

# PROVINCIAL AND NATIONAL MINERAL INVENTORY FILES

## BACKGROUND

This report presents the results of a national survey of mineral inventory files. The survey stems from a suggestion made at the National Geological Survey Committee meeting held in Fredericton, May 1, 1985. British Columbia assumed responsibility for conducting the survey and prepared and distributed a questionnaire to provincial, territorial, federal, and private agencies.

The questionnaire requested the survey participants to provide detailed as well as summary information on their provinces. P.E.I. replied that the province does not have a mineral inventory file due to a lack of reported mineral occurrences. Most agencies have computerized their data or plan to in the near future. Alberta, Quebec, New Brunswick and the Northwest Territories are not automated as yet. Newfoundland, Nova Scotia, Ontario, Saskatchewan, British Columbia and the Yukon all have computerized mineral inventory databases. The Geological Survey of Canada maintains a national mineral occurrence index file - Canminindex, that is not available to the public. A summary of the different mineral inventory files is shown in the table.

A copy of the completed questionnaires is available on request from B.C.

## GENERAL INFORMATION

Each database is unique in design and structure, but all seem to contain similar information concerning property names, identifiers, location, history, ownership, status, commodities, geology of the deposit, assays and references. Manual files provide more detailed information about occurrences than computerized files.

Results of the survey indicate that information from the different files (except Canminindex) can be obtained as hardcopy (photocopies of original text and maps), microfiche, index lists, computer generated information (file printouts, custom searches with selected parameters, and maps) magnetic tapes and diskettes. The table indicates the type of output available from each mineral inventory file as well as the fee structure.

## COMPUTERIZATION

The mineral inventory files reside on a variety of computers (mainframe, minis, and micros) and utilize different kinds of software - both purchased packages and programs developed in-house. The hardware and software associated with each database is summarized in the table. The majority of the databases that reside on mainframe or mini-computers can be downloaded to personal computers.

The amount of money allocated by government agencies for computerization on a yearly basis falls in the range of \$3,000 to \$20,000.

## GRAPHICS

Five of the databases have developed graphics software. The survey indicated that computer graphics were included in future development plans for most of the databases.

## PROPOSED MODIFICATIONS FOR EXISTING MINERAL INVENTORY FILES

**YUKON MINERAL INVENTORY** - The data presently resides and is being collected on floppy diskettes. Future plans include hard disk mainframe data storage with PC downloading capabilities. Computerized graphics will be developed in 1987.

**NORTHERN CORDILLERA MINERAL INVENTORY** - (Archer, Cathro & Assoc.). The manual file will be entered on a Wang micro computer and a search program will be written.

**COALFILE (B.C.)** - This file is presently being revised to reside on an IBM-PC.

**MINFILE (B.C.)** - The database will be moved in October 1985 from an IBM Mainframe to a VAX-11-750 mini-computer. New software has been developed using a 4th generation relational database ULTRA/MANTIS. MINFILE has been upgraded and expanded and the amount and

detail of geological information being collected has been greatly enhanced. Loading of new data begins November 1985.

**ALBERTA MINERAL DEPOSITS AND OCCURRENCES** - Plans are underway for automation of the data and linking with a geographic information system.

**SASKATCHEWAN MINERAL DEPOSITS INDEX (SMDI)** - Format of the SMDI cards will soon conform with the NMI system. The file is being updated and new software is being developed for fast and easy updating and retrieval.

**MANITOBA MINERAL INVENTORY FILE** - Updating of this manual file is presently being funded by the Canada-Manitoba Mineral Development Agreement 1984-99. All cards in the file will be entered on a Wang word processor. Future plans include computer links to a new Mines Branch information system currently being developed through the Mineral Agreement.

**MINERAL DEPOSIT INVENTORY (Ontario)** - Production of Indexes by Township and claim map area is planned.

**QUEBEC** - The file will be updated and plans are underway for computerization of the data.

**METALLIC AND INDUSTRIAL MINERAL OCCURRENCES, AND DRILLHOLES DATABASES (N.S.)** - The addition of new occurrences based on information available from 1981 to 1985, and updating of existing occurrences is being done on an ongoing basis. Plans also include loading the database onto the Dalhousie University Cyber.

