

AN INTEGRATED MINERAL DEVELOPMENT/MINE REHABILITATION PROGRAM
FOR THE PROVINCE OF ONTARIO

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ABSTRACT

Ontario assumes a world class status in the production of many mineral commodities. To maintain this position in the world mining community, the province relies on the production from approximately 60 mines extending across the vastness of the province. An active exploration and mineral development program is essential in maintaining this status.

Growing concern of the public and government with respect to the environment has led the mining industry to adopt new and enlightening environmental policies. In Ontario, changes to legislation regulating the industry have significantly changed the role of the mineral development program. On June 3, 1991 the Ministry of Northern Development and Mines assumed responsibility for Mine Rehabilitation.

This paper will highlight the expectations with respect to mine rehabilitation for producers in the province along with the Ministry's philosophy concerning the relationship between mineral development and rehabilitation programs.

Programme intégré de développaiient minier
pour la province de l'Ontario

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Le secteur minier représente un secteur industriel primaire important pour l'Ontario. En 1989, la contribution de l'Ontario à la valeur de la production minière canadienne s'est évaluée à 20%, au second rang après l'Alberta. En ce qui a trait à la production minérale, l'Ontario occupe l'une des dix premières positions mondiales pour le nickel (deuxième), le zinc (quatrième), le cobalt (quatrième) et l'or (septième).

Pour atteindre un tel rang dans la communauté minière internationale, l'Ontario compte sur la production d'environ 85 exploitations minières, réparties sur l'ensemble de son territoire. Maintenir cette position exige un effort soutenu en exploration et en développement minier, assurant ainsi de nouvelles ressources renouvellement des ressources à exploiter. Sur une base annuelle, l'industrie minière pourrait mener de front quelque 30 projets d'exploration et exploiter potentiellement 5 nouvelles mines dans la province.

En réponse aux inquiétudes croissantes du public et du gouvernement en matière d'environnement, l'industrie minière a adopté sa propre politique environnementale. En Ontario, les changements apportés à la législation réglementant l'industrie modifient de façon substantielle la philosophie du développement des ressources minérales. Cette communication donne des exemples de ces changements.

En octobre 1989, le ministre des Mines de la province a présenté le projet de loi 71, visant à amender la loi des mines de l'Ontario. Les points importants traitent de l'adoption d'un plan de fermeture avant le stade de production, des garanties financières, du processus de déclaration publique et de la création de postes d'agent de réhabilitation et de développement, etc...

Avec le passage de cette loi et de sa réglementation connexe, le ministère des Mines et du Développement du Nord assumera le rôle de chef-de-file en ce qui a trait aux étapes de développement des ressources minérales suivantes: l'exploration, le développement minier et la fermeture de mines. Cette communication décrit en détail le processus séquentiel que doit suivre l'exploitation minière en Ontario.

INTRODUCTION

In 1989 Ontario's contribution to the value of mineral production generated in Canada was estimated at 20%, exceeded only by Alberta's oil and gas production. Ontario maintained a world status in the production of nickel (second), zinc (fourth), cobalt (fourth) and gold (seventh). The value of revenue generated from the mineral resources production and exploration in the province was estimated at 7 billion dollars for 1990.

In October 1989 the Minister of Mines of the province introduced Bill 71, an Act to amend the Mining Act. Of significance is the requirement of a closure plan prior to production, financial assurances, notification processes, and the creation of Rehabilitation Officers, Development Officers and the Director of Rehabilitation.

Through the passage of this legislation and the accompanying regulations, the Ministry of Northern Development and Mines will assume the lead role with respect to the following stages of mineral development: advanced exploration, mine development and mine closure. This new mandate has caused the ministry to reflect on how to deliver a program of both supporting the development of resources and regulating mine closure.

MINERAL DEVELOPMENT PROGRAM

The objective of the Mineral Development Program is to ensure that Ontario's position as a world class producer of mineral resources is maintained by applying a concept of sustainable development. To sustain world class status an active exploration and mineral development program must identify new resources and replace depleting ones.

As the demands on the mineral industry increase, the role of the mineral development program has become more important. The regulatory climate in the province is becoming more complex as a result of new provincial legislative initiatives such as MISA (Municipal and Industrial Strategy for Abatement), revisions to the Mining Act of Ontario and other provincial regulations. In addition, the public has become more demanding of both the mining industry and government regulators. The activities of the mining industry are being closely monitored with respect to the effects on the environment and the relationship with other land users.

