

Mines and Minerals Program

Background

The vision of the Ministry of Northern Development and Mines is of a Northern Ontario economy and a provincial minerals sector that is healthy, competitive, and sustainable. Through the Ministry's Mines and Minerals Program/Division, which is responsible for the administration of the *Mining Act* (Act), the Ministry has responsibilities related to all phases of mining in the province, from exploration to mine development, operation, and closure. The purpose of the Act is to encourage prospecting, claims staking, and exploring for the development of mineral resources. As well, it works to minimize the impact of these activities on public health and safety and the environment, through rehabilitation of mining lands in Ontario.

The province is among the leading mineral producers in the world. The mining industry annually extracts metals and non-metals valued at approximately \$5.5 billion. In 2003, mineral exploration expenditures by the private sector were \$220 million. Several national and international studies estimate that each dollar spent on geoscience activities—for example, the production of geological maps—can ultimately generate \$2 to \$5 in exploration activity. If a mine is developed and begins production, each

dollar spent could ultimately generate more than \$100 in benefits to the economy. Ontario mining activities provide approximately 100,000 direct and indirect jobs.

To encourage exploration, the Ministry provides province-wide geological maps, on-line access to geoscience information, and geological advisory services in field offices throughout the province. Such geological information is used by prospectors and mining companies to help identify areas with mineral potential. The Ministry also promotes Ontario mining development opportunities in domestic and international markets. During the 2004/05 fiscal year, to carry out these and other program activities, the Ministry employed approximately 200 staff and spent \$35.5 million.

Audit Objective and Scope

The objective of our audit was to assess whether the Ministry had adequate procedures in place to:

- manage mineral resources to ensure that the mining sector is healthy, competitive, and sustainable;
- ensure compliance with related legislation and ministry policies; and

- measure and report on the program's effectiveness in encouraging the development and use of the province's mineral resources while minimizing the impacts of mining activities on public health and the environment and limiting the cost to the taxpayer, by ensuring that the industry rehabilitates mining sites.

The scope of our audit included discussions with ministry staff, a review and analysis of documentation provided to us by the Ministry, and research into the practices and experiences in other jurisdictions. The Ministry's Internal Audit Services Branch had not conducted any recent work on the administration of the Mines and Minerals Program that affected the scope of our audit.

Our audit was performed in accordance with the standards for assurance engagements, encompassing value for money and compliance, established by the Canadian Institute of Chartered Accountants, and accordingly included such tests and other procedures as we considered necessary in the circumstances. The criteria used to conclude on our audit objective were discussed with and agreed to by ministry management and related to systems, policies, and procedures that the Ministry should have in place.

Summary

Due largely to the quality of the maps and advisory assistance it provides, the Ministry is generally seen by its stakeholders as contributing to the success of the mining industry in Ontario. However, the Ministry did not have adequate procedures in place to ensure compliance with legislation and its internal policies or to measure and report on its effectiveness. There are a number of operational areas that the Ministry can focus on to improve its delivery of the Mines and Minerals Program:

- To maintain a mining claim in good standing, the holder must perform certain exploration work, referred to as assessment work, and must report this to the Ministry. We found that the Ministry reviews most assessment reports for reasonableness, but this process was not sufficient to ensure that only allowable exploration expenditures were approved. As well, the Ministry had performed a detailed expenditure verification on only 31 of 5,200 reports submitted since 1999, and had carried out only one inspection of a claim site to verify that the work had actually been done. Such verification is necessary, as we noted cases where claim-holders had falsified assessment and expenditure information.
- We noted several cases where claims were forfeited because the required assessment work had not been carried out to keep the claims in good standing, and the same people who had their claims forfeited reclaimed the lands as soon as they became open for staking. A situation where a claim-holder can in effect indefinitely retain mining rights by continually reclaiming them after they are forfeited—without performing any assessment work—is contrary to the intent of the *Mining Act*.
- Geological information provided by the Ministry is used by prospectors and mining companies to select areas in which to conduct exploration work. Based on input from its clients, the Ministry determined that a mapping productivity benchmark of 20 years, or about 15,000 square kilometres a year, was a target for areas of high mineral potential to keep geological information current and relevant. However, due to difficulties in completing projects on a timely basis and to resourcing and capacity issues, from 2002 to 2008 the Ministry had mapped or planned to map only 8,000 square kilometres annually. For example, of the 46 Precambrian projects that were to be completed by December 2004, 10 were still ongoing and 15 were completed late.

In addition, the Ministry did not have a project management system to periodically report on the status of active projects.

- Before a company commences mining operations or undertakes advanced exploration, it must submit a mine-closure plan to the Ministry. A closure plan commits the owner to rehabilitate the mine site and return the site to its former state without harmful effects on the environment. However, contrary to the *Mining Act*, as of March 2005, closure plans were not in place for 18 of the 144 mine sites that were required to have them. The Ministry has actively pursued closure plans for most of these sites; however, these plans have been outstanding since 1991, when the requirement for closure plans came into effect. Without closure plans in place, the Ministry may ultimately be held responsible for mine closure and cleanup.
- The Ministry does not periodically review whether the closure-cost estimates and financial assurances are still sufficient to properly close out the mine. For example, the costs originally estimated in the closure plan for one mine were \$551,000 in 1993. The plan was not filed because the owner could not provide financial assurance. Nevertheless, the mine owner significantly underestimated closure costs. Since the mine is no longer operational and the company is not able to pay closure costs, the Ministry may ultimately be responsible for rehabilitating this site, at a cost that is now estimated to be \$9 million.
- At the time of our audit, the Ministry had identified more than 5,600 abandoned mine sites dating from the early 1900s. The Ministry had estimated that 4,000 of these sites were potentially hazardous to public health and safety and that approximately 250 of these sites might pose an environmental risk due to the potential for the leaching of minerals and other contaminants from mine tailings. However, the Ministry did not have adequate information on the chemical

contamination that is often the by-product of mining operations. This information is necessary to assess the risk of water and soil contamination around abandoned sites.

Detailed Audit Observations

A major responsibility of the Ministry is to administer land tenure related to mining, including mining claims, leases, licences, and patents. Initially, prospectors stake mining claims that are registered with the Ministry, thereby obtaining exclusive rights to explore the land's mineral potential. Approximately 34,000 mining claims are currently active in the province. If the land has mineral potential and is to be developed, the mining claim must be converted to a lease. At present, 3,600 mining leases have been issued for renewable terms of either 10 or 21 years. Up until 1964, mining licences were also issued to permit mining primarily under water bodies. There are still 1,100 valid mining licences that are perpetual and do not need to be renewed. As well, there are 19,000 patented lands—properties that were originally granted as mining lands, properties that are used for mining purposes now, or properties where the mining rights were severed from the surface rights. Finally, when mines close, the Ministry is responsible for ensuring that the property is returned, at the mine owner's expense, to its former use or condition without harmful effects to the environment.