**CANMINDEX (Canada)** - A change in the database management system will probably happen within the next year.

Compiled by:  
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Geological Branch  
Ministry of Energy, Mines and Petroleum Resources

PROVINCIAL AND NATIONAL MINERAL INVENTORY FILES - SUMMARY TABLE

Province	Organization	Name of File	Size of File (Number of Occurrences)	Summary of Data in File	Computerized (Yes/No)	Hardware	Software	Computerized Graphics	Information Available	Fees	Staff	Contact Person
N.W.T.	Indian and Northern Affairs Canada	Mineral Inventory Cards/Maps	6,000	Property names, locations, history, ownership, commodity, geology, minerals, references.	No	N/A	N/A	N/A	on microfiche	.25/p	1p/y	J.E. Vieira 403-920-8215
Yukon	Exploration & Geological Services	Yukon Mineral Inventory (YMI)	1,900	Property names, locations, claims, deposit type, history, geologic description, Current work.	Yes - 250 Occurrences	Wang PC	D Base II Wang (Word Processing Multiplan)	No (1987)	All reports on microfiche. Custom searches of data by deposit type and commodity.	.10¢/p .10¢/p	3p/y	D. Downing 403-668-5151
Yukon and B.C.	Archer, Cathro & Assoc. (1981) Ltd.	1. Northern B.C. Min. Inven.	1,844	Mineral occurrences in in B.C. - north of 52 Lat. and significant unexplained geophysical and geochemical anomalies. (Location, work history, geology, assay data).	Yes	Wang PC	Wang Word Processor In-house Software (Basic, D Base II)	No	Custom searches. Complete data set. Yearly update.	\$3.50 per occ. \$6,454 \$1,950	1.5p/y (prof.) .5 (sec.)	A. Archer 604-688-2568 R. Cathro 403-667-4415
		2. Northern Cordillera Min. Inven.	2,533	Exploration-oriented data file of mineral occurrences and work targets. (Location, work history, economic geology).	No	N/A	N/A	N/A	Hardcopy by request. Complete data set.	\$3.00 per occ. \$7,600	.5p/y (prof.) .25p/y (sec.)	(same as above)
B.C.	B.C. Ministry of Energy, Mines & Pet. Resources, Geological Branch	MINFILE	9,000	Location, names, mining div., geology incl. host rock, brief descrip., deposit types, genetic types, metamorphism, structure and references.	Yes	VAX 11-750	ULTRA/MANTIS	No (1986)	Hardcopy report Data tape. custom searches. per hit Indexes.	at cost \$300.00 \$10.15 \$30-\$50	2p/y	A. Wilcox 604-387-5975
		COALFILE	602	602 property summary records for each coal assess. report. Detailed exploration information (maps, trenches, boreholes, adits and pits)	Yes	IBM 3081 IBM-PC-XT	Batch PL1/Wylbur execs., Calcomp. Focus		Hardcopy report. Open file index. Custom searches. Custom plots. Diskettes or tape.	at cost \$5.00 \$5-\$10 \$20.00 at cost	1.5p/y	C. Kenyon 604-387-1301

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Alberta	Alberta Research Council	1. Alberta Mineral Deposits and Occurrences	500 +	Commodity, location, size, geologic description, analyses, tests, economic use potential	No	N/A	N/A	N/A	Specific information provided upon request	no fee	.25p/y	W. Hamilton
		2. GEODIAL	6200	Bibliographic geo- science information on Alberta	Yes	Amhdahl 5860	SPIRES on MTS	No	Searchable on line, custom searches	no fee	1 p/y	J. MacGillivray
		3. Industrial and Metallic Mineral Resources Catalog	2000	Bibliographic reference with areal extent plotted on maps and tied into level of detail of report	No	N/A	N/A	N/A	Not yet publicly available	N/A	.25p/y	J. MacGillivray D. Edwards
Sask.	Sask. Energy & Mines, Mineral Dev. Section	Saskatchewan Mineral Deposits Index (SMDI)	1,858	Deposit name, ID, status, location, ownership, economic attributes, geology of deposit and host rock, references.	Yes	HP-9825 in con- junction with IBM 3081 mainframe	In-house software (Fortran & HPL)	Yes	Complete listing by NTS or commodity. Partial listings (min. 150 entries) Comp.gen.com.map. SMDI file on tape. SMDI cards.	\$100.00 .30¢/ entry \$15.00 \$150.00 \$1.00 ea.	1p/y	J. MacEachern 406-787-9180 T.I.I. Sibbald 306-787-2576
		Saskatchewan Mineral Assessment Files (SMAF)	6,000	Mineral exploration reports and maps.	No	N/A	N/A	N/A	Hardcopy of reports. Copies of maps.	.25/p at cost	2.3p/y	M.A. Fuzesy 306-787-9180 T.I.I. Sibbald 306-787-2576
Manitoba	Manitoba Energy & Mines	Manitoba Mineral Inventory File	994	Property names, location, commodities, geology, history, publication, & map references.	No	N/A	N/A	N/A	Hardcopy. Custom retrievals. Pubs. 851 cards on microfiche + loc. map to 1979. (ER79-6)	.25/p at cost \$20.00	1p/y	D.J. Richardson 204-945-6541 J.D. Bamburak 204-945-6534
Ontario	Ontario Geological Survey	Mineral Deposit Inventory (MDI)	7,000 manual 5,550 computer	Location, commodities, status, references	Yes	IBM mainframe	S2K	No	Hardcopy reports. Custom retrievals. Data on mag.tape. Min.Dep.Rep.O.F.5470	.15/p at cost \$100.00 \$20.00	2p/y	H.A. Groen 416-965-4641
Quebec	Ministere de l'Energie et des Ressources		5,650	Identification, location, history, regional geology, local geology structure, mineralization, deposit (with sketch), reserves & production, bibliography.	No	N/A	N/A	N/A	Deposit Information Forms	.80¢/ea	2p/y	M. Germain or L. Avramtchev 418-643-8167