Natives are major stakeholders in the province and in recent years their needs and wants have taken on a much higher profile. In response, the Government of Ontario has developed a policy of notification and consultation with the Nishnawbe-Aski Nation with respect to significant exploration and mine development projects.

These concerns have solidified the role of the Mineral Development Officers within the Ministry of Northern Development and Mines. Bill 71 recognized the importance of the two existing regional positions and the head office support group. The Bill empowers the Minister to appoint Mineral Development Officers to co-ordinate and expedite communications between the mining industry, the public and affective ministries and agencies of the Government of Ontario.

Over the past two years, the Mineral Development Officers have become increasingly involved in facilitating the resolution of problems and concerns. Examples of the facilitating roles which the Development Officers have filled are:

1. Permitting preparation, negotiation and securing necessary approvals.
2. Financial assistance for feasibility studies, innovative technology and mineral processing.
3. Public consultation and conflict resolution with "stakeholders".
4. Co-ordination of mine closure review and acceptance of mining lands back to the Crown.

REVISIONS TO THE MINING ACT

The changing regulatory climate, public awareness with respect to mining and the fact that the Mining Act required updating, provided staff the necessary justification for the Ministry to publish "Ontario Mines and Minerals Policy and Legislation". This paper invited comments from industry, the public and other regulatory bodies to assist in developing the role of the Ministry with respect to mining.

Several recommendations made in the paper defined the role of the Ministry. After review of the comments generated by the paper, an internal ministry review took place and Bill 71, an Act to amend the Mining Act of Ontario, was drafted. In October of 1989, Bill 71 was introduced by the Minister. The Bill addressed major revisions to the legislation governing the activities of claim staking, assessment work and added extensive requirements for mine rehabilitation.

With respect to mine closures, the existing Mining Act only required that revegetation of tailings areas take place and that mine openings be addressed from a public safety perspective.

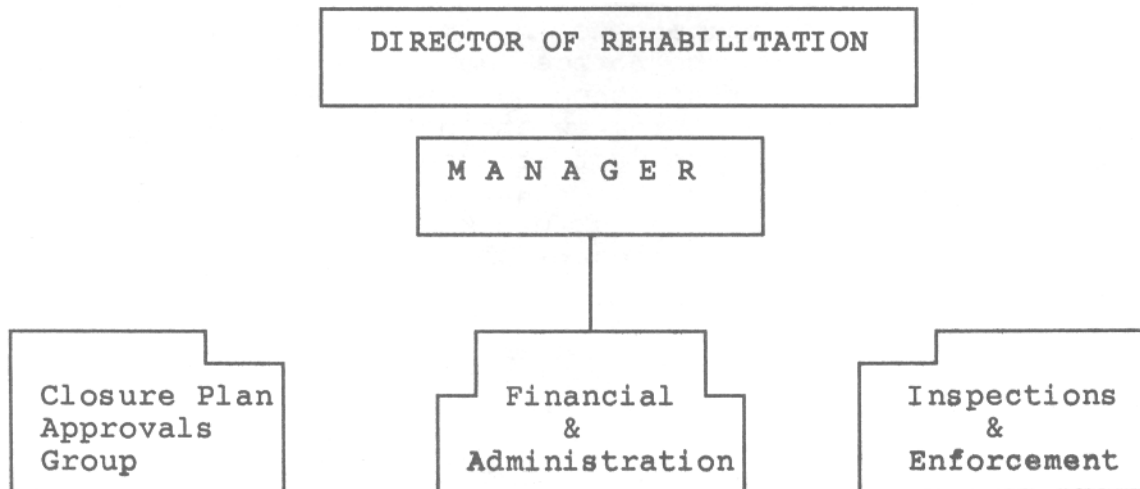
HIGHLIGHTS OF REVISIONS TO THE MINING ACT

1. Identification of the various stages of mining by defining advanced exploration, mine production, existing, temporarily suspended, inactive, closed out and abandoned mines.
2. Requirements for prior notification of advanced exploration and mine production to the Ministry.
3. Mandatory for existing mines and mine development projects financially assured closure plans. Advanced exploration closure plans are discretionary.
4. Establishment of closure standards for mine rehabilitation.
5. Requirements of public notice for mine production (mandatory and advanced exploration projects discretionary).
6. Creation of a position called Director of Mine Rehabilitation and the identification of Development and Rehabilitation Officers.