MINERAL EXPLORATION

Staking Mining Claims

In Ontario, properties where the Crown has retained the mineral rights and Crown lands are available to prospectors for mineral exploration. Since 1892, Ontario has employed a process that involves physically surveying and marking locations

in the field to secure mineral rights for exploration and mining. A licensed prospector must first stake a mining claim to gain the exclusive right to prospect on the staked land. A claim can range in size from 16 hectares (a 1-unit claim) to 256 hectares (a 16-unit claim). As of March 2005, there were mining claims in the province for 199,000 units covering 3.2 million hectares (32,000 square kilometres).

Until recently, many Canadian jurisdictions followed the same process of physically staking mining claims. However, eight Canadian jurisdictions have now adopted a partial or full map-based claim-staking process for obtaining land for mineral exploration. With map-based selection, prospectors apply for mineral rights by selecting lands on maps that show where the unclaimed rights are available.

Jurisdictions that have adopted a map-based claim-staking process have found it to be a more effective and efficient method of administering mining claims. In October 2004, the Minister's Mining Act Advisory Committee also noted a number of potential benefits of a map-staking system: availability to worldwide clients; less dependency on physical access to the area of staking; lower costs of acquiring the land, especially in the Far North; significant reduction in boundary disputes and administration; and increased investment opportunities.

Disputes regarding boundaries and the validity of a mining claim consume significant ministry staff resources and can take many months to resolve. Some of this effort is avoidable. For example, of the 61 disputes in Ontario since 2001, we found that 27, or 44%, could have been avoided if a map-staking system were in place. The Ministry informed us that the benefits of map staking must be considered in conjunction with the costs required to implement such a system and the loss of jobs for those who currently survey and physically stake mining claims. We were also informed that ministry staff had considered testing map staking in Southern Ontario to determine its benefits. At the completion of our audit, the Ministry had not made any further determination regarding map staking in Ontario.

RECOMMENDATION

To more efficiently and effectively manage the mine claim-staking system, the Ministry should assess the costs and benefits of a map-based staking system and consider implementing such a system in Ontario.

MINISTRY RESPONSE

The Ministry is working on an overall mineral development strategy for Ontario and, as part of this process, will evaluate the costs and benefits of a map-based staking system.

Mining-claim Assessment Work

In Ontario, a mining claim gives the claim-holder a right to explore land for minerals. To maintain a claim in good standing, the holder must perform certain exploration work, referred to as assessment work, and must report this to the Ministry for approval. The claim-holder must perform at least \$400 worth of assessment work annually for each unit (16 hectares) within the claim. Failing to carry out this work could result in forfeiture of the claim. This requirement helps to achieve one of the primary purposes of the *Mining Act*—to encourage exploration for the development of mineral resources in Ontario, as opposed to prospectors staking claims without any further work being done.

The Ministry has three assessment officers who review assessment work reports submitted by claim-holders. Assessment reports include descriptions of the assessment work done and expenditures, which, if they are eligible, are credited to the claim as assessment work. Some of the most common expenditures that are acceptable for assessment credits are those that cover the cost of geological surveys, exploratory drilling, mineral analysis, contractors, equipment rental, and supplies. Expen-

ditures that are not eligible for credits include those relating to asset purchases and repairs, travel incurred outside Ontario, road construction and maintenance, and the building of any physical structures.

During 2004, the Ministry received more than 1,000 assessment reports, with \$65 million in expenditures submitted for assessment credits. We reviewed the assessment process and noted that the Ministry assessed most of the reports submitted for reasonableness by comparing reported expenditures to industry standards. The Ministry often requested additional information, and, if an acceptable response was not received, it reduced the allowable assessment credits. However, we found that this process was not sufficient to ensure that only allowable expenditures were approved for credit. Specifically, we noted the following:

- Under the *Mining Act*, the Ministry has 90 days from receipt of a work report to reject the costs submitted or request an expenditure verification; otherwise, the expenditures are deemed to be approved for assessment credits. We found that, while most assessment reports were reviewed within the 90-day period, typically 25 to 40 reports per year were deemed approved without review. We reviewed a sample of these reports and found that several files contained unreasonable costs or had insufficient technical data provided by the claim-holder to comply with the work-assessment requirements.
- Although the Ministry reviews most assessment work reports for reasonableness, few files were selected for detailed expenditure verification, which requires a thorough review of the original invoices and other supporting documentation. Based on information provided by the Ministry, of the 5,200 assessment reports received since 1999, only 31 files, or half of 1%, were selected for detailed expenditure verification. The Ministry selected most of these files because the expenditures claimed appeared unreasonable, and, after review, the Ministry disallowed \$350,000 of the reported assessment work. Without a process in place for thoroughly verifying a reasonable sample of claims, the Ministry does not have adequate assurance that the expenditures reported on claim assessments were actually incurred.
- The *Mining Act* allows the Ministry to charge a claim-holder with an offence for making false statements on work-assessment reports, and, upon conviction, the claim-holder is liable to a fine of not more than \$10,000. Until 1997, the Ministry inspected claims and work assessments in the field by evaluating work performed relative to work reported. Since 1999, however, the Ministry has carried out only one inspection and found that the work outlined in the assessment report had not been performed. Although the individual's claims were cancelled, the claim-holder was not charged under the *Mining Act*. In our sample, we noted two other cases where the claim-holders had altered laboratory certificates or geologist reports and submitted these for work-assessment credits. We were informed that assessment credits can be reduced in such cases. However, if sanctions are limited to the reduction of credits, the deterrent effect of inspections and prosecutions is reduced.
- We noted several cases where claims were forfeited because no assessment work had been carried out to keep the claims in good standing, and the same people who had their claims forfeited reclaimed the lands when they became open for staking. In three cases, the claim-holder reclaimed the same forfeited land twice without performing any assessment work. In such cases, the claim-holder can retain the claim for six years before the claim is again forfeited. A situation where a claim-holder can in effect indefinitely retain mining rights by continually reclaiming them after they are forfeited—without performing any assessment work—is contrary to the intent of the *Mining Act*.

RECOMMENDATION

To ensure that holders of mining claims are actively prospecting and exploring land for the development of mineral resources, the Ministry should:

- develop procedures to ensure that all assessment files are reviewed for reasonableness;
- review the adequacy of the number of files selected for detailed expenditure verification and consider implementing a random selection process;
- assess whether the current level of inspections and prosecutions provides an effective deterrent to filing false information to retain mining rights; and
- consider disqualifying holders of forfeited claims from re-staking the same land until an appropriate period of time has passed.

MINISTRY RESPONSE

While most assessment reports are reviewed within the required 90-day period, we will review our processes and develop procedures to ensure that all reports are reviewed for reasonableness within the 90-day requirement.

