

Mineral exploration activity in Nova Scotia, 1998

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Introduction

Monitoring of mineral exploration activity in Nova Scotia is coordinated through the Geoscience Information Services Section of the Mineral and Energy Resources 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 (Melanie Haggart) and Bridgewater (Gordon Adams) 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 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 submitted in support of the renewal of exploration licences. In 1998, 137 assessment reports were received and audited for compliance with the Mineral Resources Regulations.

Mineral Exploration Activity

In 1998, mineral exploration in Nova Scotia continued at approximately the same level of activity as in 1997. Total field exploration expenditures are estimated at \$6.0 million compared with \$6.7 million in 1997 and \$5.7 million in 1996 (Table 1, Fig. 1). Exploration was carried out for industrial minerals, base metals, gold and coal in a variety of geological environments throughout the province.

Preliminary data for the total number of general claims staked in 1998 show a decrease of 64.8% from the previous year to 9,000 claims (Table 1, Fig. 2).

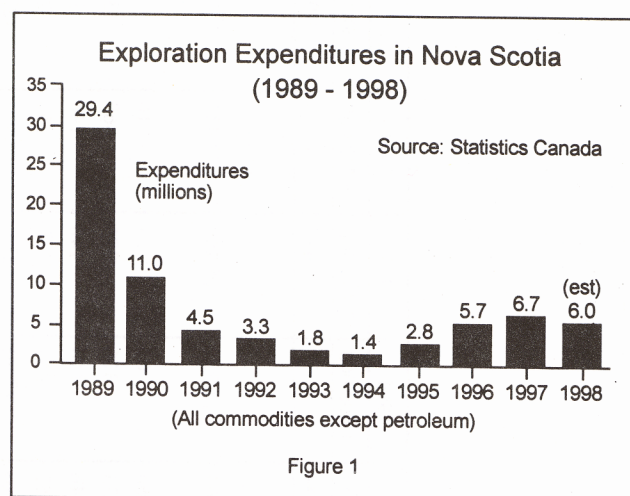


Figure 1. Exploration expenditures in Nova Scotia, 1989-98.

Preliminary figures indicate that 10,116 claims for all commodities were in effect at the end of 1998, represented by 575 exploration, coal, tailings and special licences covering an area of 163,757 ha or 1,637 km², approximately 3.0% of the total area of the province. The amount of exploration drilling decreased significantly in 1998 with a preliminary estimate of 12 500 metres compared with 24 500 metres in 1997 and 15 600 metres in 1996.

Approximately 228 companies and individuals held exploration interests (licences or options) in Nova Scotia in 1998, including 12 major, 9 junior and 38 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 1998 included 7 major, 3 junior and 17 private companies (Fig. 3, Table 5), as well as a number of individuals.

Industrial Minerals

Exploration and development work for industrial minerals was highlighted by continued interest in kaolin, silica sand, gypsum, zeolites and barite. Work primarily focused on the recent discovery of extensive kaolin and silica sand deposits in central mainland Nova Scotia, and

Table 1. Details of exploration and development activity in Nova Scotia, 1989-1998.

	1989	1990	1991	1992	1993	1994	1995	1996	1997	P1998
Total Exploration Expenditures (\$)	21 436 000	11 025 000	4 532 000	3 300 000	2 300 000	1 400 000	2 843 000	5 752 000	6 700 000	6 000 000
Total Licences Issued (all categories)	987	753	642	507	594	670	697	1 120	1 018	575
Claims In Good Standing (new and reissued)										
General	21 831	17 460	17 071	11 157	9 504	13 737	15 859	33 435	25 589	9 000
Special (Order in Council)										
Salt and Potash	232	298	264	264	66	66	-	16	16	255
Coal	2 440	2 440	1 566	366	433	376	376	469	398	240
Tailings	0	116	116	94	146	146	146	146	146	-
Other	255	331	448	348	452	255	130	254	254	621
Uranium*	(1 200)	(1 200)	(226)	(226)	(226)	(226)	(226)	(226)	(226)	(226)
Development	930	1 474	553	-	-	-	-	-	-	-
Total (excluding closures and uranium licences)	25 688	22 119	20 018	12 229	10 601	14 580	16 511	34 320	26 403	10 116
Total Area Held Under Licence ha	415 837	358 062	324 051	197 963	171 609	236 021	267 280	555 571	427 411	163 757
acres	1 027 520	884 760	800 720	489 160	424 040	583 200	660 440	1 372 800	1 056 120	404 640
Work Reported for Licence Renewals (\$)	31 333 645	16 551 636	3 889 914	2 333 972	983 402	1 694 368	1 601 639	2 376 023	3 146 899	5 385 194
Number of Assessment Reports Received	303	176	132	75	62	84	111	114	137	137

