



Curah ide riset geologi Cekungan Kutai

Dr. Ery Arifullah, S.T., M.T

*Disajikan dalam kegiatan curah pendapat online
15 September 2020*

HP/WA : (+62) 81347195491
Email : earifullah27@gmail.com
bit.ly/eryarifullah

Latar belakang

- Geologi Cekungan Kutai —> unik.
- Institusi pendidikan geologi di Kaltim : UNMUL, STT Migas **versus** kewenangan riset geologi yang “diambil alih” oleh pusat dari daerah —> bagaimana dengan Kaltim berdaulat?
- Masa depan *geoscientist*

Ide riset

- Riset geologi memuat tiga (3) penekanan:
 - lokasi
 - metode
 - **masalah**

<https://openknowledgemaps.org>

beta

Map a research topic

Get an overview - Find papers - Identify relevant concepts

- PubMed** (life sciences)
- BASE** (all disciplines)

Refine your search ▼

Any time ▼

Most relevant ▼

All Document types...

Enter your search term

GO

Try out: [digital education](#) ["climate change impact"](#)

Based on
150+ million
documents

 **W** ÖSTERREICHISCHER PREIS
FÜR FREIES WISSEN

ketik: nama penulis atau metode geologi atau lokasi

Contoh tema sedimentologi Cekungan Kutai

- Hydrology, -
Meteorology,
Climatology

Depositional system, Ecology,
Kutai basin



Ichnofabric oscillatory curves reveal the tide-dominated depositional system in Samarinda, Kutai Basin (Indonesia)

Ery Arifullah, Yahdi Zaim, Aswan Aswan, Djuhaeni Djuhaeni (2018)

[link]: <https://doi.org/10.6084/M9.FIGSHARE.7066703>

Abstract ; Since the interaction of fluvial, wave and tidal processes was proven in Samarinda, Kutai Basin (Indonesia), then the interpretation of the depositional system lead to a deltaic system. However, interpretation of depositional system remain...

Area: [Depositional system](#), [Ecology](#), [Kutai basin](#)



open access

Ichnological characteristics in the modern Mahakam Delta, East Kalimantan

Ery Arifullah, Andang Bachtiar, Djuhaeni Djuhaeni (2004-11-29)

[link]: <https://zenodo.org/record/1411863>

Detailed analysis of Modern Mahakam Delta sediments concentrated on identifying ichnological and sedimentological characteristics of four deltaic environments. These include: 1) distributary channel, which are typically low diversity and bioturbation...

Area: [Bioturbation index](#), [Deltaic](#), [Facies](#)



open access

Transformation of ichnofabric variables and its generated curves: the ichnological modus operandi in paleoenvironmental analysis

Ery Arifullah, Yahdi Zaim, Aswan Aswan, Djuhaeni Djuhaeni (2018)

[link]: <https://doi.org/10.6084/M9.FIGSHARE.7066700.V1>

Abstract ; A large of ichnofabric variables (e.g. bioturbation index, ichnodiversity, ethology, penetration depth, and burrow diameter) from 381 ichnofabric units has been collected in Miocene deltaic setting in Lower Kutai Basin. The principal compo...

Area: [Depositional system](#), [Ecology](#), [Kutai basin](#)



Overpressure and compaction in the Lower Kutai Basin, Indonesia

Bioturbation
index, Deltaic,
Facies

Contoh tema sedimentologi Cekungan Kutai



Ichnofabric oscillatory curves reveal the tide-dominated depositional system in Samarinda, Kutai Basin (Indonesia)



Ery Arifullah, Yahdi Zaim, Aswan Aswan, Djuhaeni Djuhaeni (2018)

[link]: <https://doi.org/10.6084/M9.FIGSHARE.7066703>

Abstract ; Since the interaction of fluvial, wave and tidal processes was proven in Samarinda, Kutai Basin (Indonesia), then the interpretation of the depositional system lead to a deltaic system. However, interpretation of depositional system remain...

Area: [Depositional system](#), [Ecology](#), [Kutai basin](#)

open access

Transformation of ichnofabric variables and its generated curves: the ichnological modus operandi in paleoenvironmental analysis



Ery Arifullah, Yahdi Zaim, Aswan Aswan, Djuhaeni Djuhaeni (2018)

[link]: <https://doi.org/10.6084/M9.FIGSHARE.7066700.V1>

Abstract ; A large of ichnofabric variables (e.g. bloturbation index, ichnodiversity, ethology, penetration depth, and burrow diameter) from 381 ichnofabric units has been collected in Miocene deltaic setting in Lower Kutai Basin. The principal compo...

Area: [Depositional system](#), [Ecology](#), [Kutai basin](#)

open access

The ichnofossil study to reconstruct the model of depositional system of Miocene Kutai Basin, in the area of Samarinda, East Kalimantan

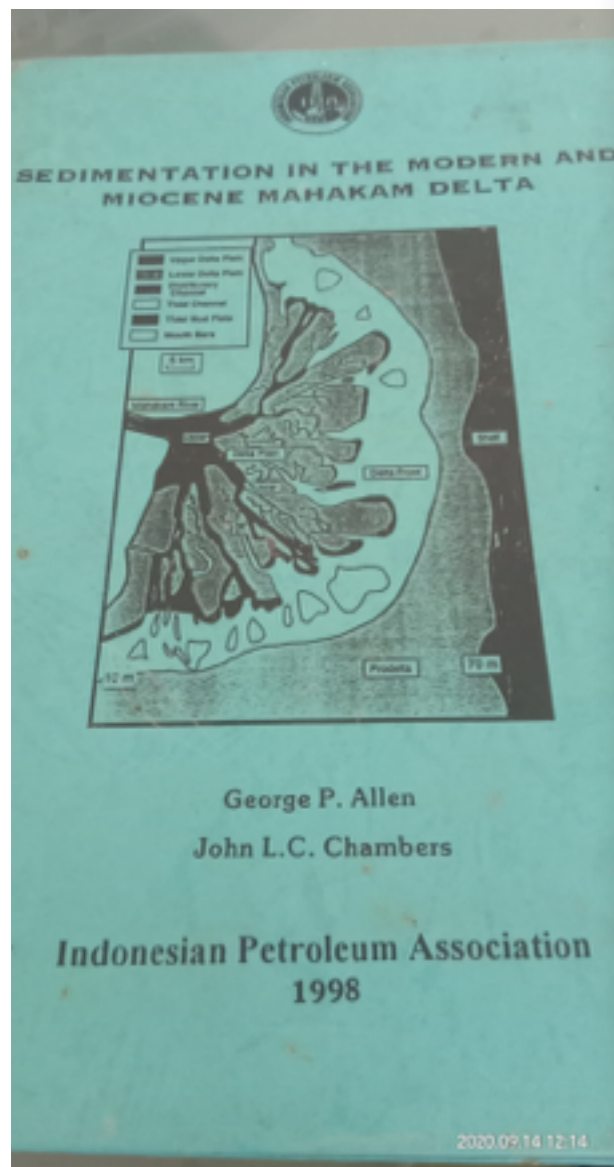


Ery Arifullah (2019-07-04)

[link]: <https://zenodo.org/record/3992482>

As the largest and one of the most prolific basin in Indonesia, geological study, especially in sedimentology, has been running intensively for understanding the depositional system in the Kutai Basin. The interaction of fluvial, tides and wave proce...

Area: [Depositional system](#), [Ecology](#), [Kutai basin](#)



**KERANGKA STRATIGRAFI SEKUEN
DAN KARAKTER BATUAN INDUK MIOSEN AWAL
DI CEKUNGAN KUTAI HILIR, KALIMANTAN TIMUR**

DISERTASI

Oleh
ANDANG BACHTIAR
NIM : 32294025



INSTITUT TEKNOLOGI BANDUNG
2003

**STUDI IKNOFOSIL UNTUK REKONSTRUKSI MODEL
SISTEM PENGENDAPAN SEDIMEN BERUMUR MIOSEN
CEKUNGAN KUTAI, SAMARINDA DAN SEKITARNYA,
KALIMANTAN TIMUR**

DISERTASI

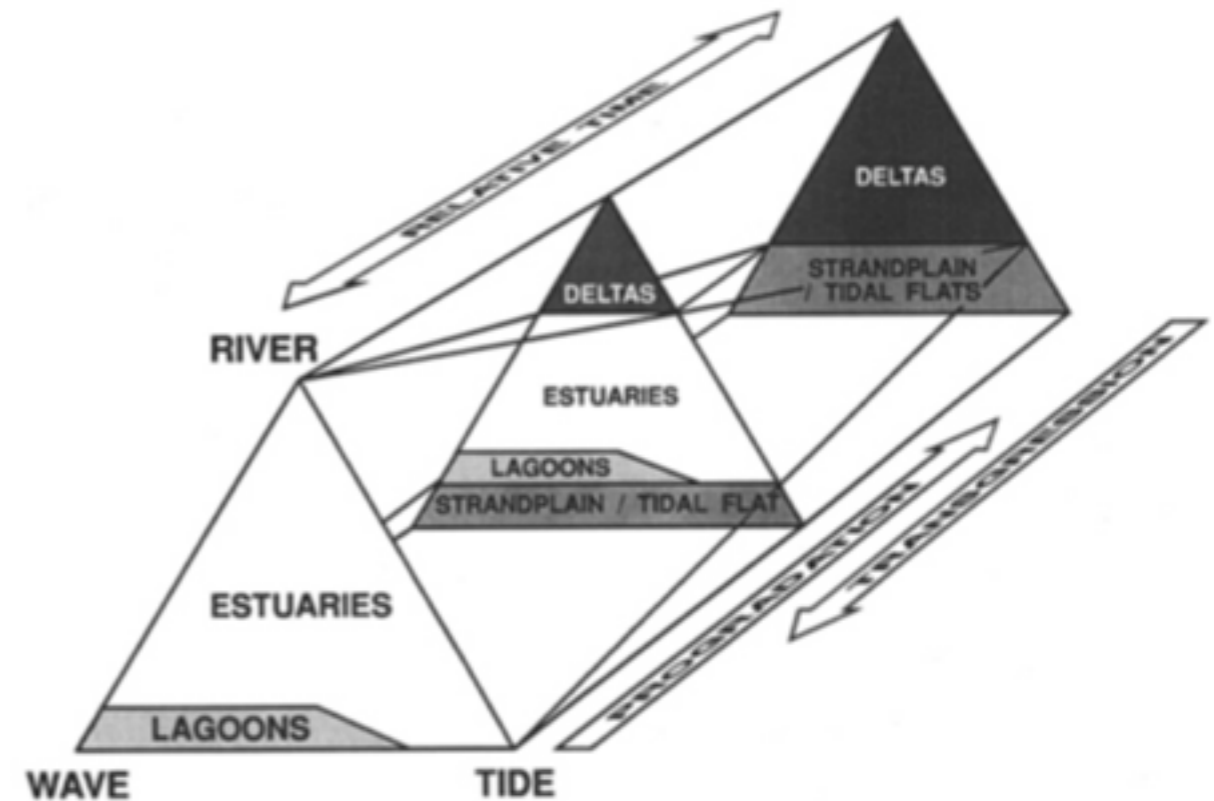
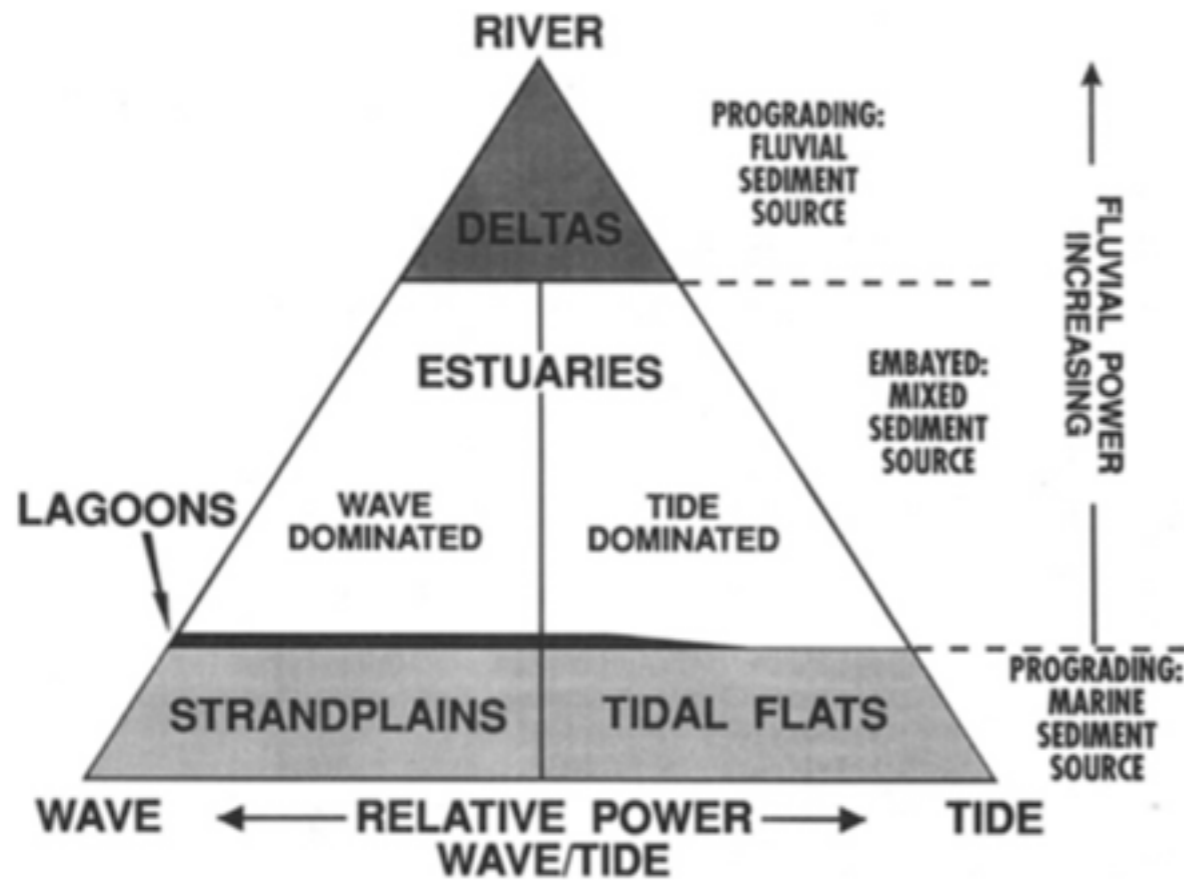
Karya tulis sebagai salah satu syarat
untuk memperoleh gelar Doktor dari
Institut Teknologi Bandung

Oleh
ERY ARIFULLAH
NIM: 32013300
(Program Studi Doktor Teknik Geologi)

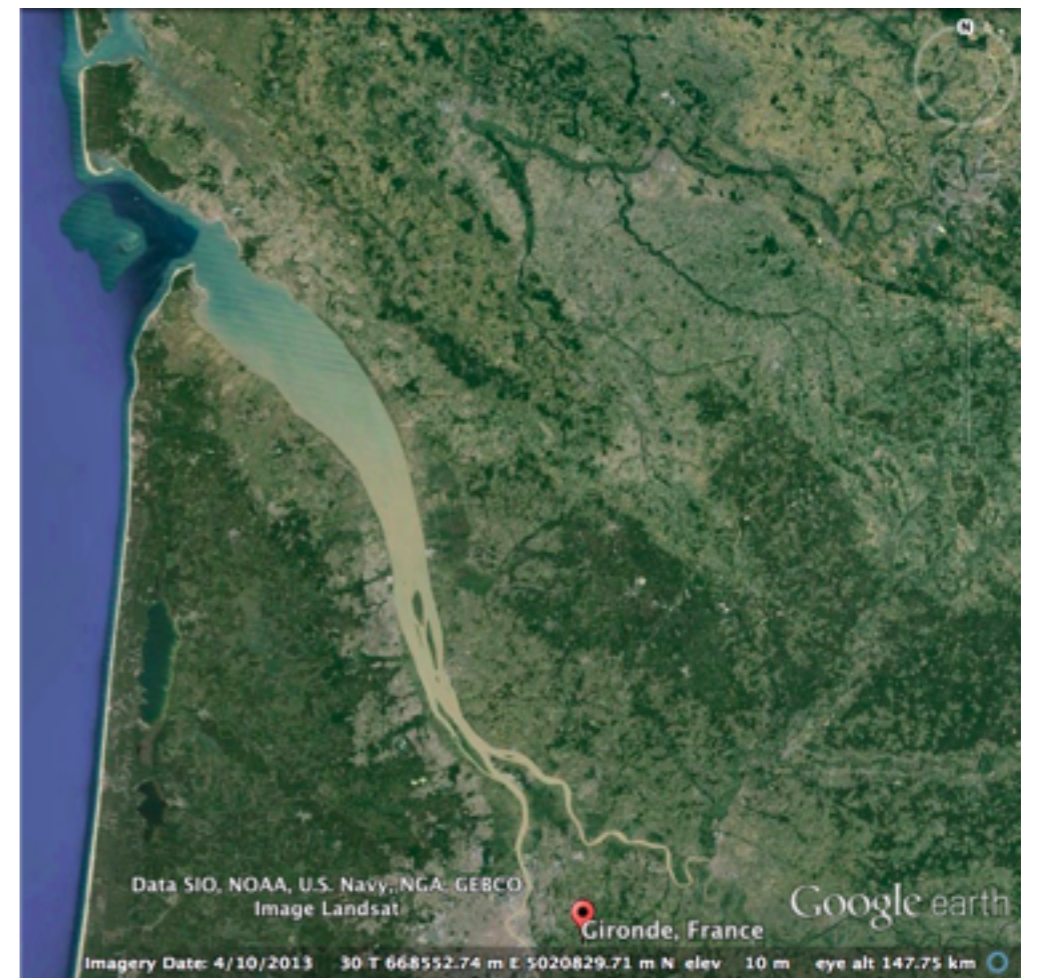
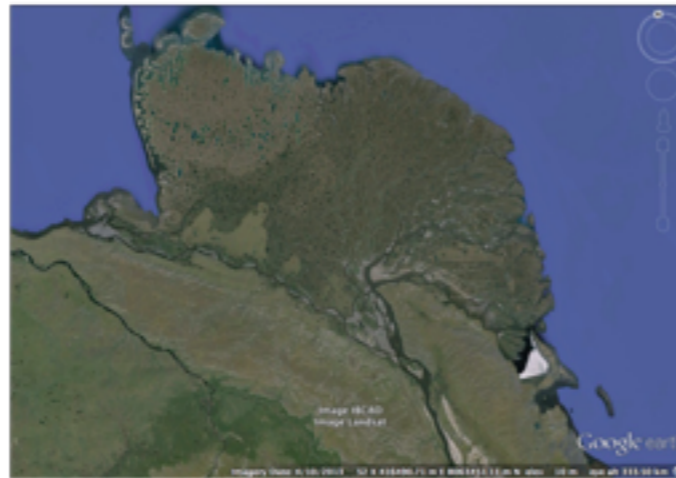
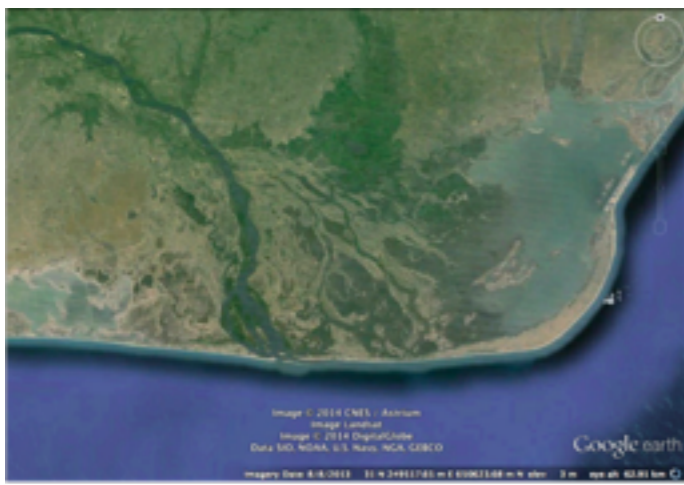


