNON, J.Y., LOCAT, J., Université Laval (Géologie):
Cartographie géotechnique de la ville de Conakry, Guinée, 1988-90.

Etablir une carte géotechnique de Conakry (Guinés) à l'aide de forages, levés géologiques et géophysiques et à partir de photointerprétation.

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CRUDEN, D.M., LU, Z.Y., Univ. Alberta (Civil Engineering, Geology):
Geotechnical characterization of materials in slope movements in the Cordillera, 1985-89; Ph.D. thesis (Lu).
See:
Basic friction angles of carbonate rocks from Kananaskis Country; Bull. Internat. Assoc. Engineering Geology, vol. 38, p. 55-59, 1988.

A laboratory analogue for molards, mounds of rockslide-avalanche debris; Geology, vol. 16, p. 735-738, 1988.

To characterize materials in slope movements in the Cordillera sufficiently for approximate stability analyses of the moving slopes to be undertaken.

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DALLIMORE, S.R., Geol. Surv. Can.:
Geological and geotechnical conditions, Beaufort Sea coastal zone, 1985-.

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DURAND, M., Université du Québec à Montréal (Sciences de la Terre):
Cartographie géologique assistée par ordinateur, 1988-91.
Voir:
La micro-informatique comme aide à la création de cartes géologiques; Bull. de

l'Association internationale de géologie de l'ingénieur, no. 38, p. 11-19, 1988.

L'utilisation de la micro-informatique dans la cartographie géologique d'excavation; C.R. du 7th Annual Canadian Tunneling Conf., p. 128-136, 1988.

449
EVANS, S.G., Geol. Surv. Can.:
Landslide hazards in the Canadian Cordillera, 1983-.

450
HEGINBOTTOM, J.A., Geol. Surv. Can.:
Slope processes and cryogenic movements, Arctic Islands, 1977-.

451
HUDEC, P.P., BONAHENE, N., ACHAMPONG, F., Univ. Windsor (Geology):
Treatment of aggregate and concrete to reduce de-icing salt damage, 1989-92; M.A.Sc. thesis (Bonahene), Ph.D. thesis (Achampong).

452
HUDEC, P.P., LARBI, J., Univ. Windsor (Geology):
Chemical treatments for reduction of alkali-aggregate in concrete, 1989-92; M.A.Sc. thesis (Larbi).

453
HUDEC, P.P., RAVINA, A., Univ. Windsor (Geology):
Beneficiation of aggregate by surface-active agents, 1989; M.Sc. thesis (Ravina).
See:
Deterioration of aggregates – the underlying causes; Concrete Durability, K & B Mather Internat. Conf. ACI SP-100, vol. 2, p. 1325-1342, 1988.

454
LUTERNAUER, J.L., Geol. Surv. Can.:
Potential geologic hazards to development – seafloor and shallow subbottom of Queen Charlotte Sound, British Columbia, 1984-.
See:
Sponge bioherms on the continental shelf of western Canada; Geol. Surv. Can., Paper 89-1H, p. 129-134, 1989.

Neotectonics and sedimentation patterns in Moresby Trough, central continental shelf of western Canada; ibid., p. 135-140, 1989.

Geotechnical properties of sediments on the central continental shelf of western Canada; ibid., p. 141-148, 1989.

455
LUTERNAUER, J.L., Geol. Surv. Can.:
Geoarchitecture of the Fraser River area, British Columbia, 1986-.
See:
Sediment dynamics and implications for submarine landslides at the mouth of the Fraser River, British Columbia; Geol. Surv. Can., Paper 89-1E, p. 207-212, 1989.

New base map and computer graphics to help identify failures off the mouth of the Fraser River, British Columbia; ibid., p. 213-220, 1989.

New approaches for assessing liquefaction potential of the Fraser River Delta, British Columbia; ibid., p. 221-231, 1989.

456
LUTERNAUER, J.L., Geol. Surv. Can.:
Offshore geohazards and surficial geology of Queen Charlotte Sound, Hecate Strait and Dixon Entrance, British Columbia, 1988-89.

457
SPOONER, I.S., GORMAN, W.A., DALRYMPLE, R.W., Queen's Univ. (Geological Sciences):
Applied sedimentological evaluation of a glacial deposit, Joyceville, Ontario, 1986-88; M.Sc. thesis (Spooner).

To determine if sedimentological parameters could be used as a field guide to the value of a glacial deposit as a source of "blending sand" for the aggregate industry.

458
TANGUAY, M.G., BLANCHARD, C., Ecole Polytechnique (Génie minéral):
Cartographie géotechnique de Laval, Québec, 1983-89; thèse de maîtrise en science (Blanchard).

Compilation de la carte géotechnique des sols et du roc pour tout le territoire de Laval, Québec (Ile Jésus).

459
VANDERVEER, D.G., Ontario Geol. Surv.:
To delineate buried aggregates in southwestern Ontario, 1988-90.
See:
The delineation of buried aggregate resources in the Pinehurst and Leamington areas of southwestern Ontario using electromagnetic conductivity; Ontario Geol. Surv., Misc. Paper 141, p. 433-441, 1988.

Two known aggregate deposits buried under varying amounts of glaciolacustrine clay and till have been delineated using electromagnetic conductivity. Follow-up drilling has confirmed the distribution of these materials within the study areas and provided samples of assessment of quality to MTO standards.

PERMAFROST/PERGÉLISOL

460
BAKER, T.H.W., GOODRICH, L.E., National Research Council of Canada (Institute for Research in Construction):
Insulation of thaw-sensitive slopes in areas of permafrost, 1986-92.

To evaluate the use of wood chips to prevent or retard thaw of ice-rich permafrost slopes along the Norman Wells to Zama Pipeline; to measure the long-term thermal properties of wood chips in the field; to develop a thermal model of wood chip performance; and to compare wood chips with other alternatives to insulate slopes in areas of permafrost.

461
BAKER, T.H.W., HUNEAULT, P.A., National Research Council of Canada (Institute for Research in Construction):
Pile foundations in frozen ground, 1986-90.

To conduct and compare the results from tests on model piles in the laboratory and on full-scale piles on sites in northern Canada.

462
BURGESS, M.M., Geol. Surv. Can.:
Permafrost research: Norman Wells pipeline right-of-way, 1987-.
See:
Measurement frequency requirements for permafrost ground temperatures monitoring: analysis of Norman Wells pipeline data, Northwest Territories and Alberta; Geol. Surv. Can., Paper 89-1D, p. 65-75, 1989.

Norman Wells pipeline permafrost and terrain monitoring: geothermal and geomorphic observations; Proc. 41st Canadian Geotech. Conf., Can. Geotech. Soc., p. 354-363, 1988.

Permafrost and terrain preliminary monitoring results, Norman Wells pipeline, Canada; Proc. 5th Internat. Conf. Permafrost, vol. 2, p. 916-921, 1988.

463
CRAIG, H.D., KWONG, Y.T.J., JOHNSTON, L.M., GRIFFIN, M., CHEW, H.A.M., PROWSE, T.D., EDWARDS, T., JUDGE, A.S., National Hydrology Research Institute, Univ. Waterloo, Geol. Surv. Can.:
Groundwater in the permafrost environment.

To investigate the interactions of permafrost and groundwater; the movement of water, heat and/or chemical constituents; the relationship between groundwater dynamics, surface-water hydrology, and permafrost; and the effects of seasonal and long-term climatic change on the thermal regime.

464
DYKE, L.D., WOLFE, S.A., Queen's Univ. (Geological Sciences):
Permafrost conditions across on aggrading shoreline, Richards Island, Northwest Territories, 1987-89.

To determine how sediment deposition affects the distribution and conditions of permafrost along the Beaufort Sea coast. Field work to date has included the installation of thermistor cables to 30 m depth; geotechnical and geochemical analysis of near-surface sediments and geophysical surveying.

465
GOODRICH, L.E., BAKER, T.H.W., HUNEAULT, P.A., National Research Council of Canada (Institute for Research in Construction):
Evaluation of new materials and heat pumps for the preservation of permafrost near and under new airport infrastructures in northern Quebec, 1989-92.

To evaluate the suitability of certain new materials for preventing permafrost degradation at Umiujaq, Quebec; to demonstrate the use of heat pumps for maintaining frozen ground under foundations of airport buildings and adjacent areas at Aupaluk, Quebec.

466
GOODRICH, L.E., SVEC, O.J., National Research Council of Canada (Institute for Research in Construction):
Evaluation and design of a chilled permafrost foundation system using heat pump technology, 1986-91.

To design and evaluate a chilled foundation system on permafrost, using heat pump technology.

467
HARRY, D.G., Geol. Surv. Can.:
Properties and distribution of permafrost and ground ice, 1983-.

468
HARRY, D.G., Geol. Surv. Can.:
Characterization of ground ice occurrence in northern Canada, 1984-.

469
HEGINBOTTOM, J.A., Geol. Surv. Can.:
Testing of permafrost soils, 1987-.

470
JUDGE, A.S., Geol. Surv. Can.:
Phase change and the dynamic response of permafrost, 1987-.
See:
Recovery of precise offshore permafrost temperatures from a deep geotechnical hole, Canadian Beaufort Sea; Geol. Surv. Can., Paper 89-1D, p. 119-123, 1989.

471
JUDGE, A.S., Geol. Surv. Can.:
Regional permaforst and ground temperature studies, 1987-.

472
JUDGE, A.S., Geol. Surv. Can.:
Study of the thermal properties of earth material, 1989-91.

473
KURFURST, P.J., Geol. Surv. Can.:
Comparison of geotechnical and geophysical properties of arctic seabed sediments, 1982-.

474
KWONG, Y.T.J., RIBO, J., HUANG, P.M., National Hydrology Research Institute, Univ. Saskatchewan (Soil Science):
Freeze-thaw, soils and groundwater.
To investigate the effects of multiple freeze-thaw cycles on the chemical properties of soils and the implications for groundwater quality.

475
LEWKOWICZ, A.G., Univ. Toronto (Erindale College – Geography):
Measurement and simulation of thermokarst on slopes, Arctic Canada, 1983-.
See:
Ablation of massive ground ice, Mackenzie delta; Proc. Fifth Internat. Conf. on Permafrost, Trondheim, August 1988, p. 605-610, 1988.

476
TAYLOR, A.E., Geol. Surv. Can.:
Offshore permafrost, Beaufort Sea and Arctic Islands, 1987-.
See:
A constraint to the Wisconsinan glacial history, Canadian Arctic Arcfhipelago; J. Quaternary Sci., vol. 3, no. 1, p. 15-18, 1988.
Recovery of precise offshore permafrost temperatures from a deep geotechnical hole, Canadian Beaufort Sea; Geol. Surv. Can., Paper 89-1D, p. 119-123, 1989.

477
TAYLOR, A.E., Geol. Surv. Can.:
Paleoclimatic reconstructions from ground temperature profiles, 1988-92.

478
TAYLOR, R.B., Geol. Surv. Can.:
Permafrost processes in Arctic beaches, 1983-.

ROCK MECHANICS/MÉCANIQUE DES ROCHES

479
BORRADAILE, G., ALFORD, C., SARVAS, P., MCARTHUR, J., SPARK, R., PUUMALA, M., Lakehead Univ. (Geology):
Rock magnetism and rock deformation with special reference to Archean Tectonics, Northern Ontario; M.Sc. theses (Alford, Sarvas, McArthur, Spark, Puumala).
See:
Experimental shear zones and magnetic fabrics; Structural Geol., vol. 10, p. 895-904, 1988.
Transpression in an Archean Gneiss belt, Northern Ontario: magnetic fabrics and petrofabrics; Can. J. Earth Sci., vol. 25, p. 1069-1077, 1988.
Experimental deformation is continuing to establish relations between deformation and magnetic properties of tectonites. Field studies are being undertaken on magnetic and other fabrics in the Canadian Shield of Northern Ontario.

480
CHAPUIS, R., AUBERTIN, M., SILVESTRI, V., École Polytechnique (Génie minéral, Civil):
Anisotropie de la résistance au cisaillement des argiles naturelles, 1988.

481
CRUDEN, D.M., HU, X.Q., Univ. Alberta (Civil Engineering, Geology):
Stability of natural slopes in rock; Ph.D. thesis (Hu).
See:
Thresholds for catastrophic instabilities in sedimentary rock slopes, some examples from the Canadian Rockies; Zeitschrift fur Geomorphologie, Suppl., vol. 67, p. 67-76. 1988.
Mesofabric, microfabric and submicrofabric of ice-thrust sediments, Highvale Mine, Wabamum Lake, Alberta; Can. J. Earth Sci., vol. 25, p. 1420-31, 1988.
Detailed mapping of selected sites at which large downslope movements in rock are occurring or have occurred has continued. Laboratory work provides a theoretical basis for these studies.

SOIL MECHANICS/MÉCANIQUE DES SOLS

482
BOZOZUK, M., LAW, K.T., National Research Council of Canada (Institute for Research in Construction):
Long-term monitoring projects, 1986-89.
See:
Seismic and geotechnical assessments of a proposed radio-active waste disposal sites; Proc. 9th World Conf. on Earthquake Engineering, 1988.

483
BOZOZUK, M., LAW, K.T., National Research Council of Canada (Institute for Research in Construction):
Failure experiment of the Gloucester test fill, 1987-90.
To measure the actual strength of the soft clay under the Gloucester Test Fill by creating a failure of the embankment; to update the state-of-the-art on strength prediction for stage construction by organizing a prediction workshop with international participants.

484
HUGHES, O.L., Geol. Surv. Can.:
Surficial geology and land classification, Mackenzie Valley Transportation Corridor, 1971-.

485
LAW, K.T., National Research Council of Canada (Institute for Research in Construction):
Performance of existing earth dams under earthquake loading conditions, 1986-89.
To develop a methodology to evaluate the stability and deformational characteristics of existing earth dams under earthquake loading conditions.

486
LAW, K.T., National Research Council of Canada (Institute for Research in Construction):
Engineering behaviour of silt as a foundation material, 1987-90.
To develop a fast and reliable in situ test method for measuring the compressibility of silt; to establish a stress-strain model for silt using sophisticated laboratory tests; and to numerically analyze the performance of structures founded on silt and to develop a simplified method to estimate founation settlements on silt.

487
LAW, K.T., ZHU, R., National Research Council of Canada (Institute for Research in Construction):
Foundation design for Little Jackfish River dam, Ontario, 1986-89
See:
Liquefaction of silt; Proc. 9th World Conf. on Earthquake Engineering, 1988.
To study the dynamic behaviour of silt at the Little Jackfish River dam site; to participate with Ontario Hydro staff on the design of the Little Jackfish River Dam.

488
SVEC, O.J., National Research Council of Canada (Institute for Research in Construction):
Advanced heat exchangers, 1986-88.
To update the state-of-the-art of in-ground heat exchangers; to develop and validate advanced computer models for horizontal and vertical in-ground heat exchangers; and to perform a detailed experimental testing program in order to assess the potential for improving the performance of in-ground heat exchangers.

489
SVEC, O.J., National Research Council of Canada (Institute for Research in Construction):
Direct expansion ground source heat pumps, 1987-90.

To develop and test a new ground heat-source heat pump system based on the direct expansion of refrigerant into ground heat exchangers.

490
SVEC, O.J., National Research Council of Canada (Institute for Research in Construction):
Improved road design to minimize frost heave damage, 1987-91.

To develop an improved road design to minimize frost heave damage by applying knowledge of the physics of frost heave.

SNOW AND ICE/NEIGE ET GLACE

491
BOURGEOIS, J.C., Geol. Surv. Can.:
Pollen analysis of snow samples and ice cores, 1987-.

492
CHEW, H.A.M., PROWSE, T.D., National Hydrology Research Institute:
Radiation-ice modelling.

To model the absorption of short-wave radiation by ice and how such absorption leads to internal melting and an increase in ice porosity; and to develop a methodology for predicting changes in porosity, and ultimately ice strength, based on standard meteorological information.

493
DEMUTH, M.N., PROWSE, T.D., LYONS, N., National Hydrology Research Institute:
Dynamics of break-up advance.
See:
Field determination of ice jam porosity; Proc. 9th Internat. Symp. on Ice, vol. 2, p. 316-325, vol. 3, p. 275-276, Errata, vol. 3, p. 318, 1988.

Observations on ice cover and stream flow in the Yukon River near Whitehorse.; NHRI Paper No. 40, IWD Scientific Ser., No. 162, 1988, 36 p.

To develop a physically-based model describing the interaction of river surges and intact ice covers and to formulate a methodology for field investigations of the kinematic and dynamic processes in river surge/intact ice interaction.

494
FREDERKING, R., SAYED, M., National Research Council of Canada (Institute for Research in Construction):
Ice forces on lightpiers, 1987-91.

To measure ice forces on the Yamachiche bend lightpier; to carry out model tests to help in optimizing structural characteristics to minimize ice forces; to develop low cost ice force sensors; and to develop a comprehensive predictive model to relate ice forces to structural characteristics and ice conditions.

495
KOERNER, R.M., Geol. Surv. Can.:
Ice core analyses and glacier mass balance, 1987-.

496
LESACK, L., MARSH, P., HECKY, R., National Hydrology Research Institute, Freshwater Instit., Winnipeg:
Mackenzie delta lakes.
See:
Mackenzie River water levels and the flooding of delta lakes; NHRI Contrib. No. 88013, 1988, 135p.

To analyze existing NHRI and FWI data basis concerning lake hydrology and limnology; to determine the chemical and nutrient balances for typical delta lakes; and to conduct limited field work as required to fill in data gaps as determined from above analysis.

497
LEWKOWICZ, A.G., YOUNG, K.L., Univ. Toronto (Erindale College-Geogrpahy):
Hydrology and environmental significance of a perennial snowbank, Melville Island, Northwest Territories, 1986-; M.Sc. thesis (Young).
See:
Measurement of outflow from a snowbank with basal ice; J. Glaciology, vol. 34, p. 358-362, 1988.

498
MARSH, P., LESACK, L., HECKY, R., PHARO, C., LEITH, R., National Hydrology Research Institute, Freshwater Instit., Winnipeg:
Mackenzie Delta hydrology.
See:
The flooding hydrology of Mackenzie Delta Lakes near Inuvik, N.W.T., Canada; Arctic, vol. 42, no. 1, p. 41-49, 1989.

Hydrochemical aspects of lakes and channels in the Mackenzie Delta, N.W.T.; NHRI Contrib. No. 88019, 1988, 40 p.

To determine the importance of various water-balance components of delta lakes and the spatial variation in hydrological regime; model lake levels under natural and altered regimes; study the effect of sea-level rise and long-term changes on delta lake hydrology using proxy data.

499
MARSH, P., PROWSE, T.D., WOO, M.K., BARRY, P., MCGURK, B., National Hydrology Research Institute, McMaster Univ. (Geography), Atomic Energy Can., U.S. Dept. Agriculture:
Snowmelt runoff in high latitude permafrost basins.
See:
Soil infiltration and snow-melt run-off in the Mackenzie Delta, N.W.T.; Proc. 5th Internat. Conf. on Permafrost, vol. 1, p. 618-621, 1988.

Flow fingers and ice columns in a cold snow cover; Proc. 56th Ann. Western Snow Conf., p. 105-112, 1988.

To determine the rates of, and processes controlling: melt metamorphism; vertical flux of water; exchange of water between the snowpack, active layer, and permafrost; removal of the snow; lateral movement of meltwater; to model large-scale snow processes; sutdy the release of pollutants from snow.

500
MCCLUNG, D.M., SCHAERER, P.A.,National Research Council of Canada (Institute for Research in Construction):
Runout distance for large avalanche paths, 1983-93.
See:
Extreme avalanche runout; Symp. Snow and Glacier Res. Related to Human Living Conditions, September 1988, Lom, Norway, 1989.

Yield of snow at Rogers Pass; J. Glaciology, vol. 34, no. 117, p. 188-193, 1988.

Definition of quantitative prediction methods for extreme avalanche runout applied to Canadian conditions. Definition of avalanche speed predictions for extreme avalanches.

501
MCCLUNG, D.M., SCHAERER, P.A., ANHORN, P.A., OLAGNE, X., National Research Council of Canada (Institute for Research in Construction), Univ. British Columbia (Geological Sciences):
Design creep and dynamics loads of snow and avalanches on structures, 1987-90; M.Sc. thesis (Olagne).
See:
Effects of structure boundary conditions and snow pack properties on creep pressures; Symp. Snow and Glacier Res. Related to Human Living Conditions, September 1988, Lom, Norway, 1989.

Snow creep pressures: effects of structure boundary conditions and snowpack properties compared with field data; Cold Regions Science and Technology, 1989.

To define procedures for predicting creep loads on structures in deep snow covers – nonlinear effects; to define design loads on structures due to avalanche impacts.

502
NICHOLAICHUK, W., BEST, K., GRAY, D.M., MCCONKEY, M., GICAMAN, D., National Hydrology Research Institute, Univ. Saskatchewan (Hydrology), Agriculture Canada:
Snow management and snowmelt infiltration.
See:
Annual progress report: Snow management and meltwater enhancement; NHRI Contrib. No. 89015, 1988, 32 p.

Evaluation of snowmelt models for application in permafrost; NHRI Contract Rept. No. 88001, 1988, 54 p.

To determine appropriate tillage methods to enhance snowmelt infiltration; meltwater infiltration into cracked soils; effect of tillage practices on surface run-off and groundwater recharge.

503
PROWSE, T.D., ANDRES, D., National Hydrology Research Institute, Alberta Research Council:
Economic significance of river ice jams.

To determine the economic significance to the Canadian economy of damage resulting from river ice jams.

504
PROWSE, T.D., BELTAOS, S., BURRELL, B.C., National Hydrology Research Institute,

New Brunswick Dept. Municipal Affairs and Environment:
Nashwaak River break-up, New Brunswick.

To establish the meteorological, hydraulic and hydrometric conditions that control break-up and ice jamming on the Nashwaak River, New Brunswick.

505
PROWSE, T.D., DEMUTH, M.N., CHEW, H.A.M., National Hydrology Research Institute:
Mechanical strength of 0°C river ice.
See:
Strength and energy balance of decaying river ice; Proc. 7th Northern Research Basins Symp. p. 293-301, 1988.

Using the borehole jack to determine changes in river ice strength; Proc. 5th Workshop on Hydraulics of River Ice/Ice Jams, p. 283-302, 1988.

To develop a physically-based model that characterizes the decrease in strength parameters associated with the thermal decay of ice; to determine the threshold "strength" values associated with the break-up of ice covers; and to develop methods to determine such threshold values for forecasting break-up.

506
PROWSE, T.D., MARSH, P., National Hydrology Research Institute:
Hydrology of northern wetlands.

To establish physical processes controlling snowmelt/run-off from permafrost wetlands (muskeg); develop suitable hydrological models for this environment; and quantify major changes occurring in this hydrological regime as a result of climate change.

507
SAYED, M., FREDERKING, R., SINHA, N.K., National Research Council of Canada (Institute for Research in Construction):
Impact forces, 1986-90.

To measure ice impact forces on a bridge pier in the Rideau River, Ottawa; to acquire and implement a computer model of ice impact developed at the Technical Research Centre of Finland (VTT); and to perform laboratory tests on fresh water ice in order to develop a failure criterion at high strain rates to be incorporated in VTT's model.

508
SCHAERER, P.A., MCCLUNG, D.M., ANHORN, P.A., National Research Council of Canada (Institute for Research in Construction):
Avalanche prediction and control in operations, 1987-89.
See:
The effects of temperature on the shear strength of alpine snow; Proc. Internat. Snow Sci. Workshop, Whistler, B.C., 1988, 1989.

To develop guidelines and refined techniques for in situ testing of snow stability; to assess direct methods for avalanche warning by acoustic emissions; and to develop control techniques for full depth avalanches caused by gliding – Coquihalla Highway, B.C.

509
SINHA, N.K., BAKER, T.H.W., National Research Council of Canada (Institute for Research in Construction):
Ice as a construction material, 1987-90.

To develop an understanding of the engineering properties of ice relevant to the construction of: offshore and near shore floating ice platforms, grounded ice pads, protective ice structures, ice roads, ice bridges, and winter recreational areas.

510
SINHA, N.K., SAYED, M., FREDERKING, R., National Research Council of Canada (Institute for Research in Construction):
Ice failure processes in the vicinity of wide structures, 1987-92.
See:
Dislocation climb in ice observed by etching; J. Materials Sci., 1989.

To develop the capability to predict ice loads on wide structures.

GLACIOLOGY/GLACIOLOGIE

511
BRUGMAN, M.M., National Hydrology Research Institute:
Mountain hydrology and glacial meltwater.

To review all elements of glacial hydrology of most direct relevance to Canada and the mandate of NHRI and propose a comprehensive, long-term research programme to address the problems identified.

512
BRUGMAN, M.M., DEMUTH, M.N., SCHMOK, G., CLARKE, G.K.C., National Hydrology Research Institute, Univ. British Columbia:
Coastal mountain glaciers.
See:
Glacier mass balance for 1987 on Sentinel, Helm and Place Glaciers, British Columbia; NHRI Contrib. No. 88009, 1988, 17p.

Mass-balance determination of Sentinel, Place and Helm Glaciers, British Columbia; NHRI Contract Rept. No. 88002, 1988, 22p.

To conduct glacier mass-balance surveys in the southern regions of the Coast Mountains in order to expand the data base available such that models linking climatic variability with glacier response may be refined and the processes, intrinsic to that link, better understood.

513
BRUGMAN, M.M., HOLDSWORTH, G., LUCKMAN, G., MUNRO, D.S., OSBORN, G., National Hydrology Research Insititute, Geol. Surv. Can., Univ, Toronto, Univ. Calgary:
Peyto Glacier, Alberta.
See:
Relation between the mass balance of western Canadian mountain glaciers and meteorological data; J. Glaciology, vol. 34, no. 116, p. 11-18, 1988.

To determine the annual mass balance of Peyto Glacier as a measure of the changing state of mountain water resources and as a contribution to the World Glacier Monitoring Service. The field site is used for research into glacier hydrology and hydrometeorology.

514
DEMUTH, M.N., HOLDSWORTH, G., National Hydrology Research Institute:
Eclipse – CRR drill evaluation.
See:
Shallow ice borehole logger and deployment system; NHRI Contrib. No. 88018, 1988, 20p.

To fully field test the CRR ice-core drill, under the logistic constraints imposed by the Icefield Ranges of Kluane National Park, Yukon, and to evaluate its capability to core ice with greater accuracy and quality.

515
HOLDSWORTYH, G., DEMUTH, M.N., FOGARASI, S., MCCARTHY, B., National Hydrology Research Institute:
Proxy climate data from ice cores.
See:
An investigation of large-scale upper-air flow as a means of explaining the teleconnections between long-term glacier mass balance variations on Mount Logan and long-range spatially averaged precipitation variations in the Prairie/Steppe regions of North America and Eurasia (U.S.S.R.); NHRI Contrib. No. 88012, 1988, 31p.

To use environmental information extracted from ice cores to determine the nature of paleo-atmospheric processes on a scale of seasons to centuries with emphasis on climatic change, and to place the results in a hydrological context.

516
HOLDSWORTH, G., DEMUTH, M.N., FOGARASI, S., MCCARTHY, B., DALTON, A., KROUSE, H.R., NOSAL, M., MAYEWSKI, P., RAYNAUD, D., DIAMOND, T., National Hydrology Research Institute, Univ. Calgary, Univ. New Hampshire, CNRS Grenoble, Canadian Wildlife Ser.:
Mount Logan ice cores.
See:
Identification of Chernobyl fall-out as a new reference level in Northern Hemisphere glaciers; J. Glaciology, vol. 34, no. 117, p. 183-187, 1988.

Mt. Logan glaciology, 1986; Can. Alpine J., vol. 71, p. 56-57, 1988.

To analyse ice-core data to determine the nature of paleo-atmospheric processes on a scale of centuries with emphasis on climatic change and atmospheric chemistry and place the results in the context of hydrology and atmospheric chemistry and to continue analysing data from the 1980 core.

517
BACHU, S., DIX, G., HITCHON, B., O'CONNELL, S.C., UNDERSCHULTZ, J.R., Alberta Research Council (Geological Survey):
Present day hydrogeologic and geothermal regimes in Peace River Arch area, Alberta and British Columbia, 1988-90.

Integrated multidisciplinary study to describe the flow and geochemistry formation waters and the geothermal regime in Peace River Arch area of Alberta and British Columbia. Completed hydrostratigraphic delineation and isopachs of major aquifers, aquitards and aquicludes.

518
BARSON, D., TÓTH, J., Univ. Alberta (Geology):
The hydrogeological characterization of oil fields in north-central Alberta for exploration purposes, 1984-89; Ph.D. thesis (Barson).
See:
Hydrogeological influences on petroleum accumulation in Red Earth Region, north-central Alberta, Canada; Amer. Assoc. Petrol. Geol. Bull., vol. 72, p. 159, 1988.

519
CHAPUIS, R., École Polytechnique (Génie minéral):
Anisotropie de perméabilité des sables, des argiles, et des grès, 1988-.

520
CHAPUIS, R., BAASS, K., CONTANT, A., École Polytechnique (Génie minéral, Civil):
Evolution de la conductivité hydraulique des agrégats routiers, 1987-89; thèse de madtrise en science (Contant).
Voir:
Granulars soils in rigid-wall permeameters: method for determining the degree of saturation; Can. Geotechnical J., vol. 26, no. 1, 1989.

521
CHAPUIS, R., BEAUDRY, D., École Polytechnique (Génie minéral):
Mélange d'étachéité sable-bentonite.

522
CHAPUIS, R., CLEVENOT, I., École Polytechnique (Génie minéral):
Prédiction de la conductivité hydraulique par des paramètres géométriques, 1989.

523
CHAPUIS, R., GILL., D.E., CHAMPAGNE, L., École Polytechnique (Génie minéral):
Hydrogéologie des contaminants, 1987-89; thèse de maîtrise en science (Champagne).

Méthodes d'évaluation de la vulnérabilité des eaux souterraines à la contamination.

524
CHAPUIS, R., GILL, D.E., WENDLING, G., École Polytechnique (Génie minéral):
Variation de perméabilité au voisinage d'un puits, 1987-90; thèse de doctorat (Wendling).

525
CHAPUIS, R., TESSIER, E., École Polytechnique (Génie minéral):
Étude de résultats d'essais de pompage et d'essais de remontée, 1989.
Voir:
Influence of partial scale and drilling techniques upon piezometric readings; Proc. 41st Can. Geotechnical Conf. Kitchener-Waterloo, p. 374-384, 1988.

526
CHAPUIS, R., ZARMA, M., École Polytechnique (Génie minéral):
Recharge artificielle: possibilités et problèmes, 1989.

527
CLARK, I.D., Univ. Ottawa (Geology):
Palaeoclimatology and palaeohydrology in Oman and the Middle East, 1988-90.

Palaeohydrological studies in the middle east are an on going project with additional facets including modern day hydrogeology in arid countries, and isotope geochemistry in the formation of continental carbonates.

528
CRAIG, H.D., GRIFFIN, M., LAWFORD, R., COLEY, R., CLARK, B., BRACE, K., WOO, M-K., ROWSELL, B., National Hydrology Research Institute, Ducks Unlimited, McMaster Univ. (Geography):
Wetland hydrology/climate change.

To determine the groundwater component of the hydrological cycle at Slough #50, St. Denis National Wildlife site, and to assess the hydrogeological conditions at this site with respect to a study of fractured tills.

529
CRAIG, H.D., JOHNSTON, L.M., SEMKIN, R., JEFFRIES, D., National Hydrology Research Institute:
Acid neutralisation in groundwater flow systems.

To compile and disseminate (to the scientific community, management and the general public) information acquired during the Turkey Lakes Watershed groundwater study.

530
FREEZE, R.A., SPERLING, A., JAMES, B., WALKER, D., Univ. British Columbia (Geological Sciences):
Risk-based engineering design in hydrogeological and geotechnical projects, 1987-90; Ph.D. theses (Sperling, James, Walker).
See:
Advances in the assessment of data worth for engineering decision analysis in groundwater contamination problems; NATO Adv. Res. Workshop, Lisbon, Portugal, p. 665-697, 1988.

531
GROVE, G., BLACKALL, P., SCROGGINS, R., SNIDAL, J., KERR, A., SIMS, P., BACHU, S., CREASEY, T.R., SCHINDEL, G., National Hydrology Research Institute, Alberta Environ., Alberta Research Council, Can. Petrol. Assoc.:
Deep well disposal.

To understand the interactions occurring between injected waste fluids and the host aquifer and consequently their influence on the migration of contaminants. Also, to estimate the potential for transboundary flow of contaminants following injection into the deep subsurface.

532
GROVE, G., MCNAUGHTON, D., PUPP, C., SANQUET, J., MERCER, G., National Hydrology Research Institute, Canadian Parks Service, Fort Smith:
Groundwater technology transfer.

To undertake field and/or office investigations with emphasis on specific problems related to the transfer of groundwater technology developed by NHRI. Also to provide advice and assess the technical soundness of the groundwater component of external investigations.

533
HOLYSH, H., TÒTH, J., Univ. Alberta (Geology):
Petroleum related geochemical signatures and regional groundwater flow, Chauvin area, east-central Alberta, 1986-89; M.Sc. thesis (Holysh).

A field based research project was carried out in east-central Alberta to study the possible role of regional groundwater flow in the generation of geochemical signatures related to petroleum – involved a regional hydrogeological investigation, a soil gas survey and a water chemistry study.

534
JOHNSTON, L.M., RIBO, J., VANDENBERG, A., ROBARTS, R.D., ROSS, G., National Hydrology Research Institute.
Facility for Indoor Aquifer Testing (FIAT).
See:
A digital simulation of moisture movement through a layered column of sand and AFBC solid waste; NHRI Contrib. No. 88015, 1988, 43p.

To investigate the behaviour of AFBC wastes under simulated disposal conditions, particularly contaminant migration; assess the effect of piezometer installation on groundwater chemistry; and assess using FIAT to study pesticide migration and microbial activity in groundwater.

535
KWONG, Y.T.J., FERGUSON, K., NORDSTROM, K., National Hydrology Research Institute, U.S.G.S. Menlo Park:
Acid mine drainage.

To study water-rock interactions in acid mine drainage and determine the fate and transport of pollutants produced by mining activity in the natural environment.

536
MACCAGNO, M., TÒTH, J., Univ. Alberta (Geology):
The combined use of pore-pressure vs. depth and pore-pressure vs. elevation patterns for the characterization and analysis of regional groundwater flow fields, 1988-90; M.Sc. thesis (Maccagno).

Since pore-fluid pressures are influenced by fluid potential, and fluid potential differences induce subsurface fluid flow, it is reasonable to expect vertical pressure distributions to be useful in characterizing regional groundwater flow fields. The primary objective of this study

is to investigate the utility of the combined use of pressure vs. depth and pressure vs. elevation patterns in the analysis of subsurface flow regimes.

537
MCNAUGHTON, D., GROVE, G., RIBO, J.M., National Hydrology Research Institute:
Groundwater pesticides studies in western Canada.
See:
Study of herbicides in shallow groundwater beneath three irrigated sites in Outlook...; Saskatchewan Research Council Publ. No. R-844-13-E-88, 1988, 94p.