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N.B.	New Brunswick Dept. of Natural Resources, Min. Res. Div.	Mineral Occurrence File	?	Location, description history, geology, mine workings, drillhole locations, assays	No	N/A	N/A	N/A	Hardcopy	.15/p	.5p/y	D.T.T. Carroll
N.S.	Nova Scotia Dept. of Mines & Energy	Metallic Mineral Occurrences Data Base &	894	Identification, location, commodities, production assay results, geology. (Both manual and computerized files)	Yes	PDP/11/23/73	GEOBASE	Yes	Custom searches. Card file (in departmental libraries) Plots by map sheet.	Fee for service basis at cost	1p/y	N.A. Lyttle 902-424-5060
		Industrial Mineral Occurrences Data Base & Card File	1,052	Identification, location, commodities, production assay, results, geology. (Both manual and computerized files.)	Yes	PDP/11/23/73	GEOBASE	Yes	as above	as above	1p/y	as above
		Drill Hole Data Base	8,300	Location of drill holes, associated exploration data	Yes	PDP/11/23/73	GEOBASE	Yes	as above	as above	1p/y	as above
Nfld.	Nfld. Dept. of Mines & Energy	Mineral Occurrence Data System (MODS)	3,000	Detailed manual summary. Brief summary (computerized) - ID, name, location, ownership, deposit description, geological setting, exploration and dev., bibliography	Yes	AMDAHL 5860	GRASP	No	Hardcopy. Microfiche. Mineral occ. maps. Custom searches (no fee structure as yet)	.15/p .50/p \$3.00	5p/y	C. O'Drisoll or P. Dean 709-576-2769
Canada	Geological Survey of Canada	CANMINDEX (Index to Canadian Mineral Occurrences)	15,000	Index-level: names, location, commodities, geology, references	Yes	CDC CYBER 730	IS/ATHENA in-house software (Cobol, Fortran, Pascal)	Yes	At present CANMINDEX is for internal GSC use only	-	1p/y	D. Garson 613-996-3399 R. Larmae 613-996-3413
	Energy, Mines & Resources	1. National Mineral Inventory 2. MINSYS	1. 19,498 2. 23,215	Name, owner, discovery year, method of discovery, province, geol. setting, location, deposit description, history, commodity, produc., cross-ref.	1. No 2. Yes	2. CYBER 730	2. S2K	Yes	1. Hardcopy 2. Printouts Tape	1. .25/ card 2. \$10 + .10/pg. \$62.50	5p/y	A. Sozanski 613-995-9466

## SURVEY OF FEDERAL—PROVINCIAL MINERAL DEVELOPMENT AGREEMENTS

Province or Territory	Total \$ Value of Agreement (\$ million)	Cost Sharing Formula	Time Period	Delivery % Canada % Province	Major Components/Projects			Industry Involvement (e.g. Tech.Comm.)	Contact Person & Tel. No.		
					Project Name	Budget (\$,000's)	Delivery (Prov. or Canada)				
B.C.	\$10	50/50	1985-1990	96% B.C. 4% Canada	Geoscientific Surveys	6,750	90% B.C.	Industry Technical Liaison Committee advises on projects	G. McKillop (604) 387-5975		
					- mapping						
					- geochemistry						
					- industrial minerals investigations						
					Geoscience Data Systems	450	94% B.C.				
- MINFILE update											
Sask.	\$6,380	N/A	1984-1989	50% Can. 50% Sask. Parallel Work Delivery	<b>Geoscience</b>	5,340	41.2 Can. 51.8 Sask.	Sask. Geological Liaison Committee	J.E. Christopher		
					Geophysics	1,000	100 Can.				
					Mineral Deposits	500	100 Can.				
					Geochemistry	700	100 Can.				
					Gold Belt Geology	2,690	100 Sask.				
Industrial Minerals	50	100 Sask.									
Biogeochemistry	400	100 Sask.									
<b>Minerals Technology</b>	400	100 Can.									
<b>Mineral Development</b>	400	100 Can.									
<b>Public Information</b>	240	79.2 Can. 20.8 Sask.									
Manitoba	24.7	60% Fed. 40% Prov.	1984-89	60% Canada 40% Man.	Sector A	13,000	38.5% Man.	Mineral Exploration Liaison Committee	W.D. McRitchie (204) 945-6559		
					Geoscientific Activities						
					Sector B						
					Research & Technology					7,430	37.2% Man.
					Sector C						
Development Studies	1,770	50% Man.									
Sector D	2,500	50% Man.									
Public Information, Evaluation and Administration											
Ontario	\$30	50/50	1985-1990	63% Ont. 37% Can.	Geoscience Program	18,350	64% Ont. 100% Ont.	Program planning Review with Tech. Liaison Comm. prior to work plans submission.	R. Watson (416) 965-1546		
					Information Exchange						
					Productivity & Technology					3,500	100% Ont.
					Economic Development					4,500	96% Ont.
Public Information, Evaluation and Administration.											