INSTITUT TEKNOLOGI BANDUNG
Juli 2019

1. SISTEM PENGENDAPAN

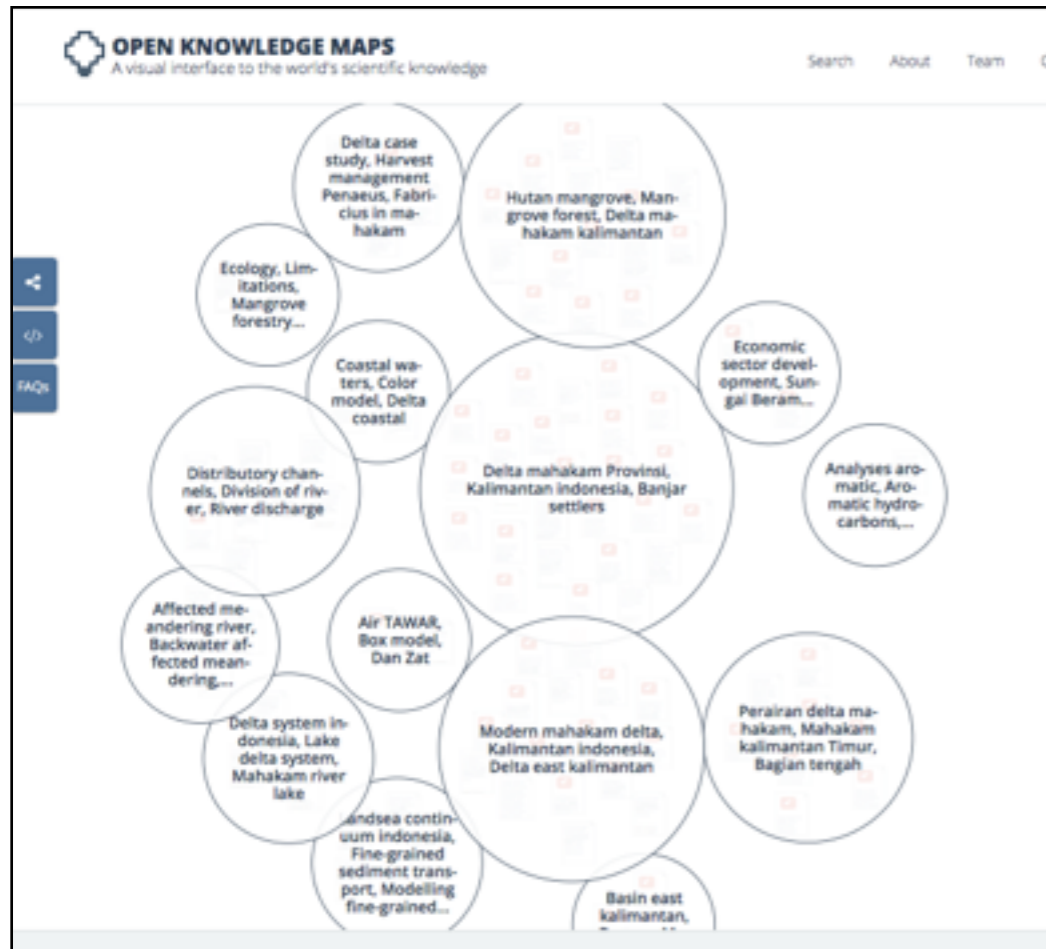


(Boyd dkk. 1992)



Estuaria (Mandang dan Yanagi, 2008)

1.a. Lingkungan pengendapan modern



Text book

Allen, G.P. Sedimentation in the modern Mahakan and Miocene Mahakam Delta (Indonesian Petroleum Association, 1998).

Disertasi

Husein, S. ??? (Universiti Brunei Darussalam, 2005?).

dst???

Sediment Facies, Depositional Environments, and Distribution of Phytoclasts in the Recent Mahakam River Delta, Kalimantan, Indonesia

ROBERT A. GASTALDO

Department of Geology, Auburn University, AL 36849-5305

ALAIN-YVES HUC

Institut Français du Pétrole, 1 et 4, avenue de Bois-Préau, 92 Basil Malmaison Cédex, France

PALAIOS, 1992, V. 7, p. 574-590

of taphonomic processes responsible for the development of terrestrial plant-bearing sedimentary environments in

KARAKTERISTIK ICHNOLOGI DAN SISTEM PENGENDAPAN DELTA

Studi kasus: Delta Mahakam Modern dan Miocen Cekungan Kutai, Kalimantan Timur

TESIS MAGISTER

Oleh
ERY ARIFULLAH
NIM : 22002001



2005

Convention Bandung 2004 (CB2004)
The 33rd Annual Convention & Exhibition 2004
Indonesian Association of Geologists
Harbor Hotel, 20-22 Nov. 1 Dec 2004, Bandung

ICHOLOGICAL CHARACTERISTICS IN THE MODERN MAHAKAM DELTA, EAST KALIMANTAN

Ery Arifullah¹⁾, Andang Bachtiar²⁾, Djuhaeni³⁾

¹⁾ Master Student, Department of Geology, ITB

²⁾ QDA Consultant Jakarta

³⁾ Department of Geology, ITB

earfulah@plesa.com

1.b Fasies silisiklastik

Journal of the Geological Society, London, Vol. 155, 1998, pp. 509–524. Printed in Great Britain

Embaluh Group turbidites in Kalimantan: evolution of a remnant oceanic basin in Borneo during the Late Cretaceous to Palaeogene

STEVE J. MOSS

*SE Asia Research Group, Dept. of Geology, Royal Holloway, University of London, Egham, Surrey TW0 0EX, UK
Present address: Robertson Research, 69 Outram Street, West Perth, 6005, WA, Australia*



PERGAMON

Journal of Asian Earth Sciences 17 (1999) 157–181

Journal of Asian
Earth Sciences

Tertiary facies architecture in the Kutai Basin, Kalimantan, Indonesia

Steve J. Moss^{a,1}, John L.C. Chambers^b

^a*Robertson Research, 69 Outram Street, Perth, 6005, WA, Australia*

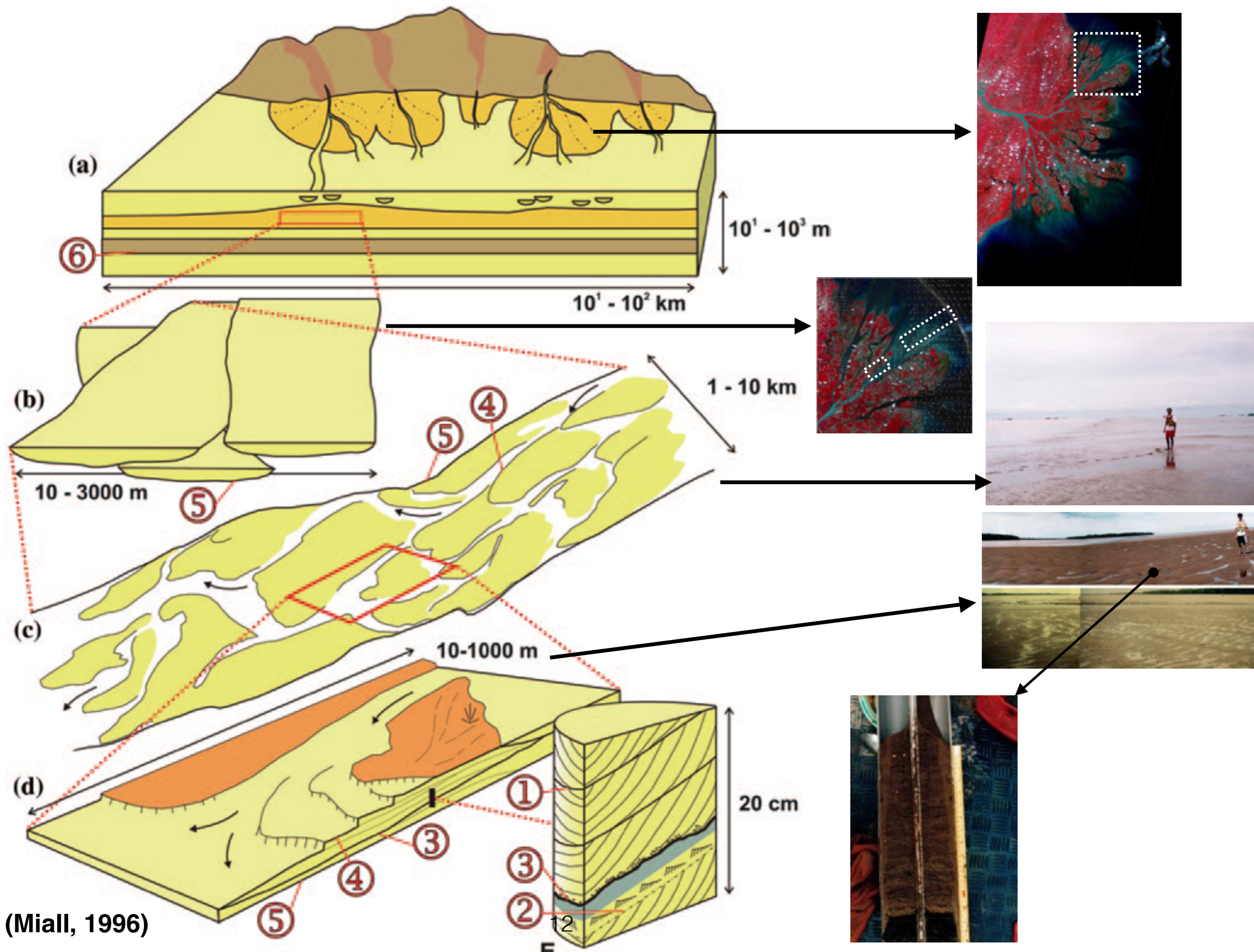
^b*LASMO Runtu Ltd, Jakarta, Indonesia*

Received 12 January 1998; accepted 22 June 1998

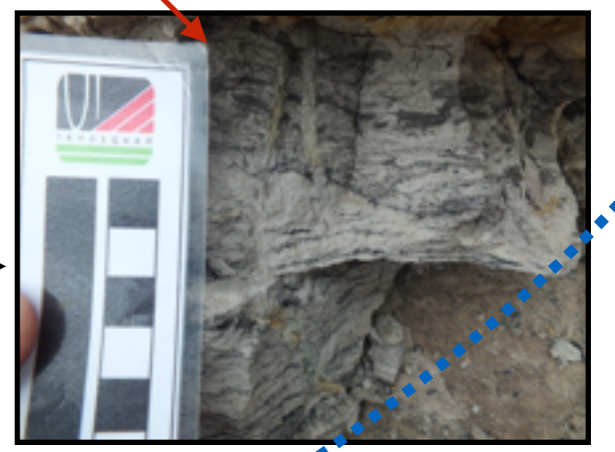
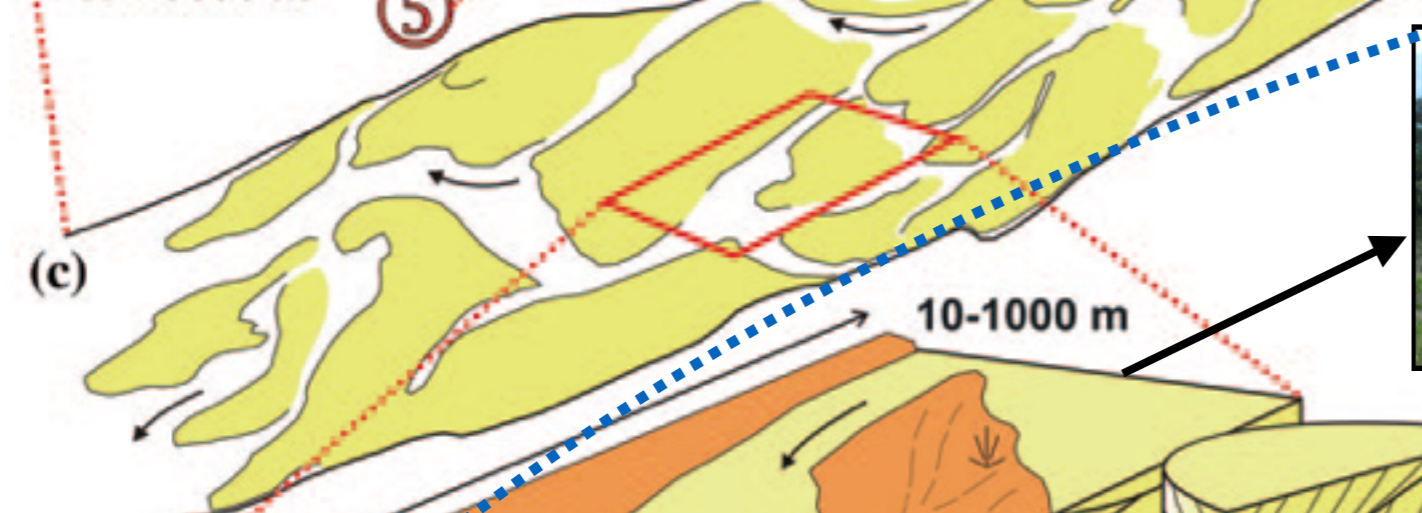
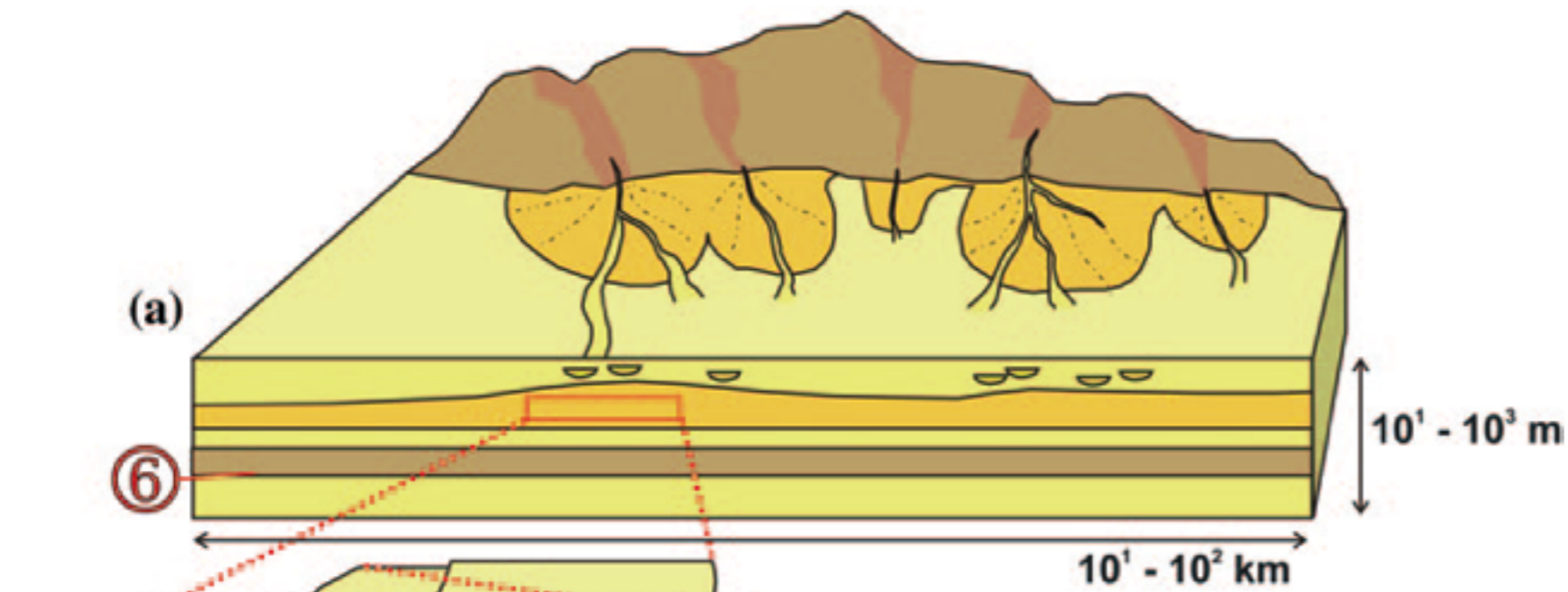
PROCEEDINGS, INDONESIAN PETROLEUM ASSOCIATION
Forty-Second Annual Convention & Exhibition, May 2018

HOW DID CHANNEL SYSTEM SURVIVE THE TRANSGRESSIVE PERIOD? NEW SEDIMENTOLOGICAL INSIGHTS FROM OUTCROP, MODERN ANALOG AND SUBSURFACE DATA IN THE LOWER KUTAI BASIN

Erlangga Septama*
Chandra Mustofa Eka Putra**
Pambudi Suseno*
A.M. Rizky Andy*
Nurul Hasani***
Gilang Nuansa Putra*
Febri Iswanto*
Setyoadi Novantyo*



(Miall, 1996)



Ruang lingkup pengamatan kita

(Miall, 1996)

1.c. Fasies karbonat



PERGAMON

Journal of Asian Earth Sciences 17 (1999) 203–214

Journal of Asian
Earth Sciences

Reservoir potential of carbonate rocks in the Kutai Basin region, East Kalimantan, Indonesia

H. Alam^{a,*}, D.W. Paterson^b, N. Syarifuddin^a, I. Busono^a, S.G. Corbin^a

^aExploration Department, VICO, Indonesia

^bLasmo Indonesia Ltd, Jl. H.R. Rasuna Said, Kav. C11-14, Jakarta, 12940, Indonesia

Received 26 December 1997; accepted 12 August 1998

PALAIOS

Emphasizing the impact of life on
Earth's history

PALAIOS, 2015, v. 30, 26–39

Research Article

DOI: 10.2110/palo.2013.127



AGES OF MIOCENE FOSSIL LOCALITIES IN THE NORTHERN KUTAI BASIN (EAST KALIMANTAN, INDONESIA)

WILLEM RENEMA,¹ VIOLA WARTER,² VIBOR NOVAK,¹ JEREMY R. YOUNG,³ NATHAN MARSHALL,⁴ AND FAUZIE HASIBUAN⁵

¹Naturals Biodiversity Center, Department of Geology, P.O. Box 9517, 2300 RA Leiden, The Netherlands

