



Bibliography of Indonesian Geology

BIBLIOGRAPHY OF THE GEOLOGY OF INDONESIA AND SURROUNDING AREAS

Edition 7.0

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J.T. VAN GORSEL

III. JAVA, MADURA, JAVA SEA



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III. INTRODUCTION

This chapter III of the Bibliography 7.0 contains 297 pages with >2440 titles on the geology of Java, Madura and the Java Sea. It is subdivided into four areas/ topics, III.1- III.4. The introduction to this chapter is somewhat rudimentary, and omits many aspects of Java geology. For more detail see the recent book by Peter Lunt (2013; IPA), which is an excellent modern synthesis of the sedimentary geology of Java.

III.1. Java - General, Onshore geology, Forearc

Sub-chapter III.1 deals with papers on the geology of Java, including some from the offshore forearc region, but not papers on Quaternary volcanics. With >1845 papers it is by far the largest sub-chapter.

The island of Java has a long history of geological studies, dating back to the mid-1800's. Junghuhn (1854) in his famous book on the natural history of Java dispelled the then current notion that all of Java was composed of volcanic rocks. The first monograph dedicated to the geology of Java was by Verbeek and Fennema (1896; with the first geologic map).

Focus areas of Java geology research, all with numerous papers, have been on structure, volcanism, hydrocarbons, Eocene- Recent stratigraphy and paleontology, mineral deposits and Pleistocene hominids and mammal fossils.

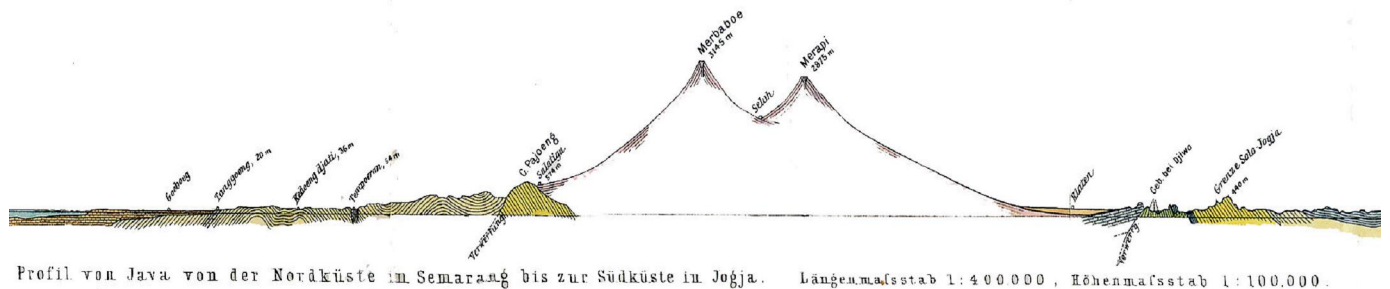


Figure III.1.1. S-N regional cross-section across Central Java, showing folded Tertiary sediments of the Southern Mountains, the volcanic arc (Merbabu, Merapi), etc. (Verbeek and Fennema 1896; part).

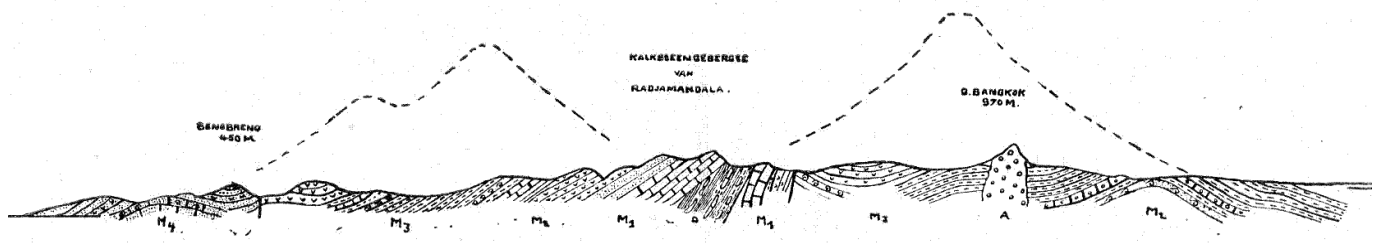


Figure III.1.2. S-N regional cross-section across West Java, showing Nothward thrusting of Miocene sediments at Rajamandala, etc. (Gerth 1931).

Basement rocks

Most of the Java Sea and the western part of Java island are underlain by Sundaland continental and accreted crust, and are a continuation of the Paleozoic- Cretaceous 'Sundaland' continental basement of Sumatra and Kalimantan . Most of Central and East Java island is underlain by Cretaceous and younger accretionary crust, i.e. Late Cretaceous- Eocene accretionary (subduction) melanges, Paleogene arc volcanics, and possibly remnants of oceanic crust, all overlain by less deformed Eocene- Recent sediments (Figure III.1.3)

Several papers on the geochemistry of Quaternary volcanic rocks suggested that parts of East Java may be underlain by oceanic crust, due to the apparent low contributions from continental crustal material.

The presence of inherited Archean-Cambrian age zircons in Early Miocene 'Old Andesites' volcanics of the Southern Mountains of SE Java could reflect magma contamination from underlying Australian continental material below (or sediments derived from it) (Smyth et al. 2007).

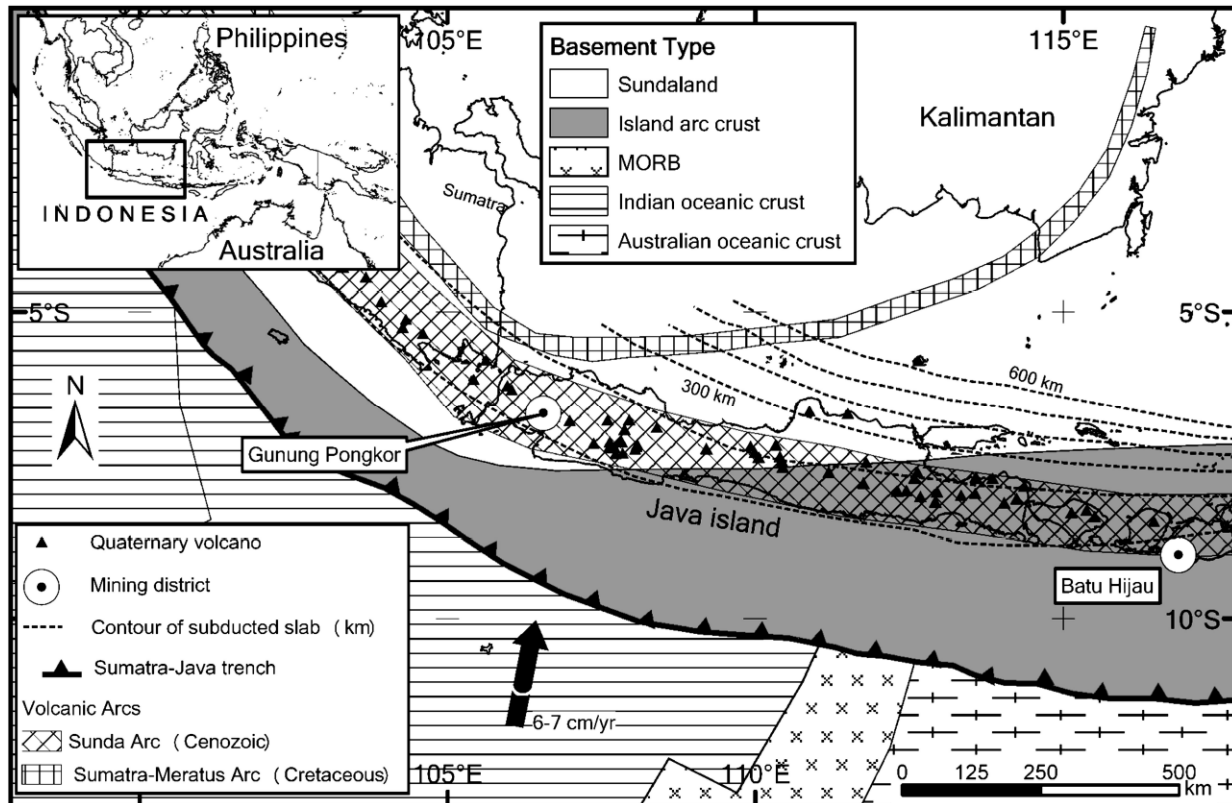


Figure III.1.3. Java basement terranes: Sundaland continental crust in West, island arc- accretionary and possibly oceanic crust in the East (Setijadji et al. 2006). A SW-NE line across the Java Sea marks the SE limit of Cretaceous granites, as identified by Hamilton (1979) (here called Sumatra- Meratus arc).

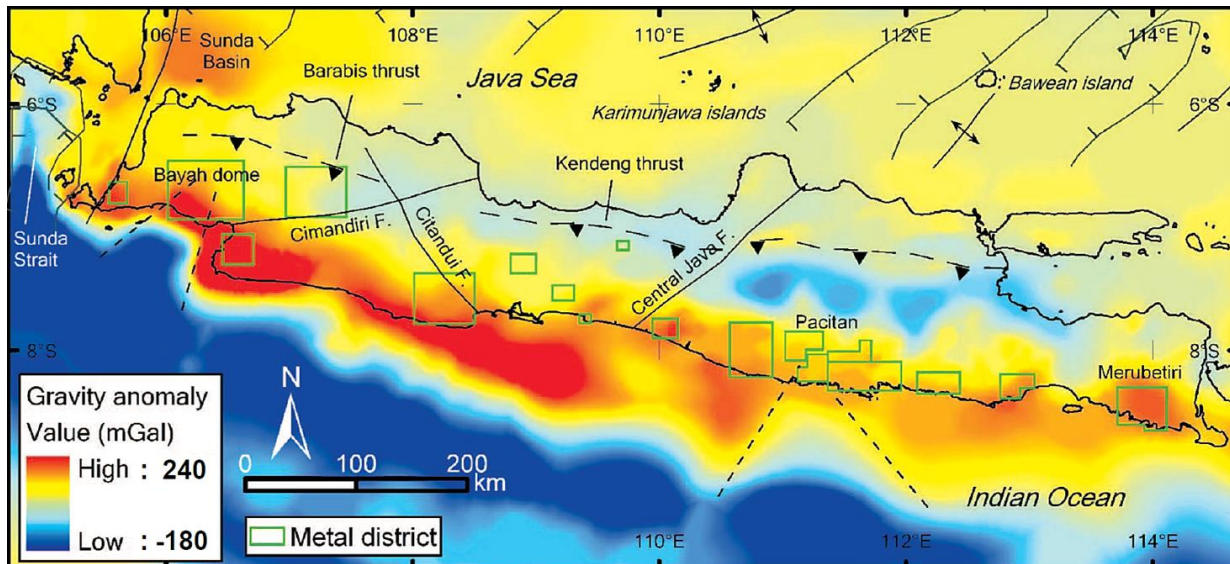


Figure III.1.4. Java Regional gravity map, main faults and important mineral districts (green) (Setijadji et al. 2006). Gravity highs in red along the south coast, reflect the Oligocene- Early Miocene 'Old Andesites' volcanic arc of the Southern Mountains, which is located South of the modern arc. Blue low gravity zones of northern Java are the Neogene lows of the Bogor Trough- Kendeng zone.

Outcrops of pre-Middle Eocene 'basement' are found in only three relatively small areas: in Luk Ulo/ Karangsambung and Bayat/ Jiwo Hills in Central Java, along the North side of the Southern Mountains (Figure III.1.5; Prasetydi et al. 2002, 2005, 2006) and the Ciletuh High of SW Java (numerous papers in the Bibliography).

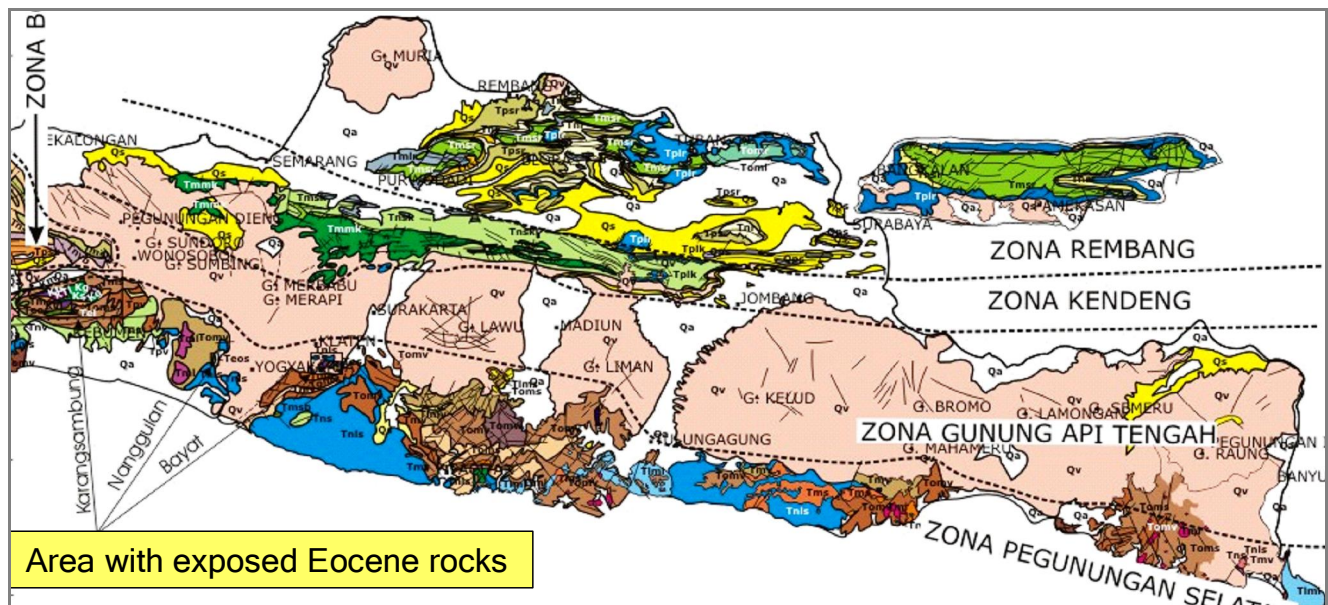


Figure III.1.5. East Java main structural domains, from South to North: Southern Mountains, Volcanic arc, Kendeng zone and Rembang zone (Prasetydi et al., 2005, after Van Bemmelen, 1949).

Southern Mountains

The Southern Mountains of Java are essentially the eroded remnants of the Oligocene- Early Miocene 'Old Andesites' volcanic arc, that is overlain by an extensive carbonate platform (Wonosari Limestone) of mainly Middle Miocene age (Figure III.1.6). Much of this zone was recently uplifted and tilted to the South.