As noted by the Auditor General, the Ministry often requests additional expenditure verification information, which is reviewed for assessment credits. If the requested information is not received or the review determines that the work is unreasonable, the Ministry will grant assessment credits based on industry standards. The development of industry standards for exploration work and staff's proactive approach with clients on work-report submissions have resulted in fewer submissions that appear problematic. Nevertheless, the Ministry will develop a process for detailed expenditure verification, which will include, for example, the selection of

random or targeted files, to supplement its normal expense verification process.

The Ministry has designed a range of deterrent measures to help prevent falsification of assessment information and expenditure reporting. These measures include the reduction and/or loss of assessment credits, the revocation or suspension of a prospector's licence, and, in some cases, the loss of the stakeholder's mining claim. These measures have been found to be very effective. However, the Ministry will review its current level of inspections and prosecutions to ensure effectiveness in deterring the filing of false information.

The Ministry will conduct a review of the number of claims being re-staked without assessment work being done to determine the scope of the problem, measure the risk of this issue, and develop a business case for follow-up.

Ontario Geological Survey

The Ontario Geological Survey (OGS), a branch in the Mines and Minerals Division, has 130 staff who are responsible for collecting, interpreting, and disseminating geological, geochemical, and geophysical data. The OGS uses this information to provide consultation and advisory services to assist the industry in mineral exploration and development. Approximately 25 OGS staff produce site-specific maps to support mineral exploration by identifying areas of high mineral potential.

With current mineral reserves being depleted faster than new deposits are being discovered, there is a need for reliable and timely geological information to enable the industry to meet the challenge of finding new mineral deposits. A consultant who evaluated the OGS in 2003 noted that the development of high-quality geological data has the greatest positive impact on enhancing economic performance in the mining industry. The economics of

the mining industry are currently very favourable, as international demand for minerals and commodity prices are high and are expected to remain so for at least several years. The Ministry recognizes that without relatively timely geological information and maps, potential mining exploration investments could be diverted to other mining jurisdictions.

Geological Mapping

Geological maps and reports produced by geological surveys are fundamental information sources used by prospectors and the mining industry to select mineral exploration targets. The Ministry's geological reports and maps of varying scales are produced from data—collected by direct observation—on the attributes, characteristics, and relationships of rock and sediments. A mining industry survey noted that the Ministry's geological maps are of good quality and very useful as a starting point for exploration.

Ministry guidelines suggest that, to map all areas of significant mineral potential in a timely manner, a 20-year mapping cycle is required and an estimated 15,000 square kilometres would need to be mapped annually. However, the Ministry did not have an overall mapping plan in place demonstrating that mapping 15,000 square kilometres annually would be sufficient to complete the mapping of all areas of significant mineral potential over the next 20 years.

We found that from 2002 to 2004, the Ministry had annually mapped approximately 8,000 square kilometres of land. The Ministry's mapping target for the next three years, ending in 2007/08, is also 8,000 square kilometres annually. Based on current and planned levels of activity, the Ministry will not map all areas of significant mineral potential during the next 20 years. The Ministry informed us that it did not have the resources to map 15,000 square kilometres annually without compromising the quality of its maps and geological data. The

Ministry needs to assess its current performance in providing high-quality geological maps on a timely basis and thoroughly assess the costs and benefits of an enhanced mapping program.

Project Selection

The geological mapping selection process begins with the submission of proposals originating from industry stakeholders and ministry staff. A proposal is evaluated according to selection criteria—its suitability with respect to ministry priorities, the feasibility and appropriateness of the study area, the potential for economic investment in mineral exploration, and the availability of staff with the skills necessary to complete the project. Once project proposals are selected, they are ranked in order of priority and added to the annual work plan.

In response to a recommendation from our 1987 audit of the Mines and Minerals Program, the Ministry committed to the development and implementation of a formal system for project selection, with improved information for managers. During our current audit, we reviewed the Ministry's project-selection and priority-setting process and were advised that projects were evaluated against selection criteria, but we noted that documentation outlining the rationale for selection or rejection of a project was not maintained.

After evaluating project proposals, the Ministry produces a ranking of accepted projects, but we found that the highest-ranking projects were not always the ones undertaken. Again, there was insufficient documentation to explain why this was the case. The Ministry informed us that because of limited staff resources with the required skills, some projects could not be carried out. For example, over the past two years, 72 project proposals were approved, but, due to limited resources, 33 of the projects could not be undertaken.

Project Management

Subsequent to our 1987 audit of the Mines and Minerals Program, to prevent delays in completing projects, the Ministry committed to preparing periodic reports on the status of all work in progress. Such reports were to help monitor the mapping process by highlighting project delays, reasons for any delays, and the steps that would be taken to get projects back on schedule. However, we found that the Ministry did not have an overall project management system in place and was still not preparing periodic reports on the status of its mapping projects.

We were advised that project monitoring was carried out as part of the individual geologist's annual performance appraisal. Consequently, to assess the status of mapping projects, we requested that the Ministry prepare and provide us with information on the current status of projects for the past three years, up to December 2004. From this information, we noted that many projects were not being completed on a timely basis.

The list of projects for the Precambrian Geoscience Section included all those projects that were ongoing or completed in the past three years. This section is responsible for the geological mapping of the bedrock and mineral resources of the Precambrian Shield. Of the projects listed, 46 were scheduled to be completed by December 2004. At the time of our audit, 10 of these projects were still ongoing and were, on average, 24 months behind the scheduled completion dates. In addition, for the 36 projects that were completed by December 2004, 15 were completed late. We could not determine the full extent of the delay because the necessary information was not readily available. However, we were able to calculate that, excluding the project with the longest delay—which was nine years—the average publication date was 16 months after the scheduled completion date. We were informed that raw data and other components of a project may be released prior to project com-

pletion. The Ministry also noted that the reasons for the delays included shifting priorities, problems encountered by a partner leading the project, and having to wait for peer reviews.

We also reviewed the status of projects initiated by the Sedimentary Geoscience Section. This section is responsible for mapping more recent geological areas of high mineral potential. The section listed a number of projects that were ongoing or completed in the past three years. Seventy-five of these projects were to be completed by December 31, 2004. We noted that over 90% of these projects were completed on time, and only six projects were overdue or completed late. The average delay for the overdue and late projects was nine months.

RECOMMENDATION

To ensure that the Ontario Geological Survey provides, in a timely manner, the geological maps that are essential to encouraging mineral exploration in the province, the Ministry should:

- assess the costs and benefits of a program that would achieve the mapping of all areas of significant mineral potential within the recommended 20-year cycle and, based on this review, develop an overall mapping plan;
- enhance its process for project evaluation and selection to include appropriate documentation and assessment of the availability of the financial and staff resources necessary to complete the projects; and
- develop a project management system to better monitor the status of projects, help ensure that projects are completed on a timely basis, and enable timely action where projects are falling significantly behind.

MINISTRY RESPONSE

The Ontario Geological Survey (OGS) agrees to assess the costs and benefits of geoscience mapping programs that would achieve the mapping of all areas of significant mineral potential within a 20-year cycle. However, given that the implementation and success of such programs are resource and capacity dependent, the 20-year mapping cycle will remain a benchmark rather than an absolute target.

