

Mineral Exploration Activity in Nova Scotia, 2001

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Mineral Exploration Monitoring

Monitoring of mineral exploration activity in Nova Scotia is coordinated 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 Marshall) assist in field monitoring of mineral exploration activity in their respective regions.

The monitoring process covers exploration activities throughout the Province of 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. Assistance or advice is provided as necessary, and any drill core generated by mineral exploration activity 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 2001, 72 assessment reports were received and audited for compliance with the Mineral Resources Regulations.

Mineral Exploration Activity in 2001

In 2001, mineral exploration in Nova Scotia continued at approximately the same level of activity as in the previous two years. The 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 \$2.5-3 million for 2001, compared with \$3-3.5 million in 2000 and \$3.8 million in 1999 (Table 1, Fig. 1). Exploration 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 continues to decline, due primarily to low commodity prices for metals and the difficulty in raising venture capital to fund exploration programs.

Preliminary figures for the total number of general claims staked in 2001 show a decrease of 26.9% from the previous year to 8000 claims (Table 1, Fig. 2). A preliminary total of 8220 claims for all commodities were in effect at the end of 2001, represented by 460 exploration, coal, tailings and special licences covering an area of 133 033 ha or 1 330 km², approximately 2.4% of the total area of the province. The amount of exploration drilling also decreased in 2001, with a preliminary estimate of 6 000 m compared with 8 500 m in 2000 and 13 300 m in 1999.

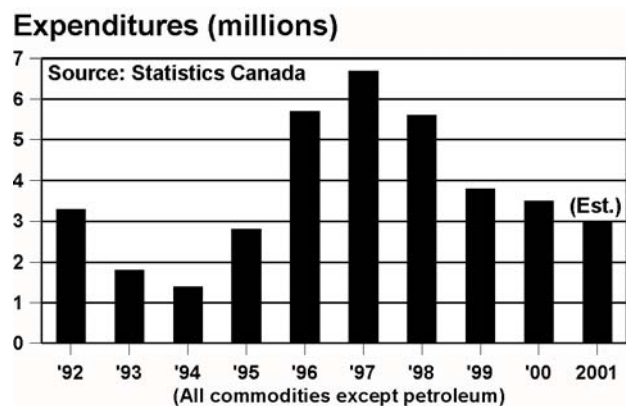


Figure 1. Exploration expenditures in Nova Scotia, 1992-2001.

Table 1. Details of exploration and development activity in Nova Scotia, 1992-2001.

	1992	1993	1994	1995	1996	1997	1998	1999	2000	P ²⁰⁰¹
Total Field Exploration Expenditures (\$)	3 300 000	2 300 000	1 400 000	2 843 000	5 752 000	6 700 000	5 600 000	3 800 000	3 500 000	3 000 000
Total Licences Issued (all categories)	507	593	671	698	1 126	977	709	704	603	460
Claims In Good Standing (new and re-issued)										
General	11 157	9 504	13 740	15 861	33 399	25 190	11 452	14 045	10 951	8 000
Special (Order in Council)										
Salt and Potash	264	66	66	-	16	16	329	74	74	151
Coal	366	433	376	376	469	398	253	173	-	-
Tailings	94	146	146	146	146	146	-	-	-	-
Other	348	452	255	130	254	254	621	623	67	67
Uranium*	(226)	(226)	(226)	(226)	(226)	(226)	(226)	(226)	(226)	(226)
Total (excluding closures and uranium licences)	12 229	10 601	14 583	16 513	34 284	26 004	12 655	14 915	11 092	8 218
Total Area Held Under Licence (ha)	197 963	171 609	236 069	267 312	554 988	420 952	204 859	241 444	179 557	133 033
(acres)	489 160	424 040	583 320	660 520	1 371 360	1 040 160	506 200	596 600	443 680	328 720
Work Reported for Licence Renewals (\$)	2 333 972	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
Number of Assessment Reports Received	75	62	84	111	108	133	134	100	85	72

^P Preliminary figures for 2001

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

December 31, 2001

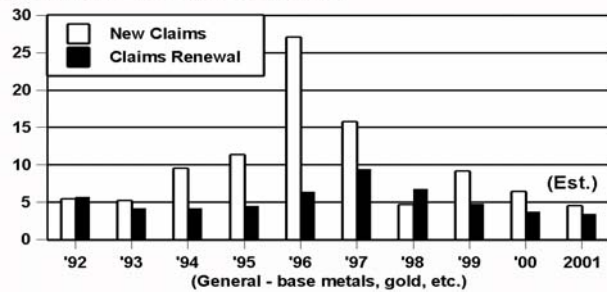
Claims in effect (thousands)

Figure 2. Claim staking in Nova Scotia, 1992-2001.