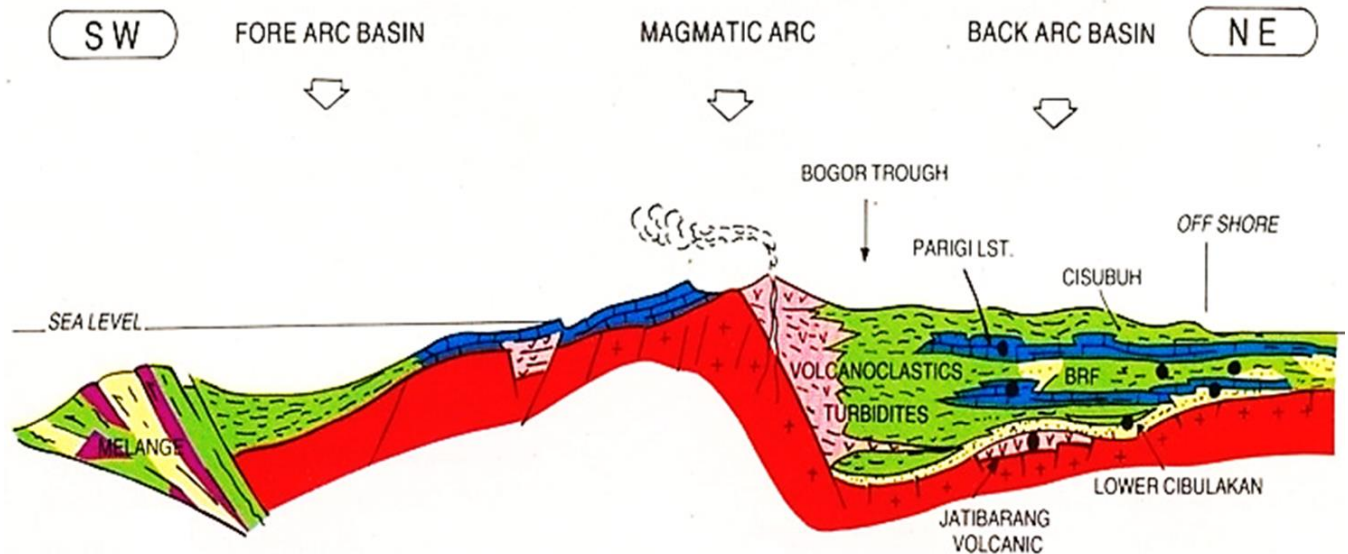


Figure III.1.6. Diagrammatic SSW-NNE cross-section across West Java. From South to North Sunda Trench/ accretionary prism, offshore forearc basin, Southern Mountains Paleogene arc and Neogene carbonate platform, active volcanic arc, and a back-arc basin that is shallowing and thinning to the North (from Pertamina 1996).

Mineral deposits

The Southern Mountains and the active volcanic belt of West Java have yielded a number of mineral deposits. In West Java these are mainly moderate-size epithermal gold-silver deposits, formed in Plio-Pleistocene, and hosted in Oligo-Miocene 'Old Andesites' (Pongkor, Cikotok, Cikadang, Cirotan, Cibaliung, Arinem, etc.).

Some larger porphyry Cu-Au deposits are associated with Late Miocene- Pliocene (~4-5 Ma) dioritic-tonalitic intrusive complexes are present at the SE-most tip of Java (Tujuh Bukit district; Norris et al. 2011, Rohrlach 2011, Harrison et al. 2018). These look like the west-ward extension of the trend of large porphyry systems of Sumbawa (Batu Hijau, Elang) and Lombok (Selodong).

South Java forearc

The offshore forearc area of Java shows the classic configuration of, from South to North (Figure III.1.7; Moore 1982):

- Indian Ocean floor that is subducting at an >5km deep trench (here relatively old, at ~130 Ma),
- an accretionary prism of North-dipping imbricated sediments;
- an extensive deep water forearc basin with several kilometers of sediment fill.
- upper plate continental crust, overlain by thin ?Miocene-Recent sediments

The nature of the South Java continental margin is poorly known. Only two wells were drilled in the Central Java offshore in the early 1970's, both of which drilled a 'Southern Mountains'-type section with Early-Middle Miocene carbonates underlain by pre-Miocene volcanic agglomerates and basalt (Bolliger and De Ruiter 1975).

In the eastern part of the Java forearc seismic data suggest an area of relatively thick, block-faulted, parallel-bedded sediments with a seismic character that is reminiscent of the Mesozoic of the Australian NW Shelf, and possibly represents a fragment of the northern Gondwana margin ('Argo Land?') (Deighton et al. 2010, 2011).

South of East Java, the Sunda Trench and accretionary prism show a northward displacement of ~40 km, which reflects the ongoing collision of the Roo Rise oceanic plateau in this sector (Figure III.1.7a) (see also Shulgin et al. 2011).

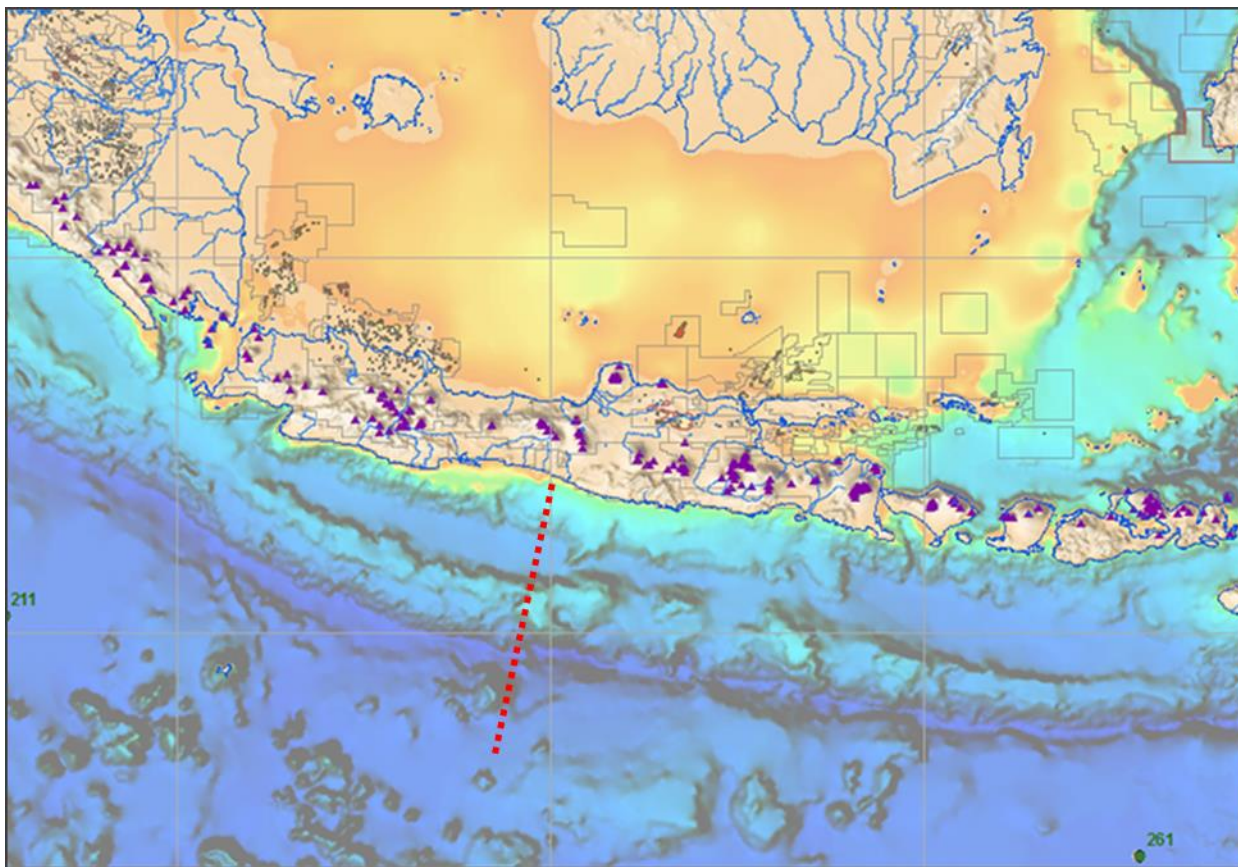


Figure III.1.7a. Bathymetry of the South Java forearc area, with location of cross-section of Figure 7b. Note the northward indentation of the deep Sunda Trench and accretionary prism South of East Java, due to the ongoing collision of the Roo Rise oceanic plateau.

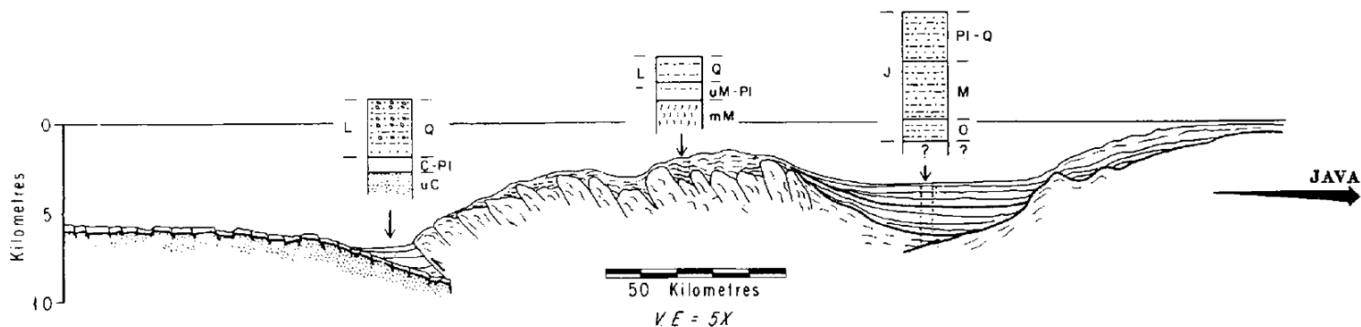


Figure III.1.7b. Schematic South-to-North cross-section across the Sunda forearc region off Central Java, showing subducting Indian Ocean floor, >5km deep trench, accretionary prism of North-dipping imbricated sediments and the main forearc basin (Moore 1982).

'Backarc basins' of northern Java

As shown on the gravity map of Figure III.1.4. Blue low gravity zones form an E-W trending belt of Neogene lows North of the volcanic arc, the Bogor Trough and Kendeng zone, which are filled with thick predominantly deep marine Oligocene- Miocene sediments with high component of volcanic detritus.

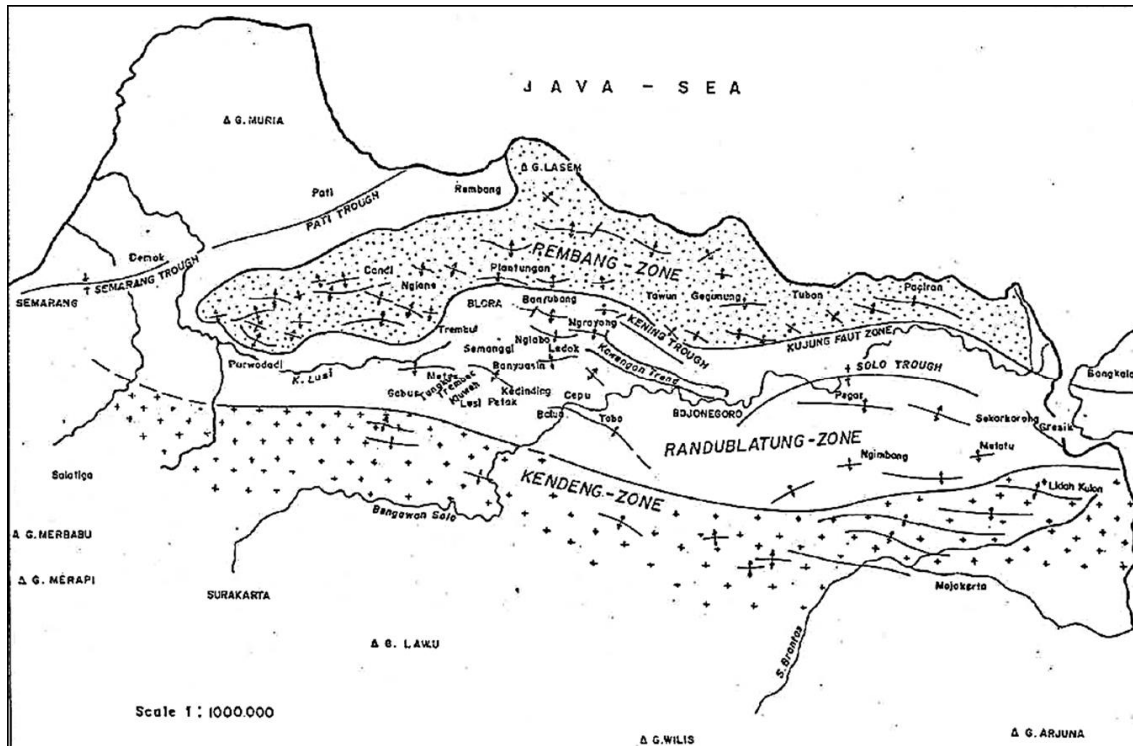


Figure III.1.8. NE Java basin, with three tectonic-stratigraphic belts (Kendeng, Randublatung, Rembang). Most of the surface anticlines are of Plio-Pleistocene age and are inversion structures above Paleogene normal faults (Musliki 1991)

These basins are generally viewed as backarc extensional basins. Another suggestion for the formation of the Bogor- Kendeng basins is flexural loading by the weight of the active volcanic arc (Smyth 2005, Hall and Smyth 2008, Waltham et al. 2008).

The northern Java basins have all undergone very young compressional and strike-slip deformation (Figure III.1.8; see also see below).

Plio-Pleistocene compression

Young anticlinal structures are common across Java, similar to many other parts of Sundaland. Some, or possibly most, are inversions of older (Paleogene?) normal faults.

