



MSHA's Accident Prevention Program Safety Idea

Safety and
Health are
Values!

Ignition of Gas While Drilling Boreholes

A serious incident occurred on the surface of an underground coal mine when explosive gas from the borehole was ignited during the drilling/ casing process. A borehole, drilled from the surface to the coal seam, was being cased with steel pipe that was welded at each joint. The lower end of the first pipe was capped and partially filled with water in order to prevent sparks from falling inside and entering the mine. An unexpected ignition occurred when welding sparks ignited gas issuing from the space between the casing and the borehole.



When welding or cutting of casings is required, MSHA recommends:

1. Continuous monitoring for explosive and noxious gases must be carried out by qualified persons trained in the operation of gas detection instruments.
2. Measures must be taken to prevent ignition sources from traveling down a borehole and igniting methane gas. This can be accomplished by sealing the outside of the casing to the borehole with mud, and capping the bottom of the first pipe.
3. It is recommended that methane detection instruments be used that are equipped with an alarm that sounds at the gas concentration when welding or cutting operations should cease.
4. Drill rig operators should ensure that positive ventilation from the surface is used to remove explosive or noxious mixtures of gases from the strata. This can be accomplished by building a non-combustible tent around the casing and using a fan to create positive pressure.

If you have a tip you would like to pass on, you can email it to
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