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					Project Name	Budget (\$,000's)	Delivery (Prov. or Canada)			
Quebec	\$100	50/50	1985-1990	96% Que. 4% Can.	5 Volets				J.L. Caty 643-1803	
					1. Activites geoscientifiques	34,750	Quebec			a determiner
					2. Recherche et developpement sur l'amiante	8,000	Quebec-Canada			
					3. Infrastructure de developpement mineral	42,000	Quebec			
					4. Desenclavement de l'industrie quebecoise du mineral de fer	15,000	Quebec			
5. Information au public	250	Quebec								
N.B.	\$22.3		1984-1989	30% N.B. 60% Can.	GEOSCIENCE			ADM-R.R. Potter North- J.J. Davies Central- L.R. Fyffe South-A.A. Ruitenberg GSC-F.D. Anderson W.H. Poole		
					Metallic Mineral Dep.	3,020	26% N.B.			
					Regional Geology	3,590	39% N.B.			
					Geochemistry	300	0% N.B.			
					Geophysics (Gravity Surv.)	2,110	11% N.B.			
					Surficial Geology and Till Geochemistry	1,900	0% N.B.			
					Geoscience Compilation	1,153	100% N.B.			
					Drill Hole Core Mgt.	300	100% N.B.			
					MINING & MINERALS TECH.					
					Ferric Chloride Leach Process	1,700	0% N.B.			
					Manganese Processing	200	0% N.B.			
					Evaluation of Aggregates	500	0% N.B.			
					Potash Mineralogy	200	0% N.B.			
					Backfill-Potash Mines	400	0% N.B.			
					Dewatering in Coal Min.	125	100% N.B.			
					Peat Geochemistry	150	100% N.B.			
					ECONOMIC DEVELOPMENT					
					Manganese Market Review	100	0% N.B.			
					Processing Opportunities	400	0% N.B.			
					Commodity Studies	850	30% N.B.			
					Resource Manag. Str.	2,511	100% N.B.			
					Metall. Assist.-Small Firms	1,000	0% N.B.			
					PUBLIC INFORMATION, EVALUATION, ADMIN.					
Public Awareness	117	100% N.B.								
Prospecting Courses	181	100% N.B.								
Evaluation, Administration	1,500	0% N.B.								
Nova Scotia	\$26.945	60/40	1984-1989	60% Can. 40% N.S.	GEOSCIENCE	14,507	62% Can. 38% N.S.	Technical Liaison Committee (902) Programs	J.D. Keppie MDA Coord. 424-4700	
					- Regional Surveys					
					- Mineral Deposits					
					- Metallogeny		Reviews			
					- Tectonics					
					- Geochemistry					
					- Pleistocene					
					MINERAL TECHNOLOGY	4,982	66% Can. 33% N.S.			
					- Commodity Studies					
					- Minerals Testing					
DEVELOPMENT STUDIES	1,841	48% Can.								
- Market Studies										
- Inventory Files		52% N.S.								
- Core Library										
MINERAL INVESTMENT STIMULATION PROGRAM (MISP)	1,600	80% Can. 52% N.S.								
PUBLIC INFORMATION	1,215	37% Can. 63% N.S.								
ADMINISTRATION	2,800	47% Can. 53% N.S.								

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					Project Name	Budget (\$,000's)	Delivery (Prov. or Canada)		
Newfoundland	\$22	50/50	1984-1989	45% Nfld. 55% Can.	Geoscientific Surveys	16,400	52% Nfld	Technical Liaison Comm. (Indus. & Univers.) advises on projects	B. Greene (709)
					Mining & Mineral Tech.	2,100	29% Nfld		576-2763
					Economic Develop. Studies	1,500	17% Nfld		
					Public Information, Evaluation and Administration	2,000	30% Nfld		
Yukon	\$3.9	90/10 Can/Yukon	1985-1990	100% Can.	Geochemistry	2,200	100% Can. (GSC)	Yukon Ch. of Mines on all Management and Technical Advisory Committees	A. Clark, Min. Policy EMR, Ott. (613) 995-9466
					Geological Mapping	1,100	100% Can. (DIAND)		J. Morin (403) 668-5151
					Placer Mining Technology	600	100% Can. (DIAND)		C.H. MacDonald DIAND (403) 668-5151



## TABLES SUMMARIZING MINING RIGHTS LEGISLATION IN THE PROVINCES AND TERRITORIES

Mining rights (dispositions) are the legal vehicles through which the owners of the minerals, the Provinces and Canada, grant to the public exclusive rights to search for, develop and mine those minerals.