Current OGS operational plans have three-to-five-year mapping plans for areas based on client priorities and recommendations from the OGS Advisory Board. These work plans are reviewed annually by the OGS Advisory Board to ensure that client and stakeholder needs are being met.

The spring 2005 Ontario Budget included a three-year, \$15-million initiative to undertake geological mapping in the Far North to supplement OGS mapping activities. Criteria for ensuring that mapping projects take place in priority areas are being developed by the Ministry with First Nations and mineral industry input. Resource limitations always impact on the Ministry's ability to undertake more comprehensive mapping of Ontario's geological base, but increased resources, such as those provided through add-on programs like the Far North initiative, will allow for an increase in the area being mapped.

The OGS agrees that project selection decisions should be more rigorously documented within the existing project evaluation and selection system. The specialized skills and financial resources that are required to undertake a project are part of the project evaluation system. However, as noted by the Auditor General, some projects are routinely conducted through partnerships with other groups and agencies, including the federal government and academia, as

well as through private-sector/municipal collaborations, where the Ministry does not have ultimate control over timelines. Nevertheless, the Ministry will review the existing project evaluation system to identify procedures for improving documentation and controls.

With the current project management information system, targets and deliverables are reviewed through the staff performance development planning process. The Ministry will review the existing system to identify measures to improve overall project documentation and controls.

Investment Marketing

The Ministry's Information and Marketing Services Section administers trade and investment activities and is responsible for promoting mineral development opportunities in Ontario. The Ministry has only two staff dedicated to marketing activities, and it funds operating expenditures of \$50,000 a year in addition to \$100,000 provided by the Ministry of Economic Development and Trade.

The Ministry's draft investment marketing strategy notes that the mining and exploration sectors are flourishing international industries where political and geographic boundaries are no longer impediments to investment opportunities. The strategy further states that this has created a competitive situation, with jurisdictions throughout the world undertaking aggressive marketing campaigns to attract an increased share of the global mining investment pool. In addition, the Ontario Geological Survey Advisory Board, made up of industry representatives, confirmed that there is considerable opportunity for the Ministry to take a more aggressive approach to marketing Ontario mining opportunities internationally, with an emphasis on attracting new sources of mining investment and

encouraging international mining companies to explore in Ontario.

We determined that the Ministry's marketing efforts were substantially limited to participation in a number of investment attraction events, such as domestic trade shows, symposiums, and conferences. The Ministry's draft investment marketing strategy proposed participation in international trade missions and a print media advertising campaign. However, we were informed that, due to fiscal constraints, the Ministry had not carried out these and other elements of its marketing strategy. The Ministry has relied on the efforts of the Ministry of Economic Development and Trade to promote Ontario's mining prospects internationally.

The Resident Geologist Section of the Ontario Geological Survey has a number of local offices throughout Ontario that monitor and facilitate exploration for mineral resources by providing expert geological consultation and advisory services. This section maintains a database of investment leads that includes the method of contact, work generated from the lead, and the mineral commodity of interest. We were advised that information on investment leads is not always followed up on, and, due to time and resource constraints, the database does not contain complete information on the investments generated. Such information would be useful in assessing the effectiveness of the Ministry's efforts to promote domestic and foreign investment in Ontario's mining industry.

The Ministry's draft investment marketing strategy outlines a number of potential initiatives and the costs associated with each. However, the plan outlines the expected benefits in very general terms. A key to achieving success with its marketing effort is to ensure that there is an adequate analysis of potential investment opportunities and a thorough evaluation of marketing initiatives including actual successes and demonstrated benefits. Without adequate feedback on strategies that successfully market Ontario as a good place to invest, it is

difficult for the Ministry to develop a focused marketing plan to attract investment into Ontario's mining industry.

RECOMMENDATION

To enhance the province's attractiveness as a mining investment jurisdiction and help facilitate domestic and foreign investment in the mining industry, the Ministry should:

- review the marketing strategies employed in other jurisdictions to help determine the potential costs and benefits of an expanded marketing program for Ontario;
- assess the feasibility of enhancing its investment leads database to help improve its investment marketing efforts; and
- develop an investment marketing plan that includes a full analysis of the costs and expected benefits of the proposed initiatives.

MINISTRY RESPONSE

The Ministry agrees that cross-jurisdictional benchmarking and a review of marketing strategies in other jurisdictions would be beneficial in determining the scope and thrust of the Ministry's marketing plan. Such a review will be undertaken to determine the potential costs and benefits of an expanded marketing program in Ontario. In addition, as part of a multi-sectoral marketing approach, the Ministry is working closely with the Go-North Investment team, a new initiative to market the North's inherent strengths, announced by the Ontario government in its spring 2005 Ontario Budget.

The Ministry supports the recommendation to assess the feasibility of enhancing its investment database. Currently, the database is used by the Ontario Geological Survey to document mineral-sector investment attraction. The database will be reviewed to enhance the investment information available.

The Ministry analyzed the costs associated with its international and domestic investment marketing plans in its investment marketing strategy. Implementation and delivery of these plans will be dependent on the resources available. The Ministry will continue to improve its methodologies and procedures for monitoring and documenting both the short- and long-term impacts of its marketing initiatives.

Investment Incentive Programs

Over the past several years, the Ministry has introduced a number of programs to promote mineral investment and development opportunities in Ontario. These programs are designed to expand and improve Ontario's geoscience infrastructure by uncovering new mineral exploration targets and helping mining companies develop advanced technologies for mineral exploration. We reviewed two of these programs—Operation Treasure Hunt and the Ontario Mineral Exploration Technologies Program.

Operation Treasure Hunt was established in 1999 to provide additional funding to the Ontario Geological Survey to perform geophysical and geochemical surveys. This additional work was expected to produce geological data and information to help identify new targets that would attract mineral investment and stimulate mineral exploration in Ontario. The Ministry spent a total of \$29 million on Operation Treasure Hunt. In 2002, after the program ended, the Ministry commissioned a survey of prospectors, exploration geologists, and exploration managers. The results indicated that the mining industry was generally satisfied with the program, and anecdotal evidence suggests that there was an increase in mineral exploration. However, there was no assessment of how successful the program had been in increasing mineral investment and exploration in Ontario.

The Ontario Mineral Exploration Technologies Program was initiated in 2000, ran for four years, and was administered jointly by the Ministry and Laurentian University. The program provided funding to develop new technologies and methods to enhance the efficiency of exploration. The ultimate goal was to attract new exploration investment to help maintain Ontario's status as a favourable mining jurisdiction. The Ministry spent a total of \$8 million on the program. The Ministry established performance measures for the program, including the percentage of funds leveraged on program investments, the number of technical products disseminated to the public, and the number of organizations that used the information or technology developed. However, these performance measures do not assess the program's ultimate goal of attracting new exploration investment to Ontario. The Ministry needs to better monitor the long-term impact of such programs to assess the success of the program and provide useful information for possible future initiatives.

