

<p><b>Project title:</b> Advice on fill optimization for Rajpura Dariba Mine, HZL</p> <p><b>Project No. –</b> CNP/4871/2019-20</p>	<p><b>Executive Summary:</b></p> <p>Backfilling is an integral part of underground stope extraction methodologies. Surface disposal of mill tailings creates huge problem for the environment. The existing backfill recipe at the Rajpura Dariba Mine, HZL needed to be optimised based on the present tailings generation and underground stope filling requirements. For this backfill optimisation study various lab analysis were conducted to determine the suitability of enhancing fines fraction (-37<math>\mu</math>m) and investigate the effect of increasing solid percentage up to 70 wt%. Percolation, settlement and strength development tests of backfill were conducted with varying fines (-37<math>\mu</math>m) fraction. These tests were conducted for both the 5 wt% and 10 wt% OPC binder category and varying solid percentage from 65 wt% to 70 wt%. Also, physical simulation of percolation and drainage of water through the decantation pipe were conducted. Based on the study it could be concluded that tailings with fines (-37<math>\mu</math>m) fraction upto 26 wt% may be used for backfilling with 65wt% solid.</p>
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