

Mineral Exploration Activity in Nova Scotia, 2002

P. D. McCulloch

Mineral Exploration Monitoring

Monitoring of mineral exploration activity in Nova Scotia is co-ordinated through the Registry of Mineral and Petroleum Titles of the Minerals Management Division by the author, who works out of the regional office in Stellarton, Pictou County. Regional Geologists of the Regional Services Branch offices in Coxheath (Don MacNeil), Truro (Donald Weir) and Bridgewater (Sandra Johnson) assist in monitoring mineral exploration activity in their respective regions.

The monitoring process covers exploration activities throughout Nova Scotia and consists of visits to company offices and exploration sites, liaison with industry personnel, and the review of current assessment reports and other material submitted by industry. Liaison with industry allows the department to maintain an awareness of current exploration activities throughout the province. Assistance or advice is provided as necessary, and any drill core generated by mineral exploration activity in the province is recorded as part of the monitoring process. This core may be recovered for archiving in the Drill Core Library in Stellarton when no longer required by the companies.

The Exploration Monitoring geologist is also responsible for auditing confidential assessment reports that are submitted in support of the renewal of exploration licences. In 2002, 102 assessment reports were received and audited for compliance with the Mineral Resources Regulations.

Mineral Exploration Activity in 2002

During 2002 mineral exploration in Nova Scotia continued at approximately the same level of activity as in the previous three years. The general level of field exploration expenditures has continued to decline over the past three years,

however, with field expenditures expected to be in the range of \$1.8-2.0 million for 2002, compared with \$2.9 million in 2001, and \$3.5 million in 2000 (Table 1, Fig. 1). Exploration was focused primarily on industrial minerals and gold, with very little activity for base metals. In this regard, interest in the exploration and development of industrial mineral commodities has strengthened in recent years, whereas activities related to the exploration and development of base metals and gold has declined over the same period due primarily to low commodity prices for metals and the difficulty in raising venture capital to fund exploration programs. The general outlook for gold exploration, however, is showing indications for improvement as the price of gold has strengthened significantly, along with a renewed interest in a number of gold properties hosted by the lower Paleozoic metasediments of the Meguma Group.

Preliminary figures for the total number of general claims staked in 2002 show an increase of 43% from the previous year to 12,050 (Table 1, Fig. 2). 12,780 claims for all commodities were in effect at the end of 2002, represented by 509 general and special licences covering an area of 206,882 ha or 2,068 km², approximately 3.8% of the total area of the province. The amount of exploration drilling continued to be low in comparison to previous years with a preliminary estimate of 5000 m in 2002 compared with 5100 m in 2001 and 8500 m in 2000.

Approximately 187 companies and individuals held exploration interests (licences or options) in the province in 2002, including 5 major, 10 junior and 45 private companies (Tables 2, 3 and 4). In addition, several mining lease holders carried out exploration and development work on leases or on unclaimed ground where these commodities did not require licences (e.g. limestone, gypsum). Organizations actively engaged in exploration during 2002 included 5 junior and 15 private companies (Fig. 3, Table 5), as well as a number of individuals.

Table 1. Details of exploration and development activity in Nova Scotia, 1993-2002.