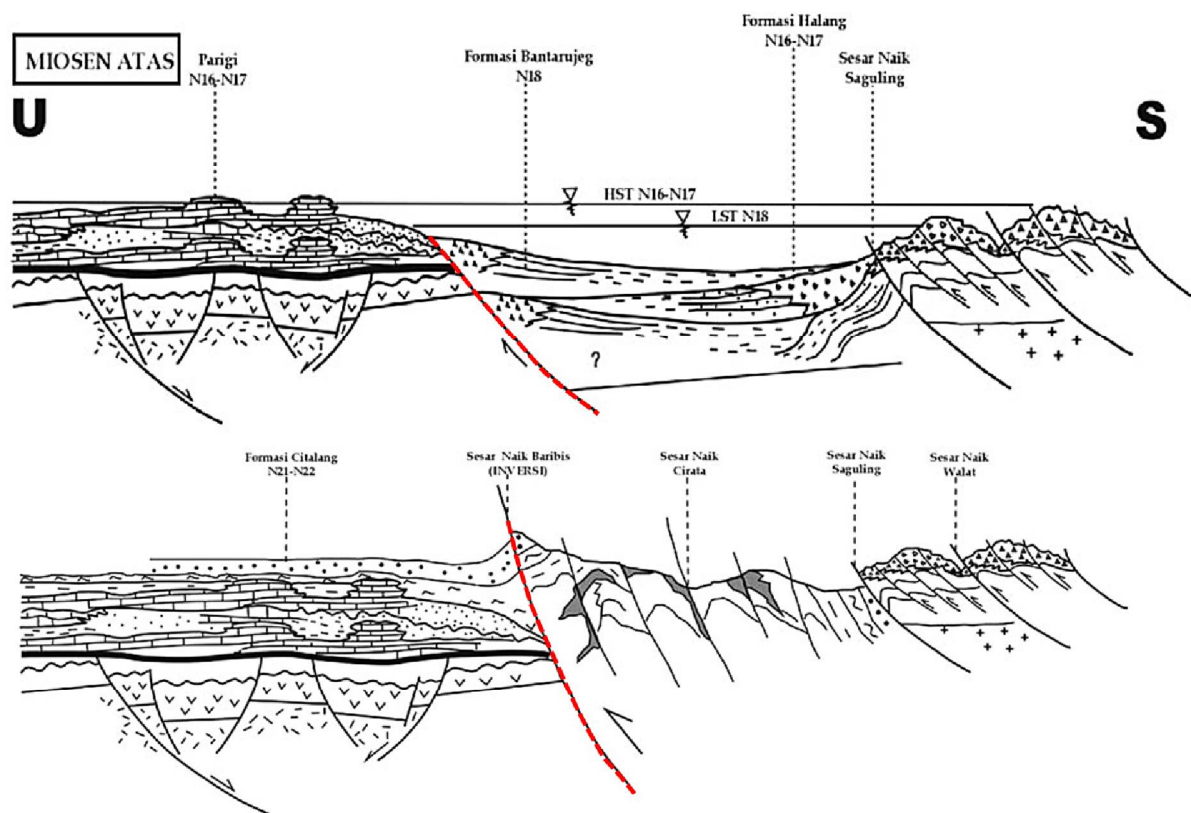


Figure III.1.9. N-S cross-section across West Java, in Late Miocene (top) and today (base). Top figure shows Baribis fault (red) as normal fault representing the north margin of Bogor Trough in Oligocene- Pliocene, separating shelfal sedimentation with carbonates in North from deep marine turbiditic sedimentation in central trough. Lower figure shows young (Pleistocene?) inversion (Armandita et al. 2002).

A particularly conspicuous example of inversion in the backarc region is the young, E-W trending Baribis-Kendeng North-directed thrust system, which probably continues East all the way across South Madura Straits to the Flores Sea. (Simandjuntak 1995, Armandita et al. 2002, Haryanto et al. 2002, Clements et al. 2009).

The young frontal thrusts of the Baribis- Kendeng system appear to be inversions of the boundary of an Oligo-Miocene extensional domain, separating an Oligocene- Pliocene shelfal domain with widespread limestone deposition in the North from a deep marine trough with thick turbiditic sediments in the South (Bogor Trough-Kendeng zone) (Figure II.1.9). The inversion is quite young, and earthquake activity suggests it is still active today (Natiwidjaya et al. 2016, 2017).

Emergence of Java island

Present-day Java island is very young feature, which formed mainly since the Plio-Pleistocene. Before that it was mainly a series of isolated island arc volcanoes and possibly also some basement highs, surrounded by marine areas. The current island formed by a combination of renewed arc volcanism, tectonic uplift episode with North-vergent Plio-Pleistocene compressional structures North of the modern arc (Baribis fault, Kendeng zone, etc.) and ongoing rapid North-ward shoreline progradation towards the Java Sea, driven by erosional products mainly from the volcanic arc and Southern Mountains.

Latest Pliocene- Early Pleistocene is therefore the first time when land mammals from SE Asia migrated into the Central and East Java areas, at first as typical low diversity 'island fauna' with good swimmers, then as more diverse assemblages, including *Homo erectus* (e.g. papers by Von Koenigswald, Aziz, Bartstra, De Vos, Huffman, Sondaar, etc.)

Northward movement of Java Southern Mountains?

Paleomagnetic work on Late Cretaceous- Miocene 'Old Andesites' of the Southern Mountains suggest a significant Northward shift of the Southern Mountains of Central Java (Mahfi 1984, Bijaksana et al. 2003, Ngkoimani 2005, 2006, Sunardi 2010) (Figure III.1.10).

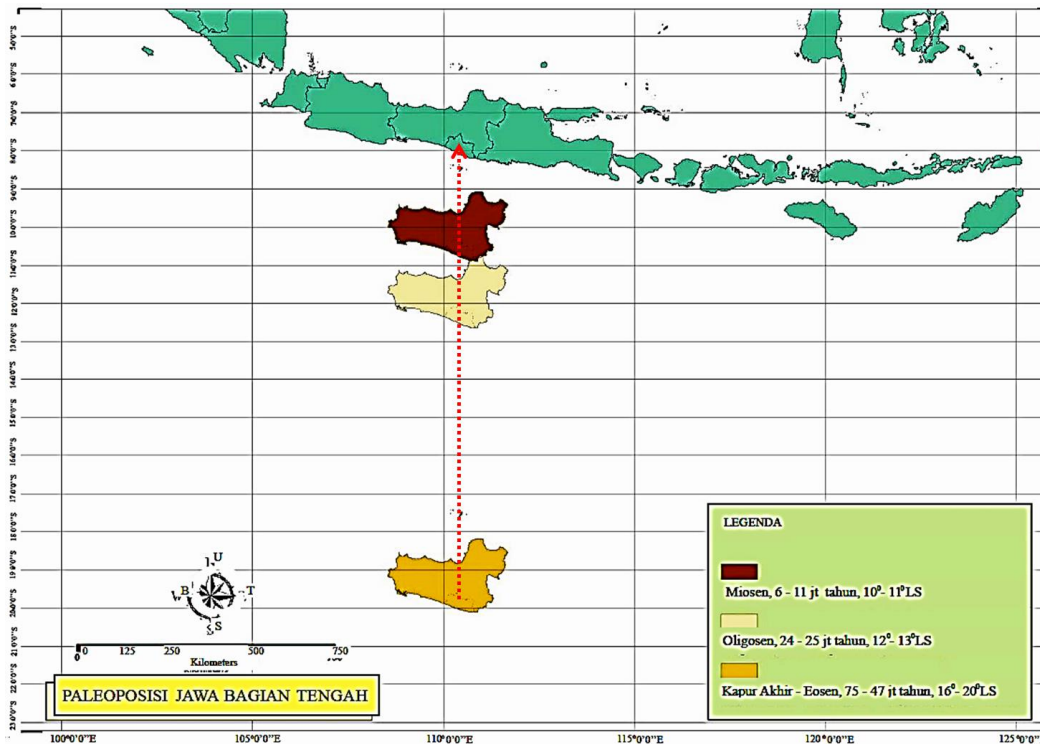


Figure III.1.10. Proposed northerly movement of the south Central Java area from $\sim 20^{\circ}\text{S}$ in Late Cretaceous (75 Ma) to $12^{\circ}\text{-}13^{\circ}\text{S}$ in Latest Oligocene (25 Ma) to 8°S today (Sunardi 2010).

Oil and Gas

Oil and gas seeps have been known for a long time in East, Central and West Java, and Java was therefore one of the first areas to attract oil exploration drilling in the late 1800's. It is still an important producing region.

Descriptions of oil and gas seeps started to appear in the literature by the 1850's (Junghuhn 1854, Von Baumhauer 1869). The first shallow oil exploration well was drilled in 1871, at an oil seep near Cirebon in Central Java. The first discovery was the Kuti Field in 1888, near Surabaya, NE Java. This was followed by many other discoveries in the Cepu area at Kawengan (1892) and Ledok (1893). Exploration activity and oil production already started to decline in the 1920's.

NW Java basin

NW Java has been an area of oil and gas discoveries since the late 1960's, mainly in the near-offshore. Like on Sumatra, all oil and gas fields are above, or within migration distance of the main Oligocene rift sub-basins with lacustrine and coaly source rocks (Arjuna, Asri and Sunda basins). The rift basins are flanked by N-S trending normal faults, a pattern that is continuous from the offshore to the onshore parts of the basin. (Figures III.1.11, III.1.12).

Oil and gas fields of the NW Java basin are closely associated with mature source kitchens in these sub-basins (Noble et al. 1997). The main reservoirs basin are fluvial- deltaic sandstones of the Late Oligocene- Early Miocene Talang Akar/ Cibulakan Formation and Early Miocene Baturaja limestones.

The southern part of the offshore Arjuna basin continues into the onshore, but rapidly deepens towards a young thrust belt and contains mainly small gas discoveries.

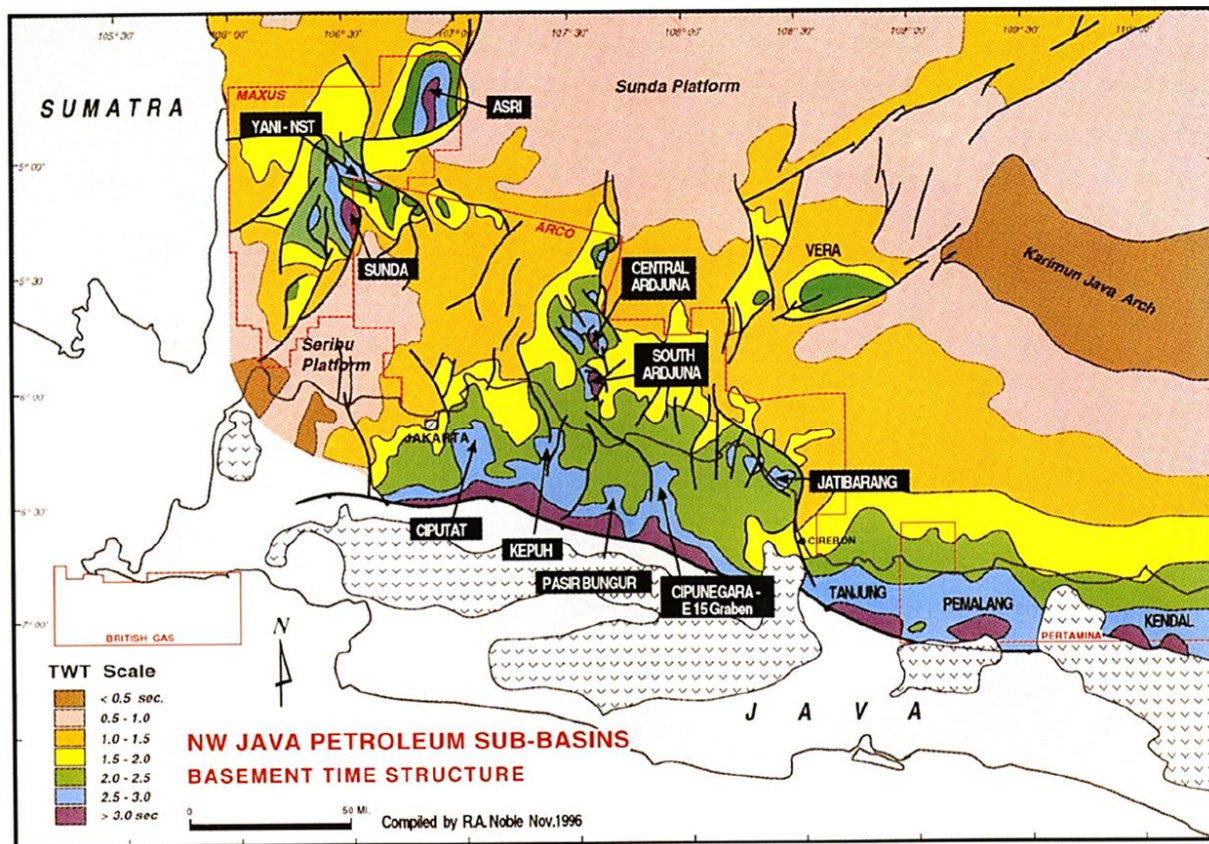


Figure III.1.11. The NW Java basin is composed of several N-S trending sub-basins (Sunda, Asri, Arjuna). Oil and gas fields are closely associated with mature source kitchens in these sub-basins (Noble et al. 1997).

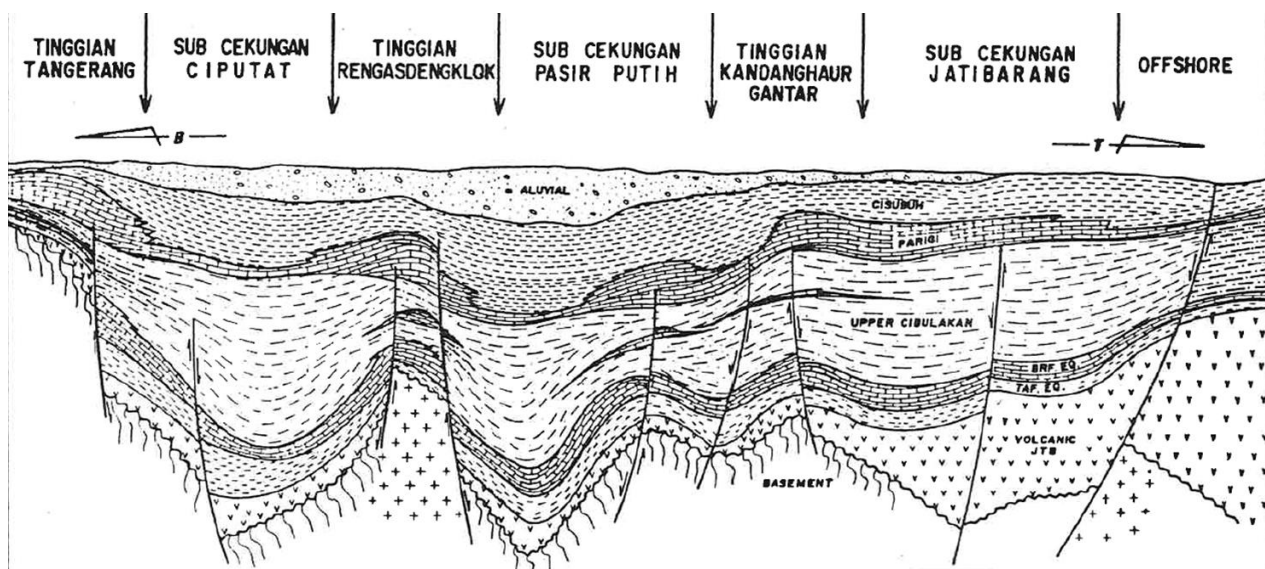


Figure III.1.12. W-E cross-section of the onshore NW Java Cenozoic rift basin (Supriyanto and Ibrahim, 1993).

NE Java basin

The traditional plays in the onshore NE Java basin since the late 1800's were in Middle Miocene- Pliocene sands and *Globigerina* calcarenites in Plio-Pleistocene surface anticlines.

Only since the 1990's did the oil industry become aware of a more significant deeper play in the onshore NE Java basin, i.e. large Oligocene- Early Miocene reefal buildups. This play extends from the Cepu High area (Banyu Urip 2001, Sukowati 2001, Mudi, Jambaran 2001, etc. fields) to the NE (Madura Platform Pangkah, Bukit Tua fields) and East (Madura Straits BD gas field 1987) (Figure II.1.13).