P Preliminary figures for 1998

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

December 31, 1998

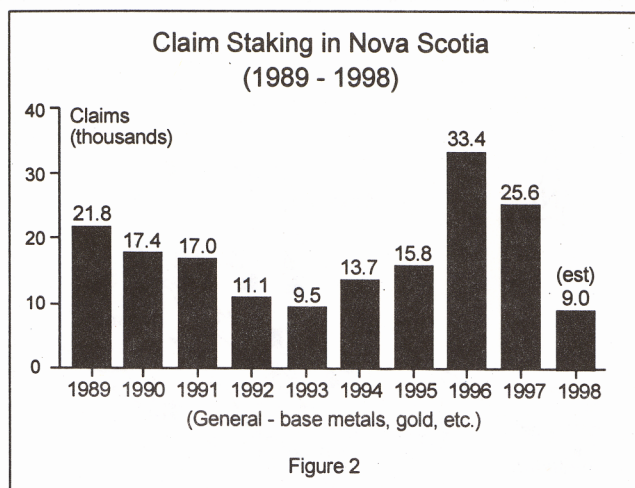


Figure 2. Claim staking in Nova Scotia, 1989-98.

continuing development work on gypsum deposits in northern mainland Nova Scotia and Cape Breton Island.

Work continued on a detailed evaluation of Cretaceous kaolin and silica sand deposits by Kaoclay Resources Incorporated in the Musquodoboit and Shubenacadie valleys of central mainland Nova Scotia. The company began work in the area in 1996 and recently completed large-diameter bulk sample coring, additional diamond-drilling, seismic surveys and process testing.

Georgia Pacific Corporation initiated a drilling program in 1997 to evaluate gypsum resources near Melford, Inverness County. The company continued with plans to begin production on the property in 1998. The deposit contains mineable reserves of 20 million tonnes of gypsum. Tusket Mining Limited completed additional development work on the Murchyville gypsum deposit in central mainland Nova Scotia and carried out preliminary quarrying operations during 1998.

In 1997, WTC Resources Limited began a detailed evaluation of the numerous high-quality zeolite occurrences in the North Mountain basalt along the Bay of Fundy in 1997. In 1998 the company carried out geological mapping, diamond-drilling, and analytical work on several of the occurrences.

Lynx Minerals Corporation recently began a detailed evaluation of the Scotsville barite deposits in the Lake Ainslie area, Inverness County. The area is host to a series of east-west barite and barite-fluorite veins that were worked intermittently from 1894 to 1934.

Maritime Mica Incorporated carried out diamond-drilling early in 1998 to evaluate mica and andalusite occurrences at Doughboy Point, Guysborough County. Titanium Corporation of Canada Limited initiated an evaluation of the titanium potential of heavy mineral sands in the Shubenacadie River near South Maitland, Hants County. CAG Enterprises Limited completed a trenching program for clay and silica sand at Flintstone Rock, Yarmouth County.