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002 ^P
Total Field Exploration Expenditures (\$)	2 300 000	1 400 000	2 843 000	5 752 000	6 700 000	5 600 000	3 800 000	3 500 000	2 900 000	2 000 000
Total Licences Issued (all categories)	593	673	698	1 127	978	711	707	606	498	509
Claims in Good Standing (new and reissued)										
General	9 504	13 740	15 861	33 399	25 190	11 452	14 045	10 951	8 391	12 050
Special (Order in Council)										
Salt and Potash	66	66	-	214	214	820	804	255	255	255
Coal	433	218	218	311	240	253	173	-	-	-
Geothermal	-	158	158	158	158	158	158	158	158	158
Underground Gas Storage	-	-	-	-	-	106	106	106	307	307
Tailings	146	146	146	146	146	-	-	-	-	-
Other (gold, base metals)	452	255	130	130	130	130	132	10	10	10
Uranium*	(226)	(226)	(226)	(226)	(226)	(226)	(226)	(226)	(226)	(226)
Total (excluding closures and uranium licences)	10 601	14 583	16 513	34 358	26 078	12 219	15 418	11 480	9 121	12 780
Total Area Held Under Licence (ha)	171 609	236 069	267 312	556 186	422 150	209 132	249 586	185 838	147 650	206 882
(acres)	424 040	583 320	660 520	1 374 320	1 043 120	516 760	616 720	459 200	364 840	511 200
Work Reported for Licence Renewals (\$)	983 402	1 694 368	1 601 639	2 376 023	3 146 899	5 385 194	2 969 047	1 136 304	2 811 393	1 457 012
Number of Assessment Reports Received	62	84	111	108	133	134	100	85	72	102

^Ppreliminary

*parentheses around uranium claims indicate ground alienation due to the uranium moratorium

December 31, 2002

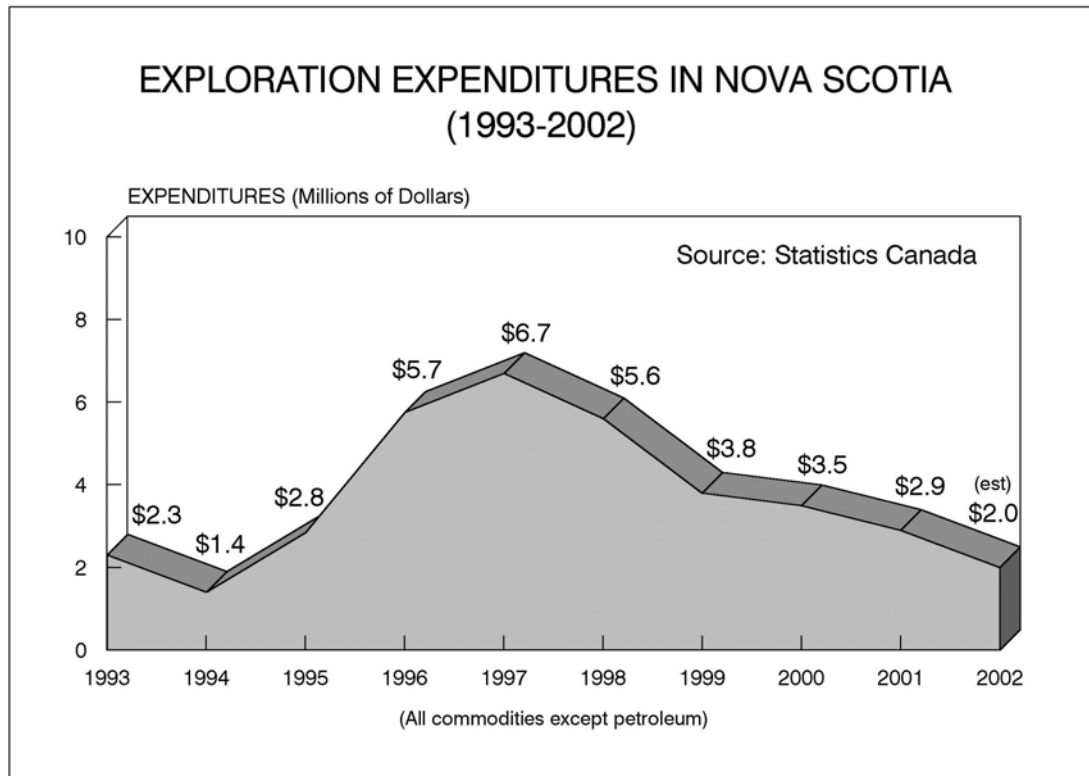


Figure 1. Exploration expenditures in Nova Scotia, 1993-2002.

