

*P. D. Duffell*

CANADA

DEPARTMENT OF ENERGY, MINES AND RESOURCES

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GEOLOGICAL SURVEY OF CANADA

CATALOGUE OF SCIENTIFIC PROJECTS

SCIENTIFIC PROGRAM

FIELD PROGRAM

1971-1972

Compiled by Gertrude E. Derry  
Office of Chief Geologist



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OTTAWA

1971

GEOLOGICAL SURVEY OF CANADA  
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7 Sept. 1971

PREFACE

This catalogue of all approved scientific projects of the Geological Survey of Canada as of 30 June 1971 is arranged to indicate: (1) the total scientific program of the Survey for the period 1 April 1971 to 31 March 1972; and (2) the field program for the summer of 1971.

2. As a catalogue it lists and briefly describes scientific projects, both active and inactive. These total 473 and are compiled from instructions issued to project leaders for 1971-72 via forms CG 48A, B and C. Thus it comprises the current authority on such matters as project numbers, titles and objectives and supersedes previous catalogues and documents concerning scientific projects. Projects are listed in numerical order. Indexes by project leader, division and section, and province will be found at the end.

3. The total scientific program, office, laboratory and field, for all persons for all or any part of 1971-72 comprises those projects listed as active (X) in the next to last column. These total 453.

4. The field program for the summer of 1971 comprises the field component of those active projects marked by an asterisk after the project number. These total 186. No distinction has been made between a minor field component such as a few days, and a major component requiring the entire field season. The location and brief description of many of the resulting field parties is shown on Map 1-1971 "Geological Survey of Canada Field Activities, 1971".

5. Instructions have not been issued concerning the 1971-72 action to be taken on several projects approved previously. A supplementary list will be compiled at a later date.

6. Further details concerning each project are in Branch Registry, filed according to project number.

Ottawa,  
7 Sept. 1971

Distribution:

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## LIST OF ABBREVIATIONS USED

## ADMINISTRATION DIVISION - ADM

SP - Special Projects

## ECONOMIC GEOLOGY AND GEOCHEMISTRY DIVISION - EGG

Adm & SP- Administration and Special Projects

MD - Geology of Mineral Deposits Section

G - Geochemistry Section

M - Mineralogy Section

AC - Analytical Chemistry Section

## EXPLORATION GEOPHYSICS DIVISION - EG

CS - Contract Services

EM - Electrical Methods Section

MM - Magnetic Methods Section

RSM - Remote Sensing Methods Section

SM - Seismic Methods Section

RM - Rock Magnetism Section

TGDA - Theoretical Geophysics and Data Analysis Section

## CRUSTAL GEOLOGY DIVISION - CG

G - Geochronology Section

Pet - Petrology Section

CPM - Cordillera and Pacific Margin Section

PS - Precambrian Shield Section

AELAM - Appalachian Eastern Lowlands and Atlantic Margin Section

EPG - Eastern Petroleum Geology Section

EP - Eastern Paleontology Section

PMag - Paleomagnetic Section

SP - Special Projects

## INSTITUTE OF SEDIMENTARY AND PETROLEUM GEOLOGY DIVISION - ISPG

Adm - Administration Section

AI - Arctic Islands Section

SG - Structural Geology Section

PS - Paleozoic Stratigraphy Section

MS - Mesozoic Stratigraphy Section

WP - Western Paleontology Section

GofP - Geology of Petroleum Section

CR - Coal Research Section

SP - Special Projects

## QUATERNARY RESEARCH AND GEOMORPHOLOGY DIVISION - QRG

Adm - Administration Section

RSP - Regional and Stratigraphic Projects Section

PG - Paleontology and Geochronology Section

EGG - Engineering Geology and Geodynamics Section

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
380077*	Analysis of rocks and minerals	Abbey, S	EGG	AC	-	-	X	
	Obj.: To provide compositional data on geological materials as a contribution to the solution of geological problems.							
400006*	Preparation of collections of Canadian rocks and minerals for distribution to the public	Larose, JM	EGG	M	-	-	X	
	Obj.: To make available for distribution to educational institutions and the Canadian public representative collections of Canadian rocks and minerals that will assist prospectors and promote interest in the mineral industry.							
400007	Examination and report on geological specimens received from public	Vice Gauthier, CHR	EGG	M	-	-	X	
	Obj.: To examine and identify specimens of rocks, minerals and ores and to answer enquiries about their nature and possible value, as a free service to the Canadian public.							
480191	Monograph of the Canadian <u>Buchia</u> (=Auce <sup>l</sup> lia)	Jeletzky, JA	ISPG	WP	-	-	X	
	Obj.: To describe and illustrate Canadian representatives of this stratigraphically important genus using fossil collections available at this Survey and elsewhere. To give a stratigraphical appraisal of all described species. To investigate critically the relationships of Canadian species with the American, Eurasian, and Indo-Pacific species and to elucidate the ages of the Canadian <u>Buchia</u> zones in terms of standard stages.							
490001	Mesozoic and Tertiary on the west coast of Vancouver Island and in Quatsino Sound	Jeletzky, JA	ISPG	WP	BC	92 E,F,L	X	
	Obj.: A stratigraphic-paleontological study with special attention to the Lower Cretaceous-Jurassic contact and possibilities of Tertiary strata with respect to oil and gas.							

Asterisk in first column indicates project has a field component  
 Brackets indicate seasonal employee or other non-staff  
 Underscoring indicates province of 1971-72 field work

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
490015	Reference collection of standard X-ray powder patterns of minerals	Traill, RJ	EGG	M	-	-	X	
	Obj.: To assist in the identification and inventory of potential mineral resources in Canada by compiling a reference collection of specimen mounts, X-ray diffraction patterns and tabulated data for the identification of minerals by Canadian mineralogists engaged in studies of minerals and mineral deposits.							
490038*	Miscellaneous field investigations by staff at Vancouver office	Gabrielse, H	CG	CPM	BC	92;93;94;103;104	X	
	Obj.: Varied objectives according to the particular investigations, which include supervision of Geological Survey field parties, examination of mining properties, assistance in various government engineering projects such as water power sites, dams, tunnels, and location of convenient deposits of industrial minerals and rock materials.							
500029	Identification and biostratigraphic interpretation of referred fossils	Staff of Eastern & Western Paleontology Sections	ISPG CG	WP EP CPM EPG	- - - -	- - - -	X	
	Obj.: By the study of fossils collected by officers of the Geological Survey of Canada, members of other organizations and the general public, to provide identifications and ages vital to correlation of the host rocks and to the dating of geological events. To describe important fossils from these collections to further knowledge of paleontology and biostratigraphy of Canada.							
500038*	Coal reserves of Canada and studies of coal deposits in Canada	Latour, BA	ISPG	Adm	BC, Alta, Sask	-	X	
	Obj.: To prepare estimates on the coal reserves of Canada; to prepare for publication reports and illustrations concerning Canada's coal reserves; to advise, and prepare reports for other branches, or departments when so requested; to have up-to-date knowledge of coalfields in Canada.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
500108	Conodont biostratigraphy of the Hull Member, Ottawa Formation	Uyeno, TT	ISPG	WP	Ont, Que	31 G/5		X
	Obj.: To establish conodont zonation of the Hull Member, Ottawa Formation, and thereby facilitate correlation of this unit with the North American standard sequence in New York State.							
500336	Devonian of Alberta, British Columbia and southern District of Mackenzie	Belyea, Helen R	ISPG	SP	Mack, BC, Alta	Pts 72,73,74,82,83, 84,85,94,95		X
	Obj.: To publish a series of papers on the Devonian discussing rock types, correlations, facies changes, disconformities, faults, etc.; in an attempt to elucidate the reasons for Devonian facies distribution and hence designate general areas of potential hydrocarbon reservoir rocks.							
510014	Wolf Lake map-area	Poole, WH	CG	CPM	Yk	105 B		X
	Obj.: Geological study and mapping of the Wolf Lake map-area so as to afford information on the age, structure and sequence of the bedrock formations and on the size, grade, mode of occurrence, origin, and potentialities of the mineral deposits, and thus aid economic development of an area along Alaska Highway. Pub sca 1" to 4 mi.							
520024	Surficial geology, Drumbeller area	Stalker, AM	QRG	RSP	Alta	82 P		X
	Obj.: To map, describe and explain the Quaternary deposits and landforms in order to elucidate the glacial history of the region and to provide areal geological knowledge including data pertinent to groundwater, engineering, and agriculture. Pub sca 1" to 4 mi.							
530014*	Geology of Canadian lithophile metals (Li, Be, Sn, W)	Mulligan, R	EGG	MD	BC	82 F, K, N		X
	Obj.: To carry out comprehensive research on the geology of lithophile metals (lithium, beryllium, tin, and tungsten) in order to provide a geological basis for exploration and assessment of such deposits in Canada. The research is to provide: (1) a systematic record and appraisal of geological data; (2) a geological classification of deposits; (3) definition of criteria for recognition of each type of deposit; (4) development of concepts and hypotheses on geological environment, provenance, and genesis of the deposits; and (5) determination of regions and geological units in Canada most favourable for the occurrence of each type of deposit.							



Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
540025	Milliken Lake area, Saskatchewan	Bell, CK	CG	PS	Sask	Pt 74 N/7		X
	Obj.: To provide detailed information on the age, structure, sequence, relationships, thickness, and origin of the bedrock formations and on the size, grade, mode of occurrence, origin and potentialities of the mineral deposits. Pub sca 1" to 800 ft.							
540028*	Isotopic age determinations of rocks and minerals	Wanless, RK	CG	G	Que	32 C,D		X
	Obj.: To determine the geological age of rocks and minerals and geological events using isotopic methods.							
550004*	Cretaceous and Jurassic of Richardson Mountains, Porcupine Plains, and Eagle Plains	Jeletzky, JA	ISPG	WP	Mack Yk	116;106 W $\frac{1}{2}$ ;117 A,B		X
	Obj.: To study the stratigraphy and paleontology of Cretaceous and Jurassic formations of the region in order to understand the most essential features of the facies pattern, sequence, and lateral extent of lithological units, paleogeography and geological history. To describe and to figure the most important elements of the faunas.							
550101*	Systematic reference series of the National Mineral Collection and GSC collections of minerals and ore suites	Steady, HR	EGG	M	Ont, Que	Pts 31;21 L		X
	Obj.: To provide specimens of known minerals and ores as standards for comparison and identification of unknown minerals, and for determination of additional chemical, physical and structural data for the species where these are lacking. The ore collection is designed to provide comparison between ores that are mined during different periods of time.							
560006	Geological survey of NTS 82 G W $\frac{1}{2}$ (Fernie W $\frac{1}{2}$ )	Leech, GB	CG	CPM	BC	82 G W $\frac{1}{2}$		X
	Obj.: To determine and interpret the stratigraphic, structural and economic geological features of the region for publication at 1 inch to 2 miles.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act.	Inact.
							71-72	71-72

570001	Operation Mackenzie	Douglas, RJW	ADM	SP	Mack	85;Pt 95		X
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Obj.: To acquire stratigraphic information on the sequence of bedrock formation, to effect their correlation and study their variations and mode of origin; to prepare geological maps of the plains areas at 1 inch to 8 miles and of the mountains at 1 inch to 4 miles; to assess the economic possibilities of the area as a source of oil, gas, coal, and minerals.

570015	Silurian-Ordovician macrobio-stratigraphy of Anticosti Island	Bolton, TE	CG	EP	Que	22 H;12 E,F		X
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Obj.: To obtain data on the Ordovician and Silurian surface and subsurface rocks of Anticosti Island from which may be prepared: (1) precise description of all appropriate units of the Ordovician and Silurian strata including succession, thickness lithology, facies change, and faunal content; (2) description and classification of the significant fauna of each stratigraphic unit; (3) local and regional correlation consistent with the above data; and (4) a geological map. Pub sca 1:250,000.

570022	Geochemical study of mineral deposits in the Bathurst-Newcastle area, N.B.	Boyle, RW	EGG	SP	NB	Pts 21 O/9,16, P/12,13		X
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Obj.: To elucidate the genesis of the massive sulphides of the Bathurst-Newcastle area of New Brunswick.

570029*	Geology of iron and manganese deposits in Canada	Gross, GA	EGG	MD	-			X
						Ont, Que	22,23,31,32,41,	
						<u>Nfld</u>	<u>42,52</u>	

Obj.: To carry out comprehensive research on the geology of iron and manganese deposits in order to provide a geological basis for exploration and assessment of iron and manganese potential in Canada. The research is to provide: (1) a systematic record and appraisal of geological data; (2) a geological classification of deposits; (3) definition of criteria for recognition of each type of deposit; (4) development of concepts and hypotheses on geological environment, provenance, and genetic processes of iron and manganese deposits; (5) determination of regions and geological units in Canada most favourable for the occurrence of each type of deposit.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
570119*	Meteorite studies	Traill, RJ	EGG	M	-	-	X	
	Obj.: To document the mineralogy and petrology of meteorite falls and finds in Canada and apply the knowledge thus gained towards a better understanding of earth science processes; and to curate Canada's national collection of meteorites.							
580036	Geology of titanium and titaniferous deposits of Canada	Rose, ER	EGG	MD	-	-	X	
	Obj.: To carry out comprehensive research on the geology of titanium deposits in order to provide a geological basis for exploration and assessment of Titanium potential in Canada. The research is to provide: (1) a systematic record and appraisal of geological data; (2) a geological classification of titanium deposits; (3) definition of criteria for recognition of each type of deposit; (4) development of concepts and hypotheses on geological environment, provenance, and genetic processes of titanium deposits; and (5) determination of regions and geological units in Canada most favourable for the occurrence of each type of deposit. Pub sca 1:5,000,000.							
580037	Maintenance of the paleontological type collection	Bolton, TE	CG	EP	-	-	X	
	Obj.: To catalogue, store, and maintain GSC National Type collection of fossils so that they are readily available for research by GSC and outside personnel.							
580144	Lead and sulphur isotope geology	Boyle, RW	EGG	Adm & SP	Yk	105 M; Pts 106 D	X	
	Obj.: To elucidate the genesis of the lead-zinc-silver deposits of Keno and Galena Hills by means of lead and sulphur isotopes.							
580153	Lexicon of Stratigraphic Names used in Canada	Bolton, TE	CG	EP	-	-	X	
	Obj.: Lexicon of Stratigraphic Names in Canada production, with preparation and maintenance of files recording all stratigraphic names used in Canada.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. Inact. 71-72 71-72
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580159	Subsurface studies of each of the Paleozoic systems of south-western Ontario (Cambrian, Ordovician, Silurian and Devonian)	Sanford, BV	CG	EPG	Ont	30 L-N;31 C,D; 40 G,I,J,O,P; 41 A,H	X
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Obj.: By the study of sample cuttings and core from wells drilled for oil and gas to describe and interpret the geological features of the formations of each system, and to assess their economic potentialities.

580160	Catalogue of Canadian minerals	Traill, RJ	EGG	M	-	-	X
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Obj.: To assist in the identification and inventory of potential mineral resources in Canada by compilation and publication of a Catalogue of Canadian Minerals that provides reference material for direct use by earth scientists, the mining industry and the general public.

580175	Analytical services and development in geochemistry	Lynch, JJ	EGG	G	-	-	X
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Obj.: To provide the specialized analyses required by the geochemical exploration and geochemical census programmes, in requisite volume and with sufficient speed to ensure that these programmes are able to meet their objectives. As time permits, to provide limited analytical services to other Branch personnel as required.

590194	Monograph of the Canadian belemnites	Jeletzky, JA	ISPG	WP	-	-	X
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Obj.: To describe and figure all hitherto known Canadian belemnite species and genera. The zonal value of the individual taxa concerned is to be appraised and the results incorporated in the preliminary and final reports.

590258	Sea magnetometer survey compilation	Hood, PJ	EG	MM	-	-	X
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Obj.: Compilation of all available results of sea magnetometer surveys over the continental shelves in order to produce 4-mile aeromagnetic and ship magnetometer maps. Pub sca 1" to 1 mi, 2 mi or 4 mi.

Project Number Title Project Leader Div. Sect. Prov. NTS Act. Inact. 71-72 71-72

590283 Muskox Intrusion Irvine, TN CG Pet Mack X 86 D/3,J/2,3,7,11, 14,16

Obj.: To determine the chemical, petrographic and mineralogical characteristics of the Muskox intrusion with the purposes of describing its crystallization history, relating it to events of basaltic magmatism in the Coppermine province, and defining its significance in relation to the general origin of layered intrusion. Pub sca 1:63,360.

600004 Regional correlation - northwest Canadian Shield McGlynn, JC CG PS Mack X 86 C/15 E<sub>1</sub>;85 B/13; 86 B/12 E<sub>1</sub>

Obj.: To determine the stratigraphy and structure of the Snare and Cameron Bay strata as a contribution to the correlation and interpretation of the Proterozoic rocks of the N.W.T. Pub sca 1" to 1 mi.

600008\* Project Klondike, Quaternary geology and geomorphology phase Hughes, OL QRG RSP Yk X Pts 105,115,116

Obj.: To determine the stratigraphy, geomorphology and distribution of Tertiary to Recent deposits of the Klondike district and surrounding area in order to provide background information for heavy mineral phase (Gleason, McLeod) and to elucidate Quaternary and late Tertiary history of the region.

600009 Geology of copper deposits in Canada Kindler, ED EGG MD X - -

Obj.: To carry out comprehensive research on the geology of copper deposits in order to provide a geological basis for exploration and to provide a national authority on copper potential in Canada. The research is to provide: (1) a systematic record and appraisal of geological data; (2) a geological classification of copper deposits; (3) definition of criteria for recognition of each type of deposit; (4) development of concepts and hypothesis on geological environment, provenance, and genetic processes of copper deposits; and (5) determination of regions and geological unit in Canada most favourable for the occurrence of each type of deposit. Pub sca 1" to 4 mi.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
600011	Faunal zonation of Triassic rocks of northeastern British Columbia	Tozer, ET	ISPG	WP	BC	94 N,K,J,G,B; 93 O,I		X
	Obj.: To establish and refine faunal zonation of Triassic rocks of NE British Columbia in order to provide the means for correlating within the area and to provide data for refining the Triassic time scale							
600032	Belleoram map-area	Anderson, FD	CG	AELAM	Nfld	1 M		X
	Obj.: The project is expected to provide a suitable geological map, a complete description of rock units, and an appropriate description and interpretation of the general structure, historical and economic geology features of the map-area.							
600033	Postglacial marine shorelines Trinity Bay to White Bay, Newfoundland	Henderson, EP	QRG	RSP	Nfld	Pts 1,2,12		X
	Obj.: To map and explain late-glacial and postglacial shorelines and associated marine deposits in order to provide information on: (1) recent changes in sea level and land uplift and tilt; (2) distribution and mode of retreat of the Newfoundland Pleistocene ice cover; and (3) occurrence of deposits of economic value. Pub sca as warranted by results.							
600206	Subsurface study of Mississippian, Pennsylvanian and Permian stratigraphy of NE B.C. and adjacent areas	Procter, RM	ISPG	GofP	BC	93 I,O,P; 94 A,B, G-K,N-P		X
	Obj.: To determine stratigraphically significant subdivisions of the interval; their distribution and inter-relationships; and deduce the sequence of geologic events which produced them.							
600218	Faunal study of Late Ordovician and Silurian rocks of southeast British Columbia and adjacent Alberta	Norford, BS	ISPG	WP	BC, Alta	83 C; 82 G,J,K,N,O		X
	Obj.: Description of faunas of Beaverfoot and Tegart Formations, lithologic and biostratigraphic correlation of these units, positioning of Ordovician-Silurian boundary; establishment of sequence of biochronological zones for the interval represented by these units. The project's study of well preserved faunas from an inexpensively accessible part of the Cordillera will provide time control applicable throughout the Cordillera for exploration of the natural resources of Upper Ordovician and Silurian carbonate rocks.							

Title Project Leader Div. Sect. Prov. NTS

600227 Devonian plant microfossils of eastern Canada  
McGregor, DC CG EP Ont, Que, NB 42;40;32;22;21 X

Obj.: Morphologic and taxonomic revision of the Gaspé and related spore floras which will be related to the stratigraphy of the areas. To establish the spores and other palynomorphs as correlation markers and age determinants.

600307 X-ray emission analysis  
Lachance, GR EGG M - - X

Obj.: To contribute to the knowledge of Canadian mineralogy and mineral deposits through research and development of methods and concepts of X-ray emission analysis and application of these to the analysis of geological materials. To improve the quality and rate of production of X-ray fluorescence analyses that may be applied to geological research and to provide "custom" XRF analyses in support of G.S.C. research projects.

600353 Dibranchiate Volume of the Treatise on Invertebrate Paleontology  
Jeletzky, JA ISPG WP - - X

Obj.: To prepare an authoritative summary of the present state of knowledge of subclass Dibranchiata based on the study of literature on the global scale supplemented by results of writer's personal research of this subclass in Canada and abroad. The project is to be carried out in conjunction with the writer's monographical study of the Canadian belemnites (Project 590194), now in progress.

610002 Axel Heiberg and Ellesmere Islands  
Thorsteinsson, R ISPG AI Frank 39 G,H; 49 C-H; 59 E-H; 120 B,C; 340 B,C; 560 A,D X

Obj.: (a) To obtain information on and improve the understanding of the age, structure, stratigraphy and origin of the post-Precambrian bedrock formations, and (b) to assess the economic potential of the area. Pub sca 1:250,000.

Project Number      Title      Project Leader      Div.      Sect.      Prov.      NTS      Act. 71-72      Inact. 71-72

610007      Operation Porcupine      Norris, DK      ISPG      SG      Mack, Yk      106 E, F, L, M;  
116 F E<sub>2</sub>, G-J, K E<sub>2</sub>,  
N E<sub>2</sub>      X

Obj.: Critical evaluation of the structural geometry and stratigraphy within these map-areas of northern Yukon Territory and western District of Mackenzie for documentation of the nature, origin and mechanics of the deformation and its bearing on the hydrocarbon and mineral potential of the region. Pub sca 1:50,000; 1:100,000; 1:250,000; 1:1,000,000 as appropriate.

610011      Taseko Lakes map-area      Tipper, HW      CG      CPM      BC      92 O      X

Obj.: To interpret the structure, stratigraphy and geological history of the Taseko Lakes area and to evaluate the mineral potential.

610014      Cretaceous stratigraphy, Peace River to 60°      Stott, DF      ISPG      MS      BC      94 B, G, J, K, N, O      X

Obj.: To describe the stratigraphic successions, to collect samples for laboratory studies and to collect fossil flora and fauna; to provide data on the correlation of Cretaceous strata, their lateral variations, their potentialities as sources of oil and gas, and their suitability as reservoirs for those fuels; to establish the relationships with equivalent successions studied between Peace and Smoky Rivers and in the region of Liard and Mackenzie Rivers.

610019\*      Ordovician and Silurian biostratigraphy of British Columbia, Alberta, Yukon, Mackenzie, and Franklin      Norford, BS      ISPG      WP      Frank, Mack, Yk, BC, Alta, Man      -      X

Obj.: Establishment of sequence of biochronological zones for Ordovician and Silurian time. Such sequence of zones to provide necessary time control for exploration of natural resources of Ordovician and Silurian rocks in northern and western Canada.

610025      Surface resistivity surveys      Wyder, JE      EG      EM      Sask Man      73 B; 62 E, H      X

Obj.: To determine the usefulness of surface resistivity techniques as a means of locating aquifers in unconsolidated (Quaternary) deposits.



Project Number      Title      Project Leader      Div.      Sect.      Prov.      NTS      Act.      Inact.

610030      Huronian rocks north of Lake Huron      Frarey, MJ      CG      PS      Ont      41 J/3,5,6,12, K/8-10      71-72      71-72

Obj.: To revise the geology of the project area for publication at 1 or 2 miles to the inch, with particular emphasis on stratigraphy and correlation. In cooperation with ODM personnel, to correlate strata with those of other parts of the Huronian belt; and to standardize the nomenclature and definition of stratigraphic units. Pub sca 1 or 2 mi.

610039      Botwood map-area, Newfoundland      (Williams,H,Prof)      CG      AELAM      Nfld      2 E      X

Obj.: To revise and interpret the stratigraphy and structure of an economically important area as a contribution to the economic development of Newfoundland. Pub sca 1" to 4 mi.

