

Remediation of Abandoned Mine Openings in 2012

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Introduction

There are thousands of abandoned mine openings in Nova Scotia, many of which are located on Crown land. Since 2001, the Abandoned Mine Opening (AMO) Remediation Program, which is managed jointly by the Mineral Resources and Regional Services branches of the Nova Scotia Department of Natural Resources (DNR), has invested about \$680,000 to remediate the most hazardous of these openings on Crown land. From April 1 to December 31, 2012, about \$40,000 were invested in this program.

Background

The AMO Remediation Program is directed by a Steering Committee, which consists of the Executive Directors of the Mineral Resources, Regional Services and Land Services branches of DNR. Implementation of the program is managed by a Working Group, consisting of Mineral Resources Branch staff, three regional geologists and one Regional Resource Manager.

The Nova Scotia Department of Transportation and Infrastructure Renewal (TIR) plays a major role in the AMO Remediation Program, both in carrying out work with their own crews, and in tendering and managing contracted work.

The Mineral Resources Branch conducts field programs to inspect almost all of the AMOs on Crown land on a regular basis. Operating on a three year cycle, almost every AMO on Crown land in the province is inspected, and the degree of hazard assessed. Warning signs and flagging are upgraded as needed.

The Mineral Resources Branch maintains a database of the known Abandoned Mine Openings in the province (both on private and Crown lands). This database is available online, at: <http://novascotia.ca/natr/meb/links/amolinks.asp>. Field inspection reports are used to update both the AMO database and an AMO remediation priority list.

Methods

The methods used to remediate AMOs on Crown land include: excavating, backfilling, fencing and placement of concrete caps over mine openings. In the past 11 years the program has backfilled more than 400 AMOs, fenced 50, capped six mine openings and placed three grates to protect bat habitat. About 500 AMOs have been addressed by the program and an additional 146 AMOs on Crown lands have been addressed through partnerships with private operators. Work has been carried out at 35 different sites throughout the province.

Table 1 lists the remediation work that was completed in 2012. The table also lists the remediation work approved for completion in the first quarter of 2013.

Conclusions

All of the Type I (inescapable) and some of the Type II (escapable) abandoned mine openings known to exist on Crown land in Nova Scotia have now been remediated (see Hennick and Whiteway, 2012). These are the AMOs that are the most hazardous to the public. About 1700 less-hazardous openings on Crown land remain to be remediated.

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Table 1. Abandoned mine openings remediation work completed in 2012 and approved for completion in the first quarter of 2013.

Eastern Region:	
Little Liscomb	Contractor engaged to backfill one AMO. Purchase Order issued on December 14, 2012. Completed Jan. 21, 2013.
Goldboro	Backfilled eight AMOs and about five prospect pits; work was completed on October 7, 2012.
Dolliver Mountain	Backfilled seven AMOs; work was completed on or before October 10, 2012.
Goldenville	Contractor was engaged to top up three previously backfilled AMOs (which had settled) and one newly identified prospect pit. Purchase Order issued December 14, 2012. Completed Jan. 21, 2013.
Yava Mines Property	Hole in a vandalized portal sheeting was repaired. Work was completed on July 7, 2012.
Central Region:	
Chignecto	Excavated and backfilled 15 AMOs and about 20 prospect pits; work was completed on October 1, 2012.
Joggins	Excavated and backfilled an extensive area of old coal shafts and pits. Phase 1 of a 3 phased approach was completed in 2012 - about 20 AMOs and about 160 pits were backfilled; work was completed on November 13, 2012.
Western Region:	
Westfield	A previously backfilled shaft at Westfield was topped up with backfill on December 17, 2012.

Many are located in very remote areas of the province or are in a state that pose little or no risk to public safety.

The Mineral Resources and Regional Services branches of the Department of Natural Resources will continue to remediate abandoned mine openings on Crown land in the province and to monitor those that have already been remediated. The department will also continue to work with private landowners so the landowners are made aware of the work that needs to be done to reduce

or eliminate the hazards to safety that are posed by the estimated 5,000 abandoned mine openings known to exist on private property.

Reference

Hennick, E. W. and Whiteway, J. P. 2012: Abandoned Mine Openings: Protecting Public Safety, *in* Nova Scotia Minerals Update, v. 29, no. 3; Nova Scotia Department of Natural Resources, p. 3.