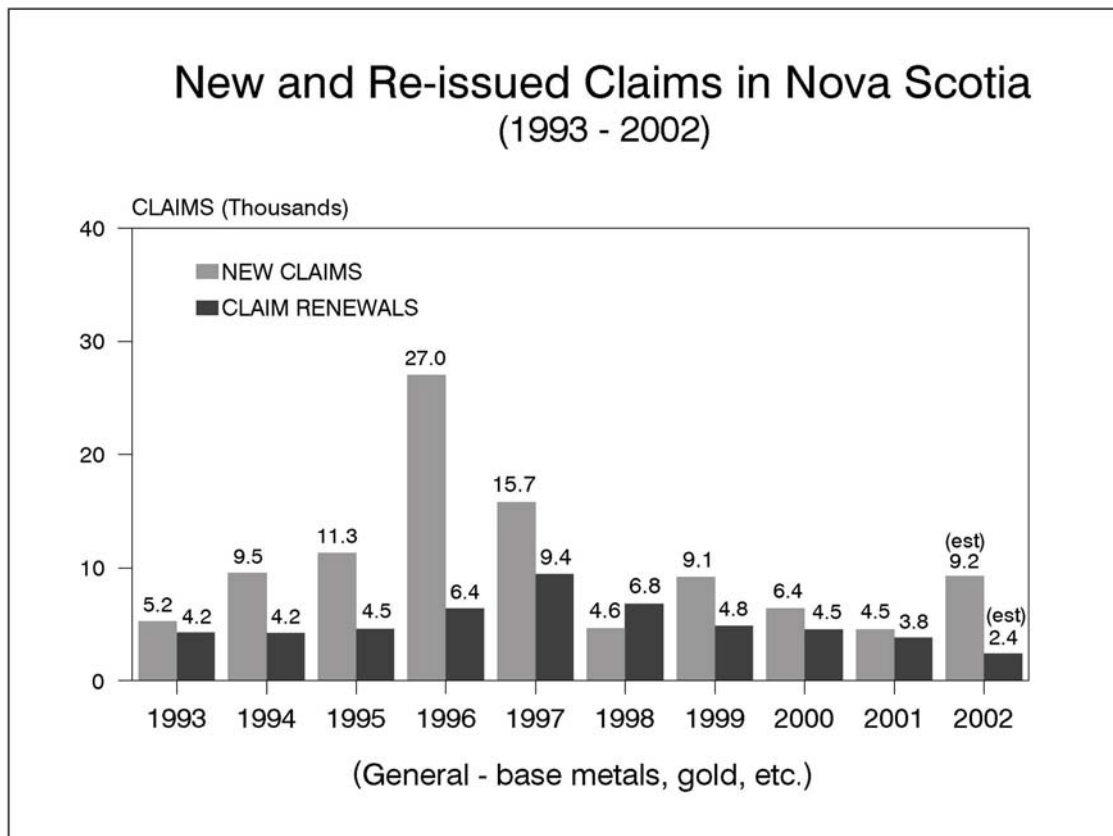


Figure 2. Claim staking in Nova Scotia, 1993-2002.

Table 2. Major companies with exploration interests (licences or options) in Nova Scotia.

	2000	2001	2002	Office location in 2002
Aur Resources Incorporated			-	
Lafarge Canada Incorporated	x	x	-	Brookfield
Noranda Exploration Company Limited	-			
Pasminco Resources Canada Company (formerly Savage Resources Canada Limited)	x	x	-	
Statia Terminals Canada Limited	x	x	-	
W. M. C. International Limited	-	-	-	

x indicates work performed
 - company inactive
 blanks indicate that the company did not hold an exploration licence in that particular year

Industrial Minerals

Exploration and development work for industrial minerals was undertaken for a number of commodities including kaolin, silica sand, titanium, barite, limestone, gypsum, aggregate resources and building stone.

