

A Geophysical Survey with Magnetic Method for Interpretation of Iron Ore Deposits in the Eastern Nusawungu Coastal, Cilacap Regency, Central Java, Indonesia

Title	A Geophysical Survey with Magnetic Method for Interpretation of Iron Ore Deposits in the Eastern Nusawungu Coastal, Cilacap Regency, Central Java, Indonesia
Author Order	2 of 3
Accreditation	2
Abstract	<p>Geophysical survey with magnetic method to interpret the iron ore deposits in the Eastern Nusawungu Coastal, Cilacap Regency, Central Java, Indonesia was carried out during six month, i.e. March – August 2017, covering the area in the geographical position of 109.3462° – 109.3718° E and 7.6958° – 7.7098° S. This survey has produced total magnetic field strength data at each measuring point in the research area. The magnetic field strength data which have been obtained, then be processed, corrected, and mapped so that the local magnetic anomaly contour map can be obtained. The local magnetic anomaly contour map shows the distribution of magnetic anomalous sources in the subsurface of research area. The 2D-modeling of magnetic anomalies data has been carried out along the AB trajectory extending on the local magnetic anomaly contour map from the position of A(109.3463°E and 7.7023°S) to B (109.3688°E and 7.7053°S), so that some subsurface anomalous objects is obtained. The modelling results of magnetic anomalies data show that the research area is estimated to have the potential of iron ore deposits. The subsurface rocks deposits containing iron ore are estimated to be located below the AB trajectory with a length about of 164.85 meters, a depth ranging of 1.709 – 31.909 meters, and a magnetic susceptibility value of 0.0122 cgs unit. These rocks are interpreted as sand deposits which coexists with silt and clay containing iron ore grains from the alluvium formation. Further, iron ore is also estimated to be present in the rocks deposits below the AB trajectory which have a depth of 24.405 – 49.809 meters and 3.989 – 11.111 meters, with the magnetic susceptibility values of 0.0093 and 0.0073 cgs units.</p>
Publisher Name	UIR PRESS
Publish Date	2020-05-05
Publish Year	2020
Doi	DOI: 10.25299/jgeet.2020.5.1.2934
Citation	
Source	Journal of Geoscience, Engineering, Environment, and Technology
Source Issue	Vol. 5 No. 1 (2020): JGEET Vol 05 No 01: March 2020
Source Page	37 - 44
Url	https://journal.uir.ac.id/index.php/JGEET/article/view/2934/2425
Author	SUKMAJI ANOM RAHARJO, M.Si