Groundwater in Canada: use, quality and management; Proc. 6th IWRA World Congress on Water Resources, vol. II, p. 409-419, 1988.

To determine the extent of pesticide contamination of ground water in Western Canada and estimate the potential for future contamination by relating pesticide usage and chemical properties to distribution and properties of groundwater systems.

538
OPHORI, D.U., TÒTH, J., Univ. Alberta (Geology):
An analysis of potentiometric expression of geologic heterogeneities, 1987-89.

539
OTTO, C.J., TÒTH, J., Univ. Alberta (Geology):
Hydrogeology and oil deposits in intermontane basins – Upper Rhine Graben, ramifications for petroleum exploration, 1985-89; Ph.D. thesis (Otto).
See:
Hydrogeological controls and indicators of Rift Basins – An example from the Upper Rhine Graben; Amer. Assoc. Petrol. Geol., Abstracts, vol. 8, 1988.

Hydrogeology and Oil Deposits at Pechelbronn-Soultz, Upper Rhine Graben: Ramifications for Exploration in Intermontane Basins; Proc. Internat. Symp. Geology and Resources of Intermontane Basins, Chiang Mai/Thailand, 1989.

Investigations of the applicability of the Hydraulic Theory of Petroleum Migration for hydrocarbons in an intermontane basin – to evaluate, refine and develop methods and techniques potentially suitable for hydrogeological exploration of petroleum deposits.

540
PARKS, K., TÒTH, J., Univ. Alberta (Geology):
A petroleum hydrogeological analysis of the Belly River Formation (Upper Cretaceous) near Buck Lake, Alberta, Canada, 1986-88; M.Sc. thesis (Parks).
See:
Relations between fluid-potential anomalies, sand lenses and oil deposits, Belly River Formation, near Buck Lake, Alberta, Canada; Ramifications for exploration; Geol. Soc. Amer., Abstracts with Programs, vol. 20, no. 7, 1988.

Established erosion-induced elastic rebound of rock framework as cause of regional underpressuring of the Belly River Formation; continued development of potentiometric map analysis as a petroleum exploration tool through an investigation of the relationships between groundwater flow, geology and oil deposits in the lower Belly River Formation near Buck Lake, Alberta.

541
RIBO, J.M., MCNAUGHTON, D., HUANG, P.M., National Hydrology Research Institute, Univ. Saskatchewan (Soil Science):
Organic contamination in groundwater.

To understand the behaviour of organic contaminants in groundwater systems, including the toxicity of potential organic contaminants, the influence of soil and water properties on their physico-chemical properties, and the toxic effects to non-target organisms.

542
ROSTRON, B., TÒTH, J., Univ. Alberta (Geology):
Numerical simulation of oil migration through a lenticular reservoir, 1986-89; M.Sc. thesis (Rostron).
See:
Computer simulation of pore-pressure anomalies as an aid to exploration for lenticular reservoirs in mature basins; Amer. Assoc. Petrol. Geol. Bull., vol. 72, no. 2, p. 242, 1988.

Numerical Simulation of Time Dependent oil entrapment and resulting potentiometric perturbations due to lenticular reservoirs: Implications for exploration; Geol. Soc. Amer., Abstracts with Programs, vol. 20, no. 7, p. A259, 1988.

All numerical simulations have been completed, work is in progress completing the final reports for publication.

543
SKLASH, M., BALSDON, J., BRATHWAITE, S., MWANGI, M., Univ. Windsor (Geology):
Applied isotope hydrogeology, 1987-89; M.A.Sc. thesis (Balsdon), M.Sc. theses (Brathwaite, Mwangi).
See:
Environmental isotope tracer studies of catchment processes: tools for verifying intergrated water quality models; in: International Symp. on Water Quality Modeling of Agricultural Non-point Sources, Logan, Utah, June 19-23, 1988, 34p, 1989.

Environmental isotope studies of storm and snowmelt runoff generation; in: Surface and Subsurface Processes in Hydrology, John Wiley and Sons Ltd., 70p., 1989.

To explore ways in which environmental isotopes can assist in the solution of hydrogeologic problems. In 1988-/89, completed projects examined environmental isotope use in studies of leachate plume movement, interconnection of high permeability zones, and groundwater/surface water interactions in arid zones. Work in progress includes use of environmental isotopes in assessing regional groundwater flow systems and using artificial intelligence in leachate plume management.

544
SMITH, L., CLEMO, T., Univ. British Columbia (Geological Sciences):
Development of dual permeability models for fractured media, 1987-90; Ph.D. thesis (Clemo).

545
SMITH, L., ROBERTSON, M., Univ. British Columbia (Geological Sciences):
A new continuum approach to modeling solute transport in three-dimensional fracture networks, 1988-90; M.Sc. thesis (Robertson).

546
SRISUK, K., TÒTH, J., Univ. Alberta (Geology):
The genetic characteristics of the groundwater regimes and their possible utilization for resource inventory and development, Khon Kaen and adjacent areas, Khorat Plateau, Northeast Thailand, 1988-91; Ph.D. thesis (Srisuk).

547
TANGUAY, M.G., BERJAMY, B., École Polytechnique (Génie minéral):
Simulation par modèle mathématique de l'écoulement des eaux souterraines de l'Ile Jésus (Laval), Québec, 1989-91; thèse de maîtrise en science (Berjamy).

Utilisation de logiciels de modélisation hydrogéologique pour simuler l'écoulement des eaux souterraines de Laval, à la lumière des niveaux répertoriés.

548
THOMPSON, M.J., TÒTH, J., Univ. Alberta (Geology):
Gas fields, formation-fluid flow and hydrochemistry in Early Cretaceous formations, Peace River region, northwestern Alberta, Canada, 1986-89; M.Sc. thesis (Thompson).

To characterize relationships between formation fluid flow, hydrochemistry and hydrocarbon accumulations, in order to develop hydrogeology as a petroleum exploration tool.

549
VANDENBERG, A., WANKIEWICZ, A., National Hydrology Research Institute:
Contaminant transport modelling.

To improve knowledge about the transport and fate of contaminants in groundwater. To adapt predictive models to reflect the improved knowledge.

550
WOODBURY, A., DUNBAR, W.S., NOUROMID, B., SMITH, L., McGill Univ. (Geological Sciences), Univ. Toronto (Geology), Lockheed Corp., Univ. British Columbia (Geological Sciences):
Fluid-flow/heat transfer in porous media, 1988-89.
See:
Simultaneous inversion of hydrogeologic and thermal data 2. Incorporation of thermal data; Water Resources Res., vol. 24, no. 3, p. 356-372, 1988.

Bagesion updating revisted; Math. Geol., vol. 21, no. 3, p. 285-308, 1989.

Application of the LANCZOS Algorithim to the solution of the groundwater flow equation; Water Resources Res., vol. 25, no. 3, p. 551-558, 1989.

551
AL-AASM, I.S., OCCHIETTE, S., Univ. Windsor (Geology), Université du Québec à Montréal (Géographie):
Geochemistry and amino acid analysis of Pleistocene molluscs from Morroco, 1988-90.

552
BINNS, R.A., WHITFORD, D.J., MICHAEL, P.J., CHASE, R.L., Univ. British Columbia (Geological Sciences):
Petrology of basalt, andesite, dacite and rhyolite from Woodlark Basin, Papua New Guinea, Solomon Sea, 1986-.

553
CARBOTTE, S.M., DIXON, J.M., FARRAR, E., DAVIS, E.E., RIDDIHOUGH, R.P., Queen's Univ. (Geological Sciences), Geol. Surv. Can.:
The geological and geophysical characteristics and geotectonic significance of the Tuzo Wilson Seamounts, 1984-89; M.Sc. thesis (Carbotte).

554
CHASE, R.L., ALLAN, J.F., Univ. British Columbia (Geological Sciences):
Juan de Fuca Ridge, southern West Valley basalts, 1987-89.

555
CHASE, R.L., ALLAN, J.F., Univ. British Columbia (Geological Sciences):
Tuzo Wilson Seamounts: Petrology of alkali basalts, 1987-89.

556
CHASE, R.L., ALLAN, J.F., FEENEY, T., Univ. British Columbia (Geological Sciences):
Explorer Seamount, 1981-89.

557
CHASE, R.L., MICHAEL, P.J., Univ. British Columbia (Geological Sciences):
Southern Explorer Ridge: Petrogenesis, 1984-88.

558
CHASE, R.L., SHEA, G.T., MICHAEL, P.J., Univ. British Columbia (Geological Sciences):
Southern Explorer Ridge: Magic Mountain basalts, 1984-87; M.Sc. thesis (Shea).

559
DALRYMPLE, R.W., HOOGENDOORN,E.L., Queen's Univ. (Geological Sciences):
Sedimentation on shoreface-attached sand ridges, Sable Island Bank, Nova Scotia, 1983-89; Ph.D. thesis (Hoogendoorn).

A multidisciplinary research program to document the oceanographic and storm-generated flow over the ridge field, the distribution of grain sizes and bedforms over individual ridges and the entire ridge field, and the internal structures (large and small scale) of the ridges, and integrate all of this into a dynamic and stratigraphic model for these ridges.

560
DALRYMPLE, R.W., LEGRESLEY, E.M., Queen's Univ. (Geological Sciences):
Holocene sedimentation on the Western Grand Banks of Newfoundland, 1986-88; M.Sc. thesis (LeGresley).

The research documented the spatial distribution of surficial sediment textures and showed that current-generated dunes are widespread. A model of storm-generated flow, aided by the Labrador Current, was developed that explains the unidirectional southerly sediment transport which chacterizes this area.

561
FADER, G.B., Geol. Surv. Can.:
Nearshore sediments and non-fuel minerals, 1987-.

562
FORBES, D.L., Geol. Surv. Can.:
Sediment dynamics and depositional processes in the Coastal Zone, 1982-.

563
JOSENHANS, H.W., Geol. Surv. Can.:
Surficial geology, geomorphology and glaciology of the Labrador Shelf, 1981-.

564
JOSENHANS, H.W., Geol. Surv. Can.:
Surficial geology, geomorphology and glaciology of Hudson Bay, 1987-.

565
KEEN, M.J., Geol. Surv. Can.:
Comparative studies of the Continental Margins of Canada, 1989-91.

566
LEWIS, C.F.M., Geol. Surv. Can.:
Ice scouring of Continental Shelves, 1979-.
See:
Comparison of trends of iceberg scour marks with iceberg trajectories and evidence of paleocurrent trends on Saglek Banks, northern Labrador Shelf; Can. J. Earth Sci., vol. 25, no. 9, p. 1374-1383, 1988.

567
MOSLOW, T.F., LUTERNAUER, J.L., BARRIE, V., Univ. Alberta (Geology), Geol. Surv. Can.:
Neotectonics, sedimentary facies and instability processes and deposits on the western Canadian Continental Shelf, 1988-90.
See:
Neotectonics and sedimentation patterns in Moresby Trough, central continental shelf of western Canada; Geol. Surv. Can., Paper 89-1H, p. 135-140, 1989.

568
MACLEAN, B., Geol. Surv. Can.:
Eastern Baffin Island shelf bedrock and surficial geology mapping program, 1976-.

569
MACNAB, R.F., Geol. Surv. Can.:
Ocean mapping, 1987-.

570
MORAN, K., Geol. Surv. Can.:
Marine geotechnical studies of the Canadian Eastern and Arctic Continental shelves and slopes, 1985-.

571
MUCCI, A., McGill Univ. (Geological Sciences):
Solubility of behavior of mixed Ca-Mg-Mn carbonate solid solutions, 1987-.
See:
Manganese uptake during calcite precipitation from seawater: conditions leading to the formation of a pseudokutnahorite; Geochem. Cosmochem. Acta, vol. 52, p. 1859-1868, 1988.

572
MUCCI, A., PAGÉ, P., McGill Univ. (Geological Sciences), Université du Québec à Montréal (Sciences de la Terre):
Geochemical paleosalinity markers in the sediments in post-glacial lake sediments, 1987-.

To identify geochemical markers (e.g. trace elements, isotopes) which can be used to reconstruct the original conditions of sedimentation. Laboratory studies include the adsorption and isotopic fractionation of Li and B onto clays.

573
MUCCI, A., ZHONG SHAOJUN, McGill Univ. (Geological Sciences):
Kinetic constraints on the precipitation and composition of calcite and aragonite overgrowths from seawater: Influence of sulfate concentration and salinity, 1986-89.
See:
The solubility of calcite and aragonite in sulfate-free seawater and the seeded growth kinetics and composition of the precipitates at 25°C; Chemical Geol., vol. 74, p. 309-320, 1989.

574
MUCCI, A., ZHONG SHAOJUN, McGill Univ. (Geological Sciences):
Partitioning of rare-earth elements (REE) between calcite and seawater solutions, 1989-92.

575
PARROTT, R., Geol. Surv. Can.:
Engineering geology of the Atlantic Shelf, 1983-.

576
PIPER, D.J.W., Geol. Surv. Can.:
Quaternary geologic processes on continental slopes, 1981-.
See:
Probable Late Wisconsinan ice margin on the upper continental slope off St. Pierre Bank, eastern Canada; Can. J. Earth Sci., vol. 25, no. 6, p. 853-865, 1988.

Glaciomarine sedimentation on the continental slope off eastern Canada; Geoscience Canada, vol. 15, no. 1, p. 23-28, 1988.

577
PIPER, D.J.W., Geol. Surv. Can.:
Facies models of modern turbidites, 1983-.

578
SCHAFER, C.T., Geol. Surv. Can.:
Temporal and spatial variation of deep ocean currents in the western Labrador Sea, 1983-.

579
TAYLOR, R.B., Geol. Surv. Can.:
Coastal environments and processes in the Canadian Arctic Archipelago, 1982-.

580
VAN DER FLIER-KELLER, E., Univ. Victoria (Geography):
Hydrothermal effects in sediments associated with the Atlantis II Fracture Zone – Indian Ocean, 1988-.

COAL GEOLOGY/ GÉOLOGIE DU CHARBON

581
BEST, M.E., Geol. Surv. Can.:
Rank and petrographic studies of coal and organic matter dispersed in sediments, 1968-.

582
CALDER, J.H., Nova Scotia Dept. Mines and Energy, Univ. Dalhousie (Geology):
Genesis of coal in the southern Cumberland Basin, Nova Scotia, 1977-89; Ph.D. thesis.

583
CAMERON, A.R., Geol. Surv. Can.:
Petrographic examination of coking coals from the Kootenay Group, Alberta and British Columbia, 1961-.

584
CAMERON, A.R., Geol. Surv. Can.:
Relationship of reflectance to chemical rank parameters of western Canadian coals, 1979-.

585
CAMERON, A.R., Geol. Surv. Can.:
Regional coal rank variations in the Kootenay Formation and their relationship to the structural history of the southern Canadian Rocky Mountains, British Columbia-Alberta, 1981-.

586
CAMERON, A.R., Geol. Surv. Can.:
Petrographic analyses of coals in the Saunders Group, Outer Foothills Belt, Alberta, 1983-.

587
CAMERON, A.R., Geol. Surv. Can.:
Coal-Paleozoic, Mesozoic and Tertiary, western District of Mackenzie and northern Yukon Territory, 1985-.

588
DAWSON, F.M., Geol. Surv. Can.:
Coal geology and resource potential of the Wapiti Group of north-central Alberta, 1987-.
See:
Preliminary results of a continuing study of the stratigraphic context, distribution and characteristics of coal in the Upper Cretaceous to Paleocene Wapiti Group, northwestern Alberta; Geol. Surv. Can., Paper 89-8, p. 43-48, 1989.

589
DAWSON, F.M., Geol. Surv. Can.:
Coal geology and resource potential of the Luscar Group – Phase I, 1987-.
See:
Coal geology and resource potential of the Lower Cretaceous Luscar Group in west-central Alberta; Geol. Surv. Can., Paper 89-8, p. 26-31, 1989.

590
GILLIS, K.S., Nova Scotia Dept. Mines and Energy:
Structural patterns in the Stellarton Graben; Re-evaluation of coal resources of western Cape Breton Island, Nova Scotia, 1987-89.

Structural patterns in the Stellarton Graben will be an internal report concerning faulting in the Stellarton and its relationship to faulting patterns observed in "pull-apart" basins. Report would be of interest to mining operations within the area. Evaluation of coal resources of western Cape Breton is a paper co-authored with P.A. Hacquebard and D. Bromley of the G.S.C., summarizing onshore and offshore coal exploration that has taken place in the coalfields of western Cape Breton.

591
GOODARZI, F., Geol. Surv. Can.:
Mineral matter and trace element content of Canadian coals, Alberta, 1978-.
See:
Effect of maceral subtypes and mineral matrix on measured reflectance of subbituminous coals and dispersed organic matter; Inernat. J. Coal Geol., vol. 10, no. 4, p. 383-398, 1988.

592
HUGHES, J.D., Geol. Surv. Can.:
Resource evaluation and geology of Canada coal deposits, 1981-.

593
HUGHES, J.D., Geol. Surv. Can.:
Development of analytical systems for coal geology and resource assessment – Phase I, 1988-93.

594
JERZYKIEWICZ, T., Geol. Surv. Can.:
Sedimentological studies of coal-bearing Upper Cretaceous and Paleocene formations, Alberta Foothills and Plains, 1981-.
See:
Synopsis: "Controls on the distribution of coal in the Campanian to Paleocene post-Wapiabi strata of the Rocky Mountain Foothills (Canada)"; Geol. Surv. Can., Paper 89-8, p. 41, 42, 1989.

Sedimentological and palynological evidence of regional climatic changes in the Campanian to Paleocene sediments of the Rocky Mountain Foothills, Canada; Sedimentary Geol., vol. 59, no. 1/2, p. 29-76, 1988.

595
JERZYKIEWICZ, T., Geol. Surv. Can.:
Stratigraphy and sedimentology of coal-bearing Wapiti Group in the Grande Cache-Grande Prairie area, Alberta, 1987-.

596
JERZYKIEWICZ, T., Geol. Surv. Can.:
Paleoclimate of late Cretaceous and early Paleocene in Alberta and Inner Mongolia, northern China, 1987-.

597
KALKREUTH, W.D., Geol. Surv. Can.:
Optical properties of coals and dispersed organic materials, 1975-.

598
KALKREUTH, W.D., Geol. Surv. Can.:
Regional coalification studies in the Minnes, Bullhead and Fort St. John groups, northeastern British Columbia, 1981-.
See:
Gates Formation (Lower Cretaceous) coals in Western Canada: a sedimentological and petrographical study; Geol. Surv. Can., Paper 89-8, p. 14-25, 1989.

Coalification patterns in Jurassic-Lower Cretaceous strata (Minnes, Bullhead and Fort St. John groups), Rocky Mountain Foothills and foreland, east-central British Columbia and adjacent Alberta; ibid., p. 68-79, 1989.

Petrology and sedimentology of Gates Formation coals, northeastern British Columbia: preliminary results; ibid., p. 88-95, 1989.

599
KALKREUTH, W.D., Geol. Surv. Can.:
Conversion properties of selected coals and oil shales in relation to geological age, geological setting and petrographic composition, 1986-.
See:
Stratigraphy, sedimentology and depositional environments of the coal-bearing Stellarton Formation, Nova Scotia; Geol. Surv. Can., Paper 89-8, p. 2-13, 1989.

Conversion properties of selected canadian coals based on hydrogenation and pyrolysis experiments; ibid., p. 108-114, 1989.

A preliminary assessment of the hydrocarbon potential of selected coals using hydrous pyrolysis; ibid., p. 115-119, 1989.

600
KALKREUTH, W.D., Geol. Surv. Can.:
Regional studies on rank and petrographic composition of coals in the Rocky Mountains foothills and foreland, British Columbia and Alberta between 60° and 51° latitude, 1988-92.
See:
Controls on coal quality variation in the Cadomin-Luscar coalfield, Alberta; Geol. Surv. Can., Paper 89-8, p. 80-87, 1989.

601
KENT, D.M., YURKOWSKI, M., Univ. Regina (Geology):
Pore geometry and reservoir quality of Winnipegosis reefs in southeastern Saskatchewan, 1988-90; M.Sc. thesis (Yurkowski).

Investigation into the depositional and diagenetic factors influencing porosity in Winnipegosis Reefs; includes mercury injection capillary pressure analysis, scanning electron microscopy, polarized light microscopy using cathodoluminescence and ultraviolet fluorescence.

602
LANGENBERG, C.W., MACDONALD, D.E., KALKREUTH, W.D., STROBL., R.S., BAHNSEN, B., Alberta Research Council (Geological Survey), Geol. Surv. Can.:
Foothills and Mountains coal quality – local study, 1987-89.
See:
Cyclic marine sedimentation in the Lower Cretaceous Luscar Group and Spirit River Formation of the Alberta Foothills and Deep Basin; Can. Soc. Petrol. Geol., Mem. 15, p. 143-154, 1989.

To document coal quality variations in the Cadomin-Luscar coal field to establish

procedures for the assessment of coal quality and to allow comparisons between coal quality data from different areas of the mountains/foothills of Alberta.

603
MACDONALD, D.E., LANGENBERG, C.W., GENTZIS, T., CHIDAMBARAM, N., MANDRYK, G.B., STERENBERG, C.E., CAMERON, A.R., KALKREUTH, W.D., Alberta Research Council (Geological Survey), Geol. Surv. Can.:
Regional coal quality variations in the foothills/mountains regions of Alberta, 1987-89.

To document and provide a geologic understanding of the variation in coal quality parameters in the foothills/mountains region of Alberta.

604
RICHARDSON, R.J.H., MANDRYK, G.B., FIETZ, D.W., Alberta Research Council (Geological Survey):
Alberta Geological Survey coal geology data base, 1986-89.

As part of a GeoScience Information System (GSIS) pilot project a demo for coal-related information was developed at the Alberta Geological Survey. The system created during this study operates under the shell of pcARC/INFO. A menu system was created within the shell to allow for standard queries by geologists having no special training in computing systems. In addition to the above capabilities, the Coal Groups GeoScience Information System (GSIS) provides a graphic query window for the Alberta Geological Surveys coal database created in the INGRES relational database system residing on a VAX 780.

The system has the capability of producing high-quality color or black and white maps (at any scale) and/or reports from any combination of available data, allowing for a hard copy record. It will also produce new maps from existing information, and allows for the interactive composition of custom thematic maps related to the display of geological information.

605
RICKETTS, B.D., Geol. Surv. Can.:
Stratigraphic and coal resource analyses of coal bearing basins of Arctic Canada, 1985-.
See:
Coal resource potential in the Arctic Islands:1. Paleocene coastal plain coals from Strathcona Fiord; Geol. Surv. Can., Paper 89-8, p. 62-67, 1989.

An integrated analysis of the Brackett Coal Basin, Northwest Territories; Geol. Surv. Can., Paper 89-1G, p. 85-100, 1989.

606
SMITH, G.G., Geol. Surv. Can.:
Analysis of structurally deformed coal deposits in the Canadian Cordillera, 1989-91.

607
STROBL, R.S., WONG, R.K.W., KRZANOWSKI, R., MANDRYK, G.B., CHIDAMBARAM, N., CHAO, D., Alberta Research Council (Geological Survey):
Coal quality of the Ardley coal zone, Alberta plains region, 1986-89.

608
VAN DER FLIER-KELLER, E., Univ. Victoria (Geography):
Noble metal systematics in selected Canadian coals, 1987-.

Examination of the systematics of the Noble metals in coal and the relationships to tectonism, mineralogy and hydrology.

609
VAN DER FLIER-KELLER, E., Univ. Victoria (Geography):
Geochemistry of Insular Belt coals – relationship to tectonic setting and depositional environment, 1988-.

INDUSTRIAL MINERALS/ SUBSTANCES MINÉRALES INDUSTRIELLES

610
ADAMS, G.C., Nova Scotia Dept. Mines and Energy:
Gypsum/anhydrite project, Nova Scotia, 1985-89.

An up-to-date compilation of surface and subsurface occurrences of gypsum and anhydrite in the Province with occurrence by occurrence write-ups including references.

611
BERARD, J., BLANCHETTE, A., École Polytechnique (Génie minéral):
Essais accélérés en vue de déterminer le potentiel de réactivité alcalis-granulats, 1987-89; thèse de maîtrise en science (Blanchette).

612
BERARD, J., CÔTÉ, F., École Polytechnique (Génie minéral):
Expansion des schistes pyriteux, 1988-90; thèse de maîtrise en science (Cote).

Des soulèvements importants ont été observés dans des fondations (dalles de béton) de plusieurs édifices implantés sur des fondations faites de shole pyriteux. Nous désirons mesurer les taux d'expansion et les forces exercées par simulation en laboratoire.

613
BERARD, J., ST-PIERRE, L., École Polytechnique (Génie minéral):
Étude du comportement des additifs minéraux dans divers mélanges de mortier en essais accélérés, 1988-90; thèse de maîtrise en science (St-Pierre).

Il est possible, grâce à des additifs minéraux, de neutraliser l'expansion des bétons fait avec des roches réactives en présence des alcalis du ciment. Les essais sont effectués en 14 jours au lieu de 6 mois, selon la norme actuelle ASTM C227. Nous en sommes au stade de mesure des expansions de prismes de mortier.

614
BEZYS, R.K., Ontario Geol. Surv.:
Gypsum in the Moose River Basin, northern Ontario, 1988-89.
See:
Paleozoic geology of the gypsum deposits in the James Bay Lowland; Ontario Geol. Surv., Misc. Paper 141, p. 442-445, 1988.

615
CHRISTIE, R.L., Geol. Surv. Can.:
Geology of bedded phosphate deposits in Canada, 1976-.

616
GUNTER, R., Manitoba Energy and Mines (Geological Services):
Evaluation of selected industrial mineral occurrences in northern Manitoba, 1984-89.

To inventory the industrial mineral occurrences in northern Manitoba and to investigate selected occurrences in greater detail to determine their economic potential.

617
HAMILTON, W.N., Alberta Research Council (Geological Survey):
Filler-grade limestone study, 1985-89.

To test specific deposits in Alberta for potential use as extender for high grade calcium carbonate filler, and to evaluate limestone resources in general as source material for precipitated calcium carbonate (PCC) filler.

618
HAMILTON, W.N., SCAFE, D.W., Alberta Research Council (Geological Survey):
Filler potential of Alberta kaolins, 1987-88.

Study confirmed that Alberta kaolins are of sub-marginal quality for paper filler use.

619
HAYNES, S.J., HUGHES-PEARL, J., Brock Univ. (Geological Sciences):
Gypsum deposits and geology of Salina Formation, Silurian, southwestern Ontario, 1986-.
See:
Gypsum deposits of southern Ontario; Ontario Geol. Surv., M.P. 140, p. 217-230, 1988.

Research is continuing on the geoloyg of producing mines at Drumbo and Hagersville.

620
HORA, J.D., British Columbia Ministry Energy, Mines, Petrol. Res.:
Evaluation of limestone and dolomite resources in British Columbia, 1989-90.

A compilation study with a limited field reconaisance.

621
HORA, Z.D., BUTRENCHULE, S.B., British Columbia Ministry Energy, Mines, Petrol. Res.:
Evaluation of barite resources in British Columbia, 1989-90.

An inventory of barite resources and assessment of development potential for British Columbia. A compilation study with a limited field reconaisance.

622
HORA, Z.D., HANCOCK, Q.D., British Columbia Ministry Energy, Mines, Petrol. Res.:
Chromite occurrences in British Columbia, 1989-90.

An inventory of chromite, platium group elements and nickel deposits and occurrences in British Columbia – a compilation study.

623
HORA, Z.D., READ, P., British Columbia Ministry Energy, Mines, Petrol. Res.:
Evaluation of the industrial minerals potential of British Columbia Tertiary Basins, 1986-90.

Identification of favourable areas within Tertiary Basins for deposits of kaolin, ceramic clays, bentonite, zeolites, diatomite, fullers earth etc. Assessment of industrial minerals potential of this largely unexplored geological unit.

624
HOWSE, A.F., Newfoundland Dept. Mines:
Assessment of Newfoundland's industrial minerals with particular emphasis on marble and dolomite.
See:
Chemical and physical properties of the Canada Harbour marble deposits; Newfoundland Dept. Mines, Rept. 89-1, p. 159-166, 1989.

To determine the economic potential of insular Newfoundland's marble and dolomite resources. Several deposits of high purity marble suitable for use as industrial fillers and extenders have been identified and are currently the focus of further assessment and development by industry. Further detailed assessment of promising dolomite prospects is planned.

625
MEYER, J.R., Newfoundland Dept. Mines:
Industrial minerals in Labrador with particular emphasis on marble and dolomite.
See:
Labradorite occurrences north of David Inlet; Newfoundland Dept. Mines, Rept. 89-1, 1989.

Dimension-Stone Potential in the Nain anorthosite; CIM Bulletin, vol. 81, no. 916, 1988.

Ongoing industrial mineral exploration in Labrador, and some dimension stone assessment on the island of Newfoundland.

626
NANTEL, S., Ministère de l'Énergie et des Ressources du Québec:
Recherche de granite architectural sur la Côte-Nord, 1983-89.
Voir:
L'exploration de granite architectural sur la Côte-Nord: découvertes 1988; Ministère de l'Énergie et des Ressources du Québec, 1988.

Les travaux d'exploration de granite architectural sur la Côte-Nord ont conduit à la découverte d'une vingtaine de sites potentiels. Tous ces sites ont été claimés et plusieurs ont fait l'object de travaux de mise en valeur.

627
PRIME, G.A., Nova Scotia Dept. Mines and Energy:
Aggregate resource of northern Nova Scotia; Aggregate quarry potential in Halifax-Dartmouth area, Nova Scotia, 1986-89.

To define and evaluate the aggregate deposits of Cumberland and Colchester Counties – the result will include 1:124 000 maps and extensive sample analyses of the material; to evaluate the geology and to identify potential locations where quarries can be developed in the future.

628
SIMANDL, G., VALIQUETTE, G., École Polytechnique (Génie minéral):
Caractérisation des gîtes de graphite et de wollastonite de la vallée de la Gatineau, Québec, 1985-89; thèse de doctorat (Simandl).

Tous les indices ont été analysés et classifiés. Des hypothèses sont énoncées sur leur genèse et leur potentiel économique. Des guides d'exploration sont suggérés pour l'ensemble de la Province de Grenville.

629
SZOKE, S., Ontario Geol. Surv.:
Ontario's aggregate resources inventory project, 1979-.

Special studies such as investigation of buried aggregates are undertaken as required.

630
VOS, M.A., Ontario Geol. Surv.:
Shale study – Southern Ontario, 1988-89.

A subsurface investigation of shales in Ontario as a resource of the brick and tile manufacturing industry.

631
WHITE, G.U., HORA, Z.D., British Columbia Ministry Energy, Mines, Petrol. Res.:
Assessment of vermiculite, perlite and natural pezzclaus potential in British Columbia, 1989-90.

An inventory and a quality assessment of the three above industrial mineral commodities. A field mapping, sampling and processing test carried out by CANMET and a commercial laboratory.

MINERAL DEPOSITION EXPLORATION/EVALUATION/ RECHERCHE ET ÉVALUATION DES GÎTES MINÉRAUX

632
ANNESLEY, I.R., MADORE, C., Saskatchewan Research Council:
The Wollaston Group and its underlying Archean basement in northern Saskatchewan, 1988-91.
See:
The Wollaston Group and its underlying Archean basement in Saskatchewan: preliminary report; Saskatchewan Geol. Surv., Misc. Rept. 88-4, p. 54-60, 1988.

To investigate in detail the geological characteristics of the Wollaston Group (i.e. Aphebian in age) metasediments and the underlying Archean basement with respect to uranium mineralization.

633
BELKABIR, A., DARLING, R., École Polytechnique (Génie minéral):
Géologie et géochimie du gisement d'or filonien archéen Dumont, Val d'Or, Québec, 1988; thèse de maîtrise en science (Belkabir).

The structural study of the deposit has been completed and the wallrock alteration phase of the project has just been started.

634
BRISTOL, C.C., Brandon Univ. (Geology):
Chlorite and carbonate mineral compositions related to gold mineralization – Tartan Lake Mine, Manitoba, 1988-.

Awaiting additional electron microprobe analyses; field work completed.

635
BRISTOL, C.C., FROESE, E., Brandon Univ. (Geology), Geol. Surv. Can.:
Highly metamorphosed altered rocks associated with the Osborne Lake volcanogenic massive sulfide deposit, Manitoba.

Making last minute manuscript alterations.

636
BRISTOL, C.C., PROULX, A., Brandon Univ. (Geology):
Alteration and gold mineralization on the IMC, North Shear properties and Vista Mine, Flin Flon area, Manitoba, 1988-.

Petrography well advanced, awaiting microprobe analyses; field work completed.

637
BROMMECKER, R., HODGSON, C.J., Queen's Univ. (Geological Sciences):
The structural setting of gold in the southeastern Rice Lake Greenstone Belt, Manitoba, 1988-90; M.Sc. thesis (Brommecker).

638
BROWN, A.C., École Polytechnique (Génie minéral):
Metallogenic and paragenetic analyses of base and precious metal mineral deposits, 1970-.
See:
Structural geology of the Blake River Group at the Bousquet Mine, Abitibi, Québec; Can. J. Earth Sci., vol. 25, p. 581-592, 1988.

To provide geologic and parageneitic constraints on the emplacement of metals in a) stratiform copper deposits and b) Archean gold deposits.

639
BROWN, A.C., PERRAULT, G., DARLING, R., TRUDEL, P., École Polytechnique (Génie minéral):
Métallogénie et gîtologie de l'or dans l'Abitibi du Québec, 1982-89.

Ce projet d'équipe est responsable d'un nombre d'études du baccalauréat, de la maîtrise et du doctorat depuis 1982. Les futures études seront assimilées dans des activités du groupe Lithoprobe sur le campus de l'Université de Montréal.

640
CERNY, P., MEINTZER, R.E., CHACKOWSKY, L.E., ANDERSON, A.J., WANG, X.-J., CLARK, G.S., BRISBIN, W.C., FRYER, B.J., LONGSTAFFE, F.J., BAADSGAARD, H., Univ. Manitoba (Geological Sciences), Memorial Univ. (Earth Sciences), Univ. Western Ontario (Geology), Univ. Alberta (Geology):
Mineralogy, geochemistry and petrology of rare-element pegmatites and related granites in northeastern Manitoba, 1983-91.
See:
The Magill granite and associated pegmatites, Magill Lake, Manitoba; Manitoba Dept. Energy and Mines, Rept. Field Activities 1988, p. 128-139, 1988.

Pegmatite fields under investigation: Magill Lake, Cross Lake, Red Sucker Lake, Red Cross Lake, Gods Lake.

641
CERNY, P., MEINTZER, R.E., WISE, M.A., CLARK, G.S., FRYER, B.J., LONGSTAFFE, F.J., Univ. Manitoba (Geological Sciences), Memorial Univ. (Earth Sciences), Univ. Western Ontario (Geology):
Mineralogy, geochemistry and petrology of rare-element pegmatites and related granites in the Yellowknife field, N.W.T., 1988-90.
See:
Phosphate mineralogy of the Yellowknife pegmatite field; Contrib. Geology N.W.T., vol. 3, INAC Yellowknife, p. 123-129, 1988.