610044\*      Diabase dykes of the Canadian Shield      Fahrig, WF      CG      PS      Frank, Kee Mack, Sask Man, Ont Que, Nfld      -      X

Obj.: To extend knowledge of diabase dyke swarms in the Canadian Shield, their tectonic significance, paleomagnetism, age relationships and their chemical and petrologic characteristics.

610269\*      Petrographic examination of coking coals from the Crowsnest coalfield, Alberta and British Columbia      Cameron, AR      ISPG      CR      BC      82 G, J      X

Obj.: To determine the coking properties and to prepare seam profiles for correlation and environmental studies of coal seams from coking coals of the Crowsnest coalfield.

610330      Cretaceous index fossils of Western and Arctic Canada      Jeletzky, JA      ISPG      WP      -      -      X

Obj.: To publish a series of fossil plates illustrating a selection of best known and most useful Cretaceous index fossils of the Western Cordillera and the sedimentary basins of Western and Arctic Canada.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
620001	Operation Prince of Wales	Christie, RL	ISPG	AI	Frank	57 B,C,F,G; 58 A-F; 67 A,D,E,H; 68 A-F	X	
620004	Kognak River area, N.W.T.	Eade, KE	CG	PS	Keel	65 G E $\frac{1}{2}$ , H W $\frac{1}{2}$	X	
620012	Geochemical and petrological study of Yellowknife volcanic rocks	Baragar, WRA	CG	PS	Mack	85 J/8,9	X	
620018	Geological survey of NTS 82 J W $\frac{1}{2}$ (Kananaskis Lakes, W $\frac{1}{2}$ )	Leech, GB	CG	CPM	BC, Alta	82 J W $\frac{1}{2}$		X
620019	Prince Rupert-Skeena map-areas	Hutchison, WW	CG	CPM	BC	103 I W $\frac{1}{2}$ , J E $\frac{1}{2}$	X	
620023*	Triassic stratigraphy and petrology between Smoky River and Crowsnest Pass	Gibson, DW	ISPG	MS	BC <u>Alta</u>	83 <u>C, E, F</u> ; 82 G, J, O	X	

Obj.: (a) Geological reconnaissance of the Precambrian rocks of Boothia Peninsula and region.  
 (b) Geological reconnaissance of the Paleozoic and younger rocks of the Boothia region.

Obj.: To establish the stratigraphy and structure of the Hurwitz Group and its relationship to nearby rock sequences as an aid to economic development in the region.

Obj.: To provide composition, petrographic, and stratigraphic data from which the volcanic character, eruptive history, and characteristic composition may be obtained.

Obj.: To determine and interpret the stratigraphic, structural and economic geological features of the region for publication at 1 inch to 2 miles and/or 1 inch to 1 mile as required.

Obj.: To determine the regional geologic relationships and the origin and evolution of the metamorphic and plutonic rocks of part of the Coast Mountains. Pub sca 1" to 4 mi.

Obj.: To provide data on the stratigraphic relationships and correlation of the Triassic strata; their mega- and microfaunal content; their megascopic and petrographic features; conditions of deposition; their potentialities as source rocks for oil and gas and possible suitability as reservoirs for hydrocarbons; and assess the potentialities of the gypsum occurrences.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
620038	Seismic - Oak Ridge Moraine	Hobson, GD	EG	SM	Ont	30 M,N;31 C,D	X	
	Obj.: To investigate thickness and nature of overburden and topography of bedrock. To determine easterly extent of the moraines. To determine structure in bedrock and differentiate bedrock lithology. Pub sca 1:50,000.							
620265	Diffusion studies in super-critical water	Currie, KL	CG	Pet	-	-	X	
	Obj.: To elucidate the role of water in igneous and metamorphic petrology.							
620288	Element abundances of the Canadian Shield	Eade, KE Fahrig, WF	CG	PS	-	-	X	
	Obj.: To determine the average chemical composition of the surface crystalline rocks of the Canadian Shield, to examine the variation in element abundances within the Shield and to relate these variations to the geological evolution of the various parts of the Canadian Shield.							
620297	Middle Devonian Ostracoda, South-western Ontario	Copeland, MJ	CG	EP	Ont	40 P/4	X	
	Obj.: Stratigraphic distribution of Ostracoda in drill cores of the Hamilton Group, southwestern Ontario. Description of new microfauna found (if any). Environmental and evolutionary trends of the fauna will be determined if possible.							
620308	Electron probe microanalysis	Plant, AG	EGG	M	-	-	X	
	Obj.: Operation of an electron probe microanalysis laboratory in order to provide knowledge of the distribution of various elements in minerals and mineral assemblages (a) in support of Branch projects, (b) in direct micromineralogical research, and (c) for research and development of methods and concepts of electron microanalysis.							
620317*	Cretaceous subsurface studies in northeastern British Columbia	Stott, DF	ISPG	MS	BC	93 I,O,P; 94 A,B, G-K,N-P	X	
	Obj.: To establish the stratigraphic relationships of surface and subsurface Cretaceous successions; to describe the subsurface stratigraphic succession and to provide data on their lateral variations and for an evaluation of the economic potential.							

Project Number      Title      Project Leader      Div.      Sect.      Prov.      NTS      Act. 71-72      Inact. 71-72

620318      Middle Ordovician stratigraphic and faunal study, southern Alberta and southeast British Columbia      Norford, BS      ISPG      WP      BC, Alta      83 C;82 J,N,O      X

Obj.: Description of faunas and lithostratigraphy of the Skoki and Owen Creek formations to serve as a reference standard for exploration of the natural resources of rocks of similar age in the Cordillera.

630002      Bathurst Island (Operation Bathurst Island)      Kerr, JW      ISPG      AI      Frank      68 G,H;69 A,B;78 H; 79 A      X

Obj.: To improve the understanding of the stratigraphy and structural geology of Bathurst Island; the purpose primarily is to aid in the evaluation of the economic potential of the region, which is an important one for petroleum exploration. Pub sca 1:250,000.

630003      Operation Grant Land - NE Ellesmere Island and NW Greenland      Christie, RL      ISPG      AI      Frank      120 C-G;340 C-F,H      X

Obj.: To obtain a better understanding of the geological features of an orogenic belt extending across northeastern Ellesmere Island to adjacent Greenland. Pub sca to be decided.

630009      Dubawnt Group sediments, N.W.T.      (Donaldson, JA CG      PS      Kee, Mack      55 NW;56 SW;65 N; 66 S;75 NE;76 SE      X

Obj.: To define the units within this group and to determine the provenance, dispersal patterns and depositional environments of its constituent sediments.

630016\*      Coast Mountains project      Roddick, JA      CG      CPM      BC      92 F NE<sup>1</sup>, G W<sup>1</sup>, J, K, L NE<sup>1</sup>, M, N; 93 D; 102 P; 103 A, G, I W<sup>1</sup>, J, N, P W<sup>1</sup>      X

Obj.: A geological reconnaissance of the Coast Mountains between southeast Alaska and Vancouver for publication on a scale of 1 inch equals 4 miles. The investigation is expected to reveal the main events in the geological history of the Coast Crystalline Belt and to develop an understanding of the processes governing the formation of plutonic rocks in such orogenic belts.

Project Number      Title      Project Leader      Div.      Sect.      Prov.      NTS      Act. 71-72      Inact. 71-72

630017	Operation Liard	Taylor, GC	ISPG	SG	BC	94 F E $\frac{1}{2}$ , G, J, K, N, O		X
	Obj.: To establish the stratigraphic framework of the northern Rocky Mountains and in conjunction to establish a conceptual model of the structural deformation of these rocks.							
630019	Quaternary geology, Vernon map-area W $\frac{1}{2}$	Fulton, RJ	QRG	RSP	BC	82 L W $\frac{1}{2}$		X
	Obj.: To gather areal information regarding Quaternary geology; to determine the chronologic sequence of Quaternary events and environments in the region; to provide data applicable to agriculture, forestry, engineering, and groundwater. Pub sca 1" to 2 mi.							
630021*	Mississippian physical stratigraphy, sedimentology, and correlation	Macqueen, RW	ISPG	PS	BC, Alta	-		X
	Obj.: To determine the stratigraphic relationships and correlation of these strata including formational subdivision; their depositional diagenetic, and geochemical history; their macrofaunal and faunal content; and their potentialities as source rocks for oil and gas and their suitability as reservoirs for these fuels.							
630025*	Geological investigations across the boundary between the Churchill and Superior tectonic provinces	Bell, CK	CG	PS	Man	63 NE		X
	Obj.: To establish the stratigraphy and structure of sedimentary and volcanic rocks in this region and their relationships to adjacent gneisses and intrusive rocks; and provide data on the mineral deposits of the region with emphasis on the nature of their host rocks and the possibility of genetic relationship to the boundary between the tectonic provinces. Pub sca 1" to 4 and 8 mi.							
630028	Nakina geologic-magnetic study	Sangster, DF	EGG	MD	Ont	42 L/10, 11		X
	Obj.: To correlate the detailed geological features with the micromagnetic properties of iron-formation on the Anaconda property north of Nakina, Ontario.							

Obj.: Development of multispectral aerial photography, including high altitude and satellite photography, and methods of interpretation as a means of providing geological information.

Obj.: To determine the structure, age and geological history of the rocks and the size, grade, mode of occurrence, origin and potential of the mineral deposits, in order to aid mineral development of the area. Pub sca 1" to 4 ml.

Obj.: To carry out comprehensive research on the geology of nickel and platinum group deposits in order to provide a geological basis for exploration and assessment of nickel and platinum group potential in Canada. The research is to provide: (1) a systematic record and appraisal of geological data; (2) a geological classification of nickel and platinum group deposits; (3) definition of criteria for recognition of each type of deposit; (4) development of concepts and hypotheses on geological environment, provenance, and genetic processes of nickel and platinum group deposits; and (5) determination of regions and geological units in Canada most favourable for the occurrence of each type of deposit.

Obj.: To carry out comprehensive research on the geology of vanadium deposits in order to provide a geological basis for exploration and assessment of vanadium potential in Canada. The research is to provide: (1) a systematic record and appraisal of geological data; (2) a geological classification of vanadium deposits; (3) definition of criteria for recognition of each type of deposit; (4) development of concepts and hypotheses on geological environments, provenance, and genetic processes of vanadium deposits; and (5) determination of regions and geological units in Canada most favourable for the occurrence of each type of deposit. Pub sca 1:5,000,000.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
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630049*	Electrical rock properties	Collett, LS	EG	EM	-	-	X	
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Obj.: To study the electrical parameters including polarization phenomena of rocks, soils, minerals and frozen soils. These electrical parameters will aid in the interpretation of electrical survey techniques.

630341	Paleontology and stratigraphy of the Carboniferous and Permian of northern Yukon	Bamber, EW	ISPG	WP	Mack, Yk	116 B,C E <sub>1</sub> <sup>2</sup> ,G-J, K E <sub>1</sub> <sup>2</sup> ,N E <sub>1</sub> <sup>2</sup> ,O,P; 117 A-D	X	
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Obj.: Stratigraphic and paleontological information obtained on Operation Porcupine will be combined to present a comprehensive lithostratigraphic and biostratigraphic picture of Carboniferous and Permian rocks in the area. The report will include detailed petrographic and sedimentological information and will outline the faunal sequence of the area based on work by the paleontologists listed.

630356	Subsurface study of Triassic stratigraphy of NE British Columbia	Procter, RM	ISPG	GofP	BC	93 I,O,P;94 A,B, G-K,N-P	X	
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Obj.: To identify stratigraphically significant subdivisions of the interval; determine their distribution and inter-relationships; and deduce the sequence of geologic events which produced them. Attempt to find relationship between porosity development and facies.

630404	Magnetic gradient techniques	Hood, PJ	EG	MM	-	-	X	
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Obj.: To assess the usefulness of measuring the vertical gradient in magnetic surveys and to develop the necessary theory for the interpretation of the results.

630415	Lower Cretaceous (Albian) stratigraphy of Peel and Snake Rivers, Yukon Territory	Chamney, TP	ISPG	WP	Mack, Yk	106;116;96	X	
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Obj.: Detailed biostratigraphic subdivision of the Lower Cretaceous (Albian) rocks of the northern Yukon and Arctic Coastal Plain based on the foraminiferal faunas recovered from the critical stratigraphic sections exposed on Peel and Snake Rivers and described by Mountjoy and Chamney (GSC Paper 68-26). Such subdivision to provide a vital aid for the exploration of the petroleum resources of the Lower Cretaceous rocks of these regions and the western Arctic Islands.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
630434	Seismic-Beauceville	Hobson, GD	EG	SM	Que	21 L/2		X
	Obj.: To determine thickness and nature of overburden, to determine bedrock topography, to outline a preglacial drainage system into the Chaudiere Valley associated with placer gold deposits on the Gilbert River.							
640004	Quaternary reconnaissance, western Arctic Islands	Fyles, JG	QRG	RSP	Frank	Pts 49,59,69,78,79, 88,89,97,98,99,340, 560		X
	Obj.: To map and explain Quaternary deposits, landforms, and landscape processes in order to: (1) provide areal geological information; (2) determine Quaternary stratigraphy and history; and (3) document the nature and rate of landscape development processes. The project includes investigation of the Beaufort Formation. Pub sca 1" to 8 mi or as otherwise required.							
640010	Yellowknife and Goulburn rocks in the Contwoyto Lake area, N.W.T.	Tremblay, LP	CG	PS	Mack	75 E/11,14		X
	Obj.: To study the metamorphic rocks of the Yellowknife Group with particular reference to petrologic, stratigraphic and/or structural control of ore deposition and to study the stratigraphy of the Goulburn Group in this area for regional comparison and correlation. Pub sca 1" to 1 mi.							
640011	Itchen Lake map-area	Bostock, HH	CG	PS	Mack	76 E W $\frac{1}{2}$ ;86 H E $\frac{1}{2}$ ,Pt W $\frac{1}{2}$		X
	Obj.: To outline the limits of gold-bearing rocks of the Yellowknife group; to determine the age and structural relations of the Yellowknife rocks and to ascertain the origin of the gold deposits; to complete mapping and structural interpretation of the Proterozoic outlier at "Rockinghorse Lake" to assist in correlation between the Epworth and Goulburn groups. Pub sca 1" to 4 mi							
640013	Mt. Haldane and Dublin Gulch map-areas	Poole, WH	CG	CPM	Yk	105 M/13;106 D/4		X
	Obj.: An investigation of the bedrock geology of map-area 105 M/13 and as much of 106 D/4 as is feasible as an aid to economic development in Keno Hill mining camp. Pub sca 1" to 1 mi.							



Project Number	Title	Project Leader	Div.	Section	Prov.	NTS	Act. 71-72	Inact. 71-72
640016	Operation Keno, surficial geology phase	Hughes, OL	QRG	RSP	Yk	105 M N $\frac{1}{2}$ ; 106 D/1-4		X
	Obj.: To study and map the surficial deposits and related physical features; to differentiate deposits of successive glacial advances, to determine the Quaternary history of the area as displayed in the deposits. Pub sca 1" to 4 mi.							
640024	Conodont biostratigraphy of the Waterways Formation, northeastern and central Alberta	Uyeno, TT	ISPG	WP	Alta	73 M; 74 D, E; 83 G, J, O; 84 B		X
	Obj.: To determine whether conodonts can establish the exact age and correlation of the Waterways and Beaverhill Lake Formations, northeastern and central Alberta.							
640027	Surficial geology, Kananaskis Lakes	Stalker, AM	QRG	RSP	Alta	Pt 82 J		X
	Obj.: To map, describe and explain the Quaternary deposits and landforms in order to elucidate the glacial history of the region and to provide areal geological knowledge including data pertinent to groundwater, engineering, and forestry. Pub sca 1" to 4 mi. & 1" to $\frac{1}{2}$ mi.							
640032*	Devonian biostratigraphy of Lake Manitoba-Lake Winnipegosis region	Norris, AW	ISPG	PS	Man	62 I W $\frac{1}{2}$ , J, O; 63 B W $\frac{1}{2}$ , C, F S $\frac{1}{2}$		X
	Obj.: Some of the more important objectives include: (a) more precise correlations of the Manitoba Devonian sequence with other areas; (b) delineation of reefs in the Winnipegosis Formation and assessment of hydrocarbon potential; (c) more precise determination of facies relationship between the Winnipegosis Formation and the in part laterally equivalent Prairie Evaporites which contains valuable deposits of potash; and (d) to show extent of intermingling of faunal elements of the Appalachian and Cordilleran faunal provinces in Manitoba. Pub sca 1" to 8 mi.							
640036	Lake Panache and Collins Inlet areas, Ontario	Frarey, MJ	CG	PS	Ont	41 H/14, I/3		X
	Obj.: To revise the stratigraphy and structure of the Huronian succession as previously shown (GSC maps 220 A and 221 A); to determine the nature of the Grenville Front within the area and the effect of metamorphism on the Huronian formations; and to determine the metamorphic and structural history and the mineral potential of the map-areas. Pub sca 1" to 1 mi.							

Project Number      Title      Project Leader      Div.      Sect.      Prov.      NTS      Act. 71-72      Inact. 71-72

640039	Morin anorthosite, Quebec	Emslie, RF	CG	Pet	Que	Pts 31 G-J			X
	Obj.: To determine the nature of the differentiation and the processes leading to development of the present form of the Morin intrusion - to include a map of the intrusion and surroundings. Pub sca 1" to 2 mi								
640040	Ordovician and Silurian microfaunas, Copeland, MJ Anticosti Island		CG	EP	Que	12 E,F;22 H/16			X
	Obj.: Stratigraphic zonation of Ordovician and Silurian strata based on their contained microfauna, correlation and equivalence of these strata with Gaspé and northeastern U.S.A.								
640043	Geological study of the Antigonish Highlands	Benson, DG	CG	AELAM	NS	11 E/8,9,16			X
	Obj.: To determine the stratigraphy, structure and tectonic history of the sedimentary and igneous rocks of the Antigonish Highlands and to provide up to date geological maps and reports as an aid to mineral exploration and the economic development of the area. Pub sca 1" to 1 mi.								
640048*	Study of mineral collecting areas of interest to collectors and tourists	Stenson, Mrs AP	EGG	M	-	-			X
	Obj.: To meet the needs of mineralogists and non-professional Canadian and foreign visitors for information on the accessibility, location, and nature of occurrences of minerals and rocks.						Yk,BC		
640049	Marine Seismic - Gulf of St. Lawrence	Hobson, GD	EG	SM	Que, Nfld	12 SE,NE;11 NE; 2 SW,NW,NE;1 NW			X
	Obj.: Conventional marine refraction seismic survey to determine thickness and attitude of sediments overlying crystalline basement. To result in an interpretive seismic map of eastern Canadian Maritime with the water removed.								
640058	Whalesback comprehensive mine study	Whitemore, DRE	EGG	MD	Nfld	12 H			X
	Obj.: To gain insight into factors affecting the formation and occurrence of similar ore bodies by making a comprehensive study of geological, geophysical and geochemical features of the Whalesback Mine as it is mined out.								

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
640125*	General metallogeny of Canada	Leech, GB	EGG	MD	-	-	X	
	Obj.: To study metallogenic concepts pertaining to the geological and tectonic regions of Canada as a whole in order to determine relationships in the distribution of economic minerals to their geological environments.							
640382	Economic Geology Report Series No. 1, 5th Edition	Tremblay, LP	ADM	SP	-	-	X	
	Obj.: To prepare a revision of Geology and Economic Minerals of Canada.							
640402*	Certification of bedded and non-bedded mineral deposits	Whitemore, DRE	EGG	MD	-	-	X	
	Obj.: To act on behalf of the Director of the Geological Survey in the certification of mineral deposits as bedded or non-bedded for income tax purposes.							
640419	Studies of Cretaceous stratigraphy of the Plains of Saskatchewan, Manitoba, and eastern Alberta	Price, LL	ISPG	MS	Alta, Sask, Man	-	X	
	Obj.: To improve knowledge of the Cretaceous rocks of the central and eastern Plains using all available subsurface and outcrop data.							
640420	Geological observations at shafts of potash mines, Saskatchewan	Price, LL	ISPG	MS	Sask	Pts 62 K/5, 12, L/16; 72 O/16, P/13; 73 B/1-3	X	
	Obj.: To record geological data and obtain fossils from the rocks exposed in the walls of large-diameter potash mine shafts in the eastern Plains: (1) primary function of the project is to preserve fossils encountered in the shafts for authoritative study; (2) a secondary aim is to preserve rock samples from representative complete stratigraphic sections for later detailed investigations; (3) to obtain a record of structure, formational contacts and sedimentology of otherwise unexposed rocks of the Plains; (4) to interpret those observations within the stratigraphic framework.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NIS	Act. 71-72	Inact. 71-72
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640427	Windy Point Reef, Great Slave Lake	Norris, AW	ISPG	WP	Mack	85 F E $\frac{1}{4}$ , G W $\frac{1}{4}$		X
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Obj.: To study in detail the lithology and faunas of the Middle Devonian Presqu'ile Reef and adjacent beds.

650003*	Cornwallis and adjacent smaller islands	Thorsteinsson, R	ISPG	AI	Frank	58 F, G; 68 E, H		X
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Obj.: (a) To improve the understanding of the age, structure, sequence, relationship, thickness, and origin of bedrock formations with a view to helping; (b) assess the size, grade, mode of occurrence, origin, and potentialities of any fuel or mineral deposits that may occur; and (c) improve the knowledge and understanding of the morphology of the Silurian and Devonian ostracoderms of Cornwallis Island, thus aiding in the establishment of a more useful stratigraphic framework for the region, and contributing to objective (a). Pub sca 1:250,000.

650007*	Ocean aeromagnetics	Hood, PJ	EG	MM	-	offshore 16		X
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Obj.: 1. To conduct high resolution aeromagnetic surveys over the Canadian continental shelves for the purpose of delineating sedimentary basins. 2. To obtain and study magnetic data over the ocean basins in order to shed light on the theories of magnetic imprinting of oceanic rocks, ocean-floor spreading, and continental drift. Pub sca - various.

650008	Stratigraphy, sedimentology and correlation of Nonacho Group, N.W.T.	McGlynn, JC	CG	PS	Mack	Pts 75 E, F, K		X
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Obj.: To define the sedimentology and stratigraphy of Nonacho Group and relationships of these rocks to surrounding igneous rocks as a contribution to regional correlation and geological history of the region. Pub sca 1" to 2 mi.

650009	Petrologic and structural study of the McDonald Fault system south of Great Slave Lake	Reinhardt, EW	CG	PS	Mack	Pts 75 E; 85 H		X
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Obj.: To describe and interpret the mylonites north and south of the McDonald Fault and their relationships to nearby Archean and Proterozoic rocks; to estimate the order of magnitude and sense of horizontal and vertical components of movement along the McDonald Fault system; and to evaluate the possible correlation of the Yellowknife Group with highly metamorphosed rocks southeast of the McDonald Fault. Pub sca 1:50,000.

Project Number      Title      Project Leader      Div.      Sect.      Prov.      NTS      Act. 71-72      Inact. 71-72

650010      Operation Selwyn      Blusson, SL      CG      CPM      Mack, Yk, BC      105 A, H, I, P; 104 O; 95 D      X

Obj.: To establish the stratigraphic sequence and determine the nature of abrupt facies changes in lower Paleozoic rocks of western Mackenzie and Selwyn Mountains, and to study the relationship and distribution of formations that are host to large base metal deposits, as a contribution to the economic development of the north. Pub sca 1" to 4 mi

650012      Metallogenic study of the beryllium-tin province of the Cassiar batholith      Mulligan, R      EGG      MD      Yk, BC      105 A, B; 104 O, P      X

Obj.: To investigate occurrences of economic minerals, their relationship to the geological environment, and the distribution of specified elements in igneous and other rocks and in stream sediments of the area.

650013      Quaternary geology, Aishihik Lake and southwestern Yukon      Hughes, OL      QRG      RSP      Yk      115 H      X

Obj.: To map and explain the Quaternary geology and geomorphology of Aishihik Lake area with particular reference to limits of glaciation (including the outermost glacial limit) and other aspects of Quaternary history in order to: (1) improve knowledge of the glacial history of southwestern Yukon; and (2) provide areal geological information. Pub sca 1:250,000.

650015      Geology of the Mt. Edziza volcano      Souther, JG      CG      CPM      BC      Pts 104 G/7, 10, 15, 16      X

Obj.: A detailed investigation of the geology, petrology and petrochemistry to determine the history and processes of evolution and relationship to contemporaneous plutons in the Stikine region. Pub sca 1:50,000.