Black Bull Resources Incorporated continued a detailed exploration and development program for silica in an altered quartz-kaolinite breccia zone along the Tobeatic Shear Zone in the Flintstone Rock area, Yarmouth County. The company completed additional diamond-drilling in the immediate vicinity of the proposed open pit operation during the year. Black Bull was recently given environmental approval for its proposed development plans.

Titanium Corporation Incorporated continued a detailed evaluation of the titanium-bearing heavy mineral sands along the Shubenacadie River near Maitland, Hants County. The company completed additional drilling at several locations along the river between Maitland and Admiral Rock, as well as locations along the Cobequid Bay. The company also completed additional bulk sampling of the titanium-bearing sands along the Shubenacadie River. Dr. Martin Roche completed additional heavy mineral analyses of sand samples from titanium-bearing sand deposits in the central area of Cobequid Bay, and an associated company, Hansone Limited, completed additional heavy

mineral analyses of sand samples taken from the Avon River and the Kennetcook River near Windsor, Hants County.

Glencoe Resources Incorporated completed additional work on the Glendale limestone deposit near River Denys, Inverness County, consisting of diamond-drilling and rock sampling. The company is continuing an evaluation of Precambrian dolomitic marble of the Blues Brook Formation (part of the George River Metamorphic Suite) for both dimension stone and for fillers and coaters. Robert MacDonald also carried out an evaluation of Precambrian dolomitic marble of the Blues Brook Formation near Churchview, Inverness County, during the year, consisting of prospecting and rock sampling. Anthony Barrett also continued an evaluation of Precambrian dolomitic marble of the George River Metamorphic Suite near New Campbellton, Victoria County, consisting of prospecting and rock sampling.

MacLeod Resources Limited began an evaluation of the building stone potential of variably coloured dolomitic marble of the Precambrian George River Metamorphic Suite in the MacLean Road area east of Creignish, Inverness County. Preliminary work on the property consisted of reconnaissance geological mapping, rock sampling and the extraction of test block material. Lynx Minerals Incorporated carried out prospecting, geological mapping and additional soil geochemical sampling to evaluate the potential

Table 3. Junior exploration companies in Nova Scotia.

	2000	2001	2002	Office location in 2002
Aurogin Resources Limited			x	
Black Bull Resources Incorporated	x	x	x	
C ₂ C Mining Corporation	x	x	-	Kentville
Corner Bay Minerals Incorporated	-	-	--	
Exploration Orex Incorporated	-	-		
Globex Mining Enterprises Incorporated	-	-	x	
Heartland Resources Limited	-	-	-	Dartmouth
Newfoundland Goldbar Resources Incorporated			-	
Regal Goldfields Limited	-	-	-	
Roycefield Resources Limited	-			
RJZ Mining Incorporated	-	-	x	
Titanium Corporation Incorporated (formerly Titanium Corporation of Canada Limited)	x	x	x	

x indicates work performed

- inactive

blanks indicate that the company did not hold an exploration license in that particular year

for additional barite mineralization immediately north of the Peter Campbell mine property near Scotsville, Inverness County.

Champlain Resources Incorporated initiated a detailed exploration program in the Brazil Lake area, Yarmouth County, to evaluate the Brazil Lake pegmatite occurrences for both industrial mineral commodities as well as for associated base metals. The company carried out detailed prospecting and rock sampling in the Deerfield and Brazil Lake areas and completed a preliminary diamond-drilling program at Brazil Lake during the year.

Gold

Exploration for gold continued at approximately the same level of activity as in the previous two years. The lower Paleozoic Meguma Group of southern mainland Nova Scotia continued to be the principal focus for gold exploration in the province, and was also the focus of heightened staking by several companies and private interests during the year.

Exploration for gold was undertaken on several properties in the lower Paleozoic Meguma Group of southern mainland Nova Scotia. 37797751 Canada Incorporated recently acquired the former

Coxheath Gold Holdings property at Tangier, Halifax County, to determine the feasibility of re-opening the mine. The company carried out diamond-drilling on the property in late 2001 and completed detailed drill core analyses on the core early in 2002.