Limited laboratory follow-up in 1988.

642
CERNY, P., TOMASCAK, P., WISE, M.A., FRYER, B.J., LONGSTAFFE, F.J., Univ. Manitoba (Geological Sciences), Memorial Univ. (Earth Sciences), Univ. Western Ontario (Geology):
Reconnaissance of the Chantrey Inlet pegmatite field, N.W.T., 1988-.

Reconnaissance of a new pegmatite field in three greenstone belts on the eastern shore of Chantrey Inlet.

643
CERNY, P., TOMASCAK, P., WISE, M.A., FRYER, B.J., LONGSTAFFE, F.J., Univ. Manitoba (Geological Sciences), Memorial Univ. (Earth Sciences), Univ.Western Ontario (Geology):
Mineralogy, geochemistry and petrology of the Aylmer Lake-MacKay lake pegmatite field, N.W.T., 1988-92; M.Sc. thesis (Tomascak).

Distribution, affiliation and specialization of granite-pegmatite systems in a virtually unexplored pegmatite-bearing terrane.

644
CHARTRAND, F., Ministère de l'Énergie et des Ressource du Québec:
Synthèse métallogénique de la baie James Phase I – étude des indices minéralisés (survol), 1989-90.

Faire la synthèse métallogénique de la baie James entre Matagami et Radisson; étudier les indices minéralisés et leurs contextes géologiques.

645
CHARTRAND, F., SIMARD, A., VERPAELST, P., ROY, C., Ministère de l'Énergie et des Ressources du Québec:
Évaluation du potentiel minéral dans la région de Rouyn-Noranda – gîtes de sulfures massifs volcanogènes, 1989-.

Faire une évaluation quantitative du potentiel minéral des gisements de sulfures massifs. Ce projet représente un premier essai dans une région où la géologie est bien connue.

646
CHURCH, B.N., SCHIARIZZA, P., British Columbia Ministry Energy, Mines, Petrol. Res. (Geological Survey Branch):
Geology and mineralization in the Bridge River Mining Camp, British Columbia, 1986-.
See:
Research and Exploration in the Bridge River Mining Camp; British Columbia Ministry Energy, Mines, Petrol. Res., Paper Geological Fieldwork 1988-1, p. 105-114, 1988.

The study updates lithological and structural interpretation of the region providing a framework for further mineral investigations. Control of the mapping is based on approximately 200 traverses and 3000 geological stations scattered across the area.

647
COUTURE, J-F., GUHA, J., Université du Québec à Chicoutimi:
Géologie du gisement Au-Cu de la rivière Eastmain, Nouveau-Québec, 1986-90; thèse de doctorat (Couture).
See:
Timing of emplacement of an Archean lode gold deposit in amphibolite terrane – Eastmain River deposit; Geol. Assoc. Can. – Mineral. Assoc. Can., Program with abstracts, vol. 14, p. A118, 1989.

Le gisement de la rivière Eastmain est un exemple de minéralisations aurifères filoniennes encaissées par des roches qui ont subi un métamorphisme régional au faciès des amphibolites. La distribution de la minéralisation est contrôlée par la structure.

648
DILABIO, R.N.W., Geol. Surv. Can.:
Drift prospecting methods and models, 1978-.
See:
The spherical form of gold: man-made or secondary?; Econ. Geol., vol. 83, no. 1, p. 153-162, 1988.

Residence sites of gold, PGE and rare lithophile elements in till; Proc. Eighth Symp. Prospecting in areas of glaciated terrain, p. 121-140, 1988.

649
DI PRISCO, G., Ontario Geol. Surv.:
Precambrian – Paleozoic unconformity in southeastern Ontario and associated mineralization, 1986-89.
See:
Gold enrichment at the Precambrian – Paleozoic unconformity, southeastern Ontario; Geol. Assoc. Can. – Mineral. Assoc. Can., Program with abstract, vol. 13, p. A33, 1988.

The Precambrian – Paleozoic unconformity in southeastern Ontario and associated mineralization; Ontario Geol. Surv., Misc. Paper 141, p. 330-334, 1988.

Completion of the project in 1989, publication of an Open File Report (OGS Publication) late 1989 or beginning 1990.

650
DUNSMORE, H.E., Geol. Surv. Can.:
Geology of uranium resources of Canada, 1976-.

651
FUCHTER, W.A.R., HODGSON, C.J., Queen's Univ. (Geological Sciences):
The geology and gold mineralization of the northwestern mining camp, Gwanda greenstone belt, Zimbabwe, 1985-89; Ph.D. thesis (Fuchter).

652
FYON, J.A., HRABI, R.B., MAITLAND, W.M.., O'DONNELL, L., Ontario Geol. Surv., Univ. New Brunswick (Geology), Univ. Toronto (Erindale, Geology):
Temagami minerals project, Ontario, 1987-89.
See:
Metallogenic studies in the Temagami Greenstone Belt, District of Nipissing; Ontario Geol. Surv., Misc. Paper 141, p. 190-197, 1988.

Relationships between lithological alteration and structural and precious metal occurrences in the Temagami Greenstone Belt, District of Nipissing; ibid., p. 212-218, 1988.

653
GAUDREAU, R., ROCHELEAU, M., PERRIER, B., ST-JULIEN, P., HÉBERT, R., LACOSTE, P., Université Laval (Géologie):
Métallogénie de quelques gîtes aurifères dans les secteurs, Louvicourt, Vauquelin, Pershing, Abitibi, Québec, 1985-89.

Gîtologie et métallogénie des gîtes de Sigma 2, Chimo, Bruell-Aurora, Croinor, Brosnor et Nordeau. Définition des contrôles stratigraphiques, structuraux et géochimiques et définition de la genèse des gisements.

654
GAUTHIER, N., ROCHELEAU, M., ST-JULIEN, P., GUHA, J., Université Laval (Géologie), Université du Québec à Chicoutimi:
Géologie structurale et métallogénie aurifère de la zone tectonique de Cadillac dans la région de Rouyn, Abitibi, Québec, 1984-89; thèse de doctorat (Gauthier).
See:
The Cadillac-Larder Lake Fault Zone, Abitibi Belt, Canada: An example of an Archean accretionary prism hosting gold deposits; Bicentennial Gold 88, Extended abstracts, Poster Programme vol. 1, p. 13-15, 1988.

Stratigraphie, géologie structurale et métallogénie des gîtes Augmitto, Astoria, Bazooka et Rouyn Merger-O'Neill Thompson dans la zone tectonique de Cadillac, cantons de Rouyn et de Beauchastel, région de Rouyn.

655
GIOVENAZZO, D., PICARD, D., LAMOTHE, D., Université du Québec à Chicoutimi:
Comportement des EGP dans le filon-couche Delta, Nouveau-Québec, 1986-90.

656
GODWIN, C.I., ABERCROMBIE, S., Univ. British Columbia (Geological Sciences):
Geology and radio-isotope geochemistry of the Zeta Si-Ag prospect and associated syenite, central-western Yukon, 1985-89; M.Sc. thesis (Abercrombie).

Zoned megacrysts are being examined by ICP, probe, Rb-Sr, Pb-Pb and Sm-Nd.

657
GODWIN, C.I., DAWSON, G., Univ. British Columbia (Geological Sciences):
Geology of the French skarn deposit, Hedley area, south-central British Columbia, 1989-91; M.Sc. thesis (Dawson).

Detailed study of this small skarn deposit is anticipated to be more informative than study of the larger Hedley system.

658
GODWIN, C.I., GABITES, J., ANDREW, A., Univ. British Columbia (Geological Sciences):
Lead isotope systematics for the Canadian Cordillera with emphasis on exploration applications.

659
GODWIN, C.I., LANE, R., Univ. British Columbia (Geological Sciences):
Geology of Coal Creek Dome hematite-carbonate breccias, northwestern Yukon Territory, 1986-90; M.Sc. thesis (Lane).

Regional galena lead isotope study provides some time constraints. Breccias are compared to Wernecke breccias, Yukon, and to Roxby Downs, Australia.

660
GODWIN, C.I., LEITCH, C.R., Univ. British Columbia (Geological Sciences):
Geology and origin of the Bralorne-Pioneer mesothermal gold veins, Bridge River camp, southwestern British Columbia, 1986-89; Ph.D. thesis (Leitch).

661
GODWIN, C.I., REDDY, D., Univ. British Columbia (Geological Sciences):
Geology of Indian River volcanogenic deposit area, southwestern British Columbia, 1986-89; M.Sc. thesis (Reddy).

Regional lead isotope study of Cascadia in British Columbia is included.

662
GROSS, G.A., Geol. Surv. Can.:
Geology and appraisal of metalliferous sedimentary iron and manganese resources, 1957-.
See:
A comparison of metalliferous sediments, Precambrian to Recent; Krystalinikun, vol. 19, p. 59-74, 1988.

663
GUIMOND, P.G., HODGSON, C.J., Queen's Univ. (Geological Sciences):
Structure and gold mineralization in central Gauthier Township, Abitibi Greenstone Belt, Ontario, 1985-90; M.Sc. thesis (Guimond).

664
HAMILTON, W.N., Alberta Research Council (Geological Survey):
Mineral resource studies – Mineral Deposits File/Map, 1982-89.

Goals for current year are to complete data capture for mineral deposits file and to produce minerals map as a pilot project for GIS technology development.

665
HARNOIS, L., MOORE, J.M., Carleton Univ. (Earth Sciences):
Origin of the Ore Chimney Formation, Grenville Province, Ontario, 1982-89; Ph.D. thesis (Harnois).
See:
Geochemistry and origin of the Ore Chimney Formation, a transported paleoregolith in the Grenville Province, Southeastern Ontario, Canada; Chemical Geol., vol. 69, p. 267-289, 1988.

The O.C.F. is identified as a metamorphosed, locally-transported regolith formed from mafic volcanic rocks and lying on a regional unconformity. It is closely associated with polymetallic, auriferous lode deposits. Metals were probably leached from the volcanics and deposited near the peak of metamorphism.

666
HARPER, C., Saskatchewan Geol. Surv.:
Kimberlites/Diamonds, 1989.
See:
Kimberlites in the Western Canadian Sedimentary Basin; Canadian Continental Drilling Program, Workshop, Calgary, March 1-2, 1989 (Abstract).

667
HAYNES, F.M., SCHRIJVER, K., INRS-Géoressources:
Disseminated and vein-bound copper sulfides in the Proterozoic Dunphy Formation, Labrador Trough, Quebec, 1985-88.
See:
Fluid inclusion evidence of copper remobilization during retrograde metamorphism in the central Labrador Trough; Can. Mineral., v. 27, pt. 1, 1989.

668
HAYNES, S.J., Brock Univ. (Geological Sciences):
Gold quartz vein deposits in clastic sedimentary terranes, 1982-.
See:
Structural reconnaissance of the Jiangnan Geanticline; Proc. 4th Internat. Terrane Conf., p. 31-33, 1988.

Gold Exploration: Application to South China; Foreign Experts Lecture Series, vol. 2, Geol. Bureau, CNNC, Beijing, 88 p. (in Chinese), 1988.

Field studies are continuing in South China and the Yellowknife Basin, N.W.T.

669
HAYNES, S.J., Brock Univ. (Geological Sciences):
Epithermal and mesothermal deposits, Leiyang-Linwu Belt, Hunan, China, 1987-.
See:
Superposition of Cretaceous Au-Ag epithermal breccias on Jurassic Pb-Zn (Cu) mesothermal skarns, Shuikoushan district, Hunan China; Bicentennial Gold "88", Extended Abstracts, vol. 1, p. 357-359, 1988.

Epithermal-mesothermal metallogeny of the Leiyang-Linwu Belt; Symp. "Discovery of Blind Ore Deposits", Hunan Geol. Soc., Shuikouskan, China, 1988.

670
HÉBERT, C., Ministère de l'Énergie et des Ressources du Québec:
Reconnaissance gîtologique dans le Grenville, 1989-90.

Rechercher et inventorier sur le terrain les indices minéralisés compilés sur les fiches de gîte du ministère. Il s'agit de retrouver les indices répertoriés et d'en apprécier la valeur par échantillonnage, anlayse et cartographie de détail ou autres et d'effectuer les modification nécessaires aux fiches de gîte existantes.

671
IRRINKI, R.R., New Brunswick Dept. Natural Resources, and Energy (Geological Surv. Branch):
Evaluation of New Brunswick metallic mineral deposits, 1985-.

Evaluation of metallic mineral deposits involves computerization of all available drillhole data and estimation of reserves. Key Anacon, Stratmat, Heath Steele N-5, Half Mile Lake, Murray Brook, Lake George, Gordex (Cape Spencer), Mispec Road Zone and Burnthill deposits are computerized.

672
JÉBRAK, M., Université du Québec à Montréal (Sciences de la Terre):
Les minéralisations aurifères intragranitiques de l'Abitibi, Québec, 1988-90.
See:
Gold deposits in tonalite from the S-E Abitibi, Québec; Geol. Assoc. Can. – Mineral. Assoc. Can., Program with abstracts, vol. 14, p. A80, 1989.

Typologie et genése des minéralisations aurifères.

673
JEFFERSON, C.W., Geol. Surv. Can.:
Regional mineral resource assessment, northern Canada, 1984-.
See:
Stratigraphic and structural settings of iron-formations and gold in the Back River area, District of Mackenzie, N.W.T.; Geol. Surv. Can., Paper 89-1C, p. 293-304, 1989.

674
JOWETT, E.C., Univ. Waterloo (Earth Sciences):
Age and origin of Kupferschiefer ore deposits, 1986-89.
See:
Effects of continental rifting on location and genesis of stratiform copper deposits; Geol. Assoc. Can., Sp. Paper 36, p. 49-62, 1989.

Evolution of ideas about the genesis of stratiform Cu-Ag deposits; Geol. Soc. America, Program with Abstracts, p. A20, 1988.

Use physical properties and tectonism to understand genesis of these deposits.

675
JOWETT, E.C., CATHLES III, LM., Univ. Waterloo (Earth Sciences), Univ. Cornell (Geology):
Physical constraints of fluid flow in rift basins, 1988-.
See:
Depth and timing of gypsum-anhydrite transition controlled by tectonic environment and lithology of overlying sediment; Geol. Soc. America, Program with Abstrcts, p. A109, 1988.

To determine fluid-driving mechanisms from geologic/metal zoning evidence.

676
JOWETT, E.C., LOSH, S., SHERLOCK, R., Univ. Waterloo (Earth Sciences):
Detachment-hosted gold deposits: structural and fluid-flow analysis, 1988-; Ph.D. thesis (Sherlock).

Stable isotope, geochemical and structural constraints on origin of detachment-related Au deposits.

677
JOWETT, E.C., SWINDEN, S., WALDIE, C., Univ. Waterloo (Earth Sciences), Newfoundland Dept. Mines and Energy:
Origin of Crescent Lake sulphide vein system, 1988-89; B.Sc. thesis (Waldie).

Fluid inclusion, isotopic, and petrographic study to understand origin and compare to Kuroko massive sulphide system.

678
JOWETT, E.C., WYLLIE, R., Univ. Waterloo (Earth Sciences):
Origin of "brown altered zone": A new type of alteration in the Kirkland Lake Gold Camp, Ontario, 1988-89; B.Sc. thesis (Wyllie).

To determine whether this new type of Au-associated alteration is result of distincitve host rock, or a new fluid composition.

679
KIRKHAM, R.V., Geol. Surv. Can.:
Geology of copper and molybdenum deposits in Canada, 1970-.
See:
Comb quartz layers in felsic intrusions and their relationship to porphyry deposits; Can. Instit. Mining Metal., Sp. Vol. 39, p. 50-71, 1988.

680
KISH, L., Ministère de l'Énergie et des Ressources du Québec:
Gîtologie des roches mafiques-ultramafiques de la région de Manicouagan-Fermont, Québec, 1987-91.

Évaluer le potentiel économique des roches du Grenville et trouver les causes des anomalies géochimiques et géophysiques de la région située entre lac Manicouagan et Fermont.

681
KLASSEN, R.A., Geol. Surv. Can.:
Uranium drift prospecting techniques; Lower Kazan River area, District of Keewatin, 1975-.

682
LOVE, D., HODGSON, C.J., Queen's Univ. (Geological Sciences):
Geology and genesis of the Mt. Skukum gold deposit, 1987-; Ph.D. thesis (Love).

683
LYDON, J.W., Geol. Surv. Can.:
Geology of lead and zinc resources of Canada, 1977-.

684
MACLEAN, W.H., BERNIER, L., ICHANGI, D., LIAGHAT, S., McGill Univ. (Geological Sciences):
Hydrothermal alteration associated with massive sulphide ores in greenstone belts, 1987-.
See:
Rare earth element mobility at constant inter-REE ratios at the Phelps Dodge massive sulphide deposit, Matagami, Quebec; Mineralium Deposita, vol. 23, p. 231-238, 1988.

Other studies published on changes in chlorite composition, and its use as a geothermometer. Present work on Horne and Ansil deposits in Noranda on Mass Changes.

685
MILLER, R., Newfoundland Dept. Mines:
Metallogeny of granites in Labrador, 1984-89.
See:
Rare-metal targets in insular Newfoundland; Newfoundland Dept. Mines. Rept. 89-1, p. 171-179, 1989.

This project will document the geology, petrology and mineralogy of: 1) the Strange Lake Zr-Y-Nb-Be-REE deposit and related granites, and 2) the Mann – type (Letitia Lake) Nb-Be showings and related peralkaline volcanic and subvolcanic rocks – to provide exploration models for Rare Metal exploration in Labrador and insular Newfoundland.

686
O'DRISCOLL, C.F., SEARS, W.A., Newfoundland Dept. Mines:
Avalon metalogeny – Connaigre Bay Group, 1989-90; M.Sc. thesis (Sears).
See:
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OLIBER, J.L., Queen's Univ. (Geological Sciences):
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The relationship between widespread Na-K metasomatism (albitization) and uranium mineralization in the Beaverlodge area is being investigated.

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Selected intrusive bodies are being characterized using lithogeochemistry, petrology and structure with the objective of determining relationships of the intrusive rocks to gold mineralization.

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A proposed genetic model for Ba-Pb-Zn occurrences not associated with igneous rocks, Taconic Thrust Belt, Quebec; Geol. Surv. Can., Paper 89-1B, p. 29-37, 1989.

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The Exshaw Formation has the potential to be one of the best documented source rocks in the world. Organic type, maturity, and richness data are being acquired; work on the typing of specific accumulations and correlation to the extracts of the Exshaw is in progress.

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Selected Paleozoic and Mesozoic organic-rich mudstone units are being examined in southern Manitoba and Saskatchewan. The organic type, maturity, and richness are being documented in order to determine the depositional and diagenetic controls and settings of the organic-rich units. Mineralogy and inorganic geochemistry are being evaluated in order to assess the role these components play on the use of the shales as

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The Mississippian carbonate rocks in Manitoba produce over 75% of the province's total annual oil output. Although considerable effort has been put into regional studies of the sedimentology and diagenesis of these Mississippian carbonate units, relatively few detailed, petrographic studies have been made within the province. At present, a systematic investigation of the petrography and diagenesis of the Mission Canyon Formation in the Pierson area is being conducted.

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The geological setting of gold mineralization in the Wawa Gold Camp, Ontario, Canada; ibid., 1988.

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HÉROUX, Y., BERTRAND, R., INRS-Géoressources:
Synthèse sur la zonéographie du pouvoir réflecteur des matières organiques dispersées dans la séquence des Basses-Terres du Saint-Laurent, Québec, 1988-89.

Le pouvoir réflecteur des fragments de microfossiles organiques montre une évolution croissante vers la région de Montréal. Des anomalies hydrothermales, associées aux minéralisations sulfurées (Ba, Pb, Zn) sont décelées par cette technique. Les Montérégiennes ont un effet sur l'altération de la matière organique qui est géographiquement restreint au double du diamètre des intrusions crétacées.

775
KISSIN, S.A., ABDALLAH, G.K., BARR, C.M., Lakehead Univ. (Geology):
Applications to ore deposits: studies on non-silicate minerals and their applications to problems in ore deposits and meteoritics; 1987-; M.Sc. thesis (Abdallah).
See:
Nickel-cobalt-native silver (five-element veins): A rift-related ore type; Proc. Vol. North American Conf. on Tectonic Control of Ore Deposits and the Vertical and Horizontal Extent of Ore Systems, p. 268-279, 1988.

The five-element suite: An indicator of non-magnetic ore types related to rifting and basin development; Explore, No. 64, p. 5-8, 1988.

Studies on the sphalerite geobarometry of the Winston Lake Mine, Ontario (Barr) and the mineralogy of the Mattabi Mine, Ontario (Abdallah) are in progress. Investigations on the genesis of five-element ore suite have continued, with some preliminary studies of theoretical ore transport mechanisms.

776
KISSIN, S.A., SHERLOCK, R.L., BURGESS, S.T., Lakehead Univ. (Geology):
The genesis of silver vein deposits in the Thunder Bay area, northwestern Ontario, 1986-89; M.Sc. thesis (Sherlock).
See:
Sulfur isotope, fluid inclusion, and mineralogical studies of the Thunder Bay silver veins, Ontario, Canada; Geol. Soc. Amer., Program with abstracts, vol. 20, p. A40, 1988.

The genesis of silver vein deposits in the Thunder Bay area, northwestern Ontario; Ontario Geol. Surv., Misc. Paper 140, p. 146-156, 1988.

Silver vein deposits in the Thunder Bay area are members of the enigmatic five-element (Ag-Ni-Co-As-Bi) type. The deposits are not related to magmatic activity either through direct magmatic evolution or contact metamorphism mobilization. The study seeks to verify that they are related to solutions mobilized by elevated heat flow accompanying rifting.

777
LACROIX, S., DARLING, R., École Polytechnique (Génie minéral):
La gîtologie et la genèse du Cu-Ni dans la région du lac Aulneau, Fosse du Labrador, Québec, 1983-; thèse de maîtrise en science (Lacroix).

778
LAZNICKA, P., Univ. Manitoba (Geological Sciences):
Breccias: petrology and metallogeny, 1976-.
See:
Breccias and coarse fragmentites; Devel. in Econ. Geol. 25, Elsevier, Amsterdam, 840 p., 1988.

779
LAZNICKA, P., Univ. Manitoba (Geological Sciences):
Metallogeny of giant ore deposits and metal accumulations, 1979-.
See:
Depth variations and ore style in southeastern China diwa metallogeny (Abstract); Proc. Symp Diwa Metallogeny, Changsha, China, Nov. 1988.

780
LAZNICKA, P., Univ. Manitoba (Geological Sciences):
Empirical metallogeny: global distribution of metallic deposits as related to depositional environments/litholofic associations, 1980-.
See:
Ore deposit models, regional assessments and computerized inventory of feature retrieval system of visual images of geological materials based on LITHOTHEQUE (abstract); Metallogeny related to the tectonics of Proterozoic mobile belts, IGCP Proj. 247, Symposium Calcutta, Dec. 1988.

781
MILLER, A.R., Geol. Surv. Can.:
Metallogeny of the Baker Lake – Thelon region, Northwest Territories, 1981-.

782
MORROW, D.W., Geol. Surv. Can.:
Chemical controls on dolomite cementation and diagenesis, 1988-93.

783
MOSSMAN, D.J., BURZYNSKI, J.F., Mount Allison Univ. (Geology), RESA Resources Fredericton:
The Sb-Au association of mineral deposits: the trans-North Atlantic connection, a comparison between occurrences in Maritime Canada and the Iberian Peninsula, 1987-89.

To compare and contrast Sb ± Au occurrences in the Iberian Peninsula with those in Maritime Canada. Indications are that the Maritime Canadian deposits, located in an early Paleozoic sedimentary basin, are related to their tectonic setting during and immediately prior to mineralization, in contrast to Iberian deposits which are

apparently related to a pre-existing geochemical province.

784
MOSSMAN, D.J., FARROW, C.E.G., Mount Allison Univ. (Geology):
Paleosols and ore forming processes at the Huronian/Archean boundary, Elliot Lake Region, Ontario, Canada, 1987-89.
To examine the role played by paleosols in the development of the uraniferous ore bodies in Elliot Lake region.

785
MOSSMAN, D.J., REIMER, T.O., Mount Allison Univ. (Geology) Dyckerhoff Transportbeton GmbH, West Germany:
The Witwatersrand controversy revisited, 1989.
Evolution of the mineralogy of the Witwatersrand ores is intimately linked to the extensive reworking and recycling of constituents derived from deep weathering of primarily arenaceous sequences, and lesser greenstone and metamorphic and felsic igneous rocks. This study describes in detail how the modified placer hypothesis enjoys a formidable predictive capacity as the favoured working hypothesis.

786
O'DRISCOLL, C.F., SMITH, J., STAPLETON, G., KING, D., BUTLER, J.W., Newfoundland Dept. Mines:
Mineral Occurrences Data System, 1978-.
See:
Mineral occurrence map, Opocopa Lake area, Labrador-Quebec, 23B(NE); Newfoundland Dept. Mines, Map 89-01, 1989.
Mineral occurrence map, Wightman Lake area, Labrador-Quebec, 23G(SE); ibid., Map 89-35, 1989.
The Mineral Occurence Data System is designed to offer an efficient information service on all mineral occurrences in the Province. It is a two-part project comprising a manual Mineral Inventory File and a computerized Mineral Index. Mineral occurrence maps are plotted on updated geological bases and are published as NTS areas are completed.

787
PILOTE, P., GUHA, J., DAIGNEAULT, R., ROBERT, F., GOLIGHTLY, P., Université du Québec à Chicoutimi, Ministère de l'Énergie et des Ressources du Québec:
Environnement géologique, configuration et contrôles des minéralisations aurifères des gisements "GoldenPoind", canton de Casa-Bérardi, Abitibi Ouest, Québec, 1986-90.
Documenter la localisation de veines de quartz aurifères à l'intérieur d'un large couloir de déformation. Travaux rendus à la phase interprétation et établissement de corrélations.

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PODRUSKI, J.A., Geol. Surv. Can.:
Gas resources of western Canada, 1988-91.

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SAMSON, I.M., Univ. Winsdor (Geology):
Mineralization and fluid evolution in the Mount Pleasant W-Mo-Sn deposits, New Brunswick, 1984-.

790
SAMSON, I.M., HOLM, P.E., SHERMAN, G.R., Univ. Windsor (Geology):
Relationship of auriferous quartz vein formation to structural and fluid evolution of the Gemmel Lake area, Manitoba, 1988-90.

791
SAMSON, I.M., SMITH, T.E., GAGNON,J.E., Univ. Windsor (Geology):
Geology and geochemistry of the McLellan Au-Ag deposit, Lynn Lake, Manitoba, 1987-89; M.Sc. thesis (Gagnon).

792
SAMSON, I.M., WILLIAMS-JONES, A.E., Univ. Windsor (Geology), McGill Univ. (Geological Sciences):
Composition of volatiles associated with Cu-mineralization and contact metamorphism,; McGerrigle Mountains, Quebec: Raman spectroscopic evidence, 1984-89.

793
SANGSTER, A.L., Geol. Surv. Can.:
Metallogeny of Nova Scotia, 1986-.
See:
Hydromorphic and glaciomechanical dispersion in a drumlin terrain, French Road, Cape Breton, Nova Scotia; Eight Symp. on Prospecting in Areas of Glaciated Terrain, p. 625-644, 1988.

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SANGSTER, D.F., Geol. Surv. Can.:
Geological research on sediment-hosted base metal deposits, 1986-.

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SOUTHER, J.G., Geol. Surv. Can.:
Geothermal energy resources in Canada, 1973-.

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TANCZYK, E.I., Geol. Surv. Can.:
Tectonics and metallogeny of the Meguma Terrane of Nova Scotia, 1987-.

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VIGRASS, L.W., RICHARDSON, S., PAPPAS, E., Univ. Regina (Geology), Saskatchewan Research Council:
Control of production of loose sand in Lloydminster heavy oil wells, 1988-89; M.Sc. thesis (Richardson).
Investigation with E. Pappas began in 1984; current study relates largely to diagenesis of Lloydminster oil-producing sandstones (Lower Cretaceous).

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WATSON, G.P., Geol. Surv. Can.:
Metallogy of New Brunswick, 1986-.

MINERALOGY/CRYSTALLOGRAPHY/MINÉRALOGIE/CRISTALLOGRAPHIE

799
BAYLISS, P., Univ. Calgary (Geology and Geophysics):
Mineral Powder Diffraction File, 1973-.
To publish new edition in 1991.

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CERNY, P., CERNA, I., WICKS, F.J., University of Manitoba (Geological Sciences), Royal Ontario Museum (Geology):
Mineralogy and petrology of serpentinites and serpentine minerals, 1968-.
6-layer serpentine minerals; serpentinite at Vezná; hornblendes of serpentinized medium-grade peridotites; lizardite; cerolite minerals.

801
CERNY, P., MEINTZER, R.E., SMEDS, S-A., Univ. Manitoba (Geological Sciences), Uppsala Univ. (Geology):
Rare-element pegmatites and their granitoid sources in the Proterozoic of Sweden, 1985-.
Current research aimed at the Nb, Ta, Cs mineralization at Utö, mineralogy and paragenesis of phosphate exsolution; Nb, Ta, Sn, Sb, As minerals at Varuträsk; regional zoning in the Mysingen-Utö field; petrologyof Härnö granites.

802
CERNY, P., TEERTSTRA, D., HAWTHORNE, F.C., ERCIT, T.S., NIEDERMAYR, G., Univ. Manibota (Geological Sciences), National Museum Ottawa, Naturhist. Museum Vienna:
Mineralogy of granitic pegmatites, 1968-; M.Sc. thesis (Teertstra).
Cesian analcine and pollucite; secondary minerals of Be; zircon; monazite; exsolution in phosphates; "allemonite"; chlorite group; stannite-kesterite.

803
CERNY, P., WISE, M.A., HAWTHORNE, F.C., CLARK, G.S., FRANSOLET, A.-M., FRYER, B.J., LONGSTAFFE, F.J., ERCIT, T.S., BAADSGAARD, H., ANDERSON, A.J., Univ. Manitoba (Geological Sciences), Univ. Liège, Memorial Univ. (Earth Sciences), Univ. Western Ontario (Geology), Ottawa Univ. (Geology), Univ. Alberta (Geology), Queen's Univ. (Geological Sciences):
Mineralogy, geochemistry and petrology of the Tanco pegmatite, southeastern Manitoba, 1968-.
Current research aimed at apatite, triphylite-lithiophilite, Nb, Ta-oxide minerals, feldspars, micas, carbonates, lithiophosphate; geochemistry of Ga, Rb-Tl, isotopic relationships, REE abundances.

804
CERNY, P., WISE, M.A., HAWTHORNE, F.C., ERCIT, T.S., FRANCIS, C., SIMMONS, W., FOORD, E.E., UCAKUWUN, E.K., Univ Manitoba (Geological Sciences), National Museum Ottawa, Harvard Univ., Univ. New Orleans, USGS Denver, Mainz:
Crystal chemistry and geochemistry of Nb, Ta Sn, Ti-oxide minerals, 1968-.
See:
Foordite $SnNb_2O_6$ a new mineral, and the foordite-thoreaulite series; Can. Mineral., vol. 26, p. 889-990, 1988.

The crystal structure of foordite; ibid., p. 901-906, 1988.

Crystallochemical studies of wodginite, simpsonite, ixiolite, foordite, alumotantite, columbite-tantalite, tapiolite, niobian-tantalian rutile, ilmenite; paragenesis and geochemistry at Utö and Varuträsk, Sweden; Odd West and Tanco, Manitoba; Plex, Baffin Island; McGuire, Colorado; New England states; Yellowknife field, N.W.T.; diverse localities in Austria, Czechoslovakia, Uganda..

805
CERNY, P., WISE, M.A., MEINTZER, R.E., BRISBIN, W.C., TRUEMAN, D.L., CHACKOWSKY, L.E., LENTON, P.G., SMEDS, S.-A., Univ. Manitoba (Geological Sciences), Highwood Res., Manitoba Dept. Energy and Mines, Uppsala Univ. (Geology):
Internal evolution of granite pegmatites, 1968-.

Analysis of pegmatite bodies at Huron Claim, Tanco, Gods Lake, Red Cross Lake, and Buck Claim, Manitoba, Plex and River, N.W.T.; Vezna, Czechoslovakia; Abborselet, Sweden.

806
CHAGNON, A., DESJARDINS, M., INRS-Géoressources:
Détermination de la cristallochimie des chlorites argileuses par diffraction des rayons-X et microanalyse, 1988-89.

L'objectif est la détermination la plus précise possible de la composition des chlorites incluses dans les suites argileuses des roches sédimentaires. Comme il est impossible de les séparer mécaniquement, la composition de ces minéraux doit être établir par D-X et/ou microanalyse au MEB. Comme standard, on utilise des profiles D-X calculés.

807
FERGUSON, R.B., Univ. Manitoba (Geological Sciences):
Crystallographic/petrologic aspects of alkali feldspars, 1985-.

We are curently developing a rapid procedure (using single-crystal precession photography, powder x-ray diffraction and electron microprobe analysis) to more completely characterize alkali feldspars in petrological studies.

808
GROAT, L.A., HAWTHORNE, F.C., Univ. Manitoba (Geological Sciences):
The crystal chemistry of vesuvianite, 1982-; Ph.D. thesis (Groat).

There are still major uncertainities in the structural chemistry of vesuvianite. We are examining a wide variety of vesuvianites (from ~50 localities) by complete chemical analysis, together with crystal structure refinement, infrared spectroscopic and detailed optical work.

809
GROAT, L.A., HAWTHORNE, F.C., RAUDSEPP, M., ERCIT, T.S., Univ. Manitoba (Geological Sciences):
Structural and spectroscopic aspects of the OH⇌F substitution in the amblygonite-montebrasite solid solution series, 1985-.

The details of the OH⇌F substitution and its effects on the structure of the amblygonite-montebrasite are examined by crystal structure refinement, electron microprobe analysis, infrared spectroscopy, and Magic Angle Spinning Nuclear Magnetic Resonance spectroscopy.

810
HARRIS, D.C., Geol. Surv. Can.:
X-ray diffraction analyses and mineralogical studies, 1968-.
See:
Criddleite, $TLAG_2AU_3SB_{10}S_{10}$, a new gold-bearing mineral from Hemlo, Ontario, Canada; Mineralogical Magazine, vol. 52, no. 368, p. 691-697, 1988.

811
HAWTHORNE, F.C., Univ. Manitoba (Geological Sciences):
Polyhedral connectivity in oxysalt minerals, 1984-.

All oxysalt minerals are being examined with regard to coordination polyhedra connectivities. Specific structural hierarchies are being set up, and attempts made to relate specific hierarchies with mineral paragenesis.

812
HAWTHORNE, F.C., CERNY, P., SHERRIFF, B., HARTMAN, S., Univ. Manitoba (Geological Sciences), Brock Univ. (Geological Sciences):
Alkali substitutions in beryl, 1988.

The exact details of the alkali metal (Li, Na, K, Rb, Cs) substitution in beryl are being elucidated by crystal structure refinement, electron microprobe analysis and Magic Angle Spinning Nuclear Magnetic Resonance spectroscopy.