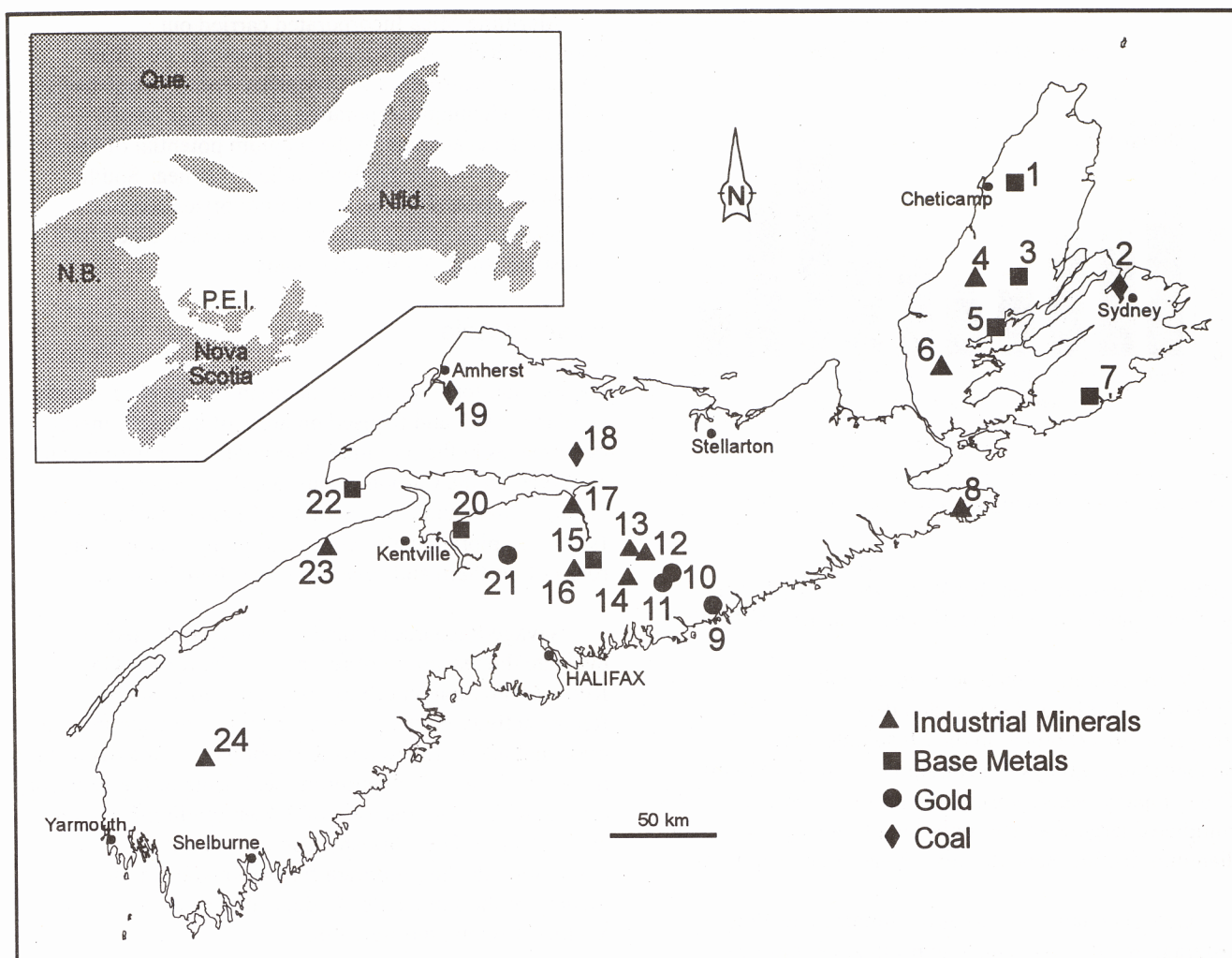
Base Metals

Exploration for base metals maintained a level of activity similar to 1997 and focused on areas of known mineral occurrences in the province. Exploration for base metals continued in the Carboniferous Windsor Group in northern mainland Nova Scotia and eastern Cape Breton Island. Exploration also continued in the Precambrian rocks of northern and southern Cape Breton Island.

Savage Resources Canada Limited continued to evaluate the feasibility of re-opening the former Gays River Zn-Pb mine in central mainland Nova Scotia. Recent activity on the property included de-watering the mine and underground development work. The deposit is hosted by Lower Carboniferous sediments of the Windsor Group, with *in situ* reserves of 2.4 Mt grading 8.6% Zn and 6.3% Pb. The company also carried out an exploration drilling program for base metals in the vicinity of the Jubilee Pb-Zn deposit at Little Narrows, Victoria County, during 1998.