Approximately 214 companies and individuals held exploration interests (licences or options) in Nova Scotia in 2001, including 8 major, 10 junior and 48 private companies (Tables 2, 3 and 4). In addition, several mining lease holders carried out exploration on their leases or on unclaimed ground where these commodities did not require licences (e.g. limestone, gypsum). Organizations actively engaged in exploration during 2001 included 7 major, 4 junior and 6 private companies (Fig. 3, Table 5), as well as a number of individuals.

Exploration Activities

Industrial Minerals

Exploration and development work for industrial minerals was undertaken for several commodities, including kaolin, silica sand, zeolites, titanium, barite, salt and building stone. Work continued to focus on the development of kaolin silica sand, and quartz deposits, both in the central mainland area of the province and in the Flintstone Rock area in Yarmouth County. Work also continued to evaluate the zeolite potential of the North Mountain basalts along the southern margin of the Bay of Fundy, as well as the potential for commercial deposits of titanium-bearing sands along the Shubenacadie River in northern mainland Nova Scotia.

Black Bull Resources Incorporated, under an option agreement with CAG Enterprises Limited, continued a detailed exploration program for kaolin and silica in altered quartz-kaolinite breccia along the Tobeatic Shear Zone in the Flintstone Rock area, Yarmouth County. The company completed additional trenching and bulk sample

testing on the property during the year and completed a preliminary evaluation of mica reserves associated with the kaolin and quartz. Black Bull has also initiated a product research program to investigate the development of value-added kaolin products for the paper and ceramics industries.

C₂C Zeolite Corporation continued a detailed evaluation of the zeolite potential of amygdaloidal basalts along North Mountain in western Nova Scotia. The company completed diamond-drilling and trenching on its Pelton Mountain Road property in Kings County and are continuing development work on the Tower View (Stronach Mountain) property. C₂C has been issued a mining lease on the Tower View property and has received conditional environmental approval for an open pit mining operation.

NAR Resources Limited and Titanium Corporation of Canada Limited amalgamated in July 2001 to form Titanium Corporation Inc. The company continued to evaluate the titanium potential of heavy mineral sands in the Shubenacadie River near Maitland, Hants County. The company completed additional drilling during the year and to date have delineated mineral sand reserves of 330.9 million tonnes grading 1.936% Ti-bearing heavy minerals.

Shaw Resources recently completed an overburden drilling program in the Admiral Rock - Shubenacadie area as part of an ongoing program to evaluate the potential for silica sand resources. The company currently operates a silica sand processing plant near Shubenacadie. Robert MacDonald and George MacKay continued a detailed evaluation of the former Novex Mining Pine Brook barite deposit at Lochside, Richmond County. Additional diamond-drilling was completed on the property early in the year.

Gold

Exploration for gold continued at approximately the same level of activity as in 2000. The lower Paleozoic Meguma Group of southern mainland Nova Scotia continued to be the principal focus for gold exploration in the province.

Table 2. Major companies involved in mineral exploration in Nova Scotia, 1999-2001.

	1999	2000	2001	Office location in 2001
Fundy Gypsum Company Limited	x	x	x	Windsor
Georgia Pacific Corporation	x	x	x	Sugar Camp
Lafarge Canada Incorporated	x	x	x	Brookfield
Little Narrows Gypsum Company Limited	x	x	x	Little Narrows
National Gypsum (Canada) Limited	x	x	x	Milford Station
Noranda Exploration Company Limited	-	-	-	
Pasminco Resources Canada Company (formerly Savage Resources Canada Limited)	x	x	x	
Statia Terminals Canada Limited	x	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

Newfoundland Goldbar Resources Incorporated completed surface diamond-drilling during the year to evaluate the strike extension of the gold-bearing saddle reef structures on the company's Dufferin Mine gold property at Port Dufferin. EnviroGold Technologies Incorporated, operators of the Dufferin Mine, began producing gold in May 2001 at a preliminary production rate of 200 tonnes/day.

True Metallic Explorations Incorporated continued an evaluation of the paleoplacer potential for gold associated with clastic sedimentary rocks of the Lower Carboniferous Horton Group near Castle Frederick, Hants County. The company completed an evaluation of a preliminary drilling program undertaken in the fall of 2000 and completed additional drilling on the property during the fall of 2001.

3779751 Canada Limited acquired the former Tangier Limited Partnership property at Tangier in mid-2000 to determine the potential for outlining mineable gold reserves in the vicinity of the former mining operations. The company completed a geological evaluation of previous exploration work on the property in 2000 and carried out a

preliminary diamond-drilling program on the Strawberry Hill property along the eastern strike extension of the Tangier Anticline in 2001. The company also completed geological mapping and soil geochemical sampling on the western strike extension of the anticline during the year.