²Royal Holloway University of London, Department of Earth Sciences, Egham Hill, Egham, Surrey, TW20 0EX, UK

³University College London, Department of Earth Sciences, Gower Street, London WC1E 6BT, UK

⁴Utrecht University, Department of Earth Sciences, Budapestlaan 17, 3584 CD Utrecht, The Netherlands

⁵Badan Geologi, Pusat Survei Geologi, Jl Diponegoro 57, Bandung 40122, Indonesia

e-mail: marshall@geo.uu.nl

DEVELOPMENT OF EQUATORIAL DELTA-FRONT PATCH REEFS DURING THE NEOGENE, BORNEO

MOYRA E.J. WILSON

Department of Geological Sciences, Durham University, South Road, Durham, DH1

email: moyra.wilson@durham.ac.uk

JOURNAL OF SEDIMENTARY RESEARCH, VOL. 75, NO. 1, JANUARY, 2005, P. 114–133

Copyright © 2005, SEPM (Society for Sedimentary Geology) 1527-1404/05/075-114/\$03.00

PALAIOS

Emphasizing the impact of life on
Earth's history

PALAIOS, 2015, v. 30, 109–115

Research Article

DOI: <http://dx.doi.org/10.2110/palo.2013.107>



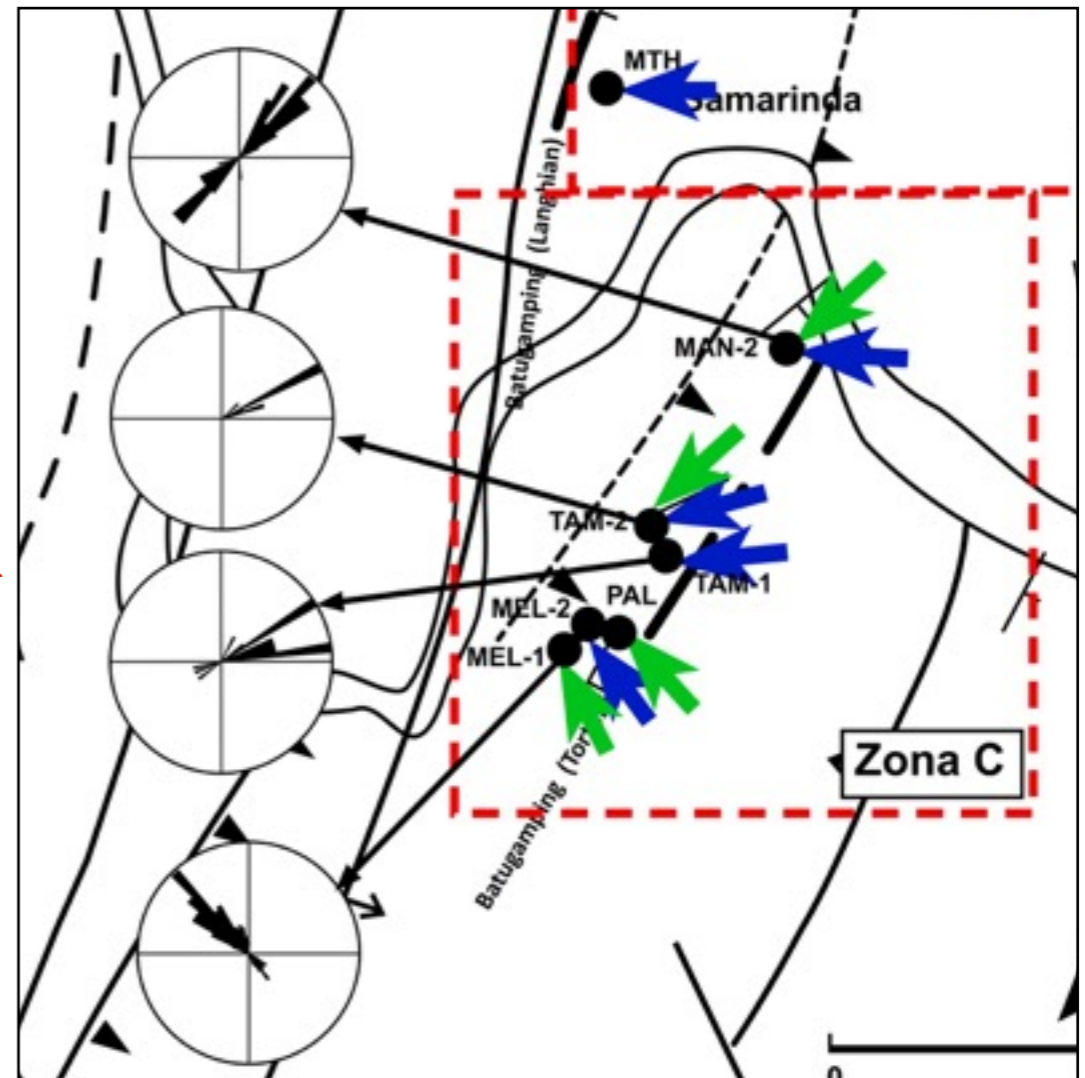
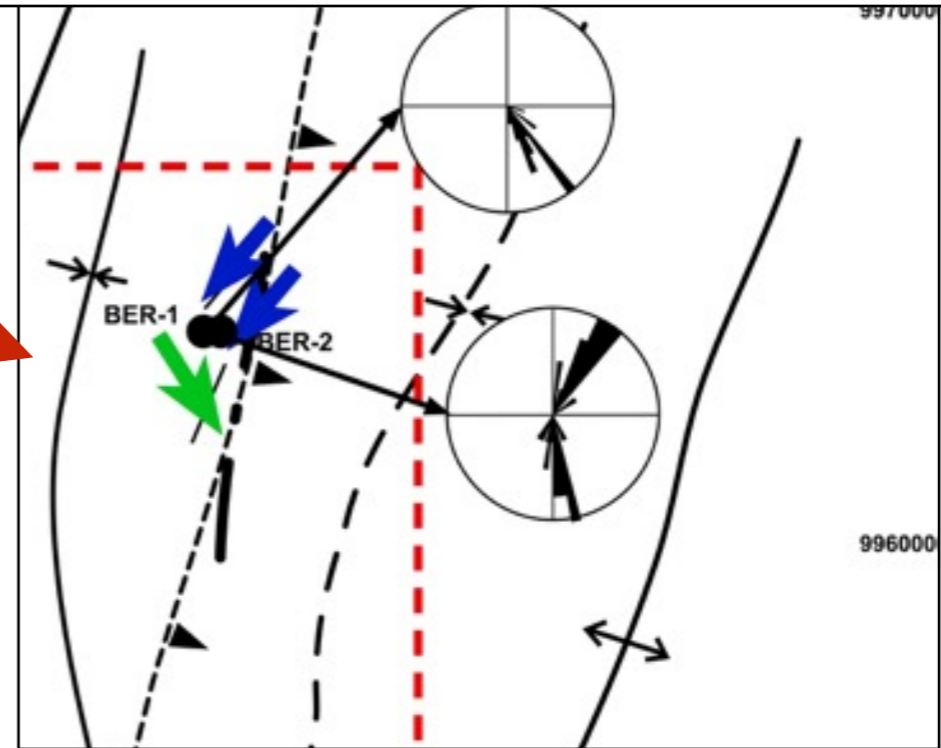
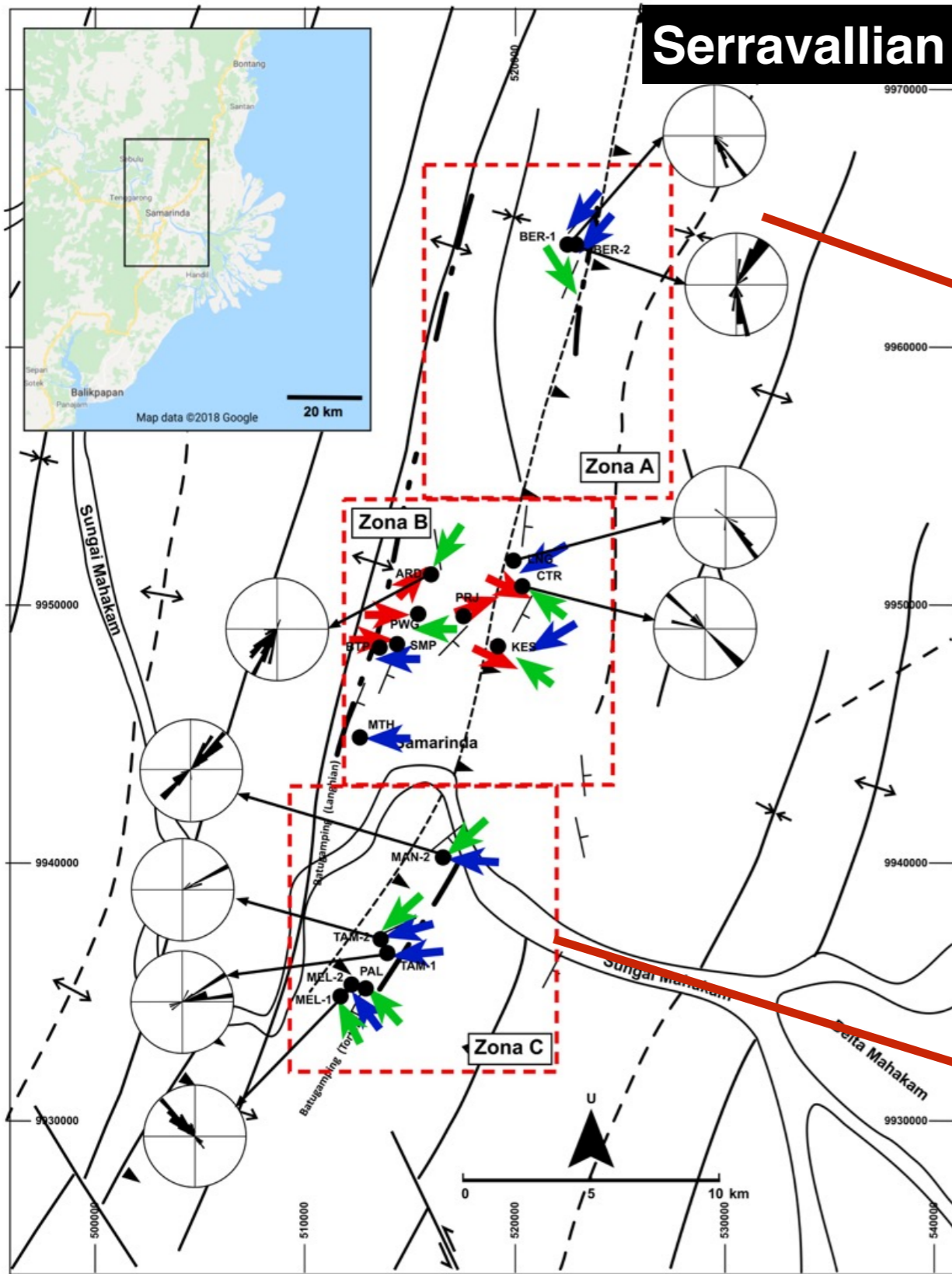
BRYOZOAN DIVERSITY IN THE MIOCENE OF THE KUTAI BASIN, EAST KALIMANTAN, INDONESIA

EMANUELA DI MARTINO, PAUL D. TAYLOR, AND KENNETH G. JOHNSON

Department of Earth Sciences, Natural History Museum, Cromwell Road, SW7 5BD, London, UK

e-mail: manu.dimartino@hotmail.it

1.d. Paleocurrent

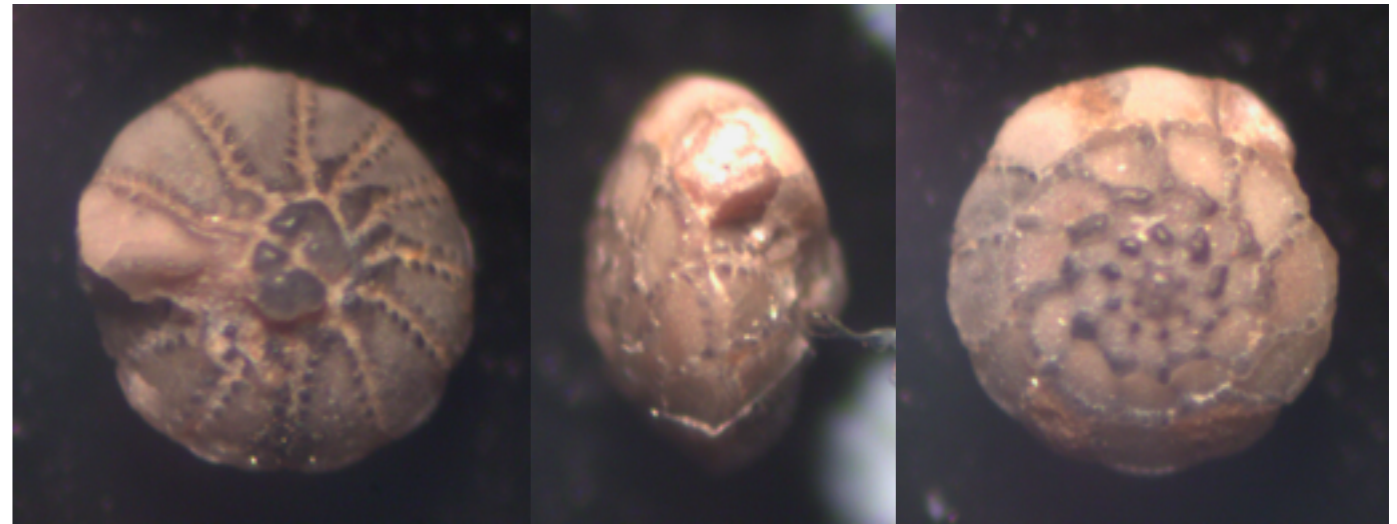


(Arifullah, 2019)

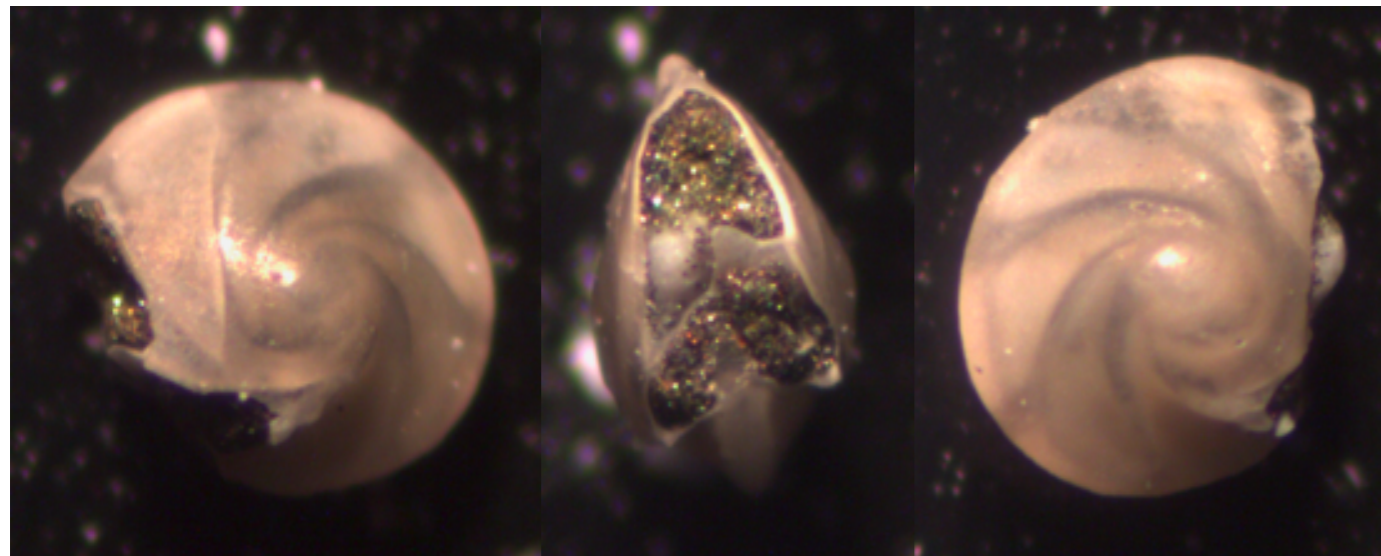
1.e. Paleontologi



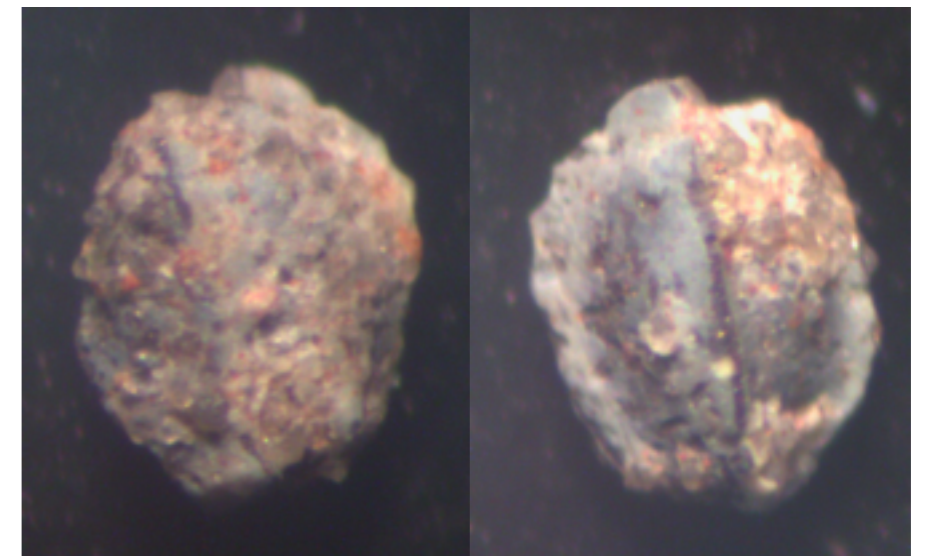
Operculina elegans



Ammonia beccarii



Operculina ammonoides



Miliolids

Foram bentik

Lokasi singkapan: Grand Taman Sari, Samarinda

(Arifullah, 2019)

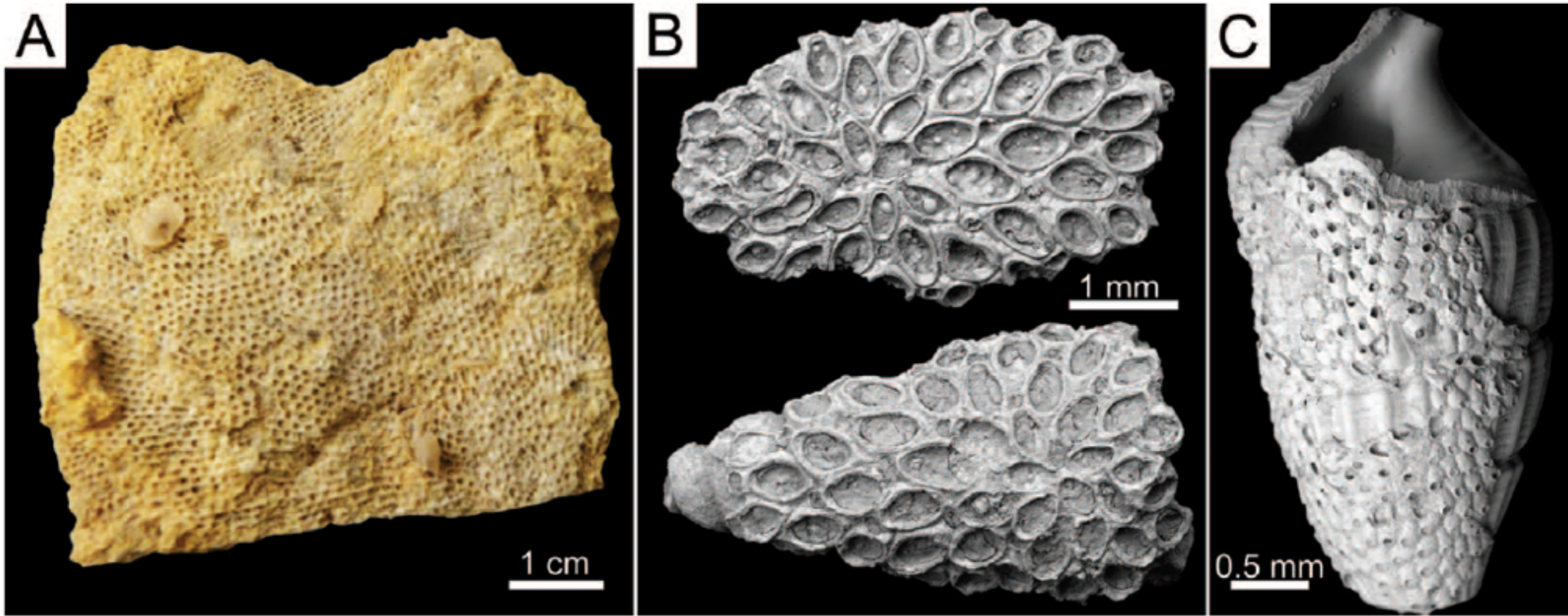


FIG. 5.—Encrusting bryozoan colonies. A) *Steginoporella* sp. encrusting the undersurface of a platy coral. B) *Setosellina* cf. *constricta* encrusting a crab shell fragment (top) and a gastropod (bottom). C) *Scorpiodinipora* cf. *costulata* encrusting a gastropod.