RECOMMENDATION

To help achieve the full benefits of its investment incentive programs, the Ministry should ensure that the success of each program in achieving its goals is evaluated so that this information will be available in planning future incentive initiatives.

MINISTRY RESPONSE

Mechanisms for measuring the impact of investment incentive programs, such as Operation Treasure Hunt (OTH) and the Ontario Mineral Exploration Technologies (OMET) program, have been employed. In the case of OTH, an external assessment with respect to investment impacts was conducted, and in the case of OMET, targeted evaluation is currently

underway with the support of the program director from Laurentian University.

Monitoring of investment attraction will be undertaken with respect to the new three-year, \$15-million Far North Geological Mapping Initiative that was announced in the spring 2005 Ontario Budget.

ENVIRONMENTAL PROTECTION

Ontario's Living Legacy

In 1999, the government announced Ontario's Living Legacy, which was a land-use strategy to help ensure the long-term health of the province's natural resources. Ontario's Living Legacy, a responsibility of the Ministry of Natural Resources, created 378 new provincial parks and protected areas totalling 2.4 million hectares. However, many of the resulting protected areas overlapped pre-existing mining lands (claims, leases, and licences). These overlapping areas were designated as forest reserves to allow mining activity and access to the lands to continue. The intention was that, following exploration, mining, and rehabilitation, portions of land designated as forest reserves would be added to the adjoining or surrounding protected areas.

When Ontario's Living Legacy was approved, 85,000 hectares of staked mining land, designated as forest reserves, were within or adjacent to newly protected areas. Between 1999 and 2002, two-thirds of these staked mining claims lapsed and will not be made available for future claims staking. For the remaining lands, the Ministry, along with the Ministry of Natural Resources and key stakeholder groups, began working on a disentanglement process. The key stakeholders were asked by the ministries to propose solutions, and, in July 2003, recommendations were made to resolve the status of most of the remaining mine lands. As of the time of our

audit, those recommendations had not been implemented.

Based on the most recent information available, there were 66 areas of mining lands, covering 29,000 hectares, being reviewed; they contain 634 claims and 179 leases. The Ministry informed us that there are currently no mines operating on any of these lands. However, it has been six years since the protected areas and forest reserves were established. Without a resolution regarding the status of mining rights within these areas, there could be a negative impact on the economic stability of the areas. Such uncertainty is a strong deterrent to exploration investment. In addition, the Ministry is faced with lawsuits and notices of claim totalling \$4.6 million because of lost economic opportunity by persons holding mining rights within or adjacent to the newly protected areas.

Some of the protected areas contained critical habitat for fish, wildlife, and other vulnerable natural resources, such as species at risk of extinction. Neither the Ministry nor the Ministry of Natural Resources is monitoring the mining lands within and adjacent to these protected areas to ensure that any exploration or future mining activities have little or no impact on the natural resources that are being protected. Any environmental damage would be contrary to the purpose of Ontario's Living Legacy and the *Mining Act*, which requires that mining activities be carried out in such a manner as to minimize the impacts on the environment.

RECOMMENDATION

To help balance the economic benefits of mining activities with the protection of the environment, the Ministry should:

- resolve the status of the remaining mining lands designated as forest reserves within and adjacent to protected areas; and
- work with the Ministry of Natural Resources to ensure that any mining activities within

designated areas take into consideration the protection of any known environmentally sensitive natural resource.

MINISTRY RESPONSE

The status of the remaining lands designated as forest reserves within Ontario's Living Legacy (OLL) has been resolved, pending final public input as part of the site regulation process on the proposed solutions for the remaining 66 OLL sites. The Ministry of Natural Resources administers the OLL site regulation process, and it is continuing to work through this process.

The protection of the natural environment on Crown land and forest reserves is governed by numerous pieces of provincial and federal legislation, such as the *Public Lands Act*, the *Lakes and Rivers Improvement Act*, the *Fisheries Act*, the *Navigable Waters Protection Act*, and the *Mining Act*. The responsible provincial and federal regulatory ministries and agencies carry out monitoring and enforcement. The Ministry's involvement and responsibilities are triggered at the advanced exploration stage of the mining sequence, and measures will be in place through the *Mining Act* to address and mitigate any issues or concerns raised with respect to protecting the natural environment within forest reserves.

Rehabilitation of Operating Mines

The *Mining Act* requires that all mines be rehabilitated so that the site is restored to its former condition or is made suitable for a use that the Ministry sees fit. Mining activities can cause significant impacts on the environment, potentially affecting groundwater and surface water, aquatic life, vegetation, soil, air quality, wildlife, and human health. To mitigate these environmental risks and reduce the financial burden on the public to clean up such

sites, the Ministry is responsible for ensuring that mine sites in Ontario are developed, operated, and closed in accordance with sound environmental practices. To help accomplish this, the Ministry reviews mine-closure plans, monitors and inspects rehabilitation work, and obtains financial assurance to cover the related closure costs.

Mine-closure Plans

Before a company commences mining operations or undertakes advanced exploration, it must submit a closure plan to the Ministry. Regulation 240/00 under the *Mining Act* outlines a comprehensive list of information that is required in a closure plan, including details on the progressive rehabilitation measures that are to be taken throughout the life of the project as well as at closure. This information is to be certified by the mine owner's noting that the closure plan complies with the *Mining Act* and that the owner relied on qualified professionals in preparing the closure plan. An owner who has filed a certified closure plan is bound by the *Mining Act* to comply with the plan. Subsequently, the Ministry can monitor mining activity for compliance with the plan.

Based on information provided by the Ministry, there were 144 mines for which a closure plan should have been in place. As of January 2005, the Ministry had received and filed 126 closure plans. The Ministry's review process for closure plans begins with a basic screening to ensure that there are no obvious deficiencies and that sufficient financial assurance has been received. The plan is then posted on the Environmental Bill of Rights registry to obtain the public's input. The plan is also widely distributed for input to several organizations, including other Ontario ministries and the local municipality. The Ministry then performs a more detailed review of the plan to verify that all the required components of the plan are included. Finally, all input is reviewed and a decision is made

to file the plan or return the plan for revision or refile.

As of March 2005, contrary to the *Mining Act*, closure plans were not in place for 18 mine sites. Sixteen of these mines are no longer in operation. A closure plan had been received for 12 of these mines, but the plans were returned with a request for revisions or for the provision of adequate financial assurance. In four other cases, the Ministry had negotiated the receipt of closure plans from new owners of the mine sites. One mine owner was not requested to submit a plan, and another was charged with and convicted of failure to submit a closure plan. Although the Ministry has actively pursued closure plans for most of these sites, these plans have been outstanding since 1991, when the requirement came into effect. Without closure plans in place, the Ministry does not have detailed rehabilitation specifications certified by qualified professionals. Consequently, the Ministry cannot adequately monitor the site for compliance to ensure that the site is maintained and rehabilitated in an environmentally responsible manner.