Aurogin Resources Limited completed preliminary diamond-drilling, geochemical studies, and metallurgical work on the Moose River gold property, Halifax County, during the year. The company has formalized an agreement with Moose River Resources Incorporated to continue a detailed evaluation of the Touquoy deposit, including the Main Zone and the East Zone, which hosts published reserves of 3.8 million tonnes indicated, grading 2.22 g/t gold. Globex Mining Enterprises Incorporated carried out prospecting and rock sampling on the Mooseland gold property, Halifax County. The company optioned the property to Azure Resources Corporation in September, 2002. Azure plans to carry out a preliminary diamond-drilling program on the property in 2003 to evaluate the results from previous drilling programs.

Strikezone Minerals (Canada) Limited, in an option agreement with Ellsin Resources Incorporated, completed a soil geochemical survey

Table 4. Private exploration companies in Nova Scotia.

	2000	2001	2002	Office location in 2002
166881 Canada Incorporated	-	-	-	
3779751 Canada Incorporated	-	-	x	
Alva Construction Limited			-	
Atlantic Industrial Minerals Limited	-	-		
Asedex Minerals Corporation Limited	-	x	-	
Aurion Minerals Limited	-	-	-	
Broad River Exploration	-			
Burnt Point Resources Incorporated	-	-	-	Halifax
Candor Ventures Corporation			x	
Cannova Goldfields Incorporated	-	-	-	
Cape Minerals Limited	-	-		
Champlain Resources Incorporated	-	-	x	
Cobequid Life Sciences Limited	-	-		
Conrad Brothers Limited	-	-	x	Dartmouth
D&D Metal Detectors Limited	-			
D. R. Duncan & Associates Limited	-			
Datum Quest Explorations	-		-	
Dufferin Resources Incorporated	x	x	-	Halifax
Earth Search Sciences, Incorporated	-	-		
Ellsin Resources Incorporated	x	x	x	
Elmsdale Landscaping Limited		-	-	
Emerald Isle Resources Incorporated		-	x	
Gallant Aggregates Limited	-	-	-	
Gammon Lake Resources Incorporated	-	-	-	Halifax
Geocol Mining & Exploration	-			
Geosearch	x	-	-	Sackville
Geostorage Associates	x	x	x	Halifax
Giant Meguma Holdings	-			Halifax
Glencoe Resources Incorporated	x	-	x	
Gold 'n' Crystal Minerals	x	-	x	East Advocate
Golden Ace Mineral Explorations Limited	x	-	-	
Goliath Copperfields Limited	x	-		
H & E Mullen Investments Limited	x	-	-	
Hansone Limited	x	x	x	
Hibernia Minerals Incorporated	-			
Highland Range Minerals Limited	-	-	-	
Huntington Explorations Incorporated	-	-	-	
Intragaz & Company Limited Partnership	-	x	x	
John Logan Enterprises Limited	-	-	-	
Jubilee Minerals	-	-	x	Bedford
KaoClay Resources Incorporated	x	-	-	Milford Station
Kelly Investments Limited	-	-		
Kelly Rock Limited	-		-	Sydney
Little Lake Gold Mines Limited	-			Dartmouth
Lynx Minerals Corporation	x	-	-	
MacLeod Resources Limited	x	x	x	
Maritime Mica Incorporated	-	-	-	

Table 4. Continued.