813
HAWTHORNE, F.C., EBY, R.K., GROAT, L.A., Univ. Manitoba (Geological Sciences):
Topological aspects of Cu-oxysalts, 1985-; M.Sc. thesis (Eby).

This work examines the interaction of local Jahn-Teller distortions with the requirements for long-range periodicity and local bond-valence satisfaction to see how they affect the topology/bond connectivity of Cu-oxysalt structures.

814
HAWTHORNE, F.C., GRICE, J.D., ROSSMAN, G.R., CERNY, P., Univ. Manitoba (Geological Sciences), Cal. Tech.:
the crystal chemistry of milarite and the double-ring silicates, 1986-.

Milarite is an accessory mineral of granitic pegmatites. We are currently characterizing its crystal chemistry and its relation to paragenesis by crystal structure refinement and infrared absorption spectroscopy.

815
HAWTHORNE, F.C., GROAT, L.A., RAUDSEPP, M., ERCIT, T.S., Univ. Manitoba (Geological Sciences):
Radiation damage in natural titanites, 1985-.

Radiation damage in natural titanites is characterized by powder and single-crystal x-ray diffraction and infrared spectrocopy, high-resolution transmission electron microscopy, X-ray absorption spectroscopy (XANES and EXAFS), Mössbauer spectroscopy and Magic Angle Spinning Nuclear Magnetic Resonance Spectroscopy.

816
HAWTHORNE, F.C., SMITH, J.V., Univ. Manitoba (Geological Sciences), Univ. Chicago:
Enumeration of 4-connected 3-dimensional nets and its application to the structures of framework silicates, 1985-.
See:
Enumeration of 4-connected 3-dimensional nets. Combination of zig-zag and saw chains with simple 2-D nets; Zeit. Kristallogr., vol. 183, p. 213-231, 1988.

This work constitutes a topological and geometrical examination of 3-dimensional nets as possible models for the bond connectivites in 4-connected framework structures, especially silicates.

817
HAWTHORNE, F.C., UNGARETTI, L., Univ. Manitoba (Geological Sciences), Univ. Pavia:
Crystal chemistry of staurolite, 1988-.

The crystal chemistry of staurolite is still not completely understood in terms of cation occupancy and structural state. A detailed examination of a wide variety of staurolites is underway, using primarily crystal structure refinement, and electron and ion microprobe analysis.

818
HAWTHORNE, F.C., UNGARETTI, L., OBERTI, R., Univ. Manitoba (Geological Sciences), Univ. Pavia:
The crystal chemistry of dioctahedral amphiboles, 1988.

We have discovered a group of amphiboles with significant ordered vacancies in the octahedral strip; these have the same relationship to normal amphiboles as the dioctahedral micas have to trioctahedral micas. Detailed crystal structure, electron and ion microprobe work is underway.

819
JAMBOR, J.L., ROBERTS, A.C., OWENS, D.R., CANMET/EMR, Geol. Surv. Can.:
Mineralogical characterization of ores, 1979-.

Description of new minerals is in progress – to relate the mineralogy to ore processing of the deposit.

820
KISSIN, S.A., OWENS, D.R., Lakehead Univ. (Geology), CANMET:
Mineralogy and crystal chemistry of tin-bearing sulphides, 1974-.

Studies on cylindrite-franckeite group minerals have continued. Continued work on stannite group minerals have revealed the existence of a mineral, which appears to be zinc analogue of the new mineral, petrukite, but

apparently occurs as exsolution lamellae in petrukite.

821
MCCAMMON, C., Univ. British Columbia (Geological Sciences):
Phase transitions in minerals at High Pressure and applications to the Earth's interior, 1987-.

Phase transitions are studies in situ as a function of pressure, temperature and composition using a recently constructed diamond anvil laboratory.

822
MCCAMMON, C., Univ. British Columbia (Geological Sciences):
Iron characterization in minerals of economic significance using mössbauer spectroscopy, 1988-.

Mössbauer spectroscopy is used to determine Fe^{3+}/Fe^{2+} ratios and site distributions in iron bearing minerals with applications to ore processing, petroleum exploration, coal liquefaction and metal corrosion.

823
MCCAMMON, C., Univ. British Columbia (Geological Sciences):
High pressure equation of state of materials determined by shock wave experiments, 1989-.

A two stage light gas gun is under construction in the Department of Physics, UBC (estimated completion 1989) which will allow shock wave experiments on materials to determine their equation of state at P,T conditions comparable to the Earth's interior.

824
OTTAWAY, T.L., WICKS, F.J., Royal Ontario Museum (Mineralogy), Univ. Toronto (Geology):
Mineralogy and geochemistry of the Muzo Emerald Deposit, Colombia, 1984-89; M.Sc. thesis (Ottaway).

Reduction of sulfate-rich brines to H_2S is believed to have been the key reaction that produced the "ore-forming" fluids at Muzo. The action of thermochemical reduction reactions pyrolyzed sedimentary organic matter and released organically bound beryllium. The beryllium-bearing H_2S fluids were injected along fracture systems within the black shales, where a rise is solution pH, produced by wallrock reactions, caused the precipitation of beryl (emerald).

825
PETERSON, R.C., Queen's Univ. (Geological Sciences):
Cation ordering in $MgAl_2O_4$, 1986-.

Single crystal neutron diffraction and time of flight powder neutron diffraction at elevated temperatures.

826
PETERSON, R.C., JAMIESON, H.E., Queen's Univ. (Geological Sciences):
Cation ordering in $MgFe_2O_4$ spinel, 1985-.

Single crystal x-ray diffraction at elevated temperatures.

827
PETERSON, R.C., MILLARD, R.L., Queen's Univ. (Geological Sciences):
Cation order-disorder in $MgAl_2O_4$ and $ZnAl_2O_4$ Spinels: Comparison of O-17 and Al-27 solid state nmr spectra with x-ray diffraction data, 1987-89; M.Sc. thesis (Millard).

O-17 enriched samples of $MgAl_2O_4$ and $ZnAl_2O_4$ spinels are being synthesized for O-17 and Al-27 MAS nmr study, Nmr results will be compared to literature x-ray data to assess cation order-disorder.

828
PLANT, A.G., Geol. Surv. Can.:
Electron beam microanalysis, 1962-.

829
ROELOFSEN-AHL, J., PETERSON, R.C., NELLA, J., Queen's Univ. (Geological Sciences):
Structural variation in nickel aluminate spinel, 1987-89; M.Sc. theses (Nella, Peterson).

Rietreld refinement of x-ray powder data.

830
SCHRIJVER, K., DESJARDINS, M., RHÉAME, P., INRS-Géoressources:
Diagenetic, anchimetamorphic, and/or hydrothermal alteration of feldspars in sandstones of the Taconic Thrust Belt, Quebec (titre provisoire), 1988-92.

831
SYNDER, J., PETERSON, R.C., Queen's Univ. (Geological Sciences):
Cation ordering in $NiMgSiO_4$ olivines, 1984-88; M.Sc. thesis (Synder).

Single crystal x-ray diffraction at elevated temperatures.

832
WICKS, F.J., Royal Ontario Museum (Mineralogy), Univ. Toronto (Geology):
The structures and crystal chemistry of the serpentine minerals, 1970-.
See:
Serpentine minerals: structure and petrology; Mineral. Soc. Amer. Hydrous phyllosilicates (exclusive of micas), Reviews in mineralogy, v. 19, p. 91-167, 1988.

833
WICKS, F.J., RAMIK, R., Royal Ontario Museum (Mineralogy):
Thermal and evolved gas analyses of minerals, 1976-.
See:
Maricopaite, a new hydrated Ca-Pb silicate from Arizona; Can. Mineral., v. 26, p. 309-313, 1988.

Paulkellerite, a new bismuth iron phosphate mineral from Schneeberg, Germany; Amer. Mineral., v. 73, p. 870-872, 1988.

Moauslanite: a new iron aluminum fluorophosphate hydrate mineral from the East Kemptville tin mine, Yarmouth County, Nova Scotia, Canada; Can. Mineral., v. 26, p. 917-921, 1988.

PALEONTOLOGY/PALÉONTOLOGIE

INVERTEBRATE/INVERTÉBRÉS

834
BAMBER, E.W., Geol. Surv. Can.:
Carboniferous and Permian biostratigraphy and coral faunas, western and northern Canada, 1971-.
See:
A summary of Carboniferous and Permian biostratigraphy, northern Yukon Territory and northwest District of Mackenzie; Geol. Surv. Can., Paper 89-1G, p. 13-22, 1989.

835
BAMBER, E.W., Geol. Surv. Can.:
Micropaleontology, palynology and macropaleontology of the surface and subsurface Paleozoic of the northern Yukon and western District of Mackenzie, 1985-.

836
BOLTON, T.E., Geol. Surv. Can.:
Ordovician-Silurian biostratigraphy, Southampton Island, District of Keewatin, 1970-.

837
BRIGGS, D., COLLINS, D.H., Univ. Bristol (Geology), Royal Ontario Museum (Invert. Palaeont.):
A Middle Cambrian chelicerate from Mount Stephen, British Columbia, 1983-.
See:
Palaeontology, vol. 31, pt. 3, p. 779-798, 1988.

838
CAMERON, B.E.B., Geol. Surv. Can.:
Foraminiferal biostratigraphy of the Pacific Margin, 1969-.
See:
Lower and Middle Jurassic radiolarian biostratigraphy and systematic paleontology, Queen Charlotte Islands, British Columbia; Geol. Surv. Can., Bull. 386, 1988.

839
COPELAND, M.J., Geol. Surv. Can.:
Paleozoic ostracodes of Canada, 1972-.

840
DIXON, O.A., Univ. Ottawa (Geology):
Ordovician and Silurian heliolitid corals of Anticosti Island, Quebec, and Canadian Arctic, 1968-.

841
ELIAS, R.J., Univ. Manitoba (Geological Sciences):

Ordovician and earliest Silurian solitary rugose corals of North America.
See:
Paleoenvironmental reconstruction based on horn corals, with an example from the Late Ordovician of North America; Palaios, vol. 3, no. 1, p. 22-34, 1988.

Paleontology of the type section, Fort Garry Member, Red River Formation (Upper Ordovician), southern Manitoba; New Mexico Bur. Mines Mineral Res., Mem. 44, p. 341-359, 1988.

Taxonomy, paleobiology, paleoecology, taphonomy, biogeography, evolution, extinction, and biostratigraphy of the early solitary rugose corals.

842
FILLION, D., Univ. New Brunswick (Geology):
Ichnological contribution to basin analysis of the Hornbrook Group, northern California and southern Oregon, 1985-90; Ph.D. thesis.

Project will include a taxonomic revision of the ichnogenus *Scolicia*.

843
HALL, R.L., POULTON, T.P., Univ. Calgary (Geology and Geophysics), Geol. Surv. Can.:
Bajocian (Middle Jurassic) faunas and biostratigraphy, British Columbia, 1987-.

844
HALL, R.L., STRONACH, N., Univ. Calgary (Geology and Geophysics):
Lithostratigraphy and biostratigraphy of the Fernie Formation (Jurassic), Alberta and British Columbia, 1978-87; Ph.D. thesis (Stronach).
See:
Late Bajocian and Bathonian (Middle Jurassic) ammonites from the Fernie Formation, Canadian Rocky Mountains; J. Paleontology, vol. 62, p. 575-586, 1988.

New Bathonian (Middle Jurassic) ammonite faunas from the Fernie Formation, southern Alberta; Can. J. Earth Sci., vol. 26, no. 1, p. 16-22, 1989.

Teudopsis Cadominensis, a New Teuthid Squid from the Toarcian (Lower Jurassic) of Alberta; J. Paleontology, vol. 63, p. 324-327, 1989.

845
HOFMANN, H.J., Université de Montréal (Géologie):
Precambrian and Lower Paleozoic paleontology and stratigraphy, 1970-.
See:
An alternative interpretation of the Ediacaran (Precambrian) chondrophore Chondroplon Wade; Alcheringa, vol. 13, no. 4, p. 315-318, 1988.

Trace fossils from the type "Etcheminian Series" (Lower Cambrian Ratcliffe Brook Formation), St. John area, New Brunswick; Geol. Magazine, vol. 126, pt. 2, p. 139-157, 1988.

Study of megafossils, trace fossils, microfossils, and stromatolites; taxonomy, paleoecology and biostratigraphy.

846
JOHNSTON, P.A., Tyrrell Mus. Palaeontology:
Late Ordovician aulacerid stromatoporoids from the Beaverfoot Formation of southeastern British Columbia, 1986-.

Focuses on the morphology, biostratigraphy, paleoecology and phylogenetic relationships of large, columnar aulacerid stromatoporoids from the uppermost Ordovician of British Columbia.

847
JOHNSTON, P.A., Tyrrell Mus. Palaeontology:
Systematics, paleoecology and biostratigraphy of Devonian Bivalvia of Arctic Canada, 1986-.
See:
Middle Devonian Bivalves from Melville Island, Arctic Canada; Can. Soc. Petrol. Geol., Mem. 14, p. 337-346, 1988.

To establish a biostratigraphic, paleoecologic and taxonomic framework for the interpretation of bivalves occurring in Devonian rocks of Arctic Canada.

848
MATTHEWS, J.V., Jr., Geol. Surv. Can.:
Late Cenozoic fossil insects and Late Cenozoic paleoecology, 1973-.

849
MCCRACKEN, A.D., Geol. Surv. Can.:
Paleozoic conodonts of eastern Canada, 1988-.

850
MCNEIL, D.H., Geol. Surv. Can.:
Macropaleontology, micropaleontology and palynology of the Mesozoic and Lower Tertiary of the northern Yukon and western District of Mackenzie, 1985-.
See:
Foraminiferal zonation and biofacies analysis of Cenozoic strata in the Beaufort-Mackenzie Basin of Arctic Canada; Geol. Surv. Can., Paper 89-1G, p. 203-224, 1989.

851
NORRIS, A.W., Geol. Surv. Can.:
Brachiopods of the lower Upper Devonian Waterways Formation of northeastern Alberta, 1977-.

852
NOWLAN, G.S., Geol. Surv. Can.:
Paleozoic conodonts of eastern Canada, 1977-.

853
ORCHARD, M.J., Geol. Surv. Can.:
Conodont biostratigraphy and biogeography in the Canadian Cordillera, 1981-.
See:
Permian conodont biostratigraphy of the Harper Ranch beds, near Kamloops, south-central British Columbia; Geol. Surv. Can., Paper 88-8, 1988.

Conodont biostratigraphy and constraints on Upper Devonian mineral deposits in the Earn Group, northern British Columbia and Yukon; Geol. Surv. Can., Paper 89-1E, p. 13-19, 1989.

Ordovician conodonts identify the oldest sediments in the Intermontane Belt, Olalla, south-central British Columbia; ibid., p. 61-67, 1989.

Preliminary biostratigraphy of conodonts from McLeod Lake map area, British Columbia; ibid., p. 125, 126, 1989.

854
PINARD, S., MAMET, B., Université de Montréal (Géologie):
Foraminifères des formations Nansen, Otto Fiord, Belcher Channel et Canyon Fiord, Bassin de Sverdrup (Ellesmere, Axel Heiberg), 1983-89; thèse de doctorat (Pinard).

855
RIGBY, J.K., COLLINS, D.H., Brigham Young Univ. (Geology), Royal Ontario Museum (Invert. Palaeont.):
The sponges from the Middle Cambrian *Ogygopsis* trilobite bed, Mt. Stephen, British Columbia, 1986-.

856
RIVA, J.F., Université Laval (Géologie):
Graptolites from the Têtagouche Group, New Brunswick and other correlative Appalachian units, 1988-.
See:
Age and correlation of the Honorat Group, southern Gaspé Peninsula; Can. J. Earth Sci., vol. 25, no. 10, p. 1618-1628, 1988.

857
SMITH, P.L., ANDERSON, B., Univ. British Columbia (Geological Sciences):
Jurassic biostratigraphy of the Iskut map area, British Columbia, 1989-92.

858
SMITH, P.L., TIPPER, H.W., JAKOBS, G., PALFY, J., Univ. British Columbia (Geological Sciences), Geol. Surv. Can.:
Lower Jurassic ammonite biostratigraphy of the Queen Charlotte Islands, British Columbia, 1986-91; Ph.D. thesis (Jakobs), M.Sc. thesis (Palfy).
See:
An ammonite zonation for the Lower Jurassic of Canada and the United States: the Pliensbachian; Can. J. Earth Sci., vol. 25, no. 9, p. 1503-1523, 1988.

859
STEARN, C.W., McGill Univ. (Geological Sciences):
Stromatoporoid fauna of the reefal blocks of the Stuart Bay Formation (Lower Devonian), Bathurst Island, Arctic Canada, 1981-.

860
STEARN, C.W., WEBBY, B.J., NESTOR, H., CLARK, R., HARTMAN, W., McGill Univ. (Geological Sciences):
Revision of the stromatoporoid volume of the Treatise on Invertebrate Paleontology, 1988-.

861
TOZER, E.T., Geol. Surv. Can.:
Canadian Triassic Ammono idea and Bivalvia, 1967-.

862
TREMBLAY, J., WESTROP, S.R., Brock Univ. (Geological Sciences):
Middle Ordovician (Whiterockian) trilobites from the Sunblood Formation, District of Mackenzie, 1987-89; M.Sc. thesis (Tremblay).

863
UYENO, T.T., Geol. Surv. Can.:
Conodont biostratigraphy of Siluro-Devonian rocks of the Arctic Islands, 1968-.

See:
A conodont-based thermal maturation study of some Lower and Middle Devonian rocks, northwestern District of Mackenzie and Yukon Territory; Geol. Surv. CAn., Paper 89-1G, p. 37-42, 1989.

A biostratigraphic summary based primarily on conodonts of Upper Ordovician to Middle Devonian rocks of southwestern Ellesmere Island and northwestern Devon Island, Canadian Arctic Archipelago; ibid., p. 241-248, 1989.

864
VILKS, G., Geol. Surv. Can.:
Quaternary biostratigrpahic methods for marine sediments, 1983-.
See:
Labrador shelf benthic Foraminifera and stable isotopes of *Cibicides lobatulus* related to the Labrador Current; Can. J. Earth Sci., vol. 25, no. 8, p. 1240-1255, 1988.

865
VON BITTER, P.H., Royal Ontario Museum (Invert. Palaeontology), Univ. Toronto (Geology):
Taxonomy, phylogeny and palaeoecology of selected Early Carboniferous conodonts, 1981-.

866
VON BITTER, P.H., Royal Ontario Museum (Invert. Palaeontology), Univ. Toronto (Geology):
Conodont biostratigraphy and palaeoecology, Pennsylvanian and Permian, Arctic Islands, Canada, 1982-.

867
VON BITTER, P.H., DAVISON, N., MCFARLAND, S., Royal Ontario Museum (Invert. Palaeontology), Univ. Toronto (Geology):
Late Ordovician conodonts of the Georgian Bay Formation, Toronto region, Ontario 1983-; M.Sc. thesis (Davison).

868
VON BITTER, P.H., MERRILL, G.K., Royal Ontario Museum (Invert. Palaeontology), Univ. Toronto (Geology), Univ. Houston (Natural Sciences):
Pennsylvanian conodonts of North America – their taxonomy, palaeoecology and biostratigraphy, 1968-.

869
VON BITTER, P.H., PLINT, H., DHINDSA, R., DUDAR, C., WESTON, D., Royal Ontario Museum (Invert. Paleontology), Univ. Toronto (Geology):
Palaeoecology and biostratigraphy of Lower Carboniferous (Windsor and Codroy groups) conodonts, Atlantic Provinces, Canada, 1971-; M.Sc. theses (Plint, Dhindsa).

870
VON BITTER, P.H., SCOTT, S.D., SCHENK, P.E., Royal Ontario Museum (Invert. Palaeontology), Univ. Toronto (Geology), Dalhousie University (Geology):
Hydrothermal vent animals in carbonate mounds within bacterial laminites, Lower Codroy Group (Lower Carboniferous), Port au Port Peninsula, Newfoundland, Canada, 1987-.
See:
Hydrothermal vent animals in carbonate mounds in bacterial laminites, Lower Codroy Group (Lower Carboniferous), Port au Port Peninsula, Newfoundland, Canada; Geol. Assoc. Can. – Mineral. Assoc. Can., Program with abstrcts, vol. 13, p. A130, 1988.

871
WADDINGTON, J., FENN, J., Royal Ontario Museum (Invert. Palaeontology, Conservation):
Preventive conservation of amber, 1986-.
See:
Preventive conservation of amber: some preliminary investigations; Collection Forum, vol. 4, no. 2, p. 25-31, 1988.

872
WADDINGTON, J., FENTON, P., Royal Ontario Museum (Invert. Palaeontology):
Catalogue of Type and Figured Specimens, 1986-.

873
WESTERMANN, G.E.G., McMaster Univ. (Geology):
The Lower Spiti Shale of the Tethyan Himalaya and plate-tectonic implications.

Based on Nepal 1988 trip "Lost Ocean Expedition" lead by F. Gradstein, Halifax, a total of 10 earth scientists studied Jurassic sections in Takkhola area for inegrated stratigraphy.

874
WESTERMANN, G.E.G., McMaster Univ. (Geology):
The Jurassic of the Circum Pacific, 1989.

875
WESTERMANN, G.E.G., HEWITT, R., CHECA, A., DOKAINISH, M., McMaster Univ. (Geology):
Functional morphology of nautiloids and ammonoids, a series of papers on mechanical "design" of fossil and recent shells, 1980-90.

Diverse papers stress structural strength against implosion and predetors, using sophisticated engineering methods (finite element analysis), infraspectific and ontogenetic variation of internal shell parameters, etc.

876
WESTERMANN, G.E.G., JORDAN, R., McMaster Univ. (Geology):
The ammonite biostratigraphy and taxonomy of the north German Bathonian, 1989.

877
WESTERMANN, G.E.G., RICCARDI, A.C., McMaster Univ. (Geology):
Jurassic taxa ranges and correlations for the Circum Pacific, parts 1-6, 1988-91.
See:
Newsletters on Stratigraphy, p. 1-130, 1988.

A major project, for the first time plotting the stratigraphic record of species super-regionally.

878
WESTERMANN, G.E.G., RICCARDI, A.C., McMaster Univ. (Geology):
Middle Jurassic ammonite fauna of Argentine-ChileanAndes. Parts 3 and 4: Eurycephalitinae and Perisphinctaceae, Haploceratacеae, 1989.

879
WESTERMANN, G.E.G., SANDOVAL, J., OLORIZ, F., MARSHALL, M., McMaster Univ. (Geology):
Middle and Upper Jurassic biostratigraphy and ammonite taxonomy of Mexico, 1985-91.

A monograph of the Mexican Middle Jurassic ammonite faunas, with implications to Mexican plate-tectonics.

880
WESTROP, S.R., Brock Univ. (Geological Sciences):
Upper Cambrian (Marjuman-Steptoean) trilobites ofthe Port Au Port Group, western Newfoundland, 1987-90.

881
WESTROP, S.R., Brock Univ. (Geological Sciences):
Upper Cambrian trilobites of the Sullivan Formation, southern Canadian Rocky Mountains, Alberta and British Columbia 1987-92.

Part of a long-term study of the Upper Cambrian trilobite biostratigraphy of the southern Rockies. Work on the younger faunas of the Mistaya and Bison Creek formations has been completed.

882
WESTROP, S.R., Brock Univ. (Geological Sciences):
Mass extinctions and evolutionary radiations in Cambrian and Early Ordovician trilobites of North America.

A long-term investigation of patterns and processes of mass extinction.

883
WESTROP, S.R., LANDING, E., Brock Univ. (Geological Sciences), New York State Geol. Surv.:
Upper Cambrian (Marjuman-Steptoean) trilobites of the Eau Claire Formation, Wisconsin, 1987-92.

884
WESTROP, S.R., LANDING, E., Brock Univ. (Geological Sciences), New York State Geol. Surv.:
Lower Cambrian trilobites of the Avalon Terrane, Newfoundland, Cape Breton Island and New Brunswick.

Landing is studying the trace fossils and a variety of "Small Shelly" taxa.

885
WESTROP, S.R., LUDVIGSEN, R., Brock Univ. (Geological Sciences), Denman Island, British Columbia:
Upper Cambrian (Sunwaptan) trilobites of the Rabbitkettle Formation, District of Mackenzie, 1987-89.

An investigation of the trilobite biostratigrapy of faunas from a complete Sunwaptan sequence in the Mountain River region. A monograph will be submitted for publication by the end of 1989.

886
WESTROP, S.R., LUDVIGSEN, R., KINDLE, C.H., Brock Univ. (Geological Sciences),

Denman Island, British Columbia, Upper Nyack, New York:
Upper Cambrian trilobites of the Cow Head Group, western Newfoundland, 1986-91.

Work on Sunwaptan trilobites is completed; monographs on Steptoean and Marjuman trilobites are in preparation.

887
WILLIAMS, S.H., Memorial University (Earth Sciences):
Ordovician graptolite biostratigraphy and taxonomy in central Newfoundland, 1987-91.
See:
New graptolite discoveries from the Ordovician of central Newfoundland; Newfoundland Dept. Mines and Energy, Rept. 89-1, p. 149-157, 1989.

Early Ordovician (Arenig) graptolites of the Cow Head Group, western Newfoundland, Canada; Palaeontographica Canadiana No. 5, 99 p.

888
YANG LING, STEARN, C.W., McGill Univ. (Geological Sciences):
Paleobiology and paleoecology of the genus *Tetradium* and its relatives in the Ordovician of eastern Canada, 1987-89; M.Sc. thesis (Yang).
See:
Intracorallite structures in *Tetradium* (Ordovician) and related genera; Geol. Assoc. Can. – Mineral. Assoc. Can., Program with abstracts, vol. 14, p. A41, 1989.

VERTEBRATE/VERTÉBRÉS

889
BRINKMAN, D., Tyrrell Mus. Palaeontology:
Vertebrate microfossils from Dinosaur Provincial Park, Alberta, Canada, 1985-.

To use stratigraphic changes in abundance of taxa preserved in vertebrate microfossil localities in the exposures of the Judith River Formation of Dinosaur Provincial Park Alberta to provide an understanding of the paleoecology of those beds.

890
BRINKMAN, D., NICHOLLS, E., Tyrrell Mus. Palaeontology, Univ. Calgary:
Baenid turtles from the Judith River Formation of Alberta, 1989.

To review the anatomy, taxonomy and interrelationships of baenid turtles from the Judith River Formation of Alberta.

891
BRYANT, H.N., Univ. Regina (Biology):
Anatomy, phylogenetic relationships and systematics of the Nimravidae (Mammalia, Carnivora), 1984-; Ph.D. thesis.
See:
Delayed eruption of the deciduous upper canine in the sabertoothed carnivore *Barbourofels lovei* (Carnivora, Nimravidae); J. Vertebrate Paleontology, vol. 8, no. 3, p. 295-306, 1988.

Preparation of manuscripts on various portions of the thesis is in progress.

892
BRYANT, H.N., Univ. Regina (Biology):
Carnivores from selected localities in the Eocene to Oligocene Cypress Hills Formation of Saskatchewan, 1988-.

Work on material from two local faunas (Duchnesean, Chadronian) is in progress. Detailed study and comparative work is planned for the summer of 1989.

893
DINELEY, D.L., LOEFFLER, E.J., Univ. Bristol (Geology):
Early vertebrates from the late Silurian and early Devonian of Somerset and Prince of Wales Islands, Northwest Territories, Canada, 1964-.

894
EBERTH, D.A., BRAMAN, D.R., TOKARYK, T.T., Tyrrell Museum of Paleontoloyg, Saskatchewan Museum of Natural History:
Sedimentology, palynology and paleontology of the Judith River Formation of Saskatchewan, 1988-.

Sedimentological, palynological and vertebrate paleontological aspects of the Judith River fauna near Unity, Saskatchewan is examined. The latter aspect will center on ceratopsian fauna.

895
EDMUND, G., Royal Ontario Museum (Vertebrate Palaeontology):
Revision of South America fossil giant armadillos (Pampatheriidae, Mammalia), 1964-90.

Numerous taxa have been proposed for the scattered and fragmentary remains of pampatheres, especially from Argentina, but more recently from several other South American countries. Detailed comparison has resulted in major taxonomic and distributional conclusions.

896
EDMUND, G., Royal Ontario Museum (Vertebrate Palaeontology):
Osteology and functional morphology of the Pleistocene giant armadillo *Holmesina septentrionalis* (Pampatheriiade, Xenarthra, Mammalia), 1965-88.

Most of the text and illustrations of this monograph are completed, but much editorial work remains.

897
EDMUND, G., Royal Ontario Museum (Vertebrate Palaeontology):
The Daytona Beach bonebed, a (?) Sagamonian deposit from Volusia Co., Florida, 1975-89.

An accelerator carbon date of 42 ka based on wood from the bone layer may change the geological interpretation. Contributions of some collaborators are yet to be received, but the manuscript will be readied for submission during 1989.

898
EDMUND, G., Royal Ontario Museum (Vertebrate Palaeontology):
A collection of pampathere (fossil giant armadillo) material from the upper Juruá River, Brasil, 1984-90.

Pampathere osteoderms, collected in the upper Juruá River, State of Acre, Brasil, by a field party directed by G.S. Simpson, were being studied by Carlos de Paula Couto. They were transferred to Edmund and have been identified in part. Many are not diagnostic or are badly water-worm, but some can be assigned to known genera and may serve to substantiate dates based on other fauna published by Paulo Couto before his death.

899
EDMUND, G., Royal Ontario Museum (Vertebrate Palaeontology):
Vassillia maxima, description based on a good skull, mandible and other elements from the Huayquerian (Late Miocene) of Argentina, 1985-90.

V. maxima is typical of the lineage of pampatheres with thin, smooth osteoderms. This description is the first with associated cranial, post-cranials and osteoderms, and serves to redefine the taxon.

900
EDMUND, G., CHURCHER, C.S., DE ILULIIS, G., Royal Ontario Museum (Vertebrate Palaeontology):
Revision of the family Megatheriinae (Mammalia, Xenarthra, Pilosa), 1987-; Ph.D. thesis (DeIuliis).

Study of Pleistocene megatheres indicates the need to examine the early history of this family which culminated in the genera *Megatherium* and *Eremotherium*.

901
EDMUND, G., DE IULIIS, G., Royal Ontario Museum (Vertebrate Palaeontology):
The Pleistocene species of *Eremotherium* (Mammalia, Xenarthra, Pilosa), 1962-89.

Many names have been given to the large megatherine ground sloths found in much of South America, Central American and southeastern North America. Large samples are now available to permit statistical treatment and analysis of synonymy. Manuscript partly completed.

902
EDMUND, G., DE IULIIS, G., Royal Ontario Museum (Vertebrate Palaeontology):
Atlas of Osteology of *Eremotherium* (Mammalia, Xenarthra, Pilosa), 1984-89.

No description of the skeleton of this ubiquitous genus exists in the literature. The atlas will be heavily illustrated, with measurements and brief descriptions of all elements. Manuscript expected late in 1989.

903
EDMUND, G., MCANDREWS, J., ROYAL, W., Royal Ontario Museum (Vertebrate Palaeontology):
An early Pleistocene fossil site overlain with late Pleistocene fossils and human worked artifacts, Sarasota Co., Florida.

A rich accumulation of highly mineralized bones and plant matter was collected at the juncture of an artesian spring, a buried humic-filled channel and a warm mineral spring run-off. Bone and lithic artifacts have been found along with bone of Irvingtonian Age and good stratigraphic section has been described and sampled.

904
EDMUND, G., SEYMOUR, K., Royal Ontario Museum (Vertebrate Palaeontology):

A Holocene lacustrine fauna from Sarasota Co., Florida, 1984-90.

Well over 1000 bones and teeth have been identified, along with a few paleo-indian artifacts. Accelerator dates of about 5 Ka on bone agree with the artifacts and modern fauna. Taphonomic analysis is proceeding and manuscript is expected by 1990.

905
EDMUND, G., THEODOR, J., Royal Ontario Museum (Vertebrate Palaeontology):
The giant armadillo (Pampatheriiade, Mammalia) from La Venta, Miocene of Colombia, 1985-89.

Study of the pampathere material from Colombia (collections by University of California at Berkeley and Duke University) reveals a single species of Friasian (Mid-Miocene) Age, the oldest pampathere so far reported. It has been given a new generic and specific name and the description and interpretation should be completed in 1989.

906
RUSSELL, L.S., Royal Ontario Museum (Vertebrate Palaeontology):
Biostratigraphy of the Horseshoe Canyon Formation, Edmonton Group, Upper Cretaceous of Alberta, 1984-90.

907
SKWARA, T., Univ. Regina (Geology):
Public access to fossil sites: western North America, 1988.

908
STORER, J.E., BRYANT, H.N., Saskatchewan Museum of Natural History, Univ. Regina (Biology):
Eocene – Oligocene mammals of the Cypress Hills Formation (Uintan-Arikareean) of Saskatchewan, 1979-.

Research continues on the transitional latest Eocene fauna from Lac Pelletier. New Chadronian and Arikareean faunas from the Eastend area fill gaps in the later part of the succession.

909
STORER, J.E., TOKARYK, T.T., Saskatchewan Museum of Natural History.
Late Cretaceous terrestrial vertebrates of Saskatchewan, 1984-.

910
TOKARYK, T.T., BENTON, M., Saskatchewan Museum of Natural History, Queen's Univ. Belfast:
A selected bibliography of the terminal Cretaceous Event, 1987-.

Presently close to 1000 titles have been collected on all disciplines covering the K-T boundary event. Abstracts on each title will be given and all will be indexed.

911
TOKARYK, T.T., JAMES, P., Saskatchewan Museum of Natural History:
A new species of *Cimolopteryx* from the Frenchman Formation of Saskatchewan with a discussion on the avian extinction at the end of the Cretaceous, 1988-.

The only Cretaceous bird from Saskatchewan is described with a brief look at the K-T boundary event in relation to birds.

PALEOBOTANY/PALYNOLOGY/ PALÉOBOTANIQUE ET ANALYSE POLLINIQUE

912
ACHAB, A., INRS-Géoressources:
Chitinozoaires ordoviciens du Québec.
See:
Ordovician chitinozoan of Quebec and western Newfoundland; J. Paleontology, vol. 63, no. 1, p. 14-24, 1989.

Mise en évidence d'un provincialisme chez les chitinozoaires ordoviciens; Can. J. Earth Sci., vol. 25, no. 4, p. 635-638, 1988.

Élaboration d'une zonation de l'Ordovicien basée sur les chitinozoaires. Évaluation du provincialisme de ces microfossiles.

913
BARSS, M.S., Geol. Surv. Can.:
Palynological zonation of the Carboniferous and Permian rocks of Atlantic Provinces, Gulf of St. Lawrence and northern Canada, 1968-.

914
BASINGER, J.F., ASH, S.R., Univ. Saskatchewan (Geological Sciences):
Early Mesozoic plants of the Heiberg Formation, Arctic Canada, 1985-.

915
BASINGER, J.F., LEPAGE, B.A., MCIVER, E.E., Univ. Saskatchewan (Geological Sciences):
Early Tertiary plants of the Eureka Sound Group, Arctic Canada, 1982-.

