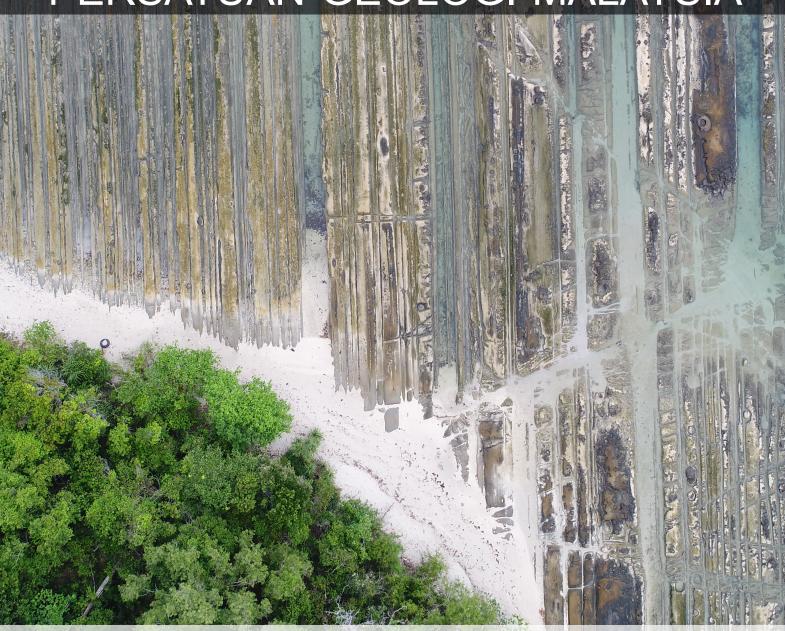


PERSATUAN GEOLOGI MALAYSIA



EDITOR: JOY JACQUELINE PEREIRA



Bulletin of the GEOLOGICAL SOCIETY OF MALAYSIA

May 2024

No. 77



Buletin Persatuan Geologi Malaysia

Bulletin of the Geological Society of Malaysia

The Bulletin of the Geological Society of Malaysia (ISSN 0126-6187; e-ISSN 2637-109X), is a peer-reviewed open access interdisciplinary journal which publishes Earth Science research that addresses not only trending research areas but also high quality application topics. The scope of published articles covers engineering geology, environmental geology, geochemistry, geomorphology, geophysics, hydrogeology, mining geology, paleontology, petroleum geology, regional geology, sedimentology, stratigraphy, structural geology and tectonics.

The Bulletin supports researchers primarily focusing on Asia/ SE Asia, but is not limited to this region, and publishes research papers of both scientific and technical nature that are of current interest and have potential impact on activities such as oil & gas exploration, mining, environmental issues, earthquakes, hazard assessment, disaster risk reduction and climate change adaptation. The Bulletin also promotes geological interest on subjects of a conservation nature such as geoheritage and geotourism.

The Bulletin is published twice a year (May and November) by the Geological Society of Malaysia (GSM). Digital copies are distributed to all members of the Society and can be downloaded from GSM's website. Printed copies are available at RM80.00 per copy (price exclusive of postage).

The Bulletin is indexed in the following abstracting and indexing services and databases: Scopus, MyJournal, MyCite, Ebsco, ASEAN Citation Index and AAPG Datapages.

GSM is committed to upholding standards of ethical behaviour at all stages of the publication process and we recommend the Committee on Publication Ethics (COPE) Best Practice Guidelines (http://publicationethics.org/resources/guidelines).

All articles published by the Bulletin are licensed under the Creative Commons Attribution 4.0 International License. No fee is imposed on authors for publishing in the journal.

For submission instructions please refer to the inner back page. For GSM membership, subscription and any enquiry concerning GSM and the Bulletin please contact:

Geological Society of Malaysia, c/o Department of Geology, University of Malaya, 50603 Kuala Lumpur, Malaysia Tel: 603-79577036 Fax: 603-79563900 Email: geologicalsociety@gmail.com

Editor

Joy Jacqueline Pereira (Universiti Kebangsaan Malaysia, Malaysia)

Assistant Editors

Baba Musta (Universiti Malaysia Sabah, Malaysia)

Meor Hakif Amir Hassan (University of Malaya, Malaysia)

Mohammed Hail Hakimi (Taiz University, Yemen)

Editorial Board

Alfredo Lagmay (University of the Philippines, the Philippines)

Azman A. Ghani (University of Malaya, Malaysia)

Felix Tongkul (Universiti Malaysia Sabah, Malaysia)

Harry Doust (Vrije Universiteit Amsterdam, The Netherlands)

Ian Metcalfe (University of New England, Australia)

Ibrahim Komoo (Universiti Kebangsaan Malaysia, Malaysia)

Ng Tham Fatt (University of Malaya, Malaysia)

Peter R. Parham (Universiti Teknologi Malaysia, Malaysia)

Rajib Shaw (Keio University, Japan)

Robert Hall (University of London, UK)

Editorial Management Committee

Lim Choun Sian, Muhammad Hatta Roselee, Elvaene James, Anna Lee, Nazatul Athirah Abdul Khalil, Wan Aida Wan Zahari

Reviewers

Abdul Hadi Hashim, Abdull Halim Bin Abdul, Andy Anderson Anak Bery, Arifudin Idrus, Arshad Raza, Azman Bin Abdul Ghani, Charles Makoundi, Hasan Sidi, Herman Darman, Mohd Nur Ismail Abdul Rahman, Mohd Rozi Bin Umor, Norasiah Binti Sulaiman, Nordiana Binti Mohd Muztaza, Nurul Nadirah Binti Armandy, Peter R. Parham, Qazi Sohail, Siti Nur Fathiyah Binti Jamaludin, Suraya Hilmi Hazim

Printed in Malaysia by Nets Printwork Sdn. Bhd., No. 56, Jln. PBS 14/4, Taman Perindustrian Bukit Serdang, 43300 Seri Kembangan, Selangor

BULETIN

PERSATUAN GEOLOGI MALAYSIA

KANDUNGAN / CONTENTS

1 - 3	Editorial Note: A snapshot of fundamental geological knowledge to deal with climate change
	Joy Jacqueline Pereira

5 – 14	Geothermal energy potential of basement hot springs: Case study of Ulu Slim (Perak
	Malaysia)
	Arnout J.W. Everts

15 – 26	Unleashing geological sequestration potential of mature oilfield by enforcing
	4-dimensional seismic model-based inversion in Widuri Field, Indonesia
	Dwandari Ralanarko, Brimas Aptanindia Pangestu, Edy Sunardi, Ildrem
	Syafri, Billy Gumilar Adhiperdana

27 - 35	New technologies for seismic resolution enhancement and bandwidth expansion:
	Applications in SE Asian Basin
	Yasır Bashir, Abdul Halim Abdul Latiff, Muhammad Sajid

37 – 46	Fracture model and structural history of Gunung Keriang, Kedah
	Muhammad Amzar Bin Aznan, Nasrul Azmin Bin Mansor, Choong Chee
	Meng, Siti Sarah Binti Ab Rahman, Muhammad Aslam Md Yusof, Muhammad
	Azfar Bin Mohamed

47 – 57	Tidal-influenced shoreline interpretation of Miocene Tanjong Formation in Imbal
	Canyon, Sabah, Malaysia
	Khor Wei Chung, Junaidi Asis, Sanudin Tahir, Baba Musta, Kawi Bidin,
	Rezal Rahmat, Hadianshah Saleh

59 - 71	Reconstructing the paleoshoreline of Bukit Choras based on geochemical and
	microfossil studies
	Nini Havela Dishong, Nasha Rodziadi Khaw, Nor Khairunnisa Talib,
	Suresh Narayanen, Shyeh Sahibul Karamah, Abdullah Sulaiman, Nazarudin
	Zainun, Zainey Konjing

- 73 85 The correlation between Rare Earth Elements and tin in granite, quartz vein, and weathered granite samples, in South Bangka, Bangka Belitung Islands, Indonesia Armin Tampubolon, Ildrem Syafri, Mega Fatimah Rosana, Euis Tintin Yuningsih
- Characteristics of epithermal gold-base metals prospect in the Anggai block, northern Obi Island, Indonesia
 Bambang Nugroho Widi, Muhammad Zain Tuakia, Noor Cahyo Dwi Aryanto,
 Wahyu Widodo, Hananto Kurnio, Iwan Setiawan, Bambang Pardiarto,
 Armin Tampubolon, Kusnawan

EDITOR: JOY JACQUELINE PEREIRA



Bulletin of the GEOLOGICAL SOCIETY OF MALAYSIA

May 2024 No. 77

Copyright:

Copyright 2024 by the Authors. Licensee Geological Society of Malaysia.

The articles in the journal are open access articles distributed under the terms and conditions of the Creative Commons Attribution (CC-BY) License 4.0.

PERSATUAN GEOLOGI MALAYSIA Geological Society of Malaysia

Council 2024/2025

President: Mohd Hariri Arifin

Vice President : Meor Hakif Amir Hassan

Secretary:
Assistant Secretary:
Treasurer:
Editor:
Immediate Past President:
Councillors:
Ling Nan Ley
Norazianti Asmari
Lim Choun Sian
Joy Jacqueline Pereira
Ahmad Nizam Hasan
Allagu Balaguru

Cindy Simba Ngumbang Ak Kadir Mohd Shafiq Firdauz Abdul Razak Muhammad Ashahadi Dzulkafli

Muhammad Azri Ismail Muhammad Hatta Roselee Siti Nur Fathiyah Jamaludin

Tan Boon Kong

The Geological Society of Malaysia was founded in 1967 with the aim of promoting the advancement of geoscience, particularly in Malaysia and Southeast Asia. The Society has a membership of about 700 local and international geoscientists.

Published by
Geological Society of Malaysia
c/o Department of Geology, University of Malaya, 50603 Kuala Lumpur
Tel: 603-79577036 Fax: 603-79563900
Email: geologicalsociety@gmail.com
http://www.gsm.org.my/

This publication is financed by the Society's Publication Fund

Printed by
Nets Printwork Sdn. Bhd., No. 56, Jalan PBS 14/4, Taman Perindustrian Bukit Serdang,
43300 Seri Kembangan, Selangor