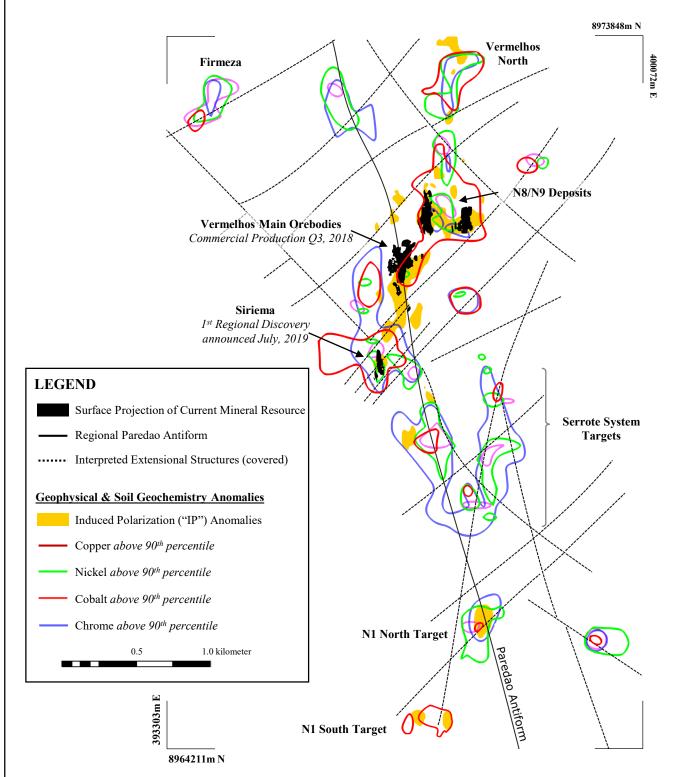


Figure 1Vermelhos Regional Exploration Map





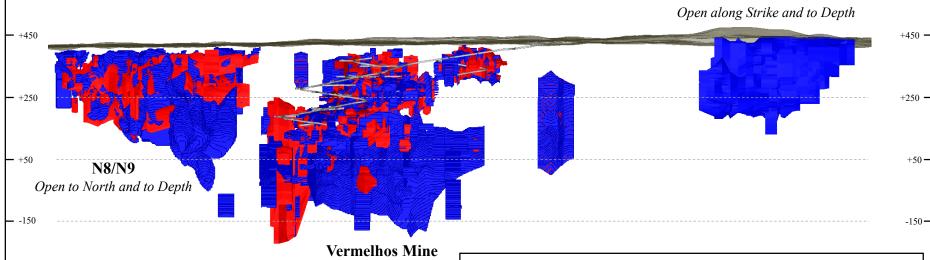
Special Note: Geophysical and soil geochemistry anomalies shown to demonstrate future area of exploration within the Vermelhos District. The projection is based on data compilation work which includes review of geological controls, structural analysis and copper mineralization identified during the Company's technical programs. The interpretation and boundary limits do not imply continuity of mineralization, or actual thickness of mineralization that has yet to be defined. Mineral resources that are not mineral reserves do not have demonstrated economic viability. For additional technical and scientific information related to the Vermelhos District, please refer to the accompanying news release dated October 10, 2019.



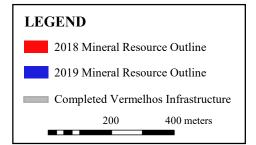
Figure 2 Vermelhos Mine Long & Cross Section



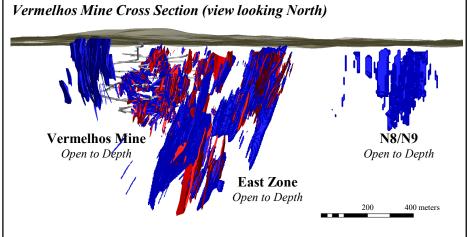
Siriema



Open to Depth



Mineral resource outline inclusive of mineral reserves. Mineral resources which are not mineral reserves do not have demonstrated economic viability. Please refer to the accompanying press release dated October 10, 2019 for additional scientific and technical information.