In accordance with the *Mining Act*, the entire closure-plan review process must be completed by the Ministry within 45 days, which is an extremely short time frame, given the complex nature of many closure plans and the numerous steps required to process these plans. We reviewed this process and found that documentation was inconsistent. Some files detailed the assessment of each mandatory requirement; however, for most files, documentation of the review process was minimal. The implementation of a standardized review process with supporting documentation, such as a checklist of the requirements, would assist ministry management in ensuring that all the required steps in the review process were completed.

Rehabilitation Monitoring and Inspection

The Ministry has two mine-rehabilitation inspectors monitoring the activities of mining operations

to determine the nature and extent of any existing or potential mine hazards. They also inspect any work related to rehabilitation to ensure that it is completed according to the approved closure plans. All rehabilitation work is to be carried out in accordance with the standards, procedures, and requirements of the Mine Rehabilitation Code of Ontario as detailed in Regulation 240/00 under the *Mining Act*.

We reviewed the Ministry's monitoring and inspection of ongoing mine-rehabilitation and mine-closure activities. We found that the Ministry's inspections had identified significant concerns—for example, physical hazards and the leaching of minerals into the environment. These concerns were communicated to mine owners for corrective action; in some cases where problems were not resolved, additional actions were taken, including prosecution. However, we noted a number of areas where the monitoring and inspection process could be improved:

- A ministry report indicated that more than 200 inspections or site visits had been performed over the past five years. However, we noted that the Ministry's list of the work that had been done was neither accurate nor complete. An accurate list of inspections and site visits is a valuable tool to enable management to monitor overall inspection activity.
- The Ministry informed us that it attempts to inspect every site over a two-to-three-year period. We noted that, based on the information provided, almost half the sites had not been inspected in the past five years.
- The Ministry employed an informal risk-based approach to selecting mine sites for inspections. A more formal approach would ensure that all sites are inspected at least once over a specified time frame and that inspection efforts are directed to those sites that pose the greatest risk to public health and safety and the environment.

Figure 1: Financial Assurance for Mine-closure Plans, March 2005

Source of data: Ministry of Northern Development and Mines

Type of Financial Assistance	# of Plans Having Predominantly This Type	# of Plans Having Fully or Partially This Type	Total Assurance (\$ 000)
corporate financial test	17	17	585,123
letter of credit	65	65	122,296
sinking fund	8	19	15,360
cash	31	38	14,466
surety bond	3	3	6,440
pledge of assets	1	8	5,993
letter of guarantee	1	1	27
Total	126	151	749,705

- Inspection documentation needs to be improved to demonstrate to ministry management that inspections have considered all the requirements of the Mine Rehabilitation Code. In addition, there was insufficient evidence that all the concerns noted during inspections were followed up on and resolved.

Financial Assurance

Since mining activities can have a significant impact on the environment, companies are required to provide the Ministry with financial assurance to ensure that if they are unable or unwilling to clean up a site after mining activities cease, sufficient funds are available to restore the site to a suitable use. There are several different types of financial assurance allowed by the *Mining Act*. Figure 1 shows the main type of financial assurance associated with each of the 126 approved closure plans and the total amount provided for by each type.

Prior to filing closure plans, the Ministry reviews the plans for completeness and verifies that the required financial assurances have been received. It does not, however, assess or verify projected estimates of closure costs for which the financial assurances are made, since doing so for each plan would require a high level of technical expertise. Regulation 240/00 under the *Mining Act* makes it the

responsibility of the mine owner to certify that the amount of financial assurance provided for in the closure plan is adequate and sufficient to cover the cost of rehabilitation. No independent corroboration is required. Consequently, the Ministry has little evidence to substantiate the sufficiency of the financial assurances provided. For example, the costs originally estimated in the closure plan for one mine were \$551,000 in 1993. The plan was not filed because the owner could not provide financial assurance. Nevertheless, the mine owner had significantly underestimated closure costs. Since the mine is no longer operational and the company is not able to pay closure costs, the Ministry engaged a consultant in 2004 who estimated the closure costs to be \$9 million. The Ministry may ultimately be required to rehabilitate this site at the taxpayers' expense.

In addition, the Ministry does not have a process for periodically reviewing the original closure-cost estimates during the life of a mine to assess whether the estimates and financial assurances are still sufficient to properly close out the mine. We noted that other jurisdictions require that the amount of financial assurance be reviewed annually and, if necessary, adjusted to reflect any changes. Without a periodic review of closure costs, financial assurances provided may be inadequate, and this could result in a potential liability for the taxpayer.

We reviewed the various forms of financial assurance provided to the Ministry. We found that ministry staff endeavoured to collect and maintain adequate financial assurances. We also noted that, while there is little risk associated with cash, letters of credit, surety bonds, and letters of guarantee, the other forms of financial assurances received may be inadequate to cover rehabilitation costs should a company be unable or unwilling to fulfill its cleanup responsibilities. Specifically, we noted the following:

- Companies whose bonds are rated Triple B or higher meet the financial test established in the *Mining Act* and do not have to provide financial assurance. We were informed by the Ministry that Ontario is the only province in Canada that accepts the corporate financial test form of assurance, which constitutes the major portion of total financial assurance provided. This form of financial assurance essentially amounts to self-assurance.

A consultant hired by the Ministry in 1996 to review self-assurance found that the risks associated with granting such a privilege to a mining company are considerable because the Ministry is effectively assuming the status of an unsecured creditor. Any failure of these mining companies could mean a significant liability for the province. Also, it could be difficult to obtain another form of financial assurance once a company is experiencing financial difficulty and can no longer meet the financial test. We noted that one mining company with a Triple-B rating, which was required to provide financial assurance for over \$94 million, had been placed on a credit watch by one of the credit rating services since September 2004. Its status had not changed at the completion of our audit. The Ministry was monitoring the company's credit rating to ensure that it continued to meet the financial test.

Experience in other jurisdictions has shown that mining companies that have gone bankrupt

continued to meet the financial test right up to the time they filed for bankruptcy protection. Because significant mine-rehabilitation costs are being borne by governments after companies that offered self-assurance have gone bankrupt, some jurisdictions have eliminated the use of self-assurance. For example, the Bureau of Land Management in the United States has not accepted any new corporate self-assurance since 2001.