650017      Seymour Arm vicinity      (McMillan, WJ)      CG      CPM      BC      Pts 82 M/2, 7      X

Obj.: A study of the structure in the pegmatite-poor envelope of schist, gneiss, and quartzite on the west side of Frenchman's Cap gneiss dome and also within the core of the dome. To determine the mutual relations of southwesterly trending folds and those trending northwesterly, and whether the core contains older structures possibly related to mobilized basement. To be illustrated by geologic map published at 1 inch to 1 mile.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
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650020	Quaternary geology, Columbia River project reservoirs	Fulton, RJ	QRG	RSP	BC	Pts 82 E, F, K-N, 83 C, D	X	
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Obj.: To gather areal information regarding Quaternary geology in advance of hydroelectric development; to determine chronologic sequence of Quaternary events and environments; to provide data applicable to engineering, groundwater, forestry, and agriculture. Reservoir maps to be published on 1:50,000 scale.

650024*	Cambrian biostratigraphy of the Canadian Cordillera	Fritz, WH	ISPG	WP	Mack, Yk BC, Alta	-	X	
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Obj.: To identify and describe Cambrian fossils from the Canadian Cordillera, ascertain their relative stratigraphic positions, and provide faunal correlations for their enclosing strata.

650027*	Quaternary of southern Alberta	Stalker, AM	QRG	RSP	Alta	-	X	
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Obj.: To gain knowledge of Quaternary stratigraphy, chronology, environments and climates in southern Alberta.

650030	Palynological studies, central Saskatchewan	Mott, RJ	QRG	PG	Sask	-	X	
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Obj.: To provide information on late-glacial and postglacial vegetational and climatic changes and geochronology, including changes in the forest-grassland relations.

650037	Postglacial uplift of Huron Basin	Lewis, CFM	QRG	RSP	Ont	-	X	
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Obj.: Geological assessment of changes in lake level and of evidence of tilt of lake basin during the past few thousand years (approximately 6,000 years), through detailed mapping and investigation of present and past shoreline forms and deposits.

Project Number      Title      Project Leader      Div.      Sect.      Prov.      NTS      Act.      Inact.      71-72      71-72

650044      Volcanic studies in the Noranda Region, Ont.-Que.      Baragar, WRA      CG      PS      Ont,Que      32 D S $\frac{1}{2}$ ,D NW           X

Obj.: To provide compositional, petrographic and stratigraphic data from which the volcanic character, the chemical evolution, the eruptive history and characteristic composition may be obtained.

650050      Metallogenic maps and reports, District of Mackenzie      Thorpe, RI      EGG      MD      Mack      -      X

Obj.: To contribute to a metallogenic map of Canada (Project 640125) and to publish more specific information concerning metallogenesis in the District of Mackenzie.

650056\*      Geology of lead and zinc deposits in Canada      Sangster, DF      EGG      MD      -      BC,Sask,  
Man,Ont,  
Que      X

Obj.: To carry out comprehensive research on the geology of lead and zinc deposits in order to provide a geological basis for exploration and an assessment of lead and zinc potential in Canada. The research is to provide: (1) a systematic record and appraisal of geological data; (2) a geological classification of lead and zinc deposits; (3) definition of criteria for recognition of each type of deposit; (4) development of concepts and hypotheses on geological environment, provenance, and genetic processes of lead and zinc deposits; (5) determination of regions and geological units in Canada most favourable for the occurrence of each type of deposit.

650131\*      Quaternary geology, Snag-Kluane Lake      Rampton, V      QRG      RSP      Yk      115 A,F E $\frac{1}{2}$ ,G,J,K E $\frac{1}{2}$       X

Obj.: To map, describe and explain the glacial deposits extending from the snout of Klutlan glacier to the limits of glaciation north of Snag, with particular reference to the development of geomorphic and other criteria for differentiating the deposits and landforms relating to the several glaciations known to have affected the area in order to: (1) differentiate the deposits of the area according to the respective glacial stages and substages during which they were deposited; and (2) develop a chronologic framework within which glacial deposits of adjacent parts of Yukon can be classified on a reconnaissance basis. Pub sca 1:125,000.

Project Number Title Div. Sect. Prov. NTS Act. Inact. 71-72 71-72

650288 Aiken Lake, B.C. Irvine, TN CG Pet BC 94 C W $\frac{1}{2}$ , D E $\frac{1}{4}$  X

Obj.: To describe the petrology of the Ultramafic Complex in the Lay Range with the purpose of defining its differentiation history and mode of emplacement. Pub sca 1:63,360.

650438\* Geochemistry of gold deposits Boyle, RW EGG Adm & SP - Ont Pts 30 M, 31 B-D, 40 P, 41 A X

Obj.: To compile available data on geochemistry of gold and particularly on the gold deposits of Canada.

650466\* Isotopic study of mica-bearing rocks yielding anomalous K/Ar 'ages' Wanless, RK CG G Man, Que Nfld 23 H; 13 I, J; 32 G, C, D; 31 L, M; 63 NE X

Obj.: To undertake detailed isotopic investigations in regions where 'anomalous' K/Ar age relationships have been found in order to establish the true age of the rocks, the time when the isotopic systems were disturbed, and to gain an understanding of the natural processes responsible for the disturbance.

660001 The Malton Gneiss along the Rocky Mountain Trench near Valemount, B.C. (Giovannella, CA) CG CPM BC Pts 83 D X

Obj.: To determine the structural and metamorphic history of the Malton Gneiss; whether it developed from transformation of rocks in situ or if it is an exotic mass introduced in its present position.

660002 Atlin Horst Project Monger, JWH CG CPM Yk, BC Pts 105 C, D; 104 J, K, M, N X

Obj.: 1. To establish a reference section for Late Paleozoic rocks in northern British Columbia.  
 2. To determine relationships between Permian, pre-Permian and post-Permian rocks in this area.  
 3. To determine the structural style of these rocks in the 'Atlin Horst'. Pub sca 1" to 1 mi.



Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
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660003	Harrison Lake, East, B.C.	(Lowes, BE)	CG	CPM	BC	Pts 92 H/5,12	X	
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Obj.: To determine if the Cascade structural belt extends east of Harrison Lake and north of Fraser River. To recognize the principal structural elements of the Cascade structural belt and compare their geometry with that established south of Fraser River; to ultimately understand their metamorphic and structural evolution. Pub sca 1" to 1 mi.

660005	Tavani map-area, Keewatin	Heywood, WW	CG	PS	Kee	55 K	X	
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Obj.: To determine the structure, stratigraphy and metamorphism of the sedimentary and volcanic assemblage of Tavani map-area with particular emphasis on the petrology and mineral potential of the volcanic rocks. Pub sca 1:250,000.

660006	Granite studies in the Ennadai-Rankin Inlet region	Davidson, A	CG	PS	Kee	55 E, F, K, L; 65 H, I	X	
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Obj.: To classify the granitic rocks according to age, geological and chemical nature, geophysical parameters where available and to relate them to the regional geology and mineral deposits. Pub sca 1:250,000, larger scale for selected areas.

660007*	Studies of the Coppermine River volcanic rocks, N.W.T.	Baragar, WRA	CG	PS	<u>Mack</u>	<u>Pts 86 N, O</u>	X	
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Obj.: To determine the total composition, variation in composition, and stratigraphy of the Coppermine River volcanic succession and its relationships to Mackenzie dyke swarm and Muskox Complex. To provide data of assistance to prospecting. Pub sca 1" to 4 mi.

660009	A sedimentological and stratigraphic study of the Great Slave and Et-Then Groups in the East Arm fold belt, Great Slave Lake	Hoffman, PF	CG	PS	Mack	75 E, K, L; 85 H, I	X	
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Obj.: To refine existing stratigraphic descriptions and relationships of the sedimentary and volcanic rocks to determine source regions and dispersal patterns in the sedimentary fill; to determine depositional environments and to reconstruct the Paleogeographic history of the sedimentary basin.

660011\*      The interrelation of the Archean volcanic stratigraphy and mineral deposits of the Kirkland Lake area      Ridler, RH      CG      PS      Ont      42 A.      X

Obj.: To determine the stratigraphic framework, volcanic history and mineral deposit relationships in the Kirkland Lake area, as an integral part of a larger study by Dr. A. Goodwin of the Timmins-Kirkland Lake-Noranda area. Pub sca as required.

660012      Volcanic studies in the Timmins-Kirkland Lake-Noranda area      (Goodwin, AM Prof.)      CG      PS      Ont, Que      32 D;42 A      X

Obj.: A study of Archean volcanic belts to determine the stratigraphic framework, volcanic history and relation to mineral deposits. Scales as appropriate.

660013\*      Operation Torngat      Taylor, FC      CG      PS      Que Nfld      13 M,N,O;14 C,D,E,F, L,M W $\frac{1}{2}$ ; 24 A,B,C,G, H,J, I,O,P;23 P;25 A;24 E $\frac{1}{2}$       X

Obj.: To determine and interpret the overall geological environment of the area east of longitude 68° and north of latitude 55° in order to ascertain its geological history and assess its mineral potential. Pub sca 1" to 8 mi.

660014      Michikamau anorthosite, Labrador      Emslie, RF      CG      Pet      Que Nfld      Pts 23 I E $\frac{1}{2}$ ,13 L W $\frac{1}{2}$       X

Obj.: To determine the mode of origin, and geological setting of the Michikamau intrusion and its implications as to mineral potential.

660019\*      Geological study of the Antigonish Basin      Benson, DG      CG      AELAM NS      11 F/12,13; Pts 11 F/11,14      X

Obj.: To determine the stratigraphy of the Antigonish Basin and the stratigraphy and structure of subsediment rocks underlying George Bay. The results will provide a better understanding of the Antigonish Carboniferous basin, be an aid to petroleum exploration and permit evaluation of various offshore methods and techniques. Pub sca 1" to 1 mi.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
660020	Structural and palaeomagnetic fabric of the Mackenzie Arc	Norris, DK	ISPG	SG	Mack Yk	106;107;116;117	X	
	Obj.: The role of the Mackenzie Arc in the depositional and structural history of the western Interior Plains and Mackenzie Mountains as it may have influenced the temporal and spatial relations of stratigraphic and structural traps in the area.							
660026	Conodont biostratigraphy of Lower and Middle Devonian strata of southwestern Ontario	Uyeno, TT	ISPG	WP	Ont	40 I,J,P	X	
	Obj.: To establish conodont zonations of Devonian strata of southwestern Ontario, to facilitate their correlations with other sequences, such as those of the New York standard, Hudson and James Bay Lowlands, and Manitoba.							
660029	Paleontology, stratigraphy, and paleoecology of the Burgess Shale	Fritz, WH	ISPG	WP	BC	82 N/8	X	
	Obj.: To make a detailed stratigraphic, paleontologic and ecologic study of the Burgess Shale, to establish its precise age, correlation, structure and mode of deposition, and to obtain for re-study, complete collections of its unique fauna.							
660030	Sedimentology and morphology of eskers	McDonald, BC	QRG	EGG	-	-	X	
	Obj.: Map and describe eskers, and associated features in order to gain fundamental information regarding their classification, form, sedimentology and origin through detailed study of their morphology, internal structure, lithology, relation to nearby overburden, environment of formation, and their economic implications.							
660031	Quaternary geology of Peace River Reservoir area	Rutter, NW	QRG	RSP	BC	Pts 93 N,O; 94 B,C,F	X	
	Obj.: Reconnaissance of Quaternary geology of Peace, Parsnip and Finlay Valleys in an advance of flooding to determine chronologic sequence of Quaternary events; to study geomorphic evolution of valleys; to gather areal information including data applicable for engineering and land capability inventory. Pub sca 1" to 2 mi.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
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660032	Quaternary geology and geomorphology of Whitecourt area, Alberta	St-Onge, DA	QRG	RSP	Alta	83 J	X	
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Obj.: To gather areal information concerning Quaternary (including geomorphic features) concentrating particularly on collection and presentation of data on surficial materials and landforms for forestry; to provide data applicable to engineering, groundwater and other fields. To contribute to knowledge of the Quaternary stratigraphy and chronology of the region. Pub sca 1:250,000

660035	Quaternary geology, Sherbrooke	Shilts, WW	QRG	RSP	Que	21 E	X	
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Obj.: To map, describe and explain the Quaternary deposits and landforms in order to:  
 (1) determine the sequence of events and environments involved in glaciation and deglaciation; (2) to elucidate the Quaternary chronology of the region; and  
 (3) to gather areal data applicable to soils mapping, groundwater, engineering and mineral exploration. Pub sca 1" to 1 mi.

660042	Regional aeromagnetic - geologic correlation	Kornik, LJ	EG	MM	Mack Kee Sask Man, Ont	Pts 43, 53, 54, 55, 63, 64, 65, 74, 75, 85	X	
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Obj.: A regional study to correlate geology with magnetic patterns and anomalies by means of in situ magnetic susceptibility and remanent magnetism measurements of oriented samples. Pub sca 1" to 16 mi.

660043	Airborne INPUT surveys	Collett, LS	EG	EM	Alta Man Ont	Pts 82 I, P, 62 H; 62 P/1; 52 M/3, 4, L/14 Pt 31 G	X	
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Obj.: To assess the usefulness of airborne INPUT electromagnetic surveys as an aid to geological mapping. Pub sca 1:50,000.

Project Number      Title      Project Leader      Div.      Sect.      Prov.      NTS      Act. 71-72      Inact. 71-72

660050      Seismic - Rocky Mountain Trench      Hobson, GD      EG      SM      BC      82 J/4, G/13      X

Obj.: To investigate structure beneath the west edge of Rocky Mountain to determine presence of discontinuities and identify formations. If possible to prove or disprove whether the Rocky Mountain front and adjacent part of the Trench floor may be "unrooted".

660051\*      Seismic - Interior Plateau, B.C.      MacAulay, HA      EG      SM      BC      82 NW; 92 NE      X

Obj.: To determine depth and shape of some major valleys and to determine stratigraphy and history of unconsolidated fill in these valleys.

660052      Seismic - Winkler, Manitoba and Frobisher, Saskatchewan      Hobson, GD      EG      SM      Sask Man      62 G,E      X

Obj.: To investigate use of amplitude and frequency characteristics of seismic waves in the study of groundwater problems and definition of overburden materials.

660053      Seismic - Flin Flon, Manitoba      Hobson, GD      EG      SM      Man      63 K/13      X

Obj.: To determine whether seismic reflection and refraction seismic techniques can detect interfaces between Precambrian rock units utilizing data from the deep bore-hole at Flin Flon.

660054\*      Marine seismic - Great Lakes      Hobson, GD      EG      SM      Ont      30 NW; 40 NE; 41 SE, NW      X

Obj.: To determine water-sediment interface, stratification within the unconsolidated sediments, bedrock topography and lithology if possible and stratification within bedrock.

660478      Airborne EM analysis      Bhattacharyya, BK      EG      TGDA      -      -      X

Obj.: To carry out research on the application of computer-oriented methods for quantitative interpretation of airborne electromagnetic data of various types.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
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660486	Stratigraphy of the Blairmore Group and Kootenay Formation, southern Foothills of Alberta, Bow River to Clearwater River	Ollershaw, NC	ISPG	SG	Alta	82 O/6,7,10 W <sup>1</sup> ,11,14	X	
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Obj.: Are closely related to the coal and oil/gas assessment and development of the area, and the main result of the project should be a description of the character (lithology and petrology) and stratigraphy of the rocks forming the Blairmore Group and Kootenay Formation, with an interpretation of rock units, facies relationships, source areas, tectonic significance and economic potential.

660494	Magnetotelluric investigations	Slankis, JA	EG	EM	Man, Ont Que, NB	Pts 62 H; 32 C, D, F, G; 31 F, G; 21 E, O, G	X	
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Obj.: To investigate the possibility of detecting sulphide conductors, faults and shear zones using the magnetotelluric method in the audio and sub-audio frequency range.

660552	Momograph of brachiopod family Trimerellidae	Norford, BS	ISPG	WP	-	-	X	
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Obj.: Description of morphology, taxonomy, ecology, and evolution of a family of Ordovician and Silurian brachiopods that in Canada is largely found in biohermal and biostromal carbonate rocks. Completion of project will assist in the biostratigraphic and paleoecological discrimination of Ordovician and Silurian carbonate rocks.

670003*	Anorthosite study	Emslie, RF	CG	Pet	Que, Nfld	13 NW; 14 SW	X	
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Obj.: To examine three large anorthosite intrusions between Michikamau Lake and Nain, Coast of Labrador for purposes of comparison with Michikamau Intrusion (including mineral potential).

Project Number Title Project Leader Div. Sect. Prov. NTS Act. Inact. 71-72 71-72

670004 Study of the Hurwitz Group in the eastern part of the Rankin-Ennadai Belt (Bell, RT) CG PS Kee 55 J,K,L;65 I; Pts 65 G,H X

Obj.: To determine the sedimentary units and their stratigraphic relationship and interpret their provenance, dispersal patterns and depositional environment as well as their structure and relations to the basement rocks. The economic potential of the Hurwitz group and surrounding rocks should be evaluated as part of this study. Pub sca 1" to 4 mi and 1" to 1 mi as required.

670006 Sedimentology of the Yellowknife Group Henderson, JB CG PS Mack 85 J/8,9 X

Obj.: To provide a paleoenvironmental interpretation of the Yellowknife Group sediments; to increase understanding of depositional mechanism of turbidites and associated sediments; and to study the transition from vulcanism to sedimentation in Archean times. To provide criteria for future regional studies of the Yellowknife Group.

670011 Study of a Tertiary cauldera complex, Bennett Lake, B.C. and Yukon (Lambert, MS) CG CPM Yk Pts 105 D/5;104 M/14 X BC

Obj.: To describe and interpret the petrography and structure of a circular volcanic complex and contribute to the understanding of volcanic processes in the Cordilleran region.

670014\* Operation Winisk Norris, AW ISPG PS Kee, Man 54 A-G,K-M;53 H N $\frac{1}{2}$ , I, J,N,O,P;43 M,N,O,L,K, J,E,F,G,H,D E $\frac{1}{2}$ ,C,B; 42 M E $\frac{1}{2}$ ,N $\frac{1}{2}$  F-H,K,J,T,L E $\frac{1}{2}$ ,N-P;32 L,M X Ont,Que

Obj.: To determine the age, thickness, distribution, facies, structure and other relevant parameters of the bedrock formation of the Hudson Bay Lowlands for evaluating the economic potential of the area. Pub sca 1:1 million and where detail warrants 1: $\frac{1}{2}$  million.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
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670016*	S.W. Ellesmere - W. Devon Islands (Operation Grinnell)	Kerr, JW	ISPG	AI	Frank	49 B,C;58 G,H;59 A,B, D;69A		X
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Obj.: To improve the understanding of the stratigraphy and structure of the region, which is a key area for information in both of these fields; a primary purpose is to aid in evaluation of the resource potential - particularly petroleum - of this part of the north. Pub sca 1:25,000.

670018	Baffin Island - Foxe Basin - Melville Peninsula (Operation Foxe Basin)	Trettin, HP	ISPG	AI	Frank	36 N,O;37 A-C,F,G;47 A,D		X
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Obj.: To obtain an improved understanding of the stratigraphy, structures, and historical geology of the lower Paleozoic sedimentary rocks of the Foxe Basin region with a view particularly to evaluating the petroleum potential of the region. Pub sca 1" to 8 mi or more detailed.

670019	Stratigraphy, structure, and carbonate petrography of the Marble Canyon Formation (Permian) in the Marble Range, Cariboo District, B.C.	Trettin, HP	ISPG	AI	BC	92 P/4		X
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Obj.: To clarify the understanding of the stratigraphy, structure, and carbonate petrology of the Marble Canyon Formation. Pub sca 1:50,000.

670021	Conodont biostratigraphy of Middle and Upper Devonian strata of southern and central Manitoba	Uyeno, TT	ISPG	WP	Man	62 J,K,N;63 C		X
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Obj.: To establish conodont zonations of Middle and Upper Devonian strata of southern and central Manitoba, to facilitate their correlations with other areas, such as the Alberta subsurface, and the James Bay Lowlands.



670024

Chitinozoans and Acritarchs from the Hamilton Group (subsurface) of southwestern Ontario

(Legault, Miss JA)

CG EP Ont 40 P/4 W<sup>1</sup>/<sub>2</sub>, J/16

X

Obj.: Stratigraphic zonation of the Hamilton Group based on contained chitinozoans and acritarchs.

670028\*

Geology of rare earth deposits of Canada

Rose, ER

EGG MD

Ont, Que 31

X

Obj.: To carry out comprehensive research on the geology of rare earth deposits in order to provide a geological basis for exploration and assessment of rare earth potential in Canada. The research is to provide: (1) a systematic record and appraisal of geological data; (2) a geological classification of rare-earth deposits; (3) definition of criteria for recognition of each type of deposit; (4) development of concepts and hypotheses on geological environment, provenance, and genetic processes of rare earth deposits; (5) determination of regions and geological units in Canada most favourable for the occurrence of each type of deposit. Pub sca 1:5,000,000

670029\*

Geology of uranium and thorium deposits of Canada

Little, HW

EGG Adm & SP

Ont 30 M;31 G;41 I,J

X

Obj.: To carry out comprehensive research on the geology of uranium and thorium deposits in order to provide a geological basis for exploration and to provide a national authority on uranium and thorium potential in Canada. The research is to provide: (1) a systematic record and appraisal of geological data; (2) a geological classification of uranium and thorium deposits; (3) definition of criteria for recognition of each type of deposit; (4) development of concepts and hypotheses on geological environment, provenance, and genetic processes of uranium and thorium group deposits; and (5) determination of regions and geological units in Canada most favourable for the occurrence of each type of deposit.

670040

Geophysical investigations

(Scott, WJ)

EG EM

Man, Ont 62 H,K;31 D/16,7;32 C/14, X  
Que, NB 12,5,6,G/15;21 E/7,0/10,  
G/3

Obj.: To determine the cause of certain elliptical electromagnetic anomalies in the Moose River area, Ontario and the thickness of the causative formation. To carry out similar investigations over the Winkler aquifer to test the method. To carry out similar investigations near Senneterre. Pub sca - various.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
670041*	VLF mapping	Collett, LS	EG	EM	Yk, Man, Ont, Que	-	X	
	Obj.: To assess the capabilities and limitations of using VLF radio waves as a means of providing geological information to delineate fault and shear zones, and for mapping permafrost. Pub sca 1:50,000 or 1:25,000.							
670050*	Airborne gamma spectrometry	Darnley, AG	EG	RSM	- Mack, Yk <u>Ont, Que, Nfld</u>	-	X	
	Obj.: Development of airborne gamma-ray spectrometry, ancillary navigational track and data recording systems, and the necessary data processing methods to produce radiometric maps which will facilitate and accelerate geological mapping from the air. Pub sca to be determined from study of experimental results.							
670052*	Gamma-ray support	Charbonneau, BW	EG	RSM	- Ont, Que	41 J; 31 C-F, J, O	X	
	Obj.: To undertake detailed geological and radiometric investigations on the ground in areas selected for experimental airborne gamma-ray spectrometer survey. To correlate air data with ground data in order to accumulate criteria for assessing airborne data on its own merits. To undertake systematic ground radiometric measurements to ensure the proper calibration of airborne measurements.							
670053*	Radioisotope Methods	Grasty, RL	EG	RSM	- Mack, Ont		X	
	Obj.: (1) To develop application of lightweight portable radioisotope instrumentation for geological field use, especially for in situ analysis of rock composition. (2) To provide laboratory analyses by radioisotope methods of control samples collected in support of airborne gamma spectry and airborne geochemistry.							
670054*	Infrared scanning	Slaney, VR	EG	RSM	- Mack	75 D	X	
	Obj.: To recognize the surface distribution of rocks, soils, drainage and fracture patterns using I.R. scanning techniques. To determine the optimum conditions for I.R. surveys by studying the effects of day and night changes, seasonal changes and the effect of weather on the response of the ground.							
670057	Volcanic study in the Kaladar area, Baragar, WRA area, Ontario	Baragar, WRA	CG	PS	Ont	31 C/14	X	
	Obj.: To sample a volcanic succession in the Grenville province near Kaladar, Ontario, to analyse the samples for major and minor elements and to relate variations in chemistry to stratigraphy.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
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670059*	Stratigraphy of Gog and Cariboo Groups near the Rocky Mountain Trench, McBride area, B.C.	Young, FG	ISPG	MS	BC, Alta	Pts 83 E; 93 A, H, I	X	
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Obj.: 1. To elucidate the stratigraphy and structure of the Gog and Cariboo Groups; 2. To determine the nature and amount of possible crustal displacements associated with the Rocky Mountain Trench by means of stratigraphic mapping.