The Oligocene- Early Miocene carbonates were deposited on ENE-WSW and NE-SW horsts and grabens, that formed in Eocene- Oligocene time. The extension follows the structural grain of the (Upper) Cretaceous forearc and accretionary terranes outboard of the Cretaceous volcanic arc, which extends SW-wards from the Meratus Range in SE Kalimantan to NW Java (e.g. Katili 1975).

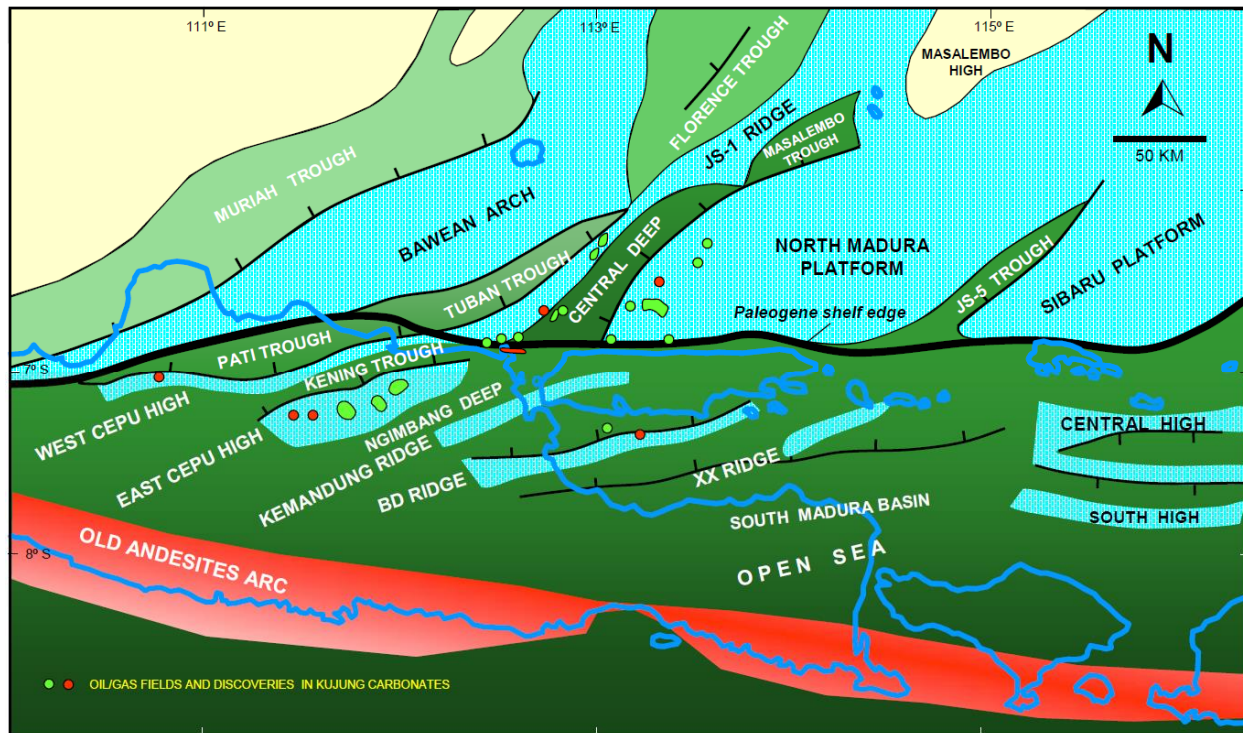


Figure III.1.13. The onshore NE Java basin and adjacent Java Sea are underlain by a Paleogene ENE-WSW and NE-SW horst and graben pattern. Oligocene- Early Miocene carbonate buildups formed on the highs and some of these are oil (green) and gas (red) fields (Satyana 2005)

The Java Sea north of East Java- Madura has some small oil and gas discoveries, but, despite the widespread distribution of Oligo-Miocene carbonate and clastic reservoir rocks, hydrocarbon exploration results in this area have generally been disappointing.

South Java forearc

The Java forearc zone has not been successful for hydrocarbons. Surface seeps are not known (except in the Banyumas area of Central Java) and the limited number of wells drilled there were dry. Traditional wisdom blames this on the absence of Eo-Oligocene rift systems, relatively thin Miocene- Recent sediment cover and unusually low geothermal gradients. The 'discovery' of a possible Mesozoic sediments series in parts of the Java forearc (Deighton et al. 2011) may change this convention.

Coal

Although coal horizons are known from multiple Cenozoic stratigraphic horizons on Java, there are no commercial Cenozoic coal deposits (unlike Sumatra, SE Kalimantan). Only a few small-scale, artisanal coal mining operations existed in the Eocene coals of Bayat in SW Java and the Middle Miocene Ngrayong Fm at the West end of the Rembang zone in NE Java (figure III.1.14).

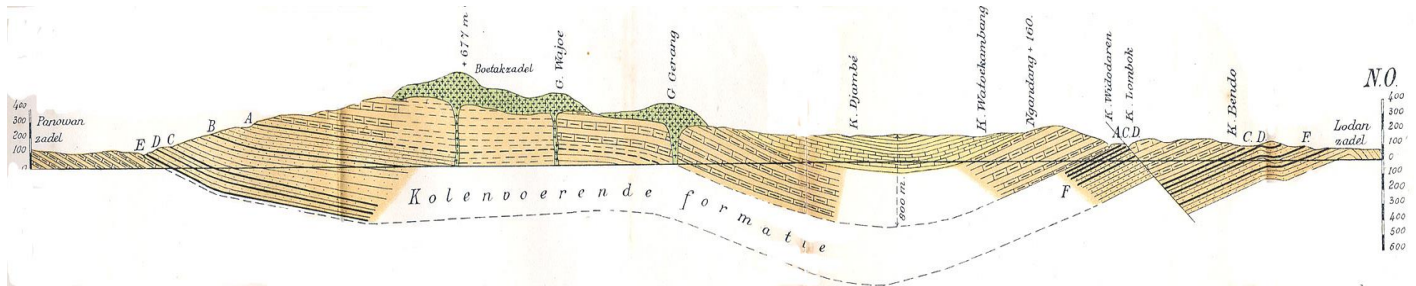


Figure III.1.14 S-WSW-NE cross-section across Middle Miocene coal-bearing clastics of the Ngrayong Formation in the West W Rembang zone, NE Java (T Hoen 1918).

Java has also been a focus area of numerous studies on volcanoes and on Pleistocene mammals and hominids. For more on this see chapters III.2 and X.6.

Finally, buy this book:

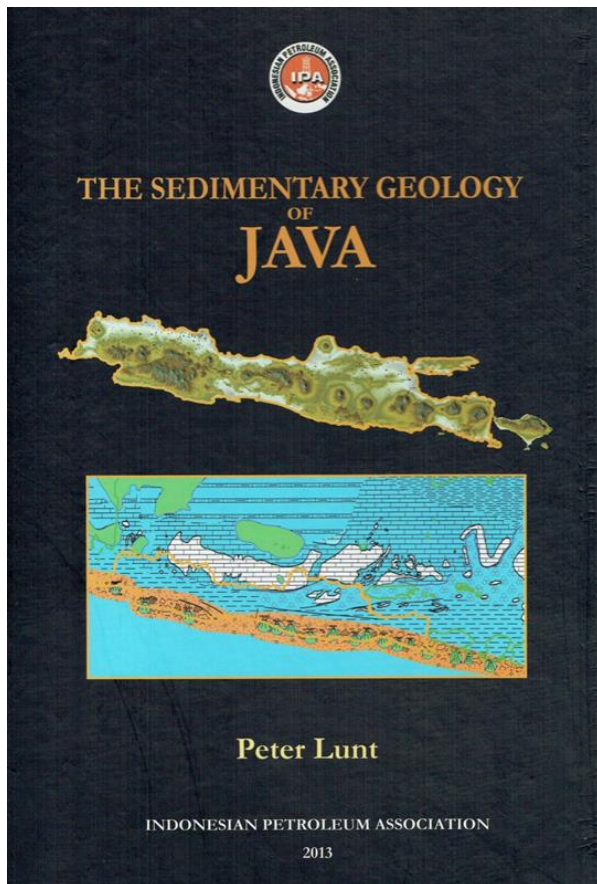


Figure III.1.15. The recent book by Peter Lunt (2013) 'The sedimentary geology of Java' (IPA Special Publication, 340 p.) is the most important text on Java island since Verbeek and Fennema (1896) and Van Bemmelen (1949); a must-read for all working with sedimentary rocks of Java!

Some suggested reading- Java (a very incomplete listing of relevant papers)

- General, Historic: *Junghuhn 1854, Martin 1891, Verbeek and Fennema 1896, Van Bemmelen 1949, Lunt 2013*
- Tectonics: *Van Bemmelen 1949, Sujanto and Sumantri 1977, Chotin et al. 1980, 1984, Dardji Noeradi et al. 1994, Soenandar 1997, Armandita et al. 2002, Sribudiyani et al. 2003, Satyana et al. 2004, Satyana 2005, 2006, 2007, Clements and Hall 2007, 2008, Hall et al. 2007, Clements et al. 2009, Seubert and Sulistianingsih 2008, Granath et al. 2010, 2011, Lunt 2013*
- Cenozoic Stratigraphy: *Paltrinieri et al. 1976, Suyanto and Sumantri 1977, Baumann 1982, Harsono Pringgoprawiro 1983, Lunt 2013*
- Pre-Tertiary: *Bothe 1929, Harloff 1929, Tjia 1966, Ketner et al. 1976, Suparka and Soeria-Atmadja 1991, Wakita et al. 1991, 1994, Harsolumakso and Noeradi 1996, Miyazaki et al. 1998, Parkinson et al. 1998, Prasetyadi et al. 2002-2006, Kadarusman et al. 2007, 2010*
- Java Volcanism: *Bellon et al. 1989, Leterrier et al. 1990, Soeria-Atmadja et al. 1988, 2004, Soeria-Atmadja and Noeradi 2005, Bronto et al. 2005, 2009, 2010, Smyth et al. 2006, 2007, 2008, 2011*
- Hydrocarbons NW Java: *Arpandi and Sujitno 1975, Burbury 1977, Soullisa and Sujanto 1979, Molina 1985, Wight et al. 1986, 1997, Ponto et al. 1989, Yaman et al. 1991, Aldrich et al. 1995, Gresko et al. 1995, Wight 1995, Noble et al. 1997, Nugrahanto. and Noble 1997*
- Hydrocarbons NE Java: *Weeda 1958, Soetantri et al. 1973, Soeparyono and. Lennox 1989, Ardhana et al. 1993, Schiller et al. 1994, Willumsen and Schiller 1994, Cole and Crittenden 1997, Kusumastuti et al. 2000, 2002, Satyana and Darwis 2001, Purwaningsih et al. 2002, Satyana 2002, Satyana and Purwaningsih 2002, 2003, Triyana et al. 2007, White et al. 2007, Van Simaeyns et al. 2011, Ahdyar et al. 2017*
- Hydrocarbons Java Sea: *Kenyon 1977, Phillips et al. (1991, Matthews and Bransden 1995, Reynolds 1995, Kaldi et al. 1999, Mudjiono and Pireno 2002, Johansen 2003, 2005, Carter et al. 2005, Takano et al. 2008*
- South Java forearc: *Bolliger and De Ruiter 1975, Lehner et al. 1983, Masson et al. 1990, Kopp et al. 2002, Schluter et al. 2002, Yulianto et al. 2007, Shulgin et al. 2011, Deighton et al. 2011*
- West Java Gold: *Marcoux et al. 1993, 1996, Marcoux and Milesi 1994, Milesi et al. 1994, 1999.*

III.2. Java Sea (incl. Sunda Basin, offshore NW Java basin)

This sub-chapter III.2 of Bibliography 7.0 contains 258 papers on the geology of the Java Sea area. Most of these are related to oil and gas exploration and fields, with numerous papers on the geology and hydrocarbon occurrences of the Sunda and NW Java Basin (offshore and onshore), where major hydrocarbon plays developed in fluvio-deltaic sandstones of the Late Oligocene Talang Akar/ Lower Cibulakan Formation and carbonates of the Early- Middle Miocene Baturaja/ Upper Cibulakan Formation.

Except for a few islands like Bawean, the knowledge of the Java Sea region is entirely from subsurface studies, with data primarily generated by the petroleum industry. Much of this data remains largely unpublished or hard to access.

As already noted by Hamilton (1979), Cenozoic structures and stratigraphy are quite different between the Western and Eastern parts of the Java Sea, and that this is probably controlled by underlying basement. A NE-SW line separates an area of typical Sundaland-type Cretaceous and older continental crust to the NW from an area underlain by Cretaceous melange and accreted terranes to the SE (Figure III.2.1).

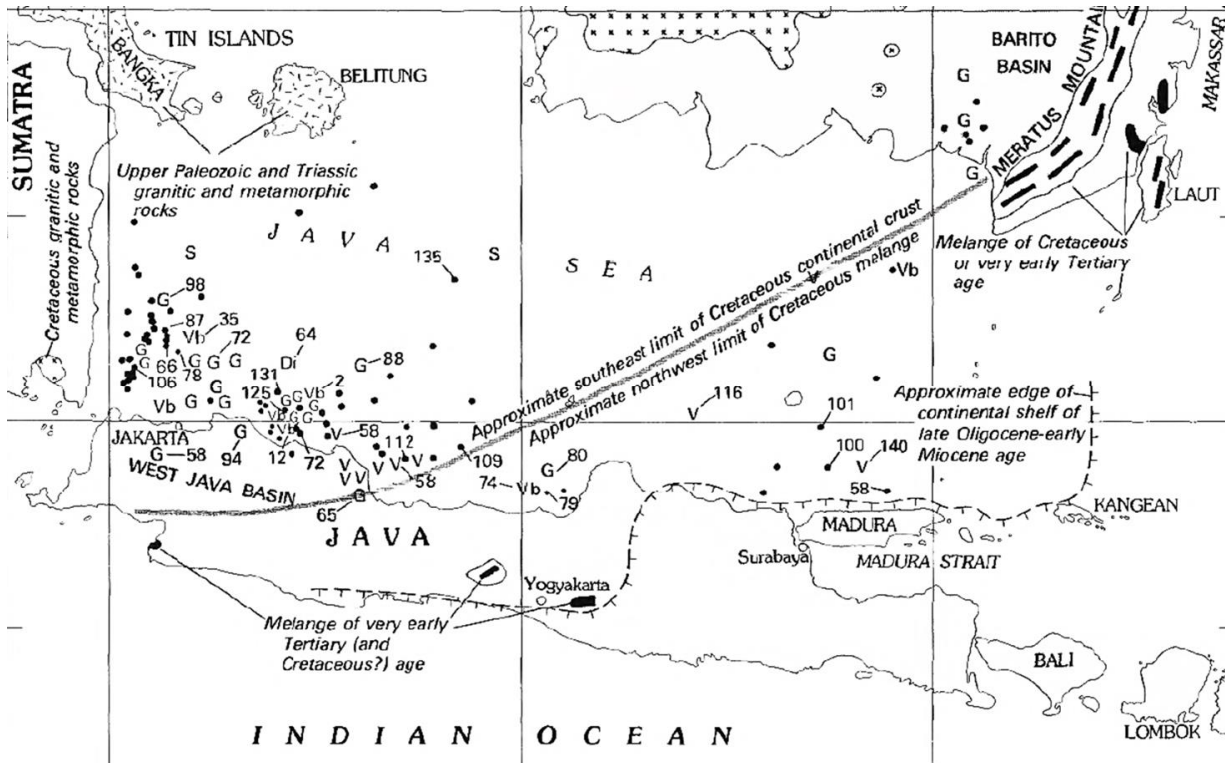


Figure III.2.1. Java Sea area with (1) basement penetrations of granites (G) and volcanics (V), with Cretaceous radiometric ages (2) locations of outcrops of Cretaceous-Eocene melange onshore Java (Ciletuh, Luk Ulo, Bayat) and (3) a NE-SW line that separates Cretaceous continental crust in NW from Cretaceous melange and volcanics in SE (Hamilton 1979).