Regal Goldfields Limited began exploration for gold and base metals in the Faribault Brook and Trout Lakes areas, Inverness County, in 1996 and recently completed additional diamond-drilling as part of their exploration program. Mountain Lake Resources Incorporated carried out exploration drilling for base metals in the Gold Brook area, Victoria County, and Phelps Dodge Corporation of Canada, Limited completed an exploration drilling program for base metals in the Stirling area, Richmond County.

Gold 'n Crystal Minerals completed additional work, including ground geophysical surveys and geochemical sampling, to evaluate the gold and base metal potential at Cap d'Or, Cumberland County. Geosearch completed additional work to evaluate the base metal potential of Carboniferous sediments in the Cheverie area, Hants County.



- | | |
|---------------------------------------|---|
| 1. Regal Goldfields Ltd. | 13. Joe Richman |
| 2. Brogan Mining Company Ltd. | 14. Tusket Mining Ltd. |
| 3. Mountain Lake Resources Inc. | 15. Savage Resources Canada Ltd. |
| 4. Lynx Minerals Corporation | 16. Kaoclay Resources Inc. |
| 5. Savage Zinc Incorporated | 17. Titanium Corporation of Canada Ltd. |
| 6. Georgia Pacific Corporation | 18. Berichan Resources Ltd. |
| 7. Phelps Dodge Corp. of Canada Ltd. | 19. Delta Coal Inc. |
| 8. Maritime Mica Inc. | 20. Geosearch |
| 9. Tangier Limited Partnership | 21. Roland Anthony |
| 10. Moose River Resources Inc. | 22. Gold'n Crystal Minerals |
| 11. Strikezone Minerals (Canada) Ltd. | 23. WTC Resources Ltd. |
| 12. Kaoclay Resources Inc. | 24. CAG Enterprises Ltd. |

Figure 3. Mineral exploration programs in Nova Scotia, 1998.

Gold

The lower Paleozoic Meguma Group of southern mainland Nova Scotia continued to be a focus for gold exploration in 1998. In comparison to 1997, the level of activity for gold was down marginally.

Tangier Limited Partnership continued development work on the former Coxheath Gold Holdings property at Tangier, Halifax County, to determine the feasibility of re-opening the mine. The company completed milling and metallurgical tests during 1997 and was issued a mining permit in 1998 to begin underground mining operations.

Table 2. Major companies involved in mineral exploration in Nova Scotia, 1996-1998.

	1996	1997	1998	Office location in 1998
BHP Minerals Canada Limited	x	-	-	
Caledonia Mining Corporation	x	x		
Canada Tungsten Incorporated (formerly Canamax Resources Incorporated)	-	-		
Conwest Exploration Company Limited	-	-		
A. J. Perron Gold Corporation (formerly Deak Resources Corporation)	-	x	x	
Falconbridge Limited	-	-	-	
Fundy Gypsum Company	x	x	x	Windsor
Georgia Pacific Corporation	x	x	x	Sugar Camp
Granges Exploration Limited	-	-		
Lafarge Canada Incorporated	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	-	-	-	
Phelps Dodge Corporation of Canada Limited	x	x	x	
Placer Dome Canada Limited	x			
Savage Resources 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

Table 3. Junior exploration companies in Nova Scotia, 1996-1998.

	1996	1997	1998	Office location in 1998
Altai Atlantic Mining Incorporated		x		
Acadia Mineral Ventures Limited	-	-		
Alterra Resources Incorporated (formerly Medyx Incorporated)	x			Truro
Ashgrove Energy Limited	-			
Atlantic Industrial Minerals Incorporated	x	x		Sydney
Corner Bay Minerals Incorporated	-	-	-	Cold Brook Station
Exploration Orex Incorporated	-	-	-	
Globex Mining Enterprises Incorporated		-	-	
Groundstar Resources Limited		-	-	
Heartland Resources Limited	-	-	-	Dartmouth
Jascan Resources Incorporated	-	-		
Mispec Resources Limited	x	x		Truro
Regal Goldfields Limited	x	x	x	
Roycefield Resources Limited	-	-	-	
RJZ Mining Incorporated		x	x	
WTC Resources Limited (parent company C ₂ C Mining Corporation)	-	x	x	Kentville

x indicates work performed

- inactive

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

Table 4. Private exploration companies in Nova Scotia, 1996-1998.