670061*	Quaternary geology, Bow River Valley	Rutter, NW	QRG	RSP	Alta	Pts 82 O	X	
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Obj.: To determine relationship of Cordilleran and Laurentide glaciation; to elucidate Quaternary chronology of the area. To map the distributions of surficial deposits of the area; to study and describe the geomorphology of the area. Pub sca 1" to 2 mi.

670062	DC Resistivity - Ontario	Collett, LS	EG	EM	Ont	Pt 31 G	X	
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Obj.: The purpose of the project was to assess the capabilities and limitations of DC resistivity as a means of determining geological structure including the tracing of faults in the Ottawa area and to determine the resistivity of various geological formations in the map-area to provide data needed to assess the capabilities and limitations of other geophysical methods (such as AC resistivity, electromagnetic, INPUT and magnetotelluric) as aids to geological mapping.

670064*	Cretaceous and uppermost Jurassic biostratigraphy of western Cordillera	Jeletzky, JA	ISPG	WP	BC	92, 93; 103, 104	X	
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Obj.: To study the stratigraphy and paleontology of Cretaceous and upper Jurassic (Buchia-bearing beds only) formations of the region in order to work out a detailed zonal sequence of marine faunas. The biostratigraphically important elements of these faunas are to be described and figured. Project includes field and office study of Lower, Middle and Upper Jurassic rocks of Manning Park area in connection with the 24th IGC, 1972.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
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670068*	Operation Norman	Cook, DG	ISPG	SG	Mack	86 D,E,L,M;87 B,C; 96;97 A-D,F;106 A,B, G-J,O,P;107 A,D,E	X	
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Obj.: To complete reconnaissance geological mapping, to conduct stratigraphic and structural studies, and to evaluate the economic potential of bedrock formations in the subject area; to embody the results of these studies in an integrated series of reports and maps, some under single authorship and others under multiple authorship according to the topic of the contribution. Pub sca 1:250,000 and 1:500,000.

670074	Seismic - Welland-Port Colborne	Hobson, GD	EG	SM	Ont	30 L,M	X	
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Obj.: To determine thickness and nature of overburden and configuration of bedrock. To assist Mr. E.B. Owen in his studies associated with the New Welland Canal.

670083	File of diagnoses of fossil spores and pollen genera	McGregor, DC	CG	EP	-	-	X	
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Obj.: To compile a file of diagnoses of fossil spore and pollen form genera of all geologic systems, on edge-punched cards cross-referenced for diagnostic features of the genera.

670090	Subsurface Upper Paleozoic stratigraphy, Northwest Territories and Yukon Territory	Martin, HL	ISPG	PS	Mack Yk	95 A-G,K,L,M;105;106 B-F X K-M;115;116	X	
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Obj.: (1) To provide geological information, particularly formation tops, as required by the Department of Indian Affairs and Northern Development for publication in their annual Schedule of Wells; and (2) to identify stratigraphically significant subdivisions of the interval; to determine their areal extent, thickness, lithologic character, structural configuration, and relationships to adjacent strata; to deduce the sequence of geologic events which produced them; to correlate the surface to subsurface stratigraphy; and to explain the relationships between porosity development and facies, Pub sca 1" to 8 mi.

670091	Clay mineralogy of Lower Cretaceous shales of northeastern British Columbia	Foscolos, AE	ISPG	MS	BC	-	X	
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Obj.: (a) Identify and examine the distribution of clay mineral facies geographically and stratigraphically. (b) Investigate the relationship between clay distribution and other stratigraphic parameters with objective of integrated paleoecological and paleogeographic studies.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
670097	Geochemical study of Economic Elements in Glacial Till  Obj.: To ascertain the provenance and secondary geochemical cycle of minerals and other elements in Quaternary till as a basis for prospecting for underlying primary mineral deposits.	Garrett, RG	EGG	G	-	-	X	
670278	Structural and petrological study of Pinnacle Peaks gneiss dome, B.C.  Obj.: To determine the origin, emplacement and tectonic history of the Pinnacle Peak gneiss dome. To compare the structural and metamorphic development of an "intermediate level" gneiss-dome complex (Pinnacle Peaks) with the deeper level Valhalla and Thor-Odin domes, and to elucidate the time of deformation and metamorphism of the Shuswap metamorphic complex. Pub sca 1" to 1 mi.	Reesor, JE	CG	Pet	BC	Pts 82 L/1,8,K/4	X	
670557	Stratigraphy and ages of Pre-cambrian sedimentary rocks and contained sills and dykes, east coast of Canadian Arctic Islands and north and northwest Greenland  Obj.: (a) To correlate or distinguish Precambrian sedimentary basins and to obtain information on movement of continental masses. (b) Aided by age-determinations on diabase-gabbro sill rocks and other intrusive rocks, to compare the tectonic history of the Precambrian sedimentary rocks of the region.	Christie, RL	ISPG	AI	Frank	120;340,560;29,39,49,59,28;38;48;58;27;37;47;57	X	
670559	Preparation of geological base map for Map 900-A  Obj.: Preparation of a suitable geological base map for Mineral Deposits Map 900-A.	Leech, GB	EGG	MD	-	-		X
670561*	Lunar crust investigation  Obj.: To provide a statement of the chemical composition of lunar material, including major, minor and trace elements, as part of the invited Canadian contribution to the NASA Apollo Manned Lunar Landing programme.	Maxwell, JA	EGG	Adm & SP	-	-	X	

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
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670562	Studies of evaporite-carbonate- clastic suite, Souris River Formation (Devonian), Saskatchewan.	Macqueen, RW	ISPG	PS	Sask	62 L; 73 B	X	
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Obj.: To determine the nature, stratigraphic relationships, and origin (including depositional, diagenetic, and geochemical history) of the Souris River Formation cycles as they are displayed in a bore hole core, and the shaft walls of a potash mine.

670564	Time Domain EM Theory	Becker, A	EG	EM	-	-	X	
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Obj.: To devise a mathematical analysis for carrying out quantitative interpretation of INPUT data.

670569	Clay minerals in Proterozoic sediments	(Donaldson, JA)	CG	PS	Kee Mack	-	X	
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Obj.: Comparison of clay mineral content of sandstone and siltstone units of the Dubawnt Group, Goulburn Group, Athabasca Fm. and Martin Fm. based on mineralogical analyses of specimens now on hand.

670576*	Canadian Triassic Ammonoidea and Bivalvia	Tozer, ET	ISPG	WP	Frank, Yk BC, Alta	-	X	
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Obj.: To describe and assess biochronological significance of Triassic ammonoidea and bivalvia in order to refine methods for dating Triassic rocks.

670577	Stratigraphy and structure of Lower Cretaceous sedimentary rocks of the Waterton-Castle River area, Alberta.	Havard, Mrs. CJ	ISPG	SG	Alta	82 G, H, J	X	
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Obj.: To assist the oil industry in its search for hydrocarbon reservoirs through clarification of the differences in mechanical behaviour of the Mesozoic clastic succession and the Paleozoic carbonate skeleton.

680012*	Paleomagnetic study of Proterozoic red beds of the western Canadian Shield	McGlynn, JC	CG	PS	Kee Mack Sask	65;66;74;75 E,F; 85;86	X	
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Obj.: To obtain paleomagnetic pole positions from various Proterozoic red bed sequences in the western Precambrian Shield for purposes of correlation.

680015      Geological reconnaissance of eastern Devon Island, with additional stratigraphic studies on southeastern Ellesmere Island      Christie, RL      ISPG      AI      Frank 38 F,G;39 B,C,F-H; 48 E-H;49 A,B,D      X

Obj.: (a) Obtain reconnaissance data for the Precambrian rocks of eastern Devon Island so that:  
 (i) these rocks and their history may be compared to those of the Canadian Shield;  
 (ii) structure of this area may be plotted and studied in the light of known structures of Ellesmere Island, Baffin Island, Greenland, and the intervening channels and Baffin Bay.  
 (b) Obtain reconnaissance data for the sedimentary rocks of eastern Devon Island so that the stratigraphy of the Ellesmere - Devon - Baffin Island region may be better understood.  
 An understanding of the stratigraphy of this large 'shelf'-type region will aid in defining the stratigraphic framework of the potentially oil-bearing basins to the west.  
 (c) Obtain additional data (to add to data obtained by you in 1960 and 1961) on the Lower Paleozoic formations of southeast Ellesmere Island so that: (i) maps on scale of 1 inch to 4 miles or other suitable scale may be published; (ii) the stratigraphy of southeastern Ellesmere Island may be better understood (as (b), above). Pub sca 1" to 4 mi.

680018\*      The environment of oil and gas in western Canada      McCrossan, RG      ISPG      GofP      -      -      X

Obj.: To study the occurrence of hydrocarbon in western Canada in search of principles that will help to understand its distribution hence aid in exploration. To advise the Geological Survey on direction of future research of value to the petroleum industry.

680019\*      Non-marine Lower Cretaceous of the southeastern Canadian Cordillera      Norris, DK      ISPE      SG      BC 82 G,J,O  
Alta      X

Obj.: Assist the coal industry in its search for mineable reserves of low ash, coking coals through outlining of areas in the Kootenay coal swamps favourable for prospecting and exploitation.

680023      X-ray diffraction analyses and mineralogical studies      Traill, RJ      EGG      M      -      -      X

Obj.: To assist in the identification and inventory of potential mineral resources in Canada by provision of X-ray diffraction analyses and other specialized mineralogical data for use by earth scientists engaged in studies of minerals and mineral deposits.

680027	Quaternary geology and geomorphology St-Onge, DA of Tawatinaw area, Alberta		QRG	RSP	Alta	83 I			X
	Obj.: To gather information concerning Quaternary including geomorphic features, concentrating particularly on surficial materials and landforms for forestry; to provide data applicable to engineering, groundwater and other fields. To contribute to knowledge of the Quaternary stratigraphy and chronology of the region. Pub sca 1:250,000.								
680028*	Development of radiochemical exploration methods using radon	Dyck, W	EGG	G	Sask	74 N; 41 J; 31 F,G	Ont,Que		X
	Obj.: To develop radiochemical prospecting techniques for uranium and for other economic elements associated with uranium in mineral deposits.								
680031	Quaternary stratigraphy of Old Crow Basin and Porcupine River Valley	Hughes, OL	QRG	RSP	Yk	Pts 116 O; 117 A, B E $\frac{1}{2}$			X
	Obj.: Through investigation of Quaternary deposits and associated organic remains, to gain knowledge of the Quaternary stratigraphy and history of the region and to provide a geological framework for current vertebrate paleontology and archeology studies by National Museum scientists.								
680032	Quaternary reconnaissance, north-west District of Mackenzie	Fulton, RJ	QRG	RSP	Mack	96 N $\frac{1}{2}$ ; 97 S $\frac{1}{2}$			X
	Obj.: To map and explain Quaternary deposits and landforms in order to: (1) establish their stratigraphic sequence and age and to outline the Quaternary history of the area; and (2) provide areal geological information including data applicable to permafrost and engineering studies. Pub sca 1:500,000.								
680035*	Borehole and related geophysical techniques	Wyder, JE	ORG	EGG	-	-			X
	Obj.: To evaluate potential use of surface and borehole geophysical techniques as tools for studying Quaternary deposits; to develop new geophysical techniques, to modify existing ones, and to install, test, and modify equipment.				Mack	Pts 85, 95, 96, 106, 116, 107, 117			



Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
680036*	Sidewall sampling and geophysical service	Wyder, JE	QRG	EGG	-	-	X	
	Obj.:	To provide sidewall sampling and geophysical services as required, in support of Division projects, or other projects as required.			Mack <u>107 B,C; 31 G,H</u> Ont, Que			
680037*	Hammer seismic surveys	Hunter, JM	EG	SM	-	-	X	
	Obj.:	To determine thickness and nature of overburden and configuration of bedrock to assist Quaternary, geochemical, groundwater and geophysical studies. To develop new procedures in field and interpretation of shallow seismic techniques.						
680038*	Geology of northern Vancouver Island	Muller, JE	CG	CPM	BC	Pts <u>92 E,K,L; 102 I</u>	X	
	Obj.:	To complete the reconnaissance geological mapping of the northern part of Vancouver Island, assess its mineral potential, and contribute to knowledge of the Pacific continental margin. Pub sca 1" to 4 mi.						
680039	Study of Continental Drift	Kerr, JW	ISPG	AI	-	-	X	
	Obj.:	To elucidate the developmental history of North Atlantic and Arctic Regions.						
680040	Proglacial geomorphology, Generator Lake, Baffin Island	Barnett, DM	QRG	RSP	Frank Pts 27 C; 37 D		X	
	Obj.:	To map and explain glacial, lacustrine, and related landforms and deposits associated with both present and former levels of Generator Lake and to measure pertinent aspects of modern glacio-lacustrine processes in order to elucidate the geomorphology and chronology of the area as a model of the proglacial lacustrine environment.						
680047*	Geomorphic processes, Mackenzie Valley - Arctic coast	(Mackay, JR Prof)	QRG	EGG	Mack <u>Pts 85, 95, 96, 97, 106,</u> Yk <u>107, 117</u>		X	
	Obj.:	To describe, measure, and explain geomorphic features and processes related to permafrost, and to fluvial, lacustrine, coastal, eolian, and mass wasting activity in a permafrost environment.						

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
680055*	Quaternary geology, Great Lakes	Lewis, CFM	QRG	RSP	Ont & <u>adj USA</u>	-	X	
	Obj.: To map, describe, and explain unconsolidated deposits, associated organic remains and geomorphic features of the Great Lakes in order to: (1) determine Quaternary stratigraphy, history, and paleoecology; (2) identify processes operative in the lakes during the Quaternary and the factors controlling them; (3) to provide areal geological knowledge including background information for other scientific studies in the Great Lakes. Pub sca to be decided.							
680057	Sedimentological study of the Hornby Bay Group	(Donaldson, JA Prof)	CG	PS	Mack	86 N½; 96 NE¼	X	
	Obj.: To interpret the depositional history of the sedimentary units in the Hornby Bay Group and to assess possible correlations with similar rocks elsewhere on the Precambrian Shield. Pub sca 1" to 4 mi.							
680060*	Geology of silver and gold deposits in Canada	Thorpe, RI	EGG	MD	- Mack, BC, <u>Ont, Que, NB</u>	-	X	
	Obj.: To carry out comprehensive research on the geology of silver and gold deposits in order to provide a geological basis for exploration and assessment of silver and gold potential in Canada. The research is to provide: (1) a systematic record and appraisal of geological data; (2) a geological classification of deposits; (3) definition of criteria for recognition of each type of deposit; (4) development of concepts and hypotheses on geological environments, provenance and genetic processes of silver and gold deposits; (5) determination of regions and geological units in Canada most favourable for the occurrence of each type of deposit.							
680062	Quaternary geology, Kingston N½	Henderson, EP	QRG	RSP	Ont	31 C N½	X	
	Obj.: To map and explain the Quaternary deposits and landforms of the area in order to elucidate the glacial history of the region and to provide areal geological knowledge including data pertinent to groundwater, engineering, agriculture, and forestry.							
680063	Permian biostratigraphy, northern British Columbia and northern Yukon	Nassichuk, WW	ISPG	AI	Yk BC	116 H,P; 104 N; 117 A	X	
	Obj.: To establish the relationship between Permian rocks in selected areas of northern British Columbia and northern Yukon and those of the Sverdrup Basin and West Texas.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
680064*	Stratigraphy and Paleontology of Upper Paleozoic rocks	Nassichuk, WW	ISPG	AI	Frank 49 B,F,G,H; 340 A-D; 560 A		X	X
	Obj.: (a) To improve the understanding of the stratigraphy and facies relationships of the marginal and axial parts of the Sverdrup Basin; (b) to establish a biostratigraphic framework for Carboniferous and Permian rocks; and (c) to evaluate the economic potential of the area.							
680066*	Geology of the Cariboo Mountains, British Columbia	Campbell, RB	CG	CPM	BC 83 D; 93 A, H		X	X
	Obj.: To determine the tectonic development of the Cariboo Mountains, and their relation to the development of the Rocky Mountains. Pub sca 1" to 4 mi.							
680068*	Mesozoic palynology and bio-stratigraphy, western and northern Canada	Hopkins, WS Jr	ISPG	WP	Frank Mack, Yk BC, Alta	69 C-F	X	X
	Obj.: Description of microfloras from Mesozoic rocks, particularly the Sverdrup Basin. Establishment of sequence of floral zones necessary for biostratigraphic control in this region of active exploration for petroleum resources. Ultimately the project will allow description of floral evolution and migration through the Mesozoic and into the Tertiary.							
680071*	Alkaline rocks in Canada	Currie, KL	CG	Pet			X	X
	Obj.: To identify and examine occurrences of alkaline rocks in Canada, and to explain their origin, development and emplacement.							
680073	Magnetic anomaly map of Canada	Laroche, A	EG	CS			X	X
	Obj.: To construct a magnetic anomaly map of Canada as an aid to geotectonic studies in Canada. Pub sca 1:5,000,000.							
680074	Geology of the Seal River map-area, Manitoba	Davison, WL	CG	PS	Man 64		X	X
	Obj.: To revise, compile and interpret the available geologic and aeromagnetic data on Seal Lake area as part of a general revision of geological mapping in Manitoba for assistance to the mineral industry. Pub sca 1" to 8 mi.							

Project Title Div. Sect. Prov. NTS

680075 Cochrane River (NTS 64) map-area. Davison, WL CG PS Man 64 X  
1:1 million Geological Atlas Program

Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of  
1:1 million geological Atlas of Canada. More detailed objectives are as April 1, 1969  
on File 116-6-9.

680076 Geology of Southern Indian Lake Davison, WL CG PS Man 64 SE X

Obj.: To assess the economic potential of the area and examine regions of particular geologic  
interest before flooding caused by construction of the Southern Indian Lake diversion dam.  
Particular attention will be given to the relationships of the Sickle and Wasekwan Groups  
to various intrusive rocks of the region. Pub sca 1" to 8 mi.

680078 Tuadook Lake map-area, N.B. Skinner, R. CG AELAM NB 21 J/15 X

Obj.: To determine the structure, stratigraphy and igneous, metamorphic and tectonic history of  
a portion of the Central Mineral Belt of New Brunswick, as an aid to the economic  
development of the area. Pub sca 1:50,000.

680081\* Queen Air high resolution Hood, PJ EG MM X  
aeromagnetics  
Mack 21 O,P; 31 B,G; 32 C,D,E;  
Ont 42 E; 75 L; 85 J, I  
Que

Obj.: 1. To design, fabricate, install and test a high resolution rubidium vapour aeromagnetic  
survey system in a Queen Air aircraft. 2. To conduct high-resolution aeromagnetic test  
surveys with this system to evaluate its use as an aid to geological mapping.

680082 Annual reviews, Exploration Hood, PJ EG MM X  
Techniques

Obj.: To provide an annual review of new geophysical, geochemical, data recording and compilation  
techniques.

680084\* Operation Smoky Taylor, GC ISPG SG BC 93 L, O, P; 83 L X  
Alta

Obj.: Establish the interdependent relationships of the structure, and stratigraphic succession between the contrasting areas of the southern Rocky Mountains and those of the northern Rocky Mountains. Pub sca 1" to 4 mi or 1" to 2 mi.

680085 Structural and stratigraphic study of the Precambrian rocks of southwestern Keewatin, N.W.T. Eade, KE CG PS Kee 65 A W $\frac{1}{2}$ , B, C, G W $\frac{1}{2}$  X

Obj.: To determine: (1) the relationships of the known Hurwitz group rocks to other metasedimentary units, and the extent and characteristics of the original basins of deposition in order to assess their potential for mineral occurrences; (2) the petrology and mineral potential of the post-kinematic fluorite bearing porphyritic rocks. Pub sca 1" to 4 mi.

680089\* ARES (airborne resistivity electromagnetic system) Becker, A EG EM - - X

Obj.: The development of a variable frequency airborne EM system to aid in geological mapping through the measurement of the electrical properties of the ground.

680090 Identification of unknown minerals by X-ray and chemical techniques Foscolos, AE ISPG MS - - X

Obj.: Quantitative and semi-quantitative analysis of clay, minerals and elements in samples submitted by GSC staff.

680091\* Clay mineral investigation Foscolos, AE ISPG MS - - X

Obj.: To improve and develop techniques for routine mineralogical and chemical analyses of clays; to develop better techniques for quantitative and qualitative analyses of clays and clay minerals in sedimentary rocks; to conduct research related to the crystal lattice structure of clay minerals; with the ultimate objective of obtaining more precise analyses and a better understanding of clay minerals. These studies should also determine those parameters that may affect the migration of fluids within sedimentary rocks and also those that may be useful for the interpretation of paleoecology and paleoenvironments.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NIS	Act. 71-72	Inact. 71-72
680092	Geology of Southampton Island	Heywood, WW	CG	PS	Kee	45 M-P; 46 A-C, F; pts 46 D, E, G	X	
	Obj.: To conduct a geological study of Southampton Island, N.W.T., with particular attention to: (1) correlation of the Precambrian rocks with those in eastern Keewatin and Baffin Island; (2) the determination of the basic stratigraphy of the Paleozoic rocks; and (3) the economic potential of the region. Pub sca 1:500,000.							
680093*	Devonian biostratigraphy, western and northern Canada	Pedder, AEH	ISPG	WP	Frank Mack	106 C, D, E, F; 59 B; 49C	X	
					Yk, BC			
					Alta			
	Obj.: Establishment and refinement of Devonian faunal sequences to allow correlation of Devonian rocks of western and northern Canada. The project will provide time control that will aid greatly the search for Devonian stratigraphic traps and thus assist the exploration of the natural resources of the Devonian rocks of the region.							
680095	A Grenville Front Magnetic Anomaly	Charbonneau, BW	EG	RSM	Que	32 B W $\frac{1}{2}$ , C E $\frac{1}{2}$	X	
	Obj.: The correlation of magnetic and geological data to explain a large aeromagnetic anomaly near the Grenville Front east of Senneterre, Quebec. Pub sca 1" to 2 mi.							
680096	Studies in the Seal Lake Volcanic Province	Baragar, WRA	CG	PS	Nfld	13 K, L	X	
	Obj.: To determine the characteristic composition variation in composition, and stratigraphy of the Seal Lake, Croteau, and Letitia volcanic successions with a view to elucidating the character of volcanism and the history of the Seal Lake belt. To provide data that may be of aid in prospecting.							
680101*	Conodont biostratigraphy of Paleozoic rocks of the Arctic Islands	Uyeno, TT	ISPG	WP	Frank	49;58;59;68;69;78;79; 88;89;560	X	
	Obj.: To set up zonal standards for conodonts for the Arctic Islands to correlate conodont and palynomorph zones in measured sections; and to obtain fossil data of immediate use of those engaged in geological mapping of the Arctic Islands.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
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680102*	Rank studies of coal and carbonaceous matter	Hacquebard, PA	ISPG	CR	-	BC Alta NS	82 G, J, O; -	X
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Obj.: To obtain information on local and regional changes in metamorphism, with application towards structural geology, search for oil and gas, and possibly mineralization areas.

680103	Environmental and facies studies of coal	Hacquebard, PA	ISPG	CR	-	-	-	X
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Obj.: To carry out fundamental research on the origin of coal constituents and deposition of coal, by coal petrological, palynological and sedimentological investigations.

680104*	Coal mine geology and evaluation of coal reserves	Hacquebard, PA	ISPG	CR	NB NS	21 H/9	-	X
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Obj.: To assist the coal mining operations (in cooperation with the Provincial Departments of Mines).

680105*	Petrography of coal seams in the Rocky Mountain Foothills Belt north of the Crowsnest area	Hacquebard, PA	ISPG	CR	BC Alta	83 C, F, L; 93 P	-	X
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Obj.: To examine the petrography of these coals in order to determine their coking properties and prepare seam profiles for correlation purposes.

680106	Uranium possibilities in lignite	Cameron, AR	ISPG	CR	Yk, BC Alta, Sask	-	-	X
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Obj.: To check the uranium content of Tertiary lignite deposits for the purpose of delineating areas that are geologically favourable for the occurrence of U<sub>3</sub>O<sub>8</sub>.