Most of the western Java Sea is underlain by 'Sundaland-type' Pretertiary continental crust, with common metamorphic rocks and Cretaceous granites. Like other parts of Sundaland it underwent Eocene- Oligocene extension, forming intra-continental rift basins, often oriented as N-S oriented rifts. Eocene- Oligocene sediments are dominantly fluvial- deltaic, and the widespread marine flooding of the post-rift phase did not happen until Early Miocene time Late Oligocene time.

The NW Java and Sunda rift basins in the western Java Sea are mainly half-grabens with prominent N-S trending normal faults, a pattern identical to other Sundaland basins across Sumatra and towards the Gulf of Thailand. These basins are in 'back-arc' position today, but the major fault orientations are at high angles to the volcanic arc, suggesting these do not reflect typical subduction-driven backarc extension. In contrast, the Eastern Java Sea shows mainly NE-SW oriented Paleogene extensional structures, and which Late Eocene-Recent sediments predominantly in marine facies.

III.3. Java - Quaternary Volcanism

This sub-chapter III.3 in Bibliography 7.0 contains >300 references on Quaternary volcanism on Java, focusing on geology and compositions of volcanic products, and not including papers on eruption histories or volcanic hazards. There does not appear to be a modern synthesis paper or book on the history and characteristics of volcanism on Java.

The morphology of Java today is dominated by the active volcanic arc and is part of the much longer Sunda Banda Arc system

Volcanic arcs form above subducting oceanic slabs, generally where the Wadati-Benioff zone reaches a depth of ~100km (England et al. 2004). On Java this depth below the active volcanoes varies along strike, from an average of 90 km above the subducting Indian Ocean plate in West Java, to ~150km depth in Central and East Java, East of 108°E (Syracuse and Abers 2006). This may be related to the gradual increase in age of the subducting Indian Ocean plate in eastern direction.

Large active volcanoes tend to reach an altitude of ~3000m (some up to 3800m). Especially in East Java the active volcanic centers are quite regularly spaced at ~70-80 km apart (Figures III.3.1, III.3.2)

For additional discussion see also the introduction to chapter I.3 on regional volcanism.

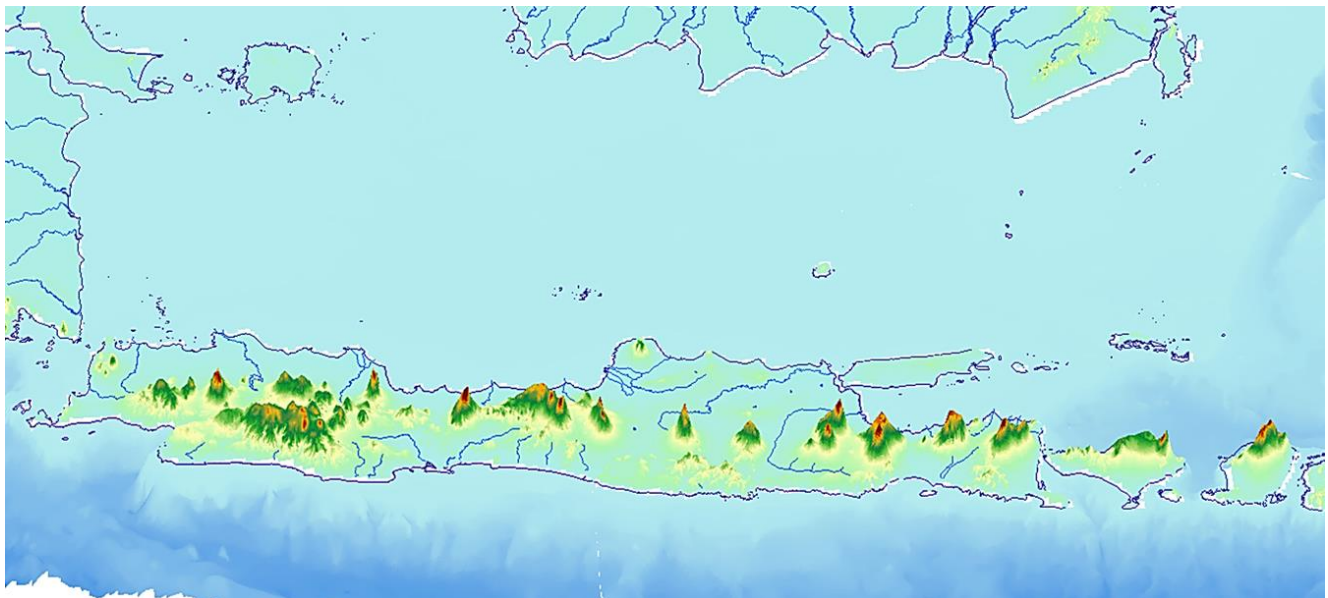


Figure III.3.1. Volcanoes of Java are part of the active Sunda Arc, where large active volcanic centers tend to be spaced at ~70-80 km apart.

Volcanic Arcs

At least two parallel Cenozoic volcanic arc systems can be distinguished on Java, separated in space by >50km and time by ~20 million years (e.g. Figures III.1.2, III.1.3):

1. Modern volcanic arc, forming the present-day backbone of Java. It is a series of young active typical calc-alkaline volcanoes, part of the Sunda Arc;
2. Oligocene- earliest Miocene 'Old Andesites' volcanic arc of the Southern Mountains. Remnants of this eroded Late Oligocene- Early Miocene volcanic arc system are well exposed in outcrops in today's Southern Mountains of Java. They are locally thick andesitic and dacitic series, in which several eruptive centers have been identified (Bronto 2003, 2009). Radiometric ages and associated marine sediments suggest mainly latest Oligocene- earliest Miocene ages (20-25 Ma).

The >50km northward shift of the axis of arc magmatism on Java between Early Miocene and Late Pliocene-Recent Sunda Arc was probably not a continuous, gradual process. The two likely represent two separate volcanic episodes/ belts, with a temporal gap in volcanism between 11-18 Ma or longer (Bellon et al. 1989).

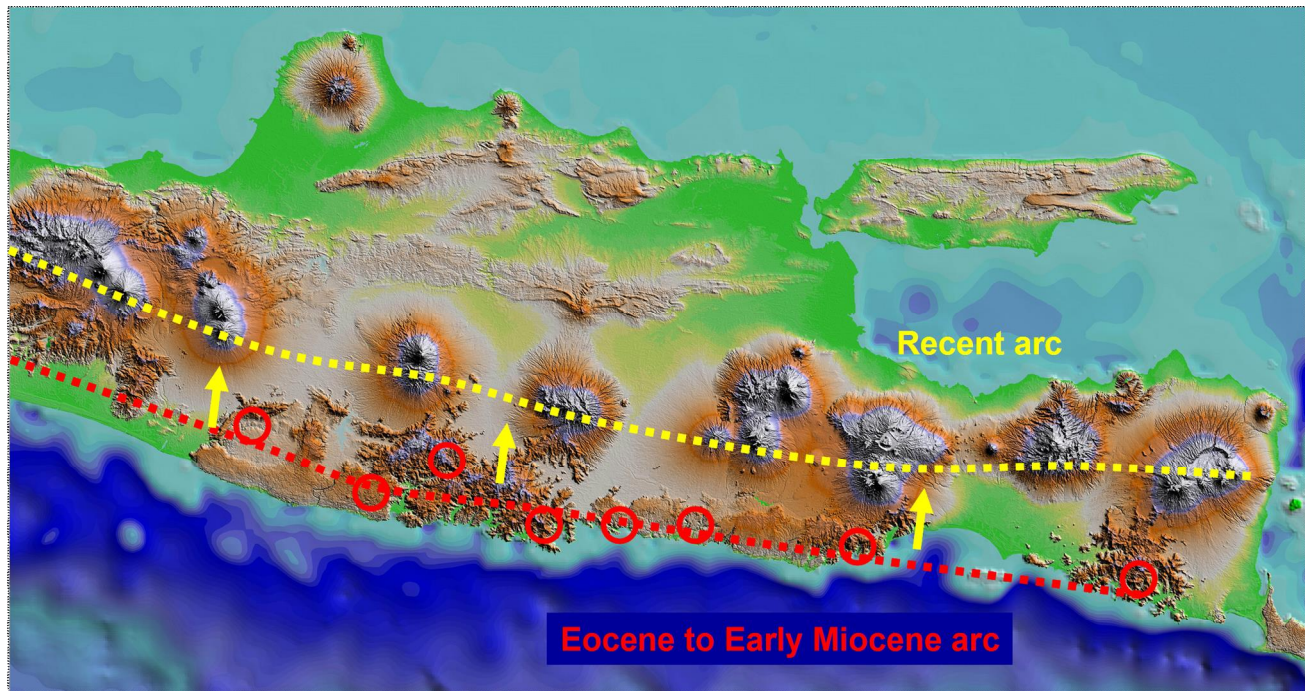


Figure III.3.2. East Java topography, showing the belt of active volcanoes (yellow line), and the Southern Mountains with locations of deeply eroded Late Oligocene- Early Miocene 'Old Andesite' arc volcanoes (red line), suggesting a ~50km northward shift of the volcanic arc during a Miocene gap in volcanism.

The Southern Mountains arc most likely was an island arc system that originated and grew in a marine setting, as witnessed by the pillow basalt flows associated with bathyal marine marls at the base of volcanic sequences (e.g. at Pendul, 33 Ma pillow basalt flows in the Jiwo Hills, Central Java, associated with bathyal marls; Bronto 2010), and deep marine interbeds with Late Oligocene- Early Miocene planktonic foraminifera in distal volcano deposits (Kebo-Butak and Semilir Formations in South Central Java; e.g. Kadar 1986, Bronto et al. 2002)

The 'Old Andesite' system went inactive in Early Miocene time, after the final 'Toba-scale' Semilir eruption at 20.7 Ma, a relatively acid eruption with common volcanic quartz (Smyth et al. 2011). Remnants of this arc were covered by a widespread late Early- Middle Miocene carbonate platform (Wonosari Limestone).

Remnant Old Andesite volcanic islands probably formed the only emergent land areas of 'proto-Java' through most of Late Eocene- Pliocene time. Most of the Java area remained a marine basin until Pleistocene time, some of it in quite deep basins (Kendeng Zone, Bogor Trough), and with Oligocene- Pliocene sedimentary successions in continuous marine facies.

The 'Old Andesite' arc system may be underlain by remnants of older volcanic arc systems, as suggested by some Early-Middle Eocene and Late Cretaceous K-Ar ages (Ngkoimani et al 2006).

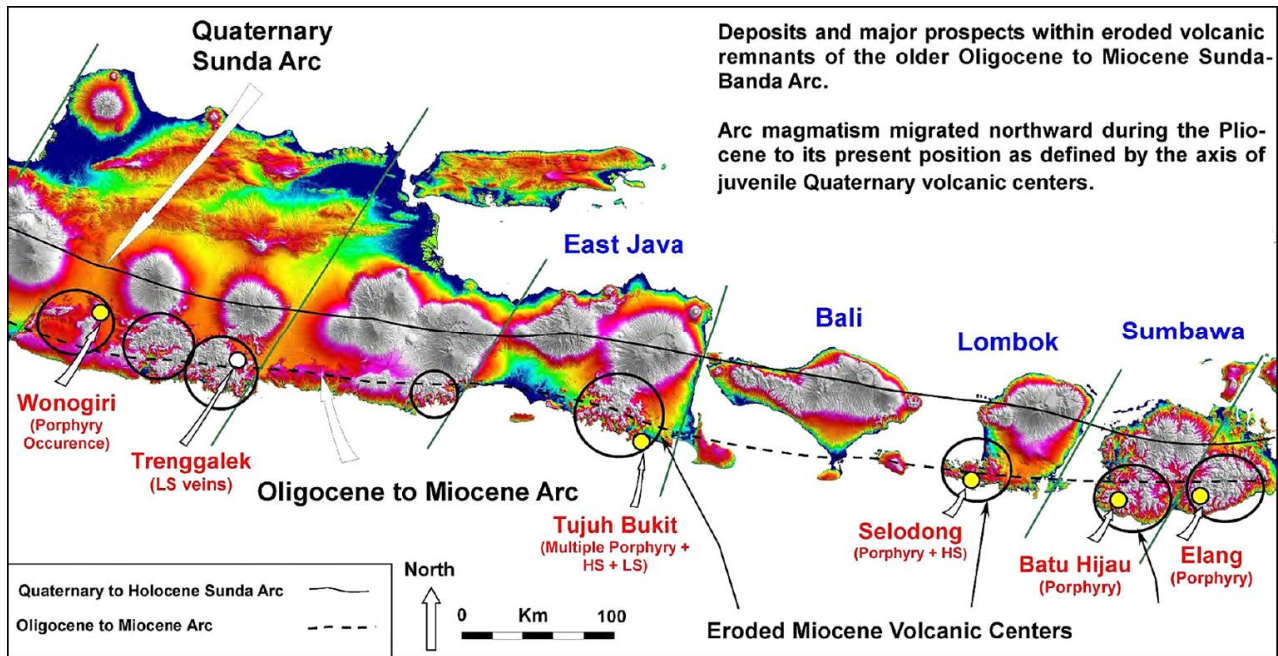


Figure III.3.3. East Java and Lesser Sunda Islands, showing (1) northern belt of active volcanoes, and (2) southern belt of Late Oligocene- Early Miocene 'Old Andesite' arc volcanoes (dashed line). Many of the deeply eroded Oligo-Miocene volcanic centers in the East Sunda Arc host porphyry copper-gold deposits (Wonogiri to Batu Hijau and Elang; Rohrlach 2011).

Recent southward migration of active volcanoes

Several of the larger volcanic complexes on Java show remarkable southward migrations in eruption centers through time, towards the subduction zone (Neumann van Padang 1936 and others). The Quaternary edifices of Slamet, Sumbing- Sundoro, Ungaran- Merbabu- Merapi, Lamongan, and Semeru all show several 10's of kilometers of southward migration (Figure I.3.4). (this is the opposite direction of the >50 km shift from the Early Miocene 'Old Andesites' volcanic arc to the modern arc).