	1996	1997	1998	Office location in 1998
AEC West Limited		-		
Aurora Gold Corporation		-		
Aurion Minerals Limited	x			Halifax
Beaver Exploration Incorporated		-		
Benrock Limited	-			Antigonish
Berichan Resources Limited	x	x		
Burnt Point Resources Incorporated	x	x	x	Halifax
C.A.G. Enterprises Limited	-	x	-	Antigonish
Cannova Goldfields Incorporated	x	x		
CAN-SCO Enterprises		-		Halifax
Cape Minerals Limited			-	
Champlain Goldfields Incorporated		-		
Champlain Resources Incorporated		x		
Cobequid Life Sciences Limited	-	-	-	
Conrad Brothers Limited		-		Dartmouth
D&D Metal Detectors Limited		-		
Dufferin Resources Incorporated	-	-	-	Halifax
Ellsin Resources Incorporated	-	x	x	
Gallant Aggregates Limited		-		
Gammon Lake Resources Incorporated	x	x	x	Halifax
Geocol Mining and Exploration	x	-		Dartmouth
Geosearch	x	x	x	Sackville
Ghost Town Gold Corporation		-		
Giant Meguma Holdings	-	-	-	Halifax
Gold Bank Resources Limited	x	-		
Gold 'n Crystal Minerals	x	x	x	East Advocate
Golden Ace Mineral Explorations Limited		-	-	
Goliath Copperfields Limited			x	
Groundstar Resources Limited		-	-	
Gusto Resources Limited	-	-	-	Halifax
Halifax Goldfields Incorporated		-		
Hansone Limited		-		
Highland Range Minerals Limited	x	x	x	
Huntington Explorations Incorporated			-	
Intragaz & Company Limited Partnership			-	
James Henry & Associates	-	-	-	
John Logan Enterprises Limited		-	-	
Jubilee Minerals	-	-	x	Bedford
Kaoclay Incorporated	x	x	x	Milford Station
Kelly Rock Limited	x	-	-	Sydney
Lake Annis Properties Limited			-	
Little Lake Gold Mines Limited	x	x	-	Dartmouth
Lodestone Limited	x	-		Halifax
Maritime Mica Incorporated			x	
Mereator Geological Services Limited			x	Dartmouth
Mik Vic Investments Limited		-		
Moose River Resources Incorporated	x	x		
Mosher Limestone Company Limited	x	-		Upper Musquodoboit
Mountain Lake Resources Incorporated			-	
Murray Brook Resources Incorporated		-		
New Road Resources Limited			-	
North Cape Breton Resources Limited	x	-	x	
Pan East Petroleum Corporation (formerly Pan East Resources Incorporated)	-	-	-	
Prodigy Resources Incorporated	x	x		
Remoscan Limited	x	x	-	

Table 4. Continued.

	1996	1997	1998	Office location in 1998
Renfrew Gold Contracting	x	x		
Renfrew Holdings Limited			-	
The Shaw Group Limited (formerly L. E. Shaw Limited)	x	-	-	Lantz
Scotia Slate Products Limited		-		
Southfield Resources Limited		-		
Springhill Coal Mines Limited	-			
Strikezone Minerals (Canada) Limited			x	
Tangier Limited Partnership (formerly Tangier Mining Incorporated)	x	x	x	Tangier
Tanner Engineering Limited	x			
Tri-Explorations Limited	x	x	x	Halifax
True Metallic Explorations		x	x	
Tusket Mining Incorporated	x	x		Bedford
Victoria Mining Services Limited	-	-		
Votix Corporation Limited	-	x	x	Trenton
Wabana Explorations Incorporated	x	x		

x indicates work performed

- inactive

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

Moose River Resources Incorporated recently completed a detailed evaluation of the Touquoy deposit at Moose River, Halifax County. Regal Goldfields Limited entered into an option agreement with the company in October and plans to continue exploration and development work on the deposit in 1999. Current reserves are estimated at 5.74 million tonnes grading 2.2 g Au/t.