	2000	2001	2002	Office location in 2002
Meguma Resource Enterprises Incorporated			x	
Mercator Geological Services Limited	-			Dartmouth
Minas Basin Pulp & Paper Company Limited	-	-	-	
Mineral City Enterprises Incorporated	-	-		
Mount Cameron Minerals Incorporated	-	-	-	
North Cape Breton Resources Limited	-	-		
Nycon Resources Incorporated		-	x	
Oceanview Minerals Limited		-	-	
Ochter Holdings Limited	-			
Pan East Petroleum Corporation (formerly Pan East Resources Incorporated)	-	-	-	
Prodigy Resources Incorporated	-	-		
Rainbow Resources Limited	-	-	-	Dartmouth
Remoscan Limited	-			
Robert Stewart-Patterson & Associates		-	-	
The Shaw Group Limited (formerly L. E. Shaw Limited)	x	x	-	Lantz
Tangier Limited Partnership (formerly Tangier Mining Incorporated)	-			
Tri-Explorations Limited				
True Metallic Explorations	x	x	-	Bedford
Uravan Minerals Incorporated	-			
Votix Corporation Limited	x	-	-	Trenton

x indicates work performed
- inactive
blanks indicate that the company did not hold an exploration license in that particular year

on the Lake Charlotte gold property, Halifax County, and RJZ Mining Incorporated completed an assessment of previous aeromagnetic data on the Beaver Dam property, Halifax County. Conrad Brothers Limited completed a small diamond-drilling program in the vicinity of their quarry operations at Montague Gold Mines, Halifax County, and Nycon Resources Incorporated completed a reconnaissance soil geochemical survey along the southern extension of the Salmon River anticline on the company's Muskrat Lake property, Halifax County.

A number of small exploration programs were also completed on several properties throughout the Meguma Group by several individuals and private interests. Dennis Forgeron completed a preliminary assessment of the Country Harbour gold property, Guysborough County, consisting of prospecting

and a detailed geological compilation of the property. Scott Grant carried out rock sampling and analytical work on the Cochrane Hill gold property in Guysborough County in the immediate vicinity of the former Northumberland Mines property. Gold 'n Crystal Minerals carried out prospecting and rock sampling on the North Star gold mine property at Isaacs Harbour, Guysborough County. Meguma Resource Enterprises Incorporated continued prospecting and related activities on the Miller Lake gold property in Guysborough County and the Ecum Secum and Fifteen Mile Stream gold properties in Halifax County.

Base Metals

Exploration for base metals continued at approximately the same level of activity as in the previous two years and was focussed primarily on