680108	Petrography of Tertiary coals in southern B.C.	Donaldson, JR	ISPG	CR	BC	-	-	X
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Obj.: (1) To evaluate the coking characteristics in those areas where the coal has been upgraded by metamorphism. (2) Fundamental research on petrography of Tertiary coals.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact 71-7
680109*	Palynological zonation of the Carboniferous and Permian rocks of Atlantic Provinces, Gulf of St. Lawrence and northern Canada	Barss, MS	CG	EPG	NB, NS	12 B, C, D; 11 E, F, G, K, L, N, O; PEI 21 A, B, G, H, I, J, O, P; 22 A Nfld	X	
	Obj.: To determine the biostratigraphic zonation (palynology) of the Carboniferous and Permian rocks of Atlantic Provinces and Gulf of St. Lawrence to establish local, regional and world wide correlations and to reconstruct depositional and paleoclimatic environments, as an aid to the resource evaluation. Pub sca 1:1,000,000.							
680110	Petrography of the coal seams of Telkwa River area, B.C.	Hacquebard, PA	ISPG	CR	BC	93 L/11	X	
	Obj.: To examine the petrography of these coals in order to determine their coking properties and prepare seam profiles for correlation purposes.							
680113*	Biostratigraphy study of Paleozoic palynomorphs of the Arctic Islands	McGregor, DC	CG	EP	Frank	49; 58; 59; 68; 69; 78; 79; 88; 89; 560	X	
	Obj.: (1) To set up zonal standards for palynomorphs for the Arctic Islands. (2) To correlate palynomorph zones with conodont zones on measured sections. (3) To obtain fossil data of immediate use to those engaged in geological mapping of the Arctic Islands.							
680114	Development and supervision of mineral deposits data bank	Whitmore, DRE	EGG	MD	-	-	X	
	Obj.: To develop and establish a computer-based file or files of mineral deposit data compatible with the National System for storage and retrieval of geological data in Canada, to provide a continuing and up-to-date bank of data as a basis for studies by all officers of the Mineral Deposits Section.							
680115	Keweenaw volcanic succession, Sault Ste. Marie	(Annelis, RN)	CG	PS	Ont	Pts 41 K, N	X	
	Obj.: To study the petrography, composition, and stratigraphy of the Keweenaw lavas on the north shore of Lake Superior with a view to determining the character, history, and origin of the volcanism.							



Project Leader      Div.      Sect.      Prov.      NTS

Project Number	Title	Div.	Sect.	Prov.	NTS	Act.	Inact.
680117	Ordovician and Silurian Ostracoda, Lakes Nipissing and Timiskaming, Ontario  Obj.: Stratigraphic zonation of Ordovician and Silurian strata of Lake Nipissing and Lake Timiskaming based on their contained Ostracoda.	CG	EP	Ont	31 L, M	X	
680118	MacMillan River (NTS 105,115) map-area. 1:1 million Geological Atlas Program  Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological Atlas of Canada. More detailed objectives are as 1 April 1969 of File 116-6-4.	CG	CPM	Yk	105; 115	X	
680119	Operation Stewart  Obj.: To outline and interpret the regional stratigraphy and structure in a previously unmapped part of the Selwyn basin and to relate these features to the search for mineral deposits analogous to the Keno Hill and Vangorda deposits on the west and south. Pub sca 1" to 4 mi.	CG	CPM	Mack Yk	105 N, O; 106 B, C	X	
680120	Aeromagnetic interpretation - Central British Columbia  Obj.: To make geological interpretations of total force aeromagnetic maps of the western Cordillera by correlating aeromagnetic patterns, ground magnetic and susceptibility measurements with known geology and extrapolating these results to new areas. Particular emphasis will be given to the magnetic characteristics of igneous masses in the area. Pub sca 1" to 4 mi.	EG	MM	BC	93 A,B,F,G,J,K,N,O	X	
680121	Aeromagnetic interpretation - Appalachia  Obj.: Utilization of geologic, aeromagnetic, ground magnetic, and rock magnetic data to delineate the regional crustal structure of the Canadian Appalachian region. A primary aim will be the production of a map of the pre-Carboniferous surface in the southwestern portion of the Gulf of St. Lawrence.	EG	MM	NB,NS PEI NFLD	21; 12; 11; 2; 1	X	

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
680123*	AFMAG surveys	Collett, LS	EG	EM	Sask Man NS	Pts 74 N, 63 I, J, N, O, P, 11 E, F		X
	Obj.: To assess the value of airborne AFMAG surveys as aids to geological mapping of faults, shear zones and ultramafic dykes. To develop and improve present instrumentation for measuring natural EM fields.							
680124	Mineralogy and petrology - lunar material	Traill, RJ	EGG	M	-	-		X
	Obj.: To make a Canadian contribution to the exploration of outer space by examining and reporting on the mineralogy and petrology of lunar material as an invited participant in the NASA Apollo Manned Lunar Landing Programme.							
680129	Quaternary geology, Taseko Lakes	Heginbottom, JA	QRG	RSP	BC	92 O		X
	Obj.: To map, describe and explain the Quaternary deposits and landforms in order to provide areal information, concentrating on presentation of data for forestry and for ARDA classification purposes. Pub sca 1:250,000.							
680130*	Operation Strait of Belle Isle	Cumming, LM	CG	AELAM	Que Nfld	Pts 2 M, 3 D, 12 I, P, 13 A		X
	Obj.: To determine the structure and origin of Strait of Belle Isle; for possible future engineering works and to assess petroleum and mineral potential of the operation area. Pub sca 1:250,000 and 1:50,000.							
680133	Correlation and coal rank and hydrocarbon properties in Mesozoic rocks of western Canada	McCrossan, RG	ISPG	GofP	-	-		X
	Obj.: To utilize coals from the subsurface of western Canada as a guide to the low temperature metamorphism suffered by the sedimentary rocks. The ultimate object is to utilize this information in predicting the nature of hydrocarbon present in new areas from which coal samples have been obtained.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act.	Inact.
680134	Regional distribution of gaseous hydrocarbons in the Northwest Territories	McCrossan, RG	ISPG	GofP	Frank Mack	-	X	
	Obj.: To examine the presence of source rocks and near surface hydrocarbon accumulations in the Northwest Territories in order to evaluate the potential for hydrocarbon occurrence in commercial quantities.							
680135	Basin analysis of the Athabasca sedimentary basin	Fahrig, WF	CG	PS	Alta 74 Sask		X	
	Obj.: To determine the sedimentary parameters of the Athabasca sedimentary basin, including the logging and evaluation of drill hole cores, so as to develop criteria of possible use in the economic development of the basin.							
680138	Offshore studies, UBC contract	Gabrielse, H	CG	CPM	BC	-	X	
	Obj.: To determine the geology on the Continental Shelf in the nearshore waters off the coast of British Columbia.							
680139	Quantitative aeromagnetic interpretations	Bhattacharyya, BK	EG	TGDA		-	X	
	Obj.: (1) To delineate crustal magnetic sources using aeromagnetic data by preparing a series of residual and filtered aeromagnetic maps and maps at various scales containing information about basement depth, Currie point, geotherm. and polarization vectors; (2) to design digital filters for filtering out the effects from unwanted sources to enhance effects of sources being delineated; (3) to develop, for application, computer-oriented methods for analysis and interpretation of aeromagnetic data.							
680140*	Hi-resolution aeromagnetic data	Holroyd, MT	EG	TGDA		-	X	
	Obj.: (1) To produce hi-resolution aeromagnetic maps of specified areas; (2) to carry out quantitative interpretation of compiled total field and gradiometer data in geological terms. Pub sca 1:25,000 and larger.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
680141	Pattern recognition	Bhattacharyya, BK	EG	TGDA	-	-	X	
	Obj.: To conduct research into computer methods of automatically recognizing prescribed patterns within a mass of observed data distributed over a map or aerial photograph.							
680147	Preparation of book "Introduction to Mathematical Geology"	Agterberg, FP	EGG	Adm&SP	-	-	X	
	Obj.: To prepare a manuscript on mathematical geology for publication in book-form by the Elsevier Publishing Company.							
680148	The development of K/Ar dating techniques and their application to very young continental basalts, from British Columbia	Wanless, RK	CG	G	BC	93 C/11-14; 104 G/6,7,10 11,14	X	
	Obj.: To develop experimental techniques required to precisely determine the age of young terrestrial basalts and to establish the lower age limit for application of the methods.							
680149	Committee on the History of the GSC	Leech, GB	EGG	MD	-	-	X	
	Obj.: To advise the Director on the progress of the preparation of the history of the Geological Survey of Canada, and to comment when requested on the draft copies of the manuscript.							
690002	Sedimentology and stratigraphy of clastic formations in the Arctic Islands	Trettin, HP	ISPG	AI	Frank	-	X	
	Obj.: To elucidate the pattern and history of clastic sedimentation in the Arctic Islands with a view to aiding the discovery of petroleum deposits.							
690003	Subsurface Cambrian stratigraphy and "Granite wash" in northern and central Alberta	Pugh, DC	ISPG	PS	Alta	73 L,M; 74 D,E,L,M; 83 I-P; 84	X	
	Obj.: To carry out a thorough regional study of subsurface Cambrian strata and "Granite wash" within Alberta between Tps. 63 and 126, i.e., to identify, describe and determine the distribution of formations and their various facies; to interpret these data in terms of geological history (cont'd p 56)							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
690003	Obj.: Cont'd and environments; to determine their economic potential as possible hosts for oil and gas; and to publish the results as a report by structure, isopach and isolith maps.							
690004*	Triassic subsurface studies in northeastern British Columbia	Gibson, DW	ISPG	MS	BC	93 I, O, P; 94 A, B, G-K, N-P	X	
	Obj.: To establish the stratigraphic relationships of surface and subsurface Triassic successions in northeastern British Columbia; to provide data on lateral variations and for an evaluation of the economic potential.							
690005*	Structural geology of northern Yukon Territory and northwestern District of Mackenzie	Norris, DK	ISPG	SG	Mack Yk	117 A-D; 107 B	X	
	Obj.: Critical evaluation of the structural geometry of Richardson, Barn and British Mountains, intervening plateaux, and adjacent coastal plain for documentation of the nature, origin and mechanics of the deformation and its bearings on the hydrocarbon and mineral potential of the region. Pub sca as appropriate.							
690006*	Lower and Middle Paleozoic biostratigraphy Gaspé, Quebec, Maritime region and Newfoundland	Dean, WT	CG	EP	Que NS Nfld	-	X	
	Obj.: To obtain data on the Lower and Middle Paleozoic rocks of Quebec, New Brunswick, Nova Scotia and Newfoundland from which may be provided: (1) description and classification of the significant macrofauna of each stratigraphic unit studied; (2) local and regional correlation consistent with the above data.							
690008	Compilation of California Lake map-area, N.B.	Skinner, R	CG	AELAM	NB	21 0/8	X	
	Obj.: To compile the geology of California Lake map-area from field work of C.H. Smith with recent maps and data of N.B. Mineral Resources Branch and mining companies to produce a terminal map with marginal notes. Pub sca 1:50,000.							
690009*	Smithers map-area	Tipper, HW	CG	CPM	BC	93 L	X	
	Obj.: To interpret the structure, stratigraphy, and geological history of the Smithers map-area and to provide a regional structural, stratigraphic, and plutonic framework to which the mineral deposits can be related.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act.	Inact.
690010	Berens River-Deer Lake map-area	Ermanovics, IF	CG	PS	Man	63 A E½; 53 D W½	X	
	Obj.: To revise and reinterpret the geology and economic potential of a Precambrian terrain known only through gross reconnaissance carried out in 1936. Pub sca 1" to 4 mi.				Ont			
690013	Catameran Fault	Anderson, FD	CG	AELAM	NB	Pts 21 I, J, O, P	X	
	Obj.: To determine the displacement, deformational style and evolution of the faults, and their relationship to structural development of Bathurst mining camp rocks.							
690015	Structural evolution of rocks of the Bathurst-Newcastle district; N.B.	Helmstaedt, H.	CG	AELAM	NB	Pts 21 O, P	X	
	Obj.: To determine the structural evolution of Paleozoic rocks of Bathurst-Newcastle district, the geometry of the rocks and sequence of structural events, and relate these features to sulphide orebodies. To improve knowledge of the geological history of the district and explain the broad structural control of orebodies thereby aiding exploration. Pub sca 1:25,000.							
690017	Rocky Mountain Foothills map and cross-section compilation	Ollershaw, NC	ISPG	SG	Alta	82 G-J, O; 83 B, C, F	X	
	Obj.: Are to provide a hitherto unavailable, comprehensive geological map and structure cross-section coverage, on a scale of 1:250,000 of the Rocky Mountain Foothills of south and central Alberta, based on Geological Survey and company geologic and seismic data, through the liaison of the A.S.P.G. These maps and sections will be an invaluable direct, basic guide to mineral exploration and evaluation, in this active oil and gas development area, and indirectly through their contribution to the knowledge of Cordilleran tectonics.							
690018*	Cretaceous and Tertiary conglomerates and sandstones of the eastern Cordillera	Ollershaw, NC	ISPG	SG	BC	82; 83 <u>Alta</u>	X	
	Obj.: The first objective is to answer some of the questions relating to the tectonic history of the eastern Cordillera, such as: the distribution, and tectonic implications of the Cretaceous and Tertiary conglomerate facies, the sequence and distribution of uplifts and the nature of the sedimentation pattern. Secondly, through these data to provide the oil and gas industry with more facts on which to base the interpretation of the potential migration and present structural distribution of hydrocarbons.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
690020*	Mesozoic and Tertiary stratigraphy and sedimentation, Beaufort-Mackenzie area	Yorath, CJ	ISPG	MS	Mack Yk	106 N½; 107; 116 N½; 117	X	
	Obj.: 1. To describe the geological history of the Beaufort-Mackenzie Basin. 2. To provide geological data in support of conservation regulations. 3. To contribute to the realization of the economic potential of the area.							
690022	Petrographic study of particle types in coking coal charges	Cameron, AR	ISPG	CR	-	-	X	
	Obj.: To determine the effect of petrographic variation as expressed by microlithotypes or particle types on the coking behaviour of coals as charged to the coke oven, as an aid in the evaluation of the coking coals of western Canada.							
690023	Upper Paleozoic rocks of Stikine Arch	Monger, JWH	CG	CPM	BC	104 A,B,G,F,K,L	X	
	Obj.: 1. To correlate Late Paleozoic rocks in Stikine Arch with established sections in Atlin Horst. 2. To determine the existence of facies belts in Stikine Arch (comparable to those in Atlin Horst). 3. From this to establish the paleotectonic setting of the northern Cordillera, from Cassiar to Coast Mountains, in Late Paleozoic time.							
690024*	A stratigraphic, sedimentological and paleontological study of the Epworth Group, north-central District of Mackenzie	Hoffman, PF	CG	PS	Mack	86 J,O,I,P	X	
	Obj.: To define the rock stratigraphic framework of the fold belt. To establish regional correlation with the Great Slave, Goulburn and Snare belts. To determine the paleogeographic history of the sedimentary basin and the surrounding region, the probability and location of stratiform and peneconcordant mineral deposits; and the time stratigraphic zonation of the Precambrian.							
690025	Sedimentary geology of the Coppermine area	(Donaldson, JA Prof)	CG	PS	Mack	86 N,O	X	
	Obj.: To define in NTS 86 O & N the units within the Coppermine sedimentary rocks, to determine their provenance, dispersal patterns, depositional environments economic potential and correlation with similar rocks elsewhere in the Shield. Pub sca 1" to 4 mi.							

Title NTS Prov. Div. Sect. Project Leader

- 690026 Petrographic correlation of coal seams at Carmacks, and evaluation of their coking property, Y.T.  
 Obj.: (1) Correlation of coal seams in order to determine extent of mineable coals in Carmacks area.  
 (2) To predict coking properties from petrographic composition and rank determinations.  
 690028\* Operations Coppermine and Bathurst Inlet  
 Fraser, JA CG PS Kee Pts 66,67,76,77,86,87,96,97 Mack X  
 690029 Surface geochemical prospecting for petroleum, central Alberta  
 McCrossan, RG ISPG GofP Alta 82 O/15, 16 W½ X  
 Obj.: To provide reconnaissance geological information and assess the economic mineral potential of 120,000 square miles of mainly unmapped terrane in the northwest Canadian Shield.  
 Pub sca 1" to 8 mi.  
 690032\* Tectonic Framework of Sustut and Sifton Basins  
 Eisbacher, G CG Sp BC 94 D, E, F; 104 H X  
 Obj.: To determine the late stage tectonic developments of the northern part of the eastern Cordilleran fold belt and its bearing on the environment of deposition of late Cretaceous and early Tertiary basins that are prospective regions of exploration for uranium and coal.  
 690034 Petrochemical study of selected Grenville granulites  
 Reinhardt, EW GC PS Ont 31 Que X  
 Obj.: To define equilibrium conditions of granulite facies metamorphism for selected parts of the Grenville Structural Province including accurate estimates and comparisons of temperature, depth, and partial pressure of water. Through the course of this project, to develop and test a method of evaluating metamorphic grade in granulites of the Canadian Shield.  
 690035 Overhauser magnetometer development  
 Washkurak, S EG MM - X  
 Obj.: Develop a high sensitivity Overhauser magnetometer system.



Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
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690036*	Regional geochemical census of plutonic rocks in the eastern Yukon	Garrett, RG	EGG	G	Mack Yk	95 D, E, L; 105 A, H, I	X	
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Obj.: (1) To ascertain whether differences in geochemistry of these plutons can be used to distinguish those that have related deposits of W, Mo, Sn, Au, and Cu and those that do not. (2) To contribute chemical data on these rocks which may be used in interpreting their geological occurrence and correlation.

690038*	Probability models for estimating mineral potential	Agterberg, FP	EGG	Adm&SP	-	-	X	
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Obj.: To develop a statistical method employing geological information to assess the probability of occurrence of specific types of mineral deposits in geographically-delineated areas; and thus to focus prospecting in areas of highest potential. To ascertain which geological variables are most closely correlated statistically with occurrence of mineral deposits; and thus to guide mapping and data gathering in various Earth Sciences.

690039	Transport and deposition of ore indicator elements in streams and sediments	(Nigrini, A)	EGG	G	Mack NB	86 N/8,9; 21 O/9 W½, 7 E½	X	
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Obj.: By studying the mechanism of the transport and deposition of ore indicator elements in streams, stream sediments and organic material to provide concepts for the development of new geochemical exploration methods and the means for interpreting geochemical surveys.

690040*	Seismic - Beaufort-Mackenzie	Hobson, GD	EG	SM	Mack	Pts 107, 117	X	
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Obj.: To acquire seismic data in the Mackenzie Delta-Beaufort Sea area probably through participation surveys and to provide the 3rd dimension required by I.S.P.G. geologists to interpret sedimentation and structural history of the area.

690041	Earth science symposium on off-shore Eastern Canada	Hood, PJ	EG	MM	-	-	X	
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Obj.: A symposium to summarize our present knowledge of the underlying geology of offshore Eastern Canada, including the Labrador Sea, and the adjacent Continental land mass. The format would be essentially the same as for the 1968 Hudson Bay Symposium and the GSC would publish a Proceedings volume.

Project Number      Title      Project Leader      Div.      Sect.      Prov.      NTS      Act. Inact.      71-72      71-72

690042      Paleomagnetic studies of radio-metrically dated igneous rocks in the Cordillera      Symons, DTA      EG      RM      Yk BC      -      X

Obj.: To establish a reliable paleomagnetic pole path with its reversal pattern and intensity variation from the Paleozoic to present for the Cordillera and thereby: (a) to provide a reference for paleomagnetic dating of units of unknown age; (b) to establish correlations between units; and (c) to check for gross tectonic movements of the Cordillera relative to the rest of North America.

690043\*      Quaternary geology inventory, southern Labrador      Fulton, RJ      QRG      RSP      Nfld 3; 13; Pts 23 A,B,G,H-J,O      X

Obj.: To map and explain Quaternary deposits and landforms in order to provide: (1) areal geologic and geomorphic data; and (2) knowledge of stratigraphy, age, and history of "Quaternary features". The project will involve development of a system of mapping (scale 1:250,000), designed to permit accelerated coverage and to meet particularly the need of forestry (ARDA) land capability surveys for geologic-geomorphic information. Pub sca 1:250,000.

690047\*      Quaternary geology, Beaufort-Mackenzie      Rampton, V      QRG      RSP      Mack 97 F; 107 B,C,D,E; Yk 117 A,C,D      X

Obj.: To map and explain Quaternary deposits and landforms in order to: (1) establish their sequence and age and outline the history of preglacial, interglacial, glacial, and post-glacial events; and (2) provide areal and stratigraphic geological information including data applicable to permafrost and engineering studies and petroleum development. Pub sca 1:125,000 or 1:250,000.