Figures 1 to 5 are tables of data that summarize selected elements of mining right legislation in the ten provinces and two territories. Elements selected are those that deal with obtaining and maintaining a mining right.

Figures 1, 2 and 3 contain the raw data as specified in each provincial and territorial piece of legislation. The data is organized under the three stages of progression of a mineral showing to a producing mine, i.e. exploration, development and production, with some overlap. These three stages are correlated with the advancing levels of mining rights, as follows:

STAGE	MINING RIGHT
1. exploration and development	claim
2. development and pre-production	early lease (licence in eastern provinces) — production not a condition of the lease
3. production	late lease (lease in eastern provinces) — production generally a condition of the lease

Because of varying claim sizes and use of both Imperial and metric measure, Figures 1 to 3 have limitations in their usefulness for comparisons between jurisdictions, especially with respect to required work and fees. Thus, Figures 4 and 5 have been constructed to provide for direct comparison of these two elements. Part A of Figure 4 repeats the raw data for required work while Part B shows the same data mathematically averaged, based on a 40 acre (16 ha) claim. In Figure 5, the fees for recording and renewing claims are also converted to a 40 acre (16 ha) claim size and licence and lease rentals are expressed as \$ per ha per year.

The reader is advised that, because of the on-going process of amendment to legislation, some data may be obsolete by the time of publication of these tables. The reader is also cautioned that these tables are not a substitute for actual legislation nor should they be used as such.

In order to accomplish completeness of data in a convenient size, it is necessary to make considerable use of the following abbreviations and symbols:

ft	feet	L	length
m	metres	W	width
ac	acres	≥	not greater than
ha	hectares	max	maximum
t	tonnes	min	minimum
mos	months	ug	underground
yr(s)	year(s)		

**Figure 1. Exploration and development**

	YUKON	NWT	B.C.	ALBERTA	SASKATCHEWAN
Enacted (last amend)	1952 (1984)	1977 (1979)	1977 (1982)	1984	1961
Ground/map staking	ground	ground	ground	map	ground
Name	mineral claim	claim	(a) mineral claim of 1 to 20 units (b) 2-post claim (by indiv. only)	metallic minerals exploration permit	mineral claim
Basic claim	How staked	2 posts, line between marked, max 8 claims/yr within 10 mi. rad.	4 corner posts and at 1500 ft on ext bndry, bndry marked before recording	(a) legal corner post and at 500 m on ext bndry, bndry marked (b) 2 posts, line between marked	(a) surv. area: legal subdivision (b) unsurv. area: 4 corner posts, bndry marked
Size	L $\times$ 1500 ft W $\times$ 1500 ft 51.65 ac (20.9 ha)	$\times$ 2582.5 ac (= 50 at 1500 ft), sides are mult. of 1500 ft. L $\times$ 5W	(a) unit: 500 m (25 ha) (b) 2-post claim: 457.2 m (1500 ft) 20.9 ha (51.65 ac)	16 to 9216 ha.	(a) 40 ac (b) $\times$ 40 ac side $\times$ 1980 ft
Block	Size		25 to 500 ha $\times$ 8 units in one direction		L $\times$ 6W (a) 1 1/2 to 24 sect. (b) 960 to 15,360 ac
Bearing of boundaries	any	astronomic	(a) astronomic (b) any	astronomic	astronomic
Time marked on no. 1 post	date only	placing of post and compl'n of claim	(a) commencement and completion (b) date only	N/A	claim: commenc't block: completion
Max. time to affix tags	as soon as reas.poss. after recording	when staking (write on tags)	when staking (write on tags)	N/A	1 yr from recording
Max. days to record	15 + extra dep. on distance	60	30	N/A	(a) - (b) 30
Recording fee (\$)	10/claim	0.10/ac	5/unit	25/permit	5/claim 0.15/ac for block
Term length x number	1 yr x unlim.	2 yrs plus 1 yr x 8	1 yr x unlim.	3 yrs, plus 2 yrs plus 2 x 1 yr	1 yr x 10
Renewal fee (\$) * Filing work	*5/claim	*0.10/ac	*5/100 work	1st - 100, 2nd - 200 3rd - 250	0
Annual work \$/claim unless otherwise specif.	100	yrs (1 + 2) \$4/ac 3 + \$2/ac	yrs 1-3 100/unit 4 + 200/unit	First term \$10/ha Second term \$20/ha third and fourth term \$15/ha	claim: yrs 2-10 100 block: yrs 2-10 \$2.50/ac
Cash for work — Refund if work done	yes - no	yes - yes	yes - no	Deposit Refund - yes	yes - no
Limit for grouping work	16 claims/yr	5165 ac/yr (= 100 at 1500 ft)	100 claims/yr	1 claim per term	36 contiguous claims/yr
Limit for excess work credit	\$400/cl/yr	unlim.	10 yrs.	Credited towards primary lease term.	unlim.
Time after anniv. to file work rpts	6 mos (fee)	30 days	90 days	at anniversary date	90 days
Confidential period for work reports	lapse + 6 mos	upon lapse or 3 yrs	1 yr	1 yr after term or permit expiry	none with consent or upon lapse or 6 yrs
Prod'n permitted	yes	$\times$ \$100,000/yr	if surveyed or $\times$ 1000 t/yr	no	no
Other exploration rights	-	permit to prospect	reverted Crown-granted claim	none	permit, agreement