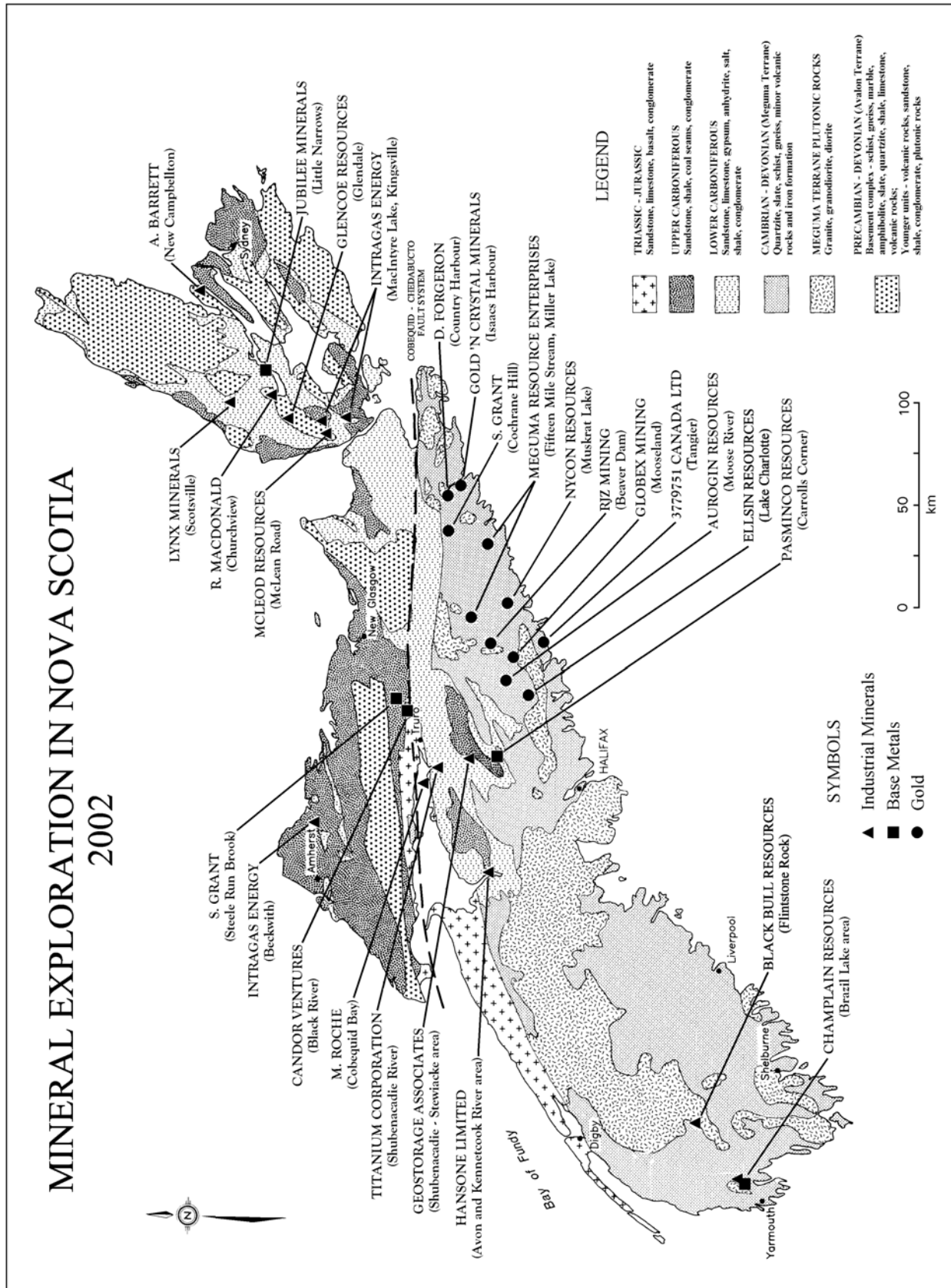


Figure 3. Mineral exploration programs in Nova Scotia, 2002.

Table 5. Exploration programs in Nova Scotia, 2002.

COMPANY/INDIVIDUAL	LOCATION	COMMODITY	PROGRAM
3779751 Canada Limited	Tangier, Halifax County	Gold	Drill-core analyses
Aurogin Resources Limited	Moose River, Halifax County	Gold	Diamond-drilling, metallurgical testing
A. Barrett	New Campbellton, Victoria County	Marble	Prospecting, rock sampling
Black Bull Resources Incorporated	Flintstone Rock, Yarmouth County	Kaolin, silica sand	Diamond-drilling
Candor Ventures Corporation	Black River, Colchester County	Base and precious metals	Ground geophysics
Champlain Resources Incorporated	Brazil Lake, Yarmouth County	Industrial minerals, base metals	Prospecting, rock sampling, diamond-drilling
Conrad Brothers Limited	Montague Gold Mines, Halifax County	Gold	Diamond-drilling
D. Forgeron	Country Harbour, Guysborough County	Gold	Prospecting
Geostorage Associates	Shubenacadie area, Colchester County	Salt (underground storage)	2D seismic survey
Glencoe Resources Incorporated	Glendale, Inverness County	Marble	Diamond-drilling, rock sampling
Globex Mining Enterprises Incorporated	Mooseland, Halifax County	Gold	Prospecting, rock sampling
Gold 'n Crystal Minerals	Isaacs Harbour, Guysborough County	Gold	Prospecting, rock sampling
Jubilee Minerals Limited	Bucklaw, Victoria County	Base metals	Prospecting, geological mapping, magnetometer survey
Intragaz and Co. Limited Partnership	Kingsville area, Inverness County McIntyre Lake, Inverness County Beckwith, Cumberland County	Salt (underground storage)	Evaluation of previous drilling
Lynx Minerals Incorporated	Scotsville, Inverness County	Barite	Prospecting, geological mapping
MacLeod Resources Limited	MacLean Road, Inverness County	Marble	Prospecting, geological mapping, soil sampling
Martin Roche/Hansone Limited	Cobequid Bay Avon River/Kennetcook River, Hants County	Mineral sands (titanium) Mineral sands (titanium)	Heavy mineral analyses Heavy mineral analyses
Meguma Resource Enterprise Inc.	Miller Lake, Guysborough County Fifteen Mile Stream, Halifax County Ecum Secum, Halifax County	Gold	Prospecting
Monster Copper Resources Incorporated	Central mainland Nova Scotia	Base and precious metals	Reconnaissance geological mapping, ground geophysics