There is no generally accepted explanation for this yet, but it probably involves slab rollback and/or some other mechanism that caused relative northward movement of the upper plate.

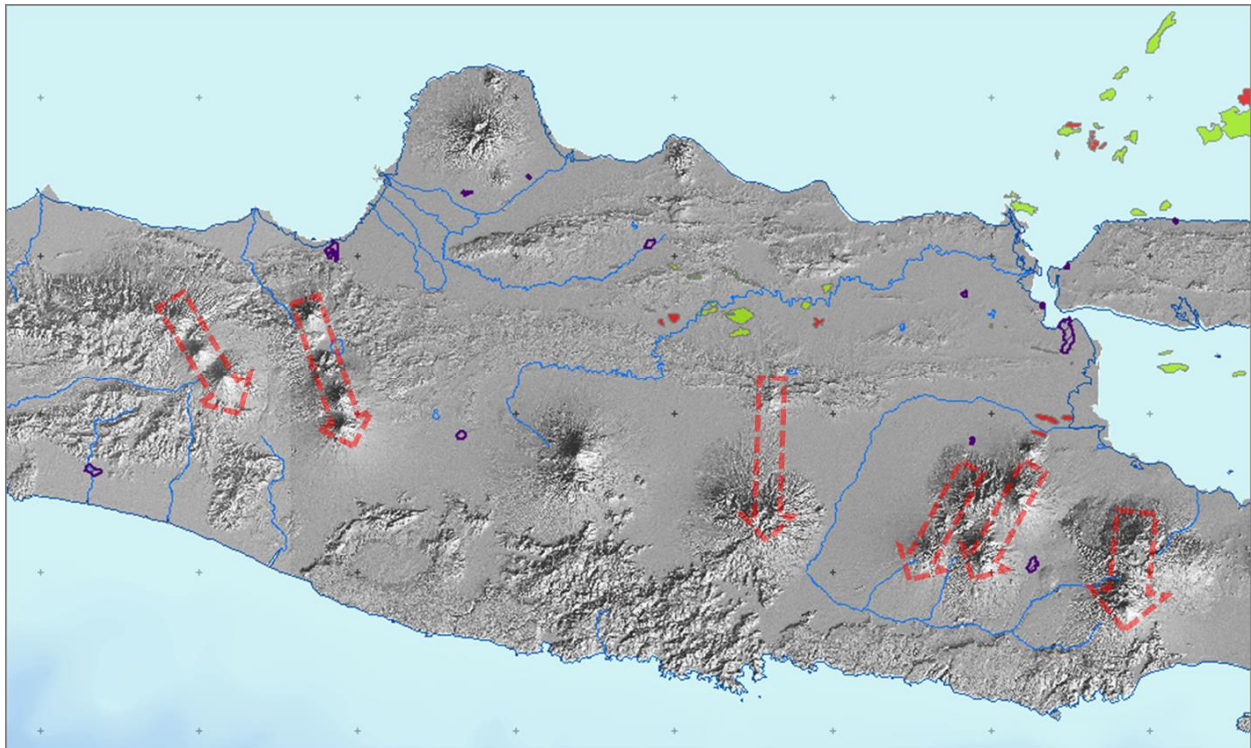


Figure III.3.4. Many of the large, active volcanic centers of Central and East Java appear to have shifted South in Recent times



Figure III.3.4. Old map of volcanoes of Central and East Java (Selenka and Blankenhorn 1911)

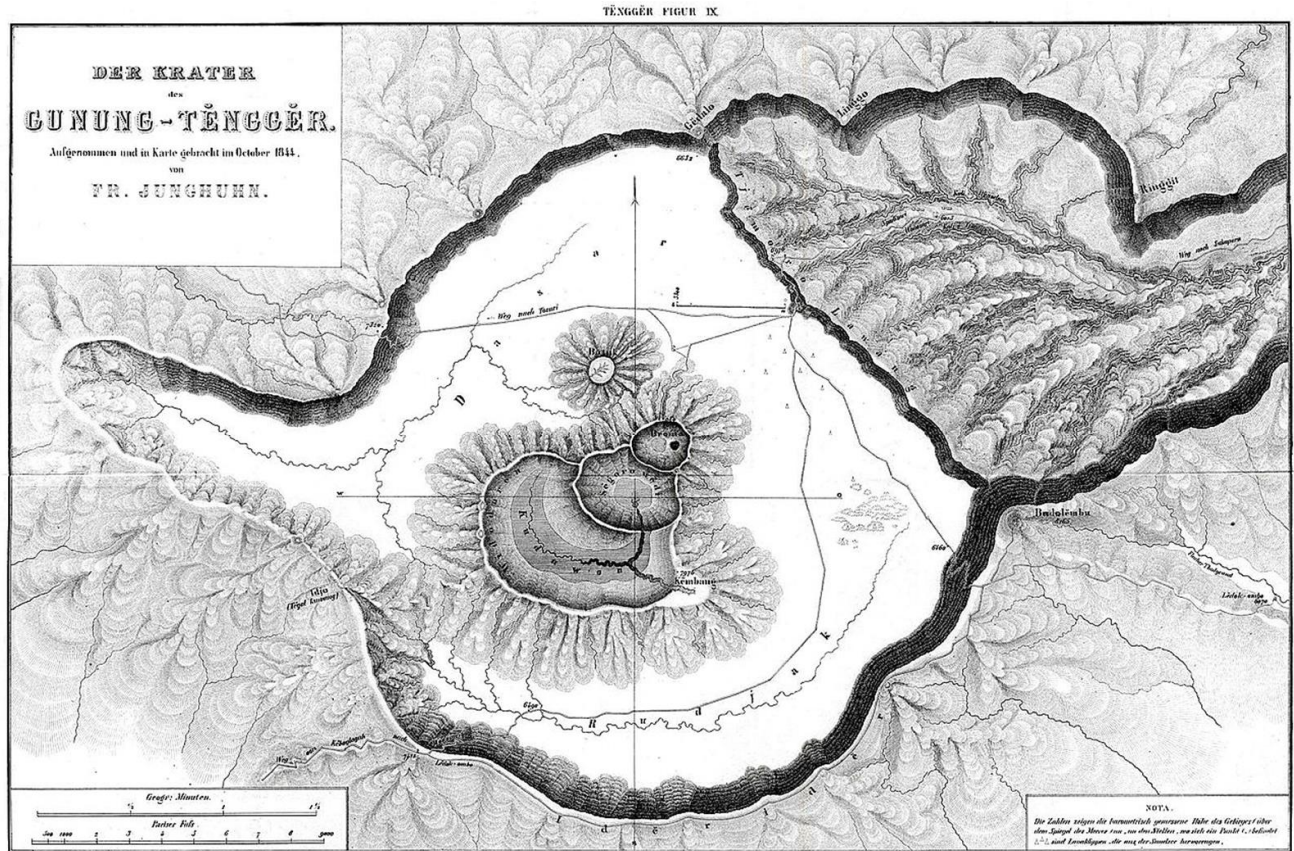


Figure III.3.5. Map of the Tengger- Bromo complex in East Java, showing the large 'sand-Sea' caldera (~10km diameter, ~2000m above sea level), and four post-caldera volcanic cones (Junghuhn 1856).

III. 4. Madura- Madura Straits.

This sub-chapter III.4 of Bibliography 7.0 contains 41 references on Madura island and Madura Straits.

Madura island is a major anticlinorium, with outcrops of folded Neogene marine clastic and carbonate sediments. It is a continuation of the Rembang zone of the NE Java basin (Figure III.1.5).

Some interpretations show Madura island as a major inversion structure of a Paleogene graben system, possibly with a wrench component (Supriyadi, 1992; Figure II.4.1).

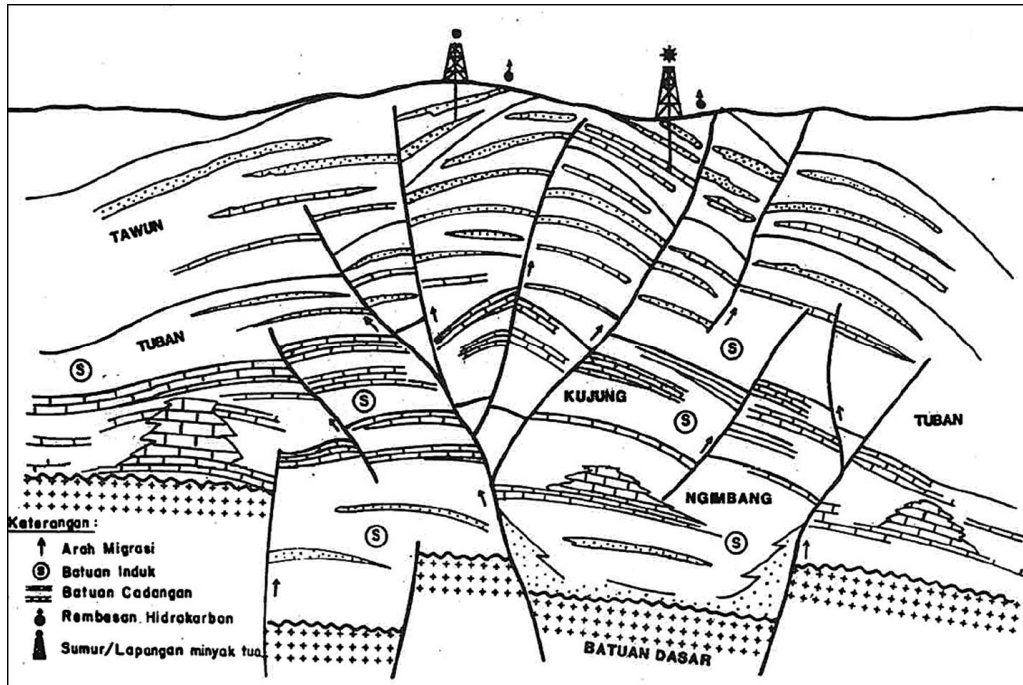


Figure III.4.1 Diagrammatic cross-section of Madura Island (Supriyadi 1992)

Despite the presence of oil and gas seeps on Madura island (Hageman 1862), none of the 23(?) wells drilled on the island encountered commercial hydrocarbon accumulations.

The offshore Madura Straits basin is an eastern continuation of the Kendeng/ Randublating zones of the NE Java basin, with a sedimentary section of marine Oligocene- Recent sediments.

Madura Straits is home to a unique hydrocarbon play, with several biogenic gas fields discovered since the late 1990's in reservoirs of Pliocene deep marine planktonic foraminifera grainstones of the Mundu and Paciran Formations (Basden et al. 1999, Sutadiwiria and Prasetyo 2006, Triyana et al. 2007, Iriska et al. 2010, Edwin et al. 2013, Arifin and Ferguson 2017). Porosities in these reservoirs is spectacular (up to 45-60%). Gas fields include Maleo, Oyong and MDA. Traps are Pleistocene anticlinal structures, likely inversions of older rifts, and the foram calcarenite reservoirs are sealed by Lidah Formation shales.

The play continues East into the Lombok Basin, North of Bali and South of Kangean (Sirasun, Terang fields; Basden et al.1999). The play probably also continues to the West, in the adjacent Kendeng zone of the onshore NE Java basin, where there probably was oil production from similar shallow *Globigerina* reservoirs in the early 1900's, but very little is known of their geology (Schiller et al. 1994).

A deeper Early Miocene reefal buildup play is present in the Madura Straits basin as well (sub-economic BD field) (Kusumastuti et al. 2002).

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(online at: <http://jurnal.unpad.ac.id/bsc/article/view/13405/pdf>)

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slump deposits and formed in slope and shelf-margin environments. Slump-scars-fill deposits have lenticular geometry, 140-480m wide and 0.4-1.6m thick. Some slump scars formed incipient seabed irregularities that may have played important role in development of slope channels)

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Miocene (N8 (with Preorbulina glomerosa)- N14). Miogypsina present in N8, Miogypsina cushmani appears at base N9. Top Miogypsina and Base Alveolinella quoyi near base N12, Lepidocyclina ruteni in N14)

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Akmaluddin, A. Kano & K. Watanabe (2009)- Paleoclimate reconstruction based on oxygen isotope composition of foraminifera in Southern Mountains area, Central Java, Indonesia. In: Proc. Int. Seminar on Geology of the Southern Mountains of Java, Yogyakarta 2009, 1, p. 97-102.

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(Oxygen isotopes study of planktonic and benthic foraminifera from Ngalang River section, S Mountains, C Java, Indonesia. Low planktonic $\delta 18O$ values indicate sea surface T in this area higher than other tropical areas during E-M Miocene, probably related to development of W Pacific Warm Pool, which moved to present-day location in W Pacific after ~10Ma, due to closure of Indonesian seaway. Low $\delta 18O$ values (warming of bottom water) of benthic foraminifera at ~18 Ma and ~12 Ma. Gradual $\delta 18O$ increase (cooling) in Late Miocene (~12 Ma) in all taxa can be correlated to global cooling and/or closing of Indonesian seaway. Decreasing of carbon $\delta 13C$ in Late Miocene likely correlates to 'carbonate crash', at ~11-10 Ma)

Akmaluddin, A.R. Perdana, A.N. Fadhillah, Z. Nadirah & A. Hafiz (2017)- Studi awal kelimpahan fosil moluska pada Formasi Sentolo bagian atas. Proc. 10th Seminar Nasional Kebumian, Dept. Teknik Geologi, Universitas Gadjah Mada (UGM), Yogyakarta, PSP-10, p. 895-911.

(online at: <https://repository.ugm.ac.id/274228/1/PSP-10.pdf>)

('Preliminary study of abundance of fossil molluscs in the upper Sentolo Formation'. Molluscs in Late Pliocene (N20-N21) part of Sentolo Fm NW of Kaliagung village, Kulon Progo, C Java: 10 species of gastropods (incl. Corbicula gerthi, Conus spp., Amnicola, Sulcospira, Cypraea) and 5 species of pelecypoda (incl. Anomia boettgeri, Paphia cheribonensis, Meretrix, Pallium, Anadara). Most species shallow marine and transitional)

Akmaluddin & R.N. Saputra (2014)- Umur Formasi Kebo Butak berdasarkan nanofosil gampingan daerah Bayat, Kab. Klaten, Provinsi Jawa Tengah. Proc. 7th Nat. Seminar Nasional Kebumian, Jurusan Teknik Geologi, Universitas Gadjah Mada, Yogyakarta, M4P-07, p. 874-885.

(online at: <https://repository.ugm.ac.id/135168/1/874-885%20M4P-0.pdf>)

('Age of the Kebo Butak Formation based on calcareous nannofossils in the Bayat area, Klaten District, C Java'. Kebo Butak Fm of S Mountains of E Miocene age. Tegalrejo-Cermo section with Cyclicargolithus floridanus, Sphenolithus ciperoensis and Dictyococcites bisecta (zone NN1, earliest Miocene) and Discoaster druggii (zone NN2). Basal Karangnongko section with Sphenolithus heteromorphs and S. belemnos (NN4))

Akmaluddin, D.L. Setijadji, K. Watanabe & T. Itaya (2005)- New interpretation on magmatic belts evolution during the Neogene- Quaternary periods as revealed from newly-collected K-Ar ages from Central-East Java, Indonesia. Proc. 34th Ann. Conv. Indon. Assoc. Geol. (IAGI), Surabaya, p. 235-238.