690048\*      Soils in glaciated and unglaciated terrain      Rutter, NW      QRG      RSP      Yk Pt 115 P      X

Obj.: To characterize soils (pedology) in the central Yukon, with particular reference to the contrast between soils in glaciated and unglaciated regions; develop a technique for differentiating soils developed in situ from those developed on transported material.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
690049*	Quaternary geology, Pine Pass-Jasper	Rutter, NW	QRG	RSP	BC Alta	Pts 93 H, I, J, P, O, 83 E, L	X	
	Obj.: To conduct a reconnaissance of Quaternary and geomorphic features of the Rocky Mountains and adjacent terrain and to map and explain the Quaternary deposits and landforms in major valleys and in other appropriate parts of your project area, in order to determine the chronologic sequence of Quaternary events, to study the geomorphic evolution of the terrain, and to gather areal information including data applicable for land capability inventory and erosion prediction. Pub sca 1" to 2 mi.							
690050*	Microdeposits as a probabilistic indicator of ore potential	Cameron, EM	EGG	G	Mack Ont, Que	85 I, J, O, P; 42 A; 32 C, D	X	
	Obj.: To determine the frequency distribution of metallic elements in barren and host rocks of known ore potential for the purpose of: (a) developing geochemical methods for forecasting the ore potential of a belt or rock unit; (b) developing methods that may be applied to exploration for buried ore deposits by drilling on a probabilistic basis; (c) developing methods of obtaining, interpreting and presenting geochemical and geological data such that they may be used for making statistical investment decisions; (d) in 1971-72 specific emphasis in this project should be Ontario-Quebec Gold Mining Community Region.							
690054*	Erosion in a permafrost environment	Heginbottom, JA	QRG	EGG	Mack	Pt 107 B, C	X	
	Obj.: To document the nature, extent, and rate of erosion in permafrost areas disturbed by activities of man, and to determine the importance of surface material, geomorphology micro-climate, snow cover, vegetation, depth of active layer, ground ice distribution and other factors on controlling erosion. Pub sca to be decided.							
690055	Quaternary geology, Arnprior	Minning, Miss G	QRG	Adm	Ont Que	31 F/8	X	
	Obj.: To map, describe and explain the Quaternary deposits and landforms in order to provide: (1) areal information; (2) knowledge of the Quaternary stratigraphy and chronology of the area; (3) background information applicable to soils mapping, engineering, and ground-water; and (4) data applicable to environmental geology studies as requested by the Ontario Department of Mines. Pub sca 1:50,000.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act.	Inact.
690060	Geochronology of the Canadian Shield (Stockwell, CH)		CG	SP	-	-	71-72	71-72
	Obj.: To assess the geological significance of past geochronological studies of the Canadian Shield and to prepare recommendations on future requirements as well as methods of achieving them.							
690063	Volcanic stratigraphy of Telegraph Creek map-area	Souther, JG	CG	CPM	BC	104 G		X
	Obj.: To provide information on the age, structure, sequence, relationships, thickness and origin of the bedrock formations with emphasis on the chemical and mineralogical evolution of the volcanic rocks and their role in the concentration of metalliferous deposits. Pub sca 1" to 4 mi.							
690064*	Quaternary palynology	Mott, RJ	QRG	PG	Ont, Que	-		X
	Obj.: In connection with research projects headed by other divisional officers, to provide biostratigraphic and paleoecologic information through investigations comprising selection of sampling sites in bogs or lakes, collection of sediment cores, identification of Quaternary pollen and other fossil materials extracted from these and other samples, determination of fossil assemblages and profiles, and interpretation of age, environment of disposition, past climates, etc.							
690065*	Quaternary geology St. Anthony-Blanc Sablon, Newfoundland	Grant, DR	QRG	RSP	Nfld	Pts 2 M, 12 H I P		X
	Obj.: To map, describe, and explain the Quaternary deposits and landforms in order to provide: (1) areal geological information including data applicable to land inventory surveys, engineering development, and geochemical mineral exploration surveys; and (2) knowledge of stratigraphy and age of Quaternary features and of history of Quaternary events and environments including glaciation, deglaciation, local sea-level change. Pub sca 1:125,000.							
690066*	Federal-Provincial Aeromagnetic Surveys - British Columbia (Geotrex)	Larochelle, A.	EG	CS	BC	82 E, F, G W $\frac{1}{2}$ ; Pts 82 L, M; 92 H; Pts 92 I, J E $\frac{1}{2}$		X
	Obj.: 1. To provide the Department of Mines and Petroleum Resources of British Columbia and the Geological Survey of Canada with adequate aeromagnetic maps over areas determined by both agencies. 2. To provide these two agencies and, more generally, the Canadian public with an aid for mineral exploration and for geological research. Pub sca 1:63,600 and 1:253,440.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
690067	Federal-Provincial Aeromagnetic Surveys - Yukon, N.W.T.	Larochele, A	EG	CS	Mack Yk	76 L,N; 86 N $\frac{1}{2}$ A,B,C; 86 E-P; 106 C,D, N $\frac{1}{2}$ E,F; 116 N $\frac{1}{2}$ A,B,F,G,H	X	
	Obj.: To provide aeromagnetic maps to aid in mineral exploration and geological mapping. Pub sca 1:63,360 and 1:253,440.							
690068*	Federal-Provincial Aeromagnetic Surveys - Keewatin and Mackenzie, N.W.T.	Larochele, A	EG	CS	Kee Mack	N $\frac{1}{2}$ 55 M,N,O; 56 A-D,E-P pt 65 F,G; 65 J-P; 66 A-D, E-P; pt 75 P	X	
	Obj.: 1. To provide the Geological Survey of Canada with adequate aeromagnetic maps as an aid in orienting the geological mapping program. 2. To provide the mining and oil industries with an aid in exploration and geological research. Pub sca 1:63,360 and 1:253,440.							
690070	Federal-Provincial Aeromagnetic Surveys - Central Baffin Island	Larochele, A	EG	CS	Frank	Pts 16 K,M; 16 L; 26 I,J,K, L,M,N,O,P; Pt 27 A; 27 B; Pts 36 P, 37 A	X	
	Obj.: 1. To provide the Geological Survey of Canada with adequate aeromagnetic maps of Central Baffin Island as an aid for geological mapping and geological research. 2. To provide the mineral and oil industries with an aid to mineral and oil exploration. Pub sca 1:63,360 and 1:253,440.							
690071*	Federal-Provincial Aeromagnetic Surveys - Northern Baffin Island	Larochele, A	EG	CS	Frank	37 D,E; Pts 27 C,D,37 C,E, G,H,38 B	X	
	Obj.: To provide adequate aeromagnetic maps over a predetermined portion of Northern Baffin Island, as an aid for geological mapping, mineral exploration and geological research. Pub sca 1:63,360 and 1:253,440.							
690072*	Federal-Provincial Aeromagnetic Surveys - Labrador and S. Baffin Island	Larochele, A	EG	CS	Frank NFLd	13 A,B,C-G,H-J,K-O; 14 B-F, L,M; 16 E; 23 A,B,G-J,Pt O, P; 24 A,H,I,P; 25 A,I-P; 26 A-H; 35 P; 36 A-I	X	
	Obj.: 1. To provide the Geological Survey with adequate aeromagnetic maps over areas selected on the basis of the needs of Crustal Geology Division in relation with the mapping program. 2. To provide mining and oil industries with basic information which could help in orienting their mineral exploration program. Pub sca 1:63,360 and 1:253,440.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act.	Inact.
690073*	Federal-Provincial Aeromagnetic Surveys - Quebec	Larochelle, A	EG	CS	Que	23 <u>C, E, F, K, L, N</u> , Pt <u>M, O, P</u> , 24 <u>A, W<sub>1</sub>, B, C</u> ; 32 <u>M-O</u> ; 33 <u>B-G, H, I, J, K, L</u>		X
	Obj.: 1. To provide the Department of Natural Resources of Quebec and the Geological Survey of Canada with adequate aeromagnetic maps over areas previously determined by both of these agencies. 2. To provide the above mentioned government agencies, and, more generally, the Canadian public with an aid for mineral exploration and for geological research. Pub sca 1:63,360, and 1:253,440.							
690075*	Tertiary Foraminiferal succession of Western Cordillera and Pacific Margin	Cameron, BEB	CG	CPM	BC	Pts <u>92, 93, 102, 103</u>		X
	Obj.: To determine the foraminiferal succession within the Tertiary sedimentary rocks of the Western Cordillera and Pacific Margin in order to establish a biostratigraphic standard of reference.							
690076	Iron-formation facies in Superior type iron formations in the Knob Lake area	(Zajac, IS)	EGG	MD	Que	23 J		X
	Obj.: To obtain a better understanding of the sedimentary environment and origin of these ferruginous sediments and to acquire fundamental geological information necessary for evaluation of the iron formation as potential taconite ore.							
690078	Petrographic norms-clastic rocks of the western Canadian sedimentary basin	(Rapson-McGugan, JE)	ISPG	PS	Mack, Yk BC, Alta Sask, Man	-		X
	Obj.: Determine petrographic norms of representative clastic rocks from western Canada and investigate possible significance of the components and cement with respect to evolution of the miogeosyncline.							
690079	Condensate deposits of Late Paleozoic to Mesozoic age	(Rapson-McGugan, JE)	ISPG	PS	BC Alta	-		X
	Obj.: Study the nature of condensate deposits and the erosion surfaces involved.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
690083	Investigation of Lower Jurassic genus <u>Weyla</u> as a guide fossil in British Columbia	Tipper, HW	CG	CPM	BC	-	X	
	Obj.: To establish the value and feasibility of using the genus <u>Weyla</u> as a guide fossil in the Lower Jurassic succession of British Columbia to describe and to determine the stratigraphic range of the several species believed to be present.							
690086*	Scientific adviser and editor, Geological Atlas	Douglas, RJW	ADM	SP	-	-	X	
	Obj.: To make recommendations to a steering committee concerning technical and scientific matters required to ensure the publication of a suitable 1:1,000,000 geological atlas of Canada by 1976, including recommendations on coordination, scheduling, guidelines, legend and format; and to ensure, through scientific editing of all manuscripts, that approved standards are met.							
690088	1:15 million Geological Map of Canada	Douglas, RJW	ADM	SP	-	-	X	
	Obj.: To prepare a 1:15 million geological Map of Canada for publication in the Atlas of Canada by the "Geographic Branch".							
690089	Analysis of international reference samples	Abbey, S	EGG	AC	-	-	X	
	Obj.: To participate in international collaborative analysis of reference samples, prepared by geological institutions throughout the world, thereby contributing to the establishment of such samples as calibration standards and as references for checking analytical methods.							
690090	Development of methods for the analysis of geological materials	Abbey, S	EGG	AC	-	-	X	
	Obj.: To develop, modify and improve methods for the analysis of geological materials, using chemical and instrumental methods.							
690091*	Mercury in soil gas applied to exploration for sulphide ores	Jonasson, IR	EGG	G	<u>Ont</u>	-	X	
	Obj.: To investigate the soil and gas chemistry of mercury to help more fully exploit mercury as a pathfinder element to base metal ore deposits.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act.	Inact.
690095	Properties and provenance of till	Shilts, WW	QRG	EGG	-	-	71-72	71-72
	Obj.: To study the physical and chemical properties of till in order to identify and characterize the parameters that are significant in stratigraphy, correlation and history, engineering and mineral tracing.							X
700004	Fraser River (NTS 92) map-area. 1:1 million Geological Atlas Program	Roddick, JA	CG	CPM	BC	92		X
	Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as Apr. 1, 1969 of File 116-6-4.							
700005	Iskut River (NTS 104&114) map-area. 1:1 million Geological Atlas Program	Souther, JG	CG	CPM	BC	104; 114		X
	Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as Apr. 1, 1969 of File 116-6-4.							
700006	Skeena River (NTS. 103) map-area. 1:1 million Geological Atlas Program	Hutchison, WW	CG	CPM	BC	103		X
	Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as Apr. 1, 1969 of File 116-6-4.							
700007	Parsnip (NTS. 93) map-area. 1:1 million Geological Atlas Program	Tipper, HW	CG	CPM	BC	93		X
	Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as Apr. 1, 1969 of File 116-6-4.							
700008	St. Mary's River (NTS. 11) map-area. 1:1 million Geological Atlas Program	Poole, WH	CG	AELAM	NS	11		X
	Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as Apr. 1, 1969 of File 116-6-4.				PEI Nfld			



Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
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700009	S. Ontario (NTS 30,31,40,41) map-area. 1:1 million Geological Atlas Program	Sanford, BV	CG	EPG	Ont 30; 31; 40; 41 Que		X	
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Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as Apr. 1, 1969 of File 116-6-4.

700010	Gatineau River (NTS. 31) map-area. 1:1 million Geological Atlas Program	Baer, A	CG	PS	Ont 31 Que		X	
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Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as Apr. 1, 1969 of File 116-6-4.

700011	St. John River (NTS 21) map-area. 1:1 million Geological Atlas Program	Poole, WH	CG	AELAM	Que 21 NB,NS		X	
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Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as Apr. 1, 1969 of File 116-6-4.

700012	Athabasca River (NTS 83) map-area. 1:1 million Geological Atlas Program	Ollershaw, NC	ISPG	SC	BC 83 Alta		X	
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Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as Apr. 1, 1969 of File 116-6-4.

700014*	Mineral indicator tracing, southern Keewatin	Shilts, WW	QRG	EGG	Kee	Mainly 55 E,F,K,L	X	
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Obj.: To determine the dispersion pattern of rock, mineral and chemical components of eskers and till relative to their source in the bedrock, with particular reference to the application of this knowledge in delineating geological bodies masked by the drift and in the search for mineral deposits.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
700015*	Yellowknife and Hearne Lake map-area, District of Mackenzie	Henderson, JB	CG	PS	Mack	85 I, J	X	
	Obj.: To revise and interpret the geology and economic potential of the Precambrian terrain of the project area known only through earlier gross reconnaissance. Pub sca 1" to 4 mi.							
700016	Plaster Rock (east half) map-area, N.B.	Skinner, R	CG	AELAM	NB	21 J/14	X	
	Obj.: To determine the stratigraphy, structure, and igneous, metamorphic, and tectonic history of a portion of the Central Mineral Belt of New Brunswick, as an aid to the economic development of the area. Pub sca 1:50,000.							
700017	Paleomagnetism - Appalachian Province	Fahrig, WF	CG	PMag	Que NB	31; 22; 21; 12; 11; 2; 1	X	
	Obj.: (1) to extend knowledge of pole positions into the Paleozoic; (2) to attempt identifying major periods of intrusion in Appalachian province on the basis of paleomagnetism; and (3) contribute to the structural history of the Appalachian province and/or of specific areas within them - e.g. rotation of N.F. problem.							
700018	Paleomagnetism & rock magnetism: Instrumentation and technological development	Foster, J.	CG	PMag	-	-	X	
	Obj.: To contribute to the development of paleomagnetism as a geophysical method: (a) by designing, building, testing and calibrating instrumentation required for the measurement of magnetic properties of rocks and minerals; (b) by developing new techniques or systems for the routine measurement of magnetic parameters of standard samples and for the processing of data resulting from such measurements; (c) by improving on the design of existing instrumentation or techniques in order to improve the efficiency of the laboratory and/or the quality of the data emanating from the laboratory.							
700020	Federal-Provincial Aeromagnetic Surveys - Newfoundland	Laroche, A.	EG	CS	Nfld	Pts 1 K, L, M, N; 11 O, P	X	
	Obj.: To provide the Geological Survey of Canada with adequate aeromagnetic maps of Newfoundland as an aid for mineral exploration, geological mapping and geological research. Pub sca 1:63,360 and 1: 1:253,440.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act.	Inact.
700023	Federal-Provincial Aeromagnetic Surveys - British Columbia (Lockwood)	Larochele, A.	EG	CS	BC	Pts 82 L,M,92 I,P;93 A, E,F,K,L; 93 M;Pts of 93 N; 94 D;Pt 103 P		71-72 71-72
	Obj.: 1. To provide the Department of Mines and Petroleum Resources of British Columbia and the Geological Survey of Canada with adequate aeromagnetic maps over areas determined by both agencies. 2. To provide these two agencies and, more generally, the Canadian public with an aid for mineral exploration and for geological research. Pub sca 1:63,360 and 1:253,440.						X	
700025*	Operation Snag-Yukon	Tempelman-Kluit,	D CG	CPM	Yk	115 O WL/3,115 N E <sub>2</sub> , 115 H, 115 K E <sub>2</sub> , 115 J		
	Obj.: To provide geological information on the age, sequence, structure, relationships, thickness and origin of the bedrock formations and on the origin, mode of occurrence and economic potential of the associated mineral deposits. Pub sca 1" to 4 mi.						X	
700026	Cordilleran volcanic project	Souther, JG	CG	CPM	Yk,BC	115; 105; 104; 103; 93; 92		
	Obj.: To interpret data on volcanism on the Cordillera from other Survey projects and outside sources in order to advise and assist departmental geologists, other scientists and the public and industry with problems related to volcanology.						X	
700027*	Comparative studies of ancient and modern sedimentary environments	Stott, DF	ISPG	MS	-	-		
	Obj.: To compare various modern sediments with similar deposits encountered in ancient rocks as an aid in the determination of environments of deposition of the latter; and by such identification to assess the economic potential and to differentiate reservoir rock areas from non-reservoir rock areas.						X	
700029	Operation Peel Sound: stratigraphy and structure of Prince of Wales Island and adjacent small islands	Christie, RL	ISPG	AI	Frank	67 G,H; 68 A-E;		
	Obj.: (a) To improve the understanding of the stratigraphic framework of the Paleozoic rocks of Prince of Wales Island. (b) To determine the tectonic history of the Boothia Uplift Pub sca 1" to 4 mi.						X	

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
700030	Lancaster Sound (NTS 48,58) map-area. 1:1 million Geological Atlas Program	Christie, RL	ISPG	AI	Frank 48; 58		X	
	Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as April 1, 1969 of File 116-6-4.							
700031	Victoria Strait (NTS 67,77) map-area. 1:1 million Geological Atlas Program	Christie, RL	ISPG	AI	Frank 67; 77		X	
	Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as April 1, 1969 of File 116-6-4.							
700032	Thomsen River (NTS 88,98) map-area. 1:1 million Geological Atlas Program	Christie, RL	ISPG	AI	Frank 88; 98		X	
	Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as April 1, 1969 of File 116-6-4.							
700033*	Quaternary geology of the southern Canadian Cordillera - IGC field excursion A 02	Fulton, RJ	QRG	RSP	BC	Pts 82, 92	X	
	Obj.: To prepare and conduct an IGC field excursion, including selection of the routes, preparation of a guidebook and organization of the logistics.							
700034	Devonian biostratigraphy of northern Yukon Territory and adjacent District of Mackenzie	Norris, AW	ISPG	PS	Mack 106 W $\frac{1}{2}$ ; 116 E $\frac{1}{2}$ ; 117 S $\frac{1}{2}$ Yk		X	
	Obj.: To include (a) delineation of facies distribution of Devonian rocks in area; (b) identifying and determining ranges of fossils for refining correlations with other areas; (c) determining distribution of faunal provinces and paleogeography of Devonian seas; and (d) obtaining more information on the Upper Silurian and Lower Devonian, an interval particularly well represented in the southern part of the area.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
700035*	Erosion studies in an area of intensive petroleum exploration and development	St-Onge, DA	QRG	EGG	Alta	Pts 83 J, O	X	
	Obj.: To assess the terrain disturbance resulting from intensive petroleum exploration and development and associated deforestation; and to determine the nature, rate and controls of erosion and other processes involved in this terrain disturbance.							
700036*	International Geographical Union, 1972 Field Symposium, Commission of Geomorphological Survey and Mapping	St-Onge, DA	QRG	RSP	Alta Sask	Pts 72 E, F	X	
	Obj.: To prepare and conduct an International Geographical Union field symposium, including selection of the route, preparation of a guidebook and organization of logistics.							
700037*	Geology of the southern Alberta Foothills, Highwood River to Athabasca River	Ollerenshaw, NC	ISPG	SG	Alta	82 O, J; 83 B, C, F	X	
	Obj.: Are to provide a new and improved basis for mineral evaluation and oil and gas development of the region, through the publication of new and revised geological maps and cross sections, on a scale of 1:50,000; integrated analyses of surface and sub-surface geology; the description, correlation and facies relationships of all major rock units; and the description, genetic analysis and relationships of the major, structural elements. A secondary objective is to provide data for 1:250,000 scale map compilation (Project 690017) and regional structural syntheses.							
700038*	IGC field trip AXAC 63 "Appalachian Poole, WH tectonic elements"		CG	AELAM	Que, NB NS, Nfld	-	X	
	Obj.: To demonstrate the various tectonic elements which prevailed during the evolution of Appalachian geosyncline in Canada, to IGC excursion participants in 1972.							
700040	Eureka Sound-Robeson Channel (NTS 340,560,120) map-area. 1:1 million Geological Atlas Program	Trettin, HP	ISPG	AI	Frank	340; 560; 120	X	
	Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as Apr. 1, 1969 of File 116-6-4.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
700041	Mineralogy of porphyry deposits of Cu and Mo in Canada  Obj.: To determine the relationship of ore minerals to alteration zones and variations in alteration zones, as an aid to exploration and development; (2) to contribute mineralogically-based concepts to interpretation of genesis and provenance of these deposits, useful in identifying favourable geological environments for these deposits.	Jambor, JL	EGG	M	-	-	X	
700042	Jones Sound (NTS 29,39,49) map-area. 1:1 million Geological Atlas Program  Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as Apr. 1, 1969 of File 116-6-4.	Kerr, JW	ISPG	AI	Frank 29; 39; 49		X	
700043	Viscount Melville Sound (NTS 68,78) map-area. 1: 1 million Geological Atlas Program  Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as Apr. 1, 1969 of File 116-6-4.	Kerr, JW	ISPG	AI	Frank 68; 78		X	
700044	I.G.C. Field trip A03-C03  Obj.: To determine and describe sites of geological interest to be visited on Field trip A03-C03 in the Hope area.	Monger, JWH	CG	CPM	BC 92 H W $\frac{1}{2}$		X	
700045	Belcher Channel and Ballantyne Strait (NTS 59,69,79,89,99) map-area. 1:1 million Geological Atlas Program  Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1: 1 million geological atlas of Canada. More detailed objectives are as Apr. 1, 1969 of File 116-6-4.	Nassichuk, WW	ISPG	AI	Frank 59; 69; 79; 89; 99		X	

Project Number	Title	Project Leader	Div.	Sect.	Pröv.	NTS	Act.	Inact.
							71-72	71-72
700046*	Development of regional geochemical exploration methods for permafrost areas	Allan, RJ	EGG	G	Frank 58G; 68 H; 86 B, E-G, L, Mack K, J, O; 76 M; 35 G, H Que			X
	Obj.: (1) To develop, test, and demonstrate the feasibility of geochemical methods suitable for reconnaissance prospecting in permafrost regions, and thus to provide industry with geochemical methods for outlining areas having an anomalously high content of economic elements in those regions with permafrost. (2) To investigate the fundamental problems involved in application of geochemical materials in regions and permafrost.							
700047*	Operation Finlay	Gabrielse, H	CG	CPM	BC	94 C E4, F W4, E		X
	Obj.: To establish the stratigraphy, structure and geologic history; to establish the geological framework to which the mineral deposits may be related as an aid to regional development.							
700048*	Petrology and structure of Daly Bay Complex and environs	Gordon, TM	CG	Pet	Ke	56 A S4; pts 55 P, 46 D		X
	Obj.: To determine the petrology and structure of the anorthosite-gabbro-gneiss-granulite complex in the Daly Bay Region in order to provide an understanding of the origin, age, and stratigraphic relations within the complex as well as to the surrounding gneisses. Pub sca 1" to 2 mi.							
700049*	Environmental geology prototype study - Ottawa-Hull region	Scott, JS	QRG	EGG	Ont Que	Pts 31 F, G		X
	Obj.: To develop methods of compiling, evaluating, and presenting geological information concerning urban growth areas to meet the needs of engineering and planning, using the Ottawa area as a prototype for this study. To prepare a comprehensive source of information (maps, report, and/or data file), designed to serve as background for planning and development in the Ottawa area, illustrating: (1) distribution, thickness and physical properties of surficial and bedrock materials; and (2) magnitude and effect of active geological processes. Pub sca to be decided.							
700050	Structural prototypes, scale models and stress analysis	Norris, DK	ISPG	SG	BC	82 G, H, J, O and U.S.A Alta		X
	Obj.: Through a better understanding of the geometry and mechanics of faults and folds to assist the coal industry in its search for, and safe exploitation of mineable reserves, and the oil industry in its delineation of structural traps.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act.	Inact.
700051	Blairmore, Carbondale River, Livingstone River and Beehive Mountain map-areas	Norris, DK	ISPG	SG	BC Alta	82 G/9 W $\frac{1}{2}$ , 8 W $\frac{1}{2}$ ; J/1 W $\frac{1}{2}$ , 2 E $\frac{1}{2}$		X
	Obj.: Assess the coal and hydrocarbon potential of the area by means of the structural geometry and stratigraphy of the bedrock formations.							
700052*	Volcanic study in the Ennadai Belt, Keewatin	Ridler, RH	CG	PS	Keew	Pts 55 W $\frac{1}{2}$ , 65 E $\frac{1}{2}$		X
	Obj.: To determine and analyse the Archean stratigraphy of the areas, and its relationship to metallogeny and mineralization. To reconstruct the depositional history and evolution of the sequences. To assess the mineral potential of the Archean terrain and establish guides for future mineral exploration. Pub sca as required.							
700053*	Quaternary geology, Winnipeg (East half)	(Fenton, MM)	QRG	RSP	Man	62 H E $\frac{1}{2}$		X
	Obj.: To map, describe and explain the Quaternary deposits and landforms in order to provide (1) areal information, (2) knowledge of the Quaternary stratigraphy and chronology of the area, and (3) background information applicable to soils and mapping, engineering, groundwater, etc., bearing in mind the proximity of the project area to metropolitan Winnipeg. Pub sca I:250,000.							
700054	Thermomagnetism of single minerals and rocks	Schwartz, EJ	CG	PMag	Ont	41 I		X
	Obj.: To investigate magnetic properties of minerals and rocks other than the direction of the natural remanence and thereby: (1) develop generally applicable methods to obtain unique information in applied geophysical and geological work on, in particular, sulphide ore bodies; and (2) provide a firmer physical base for Paleomagnetism.							
700055	A report on the geology of chromium deposits in Canada	Whitmore, DRE	EGG	MD				X
	Obj.: To prepare a report on the geology of chromium deposits in Canada which will provide a geological basis for guiding exploration and assessment of chromium potential in Canada. The report is to include a classification of deposits and criteria for recognizing each type, a review of the geochemistry and mineralogy of chromium deposits, their geological environment, provenance and genesis and indicate regions and geological units in Canada most favourable for the occurrence of each type of deposit.							



Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. Inact.
700056*	Surficial geology, southern Cape Breton Island	Grant, DR	QRG	RSP	NS	Pt 11 F,G,J,K	X
	Obj.: To map, describe and explain the surficial deposits and landforms in order to provide: (1) areal geological information with particular reference to the needs for data required for industrial development and mineral exploration; and (2) knowledge on the stratigraphy and age of Quaternary features and of the history of Quaternary events and environments including glaciation, deglaciation and local sea-level change. Pub sca 1:125,000.						
700057*	Airborne geochemistry	Darnley, AG	EG	RSM	-	-	X
	Obj.: To develop methods of obtaining from the air information about the chemical composition of the ground. To select the methods most pertinent to the objectives of the Geological Survey on the basis of long term cost-effectiveness. These methods to be suitable for integration with other airborne techniques being applied by GSC.						
700059*	Geology of copper and molybdenum deposits	Kirkham, RV	EGG	MD	-	-	X
	Obj.: To carry out comprehensive research on the geology of copper and molybdenum deposits in order to provide a geological basis for exploration and assessment of copper and molybdenum potential in Canada. The research is to provide: (1) a systematic record and appraisal of geological data; (2) a geological classification of copper and molybdenum deposits; (3) definition of criteria for recognition of each type of deposit; (4) development of concepts and hypothesis on geological environment, provenance, and genetic processes of copper deposits; and (5) determination of regions and geological units in Canada most favourable for the occurrence of each type of deposit.						
						Frank, Mack, Yk, BC, Alta, Man, Ont, Que, Nfld	
700060*	Devonian and older Paleozoic rocks, southern and central District of Mackenzie	MacKenzie, WS	ISPG	PS	Mack	85 C-F, K-N; 86 D, E, L, M; 87 B, C; 95 A-C, F-K, N-P; 96; 97A-D, F; 106 A, B, G, H, I, J, O, P	X
	Obj.: To resolve if possible stratigraphic problems within carbonate rocks that are laterally equivalent to oil-producing limestones at Norman Wells and to publish and apply the results to the continuing search for hydrocarbons in nearby areas. To prepare for publication correlation charts and columnar sections of Devonian and older Paleozoic rocks in the Great Slave Plains area and to select rock units for isopach and lithofacies maps that will elucidate the tectonic and depositional history of the basin. Pub sca 1:1,000,000.						

700062*	Feasibility pilot study of geo-chemical reconnaissance methods in the Ennadai-Rankin Belt	Hornbrook, EHW	EGG	G	Kee	55 L			X
	Obj.: To determine: (a) which geochemical reconnaissance methods are most effective in delineating areas which have greatest economic potential for prospecting, (b) to compare effectiveness of these methods with studies of eskers and tills being made under Project 700014 and (c) to determine costs of the various methods at different densities of sampling.								
700064*	Foraminiferal zonation of the Mesozoic and lower Cenozoic rocks of the Mackenzie Delta and adjacent Arctic Coastal Plain	Chamney, TP	ISPG	WP	Mack Yk	Pts 97, 106, 107, 116, 117			X
	Obj.: Detailed biostratigraphic subdivision of the Mesozoic and lower Cenozoic rocks to aid exploration of the petroleum resources.								
700065*	Petrological studies in the vicinity of the Kisseynew Front	Froese, E	CG	Pet	Man	63 K/16 E $\frac{1}{2}$ , J/13 W $\frac{1}{2}$			X
	Obj.: To determine the metamorphic reactions and isograds associated with the Kisseynew Front as a contribution to the understanding of metamorphism in Precambrian orogenic belts and its effect on mineral deposits. Pub sca 1" to $\frac{1}{2}$ mi								
700067*	Mica group minerals and related silicates in Canadian mineral deposits	Rimsaite, JYH	EGG	M	Man Ont, Que	63;52;41;32			X
	Obj.: To ascertain whether and how variations in characteristics of these minerals can be used to determine age and genetic relationships of mineral deposits and thus assist mineral exploration.								
700068*	Basin Analysis of exposed Mesozoic and Tertiary strata in northern Yukon Territory in relation to the sub-surface stratigraphy of Mackenzie Delta-Beaufort Sea areas	Young, FG	ISPG	MS	Mack Yk	Pts 106 N $\frac{1}{2}$ , 107, 116 N $\frac{1}{2}$ , 117			X
	Obj.: 1. To elucidate and interpret the economic, tectonic, and historical significance of Mesozoic and Tertiary stratigraphy and sedimentology of northern Yukon Territory and northwestern District of Mackenzie. 2. To determine the relationships of this stratigraphy to the subsurface Mesozoic stratigraphy of the Mackenzie River Delta, the Beaufort Sea continental shelf, the Alaskan north slope, and the Sverdrup Basin.								

700069\* A Comprehensive E.G. Series Dawson, KR EGG Adm&SP - X  
 report on the geology of niobium Man 52 L/6; 42 I/15; 41 O/14;  
 and tantalum in Canada Ont 31 G/8; 22 D/11  
 Que

Obj.: To prepare a comprehensive reference on current knowledge of the geology of niobium and tantalum in Canada which will provide a geological basis for exploration and for assessment of niobium and tantalum potential in Canada. The report is to include a review of the mineralogy and geochemistry of these deposits and tantalum, a review of all major types of deposits in Canada, a classification of these deposits and criteria for recognizing each type, a review of concepts of their geological environment, genesis and provenance, and should indicate regions and geological units in Canada that are most favourable for the occurrence of each type of deposit.

700071 Redstone River (NTS 95) map-area Douglas, RJW. ADM SP Mack 95 X  
 1:1 million Geological Atlas paper Yk

Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as Apr. 1, 1969 of File 116-6-4.

700073 Operation Northern Melville Heywood, WW CG PS Kee 47 A,B,C,D X  
 Peninsula

Obj.: To determine the general structural, historical and economic geology of a previously unmapped terrain in order to aid in the future economic development of northern Canada. Pub sca 1" to 8 mi.

700074 Operations Back River and Wager Heywood, WW CG PS Frank 46 DW½, E, F N½, G N½; 47 A S½; X  
 Kee 56 A, B, G-K, N-P; 57 A, B, D,  
 pts C; pts 67 A; 66 I-K, N-P

Obj.: To determine the general structural, historical, and economic geologic features of this previously unstudied terrain as a basis for future economic development of this portion of northern Canada. Pub sca 1:1,000,000.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
700080	Geology of Walrus and Coats Islands, NWT	Heywood, WW	CG	PS	Keew 45 J, pt 0			X
	Obj.: To conduct a geological study of Walrus and Coats Islands, NWT with particular attention to: (1) correlation of the Precambrian rocks with those of Southampton Island, (2) the determination of the basic stratigraphy of the Paleozoic rocks, (3) the economic potential of the region. Pub sca 1" to 4 mi or 1" to 8 mi.							
700084	Development and maintenance of mineral deposits geology records	Johnston, AG	EGG	MD	-	-		X
	Obj.: To provide a scientific data and information base for studies of geology of mineral deposits, of regional and national metallogeny in Canada, and for estimation of mineral potential.							
700085	Statistical estimation of content and distribution of selected metals in Bear-Slave Provinces based on geological factors	Kelly, AM	EGG	Adm&SP	Mack 86; pts 75, 76, 85			X
	Obj.: To provide an estimate of the probable occurrence, content and distribution of deposits of copper, silver, zinc and gold in the Bear and Slave geological provinces of N.W.T.							
700086	Petroleum potential of sedimentary basins of Canada	McCrossan, RG	ISPG	GofP	-	-		X
	Obj.: To evaluate the ultimate petroleum potential of all sedimentary basins of Canada and to provide sufficient geological documentation to substantiate the conclusions, as part of an overall study of North American potential by the NPC of United States. Pub sca probably 1:5,000,000.							
700087*	The development of portable instrumentation for the routine detection and measurement of elemental vapours such as mercury, arsenic and selenium both on the ground and in the air	Bristow, Q	EGG	G	-	-		X
	Obj.: The design, development and testing of suitable instrumentation and methodology for the detection and measurement of elemental vapours, both at ground level and in the air, as an aid to geochemical prospecting and for geochemical reconnaissance studies.				Ont 31 F/2			

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
700089	Portable weather satellite receiving unit	Washkurak, S	EG	MM	-	-	X	
	Obj.: To design and construct a portable weather satellite receiving unit suitable for operation in remote areas to be used to indicate such as ice conditions, ice break-up and flying (weather) conditions in remote areas.							
700090*	Holographic enhancement of geophysical data	Waskkurak, S	EG	MM	-	-	X	
	Obj.: To evaluate and adapt electronic, acoustical and optical holographic processes as a means of improving and/or simplifying the reduction, presentation and/or interpretation of geophysical and geological data.							
700091*	Regional economic expansion program - airborne geophysics - New Brunswick	Collett, LS	EG	EM	NB	Pts 21 H, O, P	X	
	Obj.: To advise and aid officials of New Brunswick Department of Natural Resources to plan and supervise airborne geophysical surveys over selected areas in the province under the Federal Department of Regional Economic Expansion Program to stimulate the provincial economy.							
700092*	Surficial geology and geomorphology Mackenzie Bay-Continental Shelf	Shearer, JM	QRG	RSP	Frank	Pts 107 C, D, E, F; 117 D, E	X	
	Obj.: To map, describe and explain the unconsolidated deposits, associated organic remains, geomorphic and structural features, and permafrost occurrence on the Continental Shelf, Mackenzie Canyon and offshore part of the Mackenzie Delta in order to: (1) provide areal geological knowledge including information required in connection with petroleum exploration and production; (2) determine Quaternary stratigraphy and history; and (3) identify the sedimentary and geomorphic processes operating in the area. Pub sca as warranted.							
700093*	Pleistocene geology, Lake Ontario Basin	Henderson, EP	QRG	RSP	Ont	-	X	
	Obj.: In connection with the International Field Year for the Great Lakes (IFYGL) to prepare a map showing the distribution of the surficial deposits and geomorphic features of the Lake Ontario Basin, including the bed of the present lake. Pub sca 1:500,000.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act.	Inact.
700094*	Engineering geology, Mackenzie Valley Transportation Corridor	Isaacs, RM	QRG	EGG	Mack Yk	Pts 85,95,96,106,107,117	71-72	71-72
	Obj.: To delineate the engineering characteristics of terrain units (organic materials, surficial and bedrock geology as appropriate) in terms of engineering index properties (texture, consistency, moisture content, etc.), ground ice content, thermal conductivity and diffusivity, and performance as foundation or construction materials; to identify and evaluate the mechanism and rate of active geomorphic processes (slope movement, erosion, sediment transport); and to develop criteria for the measurement and prediction of the interrelationship between engineering construction and terrain performance. Pub sca as appropriate.						X	
710001*	Origins and migration of petroleum in western Canada	McCrossan, RG	ISPG	GofP	Alta	-		X
	Obj.: To develop a method of relating reservoir hydrocarbons to organic material in source rocks; to reconstruct the evolutionary history of the organic material; to determine the pattern and timing of hydrocarbon migration and entrapment; and to evaluate the application of this type of geochemical investigation to the assessment of ultimate pooled hydrocarbon reserves in the study area as well as other basins.							
710002	Environmental geology of northern settlements Mackenzie Valley - western Arctic (Tuktoyaktuk)	Rampton, V	QRG	EGG	Mack	Pts 107 E/7,8,9		X
	Obj.: To provide basic geologic data in order to: (1) identify and describe the pertinent geologic-geomorphic aspects of northern settlements to assist in planning for future development; and (2) delineate and evaluate the sources of granular and other earth materials useful in construction in terms of location, quantity, quality and performance. Pub sca as warranted.							
710003*	Structure and stratigraphy, Ringnes Islands and nearby smaller islands	Balkwill, HR	ISPG	AI	Frank	Pts 59, 69, 79		X
	Obj.: (1) To establish the nature, sequence and gross structure of bedrock in the central part of the Sverdrup Basin; (2) to elucidate the nature, kinematics and chronology of tectonism in the Eureka Sound Fold Belt and its relationship with other elements of the Innuitian Orogen; and (3) through the above, to determine the significance of structure and stratigraphy of the region on the genesis and accumulation of hydrocarbons and other mineral resources. Pub sca 1:250,000 and other scales as warranted.							

Project Act. Inact.  
Number Leader Title Div. Sect. Prov. NTS 71-72 71-72

710004 Structural analysis, western Balkwill, HR ISPG AI BC 82 N/7 W $\frac{1}{2}$ , Pts N/7 E $\frac{1}{2}$ , 2, X  
main ranges, Rocky Mountains, 10 W $\frac{1}{2}$ , 6 E $\frac{1}{2}$   
B.C.

Obj.: To establish: (1) the nature, sequence and gross structure of the bedrock within the northern part of the western main ranges subprovince of the Rocky Mountains; (2) the structural relationships between this subprovince of the Rocky Mountains and the Dogtooth Range subprovince of the Purcell Mountains; and (3) to investigate the character and significance of mesoscopic fabric elements in this area with a view to elucidating the kinematics and dynamics of deformation. Pub sca 1:50,000 and 1:125,000.

710005 Northern Basins Analysis Program Procter, RM ISPG GofP Mack X  
Yk

Obj.: To provide a thorough understanding of the geological history of the sedimentary basins north of the 60th parallel of latitude, stressing the inter-relationships of tectonics, sedimentation, biostratigraphy, geochemistry and hydrocarbon distribution. To evaluate the oil and gas potential of the region.

710006\* Sedimentological studies of (Davies, GR NRCF) ISPG PS Yk X  
carbonate rocks Alta

Obj.: Application of principles of Recent sedimentation and diagenesis to the study of older carbonate rocks in several geological provinces of Western Canada; specifically, the reinterpretation of the origin of Devonian "laminites" in northern Alberta, and facies analysis of Upper Paleozoic carbonates in the northern Yukon Territory.

710007\* Evaporites of the Arctic Islands Mossop, G ISPG AI Frank 48;49;58;59;68;69;77;78; X  
79;87;88;89;120;340;560

Obj.: (a) To obtain better understanding of both bedded and intrusive evaporites of the Arctic Islands, and thereby (b) obtain better understanding of the sources or ages of the intrusive evaporites; and (c) (a) and (b) should aid in interpretation of the diapiric structures, which are significant features of the Arctic Islands petroleum region.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
710008	Clearwater River (NTS 74) map-area. 1:1 million Geological Atlas Program	Tremblay, LP	CG	PS	Sask 74			X
	Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as April 1, 1969 of File 116-6-9.							
710009*	Feasibility study of geochemical sampling of streams reaching coast of Arctic Is. by helicopter from D.O.T. icebreaker	Dyck, W	EGG	G	Kee	-		X
	Obj.: 1. To determine whether significant geochemical anomalies can be indicated by such sampling. 2. To ascertain feasibility of using ship-based helicopters for sampling.							
710010	Northern Basin Analysis Program: Great Bear River map-area, (Paleozoic part)	MacKenzie, WS	ISPG	PS	Mack 86; 96			X
	Obj.: To provide a thorough understanding of the geological history of the sedimentary basins north of the 60th parallel of latitude, stressing the inter-relationships of tectonics, sedimentation, biostratigraphy, geochemistry and hydrocarbon distribution. - To evaluate the oil and gas potential of the region. Pub sca 1:1,000,000.							
710011	Northern Basin Analysis Program: Redstone River map-area	MacKenzie, WS	ISPG	PS	Mack 95 Yk			X
	Obj.: To provide a thorough understanding of the geological history of the sedimentary basins north of the 60th parallel of latitude, stressing the inter-relationships of tectonics, sedimentation, biostratigraphy, geochemistry and hydrocarbon distribution. - To evaluate the oil and gas potential of the region. Pub sca 1:1,000,000.							
710012*	Study of the Ramah Group and of Proterozoic - Archean relationships in northern Labrador	Morgan, WC	CG	PS	Nfld 14 L/11,14, pts 6,13, M/3,4			X
	Obj.: To determine the following parameters relative to the Ramah Group. (1) Stratigraphy, sedimentology and mineral potential. (2) Inter-actions between Ramah Group and Archean basement. (3) Nature and history of Archean - Proterozoic boundary. (4) Distribution of metamorphic facies and relationships to structures. Pub sca 1" to 4 mi.							



Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
710013	Northern Basin Analysis Program: Peel River map-area	Martin, HL	ISPG	PS	Mack 106; 116 Yk			X
	Obj.: To provide a thorough understanding of the geological history of the sedimentary basins north of the 60th parallel of latitude, stressing the inter-relationships of tectonics, sedimentation, biostratigraphy, geochemistry and hydrocarbon distribution. - To evaluate the oil and gas potential of the region.							
710014	Petrography of diagenesis	(Rapson-McGugan,JE)	ISPG	PS	Alta	-		X
	Obj.: To prepare a manual in which secondary features of sedimentary rocks are illustrated and related to depositional and burial environments.							
710015*	Jurassic Trigonidae of western British Columbia	(Poulton, TP - Thesis project)	ISPG	WP	BC	93 F,K,L,M; 103 I,P		X
	Obj.: Biostratigraphic, taxonomic and paleoecologic study of Jurassic pelecypods of the family Trigonidae in western British Columbia in order to determine and elucidate their usefulness for biostratigraphic and paleoecologic zonation and to prepare a monograph describing their morphology, taxonomy and evolution.							
710016	Geological and tectonic map compilations	Douglas, RJW	ADM	SP	-	-		X
	Obj.: 1. Maintain a continuing compilation of data received from 1:1 million from Atlas program 690086 for revision of Geological and Tectonic Maps at 1:2½ million and 1:5 million scale. 2. Maintain data available for use as a base for compilations of other data - magnetic, gravity, mineral deposits, etc.							
710017*	Basement recognition criteria	Douglas, RJW	ADM	SP	Man Ont, Que	-		X
	Obj.: To assess the validity of criteria as indications of the relative age of certain rocks; establish preferred sequences of rocks and events in Superior Provinces; and relate conclusions to the requirements of a standard for Precambrian time.							
710018*	Central Foothills of Alberta	Douglas, RJW	ADM	SP	Alta	83 C/15,F/2,C/8,9,10 E½		X
	Obj.: (1) Standard 1 mile mapping with emphasis on stratigraphy and structure; revision of mapping by B.R. Mackay; oil, gas and coal potentialities. (2) To prepare for publication available geological data on 83 C/15 and F/2; and revise in light of drilling 83 C/8,9,10 E½.							

710019\* Taxonomy, biostratigraphy and paleoecology of Mesozoic miospore and microplankton assemblages from western and northern Canada  
 Brideaux, WW ISPG WP Frank Mack Yk, BC Alta  
 - X

Obj.: To monograph Mesozoic miospore and microplankton assemblages, to determine the local ranges of species and their value and application in regional and world-wide biostratigraphy, and to investigate their paleoecological distribution in sedimentary basins of western and north-western Canada, in particular those having potential oil and gas reservoirs.

710020\* Surficial geology and land classification, Mackenzie Valley Transportation Corridor  
 Hughes, OL QRG RSP Mack Yk 106 E, F, I, J, K, L, M, N, O; 116 I, N, O, P  
 X

Obj.: To map, describe and explain the unconsolidated deposits, landforms, permafrost, ground ice, and organic (muskeg) cover of the Mackenzie Transportation Corridor in order to: (1) provide areal knowledge of geology and terrain, bearing particularly in mind the needs of government for terrain information in connection with land-use planning, pipeline proposals and other aspects of petroleum development, and engineering construction; and (2) determine the Quaternary history of the region. Pub sca 1:125,000.

710021 Metallogeny of iron-formation (Exhalite) at the southern margin of the Abitibi Basin, Ontario and Quebec  
 Ridler, RH CG PS Ont 42 A; 32 D Que  
 X

Obj.: To determine and interpret the distribution of base and precious metals in the various facies of exhalative iron-formation of this area and establish guides for future mineral development and exploration within the context of regional basin analysis.

710022\* Carboniferous and Permian biostratigraphy and coral faunas, western and northern Canada  
 Bamber, EW ISPG WP Frank Mack Yk, BC Alta  
 - X

Obj.: Establishment of faunal sequence within stratigraphic framework previously described for upper Paleozoic of Alberta, British Columbia, Yukon, District of Mackenzie, for use as a biostratigraphic reference succession in surface and subsurface exploration of these areas. Description of coral faunas from these areas and Arctic Islands to document the above succession and facilitate its use by other workers in industry and in other government organizations.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
710023*	Granite studies in the Slave Province (Phase 1)	Davidson, A	CG	PS	Mack	85 I, P	X	
	Obj.: To clarify the granitic rocks according to age, geological and chemical nature, geophysical parameters where available, and to relate them to the regional geology and to mineral deposits.							
710024	Maguse River (NTS 55) map-area. 1:1 million Geological Atlas Program	Davidson, A	CG	PS	Kee	55	X	
	Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as April 1, 1969 of File 116-6-4							
710025*	Precambrian geology of Norway House, Grand Rapids and Berens River W $\frac{1}{2}$ map-areas, Manitoba	Ermanovics, IF	CG	PS	Man	63 H, G, A W $\frac{1}{2}$	X	
	Obj.: To revise and reinterpret the geology and economic potential of a Precambrian terrain known only through gross reconnaissance done in 1936. Pub sca 1" to 4 mi.							
710026	Ogoki River (NTS 52) map-area. 1:1 million Geological Atlas Program	Ermanovics, IF	CG	PS	Ont	52	X	
	Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as April 1, 1969 of File 116-6-4.							
710027	Thelon River (NTS 66,76) map-area. 1:1 million Geological Atlas Program	Fraser, JA	CG	PS	Kee Mack	66; 76	X	
	Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as April 1, 1969 of File 116-6-4.							

Project Number Title Project Leader Div. Sect. Prov. NTS Act. Inact. 71-72 71-72

710028 Great Bear River (NTS 86,96) map-area. 1:1 million Geological Atlas Program Fraser, JA CG PS Mack 86; 96 X

Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as April 1, 1969 of File 116-6-4.

710029 Arctic Aerial Photographs Kerr, JW ISPG AI Frank 58;68;69;59;49;39 X

Obj.: Publication of a series of short papers, each showing a small area covered by a single aerial photograph. The areas chosen are those which (a) are key areas for understanding Arctic geology, and (b) display an outstanding array of geological phenomena on the photograph. Pub sca 1" to 5,000 ft.

710030\* Canada-wide broad-scale statistical estimation and prediction of the occurrence of mineral deposits for selected metals, based on geological factors Kelly, AM EGG Adm&SP - X

Obj.: To provide a nation-wide estimate of the probable occurrence and size of mineral deposits for both base and precious metals.

710031\* Middle Devonian brachiopods of Arctic Islands (Brice, D Prof) ISPG WP Frank 58 H; 59 A,B X

Obj.: Refinement of biostratigraphic zonation of Middle Devonian rocks

710032\* IGC Field excursion A35, C35, Geology of Precambrian Shield Winnipeg-Montreal Frarey, MJ CG PS Man 31;41;42;52;62 Ont Que X

Obj.: To determine and describe appropriate sites of Precambrian geological interest to be visited on IGC field excursions A35-C35 between Winnipeg and Montreal.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act.	Inact.
710033	Northern Basin Analysis Program: Slave River map-area.	Tassonyi, EJ	ISPG	PS	Mack 85		71-72	71-72
	Obj.: To provide a thorough understanding of the geological history of the sedimentary basins north of the 60th parallel of latitude, stressing the inter-relationships of tectonics, sedimentation, biostratigraphy, geochemistry and hydrocarbon distribution. To evaluate the oil and gas potential of the region. Pub sca 1:1,000,000.							X
710034	Northern Basin Analysis Program: Great Bear River map-area (Mesozoic part)	Tassonyi, EJ	ISPG	PS	Mack 86; 96			
	Obj.: To provide a thorough understanding of the geological history of the sedimentary basins north of the 60th parallel of latitude, stressing the inter-relationships of tectonics, sedimentation, biostratigraphy, geochemistry and hydrocarbon distribution. To evaluate the oil and gas potential of the region. Pub sca 1:1,000,000.							X
710035	Northern Basin Analysis Program: Horton River map-area	Yorath, CJ	ISPG	MS	Mack 87; 97			
	Obj.: To provide a thorough understanding of the geological history of the sedimentary basins north of the 60th parallel of latitude, stressing the inter-relationships of tectonics, sedimentation, biostratigraphy, geochemistry and hydrocarbon distribution. To evaluate the oil and gas potential of the region. Pub sca 1:1,000,000.							X
710036	Northern Basin Analysis Program: Firth River map-area	Yorath, CJ	ISPG	MS	Mack 107; 117 Yk			
	Obj.: To provide a thorough understanding of the geological history of the sedimentary basins north of the 60th parallel of latitude, stressing the inter-relationships of tectonics, sedimentation, biostratigraphy, geochemistry and hydrocarbon distribution. To evaluate the oil and gas potential of the region. Pub sca 1:1,000,000.							X
710037*	The Gavrovo-Pindus region - Greece	Monger, JWH	CG	CPM	-			
	Obj.: To compare and contrast the Mesozoic and early Tertiary successions in the Gavrovo-Pindus Cordillera of northwestern Greece with the lithologically similar Upper Paleozoic succession of the western Canadian Cordillera, in particular with respect to the relationships of the limestones, volcanics and ultramafics.							X

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
710038*	Juniper (east half) map-area, N.B.	Skinner, R	CG	AELAM	NB	21 J/11 E½	X	
	Obj.: To determine the stratigraphy, structure and igneous, metamorphic and tectonic history of a portion of the Central Mineral Belt of New Brunswick as an aid to the economic development of the area. Pub sca 1:50,000.							
710039*	Preparation of data base for statistical prediction of mineral potential of Superior Province	Fabbri, AG	EGG	Adm&SP	Man Ont Que	-	X	
	Obj.: To prepare a computer-oriented data base for the Superior Province by coding both available geological maps at scales 1 inch to 4 miles and 1:1,000,000 and available basic parameters for mineral deposits.							
710040*	Bay of Islands map-area, Newfoundland; MUN contract (H. Williams)	Poole, WH	CG	AELAM	Nfld	12 G	X	
	Obj.: To determine the structure, stratigraphy and tectonic history, and to appraise the mineral potential of the area. Pub sca 1" to 2 mi.							
710041*	Surficial geology and geomorphology of Melville Island	Barnett, DM	QRG	RSP	Frank Pts	78,79,88,89	X	
	Obj.: To map, describe and explain the surface and near surface materials, landforms, permafrost conditions and other aspects of the geomorphology on a reconnaissance scale, with particular reference to terrain information pertinent to the implementation of the Territorial Land Use Regulations, and to petroleum exploration and associated activities. Pub sca 1:250,000.							
710042*	Terrain performance, Melville Island	Barnett, DM	QRG	EGG	Frank Pts	78,79,88,89	X	
	Obj.: To prepare case histories of terrain performance encountered by airfields, roads and "overland" vehicles, in relation to geological materials, geomorphic setting and ground ice.							

