

Mining

Blast emissions – a hazardous mixture



Blasting is an unavoidable process within mining operations, be it during construction, mine expansion or the actual mining operation. Production blasts specifically require a large amount of explosives that generate a significant amount of toxic gases, such as carbon monoxide and nitrous gases. Depending on blast agents and the ore's composition other gases may also be released. Therefore it is of utmost importance to ensure, that all working areas are free from blast emissions and other hazards.

Post blast clearance

VENTILATION MONITORING

While some operations estimate when personnel is allowed underground based on the quantity of the blast agents utilized and ventilation rates, the use of stationary gas detectors at strategic locations can give an early indication which sections have reached an appropriate level, but also give a good indication where proper ventilation may have been compromised. This early indication saves valuable time so that the clearance process starts earlier and quicker return to production.

CLEARANCE MEASUREMENT


A localized gas check at the work site is still a must. While stationary monitoring may give an indication of gas concentrations on a mine level, the actual value at the site can only be determined by a spot measurement. In addition this is an opportunity to inspect the blasting site for further hazards or damages to the infrastructure that would need to be remedied in order to create a safe working environment.

DOCUMENTATION AND WORKFLOW MANAGEMENT

Proper documentation of clearance measurements ensures, that designated work tasks have been carried out and were not overlooked or forgotten. Here digital technology is starting to enter the workplace as it allows to instantly send results to supervising officers on surface for further processing which once again saves valuable time. Paperless storage, clear legibility and the possibility of workflow management through the planning and assigning of measurement tasks and signing off upon completion are additional benefits to increase process efficiency.

RESPIRATORY PROTECTION

When entering unknown, potentially hazardous conditions, preparation is key. Carrying self-contained breathing devices which can be donned for escape when encountering threatening gas levels or even utilizing a full breathing apparatus as a precautionary measure when entering higher risk areas should be considered. When combined with an external air supply or a recharge system, the operation time of a self-contained breathing apparatus can be extended to reflect the time necessary for the job.




Dräger Polytron® 8000
The Dräger Polytron® 8000 explosion proof transmitters are equipped with one DrägerSensor for the detection of toxic and flammable gases, vapours or oxygen. Upon request, the transmitters can also be supplied with three integrated relays to be used in an independent gas detection system.

D-15058-2010




Dräger REGARD® 7000
The Dräger REGARD® 7000 is a modular and therefore highly expandable analysis system for monitoring various gases and vapours. Suitable for gas warning systems with various levels of complexity and numbers of transmitters, it also features exceptional reliability and efficiency.

D-6806-2016




Dräger X-am® 8000
The Dräger X-am® 8000 measures up to seven toxic as well as flammable gases, vapours and oxygen all at once – either in pump or diffusion mode. Innovative signalling design and handy assistant functions ensure complete safety throughout the process.

D-6491-2017



Dräger CSE Connect
The Dräger CSE Connect software solution digitizes the exchange of information during clearance measurement procedures. The data transfer between the smartphone app and web application takes place via a cloud connection. The Dräger X-am® 8000 gas detection device communicates directly with the smartphone app. This helps you manage your measurement orders more efficiently and cost-effectively.

D-27406-2017



Dräger PSS® 4000
The Dräger PSS® 4000 is one of the lightest professional self-contained breathing apparatus. Combining comfort with exceptional pneumatic performance, this SCBA is designed for applications where simplicity and ease of use are crucial. Lightweight yet robust, and easy to don, the PSS® 4000 provides outstanding breathing protection.

D-6875-2010

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