916
BASINGER, J.F., SCHECKLER, S.E., Univ. Saskatchewan (Geological Sciences):
Late Devonian plants of the Okse Bay Group, Arctic Canada, 1988-.

917
BRAMAN, D.R., Tyrrell Mus. Palaeontology:
Palynology of the upper Judith River Formation, 1985-.

To characterize the interval of the upper Juidith River Formation describing palynomorphs and their stratigraphic ranges.

918
BUSTIN, R.M., ROUSE, G.E., MATHEWS, W.H., Univ. British Columbia (Geological Sciences):
Palynology and geochronology of an alpine pond in southwestern British Columbia, 1980-.

919
CLEAL, C.J., ZODROW, E.L., University College of Cape Breton (Geology), Conservancy Council, U.K.:
Cuticles of the neuropterid group: Sydney Coalfield, Nova Scotia and Saarland, West Germany, 1984-; Ph.D. thesis (Cleal).

The character set for identifying fragments of medullosean fragments is small. Epidermal studies pioneered by M. Barthel (Berlin) are applied to 9 neuropterids. It is found that *N. ovata* Hoffmann is a chronospecies of the Westphalian D, and that neuropterids could be divided into a tripartite group by cuticles.

920
EDLUND, S.A., Geol. Surv. Can.:
Vegetation distribution and relationships to surficial materials and climatic patterns, Arctic region, 1976-.
See:
Regional congruence of vegetation and summer climate patterns in the Queen Elizabeth Islands, Northwest Territories, Canada; Arctic, vol. 22, no. 1, p. 3-23, 1989.

921
FENSOME, R.A., Geol. Surv. Can.:
Biostratigraphy of the Atlantic Shelf and relevant areas, 1981-.

922
GAO ZHIFENG, ZODROW, E.L., University College of Cape Breton (Geology):
Cuticles in Carboniferous pecopterids, 1988-.

A general investigation in cuticles of two groups of pecopterids (*Pecopteris arborescens* Group, *P. miltonii* Group), alethopterids, and the species *Nemejcopteris feminaeformis* highlights differences in cuticle preservation. These differences are not taphonomically based (or related to coal rank) but reflect botanical differences with use in taxonomy.

923
LICHTI-FEDEROVICH, S., Geol. Surv. Can.:
Diatom analysis and paleoecological studies of Quaternary sediments, 1972-.

924
MAMET, B., Université de Montréal (Géologie):
Taxonomie des Algues du Carbonifère, 1989-90.

Révision taxonomique des 138 genres et 600 espèces valides d'Algues calcaires du Carbonifère en vue d'un compendium sur les Algues fossiles. En voie d'achèvement.

925
MASTALERZ, K., ZODROW, E.L., Geological Institute, Wroclaw Univ., Poland, University College of Cape Breton (Geology):
Marks by walchiad needles as paleocurrent indicators, 1986-; Ph.D. thesis (Mastalerz).

Largely unexplored by sedimentologists are impressions left by *Walchia* spp. on sediments of alluvial fans in the Sudetic Mountains. The impression correlate with other paleocurrent markers and could be of independent use when charting paleocurrents by the more conventional means.

926
MCGREGOR, D.C., Geol. Surv. Can.:
Silurian and Devonian spores of Canada, 1975-.
See:
Implications of spore evidence for Late Devonian age of the Piskahegan Group, southwestern New Brunswick; Can. J. Earth Sci., vol. 25, no. 9, p. 1349-1364, 1988.

927
MCINTYRE, D.J., Geol. Surv. Can.:
Upper Mesozoic and Cenozoic palynology of western and northern Canada, 1982-.
See:
Paleocene palynoflora from northern Somerset Island, District of Franklin, N.W.T.; Geol. Surv. Can., Paper 89-1G, p. 191-198, 1989.

New palynological data from Cornwall Arch, Cornwall and Amund Ringnes islands, District of Franklin, N.W.T.; ibid., p. 199-202, 1989.

928
MCIVER, E.E., BASINGER, J.F., Univ. Saskatchewan (Geological Sciences):
Early Tertiary plants of the Ravenscrag Formation, southern Saskatchewan; Ph.D. thesis (McIver).

929
MOTT, R.J., Geol. Surv. Can.:
Quaternary palynology, 1969-.

930
SWEET, A.R., Geol. Surv. Can.:
Palynological studies of Mesozoic and Tertiary coal measures in western and northern Canada, 1971-.
See:
A distinctive terrestrial palynofloral assemblage from the lower Campanian Chungo Member, Wapiabi Formation, southwestern Alberta: a key to regional correlations; Geol. Surv. Can., Paper 89-8, p. 32-40, 1989.

931
SWEET, A.R., Geol. Surv. Can.:
Macropaleontology, micropaleontology and palynology of Devonian, Cretaceous and Tertiary rocks of the Interior Plains, 1985-.
See:
Late Turonian marine and nonmarine palynomorphs from the Cardium Formation, north-central Alberta Foothills, Canada; Can. Soc. Petrol. Geol., Mem. 15, p. 499-516, 1988.

932
SWEET, A.R., BRAMAN, D.R., MCINTYRE, D.J., WALL, J.H., Geol. Surv. Can., Tyrell Mus. Palaeontology:
Palynology and micropaleontology of the upper Wapiabi and lower Brazeau formations, 1983-.
To characterize the interval of transition between Wapiabi and Brazeau formations and document the fossils present.

933
UTTING, J., Geol. Surv. Can.:
Palynology of Carboniferous, Permian and Triassic rocks of northern and western Canada, 1981-.
See:
Thermal maturity of Lower Carboniferous rocks in northern Yukon Territory; Geol. Surv. Can., Paper 89-1G, p. 101-104, 1989.
Preliminary palynological zonation of surface and subsurface sections of Carboniferous, Permian and lowest Triassic rocks, Sverdrup Basin, Canadian Arctic Archipelago; ibid., p. 233-240, 1989.

934
WHITE, J.M., Geol. Surv. Can.:
Tertiary and Mesozoic biostratigraphy and paleoecology of the Pacific Continental Margin, 1987-.
See:
Palynostratigraphy of the Esso et al. Issungnak 0-61 well, Beaufort Sea; Geol. Surv. Can., Paper 89-1G, p. 249-256, 1989.

935
ZODROW, E.L., GAO ZHIFENG, University College of Cape Breton (Geology):
Epidermal studies of *Alethopteris* spp., 1988-.
This part of continuing research to better define ('more' naturally) medullosean ferns of Upper Carboniferous age; to revise Bell's (1938) determinations of the taxa found in the Sydney Coalfield for a better biostratigraphy.

936
ZODROW, E.L., KOTAS, A., University College of Cape Breton (Geology), Geological Institute, Sosnowiec, Poland:
Biostratigraphy and homotaxial correlation between the Upper Silesian coalfield of southern Poland and Sydney Coalfield, Canada, 1988-.
Although of different plate tectonic history largely unsolved for Silesia, both coalfields show that they have similar macrofloral histories. These are attempted to be exploited to find out if correlation is possible and to what level of refinement. To this end, 30 species have been selected for paleobotanical-event stratigraphy.

PETROLOGY/PÉTROLOGIE

EXPERIMENTAL/EXPÉRIMENTAL

937
CANIL, D., SCARFE, C.M., Univ. Alberta (Geology):
Phase relations in peridotite $+CO_2$ systems at ultrahigh pressure, 1988-; Ph.D. thesis (Canil).
Phase relations in peridotite $+CO_2$ systems at 5 to 9 GPa were investigated to understand the origin of deep-seated kimberlite magmas. Experiments to 12 GPa have delineated the solidus of peridotite $+CO_2$, and demonstrate the stability of carbonates in the deep (350 km) upper mantle.

938
DUNN, T., Univ. New Brunswick (Geology):
Physical chemistry of silicate melts and crystal/melt systems, 1986-.
Work is directed toward developing an understanding of A-X relationships in silicate melts.

939
HAM, L.J., KONTAK, D.J., Dalhousie Univ. (Geology), Nova Scotia Dept. Mines and Energy:
The mineralogy, petrology and geochemistry of the Halfway-Cove – Queensport Pluton, Nova Scotia, Canada; South Mountain Batholith studies, Nova Scotia, 1988; M.Sc. thesis (Ham).
See:
Preliminary geological map of Windsor 21A/16 (west half) and part of 21A/01 Scale 1:50 000; Nova Scotia Dept. Mines and Energy, 1989.
A textural and chemical study of white mica in the South Mountain Batholith: Primary vs. Secondary Origin; Maritime Sediments and Atlantic Geol., vol. 24, no. 1, p. 111-121, 1988.
Geological maps of 21A/12 and 21A/04, Digby and Wentworth Lake, respectively 1:50 000, to be released in 1989.

940
KANZAKI, M., Univ. Alberta (Geology):
Phase relations in the system MgO-SiO_2-H_2O at high pressures, 1988-.
The stability of hydrous magnesium silicates will be investigated using the uniaxial split-sphere multi-anvil press.

941
MARTIGNOLE, J., CAMION, E., Université de Montréal (Géologie):
Le métamorphisme dans le Supergroupe de Wakeham, 1988-90; thèse de maîtrise (Camion).

942
MARTIGNOLE, J., MARTIN, E., Université de Montréal (Géologie):
Relations entre le magmatisme dans le supergroupe de Wakeham et le plutonisme du complexe anorthositique de Havre St-Pierre, 1988-90; thèse de doctorat (Martin).

943
SPRAY, J.G., Univ. New Brunswick (Geology):
Frictional melting of rock and minerals: Experimental and field studies, 1986-.
See:
Generation and crystallization of an amphibolite shear melt: an investigation using radial friction welding apparatus; Contrib. Mineral, Petrol., vol. 99, p. 464-475, 1988.
Effects on fault behaviour of fluid release by mechanical breakdown of hydrous minerals during co-seismic slip; Geol. Assoc. Can. – Mineral. Assoc. Can., Program with abstracts,. 1989.

944
SYKES, D., SCARFE, C.M., NAUROTSKY, A., Univ. Alberta (Geology):
Physical and thermochemical properties and structure of silicate melts at 1 atm and high pressure, 1988-; Ph.D. thesis (Sykes).
1 atm viscosity complete; 1 atm Roman spectra complete; inprogress – high P viscosity high P glass synethesis; to do – Roman, colorimetry ($\pm$ NMR) on high P glasses.

945
TRONNES, R.G., TAKAHASHI, E., SCARFE, C.M., Univ. Alberta (Geology):
Phase relations and stability of K-richterite and phlogopite from 5 to 15 GPa, 1988-.

The phase relations of hydrous silicates present in the upper mantle will be investigated using the uniaxial split-sphere multi-anvil press (USSA-2000 ton).

946
WEI, K., SCARFE, C.M., TRONNES, R.G., Univ. Alberta (Geology):
Phase relationships of Al-undepleted and Al-depleted komatiites from 4 GPa to 12 GPa: implications for the origin of komatiites, 1988-89; M.Sc. thesis (Wei).

Directed towards an improved understanding of the depth and compositional characteristics of the mantle source from which komatiites are derived. The experiments are carried out with an uniaxial split-sphere apparatus (USSA-2000 ton).

947
XUE XIANYU, STEBBINS, J.F., KANZAKI, M., TRONNES, R.G., Univ. Alberta (Geology), Stanford Univ. (Geology):
NMR spectroscopic studies of silicate melts under pressure, 1989-; Ph.D. thesis (Xue).

The pressure dependence of melt structure in the Na_2O-SiO_2 binary system is being investigated by an USSA multi-anvil press at the Univ. of Alberta and a NMR spectroscometer at Stanford Univ.

IGNEOUS/ROCHES IGNÉES

948
ANDERSON, R.G., Geol. Surv. Can.:
Jurassic and Cretaceous-Tertiary granitoid plutons, Queen Charlotte Islands, British Columbia, 1987-.
See:
Jurassic and Tertiary plutonism in the Queen Charlotte Islands, British Columbia; Geol. Surv. Can., Paper 89-1H, p. 95-104, 1989.

949
BARAGAR, W.R.A., Geol. Surv. Can.:
Stratigraphy and petrology of the Natkusiak Basalts, Victoria Island, District of Franklin, 1975-.

950
BEAKHOUSE, G.P., Ontario Geol. Surv.:
Granitoid petrogenesis, western Superior Province, geological compilation for Geology of Ontario volume, 1988.

951
BÉDARD, J., Geol. Surv. Can.:
Cumulus processes inMuskox and Bay of Islands gabbros, Newfoundland, 1988-90.

952
BLACKBURN, W.H., Univ. Windsor (Geology):
Petrology, emplacement, and deformational history of the granites of Paros and Naxos, Cyclades, Greece, 1989-.

953
CERNY, P., MEINTZER, R.E., TOMASCAK, P., CLARK, G.S., CHACKOWSKY, L.E., LENTON, P.G., CORKERY, T., LONGSTAFFE, F.J., FRYER, B.J., SMEDS, S.-A., Univ. Manitoba (Geological Sciences), Manitoba Dept. Energy and Mines, Univ. Western Ontario (Geology), Uppsala Univ. (Geology):
Petrology of barren granites and fertile granite-pegmatite systems, 1975-.
See:
Fertile granites in the Archean and Proterozoic fields of rare-element granitic pegmatites: crustal environment, geochemistry and petrogenetic relationships; CIMM Spec. vol. 39, p. 170-207, 1988.

Igneous complexes in the pegmatite fields of s.e., n.w. and n.e. Manitoba; Yellowknife and Aylmer Lake-MacKay Lake basins, N.W.T.; Utö-Mysingen and Central Sweden fields.

954
CLIFFORD, P.M., McMaster Univ. (Geology):
Geochemistry and genesis, Grenville Front Granites, Ontario, 1986-.

Killarney Igneous Complex (of G.F. Granites) is anorogenic, peraluminous; involves some crustal melt. Complex is conspicuously high in F, W, typical of A-type granites.

955
CLIFFORD, P.M., DURANT, D., McMaster Univ. (Geology):
Crystallization, fabrics and flow in dykes and plugs, Spanish Peaks, Colorado, 1983-.

Crystal size distribution (olivine, magnetite) imply nucleation and growth rates, which lead to viscosity variations. These may affect geometry of near-surface intrusions.

956
CURRIE, K.L., Geol. Surv. Can.:
Alkaline rocks in Canada, 1968-.

957
CURRIE, K.L., Geol. Surv. Can.:
Granite studies in the Appalachians, 1973-.

958
CURRIE, K.L., Geol. Surv. Can.:
Geology of the Northern Long Range Mountains, Newofundland and adjacent areas, 1984-.
See:
Preliminary report on a classification of Newfoundland granitic rocks and their relations to tectonostratigraphic zones and lower crustal rocks; Geol. Surv. Can., Paper 89-1B, p. 47-53, 1989.

959
CURRIE, K.L., Geol. Surv. Can.:
Study of the New Brunswick batholith belt, New Brunswick, 1985-.

960
EMSLIE, R.F., Geol. Surv. Can.:
Petrology, mineralogy, geochemistry and mineral potential of a Helikian non-orogenic granitic suite in central Labrador and adjacent Quebec, 1979-.

961
FYON, J.A., Ontario Geol. Surv.:
Crystallization history of granitoid rocks – implications for magmatic fluid evolution, 1988.
See:
Petrographic characteristics of Archean granitoid rocks; Ontario Geol. Surv., M.P. 141, p. 381-383, 1988.

962
HALDEN, N.M., TIRSCHMAN, P., Univ. Manitoba (Geological Sciences):
Geochemical evolution of the Falcon Lake igneous complex; M.Sc. thesis (Tirschman).

Various differentiation models have been explored that suggest the evolution of the complex was controlled by plagioclase and pyroxene (or amphibole) fractionation. All rocks in the complex show an extreme LREE enrichment signature.

963
HALLERAN, A., RUSSELL, J.K., Univ. British Columbia (Geological Sciences):
Mount Bisson Alkaline Complex, British Columbia; M.Sc. thesis (Halleran).

964
HÉBERT, R., LAURENT, R., DOSTAL, J., Université Laval (Géologie):
Pétrologie et géochimie des roches ignées ophiolitiques de la région de Bolton-Orford, Québec, 1987-1989.
Voir:
Geochemistry of Ordovician island-arc and ocean-floor rock assemblage from the Québec ophiolites: significance of Bolton and Orford volcanics; Conférence à Québec-Vermont Appalachian Workshop, Burlington, Avril, 1989.

Liens entre les roches ophiolitiques de Bolton et d'Orford sud de l'Estrie (Québec) avec les complexes ophiolitiques d'Asbestos et de Thetford Mines. Mise en évidence de nouvelles terranes d'âge Ordovicien.

965
HÉBERT, R., TANGUAY, S., BERGERON, M., Université Laval (Géologie):
Distribution des éléments du groupe du platine dans la séquence pyroxénitique du complexe ophiolitique de Thetford Mines, Québec, 1987-89; thèse de maîtrise (Tanguay).
Voir:
Géochimie des cumulats ultramafiques du complexe ophiolitique de Thetford Mines, Québec: modèle magmatique de la distribution des platinoides; Conférence à Québec-Vermont Appalachian Workshop, Burlington, Avril, 1989.

La séquence pyroxénitique affleure immédiatement au nord du Gisement Hall (chromite, Pt). Les teneurs en E.G.P. montrent une distribution aléatoire suggérant des processus secondaires de remobilisation.

966
HÉBERT, R., TREMBLAY, A., BERGERON, M., Université Laval (Géologie), INRS-Géoressources:
Le Complexe d'Ascot des Appalaches du sud du Québec: pétrologie et géochimie, 1986-89; thèse de doctorat (Bergeron).

Plusieurs terranes composent le Complexe d'arc insulaire d'Ascot. Tous les assemblages ignées suggèrent des affinités tholéiitiques d'arc. De plus des boninites ont été identifiées pour la première fois. Un épisode de construction de l'arc suivi d'une rupture de celui-ci sont suggérés par cette association. La nature du socle sous l'arc fait actuellement l'objet d'étude de géochimie isotopique.

967
HÉBERT, R., VERMETTE, D., BERGERON, M., OLIVE, V., Université Laval (Géologie):
Pétrologie et géochimie des roches ignées de la Nappe de la Chaudière et de l'Olistostrome de Drummondville, Québec, 1987-89; thèse de maîtrise (Olive).
Voir:
Petrology and geochemistry of Appalachian Lower Cambrian Chaudière Nappe volcanics: magmatic characteristics of early rifting of Lapetus Ocean Floor; Réunion Annuelle Conjointe GAC-MAC, St. John's 88, Programme et Résumés, vol. 13, p. A129, 1988.

La création de l'océan Lapetus: du rift continental à la formation du bassin océanique: contraintes pétrologiques et géochimiques; Conférence à Québec-Vermont Appalachian Workshop, Burlington, Avril, 1989.

Le levé détaillé de terrain et les travaux géochimiques ont mis en évidence quatre groups pétrologiques principaux: 1° tholéiitique, 2° transitionnel, 3° alcalin et 4° rhyolitique. Les trois premiers groupes représentent l'évolution d'un rift continental immature (magmatisme alcalin) à un rift océanique mature (magmatisme tholéiitique MORB). L'âge absolu du magmatisme alcalin est 650 Ma (Sm-Na).

968
JOLLY, W.T., Brock Univ. (Geological Sciences):
Huronian volcanism.

969
KEEP, M., RUSSELL, J.K., Univ. British Columbia (Geological Sciences):
The geology and petrology of the Averill Plutonic Complex, Grand Forks, British Columbia, 1987-89; M.Sc. thesis (Keep).
See:
The petrology of the Averill Plutonic suite, Grand Forks, British Columbia; British Columbia Ministry Energy, Mines, Petrol Res., Paper 1989-1, 1989.

Project is nearing completion; thesis should be finished spring 1989.

970
LAMBERT, M.B., Geol. Surv. Can.:
Archean volcanic studies in the Slave-Bear Province, District of Mackenzie, 1973-.
See:
Cameron River and Beaulieu River volcanic belts of the Archean Yellowknife Supergroup, District of Mackenzie, Northwest Territories; Geol. Surv. Can., Bull. 382, 1988.

971
LAMBERT, M.B., Geol. Surv. Can.:
Archean felsic volcanic complex near Regan Lake, District of Mackenzie, Northwest Territories, 1974-.

972
LUDDEN, J.N., Université de Montréal (Géologie):
Origin and evolution of the Indian Ocean, 1988-.
See:
The birth of the Indian Ocean; Nature, vol. 337, p. 506-508, 1989.

Petrological studies of basalt from the oldest (Jurassic) lavas erupted in the Indian Ocean. Comparison with modern Indian Ocean ridge basalts.

973
MACLELLAN, H.E., TAYLOR, R.P., FYFFE, L.R., New Brunswick Dept. Natural Resources, Energy (Geological Surv. Branch):
Geology and lithogeochemistry of Sn-W-bearing granites in the Burnthill Brook area of central New Brunswick, 1985-89.
See:
Geology and geochemistry of the Burnthill Granite and related W-Sn-Mo-F mineral deposits, central New Brunswick; Can. J. Earth Sci., vol. 26, no. 3, p. 499-514, 1989.

Lithogeochemistry (including gold) of altered and mineralized samples from the Burnthill Brook area (NTS 21 J/10) of central New Brunswick, New Brunswick Dept. Natural Resources, Energy, Geoscience Rept. 88-1, 1988.

974
MALPAS, J., MOORE, P., ASH, C.H., SCOTT, J., DUNSWORTH, S., CHAOKA, R., SANDEMAIN, H., EDWARDS, S., PEDERSEN, R.B., SQUIRES, C., Memorial Univ. (Earth Sciences):
Igneous rocks of ophiolites and the oceanic lithosphere, 1988-; M.Sc. theses (Moore, Ash, Scott, Dunsworth, Chaoka, Sandemain), Ph.D. theses (Edwards, Pedersen, Squires).

975
MANDZIUK, W., BRISBIN, W.C., Univ. Manitoba (Geological Sciences):
Primary structures of the Falcon Lake Intrusive Complex, southeastern Manitoba, 1989; M.Sc. thesis (Mandziuk).

976
MCMILLIAN, W.J., NIE FENGJUN, British Columbia Ministry Energy, Mines, Petrol. Res.:
Geochemistry and genesis of the Guichon Creek batholith from trace and rare earth element studies, 1986-89.

Interpret the genesis and evolution of the 205 Ma old Guichon Creek batholith from trace and rare earth element analyses. To relate this data to formation of porphyry copper deposits.

977
MITCHELL, R.H., MCLAUGHLIN, R., NICHOL, D., MULJA, T., Lakehead Univ. (Geology):
Petrology and geochemistry of kimberlites, lamproites and alkaline rocks; M.Sc. theses (McLaughlin, Nicol, Mulja).
See:
The Lamproite clan of potassic rocks; Zapiskii Vsesoyuznova Mineralogicheskvo Obschchestra 117, 575-586 m, 1988.

Work in progress: 1) Petrology of lamprophyres – Coldwell alkaline complex; 2) Platinum-group element mineralogy of basal rocks – Coldwell alkaline complex; 3) Petrology of Lamproites – Moon Canyon (Utah), Leuctie HIlls (Wyoming), Prairie Creek (Arkansas); and 4) Petrology of carbonatites and related silicate rocks – Blue River (British Columbia), Iron Hill (Colorado), Brazilian complexes (Catalao, Tapira etc.).

978
PEARCE, T.H., CLARK, A.H., Queen's Univ. (Geological Sciences):
Nomarski interference contrast observations of textural details in volcanic rocks, 1988-89.

979
PEARCE, T.H., KOLISNIK, A.M.E., Queen's Univ. (Geological Sciences):
Observations of plagioclase zoning using interference imaging implications for self-organization theory, 1985-89; M.Sc. thesis (Kolisnik).

Zoned volcanic phenocrysts from andesitic lavas of Volcan Popocatépetl contain dissolution textures and complex compositional zoning consistent with magma mixing episodes prior to eruption. Individual phenocryst zoning stratigraphies provide a record of magmatic events during growth in an open system magma chamber.

980
PEARCE, T.H., NICHOLLS, J., MOSER, K.A., Queen's Univ. (Geological Sciences), Calgary Univ. (Geology and Geophysics):
Laser-interference and Nomarski-interference imaging of plagioclase from a dacite dome, Mt. St. Helen's, Washington, 1989.

981
PEARCE, T.H., RICE,M.C., Queen's Univ. (Geological Sciences):
Growth forms seen on facies of magmatic garnet phenocrysts, Crowsnest Formation, Alberta, Canada, 1988-89.

982
PETERSON, T.D., Geol. Surv. Can.:
Magma dynamics in the Dubawnt Group, northwest Churchill Province, 1988-91.
See:
Preliminary report on the geology of northwestern Dubawnt Lake area, District of Keewatin,N.W.T.; Geol. Surv. Can., Paper 89-1C, p. 173-188, 1989.

983
PICARD, C., GIOVENAZZO, D., CERM-Université du Québec à Chicoutimi:
Distribution et comportement des éléments du groupe des platinoïdes lors de l'évolution magmatique et tardimagmatique de la Fosse de l'Ungava, Quwbec, 1986-89; thèse de doctorate (Giovenazzo).

Les intrusions mafiques/ultramafiques, comagmatiques des basaltes komatiitiques de la Fosse de l'Ungava recèlent trois types de gîtes principaux: des gîtes de Ni-Cu-EGP de type ségrégation à la base des intrusions de pyroxénite-péridotite; des gîtes de Ni-Cu-EGP de type "Reef" dans la partie gabbroïque des filons-couches différenciés et des gîtesde remobilisation hydrothermale ou tectonique. Les travaux en cours ont pour objectifs de modeliser ces différents types de gîtes ainsi que la distribution des EGP dans l'opholite de Purtuniq.

984
PICARD, D., GIOVENAZZO, D., LAMOTHE, D., Ministère de l'Énergie et des Ressources du Québec:
Pétrologie des intrusions ultramafiques, 1986-89.

985
PICARD, C., LAMOTHE, D., IREM/MERI:
Evolution pétrologique et géotectonique de la Fosse de l'Ungava, Québec, 1984-90.
Voir:
Pétrologie des roches volcaniques protérozoïques de la partie centrale de la Fosse de l'Ungava; Ministère de l'Energie et des Ressources du Québec, ET 87-07, 1989.

Lithochimie des roches volcaniques protérozoïques de la partie occidentale de la Fosse de l'Ungava, région au sud du Lac Lanyan; ibid., ET 87-14, 1989.

Les travaux accomplis visent une compréhension approfondie de l'évolution pétrogénitique des roches volcanoplutonique de la Fosse de l'Ungava au cours des différents stades d'ouverture océanique marqués par l'ophiolite de Purtuniq (Partie nord de la Fosse), et par les groups de Pounugnituk et de Chukotat (partie sur de la Fosse); puis au cours de l'avortement du système (ensemble calcoalcalin de la Formation de Parent).

986
PLATT, R.G., Lakehead Univ. (Geology):
Petrogenesis of alkaline rocks.
See:
The peralkaline nepheline syenites of the Junguni Complex, Malawi; Minerological Magazine, vol. 52, p. 425-433, 1988.

Research involves geochemical, chemical mineralogical and petrological studies of alkaline rocks and carbonatites of Malawi and Canada.

987
RUSSELL, J.K., Univ. British Columbia (Geological Sciences):
Energetics of magma mixing, 1988-.

Thermodynamic-based calculations to constrain the nature of magma mixing processes.

988
SCHANDL, E.S., WICKS, F.J., Univ. Toronto (Geology), Royal Ontario Museum (Mineralogy):
The geochemical development and alteration of basalts from Maud, Meteor and Isles Orcadas Rises, and provenance investigation of ice-rafted dropstones in the Weddell Sea, 1987-89.
See:
Mineralogy and geochemistry of alkali basalts from Maud Rise, Weddell Sea; Proc. Ocean Drilling Program Leg 113, pt. B, 1989.

989
SCHAU, M., Geol. Surv. Can.:
Volcanic rocks of the Prince Alberta belt, Districts of Franklin and Keewatin, 1972-.

990
SOUTHER, J.G., Geol. Surv. Can.:
Study of Neogene dykes in Queen Charlotte Island, British Columbia, 1987-.
See:
Dyke swarms in the Queen Charlotte Islands, British Columbia; Geol. Surv. Can., Paper 89-1H, p. 117-120, 1989.

991
STIMAC, J.A., PEARCE, T.H., Queen's Univ. (Geological Sciences):
Evolution of silicic magmas at Clear Lake, California, 1987-90; Ph.D. thesis (Stimac).
See:
Quenched mafic inclusions in rhyolites, Clear Lake Volcanics: Implications for inclusion formation and dispersal, EOS; vol. 69, no. 44, p. 1490-1491, 1988.

992
TAIT, L., CHOWN, E.H., Ministère de l'Énergie et des Ressources du Québec, Université du Québec à Chicoutimi:
Petrographic and structural anisotropy within the Complexe Eau Jaune, Chibougamau, Québec, 1987-92.

Un approfondissement des connaissances des mécanismes de mise en place et des phénomènes associés aux intrusions polyphasées tonaliitiques dans la bande de roche verte Caopatina-Desmaraisville.

993
TAYLOR, F.C., Geol. Surv. Can.:
Volcanic rocks of Kaminak Lake region, Northwest Territories, 1984-.

994
THIBERT, F., PICARD, C., TRZCIENSKI, W.E., Université de Montréal (Géologie), IREM-MERI:
Pétrologie des filons-couches différenciés Romeo 1 et 2, Fosse de l'Ungava, Québec, 1986-89; thèse de maîtrise (Picard).

Les travaux ont pour objectifs essentiels de mettre en évidence les mécanismes de mise en place des intrusions mafiques/ultramafiques de la Fosse de l'Ungava, avec les répercussions qu'il peuvent avoir sur la distribution des platinoïdes.

995
TURNOCK, A.C., Univ. Manitoba (Geological Sciences):
Composition of augites in the Amisk Volcanics, Flin Flon, Man.; as indicators of magma chemistry, 1988-99.

Phenocrysts of augite are the only relic igneous minerals left in these rocks, altered at prehnite-grade regional metamorphism. Microprobe anlayses have been done for 19 samples, 10 points on 3 crystals in each. They are being interpreted as indicators of magma chemistry related to tectonic environment.

METAMORPHIC/ROCHES MÉTAMORPHIQUES

996
ABBAS-HASANIE, S.A.F., FLEMING, P.D., Univ. Regina (Geology), Univ. Adelaide (Geology):
Petrogenesis of migmatites in the Cooke Hill area of Mt. Lofty Ranges, South Australia; and Structural evolution of Cooke Hill area in the eastern Mt. Lofty Ranges, South Australia.

997
ABBAS-HASANIE, S.A.F., LEWRY, J.F., PERKINS, D., Univ. Regina (Geology), Univ. North Dakota (Geology):
Geothermometry and geobarometry in high-grade pelitic rocks from Brabant Lake area of eastern La Ronge Domain, northern Saskatchewan, 1986-88.

Paper on the above project is in final stages of preparation for publication. Another project on Petrogenesis of migmatites in Brabant-Burnt Lakes area of eastern La Ronge Domain, northern Saskatchewan is under progress.

998
BREAKS, F.W., Ontario Geol. Surv.:
Geology of the eastern Lac Seul granulite-amphibolite facies transition zone, Ontario, 1988.
See:
Ontario Geol. Surv., Misc. Paper 141, p. 81-88, 1988.

999
FROESE, E., Geol. Surv. Can.:
Metamorphism in the Kisseynew Subprovince, 1980-.

1000
GORDON, T.M., Geol. Surv. Can.:
Metamorphism of volcanic rocks, Crowduck Bay, Manitoba, 1980-.

1001
GORDON, T.M., Geol. Surv. Can.:
Metamorphism processes in the Kisseynew sedimentary gneiss belt, Manitoba, 1983-.

1002
HÉBERT, R., ROY, S., Université Laval (Géologie):
Conditions thermobarométriques de la formation de l'auréole métamorphique du Mont Mégantic, Québec, 1987-89; thèse de maîtrise (Roy).

L'étude des assemblages métamorphiques et l'analyse des phases à la microsonde ont permis de définir une température au contact de l'ordre de 750°C. La profondeur de mise en place du pluton est inférieure à 3 km.

1003
KISSIN, S.A., WOOD, B.D., Lakehead Univ. (Geology):
Meteoritics: Studies on non-silicate minerals and their applications to problems in ore deposits and meteoritics, 1987-.
See:
A preliminary study of fluid inclusion in shock-metamorphosed sediments at the Haughton Impact Structure, Devon Island, Canada (abstract); Meteoritics, vol. 23, p. 256, 1988.

Fluid inclusions in meteorite impact structures and their relevance to The Sudbury Structure (abstract); Can. Cont. Drill. Prog. Rept. 88-2, p. 18, 1988.

Studies on fluid inclusions from impact structures continue with further studies on shocked sedimentary rocks from the Haughton Structure and in impact melts and breccias of the Onaping Formation from the Sudbury Structure. Additional work on sphalerite in enstatite chondrites has completed one phase of an application of the shalerite cosmobarometer to meteorites.

1004
O'HANLEY, D.S., WICKS, F.J., Royal Ontario Museum (Mineralogy):
Serpentinization of enstatite: mineralogy, textures and composition, 1987-88.
See:
Geol. Assoc. Can. – Mineral. Assoc Can., Program with Abstracts, v. 14, 1989.

The mineralogical, textural and compositional changes accompanying the serpentinization of enstatite have been

documented. It's relationship to the serpentinization of olivine has been established.

1005
O'HANLEY, D.S., WICKS, F.J., KYSER, T.K., Royal Ontario Museum (Mineralogy), Univ. Saskatchewan (Geological Sciences):
The development of serpentinization and chrysotile asbestos in the Cassiar Asbestos Mine, British Columbia, 1986-88.

The results of detailed structural mapping have produced a basis for the interpretation of serpentine textural evolution, chrysotile asbestos vein development, migration of elements during serpentinization and the distribution of stable isotopes.

1006
O'HANLEY, D.S., WICKS, FL.J., KYSER, T.K., Royal Ontario Museum (Mineralogy), Univ. Saskatchewan (Geological Sciences):
A stable isotope study of the Garrison asbestos deposit, Abitibi Greenstone Belt, Ontario.

Oxygen and hydrogen stable isotope data indicate two episodes of serpentinization, consistent with textural and mineralogical conclusions. δD values of <-110 indicate that meteoric water was involved in both episodes.

1007
PATTISON, D.R.M., Univ. Calgary (Geology and Geophysics):
Processes of granulite metamorphism, 1988-91.
See:
Evolution of structurally contrasting anatectic migmatites in the 3-kbar Ballachulish aureole, Scotland; J. Met. Geol., vol. 6, p. 475-494, 1988.

Reversed experimental calibration of the garnet-clinopyroxene Fe-Mg exchange geothermometer, Contrib. Mineral. Petrol., vol. 101, p. 87-103, 1988.

Initial field work (summer 1988) on granulites in the Central Gneiss Belt, Grenville Province, Ontario, has revealed at least two different types of granulite-forming processes: metasomatic dehydration and partial melting. Complex interrelationships between the two processes in individual localities are presently being investigated geochemically. Two abstracts have been submitted on this preliminary work.