(Incl. Late Miocene-Pliocene K-Ar age of diorite in Selogiri area, S Mountains SE of Yogya, and hornblende-rich tuff of ~12 Ma (part of Late Miocene volcanic centers near Borobudur, located at transition zone between Quaternary belt and Tertiary Southern Mountains belt))

Akmaluddin, T. Susilo & W. Rahardjo (2006)- Calcareous nannofossils biostratigraphy of Ngalang River section, Southern Mountain area, Gunung Kidul, Yogyakarta. Proc. 35th Ann. Conv. Indon Geol. Assoc. (IAGI), Pekanbaru 2006, 1p. (Abstract only)

(Samples from Miocene Sambipitu and Oyo Fms of Ngalang River section, S Mountains, C Java. Sambipitu Fm shows 5 zones (NN2-NN6; E- M Miocene), Oyo Fm 3 zones (NN8-NN10; M- L Miocene). Results suggest gap between Sambipitu and Oyo Fms. Suggesting younger ages than dated previously)

Akmaluddin, K. Watanabe, A. Kano & W. Rahardjo (2010)- Miocene warm tropical climate: evidence based on oxygen isotope in Central Java, Indonesia. World Academy of Science, Engin. Technology, 71, p. 66-70.

(online at: www.waset.org/journals/waset/v71/v71-11.pdf)

(O and C isotopes records of foraminifera and bulk carbonates from Oyo- Sambipitu Fms, S Mountains, C Java, demonstrate warm sea surface T during Miocene. Decrease of O isotope values at ~14 Ma, tied to M Miocene Optimum. Warming of sea surface T related to development of W Pacific Warm Pool and flow of warm water through Indonesian seaway. Cooling at ~12 Ma, tied to Late Miocene global cooling or due to closing of Indonesian Gateway)

Akmaluddin, K. Watanabe & H. Ohira (2012)- Oligocene-Early Miocene foraminifera, 40Ar/39Ar dating & fission track dating in Southern Mountains, Central Java. Proc. 41st Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 2012-SS-09, 1p. (Abstract only)

(Fission track dating of 3 samples from lower, middle and upper Semilir Fm at Buyutan section yielded ages of 23.2 Ma; near FO Globoquadrina dehiscens, 19.8±1.5 Ma and 19.4 Ma, near Top Globigerina binaiensis)

Akmaluddin, K. Watanabe & W. Rahardjo (2012)- Miocene calcareous nannofossils and foraminifera biostratigraphy, with calibrating the age using 40Ar/39Ar dating in Southern Mountains, Central Java. Proc. 41st Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 2012-SS-08, 1p. (Abstract only)

(Calcareous nannofossil analysis on Miocene Sambipitu and Oyo Fms at Kali Ngalang section. Sambipitu Fm 5 zones (NN2-NN6; E-M Miocene), Oyo Fm 3 zones (NN8-NN10; M-L Miocene). Results indicate gap between Sambipitu and Oyo Fms, with absence of NN7. Foraminifera biostratigraphy of Sambipitu Fm 4 zones (N6-N8a), good agreement with nannofossil biozones, but M Miocene (Oyo Fm) suggest hiatus of N10-N12,

inconsistent with nannofossils. 40Ar/39Ar date of 10.0±1.3 Ma of Oyo Fm tuff layers in agreement with biostratigraphic ages (tuff layers 10m above FO Discoaster hamatus (10.7 Ma) and FO Globigerina nepenthes (11.7 Ma), 20m below LO D. hamatus (9.4 Ma))

Alderton, D., R. Harmon, R. Sloane & T. Sudharto (1994)- Fluid inclusion and stable isotope studies at Gunung Limbung Cu/Pb/ Zn deposit, West Java. *J. Asian Earth Sci.* 10, p. 25-38.
(On base metal mineralization at Gunung Limbung in several steeply-dipping quartz veins, hosted by Miocene monzodiorite stock)

Alderton, D.H.M. & R.T. Sudharto (1987)- Mineralization at Gunung Limbung, West Java: a fluid inclusion and geochemical study. In: E. Brennan (ed.) *Proc. Pacific Rim Congress 1987, Gold Coast, Australasian Inst. of Mining and Metallurgy (AusIMM), Parkville*, p. 5-8.
(Cu-Pb-Zn sulphide mineralization associated with M-U Miocene quartz monzonite stock, 40km W of Bogor)

Alfyan, M.F. & N.I. Setiawan (2014)- Petrogenesis batuan metamorf di daerah perbukitan Jiwo, Kecamatan Bayat, Kabupaten Klaten, Provinsi Jawa Tengah. *Pros. Seminar Nasional Kebumihan 7, Jurusan Teknik Geologi, Universitas Gadjah Mada, Yogyakarta*, 1p. *(Abstract only)*
('Petrogenesis of metamorphic rocks in the Jiwo hills, Bayat, Klaten regency, Java'. Metamorphic rocks in Jiwo Hills mica-albite phyllite, calc-silicate schist, graphite schist, serpentinite, quartzite, marble, albite-mica schist, epidote-glaucophane schist, glaucophane marble with lawsonite, gabbro, garnet-wollastonite skarn and meta-siltstone. Metamorphic protoliths mainly pelitic sediments, but also basaltic-andesitic rocks. Epidote-glaucophane schist, gabbro and serpentinite may indicate Cretaceous subduction process and presence of ocean plate stratigraphy in Jiwo hills)

Alloy, S., B. Kartika & M. Tambunan (1992)- Pemelajaran geologi daerah Malingping, Jawa Barat bagian Selatan. *Proc. 21st Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta*, 2, p. 463-476.
('Geology study of the Malingping area, Southern West Java'. Brief review of area of W Bayat High- West Malingping Low-Honje High in SW Java. N-S trend of highs-lows)

Alzwar, M., N. Akbar & S. Bachri (1992)- Geological map of the Garut and Pameungpeuk Quadrangle, Jawa, 1208-6 and 1208-3, 1:100,000. *Geol. Res. Dev. Centre (GRDC), Bandung*.

Amiarsa, D.P., D. Noeradi, A.H. Harsolumakso & S. Ubaidillah (2011)- Potensial hydrocarbon reservoir at the Pliocene carbonate sediment, Situbondo Area, East Java. *Proc. 35th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA11-SG-020*, 8p.
(On Pliocene Pacalan Mb globigerinid limestone exposed on flank of anticline in Situbondo area, S of Madura Straits, E Java)

Amijaya, D.H., N. Adibah & A.Z.A. Ansory (2016)- Lithofacies and sedimentation of organic matter in fine grained rocks of Nanggulan Formation in Kulon Progo, Yogyakarta. *J. Applied Geology (UGM)* 1, 2, p. 82-88.
(online at: <https://journal.ugm.ac.id/jag/article/view/26964/16605>)
(Eocene shale at Nanggulan, south C Java, potential shale gas source. Deposited in estuarine to shallow marine environments. Core samples show TOC 0.36-1.0 % for shales and 12.8 % for coaly shales. Estuarine E Eocene higher TOC. Volcanic activity in M Eocene caused lower organic content)

Amijaya, H. & P.A. Pameco (2017)- Geochemistry of natural gas seepages in Boto Area, Bancak, Semarang, Central Java. *Indonesian J. Geoscience* 4, 2, p. 61-70.
(online at: <https://ijog.geologi.esdm.go.id/index.php/IJOG/article/view/327/233>)
(Gases from surface seeps in W Kendeng zone SE of Semarang and NE of Salatiga thermogenic gases with 53-85% methane, 10-35% N₂, etc. Possibly derived from humic (coaly) organic matter)

Amijaya, H., M.I. Novian & E. Iswandi (2011)- Contribution of organic petrography study on organic-rich sediment to the depositional environment determination of Upper Semilir Formation of Southern Mountain in Yogyakarta. *Proc. Joint 36th HAGI and 40th IAGI Ann. Conv., Makassar, JCM2011-215*, 8p.

(Organic-rich coaly silt-sandstone and thin coal in upper Semilir Fm, interpreted as lagoonal-estuarine facies)

Aminuddin, B.M., T.Y. Nahrowi, P.K. Yohannes & M.G. Rukmiati (1981)- Studi anggota Selorejo, Cekungan Jawa Timur bagian Utara. Proc. 10th Ann. Mtg. Indon. Assoc. Geol. (IAGI), Bandung, p. 144-155.

(Study of the Selorejo Formation, NE Java'. 'Coquina sand' of Late Pliocene (N21) age. Thickness 100-300m in N, 0-50m in S. Gas-bearing in Cepu area (Balun, Tobo), oil-bearing near Surabaya)

Amri, I.U., T. Octaviani & B. Indra (2011)- Hydrocarbon traps modelling in Mojokerto area East Java region, based on gravity data. Proc. 35th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA11-SG-015, 7p.

Andreas, H., H.Z. Abidin, T.P. Sidiq, I. Gumilar, Y. Aoki, A.L. Hakim & P. Sumintadiredja (2017)- Understanding the trigger for the LUSI mud volcano eruption from ground deformation signatures. In: P. Cummins & I. Meilano (eds.) Geohazards in Indonesia: Earth science for disaster risk reduction, Geol. Soc. London, Spec. Publ. 441, p. 199-212.

(online at: <http://www.eri.u-tokyo.ac.jp/people/yaoki/2017GSLSP.pdf>)

(LUSI mud volcano in Sidoarjo, E Java, started to erupt on 29 May 2006, 200 m from drilling Lapindo oil-gas well, and continues to erupt. Ground deformation data from GPS monitoring do not support triggering of LUSI eruption by reactivation of underlying fault due to Yogyakarta earthquake)

Andreini, J., M.P. Bunds, R.A. Harris, E. Yulianto, D.M. Horns, C. Prasetyadi & P.S. Putra (2016)- Assessment of differential uplift along South Java, Indonesia from terrace elevations mapped with structure from motion photogrammetry. AGU Fall General Assembly 2016, Abstract EP21D-0911, 1p.

(online at: <http://adsabs.harvard.edu/abs/2016AGUFMEP21D0911A>)

(Four Quaternary marine terraces identified along S coast of Java: T1 0-.05m, T2 2m, T3 17m, T4 22 m, suggest late Quaternary uplift of 0.17 mm/yr)

Andriany, S.S., M.F. Rosana & A. Hardiyono (2016)- Geowisata geopark Ciletuk: geotrek mengelilingi keindahan mega amfiteater Ciletuh. Bull. Scientific Contr. (UNPAD) 14, 1, p. 75-88.

(online at: <http://jurnal.unpad.ac.id/bsc/article/view/9796/pdf>)

(Geotourism of the Ciletuh geopark: geotrek around the mega beauty of the Ciletuh amphitheater')

Angeles, C.A., S. Prihatmoko & J.S. Walker (2001)- Discovery history of the Cibaliung gold project, Banten, Indonesia. Proc. Indonesian Mining Conf. Exhibition, Jakarta, p. 1B33-IB39.

(High-grade, epithermal gold-silver deposits near Pandeglang, Banten, W Java)

Angeles, C.A., S. Prihatmoko & J.S. Walker (2002)- Geology and alteration-mineralization characteristics of the Cibaliung epithermal gold deposit, Banten, Indonesia. Resource Geology 52, 4, p. 329-339.

(Cibaliung gold project in SW Java, W of Bajah Dome, in Neogene Sunda-Banda arc. Epithermal gold-silver quartz vein mineralization in sub-aqueous basaltic andesite Honje Fm volcanics with intercalated sediments, intruded by andesite-diorite plugs and dykes. Age of mineralization Late Miocene. Hydrothermal system responsible for mineralization may be related to rhyolitic magmatism near volcanic intrusive center during back arc rifting that formed graben or pull-apart basin (see also Harijoko et al. 2004))

Anggun, A. (2012)- Play identification for Paleogene rift sediment in Ngimbang Sub Basin, East Java Basin, Indonesia. In: 74th EAGE Conf. & Exhib., Copenhagen 2012, P054, 5p. *(Extended Abstract)*

(Study is to identify type of play for Eocene- Oligocene rift sediments in Ngimbang Sub Basin, S part of NE Java Basin. At least four types of play: facies change, alluvial fan, basin floor fan and channel fill plays)

Anom, F.D., R.M. Hardito, L. Fahlevi., V. Purnamasi, R.C.A. Rohmana & C. Prasetyadi (2012)- Ichnofacies study of volcanoclastic turbidite Sambipitu Formation based on outcrop data in Ngalang River, Nglipar Area, Kabupaten Gunung Kidul, Yogyakarta: an explanation for the dynamic process of volcanoclastic turbidite Sambipitu Formation in Java Oligo-Miocene volcanic arc. Proc. 41st Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, p.