MANITOBA	ONTARIO	QUEBEC	N.B.	N.S.	P.E.I.	NFLD.
1975 (1981)	1960	1965 (1982)	1962 (1981)	1975	1978	1977 (1983)
ground	ground	ground	ground	map	map	(a) ground (b) map
mining claim	mining claim	claim development licence after yr 1 (yr 2 N of 52°)	mining claim	claim exploration licence for 1 to 80 claims	claim exploration licence for 1 to 80 claims	mineral claim
(a) surv. area: 1 + leg. subd'ns (b) unsurv. area: 4 corner posts and at 400 m on bndry, bndry marked	4 corner posts, bndry marked	4 corner posts, bndry marked, special rules in surv. area	4 corner posts in clockwise order, bndry marked	map selection	map selection	(a) 4 corner posts, bndry marked (b) map selection
16 to 256 ha L > 4W side > 400 m	(a) 1320 ft (40 ac) (b) aliquot part of subdivided lot	400 m (16 ha) in unsurv. area. other sizes in surv. area	400 m (16 ha)	40 to 3200 ac	40 to 3200 ac	(a) 400 m (16 ha) (b) 500 m (25 ha)  (a) 16 to 64 claims (256 to 1024 ha) L > 4W
astronomic	astronomic	astronomic	astronomic	astronomic	astronomic	astronomic
completion	commencement (compl'n proposed)	commencement	commencement	-	-	completion
at staking if pre-purch., 1 yr from rec'ding if purch. at rec'ding	6 mos. from recording	when staking	3 mos. from recording	-	-	during staking
30	31	15 + max 30 extra dep. on distance	30	-	-	30
5/claim	10/claim	0	4/claim	4/claim	5/claim	5/claim
2 yrs plus 1 yr x unlim.	1 yr x 5	cl.-1 yr, 2N of 52 lic. 1 yr x unlim.	1 yr x 4	1 yr x 8	1 yr x 5	1 yr x 5
*2/claim	0	.60/ha	2/claim	4/claim	5/claim	-
yrs 2-10 \$12.50/ha 11+ \$25.00/ha	yr 1 20 days 2-4 40 days 5 60 days	yr 1 \$5/ha 2+ \$10/ha N of 52° yrs (1+2) \$15/ha	25 days/yr (day = \$5)	10 days/yr (day = \$20)	\$5/ac	yr 1 (a)200 (b)300 2 250 375 3 300 450 4 350 525 5 400 600
yes - yes	no	yes - no	any yr: yes - yes yr 1: \$10 - no	any yr: yes - yes	yes - yes	no but ext'n up to 1 yr with deposit
1600 ha/yr	4000 days/appl'n (more for drilling)	480 ha	contiguous claims	an expl. licence (80 claims)	an expl. licence (80 claims)	contiguous claims
unlim.	unlim.	unlim.	10 yrs.	unlim.	unlim.	unlim.
60 days	10 days	30 days	10 days	15 days	15 days	60 days
none with consent or upon lapse	none	discretionary on request	none (2 yrs for reg'l work on req)	2 yrs	2 yrs plus 1 yr on request	upon lapse or 3 yrs
no (without consent)	no	no	no	no	no	no
permit agreement	agreement	exploration permit in New Quebec	agreement	agreement	agreement	reserved area licence

