

# SEG 2022 Conference: Minerals For Our Future

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## **Ore Characteristics and Mineralogy of Fe-Sn Skarn Deposit in Batubesi Area, East Belitung, Western Indonesia**

Wahyu V. Pratama, Andika Artyanto, Nur R. Nabawi, Anton Murtono  
PT Timah Tbk, Pangkalpinang, Indonesia

Batubesi skarn deposit is one of the largest primary tin resources in Indonesian Tin Island. Several methods have been carried out to identify ore characteristic and mineralogy of tin-bearing skarns. The result showed that garnet and clinopyroxene was the Batubesi skarn type mineral. In addition, minor scheelite was also found to be the tungsten-bearing minerals. Cassiterite was the main valuable ore mineral and it was found as finely disseminated and predominately observed locked to iron oxide minerals, particularly magnetite and hematite. The extremely fine disseminated cassiterite in this deposit cannot be liberated for physical beneficiation techniques. Sn concentrations between 0.2% and 0.5% can be recognized from the abundance of clinopyroxene by the appearance of minor garnets, both banded and non-banded skarns. Moreover, oxidation process on the surface which is characterized by the presence of iron oxide minerals causes higher Sn grade due to enrichment by leaching process. Thus, the Sn and Fe concentrations in clinopyroxene can be used to evaluate skarn deposit's potential, which is helpful in exploration at Belitung Area.