- We reviewed the 19 companies that pay financial assurance into a sinking fund (that is, a certain amount of funds are deposited periodically), including the eight companies that pay into a sinking fund as their predominant form of financial assurance. We found that most of these companies had paid into the sinking fund as required. However, four companies had gone bankrupt without having paid about \$600,000 into the fund. Consequently, the Ministry may have to assume some of the rehabilitation costs for the mines involved.
- Companies may pledge assets, such as mining equipment, as financial assurance. We noted that assets had been pledged for eight closure plans, including the mine where assets were the predominant form of financial assurance. We noted that, for half of these plans, the Ministry obtained an independent appraisal of the assets. However, the Ministry did not verify that the companies owned the assets and that they were not already pledged for some other security interest. Nor did the Ministry periodically determine whether the assets still existed and had sufficient value to cover the closure costs. In 2002, the Ministry requested a re-evaluation of the assets pledged for one mine and requested being given first-ranking security for these assets, noting that this is a normal precaution where assets are used as collateral. At the time of our fieldwork, the mine owner had not complied with this request.

RECOMMENDATION

To help ensure that all mining lands are rehabilitated so that each site is restored to either its former condition or another suitable use and that sufficient funds will be available to finance the cleanup, the Ministry should:

- ensure that closure plans are in place for all mine sites as required by the *Mining Act*;
- implement a standardized review process to ensure that all the requirements for closure plans are completed;
- develop a risk-based approach to its mine-rehabilitation inspection process, keep accurate records of all inspections performed, and enhance inspection documentation to demonstrate that all applicable Mine Rehabilitation Code requirements have been met;
- review periodically whether the closure-cost estimates and financial assurances are still sufficient to properly close out the mine; and
- evaluate the adequacy of the current forms of self-assurance to mitigate the risk that the taxpayer will have to pay to clean up mine sites.

MINISTRY RESPONSE

It has been 10 years since major policy changes were made that affected the mine-closure plan process. The Ministry is therefore reviewing the process as part of its overall stewardship of mineral resources in the province. In this regard:

- The Ministry will pursue all legal avenues to ensure that closure plans are in place for all mine sites as required by the *Mining Act*.
- While the Ministry has a review process, we will work to improve standardization and documentation of the process to ensure that the requirements for closure plans are completed.

- The Ministry will improve its existing risk-based approach to its mine-rehabilitation inspection process. In addition, we will enhance the documentation for inspections performed.
- Closure-cost estimates and financial assurances will be reviewed periodically to ensure that they are still sufficient to properly close out the mine site.
- Ontario is the only jurisdiction using the multiple investment-grade bonds rating approach. We agree that the financial tests used in other jurisdictions have proven to be flawed. We will continue our practice of closely monitoring companies to ensure conformance with existing legislative requirements.

Abandoned Mines Rehabilitation Program

Ontario has had a long history of mining, with the result that some of Ontario's abandoned mine sites are more than a century old. Ownership of many of these sites has reverted to the Crown, and they have not been closed out in a manner that meets today's environmental standards. To address public safety and environmental concerns, the Ministry introduced the Abandoned Mines Rehabilitation Program in 1999. The program provides funding for technical assessments and rehabilitation work to restore these sites. The rehabilitation carried out under the program will enhance the availability of green space, protect wildlife habitat, and return previously hazardous and polluted lands to reasonable and productive uses. Since 1999, \$48 million has been spent to rehabilitate abandoned mine sites.

Abandoned Mines Information System

The Ministry's Abandoned Mines Information System contains basic data on all known abandoned

and inactive mine sites located on both Crown and privately held lands within the province. Information stored on each mine site includes site name, location, period that the site was active, mine features known to be located on the site, known hazards and their level of protection, inspections performed, and any remedial action taken. At the time of our audit, the system had information on more than 5,600 abandoned mine sites containing over 16,000 mine features, such as mine shafts, buildings, equipment, and tailings (the waste produced by the mining or refining process). The Ministry estimates that 4,000 of these mine sites are potentially hazardous to public health and safety, and that approximately 250 of these sites may pose an environmental risk due to the potential for the leaching of minerals and other contaminants from mine tailings.

In 1993 and again in 2000, the Ministry hired consultants to perform site assessments for all the known abandoned mine sites. The main objectives of these assessments were to provide information on each site's location, access, and ownership, along with a description of the physical mine hazards at each site. However, about half of the 3,800 site assessments done in 2000 had still not been entered into the system. In addition to being incomplete, the system does not contain information on chemical contamination, which is often a by-product of mining operations. Such information is necessary to manage abandoned mine sites so as to ensure that precautions are taken to prevent contamination of the environment through a natural process, such as erosion.

Prioritizing Abandoned Mines for Rehabilitation

The Ministry attempts to rehabilitate abandoned mine sites based on their potential impact on public health, public safety, and the environment. We noted that the rehabilitation of abandoned mines has generally been reactive, responding to public complaints or dealing with an emergency when

environmental degradation occurs at an abandoned mine. In the early 1990s, the Ministry developed a system to help set priorities and rank abandoned mine sites according to the greatest need for rehabilitation. The Ministry discontinued this system in 1996 since it did not produce reliable rankings of the risks associated with each mine site.

To make effective resource allocation and funding decisions, management requires current, accurate, and complete information. At the completion of our audit, the Ministry informed us that it had not had the resources to further develop a priority-rating system. We found that because the information in the Abandoned Mines Information System was incomplete and there was not an effective risk-based model for the Abandoned Mines Rehabilitation Program, it is difficult to identify and objectively allocate resources to those sites that could have the most detrimental effect on the environment.

Abandoned Mines Rehabilitation Strategy

The Ministry did not have a long-term strategy for managing, monitoring, and rehabilitating abandoned mine sites, including the estimated cost and the time required to complete the rehabilitation. In 1993 an inter-ministerial committee, made up of five ministries along with the Ontario Mining Association, estimated that the cost of cleaning up all abandoned mine sites would be \$300 million.

This estimate, now over 10 years old, was only a preliminary figure, pending further investigation and assessment of the mine sites. The Ministry has noted that, based on its recent experience in rehabilitating mine sites, the total cost to restore abandoned mine sites would be substantially higher than the 1993 estimate.

As well, the 1993 estimate of \$300 million to rehabilitate abandoned mine sites did not include the costs associated with the cleanup of any chemical contamination, which can be considerable. For example, the Ministry estimates that the costs

to rehabilitate two abandoned mines alone would be \$75 million, with the majority of these funds spent on dealing with chemical contamination from mine tailings. To determine such costs for all abandoned mine sites would involve hydrology studies and the testing of the water and soil around abandoned mine sites. Also, an assessment to determine whether there were any imminent environmental threats would be necessary to effectively manage the risks associated with abandoned mines.

RECOMMENDATION

To more effectively manage the rehabilitation of abandoned mines in the province and to protect public health, public safety, and the environment, the Ministry should:

- ensure that information on all abandoned mines is entered into the Abandoned Mines Information System;
- assess the potential for chemical contamination at each site; and
- develop a long-term strategy for managing, monitoring, and rehabilitating abandoned mine sites that includes an updated estimate of the funds required, a priority ranking of all sites based on risk, and the expected time frame to complete the rehabilitation, given the anticipated level of funding.