These amendments to the Mining Act create an expanded role for the Mines Ministry by defining a regulatory component. At the onset the Ministry recognized the need for a balanced program within itself to ensure that mineral development and rehabilitation could take place. Rehabilitation that ensures public safety, addresses environmental protection and maintain acceptable post mining lands will provide the immediate challenge for ministry staff.

MINE REHABILITATION

With approximately 60 active mines, 10 projects in advanced exploration and some 15 projects in the process of completing closure activities, the demands on the program appear significant. The group that has been identified to implement the mine rehabilitation program can be described by the following organizational chart:



The approvals of mine closure plans require the proponent to address physical, public safety and environmental issues. For this reason a balance of engineering and environmental science expertise to review closure plans is a necessary requirement of the group. A financial evaluation is an intergral part of each closure plan and a financial assurance will be required to confirm closure plan compliance. Within the Ministry a financial co-ordinator has been identified to review the financial assurance mechanism and the appropriate values for plan implementation.

The Mining Act requires that closure plans be reviewed on an annual basis by the company. Rehabilitation is required to be undertaken continuously throughout the mine life. The monitoring of rehabilitation work requires site inspections and in cases of non compliance, legal action may be initiated. Eighteen positions based predominantly in the head office location with field staff to conduct inspection/enforcement activities were approved for initial start up. Estimations indicate the need for a staff level of between 28 to 36 for a mature program.

INTEGRATION OF THE TWO PROGRAMS

The mineral development component of the division now assumes an expanded role with the passage of legislation with respect to notification, mine rehabilitation and the requirements for closure. The facilitation role of the Mineral Development Officer has been considerably expanded to include his/her own Ministry. The Mineral Development Officer will be involved in the following areas pertaining to Part IX of the Mining Act.

ADVANCED EXPLORATION

Prior to the commencement of an activity defined as advanced exploration, the proponent will be required to notify the Director 30 days in advance of commencing the activity. During that period the ministry will determine whether public notification or a closure plan is required. Other ministries with responsibility with respect to mining activities will have the opportunity to review the notice submitted to the Director and provide comments during the 30 day period. The mineral development officer will review the notice for completeness and provide comments with respect to the Ministry' s mandate. The Director of Rehabilitation will take the recommendations provided by his staff, comments by other ministries, and make the decision whether public notice, a closure plan, or both will be required by the proponent.

PUBLIC NOTIFICATION

With respect to mine production, notification of the public is mandatory. In the case of advanced exploration the discretion of the Director is applicable. The Mineral Development Officers have a role to play in both scenarios.

For mine production the Mineral Development Officers are in a position to assist the proponent in complying with the notification requirements. This notification must take place at least 30 days prior to the commencement of mine production and be 6 months current.

In cases of advanced exploration, public notification is a discretionary decision. The Mineral Development Officer will assist in determining whether notice is required and if requested provide assistance to the proponent. The Mineral Development Officer will monitor compliance of the public notice and its effectiveness.

As a proponent of sustainable mineral resource development the ministry recognizes that a public notification component is essential in the development of a property. Mineral Development Officers can assist a proponent by identifying concerns and bring a consultation resolution process into play.

CLOSURE PLANS

Mineral Development Officers who are part of the Mineral Development and Rehabilitation Branch of the ministry can provide an interface with proponents and the ministry approval group. Assistance can also be provided in disseminating technical information a proponent may need to address for specific closure issues. Again the facilitating role within the ministry will be key to the successful adoption of a balanced program.

CONCLUSION

The adoption of a regulatory role has thrust a new challenge upon the mines ministry. By adopting a balanced mineral development/mine rehabilitation approach, which includes the concept of designing for closure, can lead to a positive environment for the mining industry within Ontario. This will satisfy the concerns of the public, regulators and the mining industry itself with respect to closure leading to a more definitive climate within Ontario for mine production in the future.

In our opinion the goal of providing balanced programs comes very close to achieving the recommendation of the Bruntland Commission concept of environmentally sustainable economic development.