(a) ground staked; (b) map staked

**Figure 2. Development and pre-production (production not a condition)**

	YUKON	NWT	B.C.	ALBERTA	SASKATCHEWAN		
NAME	lease (of claim)	lease (of claim)	mining lease	lease (1st & 2nd terms)	(a) lease (b) developed area (by expenditures)		
Boundary survey	yes	yes	yes	no	(a) marked or surveyed		
Other conditions for obtaining	certif. of improvements (\$500 spent, min. dep. found, post notice)	\$10/ac spent (\$4 tren. strip, drill, ug); undertake to commence prod'n	post & publish notice of intent	approved assess. report on permit	(b) \$100/ac spent, min \$50.00 ug		
Size limits	1 claim	1 claim (max 2582.5 ac)	max 40 units or 2-post claims	min 16 ha	(a) none (b) max 1440 ac		
Term renewal conditions	21 yrs. renewable if satisfy Min. that cond'ns of lease complied with	21 yrs renewable indef. subj. to prescr. cond'n's	max 21 yrs. renewable indef	Primary term - 10 years renewable to 15 years	(a) max 21 yrs renewable indef. (b) as per dis'p'n		
Rent (ann. unless otherwise spec.)	\$50/1st term \$200/2nd term	\$1/ac less red'n to 50% for tren, strip, drill, ug	0	\$2.50/ha	(a) 0 (b) \$1/ac, min \$200		
Annual work	none		\$400/unit or 2-post claim	\$10/per year prior production	(a) \$5/ac (b) none		
<b>MANITOBA      ONTARIO      QUEBEC      N.B.      N.S.      P.E.I.      NFLD.</b>							
	lease (1st & 2nd terms)	lease (of mining rights)	development licence (cont'd)	mining licence	development licence	development licence	extended licence
	yes - unsurv.area ? - surv.area	yes - unsurv.area ? - surv.area	no	yes	no	no	no
	\$625/ha spent, lesser am't subj. to geol. & econ.		see Stage 1		suff. work to prove up a min'l deposit	suff. work to prove up a min'l deposit	compliance with terms of initial licence
	max 800 ha L > 6W	none	max 90 ha	none	max 80 claims	max 80 claims	none
	21 yrs. renew once without prod'n if \$1250 spent or prod'n on adj. lease or fully explored or prod'n unwarr.	21 yrs renewable indef.	1 yr renewable indef.	1 yr renewable indef.	1 yr renewable indef.	1 yr renewable indef.	one term max 5 yrs
	\$7.50/ha, min \$80	term 1, yr 1 \$1/ac yrs 2+ .25/ac terms 2+ .50/ac	\$.60/ha	\$.62/ha	\$1/ac	\$1/ac	\$3/ha
	none, unless needed for renewal	none	\$10/ha	25 days/16 ha (day - \$5)	as prescribed by Minister	as prescribed by Minister	(a) 1600/claim (b) \$900/claim

(a) ground staked; (b) map staked

**Figure 3. Production (production generally a condition)**

	<b>YUKON</b>	<b>NWT</b>	<b>B.C.</b>	<b>ALBERTA</b>	<b>SASKATCHEWAN</b>	<b>MANITOBA</b>
<b>NAME</b>	lease (3rd term +)	lease (of claim)	certified mining lease	lease	developed area (by production)	lease (3rd term +)
<b>Boundary Survey</b>	done previously	yes	yes	done	developed area (by production)	done previously
<b>Other conditions for obtaining</b>	as prescr. by Gov. in Council	\$10/ac spent (4\$ tren, strip, drill, ug); undertake to commence prod'n	in production	none	mandatory if in commerc'l prod'n	mining or on standby
<b>Size limits</b>	1 claim (per stage 2)	1 claim (max 2582.5 ac)	max 40 units or 2-post claims	min 16 ha	max 1440 ac	max 800 ha L > 6W (per stage 2)
<b>Term. renewal cond'ns</b>	21 yrs. renewable indef. per cond'ns prescr. by Gov. in Council	21 yrs. renewable indef. subj. to prescr. cond'ns	to 21 yrs renew. indef., decert'd upon appl'n by lessee if prod'n ceases	15 years renewable	to 21 yrs. renew indef. as long as in prod'n treat ore in Sask.	21 yrs renewable indef. if in prod'n or on standby. treat ore in Canada
<b>Rent (ann. unless otherwise spec.)</b>	\$200/term	\$1/ac less red'n to 50% for tren, strip, drill, ug	\$10/ha	\$2.50/ha	\$1/ac min \$200	\$5/ha min \$80
<b>Annual work</b>	none		none	none	none	none
	<b>ONTARIO</b>	<b>QUEBEC</b>	<b>N.B.</b>	<b>N.S.</b>	<b>P.E.I.</b>	<b>NFLD.</b>
	patent (= grant)	mining lease	mining lease	mining lease	mining lease	mining lease
	yes - unsurv. area ? - surv. area	yes - unsurv. area ? - surv. area	yes	yes	yes	yes if ground-staked
	1 yr continuous prod'n	reas. indic'n of economic min. dep. prod'n within 2 yrs	plans for mining & reclam'n	prod'n plans for mining & reclam'n	prod'n plans for mining & reclam'n	prod'n within 5 yrs
	none	max 90 ha/yr granted (to 400/yr with gov. appr'l)	min - 1 claim max - none	min - 1 claim max - 16 claims	max 12 claims	none
	grant in fee simple, treat ore in Canada	1st - 5 to 20 yrs; 3 ren'ls to 10 yrs each if mining 1/10 prev. term; extension possible	21 yrs renewable to 84 yrs	20 yrs renewable so long as mine operated	20 yrs renewable so long as mine operated	1st - to 25 yrs renewable for terms to 10 yrs each
	-	\$2.50/ha	\$2.47/ha	\$1/ac	\$1/ac	\$40/ha
	-	none	25 days/16 ha (day = \$5)	work or mining or both	work or mining or both	none