Bryozoa

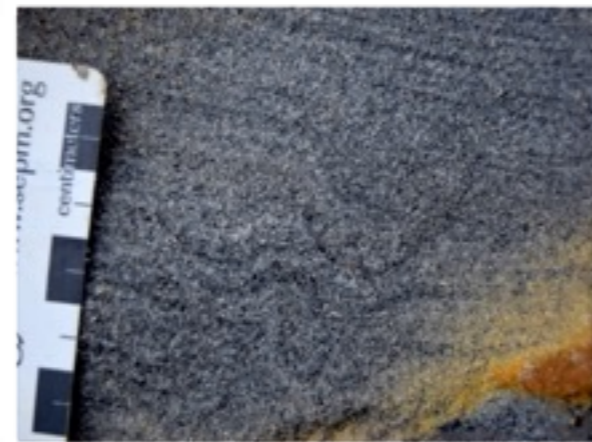
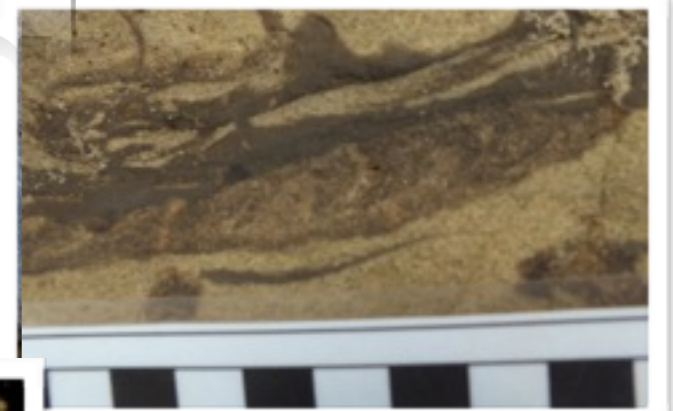
(Di Martino dkk. 2019)

Polen? Nano?

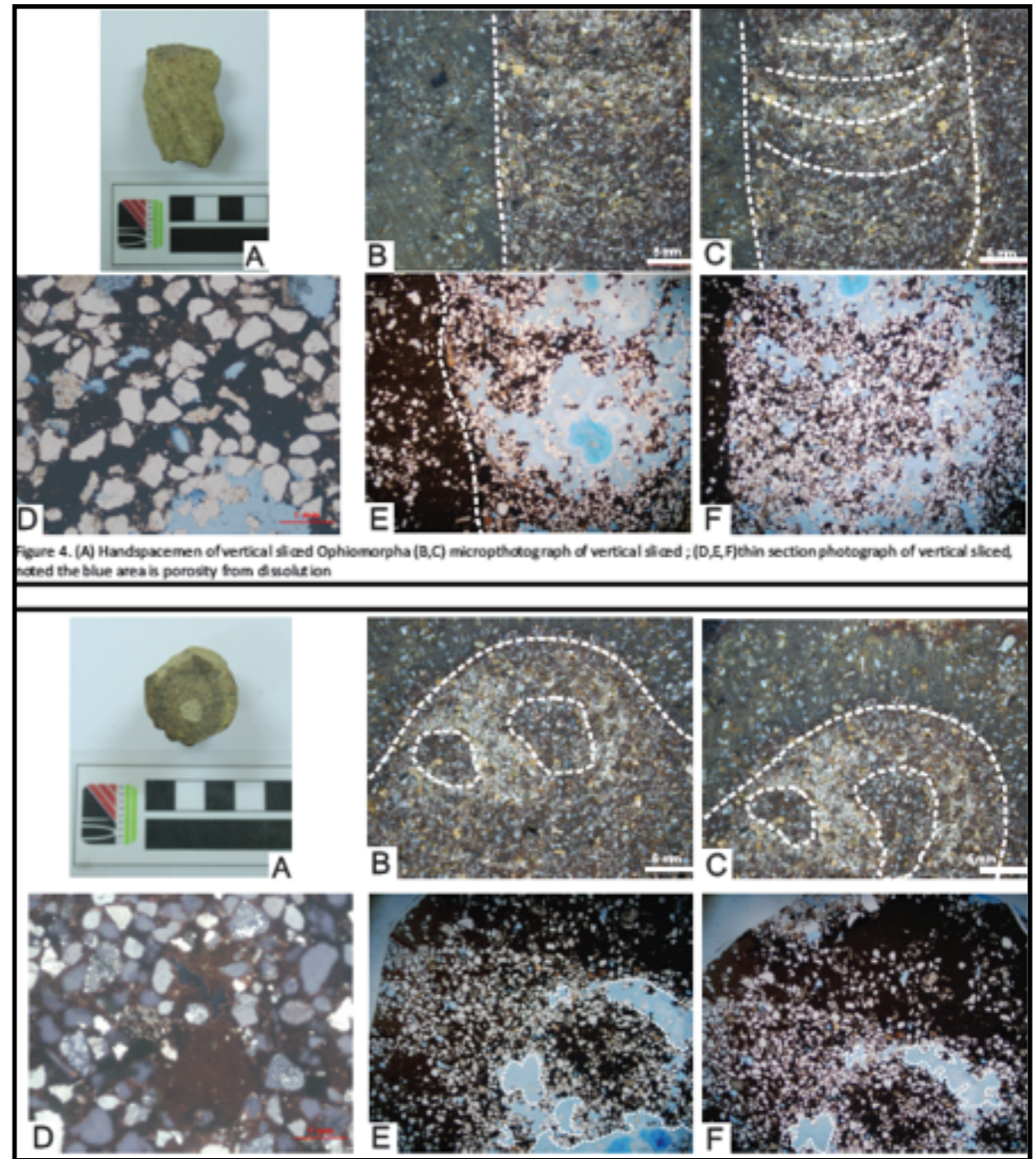
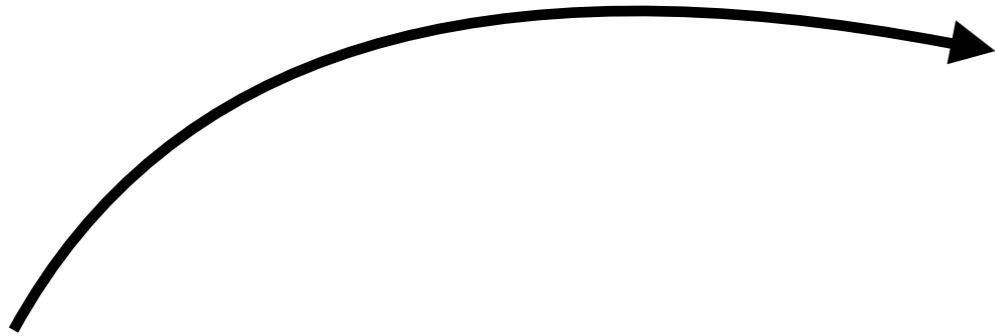
1.f. Trace fossil



34 iknotaksa

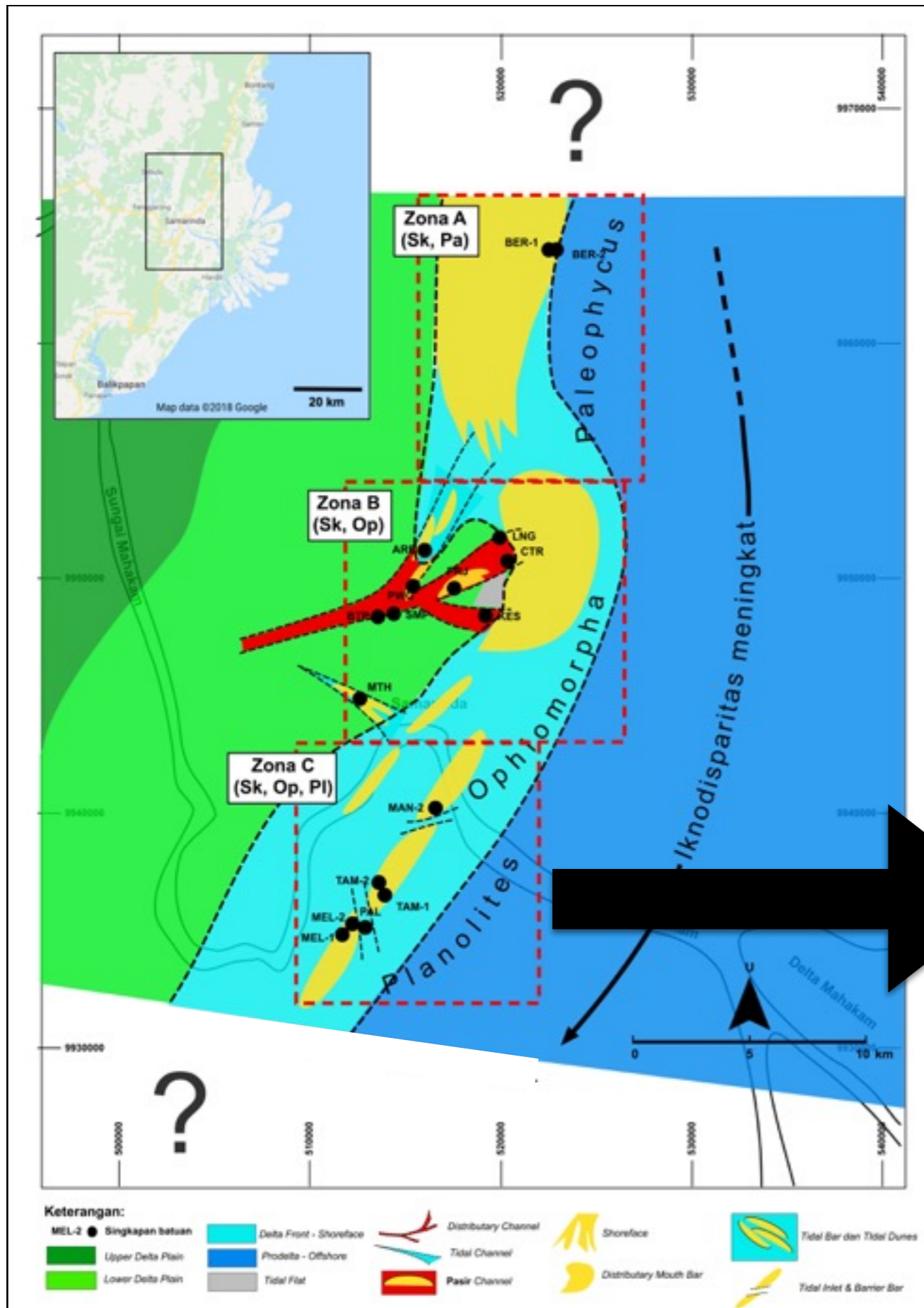


(Arifullah, 2019)

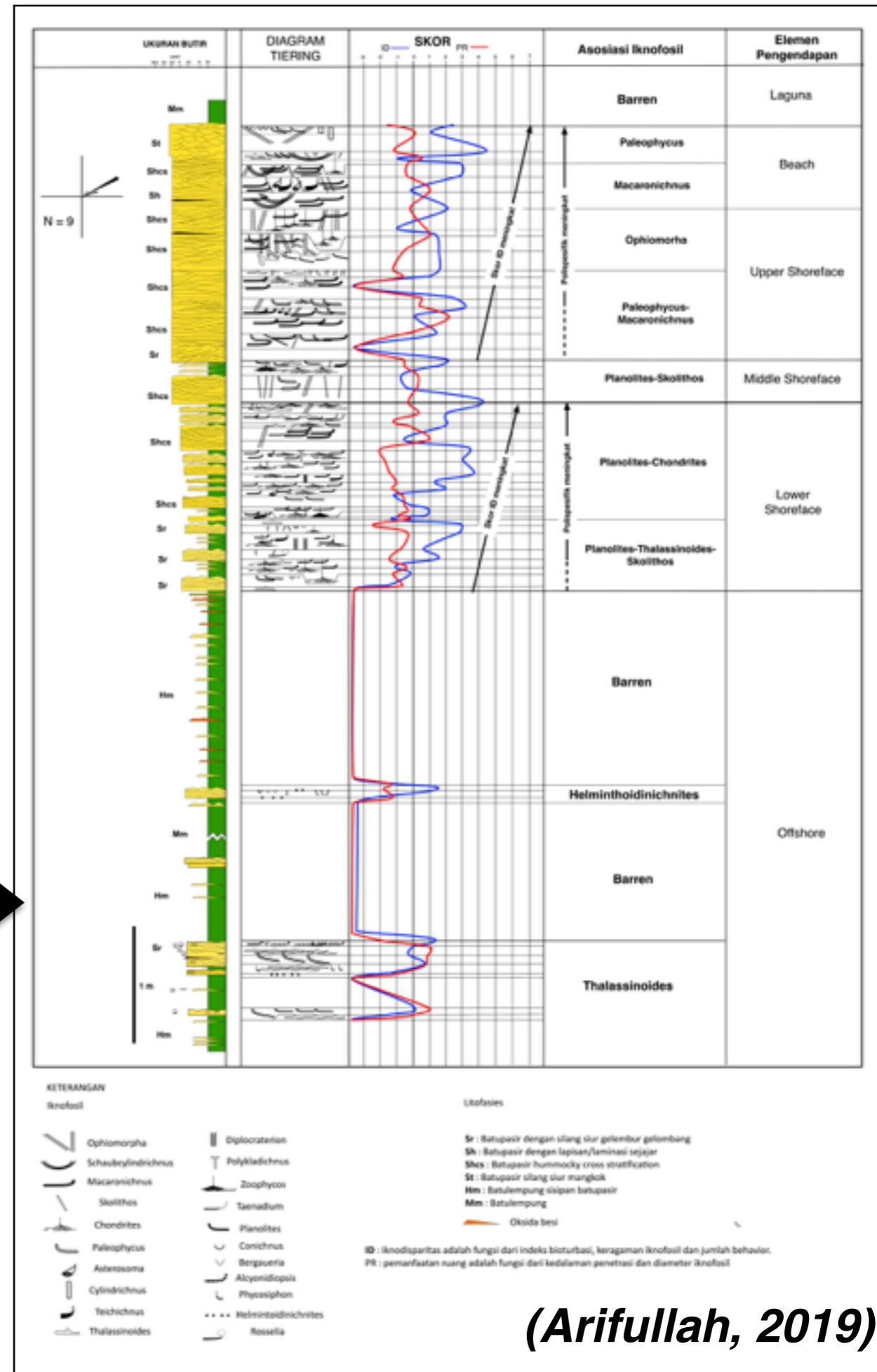


(Setiaji dkk. 2017)

6 iknotaxa kunci (Arifullah, 2019)



(Arifullah, 2019)



(Arifullah, 2019)

2. STRATIGRAFI



Sequence stratigraphy of a linked shelf to basin floor system, Pleistocene, north Kutei Basin, East Kalimantan, Indonesia

Arthur Saller* and Jesse Noah, Unocal Corporation, Alif Prama Ruzuar and Rhys Schneider, Unocal Indonesia

Article in SEG Technical Program Expanded Abstracts - January 2005

DOI: 10.1190/1.2148180

PROCEEDINGS

GEOSEA XIV CONGRESS AND 45TH IAGI ANNUAL CONVENTION 2016 (GIC 2016)

Trans Luxury Hotel, Bandung, October 10 – 13, 2016

Ichnofabric for Stratigraphic Analysis: an outcrop study in Samarinda Area, Indonesia

Ery Arifullah¹, Yahdi Zaim¹, Aswan¹, Djuhaeni¹

¹) Department of Geology, Institut Teknologi Bandung (ITB). Email: earifullah27@stud

Ichnofabric oscillatory curves as an indicator of the tide-dominated depositional system, Samarinda area, Kutai Basin (Indonesia)

