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Magnetite synthesis using ocher in an oxidation pond in passive mine drainage treatment, in South Korea

Youngwook Cheong (1), Euiyoung Seo (2), Giljae Yim (1), Juseong Ahn (1), and Hur Won (3)

(1) Korea Institute of Geoscience and Mineral Resources, Daejeon, South Korea (ywc@kigam.re.kr), (2) MIRECO, Wonju, South Korea (im-2200t@nate.com), (3) Kangwon National University, Chuncheon, South Korea (wonhur@kangwon.ac.kr)

This study was carried out to synthesis magnetite using ocher in an oxidation pond in a closed coal mine. Ferric iron recovered from the ocher via dissolution was used as feed stock to synthesize magnetite particles by coprecipitation of ferric and ferrous iron at the pH 9.5. Magnetic momentum of magnetite particles produced was 33.0 emu/g. Geothite was also synthesized which might have caused to reduce the intensity of magnetic momentum. The size of magnetite particle was measured about several μm due to aggregations of magnetite particle.