- Anonymous (1922)- Jodium. Verslagen Mededelingen Indische delfstoffen en hare toepassingen, Dienst Mijnwezen in Nederl. Oost-Indie, 14, p. 1-40.
(*Iodine'. Overview of occurrences and production of iodine in Indonesia, mainly from wells in Tertiary basins of East Java, N of volcanic arc*)
- Anonymous (1924)- Uitkomsten van de mijnbouwkundig-geologische onderzoeken in the Djampang (Residentie Preanger Landschappen). Verslagen Mededelingen Indische delfstoffen en hare toepassingen, Dienst Mijnbouw Nederl.- Indie, 16, p. 1-28.
(*Results of mining-geological surveys in the Jampang, Priangan Residency'. Unlike conclusions of earlier workers on Java there are potentially commercial gold-silver-copper mineralizations in Jampang area SW of Sukabumi, SW Java, in quartz veins associated with igneous intrusives*)
- Anonymous (1939)- Delfstoffen op Java, met uitzondering van aardolie, kolen en ertsen. Verslagen Mededelingen Indische delfstoffen en hare toepassingen, Dienst Mijnbouw Nederlandsch-Indie, Bandung, 22, p. 1-87.
(*Minerals on Java, with exception of oil, coal and metals'. Review of occurrences of gas, barite, phosphate, sulfur, iodine, quartz sand, marble, etc., on Java and Madura*)
- Anshori, C. (2007)- Petrogenesa basalt Sungai Medana Karangsambung, berdasarkan analisis geokimia. J. Riset Geologi Pertambangan (LIPI) 17, 1, p. 37-50.
(online at: http://jrisetgeotam.com/index.php/jrisgeotam/article/viewFile/143/pdf_9)
(*Petrogenesis of Medana River basalt, Karangsambung, based on geochemical analysis'. Several basaltic volcanic rocks at Karangsambung melange complex, generally associated with ophiolite and identified as oceanic rocks. However Medana River basalt not associated with gabbro, peridotite or chert. Geochemistry analysis suggest silica-saturated basalt of tholeiitic normal mid oceanic ridge basalt (NMORB)*)
- Ansori, C. (2010)- Model mineralisasi pembentukan opal Banten. J. Geologi Indonesia 5, 3, p. 151-170.
(online at: www.bgl.esdm.go.id/publication/index.php/dir/article_detail/272)
(*Model of mineralization of Banten opal'. Precious opal at Lebak Regency, W Java, is opal-CT. Associated with Late Pliocene - Pleistocene folding, weathering, and silica leaching from volcanic glass. Host rock is dark grey claystone below polymict conglomerate, >8m deep*)
- Ansori, A.Z.A. & D.H. Amijaya (2014)- Proses pengendapan dan lingkungan pengendapan serpih Formasi Nanggulan, Kulon Progo, Yogyakarta, berdasarkan data batuan inti. Proc. 7th Seminar Nasional Kebumihan, Dept. Teknik Geologi, Gadjah Mada University, Yogyakarta, p. 708-720.
(online at: <https://repository.ugm.ac.id/135165/1/708-720%20M4O-03.pdf>)
(*Depositional processes and setting of shales of the Nanggulan Formation, Kulon Progo, Yogyakarta, based on core data'. Depositional environment of Nanggulan Fm upward deepening, from fluvial to tide-dominant estuarine to shallow marine*)
- Ansori, C., Sujatmiko & H. Permana (2000)- Giok Jawa dari kawasan Karangsambung, Kebumen, Jawa Tengah, dan pemanfaatannya. Proc. 29th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 2, p. 157-163.
(*Java jade from the Karangsambung area, Kebumen, Central Java, and its utilization'. Boulders of green jade from Lokidang River, Kalitengah and Kebondalem, associated with Luk Ulo melange complex*)
- Anugrahadi, A., Y. Surachman D., S. Mulyono, E. Triarso, D. Muljawan, S. Hidayat, A. Lesanpura et al. (1999)- Oblique subduction zone in the southern West Java offshore. In: I. Busono & H. Alam (eds.) Developments in Indonesian tectonics and structural geology, Proc. 28th Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, 1, p. 73-82.
(*In Indonesian. Some results of BGR SONNE cruise 1998-1999*)
- Anwar Maruyani, K. (1998)- Pola sebaran foraminifera dalam hubungannya dengan stratigrafi sikuen (studi kasus: daerah Blora dan sekitarnya daerah lintang rendah). Proc. Inst. Teknologi Bandung 30, 3, p. 1-16.
(online at: http://journal.itb.ac.id/index.php?li=article_detail&id=645)

('Foraminifera distribution patterns within sequence stratigraphy; a case study in Blora and surrounding areas'. Age, paleobathymetry and sequences identification at Braholo, Guwo, Ledok and Ngliron River sections of NE Java. Ngrayong Sst Fm generally age N9-N10)

Apotria, T., M.A. Weidmer, D. Walley, A. Derewetzky & D. Millman (2009)- Mass wasting and detrital carbonate deposition, Cepu Block, East Java. Proc. 33rd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA09-G-143, p. 1-9.

(On detrital carbonate aprons around Oligo-Miocene buildups in Cepu Block, as penetrated by Jambaran 2)

Aoki, Y. & T.P. Sidiq (2014)- Ground deformation associated with the eruption of Lumpur Sidoarjo mud volcano, east Java, Indonesia. J. Volcanology Geothermal Res. 278-279, p. 96-102.

(Ground deformation associated with eruption of Lumpur Sidoarjo mud volcano between 2006 and 2011 studied from Synthetic Aperture Radar images. Marked subsidence observed West of, and around vent)

Arai, S. & N. Abe (1996)- Detrital chromian spinels of fore-arc mantle origin in meta-conglomerate from a pre-Tertiary metamorphic complex of Jiwo Hills, Central Java, Indonesia. In: H. Noda & K. Sashida (eds.) Professor H. Igo Commemorative volume on Geology and Paleontology of Japan and Southeast Asia, Gakujyutsu Tosho Insatsu, Tokyo, p. 217-224.

(Pre-Eocene meta-conglomerates from Jiwo Hills with clasts of poorly sorted sandstones and volcanics and common chromian spinel grains derived from mantle peridotites. Conglomerate possibly fill of Marianas-type trench, where peridotites were exposed and sediments and volcanics were supplied from arc)

Arai, S., D.A.D. Sujatna, K. Hardjadinata & N. Niitsuma (1981)- Metamorphic and related rocks from Jiwo hills near Yogyakarta, Java. In: T. Saito (ed.) Micropaleontology, petrology and lithostratigraphy of Cenozoic rocks of the Yogyakarta region, Central Java. Publ. Yamagata University, p. 7-14.

Ardhana, W. (1993)- A depositional model for the Early Miocene Ngrayong Formation and implications for exploration in the East Java Basin. Proc. 22nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 396-443.

(Ngrayong Fm regressive-transgressive cycle with coarse sands in lower part, fine clastics and limestones towards top. Five facies: tidally-influenced cross-bedded sandstones, sandy turbidites, contourites, hemipelagic mudstones and carbonates. Cross-bedded sandstones, capped by thin bioclastic carbonates, widely distributed in shelf- upper slope area in N of study area. Contemporaneous turbidites, contourites and hemipelagic slope-basinal mudstones to S. Basement architecture controlled Oligocene-Miocene paleogeography and Ngrayong deposition. Sandy turbidite facies most productive and primary exploration target. Cross-bedded sandstones produced gas in NW, but no hydrocarbons elsewhere Main reason is destruction of traps by exposure and erosion. Deep marine carbonate contourites tested hydrocarbons in Tuban Block and form secondary target)

Ardhana, W., P. Lunt & G.E. Burgon (1993)- The deep marine sand facies of the Ngrayong Formation in the Tuban Block, East Java Sea. Indon. Petroleum Assoc. (IPA) Sandstone Core Workshop, Jakarta 1993, p. 117-175.

(Early M Miocene Ngrayong Fm quartz sands most productive reservoir onshore E Java. Fields near Cepu and outcrops to N and W show thickly bedded, m-grained, cross-bedded sandstones. Three wells drilled further S (Tuban JOB; Ngasin 1, Gondang 1, Grigis Barat 1) silt to fine sand, with some m-grained quartz. Paleontology suggests bathyal facies. Sediments thinly bedded and locally good flow rates. Gondang-1 tested 538 BOPD from 25' sandy pelagic carbonate. Deposition mainly from deep sea currents (contourites). Grigis Barat-1 with features indicative of distal turbidite)

Ardhito, Y. (2013)- Biostratigrafi nannofossil gampingan, lintasan Gunung Temas dan Gunung Lanang Kecamatan Bayat, Kabupaten Klaten, Propinsi Jawa Tengah. S1 Thesis, Universitas Gadjah Mada, p. 1-143.

(Unpublished; see also Akmaluddin and Ardito 2014))

(parts online at: [http://etd.repository.ugm.ac.id/...](http://etd.repository.ugm.ac.id/))

('Biostratigraphy of calcareous nannofossils of the Mount Temas and Gunung Lanang sections, Bayat District, Klaten Regency, Central Java'. Oyo Fm at Gunung Lanang section 4 zones (NN7- NN10), Gunung Temas two zones (NN10- NN11) (= Late Miocene). Paleoclimate: overall cooling, with four warming-cooling events)

Ariani, N.P., Akmaluddin & W. Rahardjo (2017)- Paleoclimatic change during Late Miocene based on planktonic foraminifera in the Sentolo Formation- Kulon Progo. Proc. Joint Conv. HAGI-IAGI-IAFMI-IATMI (JCM 2017), Malang, 5p.

(Planktonic foraminifera assemblages in Late Miocene (N16-N17; ~8.6-6.1 Ma) part of Sentolo Fm in Jurang-Banjarharjo and Kalibawang sections, W Progo Hills, C Java, suggest paleoclimate fluctuations: Zone I warm (>~ 8.6 Ma); zone II cooling around ~7-8.6 Ma (cold peak at ~8 Ma); Zone III warming around ~ 6.1- 7 Ma (warm peak ~7 Ma) and Zone IV re-warmed to cool down at <~ 6.1 Ma. Pattern comparable to observations in Kepek Fm (S Mountains) on, Kerek Fm (Kendeng Zone) and ODP 806 in Pacific Ocean)

Arifin, L., S. Hakim, K. Tamaki, K. Kisimoto, T. Yokokura & Y. Okuda (1987)- Seismic reflection of the Sunda Trench in Western Java. CCOP Techn. Bull. 19, p. 13-23.

Ariyanto, P., A.I. Maulana & A. Suardiputra (2008)- The application of balancing cross-section and sandbox modeling for imbricate thrust system characterization in the Sumedang Area of West Java. Proc. 32nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA08-SG-043, 10p.

Armandita, C., M.M. Mukti & A.H. Satyana (2009)- Intra-arc trans-tension duplex of Majalengka to Banyumas area: prolific petroleum seeps and opportunities in West-Central Java border. Proc. 33rd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA09-G-173, p. 573-588.
(W Central Java poorly explored area with oil seeps)

Armandita, C., B. Raharjo, A.H. Satyana, I. Syafri, M. Hariyadi, E. Nugraha, Wanasherpa, S. Graha & S. Rachmat (2002)- Perkiraan inversi Sesar Baribis serta perannya terhadap proses sedimentasi dan kemungkinan adanya "reworked source" pada endapan turbidit lowstand setara Talang Akar; studi pendahuluan di daerah Sumedang dan sekitarnya. Buletin Geologi (ITB) 34, 3, p. 205-220.

('Estimated inversion of the Baribis Fault and its role in the sedimentation process and possibility of reworking of source in Talang Akar lowstand turbidite sediments; preliminary study in Sumedang and surrounding areas'. Baribis Fault at N side of Bogor Trough, W Java had normal movement in Oligocene- Pleistocene, inverted to thrust fault after Pleistocene. Normal movement created S-dipping slope with abrupt change from shelf sedimentation in NW Java Basin to turbidite system of Bogor Trough. Reworked organic material from Talang Akar Fm in NW may be source rock for oil-gas in Sumedang region and surrounding Bogor Trough)

Armandita, C., A.H. Satyana, M.M. Mukti & I. Yuliandri (2011)- Trace of the translated subduction in Central Java and its role on the Paleogene basins and petroleum systems development. Proc. Joint 36th HAGI and 40th IAGI Ann. Conv., Makassar, JCM2011-462, p. 1-19.

(NW-SE trending, right-lateral Pamanukan- Cilacap Fault interpreted to have translated SW-NE trending Pre-Tertiary subduction zone and Paleogene shelf edge by ~200 km to S and separates two Neogene deep water basins: Bogor in W and North Serayu in E)

Armia, A. (2017)- The depositional system of epiclastic alluvial fan in Oligocene Jatibarang Formation, North West Java Basin, Indonesia. In: 79th Conf. Exhib. European Assoc. Geosc. Engineers (EAGE), Paris 2017, p.
(Seismic identification of Oligocene and older geometries of alluvial fans with volcanic provenance in Cemara area, NW Java basin)

Arpandi, D. & Sujitno Patmosukismo (1975)- The Cibulakan Formation as one of the most prospective stratigraphic units in the North-West Java basinal area. Proc. 4th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 181-207.

(Description of stratigraphy of NE Java Basin. Late Oligocene- M Miocene Cibulakan Fm is first transgressive-regressive sequence, followed by Parigi and Cisubuh Fms as second transgressive-regressive sequence. Lower

Cibulakan Fm clastics, M Cibulakan Fm limestone of zones Late Te- Early Tf, with up to 640m thick buildups. Volcanic Jatibarang Fm and Cibulakan Fms are main hydrocarbon targets in basin)

Arsadi, E., S. Suparta & S. Nishimura (1995)- Subsurface structure of Merapi inferred from magnetotelluric, gravimetric and geomagnetic surveys. In: Proc. Merapi Volcano Decade International Workshop, Yogyakarta, Oct. 1995, p. .

Ashari, P. & H. Pandita (2015)- Peralihan lingkungan pengendapan antara Formasi Nglanggran ke Formasi Sambipitu, Kali Ngalang, Dusun Karanganyar, Desa Ngalang, Kecamatan Gedang Sari, Kabupaten Gunung Kidul, Provinsi Daerah Istimewa Yogyakarta. Prosiding Seminar Nasional ReTII ke-10 (STTNAS), Yogyakarta, p. 77-91.

(online at: <https://journal.sttnas.ac.id/ReTII/article/view/166/135>)

('Environmental transition between Nglanggran Formation to Sambipitu Formation, Ngalang River, Karanganyar Hamlet, Ngalang Village,.. Gunung Kidul District,..'. Transition between two basal Miocene volcanoclastic formations: Nglanggran andesite breccia proximal facies. Overlying Sambipitu Fm more distal with Thalassinoides and Chondrites trace fossils, possibly upper submarine fan facies on flank of volcano; with zone N4- N5 planktonic foraminifera)

Ascaria, N.A., N. Muksin, D. Hernadi, A. Samodra, P. Busono & D. Puspita (2000)- Play concept of syn-rift and post-rift sediments in the half graben system, Northwest Java. Proc. 27th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jkarta, 1, p. 235-239.

(Onshore NW Java basin traditional plays Miocene carbonate buildups on structural highs and E Oligocene Jatibarang volcanics. Cipunegara Low studied for Talang Akar Fm rift-fill history and potential plays)

Asikin, Sukendar (1974)- Evolusi geologi Jawa Tengah dan sekitarnya ditinjau dari segi tektonik dunia yang baru. Ph.D. Thesis, Bandung Inst. Technology, p. 1-103. *(Unpublished)*

('Geological evolution of Central Java and vicinity in the light of the new global tectonics'. One of first to recognize U Cretaceous- Paleocene Luk Ulo melange complex. Paltinieri et al. 1976:)

Asikin, S., A. Handoyo, H. Busono & S. Gafoer (1992)- Geologic map of Kebumen Quadrangle, Java, 1401-1, scale 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung, 24p. + map.

(S coastal area of C Java. In NW corner of map part of Karangsambung Anticline and Luk Ulo Cretaceous- Paleogene basement/ melange complex outcrops. Eocene-Oligocene Karangsambung Fm scaly clay, Eocene reefal limestone olistolith, etc.)

Asikin, S., A. Handoyo, B. Prastistho & S. Gafoer (1992)- Geologic map of the Banyumas Quadrangle, Java, 1308-3, scale 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung, 22p. + map.

(Map sheet with part of Banyumas basin, Karangsambung anticline and Kulon Progo 'Old Andesite' volcanic complex)

Asikin, T.S., A.M.T. Ibrahim & Sukowitono (1991)- Pendekatan struktural untuk penentuan "play type" dalam eksplorasi hidrokarbon di Cekungan Jawa Barat Utara. Proc. 20th Ann. Conv. Indon. Assoc. Geol. (IAGI), p. 605-607.

(On NW Java basin play types)

Asmoro, P. (2013)- Geologi Gunung Sadahurip, Kabupaten Garut. J. Geologi Sumberdaya Mineral 14, 1, p. 39-49.

('Geology of Mount Sadahurip, