Volume 33
Number 1
ISSN: 0125 9849
e-ISSN: 2354 6638

RISET
Geologi dan Pertambangan
Geology and Mining Research

Published by:
BRIN Publishing
Directorate of Repositories,
Multimedia, and Scientific Publishing

BRIN
BADAN RISET
DAN INOVASI NASIONAL

RISET
GEOLOGI DAN PERTAMBANGAN
INDONESIAN JOURNAL OF GEOLOGY AND MINING

Volume 33 No. 1, 2023

ISSN 0125-9849
e-ISSN 2354-6638

Accredited as a Scientific Periodic Journal based on the General Director of Research Strengthening and Development, Ministry of Research, Technology and Higher Education of the Republic of Indonesia Decree.
Nomor : 3/E/KPT/2019

Riset Geologi dan Pertambangan Indonesian Journal of Geology and Mining is a scientific periodical journal in geology, geophysics, mining, and other related earth sciences.
This journal is published twice a year, in June and December.

Editorial Board

Secretariat and manuscript submission:
BRIN Publishing
Gedung BJ Habibie, Jl. M.H. Thamrin No.8, RW.1, Kb. Sirih, Kec. Menteng, Kota Jakarta Pusat, Daerah Khusus Ibukota Jakarta 10340
Phone: +62 811-8612-369
Email: penerbit@brin.go.id, jurnal@rmpi.brin.go.id
Website: www.jrisetgeotam.lipi.go.id

Reviewers in this edition

1. Prof. Dr. Datin Fatia Umar (Coal Processing, National Research and Innovation Agency, Indonesia)
2. Koko Hermawan, M.T. (Engineering Geology, National Research and Innovation Agency, Indonesia)
3. Khori Sugianti, M.T. (Engineering Geology, National Research and Innovation Agency, Indonesia)
4. Dr. Priyo Hartanto (Hydrogeology, National Research and Innovation Agency, Indonesia)
5. Prof. Dr. Robert M. Delinom (Hydrogeology, Independent researcher)
6. Purna Sulastya Putra, M.T. (Micropaleontology, National Research and Innovation Agency, Indonesia)
7. Prof. Nana Sulaksana (Geomorphology, Padjadjaran University, Indonesia)
8. Dr. Ir. Joko Soesilo (Metamorphic Petrology, National Development University "Veteran" of Yogyakarta, Indonesia)

Cover Image

M. Ma'ruf Mukti personal collection

A Preface from Editor-in-Chief

Dear RGP readers,

We are happy to present the first issue of Volume 33 of Riset Geologi dan Pertambangan (Geology and Mining Research). This issue publishes five articles that covered topics on petrology and geochemistry of metamorphic rocks in mélange complex, soil movement susceptibility, geomorphological aspect tsunami risk, and engineered geopolymer composite.

The first paper, Ikhram et al. shows that geochemical analysis reveals the provenance of metasedimentary rocks in the Ciletuh Mélange complex in the southern West Java is originated from a volcanic arc, whereas the metabasalt rock is of island arc origin. K-Ar dating indicates age of the metamorphic rocks is of 55.2 - 37.8 ma. These rocks have formed through regional metamorphism due to island arc subduction and the formation of accretionary prisms. Permanajati et al. investigated susceptibility of ground movement in Pagentan area, Central Java. Based on parameters of slope, lithology, rock mass, elevation, land cover, road buffer, and river buffer, the susceptibility analysis classified the research area into four categories of low, medium, high, and very high of grond movement susceptibility. In the third article, Rahmatulloh et al. determine the groundwater physical properties and hydrogeochemical facies in the Baleendah area, West Java. Based on groundwater hydrochemistry analysis, the groundwater in the area is classified as freshwater with intermediate groundwater flow and has been affected by anthropogenic activities.

The fourth paper (Riyanto et al.) evaluate favorable and unfavorable geomorphological features to reduce the risk of future tsunamis in Pangandaran, southern West Java. Their results show that morphological features of the Tombolo and the coastal plain area are categorized as high risk when a tsunami occurs. Whereas the tied island is categorized as a favorable morphology where these morphological units have the advantage of elevation and efficient distance to the tsunami risk zone. The last paper, by Amin et al. incorporate bentonite as an aluminosilicate source in the fly ash and bottom ash based geopolymer. The Scanning Electron Microscopy (SEM) results show that the elements contained in geopolymer concrete are dominated by Si, Al, and O. Whereas the XRF results reveal that geopolymer concrete are dominated by silica and alumina compounds. The XRD phase results show Quartz, Albite, and Hematite. The sample without bentonite has the highest compressive strength value. This can be due to the addition of bentonite that reduce the retraction process.

Riset Geologi dan Pertambangan (Geology and Mining Research) welcomes your contribution in the forthcoming issues. We sincerely acknowledge the outstanding reviewers who have reviewed articles submitted to our journal and all the authors for their valuable contributions to this volume. We recognize all the editorial members and staffs for their continuous excellence support for the publication of our journal.

RISET
GEOLOGI DAN PERTAMBANGAN
INDONESIAN JOURNAL OF GEOLOGY AND MINING

Volume 33 No. 1, 2023

ISSN 0125-9849
e-ISSN 2354-6638

Table of Contents