**Figure 4. Summary of required work, years 1 to 10**

	YUKON	N.W.T.	B.C.	ALTA.	SASK.	MAN.	ONT.	QUE.	N.B.	N.S.	P.E.I.	NFLD <sup>4</sup>
Max. claim life	unlim.	10 yrs	unlim.	7 yrs	10 yrs	unlim.	5 yrs	unlim.	4 yrs	5 yrs	5 yrs	10 yrs
Basic claim size	51.65 ac	variable	25 ha	variable	40 ac	variable	40 ac	16 ha	16 ha	40 ac	40 ac	16 ha <sup>4</sup>

**PART A**

	YR 1	100		100		0	0	20 days	\$5/ha	125	200	\$5/ac	200
Required work as prescribed	2	100	\$4/ac	100	\$10/ha	100	\$12.5/ha	40 days	10/ha	125	200	5/ac	250
	3	100	2/ac	100		100	12.50/ha	40 days	10/ha	125	200	5/ac	300
	4	100	2/ac	200	20/ha	100	12.50/ha	40 days	10/ha	125	200	5/ac	350
	5	100	2/ac	200		100	12.50/ha	60 days	10/ha	125	200	5/ac	400
\$/claim unless otherwise spec.	6-10 per yr	100	2/ac	200	15/ha	100	12.50/ha	0 <sup>1</sup>	10/ha	125 <sup>1</sup>	200 <sup>3</sup>	5/ac <sup>3</sup>	600

**PART B**

	YR 1	77.5	80	64		0	0	200 <sup>2</sup>	80	125	200	200	200	200	108.9
Required work converted to \$/40 ac or 16 ha	2	77.5	80	64	160	100	200	300 <sup>2</sup>	160	125	200	200	250	153.0	
	3	77.5	80	64		100	200	400 <sup>2</sup>	160	125	200	200	300	165.5	
	4	77.5	80	128	320	100	200	500 <sup>2</sup>	160	125	200	200	350	183.4	
	5	77.5	80	128		100	200	600 <sup>2</sup>	160	125	200	200	400	195.9	
	6-10 per yr	77.5	80	128	240	100	200	600 <sup>2</sup>	160	125	200 <sup>3</sup>	200 <sup>3</sup>	600	209.2	
AVERAGE, YRS 1-10	77.5	80	108.8	103	100	180	500 <sup>2</sup>	152	125	200 <sup>3</sup>	200 <sup>3</sup>	450	186.1		

1. Where maximum claim life exceeded, required work for next stage is used.
2. As proposed in Discussion Paper, Ontario Ministry of Natural Resources, 1982.
3. Estimated (not specified in legislation).
4. Ground staked claim.

\* 7 years total

**Figure 5. Summary of Fees**

	YUKON	N.W.T. <sup>1</sup>	B.C. <sup>1</sup>	ALTA. <sup>1</sup>	SASK.	MAN. <sup>1</sup>	ONT.	QUE.	N.B.	N.S.	P.E.I.	NFLD.	AVG.	
Individual Prosp. Licence \$/yr		5.00	25.00				5.00	10.00	10.00	-		-	11.00	
Corporate Prosp. Licence \$/yr		50.00	500.00				25.50, 100		25.50, 100				150 to 187.50	
Set of claim tags \$/claim	0	1.00	2.00		1.00	2.00	0	0	1.00			2.00	1.00	
\$ per 40 ac or 16 ha	Record grnd. claim (unit)	7.77	4.00	3.20		5.00	.625	10.00	0	4.00		5.00	4.40	
	Grant map permit (lic.)			0.4		-	-	-	-	2.00	5.00	4.80	3.89	
	Renew grnd. claim (unit)	0	0	0		0	0	0	9.60	2.00				
	Renew map permit (lic.)				0						2.00	5.00	0	- 2-.65
	File work	3.87	4.00	4.48 5 yr av.	0.48	0	.25	0	0	0	0	0	0	-
Rent: licence or lease \$/ha/yr	non-prod.	.28 tms 1&2	-	0	2.50*	(a) 0 (b) 2.47	7.50 tms 1&2	.97 tms 1&2	.60	.62	2.47	2.47	3.00	2.08
	prod.	.46 tms 3+	2.47	10.00	2.50	2.47	5.00 tms 3+	(grant)	2.50	2.47	2.47	2.47	40.00	6.62

1. In these jurisdictions a claim (permit, licence) ranges in size. The middle of the range is used where appropriate.

\* lease only