Project title: Advice on instrumentation scheme and monitoring on backfilling of stope blocks 1,4P and 6P at Mahagiri mine, IMFA.

Project No.: CNP/4921/2019-20

Executive Summary: Mahagiri Mines (Chromite) of M/s Indian Metals and Ferro Alloys Ltd. is situated in the Sukinda Valley of Odisha. The stope blocks 1,4P and 6P are contained within 85 mRL and 132 mRL. Studies were conducted to monitor the stress devolvement inside the stope and stress acting upon the backfill barricades in stope block 1, 4P, 6P and stability analysis of secondary stopes after backfilling with uncemented sand fill. After having a detailed field investigation stope blocks 1, 4P and 6P and based on the geometry and condition of stope blocks instrumentation schemes were proposed for monitoring pressure developed during and after backfill pouring. Numerical modeling technique was also used to estimate and understand the stability of secondary stopes after backfilling with uncemented sand fill. From the beginning of stope backfilling instrument readings were monitored periodically. Pressure acting upon the barricades for the stope block 1, 4P and 6P are below the prescribed limit.