Ery Arifullah^{1,2*}, Yahdi Zaim¹, Aswan¹, Djuhaeni¹

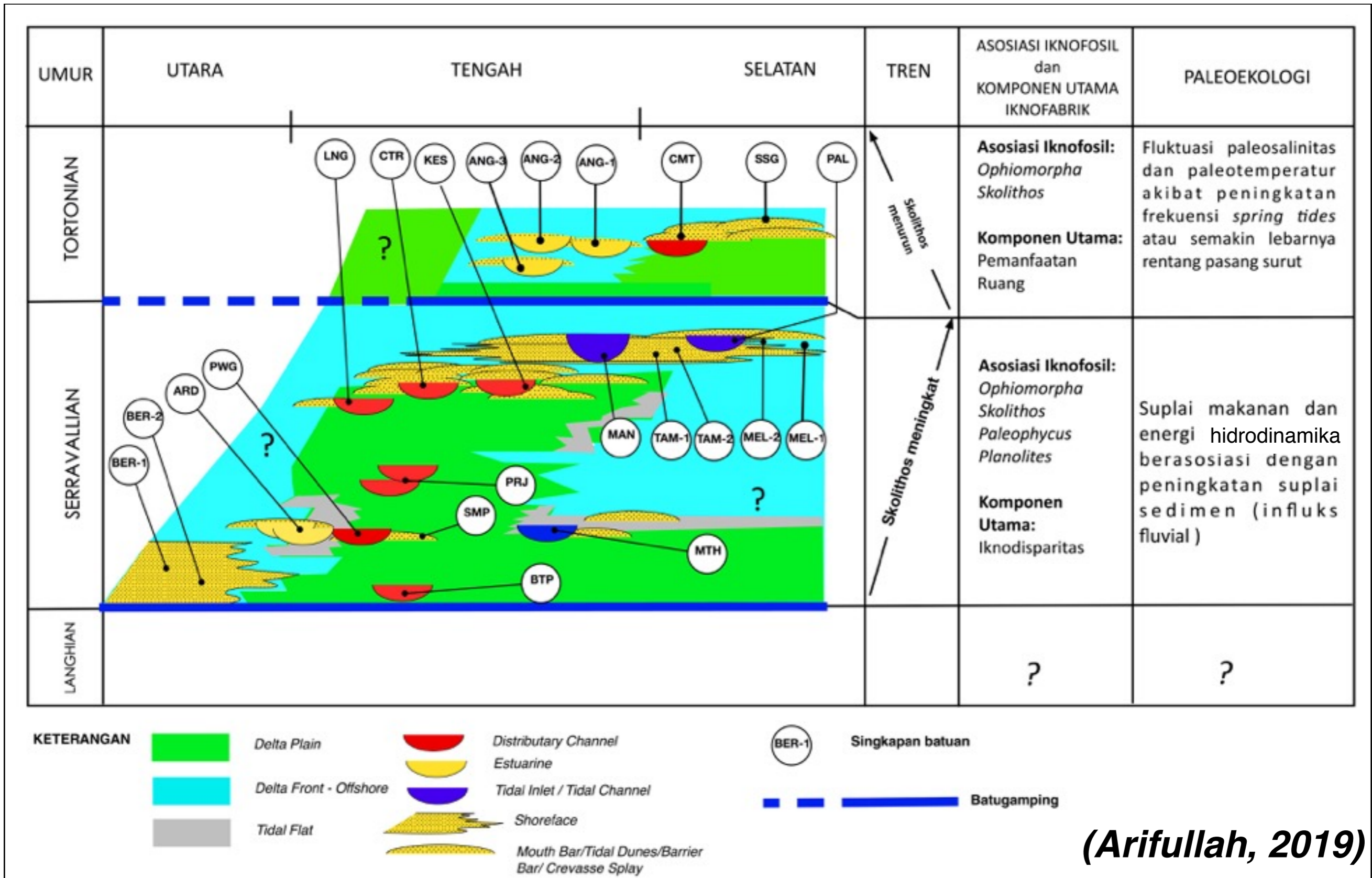
¹ Department of Geology, Institut Teknologi Bandung.

² BPSDM, East Kalimantan Government.

* Correspondence: earifullah27@gmail.com

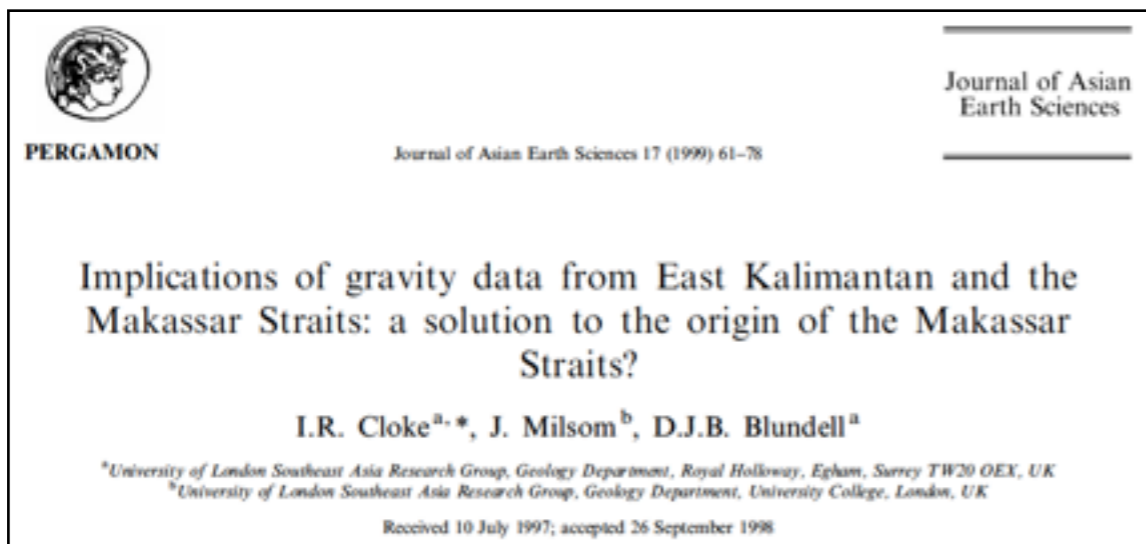
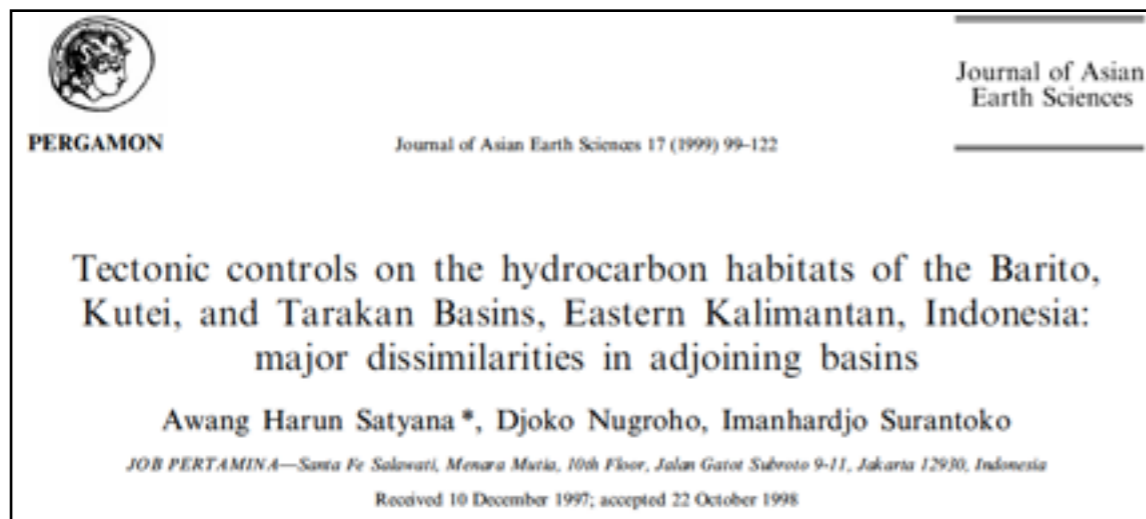
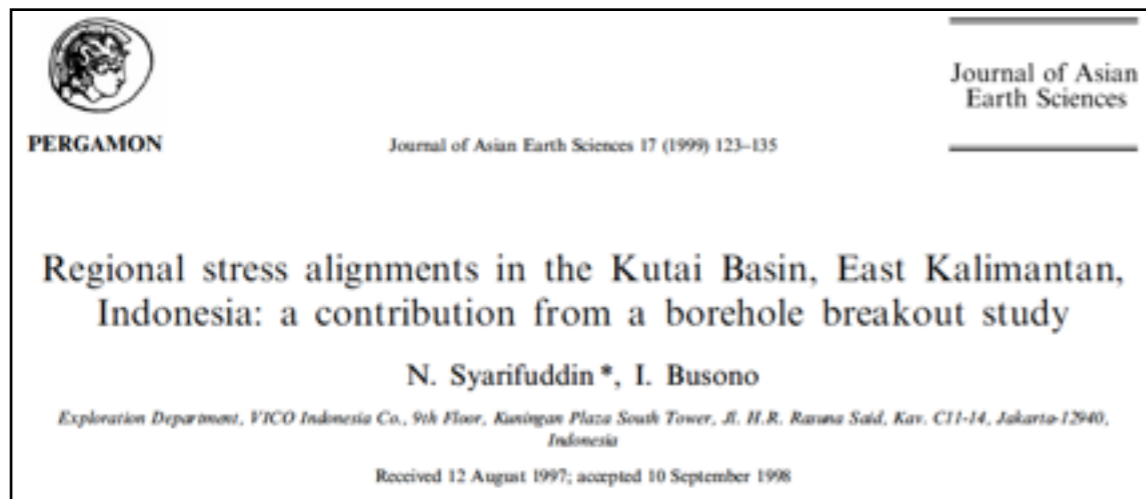
Proceeding Past & Present Sedimentation in Tropical Region, Regional Seminar FOSI-IAS-SEPM

Stratigrafi umum daerah Samarinda



(Arifullah, 2019)

3. TEKTONIK



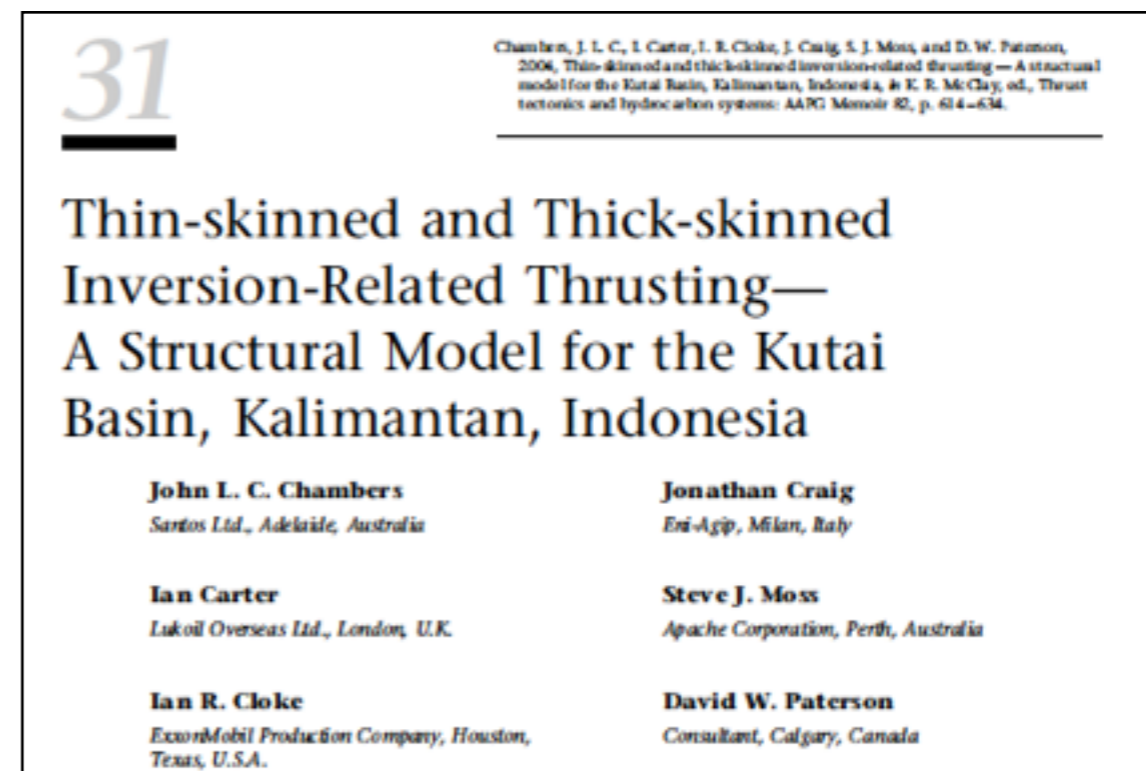
A tectonic model for the onshore Kutai Basin, East Kalimantan

JOHN L. C. CHAMBERS¹ & TIMOTHY E. DALEY²

¹ *LASMO Runtu Ltd, Ratu Plaza Office Tower, Jalan Jenderal Sudirman No. 9, Jakarta 10270, Indonesia*

² *LASMO plc, 101 Bishopsgate, London EC2M 3XH, UK*

From Fraser, A. J., Matthews, S. J. & Murphy, R. W. (eds), 1997, Petroleum Geology of Southeast Asia, Geological Society Special Publication No. 126, pp. 375–393.



3. TEKTONIK

Journal of the Geological Society, London, Vol. 155, 1998, pp. 177–192. Printed in Great Britain

A Late Oligocene tectono-volcanic event in East Kalimantan and the implications for tectonics and sedimentation in Borneo

STEVE J. MOSS^{1,2}, ANDY CARTER³, SIMON BAKER³ & ANTHONY J. HURFORD³

¹*School of Applied Geology, Curtin University of Technology, Perth, 6845, WA, Australia
(e-mail: rmosss@cc.curtin.edu.au)*

²*Formerly at SE Asia Research Group, Dept. of Geology, Royal Holloway, University of London, Egham, Surrey TW0 0EX, UK*

³*Research School of Geological Sciences, Birkbeck College and University College London, Gower Street, London WC1E 6BT, UK*

Tectonophysics, 148 (1988) 279–297

Elsevier Science Publishers B.V., Amsterdam – Printed in The Netherlands

Late Cretaceous to Early Tertiary structural elements of West Kalimantan

P.R. WILLIAMS¹, C.R. JOHNSTON¹, R.A. ALMOND¹ and W.H. SIMAMORA²

¹*Bureau of Mineral Resources, Geology and Geophysics, GPO Box 378, Canberra, A.C.T. 2601 (Australia)*

²*Geological Research and Development Centre, Jl. Diponegoro 57, Bandung, West Java (Indonesia)*

(Received April 3, 1987; revised version accepted September 28, 1987)

GEOLOGICAL JOURNAL

Geol. J. 51(S1): 464–489 (2016)

Published online 29 June 2016 in Wiley Online Library
(wileyonlinelibrary.com). DOI: 10.1002/gj.2835

Mesozoic and Cenozoic accretionary orogenic processes in Borneo and their mechanisms

P. C. WANG^{1,2}, S. Z. LI^{1,2*}, L. L. GUO^{1,2}, S. H. JIANG^{1,2}, I. D. SOMERVILLE⁴, S. J. ZHAO^{1,2},
B. D. ZHU³, J. CHEN³, L. M. DAI^{1,2}, Y. H. SUO^{1,2} and B. HAN³

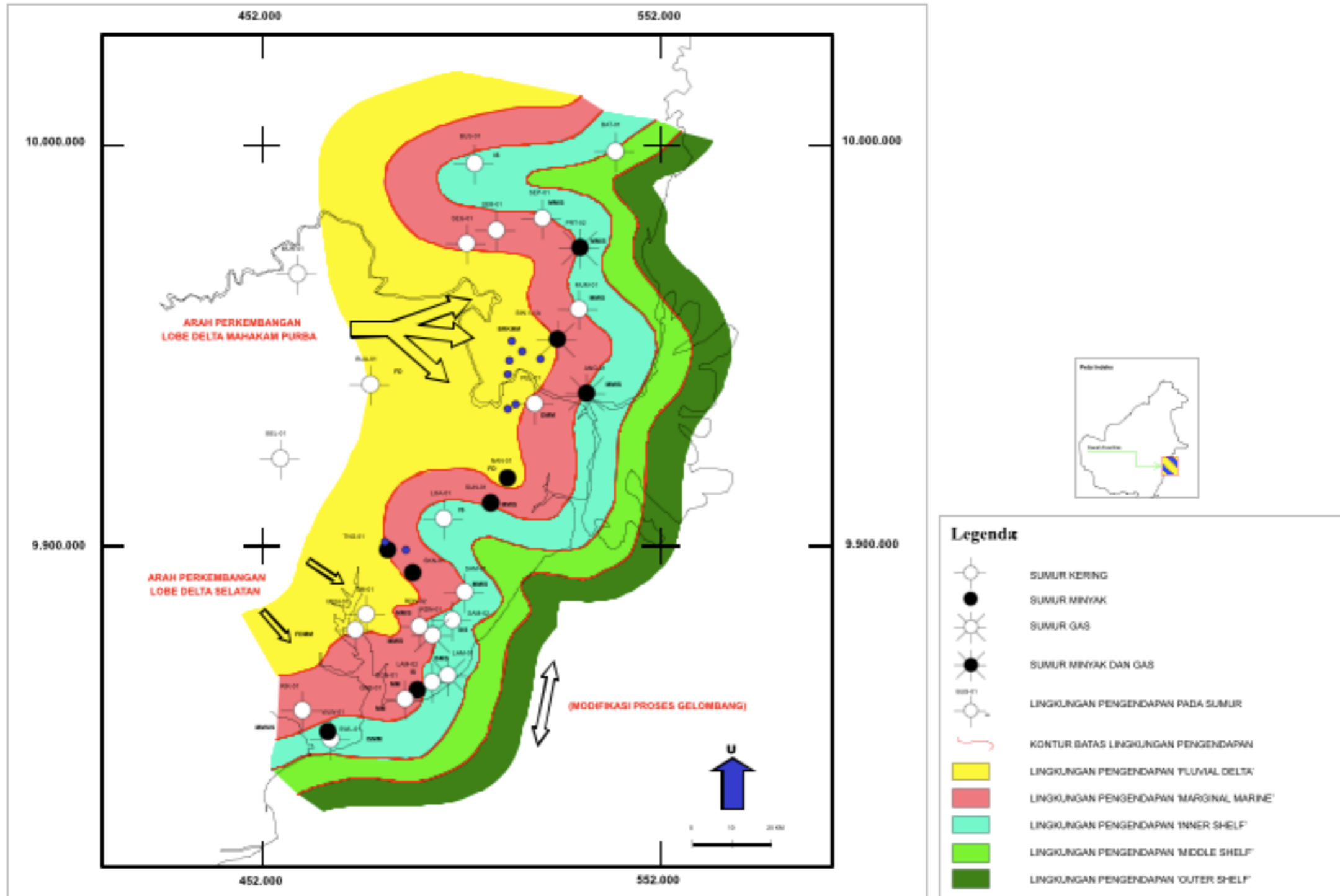
¹*College of Marine Geosciences, Ocean University of China, Qingdao, Shandong, China*

²*Key Lab of Submarine Geosciences and Exploration Techniques, Ministry of Education, Qingdao, Shandong, China*