Strikezone Minerals (Canada) Limited, in an option agreement with Ellsin Resources Incorporated, continued an evaluation of the Lake Charlotte gold property, Halifax County. The company completed a soil geochemical survey on the property late in the year. Globex Mining Enterprises Incorporated initiated an exploration program during the year on the Mooseland gold property in Halifax County. Preliminary work consisted of a ground geophysical survey in the eastern area of the property.

A number of small exploration programs were also completed on several properties throughout the Meguma Group by individuals and private interests. Mr. Lindsay Allen completed additional work during the year on the Mill Village gold property in Queens County, including the de-watering and rehabilitation of the former Gold Eagle Mine shaft and preliminary underground

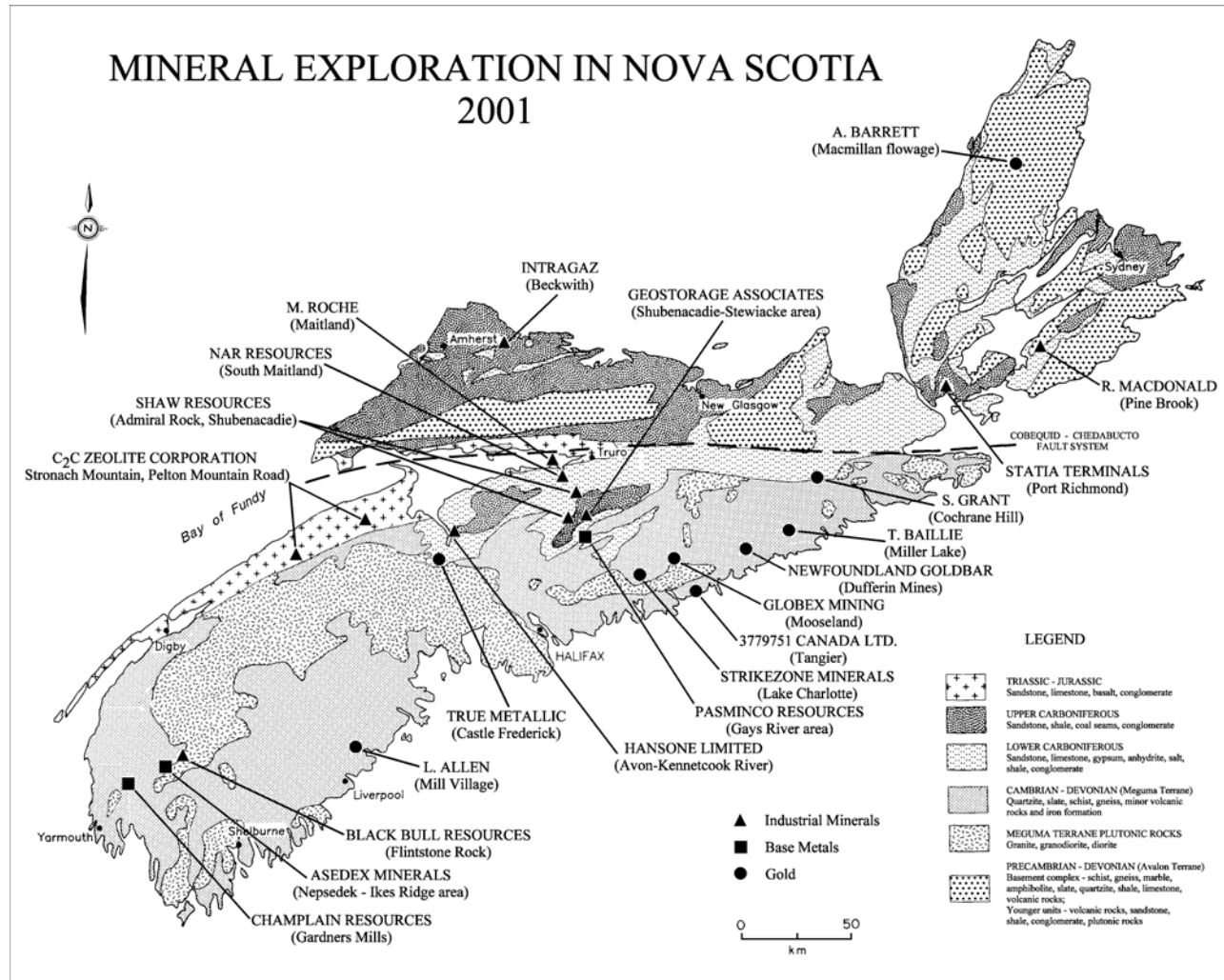


Figure 3. Mineral exploration programs in Nova Scotia, 2001.

sampling. Mr. Anthony Barrett continued to evaluate the MacMillan Flowage gold prospect in Victoria County, consisting of prospecting and bulk sampling of material excavated by Scotian Mineral Exploration Venture (Scominex) in 1987. Mr. Thomas Baillie completed additional work during the year on the Miller Lake gold property in Guysborough County, consisting of detailed prospecting. Mr. Scott Grant initiated a detailed rock sampling program in the open pit area of the former Northumberland Mines property at Cochrane Hill, Guysborough County.

Base Metals

Exploration for base metals in 2001 continued at approximately the same level of activity as in 2000, and focused primarily on areas of known

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

Pasminco Resources Canada Company began a preliminary evaluation of the Pb-Zn potential of several areas underlain by Lower Carboniferous Windsor Group carbonates in the general vicinity of the company's Guys River Pb-Zn deposit in 2000. The company completed additional geochemical surveys in the area during 2001.

Asedex Minerals Corporation Limited initiated an exploration program for tantalum and associated base metals in the Nepesdek and Ikes Ridge areas south of East Kemptville, Yarmouth County, during 2001. Preliminary work included extensive prospecting and rock sampling. Champlain Resources Incorporated also carried

Table 3. Junior exploration companies in Nova Scotia, 1999-2001.

	1999	2000	2001	Office location in 2001
Black Bull Resources Incorporated	x	x	x	
C ₂ C Zeolite Corporation	x	x	x	Kentville
Corner Bay Minerals Incorporated	-	-	-	Cold Brook Station
Exploration Orex Incorporated	-	-	-	
Globex Mining Enterprises Incorporated	-	-	-	
Heartland Resources Limited	-	-	-	Dartmouth
NAR Resources Limited	x	x	x	
Regal Goldfields Limited	-	-	-	
Roycefield Resources Limited	-	-	-	
RJZ Mining Incorporated	x	-	-	
Titanium Corporation of Canada Limited	x	x	x	

x indicates work performed

- inactive

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

out preliminary prospecting and geological mapping to evaluate the tantalum potential in the Gardners Mills area, Yarmouth County.

Other

Statia Terminals Canada Limited continued an evaluation of the potential for developing underground bulk hydrocarbon storage in the extensive salt deposits of the Lower Carboniferous Windsor Group in the Port Richmond area near Port Hawkesbury. Recent work included a review of previous geological and geophysical work completed on the property.

Geostorage Associates continued to evaluate the potential for developing under-ground bulk storage of hydrocarbons in the Lower Windsor salt deposits underlying the Shubenacadie-Stewiacke area of central mainland Nova Scotia. Recent work has focused on a review of previous drilling and geophysical work completed in the area. Intragaz and Company Limited Partnership also continued an evaluation of the Lower Windsor salt deposits of the Cumberland Basin for potential hydrocarbon storage in the Beckwith area in northern mainland Nova Scotia. Recent activities have focused on a review of previous geological and geophysical work completed in the area.

Table 4. Private exploration companies in Nova Scotia, 1999-2001.

	1999	2000	2001	Office location in 2001
166881 Canada Incorporated		-	-	
3779751 Canada Incorporated		-	-	
Atlantic Industrial Minerals Limited	-	-	-	
Asedex Minerals Corporation Limited	-	-	-	
Aurion Minerals Limited	-	-	-	
Broad River Exploration	-	-		
Burnt Point Resources Incorporated	x	-	-	Halifax
C.A.G. Enterprises Limited	x	x	x	Antigonish
Cannova Goldfields Incorporated	x	-	-	
Cape Minerals Limited	-	-	-	
Champlain Resources Incorporated	-	-	-	
Cobequid Life Sciences Limited	-	-	-	
Conrad Brothers Limited	-	-	-	Dartmouth
D&D Metal Detectors Limited	-	-		
D. R. Duncan & Associates Limited	-	-		
Datum Quest Explorations	x	-		
Dufferin Resources Incorporated	x	x	x	Halifax
Earth Search Sciences, Incorporated		-	-	
Ellsin Resources Incorporated	x	x	x	
Elmsdale Landscaping Limited			-	
Emerald Isle Resources Incorporated			-	
Gallant Aggregated Limited	-	-	-	
Gammon Lake Resources Incorporated	-	-	-	Halifax
Geocol Mining & Exploration	-	-		
Geosearch	x	x	-	Sackville
Giant Meguma Holdings	-	-		Halifax
Glencoe Resources Incorporated		x	-	
Gold 'n' Crystal Minerals	x	x	-	East Advocate
Golden Ace Mineral Explorations Limited	x	x	-	
Goliath Copperfields Limited	-	x	-	
H & E Mullen Investments Limited	-	x	-	
Hansone Limited	x	x	-	
Hibernia Minerals Incorporated	-	-		
Highland Range Minerals Limited	-	-	-	
Huntington Explorations Incorporated	-	-	-	
Intragaz & Company Limited Partnership	-	-	x	
John Logan Enterprises Limited	-	-	-	
Jubilee Minerals	x	-	-	Bedford
KaoClay Incorporated	x	x	-	Milford Station
Kelly Investments Limited	-	-	-	
Kelly Rock Limited	x	-		Sydney
Little Lake Gold Mines Limited	-	-		Dartmouth
Lynx Minerals Corporation	x	x	-	
MacLeod Resources Limited			-	
Maritime Mica Incorporated	-	-	-	
Mercator Geological Services Limited	x	-		Dartmouth