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act.	Inact.
710043*	Geology of mineral deposits of Bear-Slave Provinces, N.W.T.	Thorpe, RI	EGG	MD	Mack	<u>75;76;85;86</u>	71-72	71-72
	Obj.: To contribute to knowledge of the metallogeny and to an assessment of the mineral potential of the area. Specifically, to gather information on, and representative samples of, mineral deposits in Bear-Slave provinces and to interpret and summarize the data acquired from field work and follow-up laboratory investigations.							X
710044*	Environmental geology of New Montreal International Airport Region (NMIAP)	St-Onge, DA	QRG	EGG	Que	<u>Pts 31 G/8,9,16, H/5,12,13</u>		X
	Obj.: To map, describe and explain the surficial deposits and landforms, to investigate the geodynamic processes and to determine the bedrock surface configuration in order to evaluate the significance of the geology of the NMIAP region in relation to planning for engineering construction, industrial development and land use planning, agriculture and water supply. Pub sca 1:50,000.							
710045*	Compilation of company geological data of central mineral belt	Anderson, FD	CG	AELAM	Nfld	<u>Pts 12 A</u>		X
	Obj.: To provide a systematic framework of the geology and mineral deposits in order to permit the evaluation of the mineral potential for economic and environmental development of central mineral belt of Newfoundland. Pub sca 1" to 1 mi or 1" to 2 mi.							
710046*	Structural evolution of eastern Cape Breton Island	Helmstaedt, H	CG	AELAM	NS	<u>Pts 11 F, K</u>		X
	Obj.: To determine the structural evolution of Precambrian and Paleozoic rocks of eastern Cape Breton Island, and the sequence of metamorphic and metallogenic events in order to improve the geological framework and permit evaluation of the mineral potential for economic development of the region. Pub sca 1:25,000.							
710047*	Surficial geology and land classification, Mackenzie Valley Transportation Corridor (southern part)	Rutter, NW	QRG	RSP	Mack	<u>85 D,E; 95 A,B,G,H,I,J, K,N,O</u>		X
	Obj.: To map, describe and explain the unconsolidated deposits, landforms, permafrost, ground ice, and organic (muskeg) cover of the Mackenzie Valley Transportation Corridor (southern part)(cont'd p 91)							

Project Number Title Project Leader Div. Sect. Prov. NTS Act. Inact. 71-72 71-72 71-72

710047\* Obj. (Cont'd)

in order to (1) provide areal knowledge of geology and terrain, bearing particularly in mind the needs of government for terrain information in connection with land-use planning, pipeline proposals and other aspects of petroleum development and engineering construction; and (2) determine the Quaternary history of the region. Pub sca 1:125,000.

710048\* Geological and geophysical studies Tiffin, DL CG CPM BC Pts 92,102,103 X  
of the Pacific Continental Margin

Obj.: To establish the geological framework of the Pacific Continental Margin; determine the hydrocarbon potential of its contained sedimentary basins, and to determine the tectonic development of the Pacific Continental Margin especially its interaction with the Pacific ocean floor.

710049\* Geological and geophysical studies Tiffin, DL CG CPM Frank Pts 107, 117 X  
in the Beaufort Sea

Obj.: To produce a magnetic anomaly map and selected shallow seismic profiles of the Beaufort Sea.

710050 Lockhart River (NTS 75) map-area. McGlynn, JC CG PS Mack 75 X  
1:1 million Geological Atlas Program

Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as April 1, 1969 of File 116-6-4.

710051 Slave River (NTS 85) map-area. McGlynn, JC CG PS Mack 85 X  
1:1 million Geological Atlas Program

Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as April 1, 1969 of File 116-6-4.

710052 Branch coordinator Mineral McGlynn, JC CG PS Mack 75;76; pts 85,95,86,96, X  
Potential Analysis Sub-program 87,97  
Bear-Slave Province

Obj.: To provide a thorough knowledge and understanding of the geology and mineral deposits of the Bear-Slave region stressing its tectonic evolution and metallogenesis and their inter-relationships. To evaluate the mineral potential. Pub sca as required.



Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
710053*	Penrhyn Group metamorphic complex, Melville Peninsula, District of Franklin	Reesor, JE	CG	Pet	Frank Pts 46 J, K, N, O		X	
	Obj.: To determine structural, metamorphic, stratigraphic, and age relations between 'basement' gneisses and migmatites and Penrhyn Gp. metasedimentary gneisses and schists. To elucidate the structural development of 'gneiss domes' in an area of upper amphibolite facies rocks. To provide structural-stratigraphic and isotopic age bases for regional correlation. Pub sca 1:50,000.							
710054	The organic content of sediments from the Beaufort Sea	McCrossan, RG	ISPG	GofP	Mack	-	X	
	Obj.: To obtain fundamental knowledge of the organic content especially as it pertains to the origin of hydrocarbons in high latitudes by chemical analysis of organic components of sediments collected as a part of Operation Beaumac, on the Hudson 1970 cruise.							
710055*	Glaciation and emergence, Archer Fiord	Fyles, JG	QRG	PG	Frank Pts 120 C		X	
	Obj.: To map and explain surficial deposits and related landforms on the area adjacent to Archer Fiord, with special reference to raised marine deposits and beaches; to determine the history of glaciation, deglaciation, and associated changes in relative sea level.							
710056*	Revision of the Arichat map-area	Benson, DG	CG	AELAM	NS	11 F/11 E $\frac{1}{2}$	X	
	Obj.: To determine the stratigraphy, structure and tectonic history of the sedimentary and igneous rocks of the Arichat map-area, in particular of the Carboniferous rocks as an aid to the economic and environmental development of the Canso region. Pub sca 1" to 1 mi.							
710057*	Editing terminal maps and report on Guysborough map-area	Benson, DG	CG	AELAM	NS	11 F/5	X	
	Obj.: To revise and complete a manuscript terminal map and report by E.A. Schiller for publication by Geological Survey. Pub sca 1" to 1 mi.							

710058*	Paleomagnetic correlation of basic intrusive and extrusive rocks in the region of the Grenville Front	CG	PMag	Que NFId	23;13			X
	Project Leader: Fahrig, WF							
	Obj.: To determine the age and correlation of basic intrusive and extrusive rocks in the vicinity of the Grenville Front. These rocks include: (1) the Michael diabase which extends inland from the coast of Labrador. (2) The diabases and volcanic rocks of the Seal Lake area. (3) Shabogamo diabase (at the southern end of the Labrador Trough). (4) The diabase sheets of the Otish Mountain area.							
710059	Stratigraphy and sedimentology of the Mesozoic and Tertiary rocks of the Atlantic Shelf	CG	EPG	Offshore E. Canada				X
	Project Leader: (Bender, KP PDF)							
	Obj.: To determine stratigraphy and sedimentology of the Mesozoic and Tertiary rocks of the Atlantic Shelf, and the basin geometry of clastic, carbonate and evaporite sequences; delineate distribution, thickness and facies to reconstruct provenance, current direction and environment of deposition as an aid to the resource evaluation of the region. Pub sca 1:1,000,000.							
710060	Pennsylvanian and Permian conodonts of Arctic Canada	ISPG	WP	Frank Yk				X
	Project Leader: (Bender, KP PDF)							
	Obj.: Biostratigraphic taxonomic and paleoecologic study of conodont microfossils in order to determine and elucidate their usefulness for biostratigraphic zonation.							
710061*	Compilation of geoscientific data in the Paleozoic Basins of Eastern Canada	CG	EPG	Frank Man Ont, Que Atlantic Provinces	Pts 11,21			X
	Project Leader: Howie, RD							
	Obj.: To establish and maintain a data bank of all geoscientific information relating to exploration for oil and gas in the Paleozoic Basins of eastern Canada.							
710062	Biostratigraphic zonation (Palynology) of the Mesozoic and Cenozoic rocks of the Atlantic Shelf	CG	EPG	Williams, G Offshore E. Canada				X
	Project Leader: Williams, G							
	Obj.: See p. 94							

710062 Obj.: To determine the biostratigraphic zonation (palynology) of the Mesozoic and Cenozoic rocks in offshore wells to form the basis of local, regional and worldwide correlation, and to accurately reconstruct geological events and paleoclimatic environments, to aid in the economic evaluation of the region. Pub sca 1:1,000,000.

710063\* Stratigraphy and sedimentology of the Carboniferous and Permian rocks of the Atlantic Provinces, Gulf of St. Lawrence and Bay of Fundy  
 Jansa, LF  
 CG EPG NB 12 B,C,D; 11 E,F,G,K,L,N,O;  
 NS 21 A,B,G,H,I,J,O,P; 22 A  
 PEI  
 Nfld& offshore Gulf of St.Lawrence and Bay of Fundy X

Obj.: To determine the stratigraphy and sedimentology of the Carboniferous and Permian rocks of Eastern Canada; determine basin geometry of clastic carbonate and evaporite sequences; delineate their distribution, thickness and facies to reconstruct provenance, current directions and environment of deposition, as an aid to the resource evaluation of the region.  
 Pub sca 1:1,000,000 and 1:500,000.

710064 Sedimentological studies of carbonate rocks in western Canada  
 Jansa, LF BC 83 H,K; 90 O  
 CG EPG Alta X

Obj.: To determine sedimentological history of some Ordovician and Devonian carbonate rocks in Alberta and British Columbia to assist in the evaluation of their petroleum and natural gas possibilities.

710065 Biostratigraphic zonation (foraminifera) of the Mesozoic and Cenozoic rocks of the Atlantic Shelf  
 Ascoli, P Offshore -  
 CG EPG E. Canada X

Obj.: To determine the biostratigraphic zonation (foraminifera) of the Mesozoic and Cenozoic rocks in offshore wells to form the basis of local, regional and world wide correlation, and to accurately reconstruct geological events and ecological environments, to aid in the economic evaluation of the region.

710066\* Paleozoic geology of the Hudson Bay region  
 Sanford, BV CG EPG Kee 43,44,45; Pts 32,42,53,  
 Man 54,55,46,35,33,34  
 Ont, Que X

Obj.: See p. 95

Project Title Div. Sect. Prov. NTS

710066\* Obj.: To determine the stratigraphy, sedimentology, age, distribution and thickness of the phanerozoic rocks of the Hudson Bay region in order to evaluate the economic potential of the area. Pub sca 1:1,000,000.

710067\* Eastern Canada sedimentary basin compilation project Sanford, BV CG EPG Kee Man Ont, Que Atlantic Provinces & all offshore regions - X

Obj.: To maintain a current and comprehensive system of basin analysis maps and diagrams in order to provide the necessary geoscientific base to determine resource evaluation, particularly in the realm of petroleum and natural gas exploration in the onshore/offshore sedimentary basins of eastern Canada. Pub sca 1:1,000,000.

710068 Churchill River (NTS 54) map-area. 1:1 million Geological Atlas Program Sanford, BV CG EPG Man Ont 55 X

Obj.: To publish a modern compilation and synthesis of the geology of the map-area as a unit of a 1:1 million geological atlas of Canada. More detailed objectives are as April 1, 1969 of File 116-6-4.

710069\* Northern Basin Analysis Program: Belcher Channel map-area Roy, KJ ISPG AI Frank 59; 69; 79 X

Obj.: To provide a thorough understanding of the geological history of the sedimentary basins north of the 60th parallel of latitude, stressing the inter-relationships of tectonics, sedimentation, biostratigraphy, geochemistry and hydrocarbon distribution. To evaluate the oil and gas potential of the region. Pub sca 1:1,000,000.

710070 Equilibrium bed forms and sedimentary structures in coarse glaciofluvial sand McDonald, BC QRG EGG Ont - X

Obj.: (a) to investigate experimentally equilibrium bed forms, and the sedimentary structures generated by them, under a wide range of velocity and depth conditions. (b) To relate these experimental results to field interpretation of the sedimentary history of eskers and other glaciofluvial sediments.

Project Number      Title      Project Leader      Div.      Sect.      Prov.      NTS      Act. 71-72      Inact. 71-72

710071      Stratigraphy of the Boundary Member, Charlie Lake Formation, (Triassic) northeastern B.C.      Roy, KJ      ISPG      AI      BC      94 A; 93 P; 83 L; 84 D      Alta      X

Obj.: (a) To determine the internal stratigraphy of the Boundary Member (the reservoir of the Boundary Lake oil field). (b) To relate the Boundary Member to the regional stratigraphy. Data is collected in Ph.D. thesis: Stratigraphic analysis and environmental reconstruction of the Boundary Member of the Charlie Lake Formation (Triassic) northeastern B.C. by K.J. Roy.

710072      Northern Basin Analysis Program: Ballantyne Strait map-area      Roy, KJ      ISPG      AI      Frank 89; 99      X

Obj.: To provide a thorough understanding of the geological history of the sedimentary basins north of the 60th parallel of latitude, stressing the inter-relationships of tectonics, sedimentation, biostratigraphy, geochemistry and hydrocarbon distribution. To evaluate the oil and gas potential of the region. Pub sca 1:1,000,000.

710073      Northern Basin Analysis Program: Viscount Melville Sound map-area      Roy, KJ      ISPG      AI      Frank 68; 78      X

Obj.: To provide a thorough understanding of the geological history of the sedimentary basins north of the 60th parallel of latitude, stressing the inter-relationships of tectonics, sedimentation, biostratigraphy, geochemistry and hydrocarbon distribution. To evaluate the oil and gas potential of the region. Pub sca 1:1,000,000.

710074      Northern Basin Analysis Program: Lancaster Sound map-area      Roy, KJ      ISPG      AI      Frank 48; 58      X

Obj.: To provide a thorough understanding of the geological history of the sedimentary basins north of the 60th parallel of latitude, stressing the inter-relationships of tectonics, sedimentation, biostratigraphy, geochemistry and hydrocarbon distribution. To evaluate the oil and gas potential of the region. Pub sca 1:1,000,000.

710075      Northern Basin Analysis Program: Jones Sound map-area      Roy, KJ      ISPG      AI      Frank 29; 39; 49      X

Obj.: To provide a thorough understanding of the geological history of the sedimentary basins north of the 60th parallel of latitude, stressing the inter-relationships of tectonics, sedimentation, biostratigraphy, geochemistry and hydrocarbon distribution. To evaluate the oil and gas potential of the region. Pub sca 1:1,000,000.

Project Number	Title	Project Leader	Div.	Sect.	Prov.	NTS	Act. 71-72	Inact. 71-72
710076*	Carbonate sedimentation of Fanning Atoll	Roy, KJ	ISPG	AI	-	-		X

Obj.: (a) To determine relations between water turbidity and reef development. (b) To determine the nature of cement development in phosphate rocks. (c) To determine a post-Pleistocene shift in the meteorological equator. (d) To provide a basis to interpret similar Canadian phenomena of importance in the inventory of Canadian geology; to collect specimens of fossils and rocks as comparative material and standards.

710077*	Terrain sensitivity evaluation and mapping, Mackenzie Valley Transportation Corridor	Heginbottom, JA	QRG	EGG	Mack	<u>Pts 95, 96, 106</u>		X
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Obj.: 1. To investigate the response of various earth and rock materials in differing situations to various types of disturbance, both from natural and man-induced causes. 2. To develop and test a terrain sensitivity of various terrain units to the activities of man, particularly those involved in the construction and operation of pipelines. Pub sca to be decided.

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 640013<sup>0</sup>; 640016<sup>0</sup>; 640048; 650010; 650012; 650013<sup>0</sup>; 650024\*; 650131\*;  
 660002; 660020; 670011; 670041\*; 670050\*; 670090; 670576\*; 680031<sup>0</sup>; 680047\*;  
 680063; 680068\*; 680093\*; 680106; 680118; 680119; 690005\*; 690020\*; 690026;  
 690036\*; 690042; 690047\*; 690048\*; 690067; 690078; 700025\*; 700026; 700034;  
 700059\*; 700064\*; 700068\*; 700071; 700094\*; 710005; 710006\*; 710011; 710013;  
 710019\*; 710020\*; 710022\*; 710036; 710060

BRITISH COLUMBIA

490001; 490038\*; 500038\*; 500336; 530014\*; 560006; 600011<sup>0</sup>; 600206; 600218;  
 610011; 610014; 610019\*; 610269\*; 620018<sup>0</sup>; 620019; 620023\*; 620317\*; 620318;  
 630016\*; 630017; 630019; 630021\*; 630037\*; 630356; 640048\*; 650010; 650012;  
 650015; 650017; 650020; 650024\*; 650056\*; 650288; 660001; 660002; 660003;  
 660029; 660031; 660050; 660051\*; 670011; 670019; 670059\*; 670064\*; 670091;  
 670278; 670576\*; 680019\*; 680038\*; 680060\*; 680063; 680066\*; 680068\*; 680084\*;  
 680093\*; 680102\*; 680105\*; 680106; 680108; 680110; 680120; 680129; 680138;  
 680148; 690004\*; 690009\*; 690018\*; 690023; 690032\*; 690042; 690049\*; 690063;  
 690066\*; 690075\*; 690078; 690079; 690083; 700004; 700005; 700006; 700007;  
 700012; 700023; 700026; 700033\*; 700044; 700047\*; 700050; 700051; 700059\*;  
 710004; 710015\*; 710019\*; 710022\*; 710048\*; 710064; 710071

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<sup>1</sup>\* This symbol indicates project has a field component for 1971-72

<sup>0</sup> This symbol indicates project is inactive during 1971-72

ALBERTA

500038\*; 500336; 520024; 600218; 610019\*; 610269\*; 620018<sup>0</sup>; 620023\*;  
 620318; 630021\*; 640024; 640027; 640419; 650024\*; 650027\*; 660032; 660043;  
 660486; 670059\*; 670061\*; 670576\*; 670577; 680019\*; 680027<sup>0</sup>; 680068\*;  
 680084\*; 680093\*; 680102\*; 680105\*; 680106; 680135; 690003; 690017; 690018\*;  
 690029; 690049\*; 690078; 690079; 700012; 700035\*; 700036\*; 700037\*; 700050; 700051;  
 700059\*; 710001\*; 710006\*; 710014; 710018\*; 710019\*; 710022\*; 710064; 710071

SASKATCHEWAN

500038\*; 540025<sup>0</sup>; 610025; 610044\*; 630037\*; 640419; 640420; 650030; 650056\*;  
 660042; 660052; 670562; 680012\*; 680028\*; 680106; 680123\*; 680135; 690078;  
 700036\*; 710008

MANITOBA

610019\*; 610025; 610044\*; 630025\*; 640032\*; 640419; 650056\*; 650466\*; 660042;  
 660043; 660052; 660053; 660494; 670014\*; 670021; 670040; 670041\*; 680074;  
 680075; 680076; 680123\*; 690010; 690078; 700053\*; 700059\*; 700065\*; 700067\*;  
 700069\*; 710017\*; 710025\*; 710032\*; 710039\*; 710061; 710066\*; 710068

ONTARIO

400006\*; 500108; 550101\*; 570029\*; 580159; 600227; 610030; 610044\*; 620038;  
 620297; 630028; 630037\*; 640036<sup>0</sup>; 650037; 650044; 650056\*; 650438; 660011\*;  
 660012; 660026; 660042; 660043; 660054\*; 660494; 670014\*; 670024; 670028\*;  
 670029\*; 670040; 670041\*; 670050\*; 670052\*; 670053\*; 670057; 670062; 670074;  
 680028\*; 680036\*; 680055; 680060; 680062; 680081\*; 680115; 680117; 690010;  
 690034; 690050\*; 690055\*; 690064\*; 690091\*; 700009; 700010; 700049\*; 700051<sup>0</sup>;  
 700059\*; 700067\*; 700069\*; 700087\*; 700093\*; 710017\*; 710021; 710026; 710032\*;  
 710039\*; 710061\*; 710066\*; 710067\*; 710068; 710070

QUEBEC

400006\*; 500108; 540028\*; 550101\*; 570015; 570029\*; 600227; 610044\*; 630031\*;  
 630037\*; 630434; 640039<sup>0</sup>; 640040; 640049; 650044; 650056\*; 650466\*; 660012;  
 660013\*; 660014; 660035; 660494; 670003\*; 670014\*; 670028\*; 670040; 670041\*;  
 670050\*; 670052\*; 680028\*; 680036\*; 680060\*; 680081\*; 680095; 680130\*; 690006\*;  
 690034; 690050\*; 690055; 690064\*; 690073\*; 690076; 700009; 700010; 700011;  
 700017; 700038\*; 700046\*; 700049\*; 700059\*; 700067\*; 700069\*; 710017\*; 710021;  
 710032\*; 710039\*; 710044\*; 710058\*; 710061\*; 710066\*; 710067\*

NEW BRUNSWICK

400006\*; 570022<sup>0</sup>; 600227; 630037\*; 660494; 670040; 680060\*; 680078; 680104\*;  
 680109\*; 680121; 690008; 690013; 690015; 690039; 700011; 700016; 700017;  
 700038\*; 700091\*; 710038\*; 710061; 710063\*; 710067\*



NOVA SCOTIA

400006\*; 640043; 660019\*; 680102\*; 680104\*; 680109\*; 680121; 680123\*; 690006\*;  
 700008; 700011; 700038\*; 700056\*; 710046\*; 710056\*; 710057\*; 710061; 710063\*;  
 710067\*

PRINCE EDWARD ISLAND

680109\*; 680121; 700008; 710061; 710063\*; 710067\*

NEWFOUNDLAND

570029\*; 600032; 600033<sup>0</sup>; 610039; 610044\*; 630035; 640049; 640058; 650466\*;  
 660013\*; 660014; 670003\*; 670050\*; 680096; 680109\*; 680121; 680130\*;  
 690006\*; 690043\*; 690065\*; 690072\*; 700008; 700020; 700038\*; 700059\*;  
 710012\*; 710040\*; 710045\*; 710058\*; 710061; 710063\*; 710067\*;

GENERAL

380077\*; 400007; 480191; 490015; 500029; 570119\*; 580036; 580037; 580153;  
 580160; 580175; 590194; 590258; 600009; 600307; 600353; 610044\*; 610330;  
 620265; 620288; 620308; 630039; 630049\*; 630404; 640125\*; 640382; 640402\*;  
 650007\*; 660030; 660031; 660478; 660552; 670083; 670097; 670559<sup>0</sup>; 670561\*;  
 670564; 680018\*; 680023; 680037\*; 680039; 680071\*; 680073; 680082; 680089\*;  
 680090; 680091\*; 680103; 680114; 680124; 680133; 680139; 680140\*; 680141;  
 680147; 680149; 690022; 690035; 690038\*; 690041; 690060; 690078; 690086\*;  
 690088; 690089; 690090; 690095; 700018; 700027\*; 700041; 700055; 700057\*;  
 700059\*; 700084; 700086; 700089; 700090\*; 710016; 710030\*; 710037\*; 710059;  
 710061\*; 710062; 710065; 710067\*; 710076\*