



DIAMOND DRILLERS INTERSECTING HAZARDOUS GASES

The Inspectorate has become concerned by recent notifications of the exposure of underground diamond drillers to gases intersected during exploration drilling activities. In several cases where follow up investigations have been conducted by Inspectors, it has been determined that the provision of monitoring devices and training of personnel has been inadequate to comply with regulatory requirements and maintain a safe working environment. Many operators have had no training in the hazards associated with the gases which they could encounter during their daily work and are expected to rely on their senses of sight and smell to establish whether any dangerous gases are present. All gas inflows should be treated as potentially hazardous until proven otherwise. Such gases include methane, (or other hydrocarbons), hydrogen sulphide, carbon monoxide, carbon dioxide and sulphur dioxide.

Regulation 9.29 of the Mines Safety and Inspection Regulations 1995 outlines duties and requirements relating to the monitoring of toxic, asphyxiant and explosive gases in mines whilst regulations 9.11(3) and 9.14 detail requirements for minimum oxygen content and general air supply in underground workplaces.

A range of monitoring devices is available to detect many of the gases commonly intersected in mine workings. In particular, devices to measure the oxygen level stipulated in Regulation 9.11(3) and the methane level in Regulation 9.29(3) are readily available. There are also devices which detect the presence of other gases such as carbon dioxide, hydrogen sulphide, sulphur dioxide and carbon monoxide. The Inspectorate considers that the known hazards associated with diamond drilling indicate that some suitable monitoring devices should be available at exploration drilling sites to detect the presence of dangerous gas emissions.

Operators and supervisors should be trained in the proper use of the devices and the precautions to be taken in the event of an emission of gases from the strata. The safe work practices developed for this activity should address as a minimum requirement:-

- The types of gases which could be detected and the hazards associated with those gases.
- The evacuation of the area.
- The notification of supervisors, underground manager and ventilation officer.
- The isolation of electrical installations.
- The provision of adequate ventilation to drill sites.
- The prohibition of smoking and use of naked flames.
- The barricading of areas likely to be affected.
- Conditions for re-establishing work under Regulation 10.12.

The ventilation officer has specific duties under Mines Safety and Inspection Regulation 9.5(a) to regularly inspect work places throughout the mine and any drill sites should be included in his regular inspection program.

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