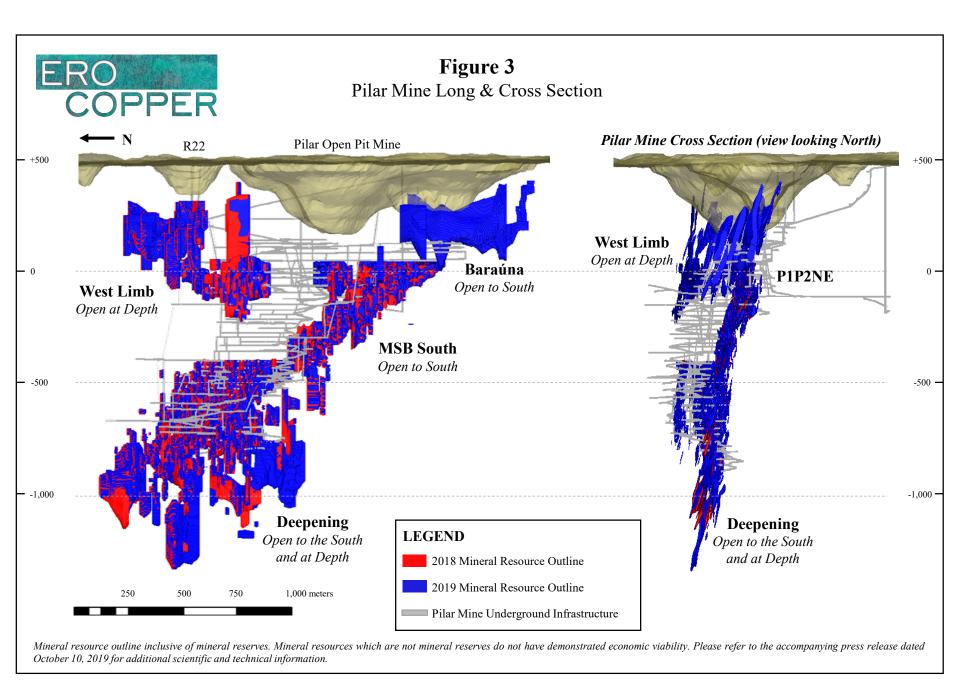
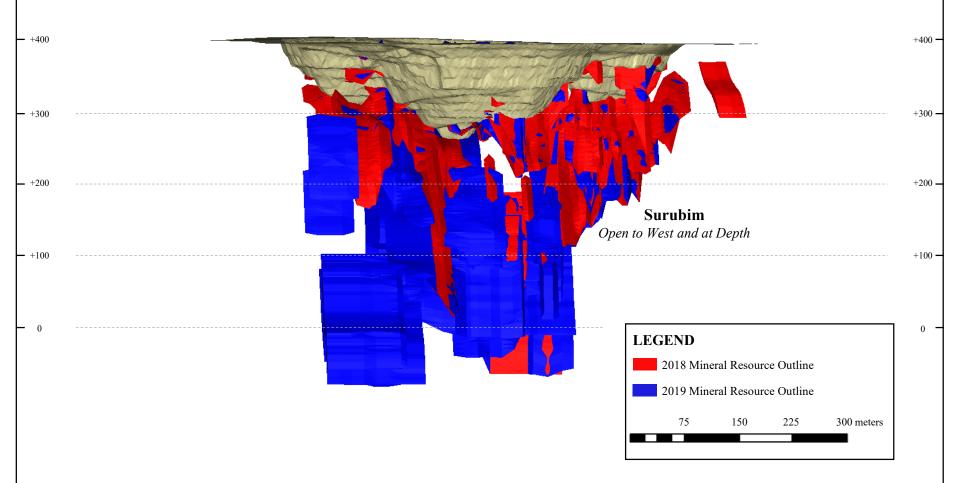




Figure 4 Surubim Mine Long Section





Mineral resource outline inclusive of mineral reserves. Mineral resources which are not mineral reserves do not have demonstrated economic viability. Please refer to the accompanying press release dated October 10, 2019 for additional scientific and technical information.