1008
SCHANDL, E.S., WICKS, F.J., Univ. Toronto (Geology), Royal Ontario Museum (Mineralogy):
Alteration of ultramafic rocks in the Kidd volcanic complex of the Abitibi Greenstone Belt, Ontario, Canada, 1983-89; Ph.D. thesis (Schandl).
See:
The stable isotopic composition of carbonates and their source fluid in the Kidd volcanic complex, Timmins, Ontario; Geol. Assoc. Can. – Mineral. Assoc. Can., Program with Abstracts, v. 14, 1989.

Are sericite/fuchsite and chlorite alterations related to massive sulfide mineralization at the Kidd volcanic centre? Evidence from Pb-Pb and U-Pb systematics of hydrothermal rutile; ibid.

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SCHAU, M., Geol. Surv. Can.:
Granulites of northern Churchill Province, District of Franklin, 1984-.
See:
Gossans in high grade gneisses from the Blacks Inlet area, west coast of Melville Peninsula, District of Franklin, N.W.T.; Geol. Surv. Can., Paper 89-1C, p. 395-403, 1989.

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SKIPPEN, G.B., DIAMOND, L., MARSHALL, D., GAREAU, S., BELL, M., FORD, F., Carleton Univ. (Earth Sciences):
Metamorphic and hydrothermal processes, 1988-90; Ph.D. thesis (Gareau), M.Sc. theses (Bell, Ford).
See:
Phase relations in model fluid systems; Rendiconti Soc. Italiana di Mineral. et Petrol., vol. 43, p. 7-14, 1988.

Brines and metasomatism; ibid., p. 15-24, 1988.

A general study of fluids in the Earth's crust including metamorphic and hydrothermal systems. Metamorphic systems from the Coast Range Mountain (Gareau) and the Grenville Province (Ford). Hydrothermal system from gold mineralisation in northwestern Ontario (Diamond) and Cobalt, Ontario (Marshall).

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SPRAY, J.G., FLAGLER, R.A., Univ. New Brunswick (Geology):
Metamorphism in shear zones, 1977-; M.Sc. thesis (Flagler).
See:
Thrust-related metamorphism beneath the Shetland Islands oceanic fragment, northeast Scotland; Can. J. Earth Sci., vol. 25, p. 1760-1776, 1988.

Oceanic dynamothermal effects within the Fournier oceanic fragment: petrological and U/Pb constraints; Geol. Assoc. Can. Mineral. Assoc. Can., Program with abstracts, 1989.

SEDIMENTARY/ROCHES SÉDIMENTAIRES

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AMYOT, G., BRISEBOIS, D., Ministère de l'Énergie et des Ressources du Québec:
Pétrographie de la Formation de York River de la région de Gaspé, Québec, 1988-89.

Étude pétrographique détaillée du groupe du York River près de Gaspé.

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MICHAEL, P.J., ARMSTRONG, R.L., Univ. Tulsa, Univ. British Columbia (Geological Sciences):
Juan de Fuca - Explorer Ridge: MORB geochemistry, 1986-89.

Pb-Sr-Nd isotopic analyses have been completed on about 20 MORB samples from a variety of settings on and near the active ridge.

1014
PARSLOW, G.R., KENT, D.M., KARMA, R., Univ. Regina (Geology):
The sedimentology and geochemistry of the Bakken Shale in Saskatchewan, 1988-90; M.Sc. thesis (Karma).

To gain a better understanding of the environment of formation of the radioactive Bakken Shale through a study of all available drill core and major/trace element analysis of selected samples.

1015
VON BITTER, P.H., ELEY, B.E., STORCK, P.L., Royal Ontario Museum (Invert. Palaeontology, New World Archaeology):
The stratigraphic, petrographic and palynologic characteristics of chert as utilized by Ontario's pre-historic peoples, 1982-.

Implications of the geological age and occurrence of Fossil Hill Formation chert for Early Palaeo-Indian settlement patterns in southern Ontario.

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ALCOCK, P.W.J., AULTMAN, J.T., Ontario Geol. Surv., Univ. Western Ontario (Geology):
The Quaternary geologyof the Shining Tree area, Ontario, 1986-89.
See:
The Quaternary geology of the Shining Tree area, Districts of Sudbury and Timiskaming; Ontario Geol. Surv., Misc. Paper 141, p. 411-413, 1988.

In preparation: Open File Reports: Quaternary geology of the Timmins area, Districts of Cochrane, Sudbury and Timiskaming; Quaternary geology of the Shining Tree area, Districts of Sudbury and Timiskaming; Preliminary Maps, 1:50 000, Shining Tree (NTS 41P/11) and Sinclair Lake (41p/14).

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ALT, B., Geol. Surv. Can.:
Past and present climates of the Queen Elizabeth Islands, District of Franklin, 1987-.
See:
Interaction of climate, vegetation, and soil hydrology at Hot Weather Creek, Fosheim Peninsula, Ellesmere Island, Northwest Territories; Geol. Surv. Can., Paper 89-1D, p. 125-133, 1989.

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ANDERSON, T.W., Geol. Surv. Can.:
Quaternary paleoecology, Great Lakes, 1978-.

1019
AYLSWORTH, J.M., Geol. Surv. Can.:
Quaternary geology inventory – southern Keewatin, 1973-.

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BAJC, A., GRAY, P., HALSTEAD, J., Ontario Geol. Surv., Univ. Waterloo (Earth Sciences), Brock Univ. (Geological Sciences):
Quaternary geology of the Fort Frances-Rainy River area, Ontario, 1986-89; Ph.D. thesis (Bajc).
See:
Gold grain in rotasonic drill core and surface samples (1987 1988), Fort Frances-Rainy River area, District of Rainy River; Ontario Geol. Surv., Map P. 3140 Geological Series-Preliminary Map, scale 1:000 000, Geology 1987, 1988.

Reconnaissance till sampling in the Fort Frances-Rainy River area, Rainy River District; Ontario Geol. Surv., MP 141, p. 417-420, 1988.

Late glacial water level fluctuations in the eastern Lake Agassiz Basin, Fort Frances area, Ontario; American Quaternary Assoc., Program and abstracts, p. 54, 1988.

Drift stratigraphy and mineral exploration applications in the Fort Frances area, Ontario Canada; State of Minnesota Fifth Annual Current Minerals Activities Forum, 1988.

Quaternary mapping completed: summer 1987; sonic drilling and backhoe trenching completed: Fall 1988 report – in progress.

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BARNETT, P.J., Ontario Geol. Surv.:
Quaternary geology of the Barrie-Elmvale area, Ontario, 1988.
See:
Quaternary geology of the eastern half of the Elmvale area, Simcoe County; Ontario Geol. Surv., Misc. Paper 141, p. 405-406, 1988.

Tunnel valleys in the Georgian Bay area, Ontario; Geol. Assoc. Can. – Mineral. Assoc. Can., Program with abstracts, vol. 14, p. A89, 1989.

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BLAKE, W., Jr., Geol. Surv. Can.:
Quaternary geochronology, Arctic Islands, 1975-.

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BLASCO, S.M., Geol. Surv. Can.:
Surficial geology and geomorphology, Mackenzie Bay – continental shelf, 1970-.

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BRAGG, D., Newfoundland Dept. Mines:
Reconnaissance assessment of potential bedrock aggregate, 1988-89.
See:
Reconnaissance assessment of potential bedrock aggregate; Newfoundland Dept. Mines, Rept. 1, 89-1, 1989.

Bedrock aggregate potential of rocks in Newfoundland.

1025
BRAZEAU, A., JACOB, H-L., Ministère de l'Énergie et des Ressources du Québec:
Inventaire des granulats: régions de Sainte-Agathe-des monts, Laurentides, Rawdon et Shawbridge (feuillets 1:50 000 nos 31J/1, 31H/13, 31I/4 et 31G/16), 1988-89.

Project de plusieurs années portant sur l'évaluation qualitative et semi-quantitative des dèpôts de sable et gravier du sud du Québec.

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BROOKES, I.A., York Univ. (Geography):
Quaternary geology of Bonavista Peninsula, Newfoundland, 1964-.
See:
Glaciation of Bonavista Peninsula, northeast Newfoundland; Can. Geographer, vol. 33, p. 2-18, 1989.

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BROOKES, I.A., York Univ. (Geography):
Dakhla Oasis project: Quaternary geology, geomorphology and geoarchaeology, 1982-.
See:
Quaternary geology and geomorphology of the Dakhla Oasis region, south-central Egypt; Royal Ontario Museum, Archaeology Monographs, 1989.

Above the salt: sediment accretion and irrigation argiculture in an egyptian oasis; J. arid environments, vol. 15, 1989.

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BROOKES, I.A., York University (Geography):
Dakla Oasis Project; Basin and paleoclimatology studies, 1982-.
See:
Early Holocene basinal sediments of the Dakhla Oasis region, south-central Egypt and their palaeoclimatic significance; Quaternary Res. 1989.

1029
BUTEAU, P., Ministère de l'Énergie et des Ressources du Québec:
Inventaire des tourbières des basses terres du St-Laurent, phase 2, 1988-89.

Les travaux de l'été 1988 constituent le second volet d'un programme de trois ans qui vise à cartographier les tourbières du Sud du Québec, à l'échelle de 1:50 000. Les tourbières ainsi cartographiées au cours de 1988 sont celles des bassins versants des rivières Nicolet, Saint-François, Yamaska et Bécancour. Le territoire couvert correspond aux feuillets SNRC 31H/7, 31H/8, 31H/9, 31H/10, 31H/15, 31H/16, 31I/1, 31I/2, 31I/7 et 31I/8.

1030
BUTEAU, P., Ministère de l'Énergie et des Ressources du Québec:
Télédétection appliquée aux tourbières: régions de Matagami et de Lebel-sur-Quévillon, Québec, 1988-89.

La deuxième année du programme d'inventaire systématique des tourbières du Québec septentrional, à l'échelle de 1:50 000, s'est déroulée en deux points du territoire, chacun avec sa propre image. Le premier, au N de Matagami, correspond aux feuillets SNRC 32F/13, 32F/14, 32K/3, 32K/4, 32K/5, 32K/6, 32L/1, 32L/2, 32L/3, 32L/6, 32L/7 et 32L/8. Le second, au SE de Lebel-sur-Quévillon, correspond aux feuillets SNRC 32B/5, 32B/6, 32B/11, 32B/12, 32B/13 et 32B/14.

1031
BUTEAU, P., Ministère de l'Énergie et des Ressources du Québec:
Atlas des tourbières du Québec méridional, 1988-89.

L'atlas des tourbières, commencé l'an dernier, est un recueil d'informations sur les dépôts des tourbe du Québec, y compris celles fournies à la Division par Hydro-Québec et SOQUEM. Il comprend des cartes de localisation des travaux à 1:250 000.

1032
CLAGUE, J.J., Geol. Surv. Can.:
Quaternary geology, upper Fraser River Basin, British Columbia, 1981-.

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CLAGUE, J.J., Geol. Surv. Can.:
Quaternary crustal deformation western British Columbia and northwest Yukon, 1987-.
See:
Late Quaternary sea level charge and crustal deformation, southwestern British Columbia, Geol. Surv. Can., Paper 89-1E, p. 233-236, 1989.

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CLARKE, M.D., Geol. Surv. Can.:
Surficial geology mapping of Manitoba north of latitude 52°, 1987-.

1035
DILABIO, R.N.W., Geol. Surv. Can.:
Stratigraphic deformation drilling of the Quaternary sequence near Timmins, Ontario, 1987-.

1036
DREDGE, L.A., Geol. Surv. Can.:

Quaternary geology, terrain inventory, northeastern Manitoba, 1975-.
See:
Drift carbonate on the Canadian Shield. II: Carbonate dispersal and ice-flow patterns in northern Manitoba; Can. J. Earth Sci., vol. 25, no. 5, p. 783-787, 1988.

1037
DREDGE, L.A., Geol. Surv. Can.:
Quaternary geology and geomorphology, northern Melville Peninsula, District of Franklin, 1985-.

1038
DUBOIS, J-M.M., PARENT, M., Université de Sherbrooke (Géographie et Télédétection):
Le Quaternaire des Cantons de l'Est (Québec), 1980-89.
Voir:
Bibliographie des caractéristiques naturelles des Cantons de l'Est, Québec, Canada (supplément no. 7); Université de Sherbrooke, Bull. de rech. no. 89-600, 1988.

Mise au point sur le Quaternaire des Cantons de l'Est et esquisse paléogéographique.

1039
DUBOIS, J-M.M., PARENT, M., Université de Sherbrooke (Géographie et Télédétection):
Variations quaternaires du niveau marin et glaciations aux îles de la Madeleine, Québec, 1985-91.
Voir:
Stratigraphie et événements du Quaternaire, îles de la Madeleine, Québec: indices de centres de dispersion glaciaire sur le plateau Madeleinien; 4e Congrès de l'AQQUA, Rimouski, résumés des communications, p. 71-72, 1988.

Retracer et dater les niveaux marins wisconsiniens et holocènes et établir le schéma stratigraphique quaternaire.

1040
DYKE, A.S., Geol. Surv. Can.:
Quaternary geology – terrain inventory, Frances Lake, Yukon Territory, 1981-.

1041
DYKE, A.S., Geol. Surv. Can.:
Quaternary geology – terrain inventory, Prince of Wales Island, King William Island and adjacent mainland Keewatin, 1981-.

1042
DYKE, A.S., Geol. Surv. Can.:
Quaternary history and surficial materials of northwestern Baffin Island, District of Franklin, 1983-.

1043
EDLUND, S.A., Geol. Surv. Can.:
Surficial geology – terrain inventory, Bathurst-Cornwallis and eastern Melville Islands, District of Franklin, 1974-.

1044
FINCK, P.W., GRAVES, R.M., BONER, F.J., Nova Scotia Dept. Mines and Energy:
South Mountain Batholith project; Quaternary geology and till geochemistry, Nova Scotia, 1985-89.
See:
The provenance of tills overlying the eastern part of the South Mountain Batholith, Nova Scotia; Maritime Sediments and Atlantic Geol., vol. 24, no. 1, p. 61-70, 1988.

A comparison of the clast composition and geochemistry of granite tills to underlying bedrock in the Halifax Pluton, central Nova Scotia; Eighth Internat. Symp. on Prospecting in Areas of Glaciated Terrain, Symp. Vol., 1989.

Quaternary mapping and till sampling survey completed during summer of 1989. Colour and black and white surficial geology maps and clast lithology maps to be released at a scale of 1:50,000 and 1:250,000. Till geochemistry maps are produced at 1:50,000 and 1:500,000 for use by the exploration industry.

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FULTON, R.J., Geol. Surv. Can.:
Quaternary geology of the Canadian Cordillera, 1975-.

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FULTON, R.J., Geol. Surv. Can.:
Surficial geology, Cobden area (Quebec part), 1980-.

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FYLES, J.G., Geol. Surv. Can.:
Early Quaternary and Late Tertiary geology and geomorphology, Arctic Islands, 1987-.
See:
High terrace sediments, probably of Neogene age, west-central Ellesmere Island, Northwest Territories; Geol. Surv. Can., Paper 89-1D, p. 101-104, 1989.

1048
GADD, N.R., Geol. Surv. Can.:
Correlation of Quaternary geology; Great Lakes – St. Lawrence Valley region, 1978-.

1049
GILES, T., Univ. Alberta (Geology):
Sedimentology and stratigraphy of the McConnell Glaciation near Mayo, Yukon Territory, 1987-89; M.Sc. thesis.

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GRANT, D.R., Geol. Surv. Can.:
Surficial geology, St. Anthony – Blanc Sablon map-areas, Newfoundland, 1969-.

1051
GRANT, D.R., Geol. Surv. Can.:
Surficial geology, Cape Breton Island, Nova Scotia, 1970-.

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GRANT, D.R., Geol. Surv. Can.:
Surficial geology of Newfoundland, 1974-.

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GRANT, D.R., Geol. Surv. Can.:
Quaternary stratigraphy Yarmouth region, Nova Scotia, 1979-.

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HICOCK, S.R., Univ. Western Ontario (Geology):
Ice streaming and soft beds for the Laurentide ice sheet in northern Ontario, 1985-.
See:
Calacareous till facies north of Lake Superior, Ontario: implications for Laurentide ice streaming; Geographie physique et Quaternaire, vol. 42, p. 121-135, 1988.

Documenting the history of behaviour of the lobes of the Laurentide ice sheet over slippery substrata on the Canadian Shield, as well as evidence for ice streams within the ice sheet.

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HICOCK, S.R., Univ. Western Ontario (Geology):
Glacial geology of local lodgement till and gold exploration in the Beardmore-Geraldton area, Ontario, 1987-88.
See:
Gold exploration using tills of the Beardmore-Geraldton area, northern Ontario; CIMM Bull., vol. 82, p. 50-54, 1988.

Local lodgement till as the best prospecting medium for gold and base metal exploration in this area.

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HICOCK, S.R., DREIMANIS, A., Western Ontario (Geology):
Sunnybrook Drift and Early Wisconsinan glaciation of the western Lake Ontario basin, 1987-.
See:
Sunnybrook Drift indicates a grounded early Wisconsin glacier in the Lake Ontario basin; Geology, vol. 17, p. 169-172, 1989.

Re-definition of the stratigraphy, geographic distribution, and genesis of three to four members of Sunnybrook Drift which includes two proglacial lacustrine members sandwiching subglacial till and subglacial channel deposits. The till was formed by a grounded, moving, Ontario lobe.

1057
HICOCK, S.R., FULLER, E.A., Univ. Western Ontario (Geology):
Quaternary and glacial geology of eastern Graham Island, Queen Charlottes, British Columbia, 1988-; Ph.D. thesis (Fuller).

To document the behaviour of western Cordilleran ice and the extent of pre-Late Wisconsinan ice on Canada's west coast. A mainland versus local glacier provenance is being studied, as well as glaciomarine processes operating in ancestral Hecate Strait.

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HODGSON, D.A., Geol. Surv. Can.:
Surficial geology and geomorphology of central Ellesmere Island, District of Franklin, 1972-.

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HODGSON, D.A., Geol. Surv. Can.:
Surficial geology, geomorphology and terrain inventory of the Ringnes and adjacent islands, District of Franklin, 1976-.

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HODGSON, D.A., Geol. Surv. Can.:
Quaternary geology-terrain inventory, northeast Victoria Island and Stefansson Island, District of Franklin, 1986-.

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HUGHES, O.L., Geol. Surv. Can.:

Quaternary stratigraphy of Old Crow Basin and Porcupine River Valleys, Yukon, 1968-.

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HUGHES, O.L., Geol. Surv. Can.:
Quaternary geology, Mayo-McQuesten, Yukon Territory, 1979-.

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JACKSON, L.E., Jr., Geol. Surv. Can.:
Quaternary geology and terrain inventory, Nahanni-Sheldon Lake-Finlayson Lake, Yukon and District of Mackenzie, 1980-.
See:
Pleistocene subglacial volcanism near Fort Selkirk, Yukon Territory; Geol. Surv. Can., Paper 89-1E, p. 251-256, 1989.

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KARROW, P.F., Univ. Waterloo (Earth Sciences):
Urban geology, Waterloo and Toronto, Ontario, 1959-.
See:
Catfish Creek Till: an important glacial deposit in southwestern Ontario; 41st Can. Geotechnical Conf. Preprints, p. 186-192, 1988.

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KARROW, P.F., BELKNAP, D.F., Univ. Waterloo (Earth Sciences), Univ. Maine (Geology):
Sea level history, southwestern Florida, U.S.A., 1984-.

1066
KARROW, P.F., HEATH, A., Univ. Waterloo (Earth Sciences):
Great Lakes history, 1964-; M.Sc. thesis (Heath):
See:
Ice, lakes, and plants, 13,000 to 10,000 years B.P.: the Erie-Ontario lobe in Ontario; Bull. Buffalo Soc. Natural Sci., vol. 33, p. 39-52, 1988.

Shoreline surveys began in 1988 on Manitoulin Island and will continue in 1989 on Manitoulin and in the Sudbury basin dealing with Algonquin-Nipissing sequence.

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KARROW, P.F., MACKIE, G.L., Univ. Waterloo (Earth Sciences), Univ. Guelph (Zoology):
Molluscs of the Gage St. Marl, Kitchener, Ontario, 1987-.

1068
KARROW, P.F., WARNER, B.G., MILLER, B.B., Univ. Waterloo (Earth Sciences), Kent State Univ. (Geology):
Interglacial-interstadial sites, Michigan, Ontario, New York, 1980-.
See:
A Wisconsinan interstadial arctic flroa and insect fauna from Clarksburg, southwestern Ontario, Canada; Palaeogeog., Palaeoclimat., Palaeoecol., vol. 68, p. 27-47, 1988.

1069
KASZYCKI, C.A., Geol. Surv. Can.:
Glacial erosion of the Canadian Shield, 1978-.

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KASZYCKI, C.A., Geol. Surv. Can.:
Surficial geology and drift composition, northwestern Ontario, 1987-.

1071
KELLY, R.I., Ontario Geol. Surv.:
Quaternary geology of the Chatham-Wheatley area (mapping), 1988-90. Urban geology – Quaternary of Toronto, 1986-.
See:
Quaternary geology of the Wheatley area, Southern Ontario; Ontario Geol. Surv., Misc. Paper 141, p. 402-404, 1988.

1:50 000 Preliminary Map for Chatham-Wheatley area to be published spring 1990. Report on area to follow.

1072
KERR, D.E., Univ. Alberta (Geology):
Quaternary stratigraphy of coastal mainland Northwest Territories, 1986-90; Ph.D. thesis.
See:
Late Quaternary marine record of the Cape Parry-Clinton Point region, District of Mackenzie, N.W.T.; Geol. Surv. Can., p. 77-83, 1989.

Canadian Arctic coastal stratigraphy and Quaternary geology.

1073
KETTLES, I.M., Geol. Surv. Can.:
Surficial geology of eastern Frontenac Arch, southern Ontario, 1987-.

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KLASSEN, R.A., Geol. Surv. Can.:
Surficial geology and Quaternary stratigraphy of north Baffin – Bylot Islands, District of Franklin, 1978-.
See:
Basal-flow conditions at the northeastern margin of the Laurentide Ice Sheet, Lancaster Sound; Can. J. Earth Sci., vol. 25, no. 11, p. 1740-1750, 1988.

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KLASSEN, R.A., Geol. Surv. Can.:
Drift prospecting, east-central Labrador, 1982-.

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KLASSEN, R.A., Geol. Surv. Can.:
Quaternary geology, southwestern Saskatchewan, 1983-.

1077
LAMOTHE, M., Geol. Surv. Can.:
Quaternary geology and till geochemistry, New Brunswick, 1987-.

1078
LAMOTHE, M., Geol. Surv. Can.:
Glacial dispersal and stratigraphic drilling, Gaspé, Quebec, 1987-.

1079
LAST, W.M., Univ. Manitoba (Geological Sciences):
Geochronological discrimination of climatic change from cultural stress in representative Prairie watersheds, 1989-93.

Over the next two years to 1) retrieve sediment cores from 12 selected lake basins in southern Saskatchewan and eastern Alberta; 2) establish a recent sediment chronology that allows differentiation of presettlement from postsettlement deposits; 3) evaluate long-term fluctuations in texture, mineralogy, organic content, sediment and pore-water geochemistry and relate any changes to possible causal mechanisms such as climatic variation or changes in drainage basin characteristics; 4) assess any recent changes in the sedimentary parameters and attempt to relate these to changing land use characteristics or specific human events; and 5) examine any regional changes in these sediment histories and relate these changes to either natural factors or man-induced environmental modifications.

1080
LEMMEN, D., Geol. Surv. Can.:
Quaternary geology, south shore of Great Slave Lake, N.W.T., 1988-92.

1081
LEVSON, V., Univ. Calgary (Geology and Geophysics):
Quaternary geology of Jasper National Park, Alberta, 1986-89.
See:
A lithofacies analysis and interpretation of depositional environments of montane glacial diamictons, Jasper, Alberta, Canada; Genetic classifications of Glaciogenic deposits. Balkema, Roterdam, p. 117-140, 1988.

1082
MARTINI, I.P., Univ. Guelph (Land Resource Science):
Coastal morphology and sediments of Foxe Basin, District of Franklin, 1987-92.

The sediments of the emersed coasts of the mainland and islands of Foxe Basin are being studied, to determine uplift curve, variation in Beach Ridges, rates of weathering of those coast. The results of this study will be tied with archeological informaiton on that area. To date the northenr part of the basin has been surveyed.

1083
MARTINI, I.P., Univ. Guelph (Land Resource Science):
Sedimentology of glacio-fluvial and glacio-lacustrine sediments of southern Ontario.

The sequences of glacio-lacustrine Pleistocene deposits of the Bowmanville area are being measured, as well as the Gilbert Delta bodies of various parts of southern Ontario, to establish models of sedimentation of the various land and lacustrine termini of glaciers. These models are then used for determining similarities and differences with glacial sequences of Brasil and Australia of Permo-Carboniferous time.

1084
MORGAN, A.V., PILNY, J.J., Univ. Waterloo (Earth Sciences):
Fossil Coleoptera assemblages of the last interglacial/present interglacial in North America, 1986-.
See:
P. convexifrons Wood (Coleoptera: Scolytidae); a range extension to Ungava Bay, Quebec, Canada; Col. Bull., vol. 42, p. 69-72, 1988.

A pollen diagram from an interglacial deposit at Trysull, Staffordshire, England; New Phytologist, vol. 109, p. 393-397, 1988.

Climatic implications of D/H Ratios in Beetle Chitin; Paleogeog., Paleoclimatol., Paleoecol., vol. 66, p. 277-288, 1988.

Late Pleistocene and Early Holocene Coleoptera in the Lower Great Lakes Region; Bull. Buffalo Soc. Nat. Sci., vol. 33, p. 195-206, 1988.

The Clarksburg Site: A Wisconsinan Interstadial Arctic flora and insect fauna from southwestern Ontario; Paleogeog., Paleoclimatol., Paleoecol., vol. 68, p. 27-47, 1988.

Analysis of fossil Coleoptera assemblages of Late Quaternary age to be used in the reconstruction of paleoenvironments and paleoclimates of the northern United States and Canada.

1085
MORRIS, T.F., Ontario Geol. Surv.:
Quaternary geology of Essex County, southern Ontario, 1988.
See:
Quaternary geology of Essex County, southern Ontario; Ontario Geol. Surv., Misc. Paper 41, p. 399-401, 1988.

This project will produce a report (with maps) describing the distribution and origin of surficial materials. Data collected from a 1989 spring drilling programme will add a 3-dimensional component to the report. One summer's field season (1989) remains.

1086
MUDIE, P.J., Geol. Surv. Can.:
Quantitative Quaternary paleoecology, Eastern Canada, 1982-.

1087
OSBORN, G., Univ. Calgary (Geology and Geophysics):
Holocene tephrostratigraphy and glacial chronology in the Cordillera.
See:
Holocene glacier fluctuations in the Canadian Cordillera; Quaternary Sci. Reviews, vol. 7, p. 115-128, 1988.

Holocene history of the Bugaboo Glacier, British Columbia; Geology, vol. 16, p. 1015-1017, 1988.

To further elucidate Holocene late Pleistocene tephra history, and use tephras and independent radiocarbon dates to bracket times of glacial advance and retreat. Study areas are southern Canadian/northern American rockies, and Great Basin (Nevada).

1088
PELLETIER, B.R., Geol. Surv. Can.:
Quaternary paleo-sealevel map of Canada, 1978-.

1089
PERRAS, M., Univ. Alberta (Geology):
Sedimentology of periglacial deposits and the Quaternary evolution of their surfaces, Cypress Hills and Wood Mountain, southwestern Saskatchewan, 1988-90; M.Sc. thesis.

1090
PRICHONNET, G., BEAUDRY, L., Université du Québec à Montréal (Sciences de la Terre):
Faciès, distributions, formes et genèse des moraines mineures (type de Geer) – Moyen Nord et Québec nordique, 1988-91; thèse de doctorate (Beaudry).

Plusieurs secturs ont été cartographiés (83-85) dans le secteur Chapais-Chibougamau (Plusieurs mémoires de M. Sc.; Article). Actuellement un train de dispersion est analysé à partir du massif intrusif granitique d'Opemisca et des roches vertes limitrophes sur le versant sud du massif.

1091
PRICHONNET, G., FOISY, M., Université du Québec à Montréal (Sciences de la Terre):
Géologie glaciaire des Calédoniennes au sud de Moncton-Nouveau-Brunswick, 1987-89; thèse de maîtrise (Foisy).
Voir:
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1169
LAST, W.M., EDWARDS, W., Univ. Manitoba (Geological Sciences):
Sedimentology and reservoir quality of the Mississippian Bakken (Exshaw) Formation in southwestern Manitoba, 1989-91; M.Sc. thesis (Edwards).

The lower Carboniferous sequence is a prolific oil producer in many areas of the Williston Basin. Recently oil has been discovered in the Mississippian-Devonian Bakken Formation in the West Virden area of southwestern Manitoba. The objective of this project is to gain a basic understanding of the depositional and diagenetic factors that control reservoir quality and porosity development in the middle Bakken Sands in southwestern Manitoba.

1170
LAST, W.M., HANSEN, B., Univ. Manitoba (Geological Sciences):
Sedimentology and reservoir potential of the lower Amaranth member in southwestern Manitoba, 1987-91; M.Sc. thesis (Hansen).

The Jurassic Lower Amaranth Member is the lowermost unit of the Amaranth Formation. It is an important hydrocarbon producer in several fields in southwestern Manitoba. The objectives of this study are to examine the stratigraphy, sedimentology, and diagenesis of the unit in order to decipher the depositional environment, reservoir potential, and exploration model for the area.

1171
LAST, W.M., WEI, J., Univ. Manitoba (Geological Sciences):
Dolomitization of the Ordovician Red River Formation in Manitoba, 1989-91.

To undertake a detailed petrographic and geochemical study of the Ordovician Red River Formation in southern Manitoba using both surface and core material in an effort to understand the origin and process of dolomitization.

1172
LAVOIE, D., Geol. Surv. Can.:
Sédimentologie et diagenèse du Groupe de Matapédia, Anticlinorium d'Aroostook-Percé, Québec, 1989-.

Stratigraphie fine, analyse sédimentologique et évolution diagénétique du Groupe de Matapédia (Ordovicien supérieur-Silurien inférieur) du segment Québec-Nouveau Brunswick de l'axe Aroostook-Percé.

1173
LECKIE, D.A., Geol. Surv. Can.:
Sedimentology, of Cretaceous clastics in the western Canada basin, 1986-.

1174
MACQUEEN, R.W., Geol. Surv. Can.:
Mass transfer to elements in clastic sequences, 1985-.

1175
MARTINI, I.P., Univ. Guelph (Land Resource Science):
Interglacial and post-glacial Permo-Carboniferous coals, Parana' Basin, Brazil, 1987-91.

To establish the existence of interglacial and early post-glacial coals in the Permo-Carboniferous Parana' Basin of Brazil. The sedimentology of the coal bearing sequences has been established with the intent of discriminating cold climate and perhaps glacial deposition.

1176
MCKAY, J., PLINT, A.G., LONGSTAFFE, F.J., Univ. Western Ontario (Geology):
Isotopic and diagenetic study of ?subaerial sequence boundaries, Upper Cretaceous Marshbank and Bad Heart formations, Alberta and British Columbia 1988-90; M.Sc. thesis (McKay).

1177
MOSLOW, T.F., BROWNRIDGE, S., WITTENBERG, J., Univ. Alberta (Geology):
Sequence stratigraphyand facies archetecture of Lower Cretaceous and Triassic clastic depositional systems, western Canada Sedimentary Basin, 1988-90.
See:
An integrated approach to the sedimentological analysis of some Lower Cretaceous shoreface and delta front sandstone sequences; Can. Soc. Petrol. Geol., Mem. 15, p. 373-386, 1988.

1178
MOUNTJOY, E., QING, H., MCLEAN, D., TEARE, M., KWIAKOWSKI, M., LAFLAMME, A., LEBEL, D., DECHESENE, R., KLEIN, G., McGill Univ. (Geological Sciences):
Carbonate sedimentology and diagenesis of Devonian of western Canada. Tectono-thermal evolution of Mitte Group strata, Selwyn and

northern Park Ranges, eastern British Columbia, 1965-1992; Ph.D. theses (Qing, McLean, Lebel, Dechesne, Klein), M.Sc. theses (Teare, Kwiakowski, Laflamme).
See:
Multistage dolomitization in Rainbow buildups, Middle Devonian Keg River Formation, Alberta; J. Sed. Petrology, vol. 59, p. 114-126, 1989.

The Hugh Allan (Purcell) fault (a low-angle, west-dipping thrust) at Hugh Allan Creek; Geological Surv. Can., Paper 88-1E, p. 97-10, 1988.

Structural geology of part of the Main Ranges near Jasper, Alberta; ibid., p. 171-176, 1988.

Northern Porcupine Creek Anticlinorium and footwall of Purcell thrust, northern Park Ranges; ibid., p. 163-170, 1988.

1179
MUIR, I.D., DIXON, O.A., Univ. Ottawa (Geology):
Devonian Hare Indian and Ramparts formations, Mackenzie Mountains, N.W.T.: basin-fill, platform and reef development, 1982-88; Ph.D. thesis (Muir).

1180
NARBONNE, G.M., DIXON, O.A., Univ. Ottawa (Geology):
Stratigraphy, reef development and trace fossils of the Upper Silurian Douro Formation in the southeastern Canadian Arctic Islands, 1976-81.
See:
Sponge-dominated reef mounds in the Douro Formation (Upper Silurian) of Somerset Island, N.W.T.; Can. Soc. Petrol. Geol., Mem. 13, 1988.

1181
PLINT, A.G., Univ. Western Ontario (Geology):
Regional stratigraphy and sedimentology of the Dunvegan Formation (Cenomanian), Alberta and British Columbia, 1986-90.
See:
Field guide to the Upper Cretaceous Dunvegan and Cardium formations, British Columbia; Can. Soc. Petrol. Geol., Field Guide Sequences Meeting, 51 p., 1988.

1182
PLINT, A.G., NORRIS, B., Univ. Western Ontario (Geology):
Regional stratigraphy of the Muskiki, Marshybank and Bad Heart formations, Alberta and British Columbia, 1986-89; M.Sc. thesis (Norris).

1183
POEY, J-L., DIXON, O.A., Univ. Ottawa (Geology):
Stratigraphy and depositional environments of an Upper Ordovician to Lower Devonian shelf-to-basin transition, Svendsen Peninsula, Ellesmere Island, N.W.T., 1981-88; M.Sc. thesis (Poey).

1184
RENAUT, R.W., KYSER, T.K., BONLI, T., Univ. Saskatchewan (Geological Sciences):
Deposition and diagenesis of Mississippian strata, Daly Field, Manitoba, 1988-91; M.Sc. thesis (Bonli).

1185
RENAUT, R.W., STEAD, D., AHLSTROM, J., Univ. Saskatchewan (Geological Sciences):
Sedimentation, diagenesis and petrofabrics of the Devonian Dawson Bay Formation in the Saskatoon potash mining region of Saskatchewan, 1988-90; M.Sc. thesis (Ahlstrom).