³*Guangzhou Marine Geological Survey (GMGS), Guangzhou, China*

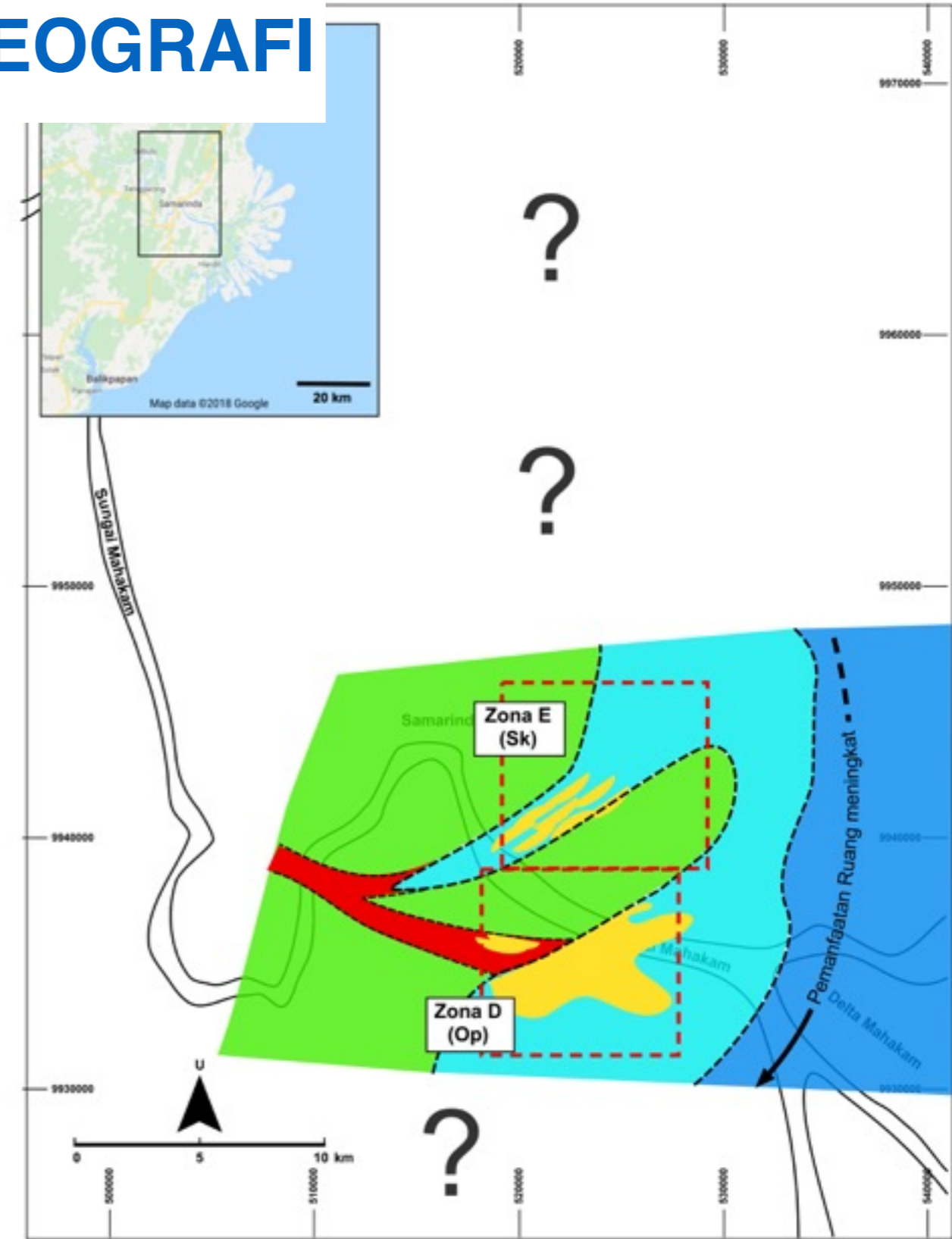
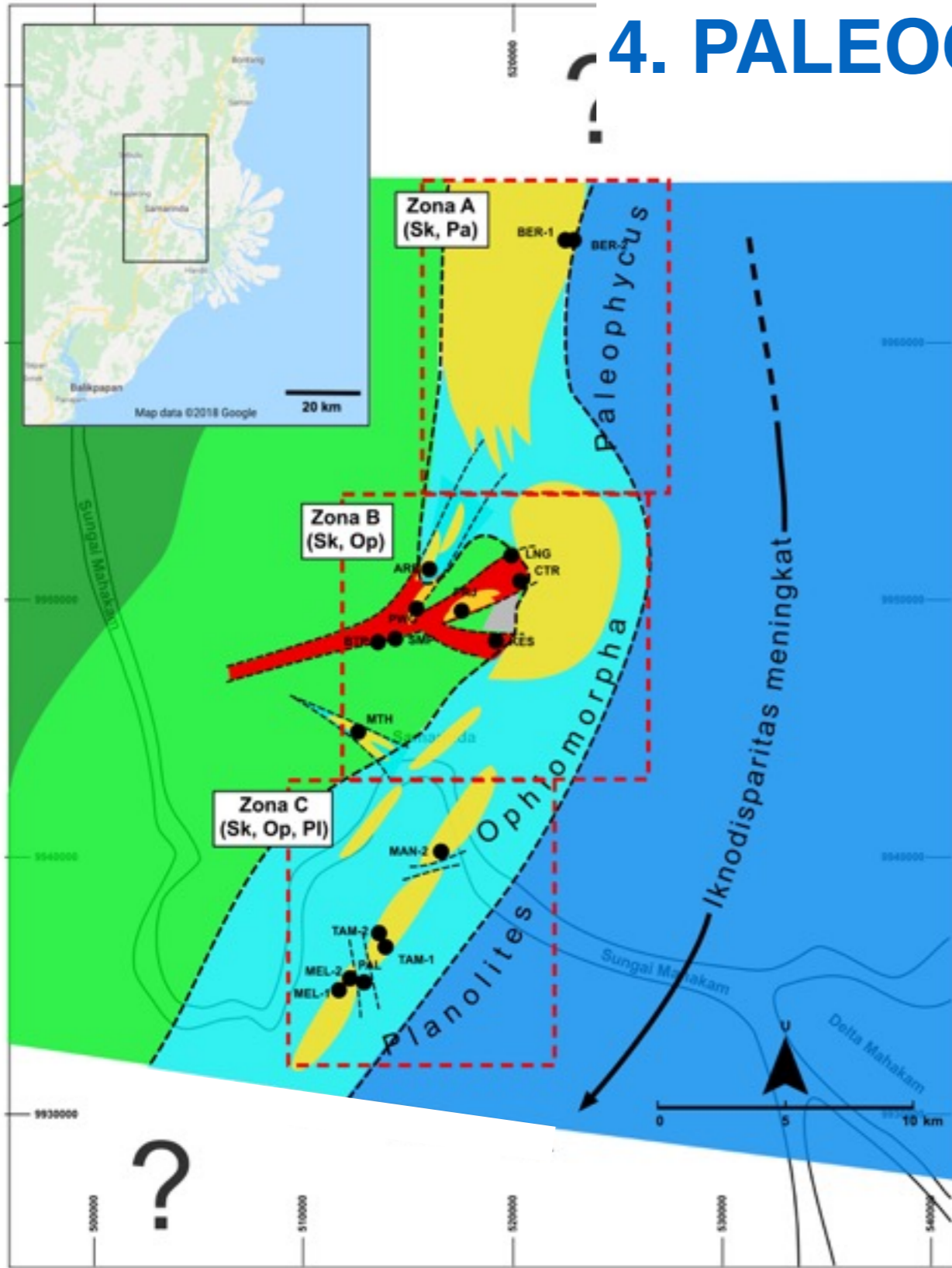
⁴*UCD School of Earth Sciences, University College Dublin, Dublin, Ireland*

4. PALEOGEOGRAFI



(Bachtiar, 2003)

4. PALEOGEOGRAFI



Serravallian

(Arifullah, 2019)

Tortonian

4. BATUAN PRATERSIER

PROCEEDINGS, INDONESIAN PETROLEUM ASSOCIATION
Thirty-Eighth Annual Convention & Exhibition, May 2014

CRETACEOUS CRUST IN SW BORNEO: PETROLOGICAL, GEOCHEMICAL AND GEOCHRONOLOGICAL CONSTRAINTS FROM THE SCHWANER MOUNTAINS

Lorin Davies^{*}
Robert Hall^{*}
Richard Armstrong^{**}



ELSEVIER

Contents lists available at [ScienceDirect](#)

Ore Geology Reviews

journal homepage: www.elsevier.com/locate/oregeorev



The Lamandau IOCG deposit, southwestern Kalimantan Island, Indonesia:
Evidence for its formation from geochronology, mineralogy, and
petrogenesis of igneous host rocks



Shuang Li^{a,b}, Xiaoyong Yang^{a,*}, Weidong Sun^{c,*}

^a CAS Key Laboratory of Crust–Mantle Materials and Environments, School of Earth and Space Sciences, University of Science and Technology of China, Hefei 230026, China

^b College of Earth Science, Guilin University of Technology, Guilin 541004, China

^c CAS Key Laboratory of Mineralogy and Metallogeny, Guangzhou Institute of Geochemistry, The Chinese Academy of Sciences, Guangzhou 510640, China

4.1 Kompleks Ofiolit (Jura)



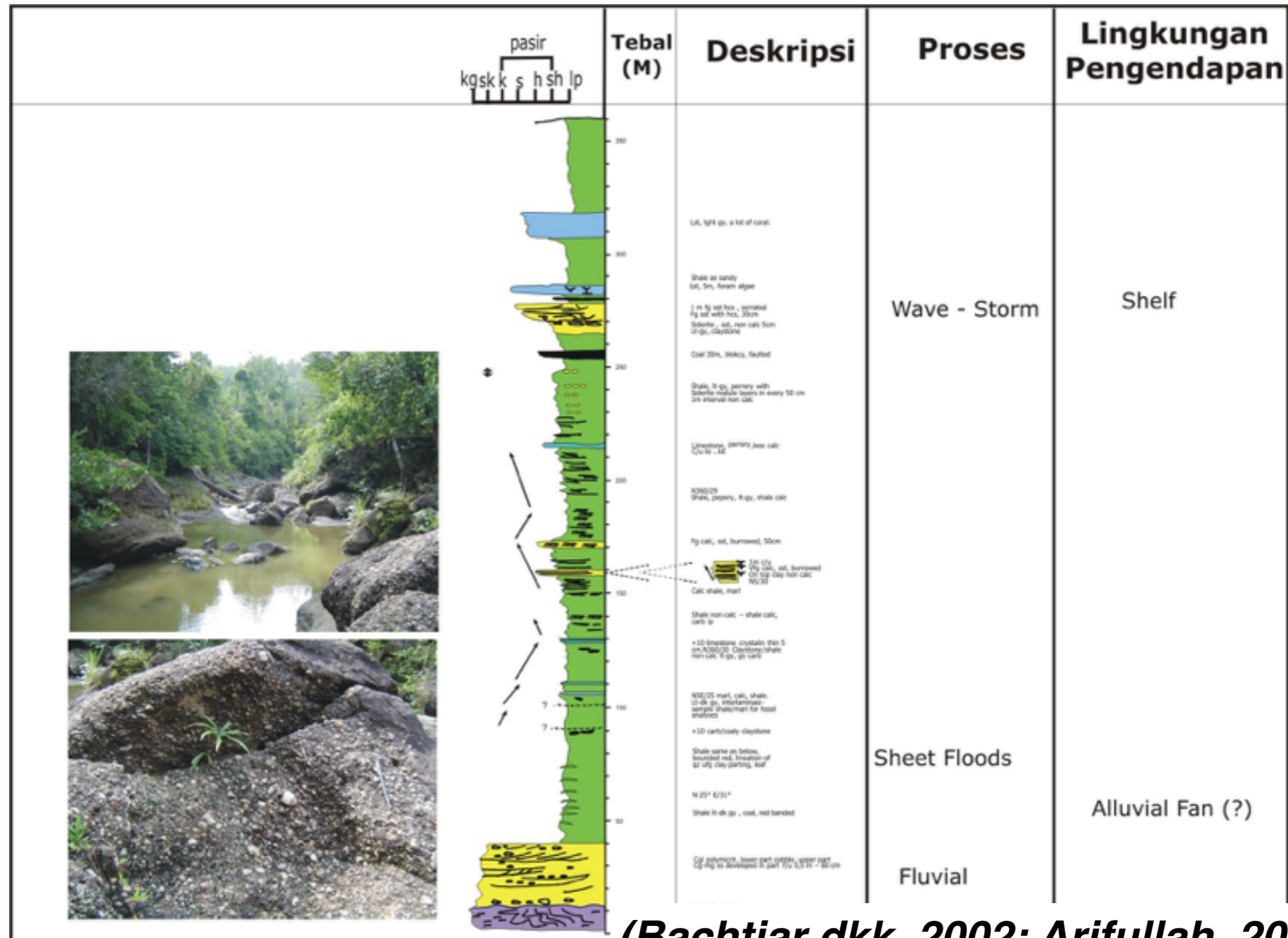
Serpentinit

(Arifullah, 2003)

- Batas antara Cekungan Kutai dan Barito

Lokasi singkapan: Gunung Rambutan, Paser

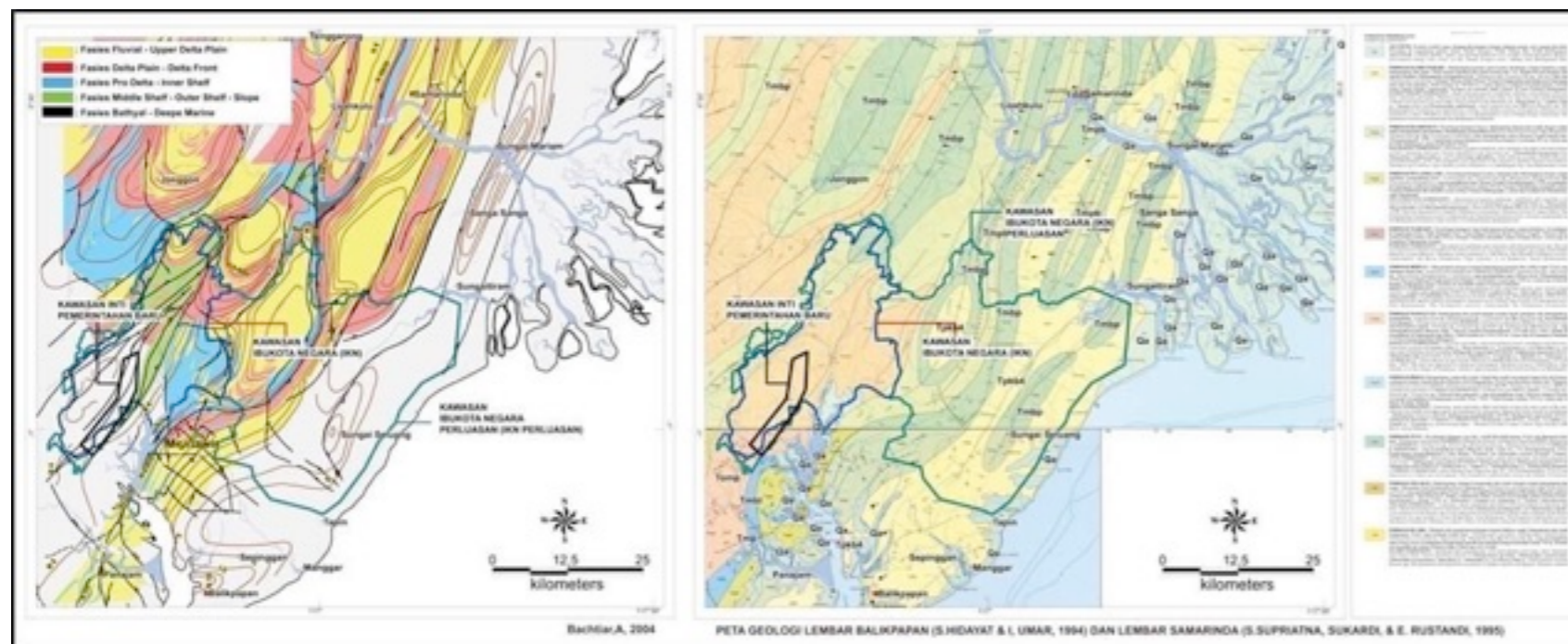
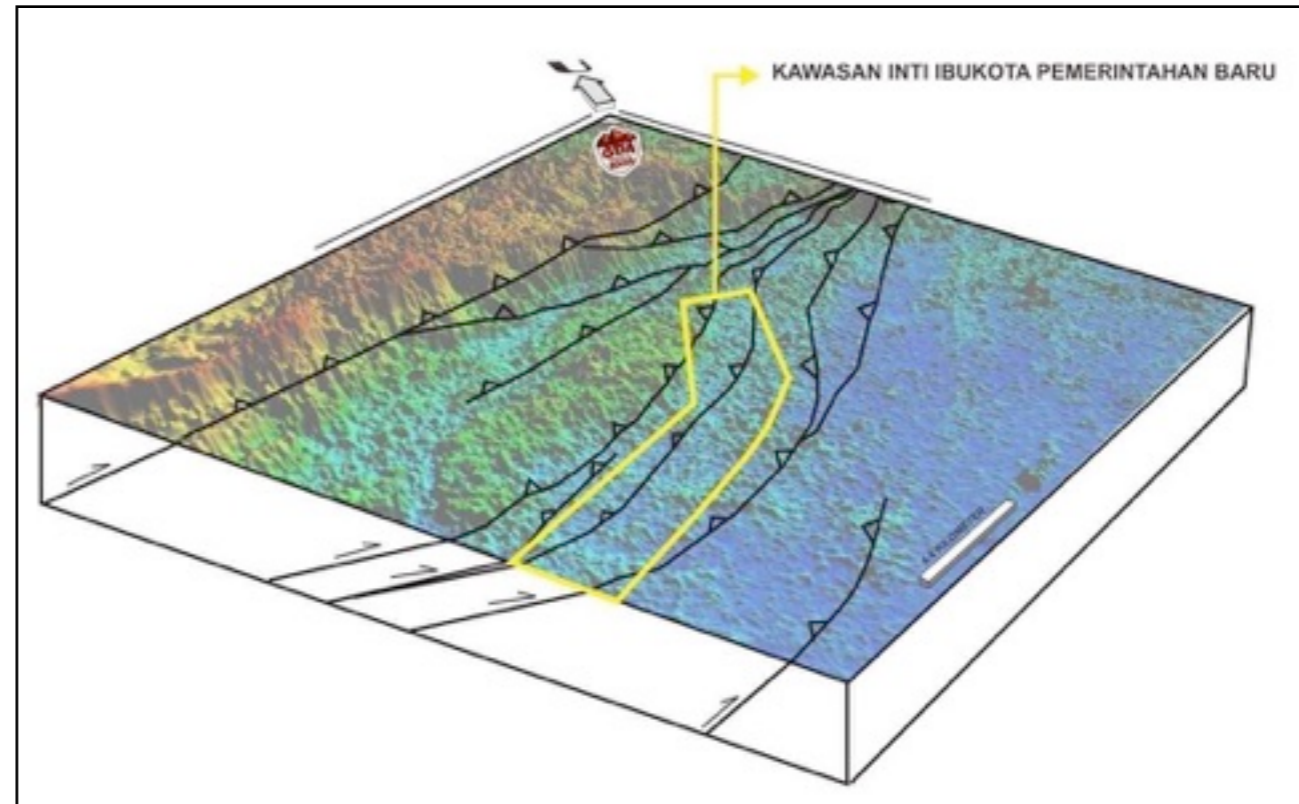
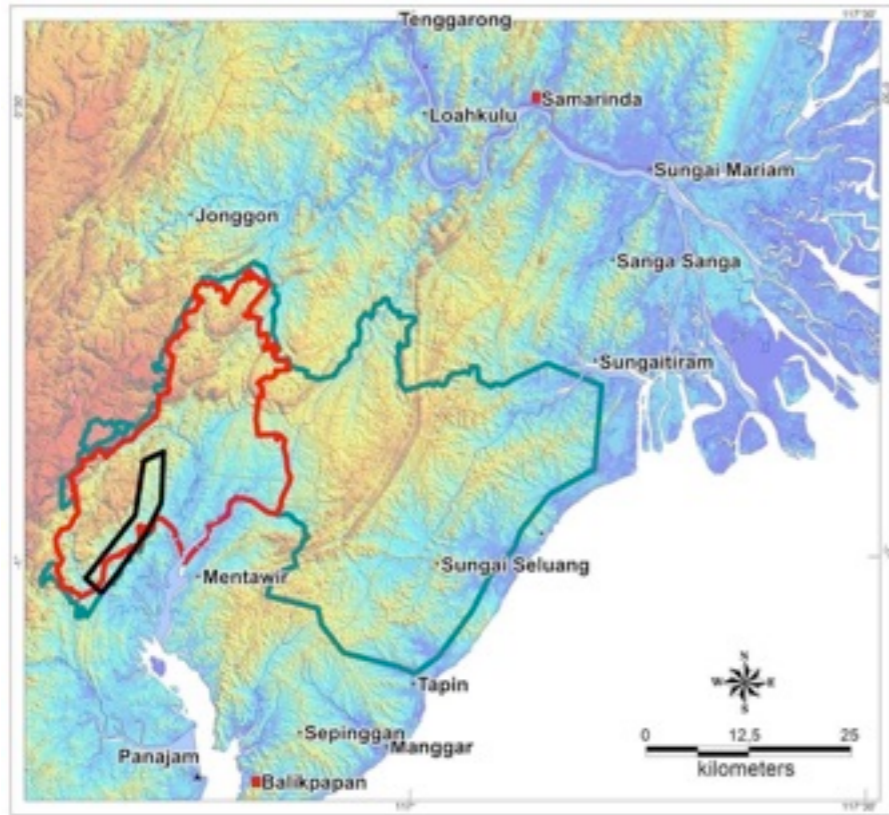
4.3 Kontak konglomerat dan batuan dasar Cekungan Kutai (fase awal syn-rift - Eosen?)



