

# Safety Alert

Safety Alert No. 272  
29 July 2011

## Ignition on the surface at a seam borehole

**Mine:** Underground coal mine | **Equipment:** Submersible pump | **Hazard:** Ignition source in contact with flammable gas | **Note:** *This is the fourth time a safety alert has been issued in relation to gas ignitions at the top of boreholes.*

### Incident

Methane gas was ignited on the surface of an underground coal mine during preparations to remove a submersible pump at a dewatering borehole. As connections at the surface were being disconnected with an electric rattle gun, the gas ignited and burned hot enough to melt a 12 mm communications cable suspended in the borehole.

### Comments

The borehole casing may not have been effectively earthed or packed as gas appears to have come from strata above the seam—the water level was 20 m above the roof at the borehole.

Although this work was being carried out on the surface, it should have been treated as hot work (previous safety alerts have warned of methane in boreholes connected to underground coal seams):

- Safety Alert 46 describes a grass fire igniting methane at an old exploration borehole.
- Safety Alerts 59 and 158 deal with the danger of gas igniting during welding/installing borehole casings.

(Visit: [www.mines.industry.qld.gov.au](http://www.mines.industry.qld.gov.au) to read these alerts.)

Safety alerts are designed to help you assess and manage risks by applying the lessons learned from previous high-potential incidents.

The *Coal Mining Safety and Health Act 1999*, section 38, gives instructions on what to do if there is no regulation or recognised standard prescribing how to discharge a safety and health obligation in relation to a particular risk. Part (3) states:

However, the person discharges the person's safety and health obligation in relation to the risk only if the person takes reasonable precautions, and exercises proper diligence, to ensure the obligation is discharged.

***This includes reading and applying the safety alerts issued by the department.***

### Recommendations

1. Read and apply safety alerts issued in relation to surface-to-seam boreholes, and refer to them also when conducting risk assessments of tasks that are performed infrequently.
2. Ensure any surface work directly linked to underground workings is designed to control any risk to the underground operations.
3. Determine clear responsibility for the tasks during planning stages.
4. Use positive ventilation at surface areas surrounding boreholes to keep explosive gases away from possible ignition sources.
5. Constantly monitor for explosive and noxious gases, using workers trained in the operation of gas-detection instruments.
6. Make workers aware that explosive and noxious gases can issue from drill holes at any time and take precautions to keep risks within acceptable limits and as low as reasonably achievable, including not smoking.
7. Ensure the risk management process applies to all tasks—from planning through to review.
8. Ensure that all workers who may be affected by an activity are aware of site procedures and checklists before starting that task.
9. Include the management of surface boreholes in the mine's hazard management plans.
10. Ensure boreholes are sealed to a standard that guarantees long-term safety and stability
11. Consider electrostatic discharge as a possible ignition source when using poly pipes.
12. Treat as hot work any work at the top of a surface-to-seam borehole, and treat the area around the top of the borehole as an explosive atmosphere.

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Please ensure all relevant people in your organisation receive a copy of this safety alert. Any such advice supplied to site should reach those who require it, and it should also be placed on the mine noticeboards. See more safety alerts and bulletins at <http://mines.industry.qld.gov.au/safety-and-health/mines-safety-alerts.htm>