Old mine workings

To report a dangerous old mine working or for more information call the Department of Mines and Petroleum on:

- Perth  (08) 9222 3333
- Kalgoorlie  (08) 9022 0408

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STAY OUT AND STAY ALIVE!
WHAT ARE THE HAZARDS?

Mine openings and tunnels are the most frequently encountered abandoned mine hazards. When many older underground mines were abandoned, their entries were not adequately sealed. Open tunnels and shafts are very hazardous. People who enter abandoned mines expose themselves to serious injury or death. Dangers and hazards within the mines may include:

- poisonous or explosive gases
- lack of oxygen
- floods and slippery slopes
- rockfalls and roof collapse
- hard-to-see vertical shafts
- venomous animals
- confusing mazes of tunnels.

These problems are made worse by the total darkness within underground mines.

Old, abandoned open pit mines and processing plants are also hazardous, with the main dangers being falling rocks, landslides and collapsing structures.

Cave-ins

Old mine workings are potentially unstable and can cave in at any time. The effects of blasting and weathering can weaken strong rock. Work to stabilise rock walls may become less effective over time.

Mine openings

Falling down vertical or near-vertical openings in abandoned mines has the potential to cause serious injury or death. Vegetation, darkness, loose debris and false floors can hide vertical openings. Weathered rock at the edge of an opening can break away and slide into the open hole under a person’s weight.

Deadly gases and lack of oxygen

Lethal concentrations of methane, carbon monoxide, hydrogen sulphide and sulphur dioxide can accumulate in the underground workings. Pockets of still air with little or no oxygen can be encountered. The process of weathering (oxidation) of certain minerals can literally consume the inherent instability of the disturbed materials. Unleashed or misfired explosives may be deadly. Old explosives containing nitro-glycerine become unstable, and a very small disturbance can trigger an explosion.

Unstable explosives

Although explosives are supposed to be removed or disposed of on mine closure, deteriorating explosives that have been left in place on abandoned operations are occasionally encountered. Unused or misfired explosives may be deadly. Old explosives containing nitro-glycerine become unstable, and a very small disturbance can trigger an explosion.

Highwalls

Highwalls are created during surface mining as the sides of hills or material from pits below the natural surface are removed to expose ore during the mining process. Rock walls resembling cliffs remain at the point where the mining excavation ceased. These highwalls can be unstable and prone to collapse.

Unsafe structures

Old and disused underground or surface support timbers, ladders, buildings, pumps, tanks, and other mining related structures may seem safe but can easily collapse or crumble under a person’s weight.

Waste rock heaps

Waste rock heaps from surface and underground mines may become unstable. The most common causes of landslides or slips include:

- steep slopes
- saturation of slopes by water from mine sources or natural aquifers or rainfall
- the inherent instability of the disturbed materials.

Landslips can engulf people, result in injuries from falls, damage roads and buildings, and block the paths of creeks, causing upstream flooding. Under no circumstances should waste rock heaps be used as recreational jump sites.

Radioactivity

Some mined minerals may have contained radioactive elements such as uranium and thorium, and many mines may contain radon, a radioactive gas. The effects of radiation exposure are cumulative through a lifetime, so potentially any exposure may be harmful.

Rescues

Mine rescues are extremely hazardous. Mine rescue teams, despite their extensive training, are at significant risk every time they have to enter an abandoned mine.

The advice is simple:

**STAY OUT AND STAY ALIVE!**