Strikezone Minerals (Canada) Limited, in an option agreement with Ellsin Resources Incorporated, continued a detailed evaluation of the Lake Charlotte gold property, Halifax County. A number of exploration programs were also undertaken on several properties throughout the Meguma Group by individuals and private interests.

Coal

Exploration for coal focused on the Carboniferous rocks of northern mainland Nova Scotia and eastern Cape Breton Island. Berichan Resources Limited continued a detailed evaluation of coal resources in the Cottam Settlement area east of Debert, Colchester County, and began development work on the property during the fall. Brogan Mining Company Limited initiated a bulk sampling program for coal at Little Pond, Cape Breton County, and Delta Coal Incorporated continued an evaluation of coal resources in the Chignecto area, Cumberland County.

Table 5. Mineral exploration programs in Nova Scotia, 1998.

COMPANY/INDIVIDUAL	LOCATION	COMMODITY	PROGRAM	STATUS
Berichan Resources Limited	Cottam Settlement, Colchester County	Coal	Preliminary development work	Ongoing
Brogan Mining Company Limited	Little Pond, Cape Breton County	Coal	Trenching, bulk sampling	-
CAG Enterprises Limited	Flintstone Rock, Yarmouth County	Clay, silica sand	Trenching	-
Delta Coal Incorporated	Chignecto, Cumberland County	Coal	Engineering studies	Ongoing
Geosearch	Cheverie, Hants County	Base metals	Prospecting, geochemical sampling	Ongoing
Georgia Pacific Corporation	Melford, Inverness County	Gypsum	Preliminary development work	Ongoing
Gold 'n Crystal Minerals	Cap d'Or, Cumberland County	Copper, gold	Prospecting, geochemical sampling	Ongoing
Joe Richman	Elmsvale, Halifax County	Clay, silica sand	Prospecting, diamond-drilling	-
Kaoclay Resources Incorporated	Middle/Upper Stewiacke Middle/Upper Musquodoboit	Clay, silica sand Clay, silica sand	Diamond-drilling Diamond-drilling, bulk sampling geophysical surveys	Ongoing Ongoing
Lynx Minerals Incorporated	Nine Mile River/Shubenacadie	Clay, silica sand	Diamond-drilling	-
Maritime Mica Incorporated	Scotsville, Inverness County	Barite	Geochemical sampling	Ongoing
Titanium Corporation of Canada Limited	Doughboy Point, Guysborough County	Mica, andalusite	Diamond-drilling	-
Moose River Resources Incorporated	South Mainland, Hants County	Mineral sands	Prospecting, geochemical sampling	Ongoing
Mountain Lake Resources Incorporated	Moose River, Halifax County	Gold	Evaluation of Touquoy deposit	On Hold
Phelps Dodge Corp of Canada Limited	Gold Brook, Victoria County	Base metals	Diamond-drilling	Ongoing
Roland Anthony	Stirling, Richmond County	Base metals	Diamond-drilling	Completed
Regal Goldfields Limited	McKay Section, Hants County	Gold	Trenching	-
Savage Resources Canada Limited	Faribault Brook, Inverness County	Base metals	Diamond-drilling	Ongoing
Savage Zinc Incorporated	Gays River, Halifax County	Base metals	Underground exploration	Ongoing
Strikezone Minerals (Canada) Limited	Little Narrows, Victoria County Washabuck, Victoria County	Base metals Base metals	Diamond-drilling Diamond-drilling	- -
Tangier Limited Partnership	Lake Charlotte, Halifax County	Gold	Geophysical surveys, geochemical sampling	-
Tuskett Mining Incorporated	Tangier, Halifax County	Gold	Preliminary development work	Ongoing
WTC Resources Limited	Murphyville, Halifax County	Gypsum	Mine development	Ongoing
	Ogilvie, Kings County Huntington Point, Kings County	Zeolites Zeolites	Geological mapping, diamond-drilling Geological mapping diamond-drilling	Ongoing Ongoing