PROTOCOLS TO ASSIST IN THE REMEDIATION OF CBDC PROPERTIES IMPACTED BY MINE WORKINGS

Prepared for Public Works and Government Services Canada (PWGSC) & Cape Breton Development Corporation (CBDC)

By Conestoga-Rovers & Associates Ltd

Ground Subsidence Over Underground Coal Mine Workings

LARGE HOLE opens near family lumberyard

Old mine working blends for 20-foot opening. Local maintains it is not responsible

© by Authors and IMWA
UNSECURED MINE OPENINGS

POTENTIAL PRESENCE AND RELEASE OF MINE GASES

Terrible Lesson To All

People often work very long and endure much to be aware of the deadly menace of mine gases in coal mines. The deaths of many miners have been caused by taking precautions against it.

The case is one of the common causes of the death of miners at Victoria Colliery. It had been going on for a long time. The shaft of the old coal mine was 127 feet deep, and the mine was in a coalfield in which proper precautions were taken.

The main cause of the tragedy was that although an 'off' signal had been given, the entrance to No. 17 shaft was not cleared. After a long period, it had created an entrance.

The 'off' signal was useless. We have learned that two people were surprised to go down the shaft and were killed. The miners who were in the area of the mine went to the surface. After a long period, the workers started to work in another area of the mine.

All the hazards thankfully appeared when it was necessary to avoid the danger that could cause the small pit, which is aged and old.

One must adopt a method to prevent accidents that are not possible to occur. It is necessary to ensure that the shafts of the mine are properly ventilated. This helps in preventing the entry of gases into the shafts, which can cause explosions.

Despite repeated warnings, young men and women are still working in the mine. The workers are still required to wear proper protective gear. The mine has been inspected repeatedly.

If a magnetic survey is held into the new mine, it will present the evidence, but not the better dangers actually be learned.
Deep concern
Paul Humphries
The Guardian, Wednesday 31 January 2001

The mass closure of Britain’s pits left many bad legacies, but none worse than the gases seeping up from disused mines.

Christopher Noonan would still be alive if a local authority had done just that and put in place safety measures. Noonan, 22, suffocated as he went to the aid of his father, Stephen, who had collapsed in a trench filled with blackdamp while they were laying sewer pipes near Barnsley in 1998. Blackdamp is a heavy, suffocating mixture of nitrogen and carbon dioxide which may accumulate in abandoned mine workings. Experts found it had seeped into the trench from a disused gallery nearby. Workmates managed to haul Stephen out of the trench, but by that time Christopher had also collapsed and they were too late to save his life.

ACCIDENTAL RELEASE OF ACID MINE WATERS

PURPOSE OF PROTOCOLS

Foster awareness of the mining-related hazards associated with abandoned coal mine workings

GOAL OF PROTOCOLS

To help insure that site investigations and remediation are carried out effectively, efficiently, with due regard for worker and public safety and in an environmentally considerate manner
Stage 1: Information Gathering
Stage 2: Initial Site Investigation
Stage 3: Mine Workings Report
Stage 4: Detailed Site Investigations
Stage 5: Remediation Implemented

© by Authors and IMWA
Sinkhole Subsidence Risk
High: d/m < 6
Moderate: d/m > 6 but < 12
Low: d/m > 12

Stage 1
Information Gathering

Stage 2
Initial Site Investigation

Stage 3
Mine Workings Report

Stage 4
Detailed Site Investigation

Stage 5
Remediation Implemented