

Ventilation of waste and orepasses, tramming routes and drawpoints (use 'Title' style)

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Note: If appropriate, authors may list their AusIMM membership status (eg: MAusIMM, GAusIMM, FAusIMM(CP), etc). Affiliations for other organisations will not be included.

ABSTRACT (USE 'HEADING 1' STYLE)

Modern metalliferous mines continue to use ore and waste passes to transfer broken material vertically through the operation. As loaders and trucks have become bigger with larger buckets and trays, orepasses have also become physically larger in diameter. Loaders are also now frequently subject to teleremote or even autonomous operation. Reducing mine capital costs has meant vertical development for exhaust raises or other connections to ventilate orepasses has been removed from mine designs. Ventilation controls for the large headings and passes are very expensive and more subject to damage. In some cases, finger passes into the raise system have also been removed. The number of passes themselves servicing a particular production rate has been reduced either because loader productivity is much higher than in the past, or to lower capital costs, and this has meant even more emphasis on multi-level tipping into one pass from separate levels. At the bottom of passes, traditional rail haulage has been replaced by loader or truck haulage, and chutes at the bottom of passes have been removed. All of these changes have resulted in considerably more difficulty in providing satisfactory ventilation outcomes for mines using ore or waste passes. This paper summarises the established controls for orepass ventilation and tramming routes, the difficulties and challenges posed by new materials handling strategies for passes, and offers some solutions for these systems