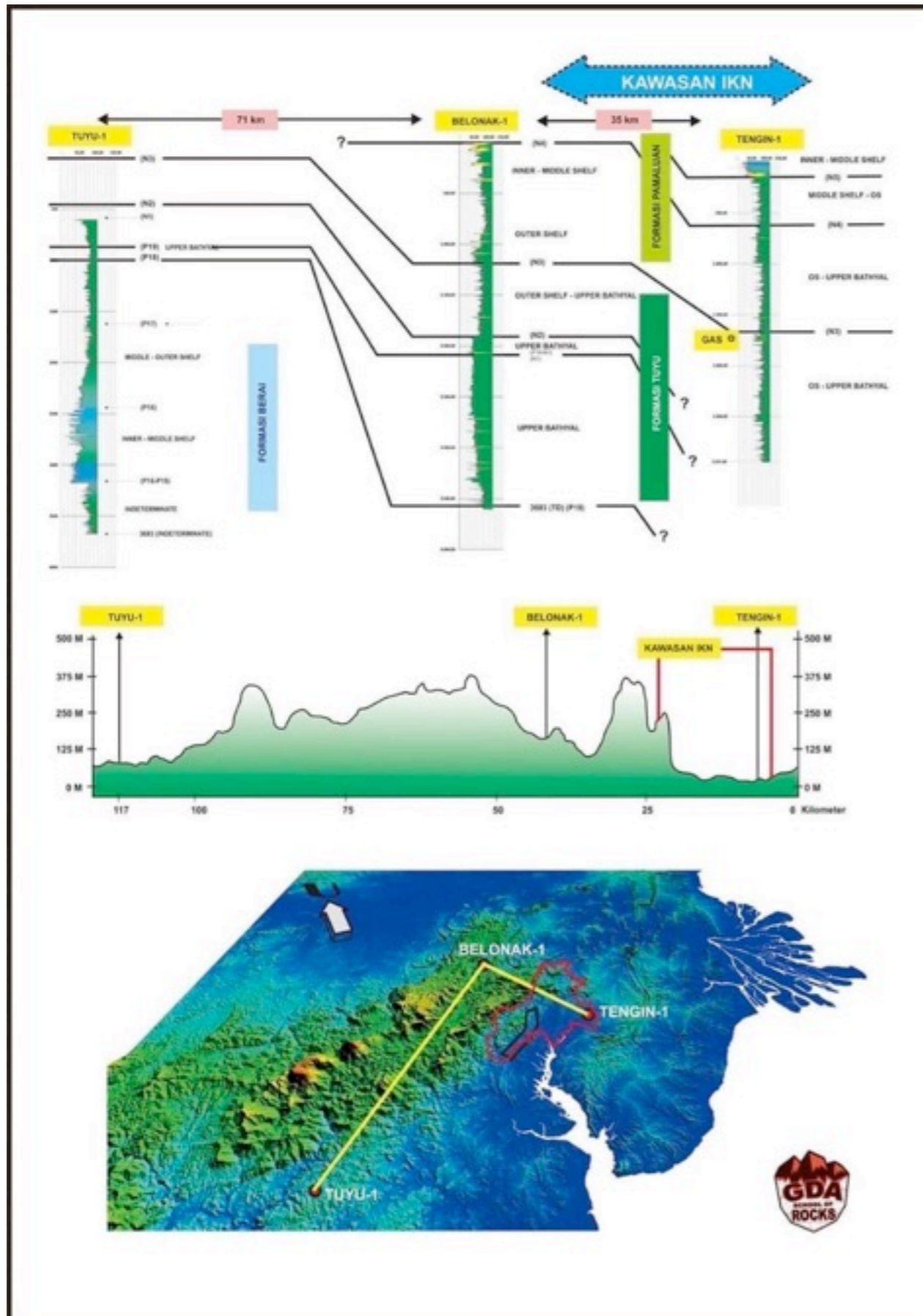
(Bachtiar dkk. 2002; Arifullah, 2003)

Lokasi singkapan: Sungai Muru, Paser

5. GEOLOGI -IKN-



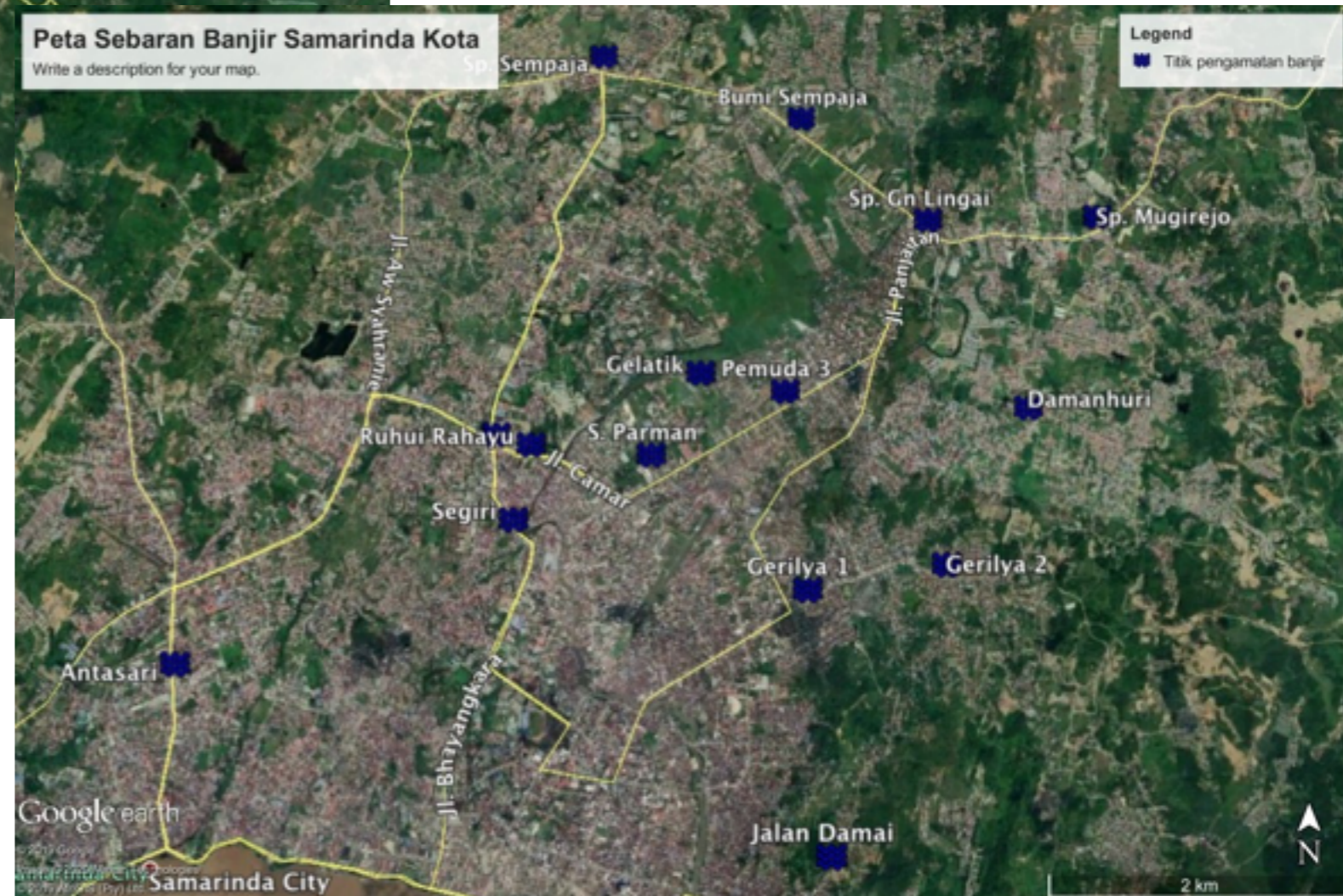
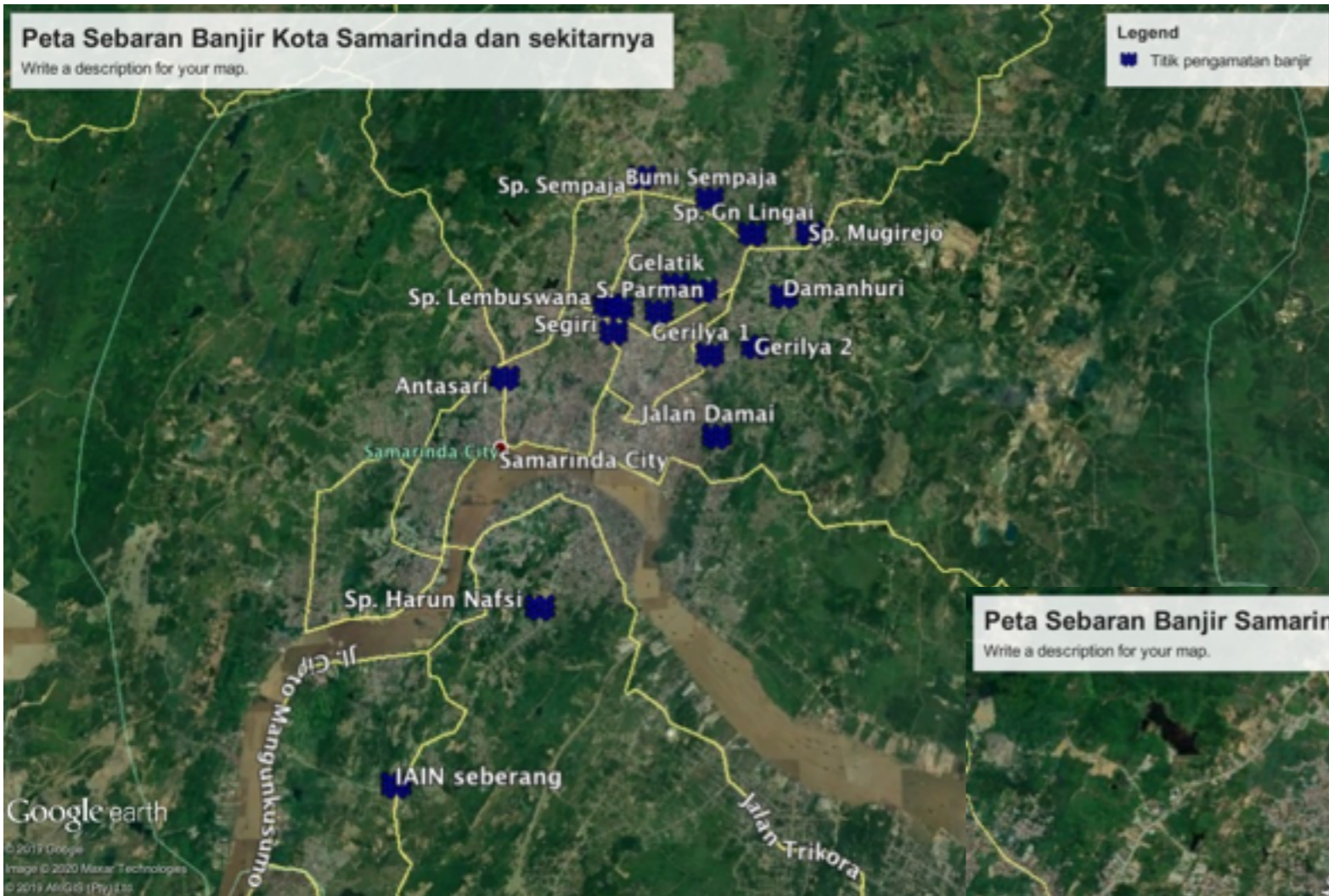
(Bachtiar, 2020)



- » Pemetaan geologi
- » Tektonik & stratigrafi lokal
 - » *Geohazard*
 - » Geohidrologi

(Bachtiar, 2020)

6. GEOLOGI Samarinda dan kota lainnya?



(Arifullah, 2020)

7. GEOWISATA

"Tugas pokok geowisata adalah menciptakan dan meningkatkan tempat-tempat wisata yang

mudah diakses, nyaman dalam bentang alam, informatif dan menarik."

-Chen dkk. (2015)

bagi wisatawan

“natural features consisting of physical and biological formations or groups of such formations, which are of outstanding universal value from the aesthetic or scientific point of view; geological and physiographical formations and precisely delineated areas which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of view of science or conservation; natural sites or precisely delineated natural areas of outstanding universal value from the point of view of science, conservation or natural beauty..”

–UNESCO’s definition of natural heritage (UNESCO,2006)

Maknanya :

1. mencakup lingkungan abiotik dan biotik.
2. terkait dengan sejarah bumi (daratan, lautan, bentang alam dan kehidupan di dalamnya).
3. bernilai ilmiah atau aestetik atau keduanya.

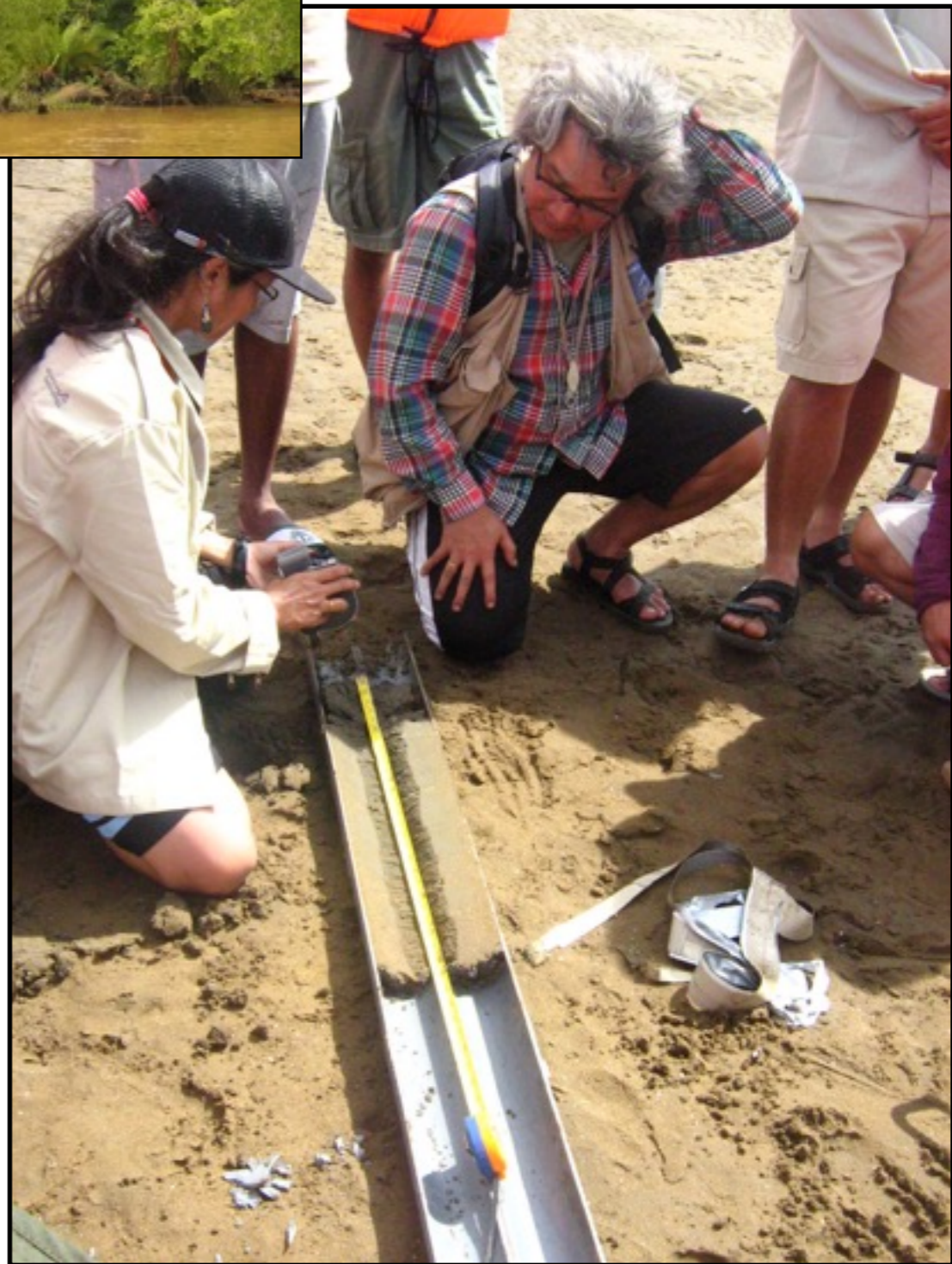
*‘The Geologist as Historian’ is reprinted from *Scientific Objectives*, 1952, by kind permission of the publishers, Messrs. Butterworths Scientific Publications.*

The Geologist as Historian

Professor H. H. Read, D.Sc., A.R.C.S., F.R.S.E., F.R.S.