1186
RENAUT, R.W., UTHA-AROON, C., Univ. Saskatchewan (Geological Sciences):
Depositional environment of the Prairie Evaporite in Saskatchewan, based on sedimentological and petrographic criteria, 1987-90; M.Sc. thesis (Utha-aroon).

1187
REYNOLDS, A.D., WALKER, R.G., McMaster Univ. (Geology):
Allostratigraphic framework of the Viking Formation, Alberta, 1988-90.

1188
ROCHELEAU, M., BOURQUE, P.A., BLAIS, N., Université Laval (Géologie):
Sédimentologie de la Formation de Gascons, région de Port-Daniel-Gascons, Silurien de Gaspésie, Québec, 1986-89; thèse de maîtrise (Blais).

1189
ROSENTHAL, L.R., Brandon Univ. (Geology):
The stratigraphy, sedimentology and reservoir potential of the Lower Mannville strata, western Alberta, 1984-.

1190
ROSENTHAL, L.R., Brandon Univ. (Geology):
The stratigraphy, sedimentology and petroleum potential of the Jurassic Fernie and Nikannassin strata, western Alberta, 1984-.

1191
TASSÉ, N., BERGERON, M., INRS-Géoressources:
Géochimie des Terres rares dans les carbonates sédimentaires, 1988-.

Le projet entend examiner le comportement des éléments des Terres rares dans les carbonates en tant qu'éventuels traceurs diagénétiques.

1192
TASSÉ, N., SCHRIJVER, K., INRS-Géoressources:
Diagenèse et métallogénie des Basses-Terres du Saint-Laurent, 1984-.

Étude d'indices disséminés et stratoïdes de Zn et Ba. Diagenèse des carbonates et des sulfates en relation avec ces minéralisations.

1193
VAN DE POLL, H.W., PATEL, I.M., Univ. New Brunswick (Geology):
Relationship between soft sediment deformation and mud intrusion structures and meta-depositional tectonic deformation: Riversdale and Pictou groups, New Brunswick and Nova Scotia, 1987-.

1194
VAN DE POLL, H.W., PATEL, I.M., PLACE, C.H., Univ. New Brunswick (Geology):
Lithostratigraphy of the Prince Edward Group (redbeds) of Permo-Stephanian Age, Prince Edward Island, 1982-.

1195
VAN DE POLL, H.W., PLACE, C.H., Univ. New Brunswick (Geology):
Stratigraphy, sedimentology and physical diagenesis, Wood Islands Member, Hillsborough River Formation, southeastern Prince Edward Island, 1982-; M.Sc. thesis (Place).

1196
VAN DE POLL, H.W., RYAN, R.J., Univ. New Brunswick (Geology):
Sediment intrusion phenomena and physical diagenesis of the Prince Edward Island redbeds, 1982-.

1197
VON BITTER, P.H., GAIT, R., Royal Ontario Museum (Invert. Palaeontology), Univ. Toronto (Geology), Royal Ontario Museum (Mineralogy):
Calcite pseudomorphs from the Pleistocene and Holocene of Canada: possible geothermometers, 1976-.

1198
WALKER, R.G., BARTLETT, J.J., McMaster Univ. (Geology):
Sedimentology of Viking shallow marine facies in northeastern portion of Viking Basin, Alberta, 1987-91; Ph.D. thesis (Bartlett).

1199
WALKER, R.G., BHATTACHARAYA, J., McMaster Univ. (Geology):
Dunvegan Formation (allostratigraphy and sedimentology), Alberta, 1985-89; Ph.D. thesis (Bhattacharaya).

1200
WALKER, R.G., BOREEN, T., McMaster Univ. (Geology):
Viking Formation in the Gilby-Willesden Green area, Alberta, 1987-89; M.Sc. thesis (Boreen).

1201
WALKER, R.G., DAVIES, S.D., McMaster Univ. (Geology):
Viking Formaiton, Garrington, Alberta, 1987-89; M.Sc. thesis (Davies).

1202
WALKER, R.G., EYLES, C.H., McMaster Univ. (Geology):
Morphology and origin of erosion surface E5 in the Cardium Formation, Alberta, 1988-90.

1203
WALKER, R.G., HADLEY, S.D., McMaster Univ. (Geology):
Viking Formation, Harmattan, Alberta; 1987-89; M.Sc. thesis (Hadley).

1204
WALKER, R.G., PATTISON, S.A.J., McMaster Univ. (Geology):
Sedimentology of incised channels in Viking Formation, Alberta, 1987-91; Ph.D. thesis (Pattison).

1205
WALKER, R.G., POWER, B.A., McMaster Univ. (Geology):
Sedimentology of coastal plain facies association, basal Belly River Formation, Alberta, 1987-91; Ph.D. thesis (Power).

1206
WALKER, R.G., WADSWORTH, J.A., McMaster Univ. (Geology):
Morphology of the E7 erosion surface, Cardium Formation, Alberta, 1987-89; M.Sc. thesis (Wadsworth).

1207
WIGHTMAN, D.M., KEITH, D.A.W., MACGILLIVRAY,J.R., BEREZNIUK, T., BERHANE, M., Alberta Research Council (Geological Survey):
Resource characterization of the Athabasca Oil Sands area, 1988-89.
See:
Fluvial, estuarine and shallow marine sedimentation in the Lower Cretaceous McMurray Formation and Wabiskaw Member (Clearwater Formation), in the central region of the Athabasca Oil Sands area, northeastern Alberta; Proc. Fourth Internat. Conf. on the Future of Heavy Crude and Tar Sands, Edmonton, Canada, 26 p., 1988.

Characerization of the central region of the Lower Cretaceous McMurray/Wabiskaw deposit, Athabasca Oil Sands area, northeastern Alberta; ibid., 1988.

Sedimentology of the McMurray Formation and Wabiskaw Member (Clearwater Formation), Lower Cretaceous, in the central region of the Athabasca Oil Sands area, Northeastern Alberta; Can. Soc. Petrol. Geol., Mem. 15, 1989.

To delineate the stratigraphic framework, depositional facies, mineralogy, resource characteristics and bitumen distribution in the McMurray Formation and Wabiskaw Member of the Clearwater Formation. Studies of the Northern (previous project published in ARC Bulletin 46) and Central regions of the Athabasca Oil Sands area have been completed, Athabasca South is in progress and Athabasca West will begin in 1990.

1208
YOUNG, H.R., NELSON, C.S., HARRIS, G.J., Brandon Univ. (Geology), Univ. Waikato (Earth Science):
Burial dominated cementation for non-tropical carbonates of the Oligocene Te Kuiti Group, New Zealand, 1987.
See:
Burial dominated cementation in non-tropical carbonates of the Oligocene, Te Kuiti Group, New Zealand; Sedimentary Geol., vol. 60, p. 233-250, 1988.

1209
YOUNG, H.R., ROSENTHAL, L.R., Brandon Univ. (Geology):
Depositional and diagenetic model for Mississippian Lodgepole Formation, southwestern Manitoba, 1987-.

RECENT AND UNCONSOLIDATED SEDIMENTS/SÉDIMENTS RÉCENTS ET NON CONSOLIDÉS

1210
ACKER, K.L., STEARN, C.W., McGill Univ. (Geological Sciences):
The carbonate-siliciclastic facies transition and reef growth on the northeast coast of Barbados, West Indes, 1986-89; M.Sc. thesis (Acker).
See:
Biological and sedimentological changes across the carbonate-siliciclastic transition, northeast Barbados, W.I.; Proc. 6th Internat. Coral Reef Conf. Brisbane, 1988.

1211
ADSHEAD, J.D., Geol. Surv. Can.:
Geological characterization of Arctic lakes: sediment properties and sedimentary processes, 1977-.

1212
AL-AASM, I.S., DESROCHERS, A.D., AKDIM, I., GEURTS, M-A., Univ. Windsor (Geology), Univ. Ottawa (Geology):
Sur La Genése des Travertius (Approche pétrographique et Géochimique), 1989.

1213
AMOS, C.L., Geol. Surv. Can.:
Sediment dynamics at the head of the Bay of Fundy, 1978-.

1214
AMOS, C.L., Geol. Surv. Can.:
Stability and transport of sediments on Continental shelves, 1980-.

1215
AMOS, C.L., Geol. Surv. Can.:
Littoral investigation of sediment properties (LISP), Bay of Fundy, 1988-90.

1216
BORNHOLD, B.D., Geol. Surv. Can.:
Marine surficial geology and sedimentation, British Columbia, 1975-.

1217
BUCKLEY, D.E., Geol. Surv. Can.:
Early diagenesis in Quaternary marine sediments of Eastern and Arctic Canada, 1988-92.

1218
CAMERON, B., JONES, J.R., Acadia Univ. (Geology):
Photogrammetric analysis of shoreline change for islands within central Boston Harbor, Massachusetts, 1985-91.

A conventional photogrammetric analysis of the rates of shoreline change is presented for seven islands within Boston Harbor, Massachusetts. Four years of aerial photographic coverage, 1938, 1952, 1963 and 1977 were used to determine the differences in erosion rates between islands, and with respect to the geographic exposure of the islands. The greatest mean rate of erosion for the islands occurred during the 1938-1952 series (-0.32 m/yr) followed by periods of accretion during the 1952-1963 series (0.13 m/yr) and the 1963-1977 series (0.04 m/yr). The net rate of shoreline change for the 39-year period is erosional at -0.15 m/yr. Nonparametric statistical testing of the erosion rates demonstrated that islands with southeast exposures experienced the largest amount of variability. Summary analysis has shown that northeast, northwest and southeast island exposures experienced erosional trends while southwest island exposures were generally accretionary over the 39-year period of photo coverage.

1219
CANT, D.J., Geol. Surv. Can.:
Sedimentology of east coast formations, 1985-.

1220
CHEEL, R.J., Brock Univ. (Geological Sciences):
Flume experiments on upper flow regime bedforms and their internal stratification, 1988-.

Horizontal laminae formed under upper plane beds and low, downstream-migrating inphase waves differ in their textural laminae and the distribution of heavy minerals. Flume experiments will document the morphology and behavior of bedforms and stratification through the range of stability of inphase waves.

1221
DALRYMPLE, R.W., Queen's Univ. (Geological Sciences):
Architecture of the tidal sand bar complex in the Cobequid Bay estuary, Nova Scotia, 1988-.

A high resolution (~0.5 m) seismic survey of the sand bar complex was undertaken in the summer of 1988 using the Nova Scotia Research Foundation multi-tip sparker system. 130 line kilometer of good to excellent quality data were obtained. Interpretation is in progress.

1222
DALRYMPLE, R.W., FLINT, J.E., FLINT, J.J., CAREY, J.S., Queen's Univ. (Geological Sciences), U.S. Army, Corps of Engineers, Buffalo, N.Y., Brock Univ. (Geological Sciences):
Sedimentation in Lake Ontario lagoons and determination of climatically-induced lake-level fluctuations, 1981-.

Stratigraphic and sedimentological research on lagoon sediments from the Niagara Peninsula suggest that several climatically-caused fluctuations in lake level have occurred over the last 3300 years, with warm periods having higher levels. Additional work in progress in a lagoon near Kingston to test this idea in an area of slower sedimentation and with a lower rate of lake level rise.

1223
DALRYMPLE, R.W., MAKIN, Y., Queen's Univ. (Geological Sciences), Ibaraki Univ., Japan:
Sedimentation on mudflats in the inner part of the macrotidal Cobequid Bay-Salmon River estuary, Nova Scotia; 1987-.

The research has demonstrated that tidal bedding can be subdivided into a variety of types, whose occurrence is controlled by tidal-current speeds and asymmetries. Neap-spring and annual cycles of deposition can be recognized, and large-scale, spatial trends in mudflat sedimentation exist which are controlled by longitudinal variations in the characteristics of the main estuarine channel.

1124
EVANS,M.S., STOERMER, E., National Hydrology Research Institute, Univ. Michigan:
Feasibility study: Paleolimnology /paleoclimatology.

To determine whether phytoplankton and zooplankton microfossils are well-preserved in sediment cores collected from a lake in the semi-arid and in the humid regions of Saskatchewan. If so, to support a paleoclimatology/paleolimnology study of two or three lakes in Saskatchewan.

1225
HENDRY, H.E., AMUNDSON, L., Univ. Saskatchewan (Geological Sciences):
Stratigraphy and sedimentology of post-glacial alluvium in the south Saskatchewan River Valley south of Saskatoon, Saskatchewan, 1987-91; Ph.D. thesis (Amundson).

1226
HILL, P., Geol. Surv. Can.:
Beaufort Sea coast, 1983-.

1227
JANSA, L.F., Geol. Surv. Can.:
Stratigraphy and sedimentology of the Mesozoic and Tertiary rocks of the Atlantic continental margin, 1971-.
See:
Middle Jurassic to Early Cretaceous igneous rocks along eastern North American continental margin; Bull. Assoc. Petrol. Geol., vol. 72, no. 3, p. 347-366, 1988.

The origin of complex mantling relationships in clinopyroxene from the New England seamounts; Can. Mineral., vol. 26, no. 1, p. 109-116, 1988.

1228
KENNEY, B.C., National Hydrology Research Institute:
Suspended sediment transport.

To develop a cost-effective method for sampling suspended sediments in rivers.

1229
KRONBERG, B.I., BENCHIMOL, R., Lakehead Univ. (Geology), Univ. Amazonas (Geociencias):
Geochemical studies of sediments of Acre Basin (western Amazonia), 1986-.

1230
LAST, W.M., Univ. Manitoba (Geological Sciences):
Dolomite and dolomite formation in saline lakes of southern Australia, western Canada, and central Spain, 1988-92.

Dolomite has recently been discovered forming in numerous modern saline lake environments in Victoria, Australia, Saskatchewan, Canada, and central Spain. The objective of this research is to understand the genesis and diagenesis of the dolomite and associated carbonates in these lakes.

1231
LAST, W.M., Univ. Manitoba (Geological Sciences):
Sedimentology, geochemistry, and evolution of saline and hypersaline lakes of the northern Great Plains, 1988-93.

Salt lakes are common in the northern Great Plains of western Canada and United States. The sedimentology and geochemistry of selected basins in this region are currently being investigated to gain a basic understanding of the physical, chemical, and biological processes controlling the generation and diagenesis of the Holocene sediments in the salt lakes. This project is also investigating the evolution of the brine systems during the past 14,000 years.

1232
LAST, W.M., Univ. Manitoba (Geological Sciences):
Sulfate and carbonate sedimentation in playa lakes of central Spain, 1989-92.

The La Mancha region of central Spain contains numerous closed basin lakes. These lakes exhibit wide fluctuations in salinity and ionic composition. The objectives of this two-year research project are to document the mineralogy and geochemistry of selected basins in this region, and to gain an understanding of the physical and chemical factors that control inorganic precipitation of the various sulfate and carbonate salts.

1233
LAST, W.M., DEDECKKER, P., Univ. Manitoba (Geological Sciences):
Sedimentology and stratigraphy of saline lakes in Western Victoria, Australia, 1987-93.

Several aspects of the sediments of these saline lakes are currently being investigated: 1) genesis and diagenesis of carbonate hardgrounds and microbial lithoherms in East and West Basin Lakes; 2) modern dolomite precipitation and penecontemoraneous dolomitization in selected playas of the region; and 3) Holocene evolution of several maar basins in the area.

1234
MACLEAN, B., Geol. Surv. Can.:
Near-surface geology of the Arctic Island channels, 1982-.

1235
MUDIE, P.J., Geol. Surv. Can.:
Ice Island sampling and investigation of sediments (ISIS), 1984-.

1236
RENAUT, R.W., Univ. Saskatchewan (Geological Sciences):
Sedimentology and geochemistry of the saline lakes of Interior British Columbia, 1984-.

1237
SCHAFER, C.T., Geol. Surv. Can.:
The Recent paleoclimatic and paleoecologic records in fjord sediments, 1980-.

1238
SYVITSKI,J.P.M., Geol. Surv. Can.:
The physical behaviour of suspended particulate matter (spm) in natural aqueous environments, 1981-.

1239
SYVITSKI,J.P.M., Geol. Surv. Can.:
Sedimentology of fjords, 1981-.
See:
On the deposition of sediment withage glacier-influenced fjords: oceanographic controls; Marine Geol., vol. 85, no. 2/4, p. 301-329, 1989.

1240
SYVITSKI, J.P.M., Geol. Surv. Can.
Sedflux: On the transfer of sediment from land to the Continental Shelf, 1986-.
See:
Basin sedimentation and the growth of prograding deltas; J. Geophys. Res., vol. 93, no. C6, p. 6895-6908, 1988.

1241
TAYLOR, R.B., Geol. Surv. Can.:
Coastal morphology and sediment dynamics, southeast and east Cape Breton Island, Nova Scotia, 1980-.

1242
VAN WAGONER, N.A., HEIN, F., MUDIE, P.J., Acadia Univ. (Geology):
Sedimentation and tectonics of the Canadian Polar Margin, 1986-.

1243
YOUNG, H.R., NELSON, C.S., Brandon Univ. (Geology), Univ. Waikato (Earth Science):
Endolithic biodegradation of cool-water skeletal carbonates, on Scott Shelf, northwestern Vancouver Island, Canada, 1987.
See:
Endolithic biodegradation of cool-water skeletal carbonates on Scott Shelf, northwestern Vancovuer Island, Canada; Sedimentary Geol., vol. 60, p. 251-267, 1988.

PRECAMBRIAN/PRÉCAMBRIEN

1244
AITKEN, J.D., Geol.Surv. Can.:
Helikian and Hadrynian stratigraphy Eastern Cordillera and Interior Platform, 1973-.

1245
AITKEN, J.D., Geol. Surv. Can.:
Upper Proterozoic geology, Mackenzie Mountains, N.W.T., 1988-91.
See:
Uppermost Proterozoic formations in central Mackenzie Mountains, Northwest Territories; Geol. Surv. Can., Bull. 368, 1989.

1246
COOK, D.G., Geol. Surv. Can.:
Stratigraphy and structure of northern Franklin Mountains and adjacent plains, District of Mackenzie, 1985-.

1247
EASTON, R.M., Ontario Geol. Surv.:
Stratigraphic synthesis, central metasedimentary belt, Grenville Province, Ontario, 1988-90.
A stratigraphic lexicon of formational, lithodemic and plutonic units will be prepared.

1248
FROESE, E., Geol. Surv. Can.:
Regional correlations, gold-bearing volcanic belts, Flin Flon – Southend – La Ronge, Saskatchewan, 1985-.

1249
HENDERSON, J.R., Geol. Surv. Can.:
Geology of the Foxe Fold belt (East half), Baffin Island, District of Franklin, 1979-.
See:
Tectonic history of the Lower Proterozoic Foxe-Rinkian Belt in central Baffin Island, N.W.T.; Geol. Surv. Can., Paper 89-1C, p. 186-197, 1989.

1250
JACKSON, G.D., Geol. Surv. Can.:
Operation Borden, District of Franklin, 1977-.

1251
ROCHELEAU, M., HÉBERT, R., ST-JULIEN, P., GAUDREAU, R., LACOSTE, P., RACINE, M., Université Laval (Géologie):
Synthèse stratigraphique et paléogéographique, Cantons de Louvicourt, Vauquelin, Pershing et Haig, Abitibi, Québec, 1985-89; thèse de doctorat (Lacoste), thèse de maîtrise (Racine).
Présentation d'un modèle paléogéographique et des implications métallogéniques à partir d'une cartographie à l'échelle 1:20,000 et d'études volcanologiques, sédimentologiques et de géologie structurale.

1252
ROCHELEAU, M., ST-JULIEN, P., HÉBERT, R., VERPAELST, P., MUELLER, W., GUHA, J., Université Laval (Géologie), UQAT, UQAC:
Stratigraphie, paléogéographie et implications métallogéniques de quelques séquences archéennes dans la ceinture d'Abitibi, Québec, 1985-89.
See:
Composition of Archean sedimentary rocks in the Archean Abitibi Belt, Quebec, Canada: Its role in interpretation of basin evolution (Abstract); IAS 12th Internat. Congress, Canberra, p. 260, 1988.
Diapirism during regional compression: The structural pattern in the Chibougamau region of the Archean Abitibi Belt, Quebec; Geologische Rundschau, vol. 75, no. 3, p. 715-736, 1988.
Études de stratigraphie, sédimentologie, volcanologie, géologie structurale et métallogénie dans les régions de Rouyn-Val-d'Or, de Louvicourt et de Chibougamau.

PALEOZOIC/PALÉOZOÏQUE

1253
AITKEN, J.D., Geol. Surv. Can.:
Lower Paleozoic stratigraphy, southern Rocky Mountains, Alberta and British Columbia, 1972-.

1254
BARNES, C.R., Geol. Surv. Can.:
Paleozoic stratigraphy and conodont paleontology, 1988-.

1255
BEAUCHAMP, B., Geol. Surv. Can.:
Upper Paleozoic stratigraphy and basin analyses of southern margin of Sverdrup Basin, Arctic Archipelago, 1987-.
See:
Upper Carboniferous to Lower Permian palaeoaplysina-phylloid algal buildups, Canadian Arctic Archipelago; Can. Soc. Petrol. Geol., Mem. 13, p. 590-599, 1989.
Upper Paleozoic stratigraphy and basin analyses of the Sverdrup Basin, Canadian Arctic Archipelago: Part 1, time frame and tectonic evolution; Part 2, transgressive regressive sequences; Geol. Surv. Can., Paper 89-1G, p. 105-124, 1989.

1256
BÉLAND, J., TRZCIENSKI, W.E., MARQUIS, R., Université de Montréal (Géologie):
Stratigraphie, structure et métamorphisme de l'anticlinorium de Sutton, Estrie, Québec, 1984-88.

1257
BERGERON, M., MAMET, B., Université de Montréal (Géologie):
Stratigraphie et microfacies carbonatés de la formation Mount Head, Alberta, 1985-; thèse de doctorat (Bergeron).

1258
BOLTON, T.E., Geol. Surv. Can.:
Silurian-Ordovician macrobiostratigraphy of Anticosti Island, Quebec, 1974-.
See:
The Ordovician-Silurian boundary on Manitoulin Island, Ontario, Canada; Bull. British Mus. Nat. Hist. (Geol.), vol. 43, p. 247-253, 1988.
Paleontology of the type section, Fort Garry Member, Red River Formation (Upper Ordovician), southern Manitoba; New Mexico Bureau Mines Mineral Res., Mem. 44, p. 341-349, 1988.

1259
CHANDLER, F.W., Geol. Surv. Can.:
Horton Group, Nova Scotia, 1987-.

1260
DESBIENS, S., Ministère de l'Énergie et des Ressources du Québec, Université de Montréal (Géologie):
Corrélation des unités dévoniennes de l'est de la Gaspésie, Québec, 1988-89; thèse de doctorat.
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See:
Implications of superimposed shear zones in Shelburne-Barrington area (abstract); Maritime Sediments and Atlantic Geol., vol. 24, no. 2, p. 198, 1988.

Overprinted shear zones in southwestern Nova Scotia, Shelburne-Barrington area; Geol. Assoc. Can. – Mineral. Assoc. Can., Program with abstracts, vol. 13, p. A59, 1988.

A detailed structural analysis of the area has provided evidence of psot-Devonian major fault activity. Work is continuing on the complex structure and metamorphism.

1360
WILLIAMS, P.F., HY, C., Univ. New Brunswick (Geology):
Gold-bearing veins in Nova Scotia, 1985-.

The relationship between granitoids structure, metamorphism and veining is being studied.

ONTARIO/ONTARIO

1361
CLIFFORD, P.M., MCKINNON, P., McMaster Univ. (Geology), Univ. Toronto (Erindale College):
Shear and fracture zone development, Killarney Igneous Complex, Ontario, 1986-; M.Sc. thesis (McKinnon).

1362
HANMER, S.K., Geol. Surv. Can.:
Structural studies in the Grenville Province of Ontario and western Quebec, 1983-.
See:
Ductile thrusting at mid-crustal level, southwestern Grenville Province; Can. J. Earth Sci., vol. 25, no. 7, p. 1049-1059, 1988.

1363
HOLM, P.E., Univ. Windsor (Geology):
Structural studies in the Elsevir terrane of the Grenville Province, 1987-90.

To determine the strain distribution in deformed conglomerates and its relationship to folds and thrust faults in the ara.

1364
KEHLENBECK, M.M., HOLMES, P., NICOL, D., Lakehead Univ. (Geology):
Subprovince margins and boundaries in the eastern Superior Province, 1984-.

Structural and stratigraphic relationships of rocks of adjacent subprovinces and in marginal terranes between subprovinces.

1365
MCFALL, G., ALLAM, A., Ontario Geol. Surv.:
Structural geology of southern Ontario, 1987-90.
See:
Detailed structural investigations of Prince Edward County, southern Ontario; Ontario Geol. Surv., Misc. Paper 141, p. 454-456, 1988.

Investigations are presently focussed on the structural geology of eastern Lake Ontario and the delineation of neotectonic features in Prince Edward County.

1366
PERCIVAL, J.A., Geol. Surv. Can.:
Geological and geophysical studies of the Kapuskasing structure, Ontario, 1985-.

1367
SANBORN-BARRIE, M., Ontario Geol. Surv.:
Geology of the tectonic boundary zone between the English River and Winnipeg River Subprovinces, northwestern Ontario, 1988-89.
See:
Ontario Geol. Surv., Misc. Paper 141, p. 98-107, 1988.

Structural relationships at the boundary between the English River and Winnipeg River Sub-provinces, northwestern Ontario; Abstract, Canadian tectonics group meeting, Banff, Alberta, October, 1988.

1368
THURSTON, P.C., OSMANI, I.A., Ontario Geol. Surv.:
Geology of Ontario, 1987-91.
See:
Regional scale shear zones in Sachigo Subprovince and their economic significance; Ontario Geol. Surv., Misc. Paper 141, 1988.

A geological re-evaluation of northwestern Greenstone belt; ibid., 1988.

1369
WILLIAMS, H.R., DEVANEY, J.R., PERCIVAL, J.A., BUCK, S., REILLY, B.A., SOO, K.Y., Ontario Geol. Surv., Univ. Ottawa (Geology), Geol. Surv. Can., Brock Univ. (Geological Sciences):
Tectonics of southern Superior Province, 1984-.
See:
Late Archean Quetico accretionary complex, Superior Province; Geology, vol. 17, p. 23-25, 1989.

Large scale accretion of subprovinces occurred after development of complex structures in greenstone-dominated terranes.

QUÉBEC

1370
BARAGAR, W.R.A., Geol. Surv. Can.:
The tectonics of Archean and Proterozoic gneisses bordering the Ungava Trough, Québec, 1985-.

1371
BÉLAND, J., TRZCIENSKI, W.E., MARQUIS, R., Université de Montréal (Géologie):
Structure, stratigraphie et métamorphisme du segment nord-est de l'anticlinorium de Sutton, Estrie, Québec, 1984-88.

1372
BERGER, J., Ministère de l'Énergie et des Ressources, Université Laval (Géologie):
Études des failles de l'est de la Gaspésie, Québec, 1988-89; thèse de doctorat.

1373
LEMIEUX, E., Ministère de l'Énergie et des Ressources, Université Laval (Géologie):
Géologie du groupe de Montauban, Québec, 1989-91; Maîtrise en sciences de la Terre.

Cartographie géologique à l'échelle 1:20 000 de la partie nord du groupe de Montauban.

1374
MALO, M., INRS-Géoressources:
Tectonique acadienne dans les Appalaches, 1987-90.

L'étude structurale de l'anticlinorium d'Aroostook-Percé a permis de définir le style structural acadien en Gaspésie. La poursuite de l'étude tectonique d'autres unités structurales en Gaspésie et en Estrie nous permettra de mieux comprendre l'évolution de l'orogenèse acadienne dans l'ensemble de l'orogène appalachien.

1375
MALO, M., INRS-Géoressources:
Étude structurale et métallogénique de la faille du Grand Pabos, Québec, 1988-89.

Établir les relations entre les types de gîtes minéraux et la nature de la déformation dans la zone de faille du Grand Pabos.

1376
MALO, M., INRS-Géoressources:
Étude structurale et métallogénique de la faille du Grand Pabos, Québec, 1988-92.

La plupart des indices minéralisés du sud de la Gaspésie sont situés près des failles acadiennes et plus particulièrement celle du Grand Pabos. Cette recherche a pour principal objectif de comprendre les relations entre la tectonique et la mise en place des minéralisations.

1377
MARQUIS, R., Université de Montréal (Géologie):
L'anticlinorium des Monts Sutton dans la région de Richmond, Québec, 1983-88; thèse de doctorat.

1378
MARTIGNOLE, J., Université de Montréal (Géologie):
Étude de la zone de cisaillement de Labelle (Province de Grenville-Québec), 1988-89.

1379
MARTIGNOLE, J., NANTEL, S., Université de Montréal (Géologie):
Pétrologie, structure et métamorphism du complexe anorthositique de Rivière-Pentecôte, 1987-90.

1380
MARTIGNOLE, J., POUGET, P., Université de Montréal (Géologie):
Étude structurale et thermobarométrique de l'Allochtone Bouchette – Cabonga (Province de Grenville), 1987-90.

1381
MOORHEAD, J., HYNES, A., McGill Univ. (Geological Sciences):
Structure and metamorphism of the northern closure of the Renia gneiss Dome and cover sequence, northern Labrador Trough, Quebec, 1984-89; M.Sc. thesis (Moorhead).

1382
ROY, F., MALO, M., INRS-Géoressources:
Structure et pétrographie de l'indice Reboul (Pb, Zn, Cu), faille du Grand Pabos, Gaspésie, 1988-90; thèse de maîtrise (Roy).

L'indice Reboul est situé le long de la faille du Grand Pabos dans le sud de la Gaspésie. On y reconnaît 3 types de minéralisation: Cu, Zn dans des marbres et skarns; filons de Pb-Zn-Ag avec veines de calcite et; Au avec veines de quartz. Une carte structurale détaillée de l'indice sera produite et les diverses minéralisations seront analysées au microscope pétrographique et électronique.

1383
ST-ONGE, M.R., Geol. Surv. Can.:
Cape Smith Fold – Thrust Belt, east end, Quebec, 1985-.

1384
TRUDEL, C., MALO, M., INRS-Géoressources:
Analyse structurale des failles acadiennes de la région de Matapédia (Gaspésie), Appalaches du Québec, 1987-89; thèse de maîtrise (Trudel).

Les failles principales de direction NE-SW de la région de Matapédia sont des chevauchements vers le SE qui s'intègrent bien dans le système acadien de failles de décrochement dextre du sud de la Gaspésie.

1385
WHITE, J.C., Univ. New Brunsiwkc (Geology):
Shock deformation in silicates, Manicouagan, Quebec, 1987-90.

YUKON TERRITORY/ TERRITOIRE DU YUKON

1386
TEMPELMAN-KLUIT, D.J., Geol. Surv. Can.:
Stratigraphy, structure and metallogeny of Pelly Mountains, and Yukon Plateau, Yukon Territory, 1973-.

GENERAL/GÉNÉRALITÉS

1387
BELL, J.S., Geol. Surv. Can.:
Lithospheric stress in Canada (with special emphasis on sedimentary basins), 1987-.
See:
Modelling of stress refraction in sediments around the Peace River Arch, western Canada; Geol. Surv. Can., Paper 89-1D, p. 49-54, 1989.

1388
CHAPMAN, D.S., Geol. Surv. Can.:
Tectonics of Canadian Cordillera/offshore, 1986-.

1389
CULVER, S.J., WILLIAMS, H.R., Old Dominion Univ., Virginia, Ontario Geol. Surv.:
Pan-African and early Precambrian tectonics of West Africa, 1973-.
See:
The Archaean Kasila Group of western Sierra Leone; Precambrian Res., vol. 38, p. 201-213, 1988.

1390
DIXON, J.M., Queen's Univ. (Geological Sciences):
Centrifuge modelling of foreland folding and thrusting, 1984-.
See:
Centrifuge modelling of fold-thrust mountain belts: thrust ramp nucleation; Centrifuge '88, Internat. Soc. Soil Mechanics and Foundation Engineering, p. 553-562, 1988.
Investigation of the influences of stratigraphy on the formation of folds and thrust faults.

1391
DIXON, J.M., Queen's Univ. (Geological Sciences):
Centrifuge modelling of the structural envelope around salt diapirs, 1987-.

1392
FADER, G.B., Geol. Surv. Can.:
Bedrock and surficial geology, Grand Banks, 1973-.

1393
LIU, S., DIXON, J.M., Queen's Univ. (Geological Sciences):
Centrifuge modelling of thrust fault propagation and formation of thrust ramps, 1986-90; Ph.D. thesis (Liu).
Focus on the factors affecting formation of duplex structures.

1394
ROHR, K., Geol. Surv. Can.:
The structure of the Earth in Western Canada, 1986-.

1395
ROSS, J.V., Univ. British Columbia (Geological Sciences):
Mechanisms of deformation and fabric evolution in synthetic mylonites, 1986-89.

1396
ROSS, J.V., BUSTIN, R.M., Univ. British Columbia (Geological Sciences):
Flow law and mehanism(s) of deformation in anthracite and high volatile coal, 1987-89.

1397
ROSS, J.V., FILLIPANE, J., Univ. British Columbia (Geological Sciences):
Evolution of mylonitic fabrics in granitic rocks under experimental conditions of simple shear and variable temperature, confining pressure and strain rate, 1988-; Ph.D. thesis (Fillipane).

1398
ROSS, J.V., LEWIS, P.D., Univ. British Columbia (Geological Sciences):
Evidence for semi-brittle behaviour in crustal rocks, 1987-88.

1399
RUSSELL, W.J., BRISBIN, W.C., Univ. Manitoba (Geological Sciences):
Primary fractures within a tuff cone, north Menan Butte, Idaho, U.S.A., 1988; M.Sc. thesis (Russell).

1400
SOUTHER, J.G., Geol. Surv. Can.:
Study of the Cenozoic evolution of the western Cordillera, 1977-.

1401
SRIVASTAVA, S.P., Geol. Surv. Can.:
Comparative studies of the continental margins of the Labrador Sea and of the North Atlantic, 1978-.

1402
STOCKMAL, G., Geol. Surv. Can.:
Regional geologic and plate tectonics history of the Canadian Appalachians, 1985-.

1403
SWEENEY, J., Geol. Surv. Can.:
Cordilleran structure and tectonic evolution, 1986-.

1404
WHITE, J.C., Univ. New Brunswick (Geology):
Rheology of deep-crustal shear zones, 1987-90.
See:
Dynamic recrystallization and associated exsolution in perthites; J. Geophys. Res., vol. 93, p. 325-337, 1988.

1405
WILLIAMS, P.F., PRICE, C.P., Univ. New Brunswick (Geology), C.S.I.R.O., Melbourne, Australia:
Experimental study of shear zones, 1986-.

1406
WILLIAMS, P.F., PRICE, C.P., Univ. New Brunswick (Geology), C.S.I.R.O., Melbourne, Australia:
Development of automated techniques of fabric study, 1987-.
See:
The photometric method of C-axis fabric analysis applied to calcite; Tectonophysics, vol. 158, p. 343-354, 1989.

1407
WILLIAMS, P.F., VERNON, R.H., Univ. New Brunswick (Geology), MacQuarrie Univ.:
Ductile shear zones and granite gneisses, Broken Hill, Australia, 1986-.