Table 5. continued.

COMPANY/INDIVIDUAL	LOCATION	COMMODITY	PROGRAM
Nycon Resources Incorporated	Muskrat Lake, Halifax County	Gold	Soil geochemical sampling
R. MacDonald	Churchview, Inverness County	Marble	Prospecting, rock sampling
Pasminco Resources Canada Company	Carrolls Corner area, Halifax County	Base metals	Prospecting, geological mapping
R/JZ Mining Incorporated	Beaver Dam, Halifax County	Gold	Review of previous geophysical data
S. Grant	Cochrane Hill, Guysborough County Steele Run Brook, Colchester County	Gold Base metals	Rock sampling Geological mapping, magnetometer survey
Strikezone Minerals (Canada) Limited	Lake Charlotte, Halifax County	Gold	Soil geochemical sampling
Titanium Corporation Incorporated	Shubenacadie River, Hants County	Mineral sands (titanium)	Drilling, bulk sampling

areas of known mineral occurrences in the northern and western areas of mainland Nova Scotia.

Jubilee Minerals Limited carried out a preliminary exploration program in the Little Narrows area south of Bucklaw, Victoria County, to evaluate the base metal potential of the Lower Carboniferous Windsor Group immediately northeast of the company's Jubilee Pb-Zn property at Little Narrows. Work on the property included prospecting, geological mapping and a magnetometer survey. Pasminco Resources Canada Limited carried out prospecting and geological mapping in the vicinity of Carrolls Corner, Halifax County, to evaluate the potential for additional Pb-Zn reserves in the Lower Carboniferous sediments of the Windsor Group west of the Gays River Pb-Zn deposit.

Monster Copper Resources Incorporated initiated an exploration program to evaluate the base and precious metal potential of several properties along the Cobequid-Chedabucto Fault Zone in central mainland Nova Scotia. The company completed reconnaissance geological mapping and geophysical work during the year. Candor Ventures Corporation conducted reconnaissance geophysical work in the Black River area near Riversdale, Colchester County, to evaluate the base and precious metal potential

along the east-west trending Cobequid-Chedabucto Fault zone. Scott Grant completed reconnaissance geological mapping and a magnetometer survey to evaluate the base and precious metal potential of the Steele Run Brook area west of the Mount Thom Cu-Co prospect.

Other

Intragas Energy Limited Partnership continued an evaluation of the potential for developing underground bulk hydrocarbon storage in the extensive salt deposits in the Lower Carboniferous sediments of the Windsor Group in the Kingsville and McIntyre Lake areas, Inverness County, and in the Beckwith area, Cumberland County. Recent work consisted of an evaluation of previous drilling results in the three areas including core logging and drill core sampling.

Geostorage Associates continued a detailed evaluation of the potential for developing underground bulk storage of hydrocarbons in the Lower Windsor salt deposits underlying the Shubenacadie-Stewiacke area of central mainland Nova Scotia. The company completed a 2D seismic survey during the year in the area east of the Shubenacadie River between the villages of Shubenacadie and Stewiacke.