Jalan-jalan ke delta Mahakam modern







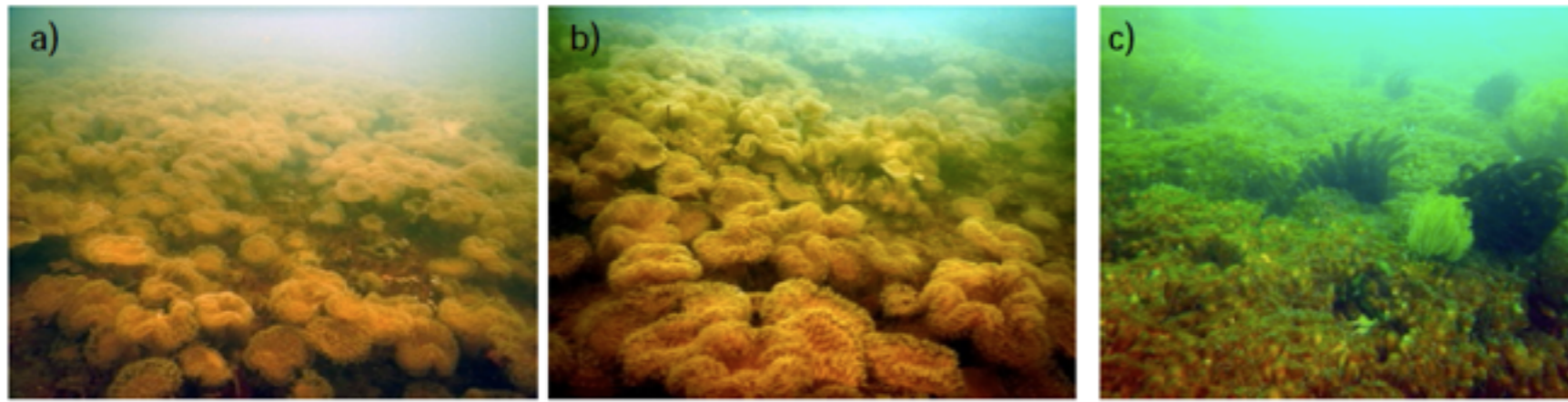
Belajar di “delta” Mahakam purba



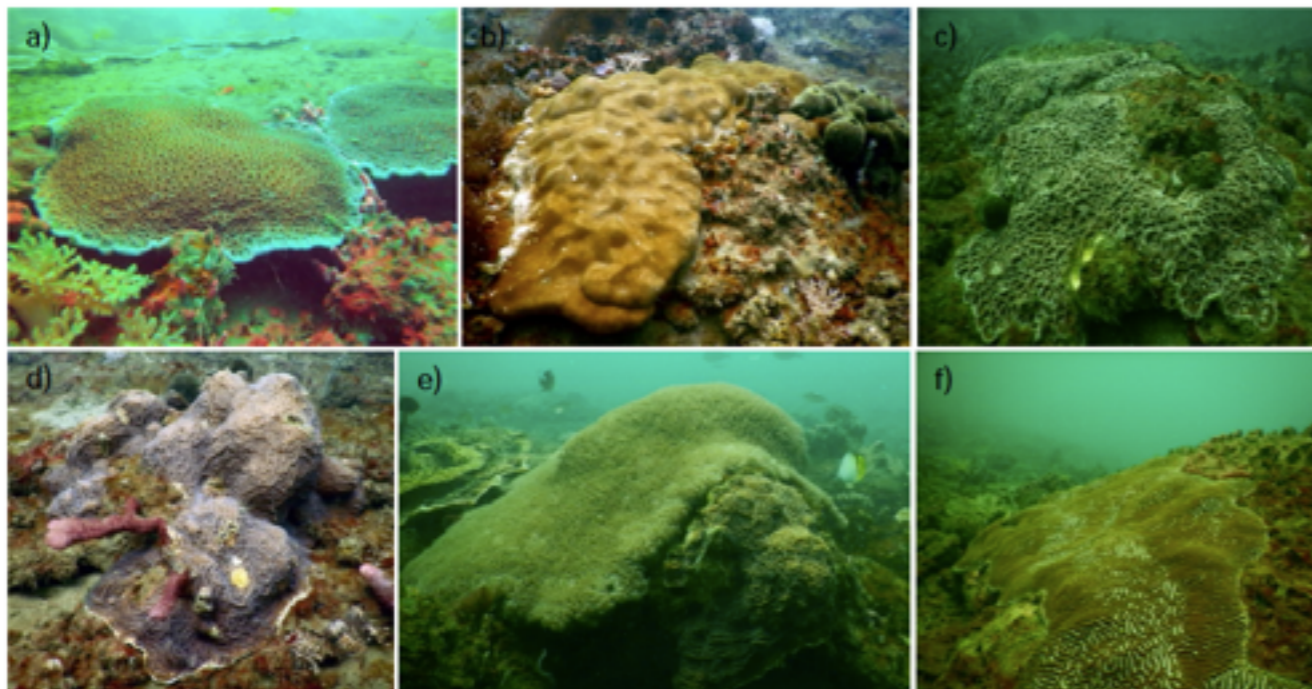
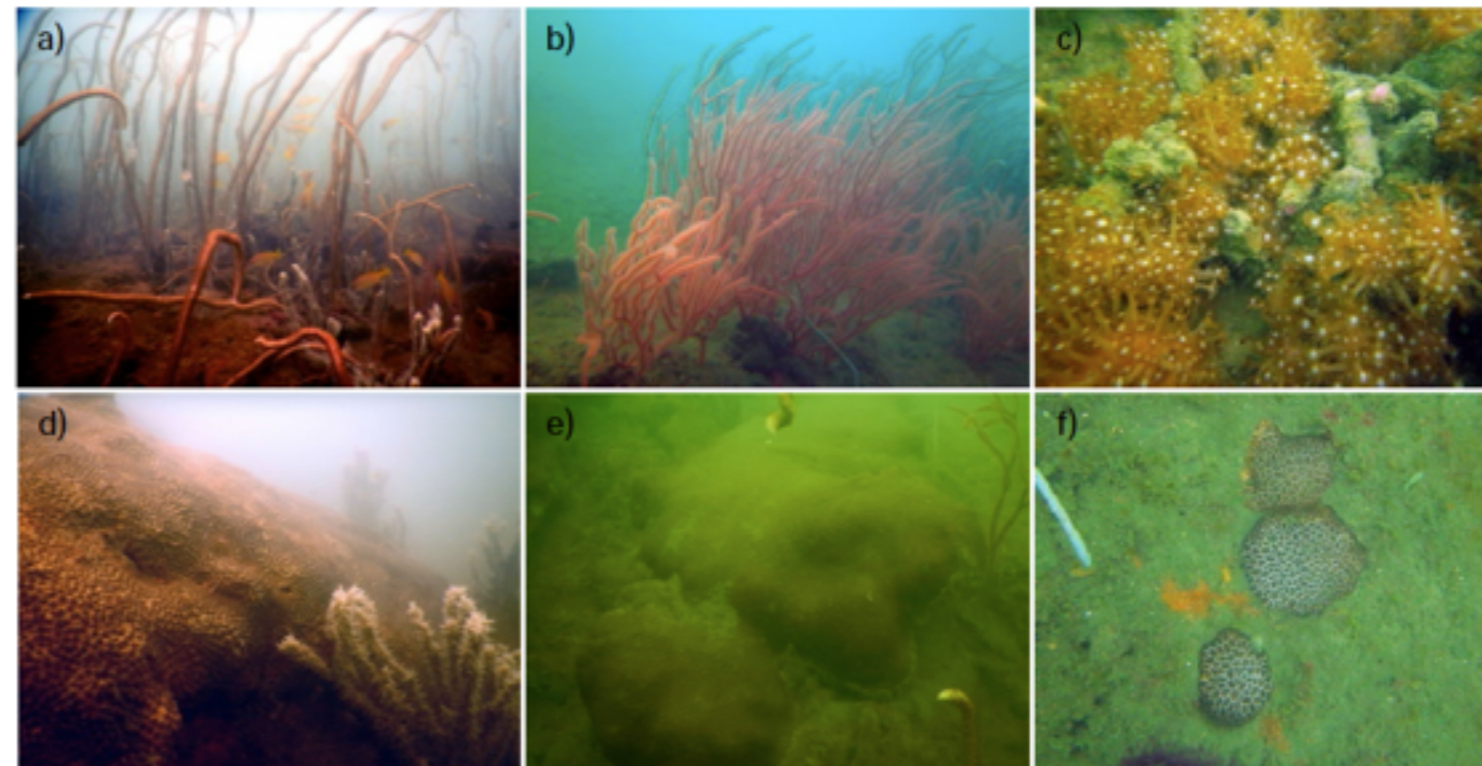
Fosil kayu, Samarinda (Arifullah, 2019)



Rumah organisme-Ophiomorpha (Arifullah, 2019)

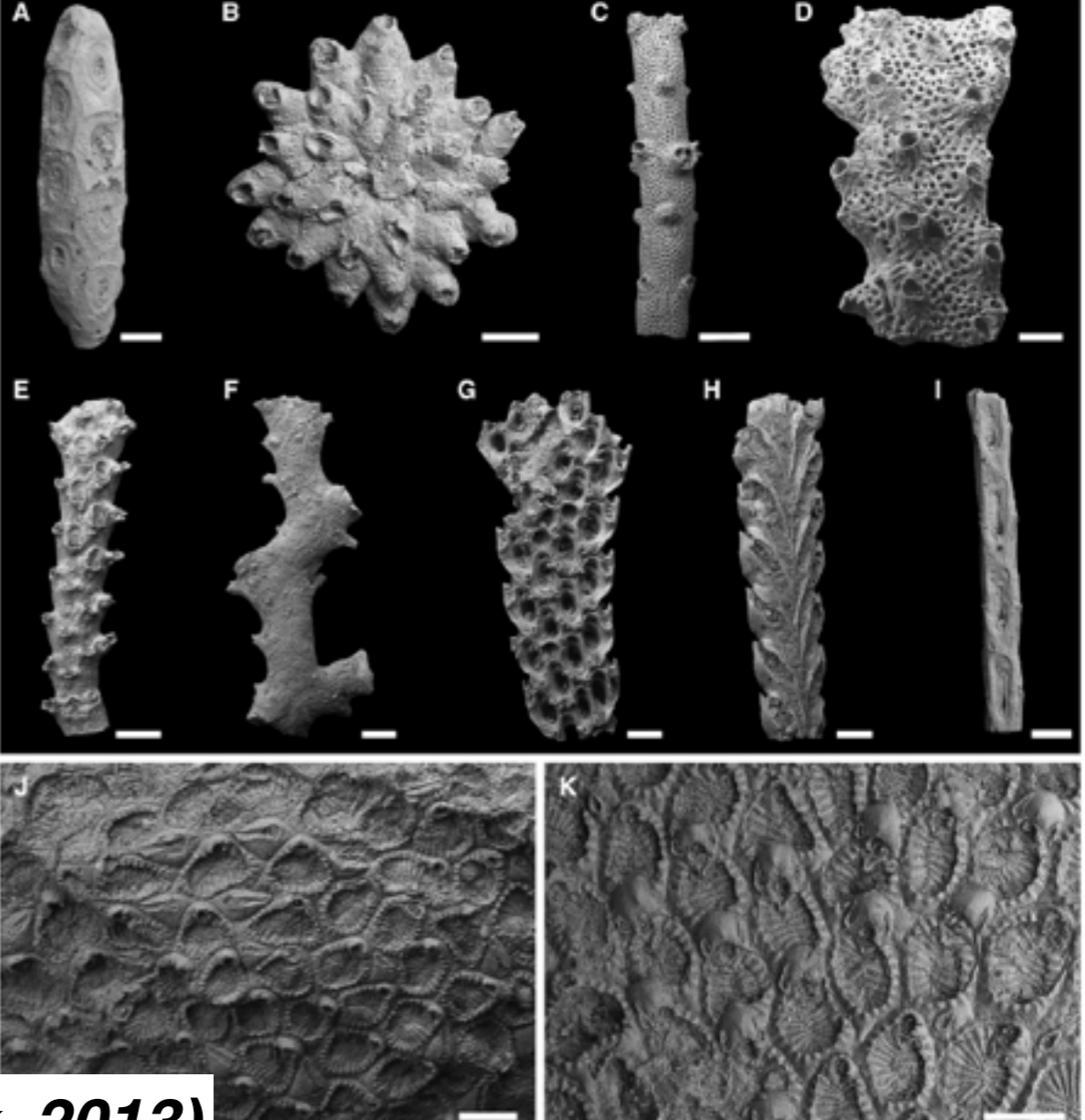
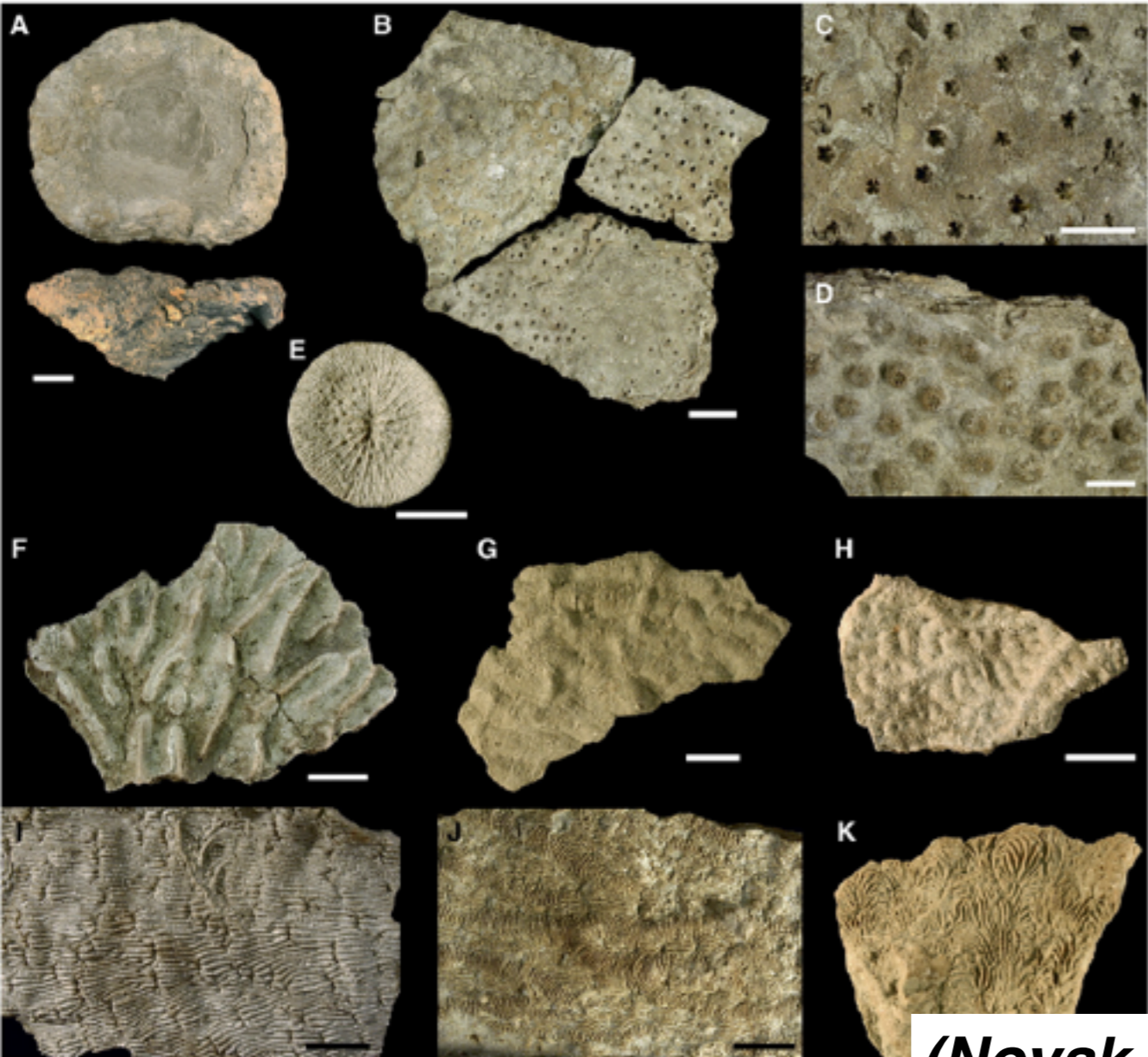


Recent patch reef di muka delta Mahakam modern



(Syahrir dkk. 2018)

Miocene patch reef (Batuputih)



(Novak dkk. 2013)

Batudinding-Kukar



Geopark Naturtejo, Portugal

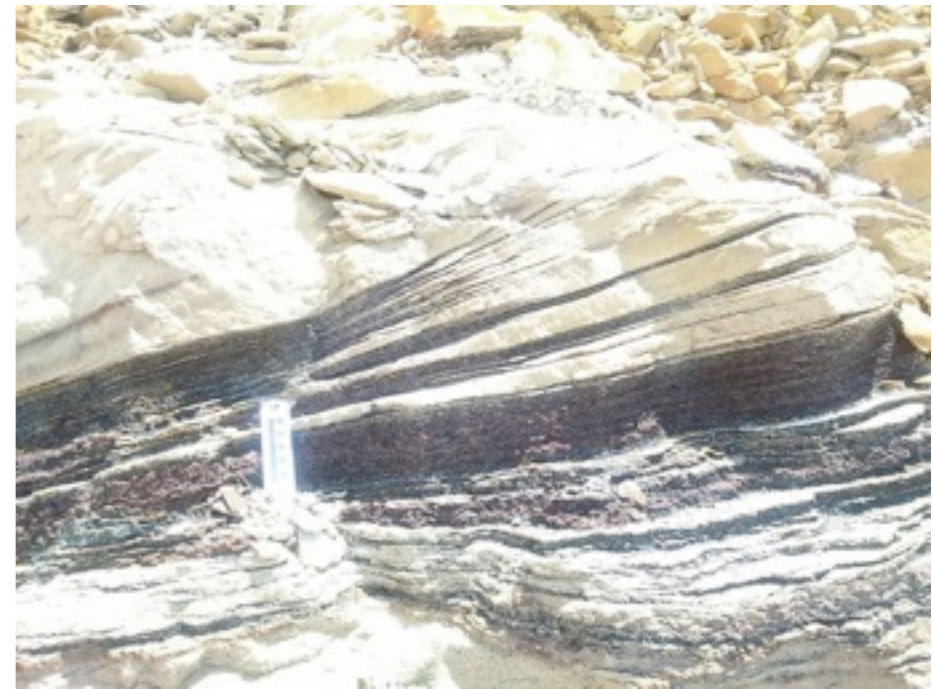


Samarinda seberang









Anggana-Kukar

Kesimpulan

- Banyak masalah geologi yang menarik untuk diangkat.
- Referensi cukup tersedia.
- Objek geologi mudah diakses.
- Jaringan komunikasi —> **bit.ly/pegiat-geosains**

see you in upcoming webinar