1408
WILSON, B.C., DIXON, J.M., HELMSTAEDT, H., Queen's Univ. (Geological Sciences):
Deformation and intrusion, 1982-89; Ph.D. thesis (Wilson).

1409
BOSTOCK, H.H., Geol. Surv. Can.:
Volcanic rocks of the Appalachian region, 1973-.

1410
CHURCH, B.N., British Columbia Ministry Energy, Mines, Petrol. Res. (Geological Survey Branch):
Geological and mineral resources of Tertiary outliers in British Columbia, 1980-.

Logitudinal rift valleys of south central British Columbia hosting Tertiary formations are thought by some to have formed by crustal detachment caused by listric normal faulting. However, detailed evidence shows structural control of these rocks relates to a herringbone pattern of shears and tensional faults – important elements in a north/south stress scheme that is responsible for graben formation in a continental slice tectoframework.

1411
CLIFFORD, P.M., PETERSON, D.W., McMaster Univ. (Geology), USGS:
Products of the Superstition Mountains caldera, Arizona – chemistry and petrogenetic evolution ,1987-.

1412
CLIFFORD, P.M., PETERSON, D.W., McMaster Univ. (Geology), U.S.G.S.:
Chemistry and petrogenesis of the Apache Leap Tuff, Arizona, 1987-.
See:
Chemistry and petrogenesis of the Apache Leap Tuff, Arizona; Geol. Assoc. Can. – Mineral. Assoc. Can., Program with abstracts, vol. 14, p. A35, 1989.

Chemistry reveals a remarkably homogeneous extract from the magma chamber with erupted volume >100 km^3; only moderately fractionated; probably involving some crustal melt contribution.

1413
CLIFFORD, P.M., SHERRIF, B., McMaster Univ. (Geology):
Flow fabrics and emplacement of rhyolite of Antelope Hills (Topaz Mountain) Utah, 1987-.
See:
Flow fabrics and emplacement of rhyolite of Antelope Hills (Topaz Mountains), Utah; Geol. Assoc. Can. – Mineral. Assoc. Can., Program with abstracts, vol. 14, p. A35, 1989.

Different flow facies correspond to different levels and styles of vesiculation, and indicate both plug flow and severe shear. N.M.R. studies of glasses suggest associated differences in glass structure, and degree of crystallinity.

1414
EASTON, R.M., Ontario Geol. Surv.:
Volcanic synthesis of the central metasedimentary belt, Grenville Province, Ontario, 1987-92.

1415
HAMILTON, T.S., Geol. Surv. Can.:
Volcanic rocks of the Insular Belt and adjacent deep ocean, British Columbia, 1982-.
See:
Polarity and inclination of magnetization of the Masset Formation from a deep drillhole on Graham Island, Queen Charlotte Islands, British Columbia; Geol. Surv. Can., Paper 89-1H, p. 81-86, 1989.

1416
HICKSON, C.J., MATHEWS, W.H., Geol. Surv. Can., Univ. British Columbia (Geological Sciences):
Variations and trends in the geochemistry of Late Cenozoic basalts in south-central British Columbia, 1982-; Ph.D. thesis (Hickson).

To examine variations in basalt composition: analytical uncertainties, variations with time at any one place, variations with position at any one time, and long-term or regional trends.

1417
IMREH, L., LACOSTE, P., Ministère de l'Énergie et des Ressources du Québec:
Evolution du volcanisme du groupe Caldwell (Estrie, Québec), 1988-92.

Situer la minéralisation Cu-Ag-(Au)-fère (indice Maheux) dans son contexte volcanique. Élaborer le modèle évolutif du volcanisme dans son cadre géodynamique, établir les corrélations régionales et trouver d'autres minéralisations par analogie.

1418
IMREH, L., NADEAU, J., Ministère de l'Énergie et des Ressources du Québec:
Gîtologie prévisionnelle, Abitibi, Quebec, 1972-87.

Préparation pour édition des cartes géologiques au 1:20 000 de la coupure 32 C/4 en partie des coupures 32 C/5, 31 D/1 et 31 D/8. La feuille 32 C/4 est sur le point d'être achevée.

1419
IMREH, L., TRUDEL, P., Ministère de l'Énergie et des Ressources du Québec:
Synthèse métallogénique des gisementd d'or du secteur de Val-d'Or (Abitibi), Quebec, 1987-89.

1420
IMREH, L., TRUDEL, P., SAVUÉ, P., DARLING, R., LEBEL, J., PERRAULT, G., BEAUDOIN, A., MÉTHOT, Y., HUBERT, C., ROCHELEAU, M., GAUDREAU, R., HÉBERT, R., LACOSTE, P., PERRIER, B., GIGUÈRE, C., Ministère de l'Énergie et des Ressources du Québec; Université Laval (Géologie):
Synthèse metallogénique des gisements d'or du secteur de Val-d'Or (Abitibi), Québec, 1985-89.

La description individuelle des gisements aurifères est, à deux gisements prés, achevée. Le volume projeté sera articulé en fonction de la classification typologique et constituera le tome II du mémoire Métallogénie et typologie des gisements d'or du district de Val-d'Or (Abitibi, Québec). Le manuscrit sera déposé à l'automne 1989.

1421
JOHNS, G.W., Ontario Geol. Surv.:
Kakagi Lake Synoptic Survey, Ontario, 1984-89.

Stratigraphic correlation within an ArcheanGreenstone Belt. Eruptive and depositional mechanism within pyroclastic/epiclastic deposits.

1422
MARSDEN,H., MOORE, J.M., Carleton Univ. (Earth Sciences):
Volcanic setting of the Shasta property, Smithers, British Columbia, 1988-90; M.Sc. thesis (Marsden).
See:
Stratigraphic and structural setting of the Shasta Silver – gold deposit, north-central British Columbia; British Columbia Ministry Energy, Mines, Petrol. Res., Paper 1989-1, 1988.

Shasta is a mesothermal precious metal deposit hosted by mainly pyroclastic units of the Jurassic Toodoggone volcanic rocks. The study will establish the volcanic enviornment and history and the pattern of synvolcanic faulting.

1423
PADGHAM, W.A., Indian and Northern Affairs Canada (Geology Division):
Geochemical and petrological study of the Niven Lake member of Townsite Formation, Kam Group (an Archean rhyodacite), 1987-.

To characterize an Archean rhyodacite mixed (pyroclastic and lava) flow and compare it to other units of the Townsite Formation.

1424
VAN WAGONER, N.A., Acadia Univ. (Geology):
Volcanology and stratigraphy of the Lower Devonian(?) Passamaquaddy Bay volcanic belt, southwestern New Brunswic, 1984-.
See:
Early Devonian bimodal volcanic rocks of southwestern New Brunswick; petrography, stratigraphy and depositional setting; Maritime Sediments and Atlantic Geology, vol. 24, no. 3, p. 301-319, 1988.

To determine the physical and chemical volcanology, stratigraphy and volcanic evolution of the study area.

1425
VAN WAGONER, N.A., LEYBOURNE, M., Acadia Univ. (Geology):
Volcanism and geochemistry of the Endeavour and Explorer Ridges and associated seamounts, 1987-90; M.Sc. thesis (Leybourne).

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LIST OF GRANT AWARDS IN THE EARTH SCIENCES FOR 1988-89/
LISTE DES SUBVENTIONS ATTRIBUEES AUX SCIENCES DE LA TERRE EN 1988-89

Department of Energy, Mines and Resources, Research Agreements 1988-89/
Ministère de l'Énergie, des Mines et des Ressources, conventions de recherche 1988-89

BRITISH COLUMBIA

University of British Columbia

Bustin, R.M. (Geological Sciences)
Organic and inorganic facies of coal and other sediments of the Lower Cretaceous Gates Formation and equivalent offshore strata, $5,000.00.

Clowes, R.M. (Geophysics and Astronomy)
Integrated interpretation of available geophysical data, offshore Vancouver Island, $11,000.00

Ellis, R.M. (Geophysics and Astronomy)
Analysis and interpretation of Kapuskasing Structural Zone Refraction Data, $9,000.00.

Fletcher, W.K. (Geological Sciences)
Platinum: its distribution and behaviour in soils from southern British Columbia, $5,000.00.

Russell, J.K. (Geological Sciences)
Petrology of Meagher Creek Volcanic Complex, $7,000.00.

Slaymaker, O. (Geography)
Investigation of permafrost conditions and response to climatic change at sites near Mayo, Yukon Territory, $8,500.00.

Savigny, K.W. (Geological Engineering)
The Hope Slide – a continuing geological hazard area and a regional hazard indicator, $8,000.00.

Simon Fraser University

Roberts, M.C. (Geography)
The seismic stratigraphy and structure of the eastern Fraser River Delta, $5,500.00.

University of Victoria

Tunnicliffe, V. (Biology)
Time-lapse camera measurements of the temporal features of hydrothermal vents, $3,000.00.

Van der Flier-Keller, E. (Geography)
Noble metal enrichment in coal-relationships to tectonism, Intermontane Belt, British Columbia, $4,500.00.

Van der Flier-Keller, E. (Geography)
Hydrothermal effects in sediments associated with the Atlantis II Fracture Zone-Indian Ocean, $6,000.00.

ALBERTA

University of Alberta

Baadsgaard, H. (Geology)
Geochronology and petrogenesis of the Archean Kaminak Lake Alkaline Intrusion and surrounding country rock, $3,000.00.

Baadsgaard, H. (Geology)
An isotopic investigation of the genesis and timing of gabbro-anorthosite bodies and possibly related volcanics south-west of Sudbury, Ontario, $4,000.00.

Chatterton, B.D.E. (Geology)
Conodont biostratigraphy and paleoecology of the Famennian Palliser Formation and subsurface equivalents, Alberta and British Columbia, $3,000.00.

England, J. (Geography)
Quaternary history and surficial geology of Fosheim Peninsula, west-central Ellesmere Island, $8,000.00.

Erdmer, P. (Geology)
Structural and metamorphic study of the Horseranch Range, northeastern British Columbia, $5,000.00.

Lerbekmo, J.F. (Geology)
Upper Cretaceous – Paleocene magneto-stratigraphic and geochemical correlations, $5,500.00.

Nesbitt, B.E. (Geology)
Evaluation of the origin of mesothermal gold-quartz veins of the Canadian Cordillera, $7,000.00.

Toth, J. (Geology)
The combined use of Pressure vs Depth p(d) and Pressure vs Elevation p(z) patterns as an improved technqiue in the analysis of formation fluid hydraulics in petroleum reservoirs and basins, $5,000.00.

University of Calgary

Cook, F.A. (Geology and Geophysics)
Enhanced interpretation of Lithoprobe southern Canadian Cordillera Reflection Data, $9,000.00.

Hutcheon, I. (Geology and Geophysics)
Mass transport in the Fort St. John Group, $8,000.00.

Simony, P.S. (Geology and Geophysics)
Metamorphism and tectonics of Porcupine Creek Anticlinorium, $6,000.00.

SASKATCHEWAN

University of Saskatchewn

Gendzwill, D.J. (Geological Sciences)
Natural and induced seismicity in Saskatchewan, $15,000.00.

Hajnal, Z. (Geological Sciences)
Procession and analysis of 1986 Great Lakes seismic data, $5,000.00.

Hajnal, Z. (Geological Sciences)
Williston Basin seismic profile, $6,000.00.

Paulson, K.V. (Physics)
Application of magnetotellurics to mineral and hydrocarbon exploration: I. Canonical decomposition and magnetotelluric inversion, $10,000.00.

MANITOBA

University of Manitoba

Brisbin, W.C. (Geological Sciences)
Faulting in the Bird River Sill, Manitoba; its significance with regard to sill emplacement, sill consolidation, and chromitite deposit development, $7,500.00.

Chow, N. (Geological Sciences)
Facies analysis and diagenesis of Devonian platform carbonates, Manitoba, $2,500.00.

Halden, N.M. (Geological Sciences)
Geochemistry of granitic magmatism in the vicinity of Snow Lake, Manitoba, $6,000.00.

Last, W.M. (Geological Sciences)
Dolomitization in continental environments of the Northern Plains, $4,500.00.

ONTARIO

Carleton University

Brown, R.L. (Earth Sciences)
The Monashee Décollement and its structural relationship to the Valhalla Complex of southeastern British Columbia, $7,000.00.

Csörgö, M. (Mathematics and Statistics)
Weighted empirical and quantile processes and their applications to the study of random sequences, $3,000.00.

Yole, R.W. (Earth Sciences)
Stratigraphy, petrography, diagenesis and reservoir properties of Upper Jurassic sandstones, Grand Banks, offshore Eastern Canada, $7,450.00.

Yole, R.W. (Earth Sciences)
Stratigraphy, petrography and environmental analysis of Late Paleogene sediments, Mackenzie Delta-Beaufort Shelf area, N.W.T., $7,900.00.

McMaster University

McCann, S.B. (Geography)
Structure and stratification of vegetated coastal dunes, Sable Island, Nova Scotia, $2,800.00.

Queen's University

Archibald, D.A. (Geological Sciences)
Argon 40/Argon 39 dating of amphibolite in the Bridge River Terrane, southwest British Columbia, $2,000.00.

Dixon, J.M. (Geological Sciences)
Stratigraphy, structure and thermotectonic evolution of the northern Shuswap Metamorphic Complex (Monashee Mountains, Omineca Belt, Canadian Cordillera), $5,000.00.

Royal Ontario Museum
Davis, D.W. (Geology)
Precise uranium-lead age constraints on the tectonic evolution of the western Wabigoon Subprovince, Superior Province, Ontario, $7,200.00.

Sir Sandford Fleming College

Watts, S.H. (Geology)
Bedrock weathering processes and products under arid arctic conditions – Fosheim Peninsula, Ellesmere Island, $4,900.00.

University of Toronto

Bailey, R.C. (Geology and Physics)
Interpretation methods for magnetotelluric data contamined by surface distortion effects, $7,000.00.

Courtney, R.C. (Geology)
Acoustic attenuation mechanisms in marine sediment, $9,600.00.

Dunlop, D.J. (Geophysics)
Chemical magnetization and remagnetization of sedimentary and metamorphic rocks, $6,000.00.

Gittins, J. (Geology)
The control of niobium and phosphorus ore formation in carbonatites, $7,800.00.

Naldrett, A.J. (Geology)
Behavior of PGE during fractional crystallization and mantle melting and their use as an exploration guide, $9,000.00.

Norris, G. (Geology)
Miocene palynostratigraphy of Ocean Drilling Program Leg 105, Site 645 (Baffin Bay) and Paleogene palynostratigraphy of Ocean Drilling Program 105, Site 647 (Labrador Sea), $8,000.00.

Norris, G. (Geology)
Upper Ordovician and Lower Silurian Chitnozoan biostratigraphy, Cape Phillips Formation, Canadian Arctic Islands, $5,800.00.

Scott, S.D. (Geology)
Gold in volcanogenic massive sulfide deposits, $6,000.00.

University of Waterloo

Frape, S.K. (Earth Sciences)
An evaluation of the proposed mantle/crustal component to oil and gas accumulations in sedimentary basins of southwest Ontario, $5,000.00.

Nobes, D.C. (Earth Scienees)
Deformation front sediments physical properties from sea floor geophysical measurements, $5,000.00.

Warner, B.G. (Earth Sciences)
Late Quaternary paleoecology of sub-till organic deposits, south-central British Columbia, $8,000.00.

University of Western Ontario

Hicock, S.R. (Geology)
Pre-Late Wisconsin glacial and climatic fluctuations along Canada's west coast from Graham Island, Queen Charlotte Archipelago, British Columbia $7,000.00.

Mereu, R.F. (Geophysics)
Interpretation of data from the 1986 Great Lakes seismic experiment, $9,000.00.

Plint, A.G. (Geology)
The sedimentology of shallow marine conglomerates in the Cardium Formation of Alberta and northeastern British Columbia, $7,500.00.

Plint, A.G. (Geology)
The sedimentology of shallow marine conglomerates in the Cardium Formation of Alberta and northeastern British Columbia, $7,500.00.

University of Windsor

Symons, D.T.A. (Geology)
Paleomagnetic testing of the age and the ore genesis models for MVT lead-zinc deposits, $5,000.00.

QUÉBEC

École Polytechnique

Mareschal, M. (Génie mineral)
A broadband magnetotelluric test study of the Grenville Front Tectonic zone in the vicinity of GLIMPCE Deep Seismic Reflection Line J, $10,000.00.

INRS Rimouski

Boczar-Karakiewicz, B. (Océanologie)
Formation and stability of sand ridges on the Grand Banks of Newfoundland, $4,600.00.

Long, B. (Océanologie)
Étude du cône deltaïque marin de la rivière Natashquan: Exemple de mise en place et d'évolution d'un placer, $14,000.00.

INRS Ste-Foy

Schrijver, K. (Géoressources)
Métallogénie du Pb et du Ba de l'orogène taconique du Québec: sources et réceptacles de la minéralisation à barite-galène, $6,000.00.

Université Laval

Allard, M. (CEN)
Régime thermique et dynamique du pergélisol côtier au détroit de Manitounuk, Québec nordique, $8,300.00.

Azzaria, L.M. (Geochemistry)
Geochemical and geophysical studies in earthquake prediction, Charlevoix region, Québec, $4,000.00.

Filion, L. (Géographie)
Analyse dendrochronologique des glissements de terrain de la vallée de la rivière du Gouffre, Charlevoix, Québec, $8,000.00.

Locat, J. (Géologie)
Cartographie, stratigraphie et érosion des dépôts quaternaires de la région du fjord du Saguenay, Québec, $8,000.00.

Locat, J. (Géologie)
Étude géotechnique des glissements sous-marins du fjord du Saguenay, Québec, $8,000.00.

Lortie, G. (CEN)
Diatom evidence for sedimentation transport in the Saguenay Fjord, Québec, $4,000.00.

Payette, S. (CEN)
Déplacements de la limite des arbres et changements climatiques holocènes au Nord québécois, $9,000.00.

Raveneau, J. (Géographie)
Recherche sur l'organisation d'une base de données adaptée à la représentation de connaissances géographiques structurées, $8,000.00.

McGill University

d'Anglejan, B. (Geological Sciences)
Sedimentological studies offshore of the Great Whale River, eastern Hudson Bay, $5,000.00.

Doig, R. (Geological Sciences)
A paleoseismic method based on abnormal silting in lake sediments, $6,800.00.

Hesse, R. (Geological Sciences)
Mid-Ocean channel processes,Labrador Sea, $9,600.00.

Jensen, O.G. (Geological Sciences)
Geological mapping in tropical terrains by transient AEM (Airborne Electromagnetic) systems, $3,000.00.

Mountjoy, E.W. (Geological Sciences)
Tectono-thermal evolution of Miette Group strata, northern Park Ranges, eastern British Columbia (parts of 83 D/7, 8, 9, 10, and 15), $7,000.00.

Williams-Jones, A.E. (Geological Sciences)
Gold metallogeny in the Toodoggone District, north-central British Columbia, $8,000.00.

Université de Montréal)

Hubert, C. (Géologie)
Étude structurale des gisements aurifères de Bousquet-Dumagami, du district de Malartic, de Kiena-Callahan, de Mobrum, de McWatters, et la propriété Vior, et de Golden Pond West, et leur intégration dans un contexte de tectonique globale de la ceinture de l'Abitibi, $10,000.00.

Mamet, B. (Géologie)
Carboniferous foraminifers and algae Saskatchewan, Alberta and Districts of Mackenzie and Franklin, $6,000.00.

Martignole, J. (Géologie)
Mise en place et déformation du gabbro anorthositique de Bouchette – province de Grenville, $6,000.00.

Trzcienski, W.E. (Géologie)
Evaluation of the economic potential and the geological setting of chromite and platinum group metals in the Québec Ultramafic Belt, $10,000.00.

Université du Québec à Chicoutimi

Cousineau, P. (Sciences appliquées)
Origine et évolution des blocs du Chain Lake le long la ligne Baie Verte-Brompton, région de la Beauce, Québec, $4,000.00.

Sawyer, E.W. (Sciences de la Terre)
Vein formation in quartz – free rocks, $4,800.00.

Université du Québec à Montréal

de Vernal, A. (Géochimie)
Micropaléontologie et géochimie des sédiments récents et holocènes de milieux de transition (estuaire et golfe du Saint-Laurent; baie d'Hudson), $5,400.00.

Gariepy, C. (Géochimie)
Géochimie isotopique des filons post-ordoviciens du Grenville et des Basses-Terres (Québec et Ontario), $2,000.00.

Jebrak, M. (Sciences de la Terre)
Gîtologie des minéralisations aurifères intragranitiques de l'Abitibi, $5,000.00.

Mareschal, J.-C. (Sciences de la Terre)
Gravity transect in the Grenville Province (support for Lithoprobe Abitibi Grenville Transect), $6,000.00.

Schärer, U. (Géochimie)
Geochronology and petrogenesis of the Makkovik-Nain Province Transition Zone, $6,000.00.

Université de Sherbrooke

Dubois, J-M.M. (Géographie)
Évolution du niveau marin relatif et épisodes glaciaires quaternaires aux îles de la Madeleine, $7,700.00.

NEW BRUNSWICK

University of New Brunswick

Burke, K.B.S. (Geology)
Preparation of a bedrock structural map for seismicity assessment in southwestern New Brunswick, $6,300.00.

NOVA SCOTIA

Acadia University

Van Wagoner, N.A. (Geology)
The volcanism and geochemistry of the Endeavour Ridge: Juan de Fuca Ridge System – Phase II, $6,000.00.

Dalhousie University

Boyd, R. (Geology)
Marine sedimentology of the Scotian Shelf, $7,000.00.

Louden, K.E. (Oceanography)
Seismic refraction observations in the Labrador Sea, $6,000.00.

NEWFOUNDLAND

Memorial University

Burden, E.T. (Earth Sciences)
Biostratigraphy of palynomorphs of Eclipse Trough (Cretaceous and Paleogene), Bylot Island, Northwest Territories, $9,000.00.

Hodych, J.P. (Earth Sciences)
Paleomagnetism of the Cambrian flows and the Silurian sills of the Avalon Peninsula of Newfoundland, $4,000.00.

Miller, H.G. (Earth Sciences)
Gravity survey Bonavista Bay and Placentia Bay, Newfoundland, $7,400.00.

Rivers, T. (Earth Sciences)
A combined structural and metamorphic study of the Grenville Front Zone in the Gabbro Lake area, western Labrador, $10,000.00.

Williams, H. (Earth Sciences)
Early Paleozoic tectonic-stratigraphic terranes of the Newfoundland Dunnage Zone, $9,000.00.

Williams, S.H. (Earth Sciences)
Middle Ordovician graptolite biostratigraphy in central Newfoundland, $5,000.00.

Department of Energy, Mines and Resources Contracts Awarded to Canadian Universities 1988-89/
Contracts accordés aux universités canadiennes par le ministère de l'Énergie, des Mines et des Ressources, 1988-89

BRITISH COLUMBIA

University of British Columbia

Barnes, W.C. (Geological Sciences)
Diagenetic studies of the Middle to Upper Cretaceous sandstones of the Queen Charlotte Islands, $4,000.00.

Bustin, R.M. (Geological Sciences)
Document lateral and stratigraphic variation of organic maturity in the Queen Charlotte Islands, $33,146.00.

Campanella, D.H. (Civil Engineering)
Evaluation of sediment stability in Queen Charlotte Sound, $20,000.00.

Clowes, R.M. (Geophysics and Astronomy)
Collection and processing of seismic refraction data in Queen Charlotte seismic program, $50,238.00.

Ellis, R.M. (Geophysics and Astronomy)
A study of crustal structure in the Peace River Arch area – phase IV, $11,000.00.

McKay, J.R. (Geography)
Development of permafrost and ground ice – western arctic coast region – phase IV, $45,000.00.

Ross, J.V. (Geological Sciences)
Structural studies in the Queen Charlotte Islands, $15,012.00.

University of Victoria

Van der Flier-Keller, E. (Geography)
The effect of faulting on coal geochemistry, $9,135.00.

ALBERTA

University of Alberta

Jones, F.W. (Physics)
An investigation of the temperature and heat-flow fields of the Sverdrup Basin, and their relation to the tectonic setting of the basin, $35,843.00.

Jones, F.W. (Physics)
Continuation of the study of the sub-permafrost deep-terrestrial heat flux in areas of natural occurrence of gas hydrates in the Canadian north, $30,000.00.

Kanasewich, E.R. (Physics)
Deep structure of Melville Island: interpretation of seismic and gravity data, $24,995.00.

Sego, D.C. (Civil Engineering)
Investigation of the distribution of saline permafrost in the Northwest Territories, $34,100.00.

University of Calgary

Cook, F.A. (Geology and Geophysics)
Geophysical and geological interpretation of the deep structure of the Beaufort Sea, $47,226.00.

Simony, P.S. (Geology)
A study of Lower Cambrian and Upper Proterozoic stratigraphy of the western Rockies near McNaughton Lake, British Columbia, $14,715.00.

SASKATCHEWAN

University of Regina

Kybett, B. (Energy Research Unit)
Organic petrology, mineral matter and trace elements in Saskatchewan coals, $10,992.00.

Potter, J. (Energy Research Unit)
A study of the organic petrology and thermal maturity of Palaeozoic source rocks in Saskatchewan, $54,480.00.

University of Saskatchewan

Caldwell, W.G. (Geological Sciences)
Report on Silurian biostratigraphy and faunas of the Severn River, Red Head Rapids and Port Nelson formations, Hudson Bay region, northern Manitoba, northern Ontario, northern Quebec and Keewatin, $21,999.00.

University of Lethbridge

Barendregt, R. (Geography)
Palaeomagnetic analysis of samples from Banks Island, $6,000.00.

MANITOBA

Cerny, P. (Geological Sciences)
Geochemical characteristics of the metasomatic aureole over the Tanco pegmatite pilot sutdy, $25,000.00.

ONTARIO

Carleton University

Donaldson, J.A. (Earth Sciences)
Continuation of the study of diagenesis of Middle Proterozoic basins, Churchill and Bear Provinces, $19,600.00.

Michel, F.A. (Earth Sciences)
Isotope and salinity analysis and interpretation of subsea permafrost samples, $30,009.00.

Patterson, D.E., Frankling F. (Earth Sciences)
Detailed study of the physical and thermal properties of the north head frozen core samples, $13,016.00.

Pattterson, D.E., Riseborough, D.W. (Earth Sciences)
Analysis of thermal data and core specimens – Norman Wells Pipeline, $16,983.00.

Williams, P.J., Smith, M.W. (Earth Sciences)
Continuation of the investigation of soil freezing in Smith, association with a buried chilled pipeline in a large-scale test facility – phase III, $174,971.00

University of Guelph

Campbell, J.L. (Physical Science)
Proton microprobe analyses, $12,006.00.

Campbell, J.L. (Physical Science)
To obtain trace element analyses of selected minerals using the proton microprobe and PIXE analysis program for thick targets, $5,220.00.

Campbell, J.L. (Physical Sciences)
Provision of proton microprobe analyses of mineral samples, $5,220.00.

University of Ottawa

Desrochers, A. (Geology)
Sedimentary study of the Upper Triassic Kunga Limestones on Queen Charlotte Islands, $13,822.00.

Fowler, A.D. (Geology)
Mineral resource study of the Dyke and Howse Lake area, western Labrador-continuation, $8,500.00.

University of Toronto

Anderson, G.M. (Geology)
A study on the geological characteristics of lead-zinc deposits and its ore control, $10,000.00.

Hamilton, T. (Isotrace Lab.)
Radiocarbon dating of marine shell material by accelerator mass spectrometry, $2,925.00.

Kieser, W.R. (Earth Sciences)
Isotopic analyses of Quaternary materials, $15,000.00.

Naldrett, A.J. (Geology)
Platinum group elements contents of mafic dykes intruded into the Canadian Shield during the Proterozoic, $47,811.00.

University of Western Ontario

Burns, C.R. (Geography)
Investigation of water movement and frost-heave in lake-bottom sediments during freezing at sites in the Mackenzie Delta, N.W.T., $9,072.00.

Burns, C.R. (Geography)
Experimental investigation of salt redistribution during soil freezing, $13,178.00.

Fyfe, W.F. (Science)
Mobilization of elements from sedimentary strata and its environmental impact, $45,010.00.

Martin, R.R. (Science)
Identification of chemically specific sites on coal surface – phase II, $41,045.00.

QUEBEC

École Polytechnique

Francis, D.M. (Geology)
Effects of magmatic processes on rock composition in selected geological formations, $49,990.00.

Laval University

Chagnon, J.Y. (Geology)
Operation of the Quebec City seismographic station from April 1, 1989 to March 31, 1990, $2,900.00.

McGill University

Mountjoy, E.W. (Geology)
Study of the structure and stratigraphy in the main ranges, west of Jasper, Alberta, $15,000.00.

Mountjoy, E.W. (Geology)
Assessment of the nature, distribution and origin of host dolostones at Pine Point, N.WT, Mississippi Valley type deposits and their relation to mineralization, $10,000.00.

University of Montreal

Hillaire-Marcel, C. (Sciences de la terre)
Study of the uranium/thorium imbalance in the Quaternary deposits on Banks Island in the Canadian Arctic, $7,500.00.

Lamothe, M. (Geologié)
Quaternary geology and till geochemistry, New Brunswick, $148,979.00.

Richard, P. (Sciences de la terre)
Pollen analysis of sediment samples from the Timmins region in Ontario, $7,500.00.

St-Jean-de-Brébeuf College

P. Gouin
Historical seismicity of Québec – phase III, $7,000.00.

NEW BRUNSWICK

University of New Brunswick

Williams, P.F. (Geology)
Bedrock mapping and structural studies in the Tavani greenstone belt, N.W.T., $81,983.00.

NOVA SCOTIA

Acadia University

Brylinsky, M. (Geology)
Littoral investigation of sediment properties, $193,240.00.

Van Wagoner, N.A. (Geology)
Petrographic analysis of sediments of the Canadian Polar Margin, $7,785.00.

Dalhousie University

Beaumont, C. (Oceanography)
Fission tract analysis of the Peace River Arch – phase I, $8,000.00.

Boyd, R. (Geology)
Upper Cretaceous oxygen minimum zone biofacies, $4,140.00.

Culshaw, D.N. (Geology)
Georgian Bay geological synthesis (phase II), $56,799.00.

Modie, J. (Geology)
Processing of marine palynological samples, $7,500.00.

Muecke, G.K. (Geology)
Study and report on Cretaceous and Tertiary volcanic events in the Sverdrup Basin, $38,845.00.

St. Mary's University

Piper, G. (Geology)
Geochemical studies of the Narwhal F-99 volcanic sequence and basement rocks from Mohawk, Ojibway and Jaeger offshore wells, $5,000.00.

NEWFOUNDLAND

Memorial University

Aksu, A. (Earth Sciences)
Oxygen isotope stratigraphy for Pleistocene sediments from Fogo seamounts, $25,000.00.

Fryer, B., Jenner, G. (Earth Sciences)
Study of granitic rock – isotope separations, $45,000.00.

Fryer, B., Jenner, G. (Earth Sciences)
Isotopic analysis of chemical separations of neodymium (Nd) (Sm), $3,000.00.

Gale, J.E., Welhan, J.A. (Earth Sciences)
Study of groundwaters, Daniel's Harbour, Newfoundland, $7,941.00.

Hall, J. (Earth Sciences)
Processing of the Montagais deep seismic line, $4,999.00.

O'Brien, F. (Earth Resources)
Micropalaeontological studies of Lower Paleozoic samples, $20,475.00.

Rivers, T., Calon, T. (Earth Sciences)
Study of Grenville Front, region of Labrador City, $4,000.00.

Staveley, M. (Arts)
Oral history of the 1929 Grand Banks Earthquake, $7,002.00.

Wilton, D.H.C. (Earth Sciences)
Study and report of mineral potential, central mineral belt of Labrador-phase IV, $38,351.00.

Polar Continental Shelf Project Field Support Non-Governmental Activities 1988-89/
Plateau continental polaire en faveur d'àctivités non governementales pour 1988-89

ALBERTA

University of Alberta

England, J.
Geology – Quaternary glaciation, northern Ellesmere Island, District of Franklin.

Henry, G.H.R.
Geomorphology, Princess Marie Bay, Alexandra Fiord.

Kerr, D.E.
Geology-stratigraphy, Tuk, Cape Parry, Bathurst Island, Perry River.

Alberta Research Council

Richardson, R.J.H.
Geology -sedimentology, east-central Ellesmere Island, District of Franklin.

University of Calgary

Hills,L.V.
Geology-paleobotany, Meighen Island, District of Franklin.

SASKATCHEWAN

University of Saskatchewan

Basinger, J.F.
Geology-fossils, Axel Heiberg Island, Ellesmere Island, District of Franklin.

MANITOBA

University of Winnipeg

Krawetz, M.
Geology-geomorphology, sedimentology, Alexandra Fiord, Cape Herschel.

ONTARIO

Carleton Univeristy

Michel, F.A.
Geology-ground ice, Mackenzie Delta, Yukon Coast.

University of Guelph

Martini, I.P.
Geology-geomorphology, north coast Foxe Basin, District of Franklin.

Protz, R.
Soil sampling, Axel Heiberg Island, District of Franklin.

McMaster University

McCann, S.B.
Geology-geomorpohology, Ellesmere Island, District of Franklin.

Woo, M.K.
Hydrology, Resolute, Cornwallis Island, District of Franklin.

University of Ottawa

Dixon, O.A.
Geology-sedimentology, stratigraphy, Ellesmere Island, Cornwallis Island, District of Franklin.

French, H.M.
Geology-geomorphology, permafrost, Shoran Lake, Barn Mountains, Tuk, District of Mackenzie.

Queen's University

Dyke, L.
Geology-permafrost, Richards Island.

Sir Sanford Fleming College

Watts, S.H.
Geology-bedrock, Fosheim Peninsula.

University of Toronto

Lewkowicz, A.G.
Geology-groundice, Eureka.

Melchin, M.J.
Geology-chitinozoan sampling, Cornwallis Island, Dundas Island, Grinnell Peninsula, District of Franklin.

Patterson, J.G.
Geology, Rankin Inlet, District of Keewatin.

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Geology-brachipods, graptolites paleontology, Cornwallis and Bathurst islands, District of Franklin.

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Geophysics-geothermal, Arctic Ocean (Ice Island).

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Chemical oceanography, Arctic Ocean (Ice Island).

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Geology-volcanics, Axel Heiberg and Ellesmere islands, District of Franklin.

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Chemical oceanography, sediments, Arctic Ocean (Ice Island).

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Glaciology, Ayles Fiord.

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Geology-stratigraphy, Victoria Island.

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Geology-lake sediments, northern Ellesmere Island, District of Franklin.

Texas A&M

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Geology-meteorites, Ellesmere Island, District of Franklin.

University of Washington

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Geology-periglacial processes, Cornwallis Island, District of Franklin.

ENGLAND

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Geology-Quaternary, Banks Island, District of Franklin.

GERMANY

University of Giessen

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Glaciology, Ellesmere Island, District of Franklin.

JAPAN

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Paleoclimatology, Tuk Peninsula, District of Mackenzie.

Ontario Geological Survey, Geoscience Research Grants, 1988-89/
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