MINISTRY RESPONSE

There are 5,600 known abandoned mine sites. Location data has been corrected and entered for all sites as a first priority. Additional information from the most recent site assessments will be entered by the end of 2006.

While modern mining operations are strictly monitored by government and industry to mitigate environmental and safety issues, at the time of the audit, the Ministry had identified 5,600 abandoned mine sites dating from the early 1900s. Of these 5,600 known sites, the

Ministry's records include approximately 250 sites with associated tailings facilities, indicating that some level of mineral processing occurred at some point during the life of these sites. Mineral-processing sites have the highest risk of potential environmental effects. A joint government review of Crown-owned or Crown-leased sites with tailings further indicated that approximately 30% of the sites reviewed exhibited some degree of off-property water-quality effects, none of which were targeted as high-priority concerns. The Ministry will conduct a screening of the balance of the 250 sites and based on results, sites will be ranked in order of priority for cleanup, and a cost estimate will be established. A reallocation of a portion of the abandoned mines funding will be necessary to carry out this assessment.

The Ministry is in discussions with the mining industry, which has indicated a willingness to participate in this historic-site cleanup. The government recognizes the importance of addressing abandoned mine rehabilitation and, in July 2005, announced an allocation of \$10 million annually. With sustained, stable funding, the Ministry is now able to improve its ranking system and long-term remediation plans.

REVENUE COLLECTION

The *Mining Act* provides for the application of mining fees, taxes, rents, and royalties. The Minister sets the fees required to be paid for items such as prospectors' licences, lease applications, and licence renewals. The regulations to the *Mining Act* (Act) outline the rates to be charged for taxes and rents on mining patents, and for leases and licences. Pursuant to the Act, the Ministry also charges royalties for salt production. In the 2003/04 fiscal year, the Ministry collected \$5.4 million: royalties (\$2.2 million),

taxes (\$1.8 million), rents (\$1.0 million), and mining fees (\$0.4 million).

We reviewed the Ministry's revenue collection efforts and found that royalties and mining fees were collected as required, and there were no appreciable outstanding debts.

However, we noted a number of concerns related to the invoicing and collection of taxes and rents for patented, leased, and licensed mining lands. The registered holders of these lands are required to pay taxes of \$4 per hectare for patented lands, rents of \$3 per hectare for leased land, and rents of \$5 per hectare for licensed lands. There are approximately 19,000 patents (400,000 hectares), 3,600 leases (212,000 hectares), and 1,100 licences (22,000 hectares). Our specific concerns related to taxes and rents are as follows:

- The Ministry does not effectively control and pursue its outstanding accounts receivable balances to ensure timely collection. At the time of our fieldwork, there were accounts receivable totalling \$2.2 million, of which \$2 million were more than two years old. The Ministry's general practice is to not undertake any collection efforts for the first two years that an account is overdue.
- In accordance with the Act, the Ministry charges an interest penalty on the outstanding taxes on patented mining lands. However, contrary to the Act, the Ministry does not charge an interest penalty for outstanding rent on leased and licensed mining lands. Consequently, we estimate that the Ministry could have increased revenues by approximately \$165,000 on these outstanding rent balances.
- If the payments of rents or taxes are not made, the Ministry has the right under the Act to require the forfeiture of patented lands and to terminate mining leases and licences. However, we noted that the Ministry did not pursue debtors to ensure the forfeiture of their mining rights on a timely basis. We noted 2,700 patents, leases, and licences where the claim-holder's mining rights

were in arrears for more than two years. Over 900 of these patents, leases, and licences had been in arrears for more than 10 years.

- The current fee structure has been in place since 1997 without any increases to reflect inflation or comparable fees charged in other jurisdictions. We noted that fees charged by Ontario were generally lower than those charged in other jurisdictions. For example, the annual lease/rent fees in other Canadian jurisdictions ranged from \$10 to \$37 per hectare, while Ontario charges \$3 per hectare. An increase in this one fee to \$10 could increase annual revenues by more than \$1 million.

RECOMMENDATION

To help ensure the receipt of all the funds it is entitled to from the taxes and rents levied on mining lands, the Ministry should:

- pursue outstanding accounts on a timely basis;
- charge the prescribed interest rate for overdue rent on leases and licences;
- on a timely basis, initiate procedures to revoke the mining rights of owners that have not paid the required taxes and rents; and
- review the appropriateness of fees charged for mining rights.

MINISTRY RESPONSE

The Ministry appreciates the Auditor General's recognition that mining fees and royalties were collected as required and that there were no appreciable outstanding debts. In regard to taxes and rents levied on mining lands, although the Ministry's current information database and processes are extremely complex, the Ministry has commenced a review to address the larger outstanding accounts. The Ministry has also commenced an action plan for a project to upgrade and enhance our existing information database

and revenue collection system. The Ministry will examine options with respect to prescribing interest rates for overdue rent on leases and licences, and the Ministry will also assess the appropriateness of fees charged for mining rights in the context of Ontario's business and competitive climate.

MEASURING AND REPORTING ON PROGRAM EFFECTIVENESS

The goal of the Mines and Minerals Program is to build a provincial minerals sector that is healthy, competitive, and sustainable. In addition, the *Mining Act* requires that the development of mineral resources be carried out in such a manner as to minimize the impacts of mining activities on public health and safety and the environment. However, to assess its performance, the Ministry reported only two measures: Ontario's global and national ranking for mineral-sector attractiveness, and Ontario's share of Canadian exploration investment (as a percentage of total Canadian exploration expenditures). These were last reported in the Ministry's 2003/04 Business Plan.

The Ministry advised us that its 2005/06 results-based plan would include revised performance measures. However, we noted that the measures were essentially the same as those reported in the past, either publicly or internally. The existing performance measures are mainly economic and do not reflect all aspects of the Ministry's goals and responsibilities. For instance, there are no performance measures for the long-term-sustainability goal or for minimizing the impacts of mining activities on public health and safety and the environment.

With respect to sustainability, the World Commission on Environment and Development defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their

own needs." To meet this objective, planning for the development of a mine must consider how to maintain the quality of the environment, human well-being, and economic security. With respect to environmental protection, we noted that another Canadian jurisdiction requires its mining program to track and report on the achievement of a high standard of environmental protection for its mine sites. If the Ministry were to report in this manner in these areas, it would be better able to determine if mining operations are maintaining the integrity of ecosystem functions, as well as determine the physical, chemical, and biological stress imposed by mining operations on the environment.

RECOMMENDATION

The Ministry should develop more comprehensive indicators for measuring and reporting on the Mines and Minerals Program's effectiveness in ensuring that Ontario's mining sector is healthy, competitive, and sustainable and in minimizing the impacts of mining activities on public health and safety and the environment.

MINISTRY RESPONSE

As part of the government's Performance Measure Improvement Plan, the Ministry has revised some measures and is working on additional outcome-based measures that indicate how the Mines and Minerals activities contribute to achieving the objectives and priorities of the Division.