Table 4. Continued.

	1999	2000	2001	Office location in 2001
Minas Basin Pulp & Paper Company Limited	-	-	-	
Mineral City Enterprises Incorporated		-	-	
Mount Cameron Minerals Incorporated	x	-	-	
North Cape Breton Resources Limited	x	-	-	
Nycon Resources Incorporated			-	
Oceanview Minerals Limited			-	
Ochter Holdings Limited	-	-		
Pan East Petroleum Corporation (formerly Pan East Resources Incorporated)	-	-	-	
Prodigy Resources Incorporated	-	-	-	
Rainbow Resources Limited	-	-	-	Dartmouth
Remoscan Limited	x	-		
Robert Stewart-Patterson & Associates			-	
The Shaw Group Limited (formerly L. E. Shaw Limited)	x	x	x	Lantz
Tangier Limited Partnership (formerly Tangier Mining Incorporated)	-	-		
Tri-Explorations Limited	-			
True Metallic Explorations	x	x	x	Bedford
Uravan Minerals Incorporated	-	-		
Votix Corporation Limited	x	x	-	Trenton

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

Table 5. Mineral exploration programs in Nova Scotia, 2001.

COMPANY/INDIVIDUAL	LOCATION	COMMODITY	PROGRAM
3779751 Canada Limited	Tangier, Halifax County	Gold	Diamond-drilling, geochemical sampling
A. Barrett	MacMillan Flowage, Victoria County	Gold	Prospecting, bulk sampling
Asedex Minerals Corporation Limited	East Kemptville area, Yarmouth County	Tantalum	Prospecting, rock sampling
Black Bull Resources Incorporated	Flintstone Rock, Yarmouth County	Kaolin, silica sand	Trenching, bulk sampling
C ₂ C Mining Corporation	Stronach Mountain, Annapolis County	Zeolites	Preliminary development work
Champlain Resources Incorporated	Pelton Mountain, Kings County	Zeolites	Diamond-drilling, trenching
	Gardners Mills, Yarmouth County	Tantalum	Prospecting, geological mapping
Geostorage Associates	Shubenacadie area, Colchester County	Salt (underground storage)	Review of previous work
Globex Mining Enterprises Incorporated	Mooseland, Halifax County	Gold	Ground geophysics
Intragaz and Co. Limited Partnership	Beckwith area, Cumberland County	Salt (underground storage)	Review of previous work
L. Allen	Mill Village, Queens County	Gold	Shaft rehabilitation, rock sampling
NAR Resources Limited	Shubenacadie River, Hants County	Mineral sands	Drilling, geochemical sampling
Newfoundland Goldbar Resources	Dufferin Mines, Halifax County	Gold	Underground development work, diamond-drilling
R. MacDonald/G. MacKay	Lochside, Richmond County	Barite	Diamond-drilling
Pasminco Resources Canada Company	Gays River area, Halifax County	Base metals	Geochemical sampling
S. Grant	Cochrane Hill, Guysborough County	Gold	Rock sampling
Shaw Resources	Admiral Rock, Hants County	Limestone	Diamond-drilling
	Shubenacadie, Hants County	Limestone	Diamond-drilling
Statia Terminals Canada Limited	Port Richmond, Richmond County	Salt (underground storage)	Review of previous work
Strikezone Minerals (Canada) Limited	Lake Charlotte, Halifax County	Gold	Geochemical sampling
T. Baillie	Miller Lake	Gold	Prospecting
True Metallic Explorations Inc.	Upper Falmouth, Hants County	Gold	Diamond-drilling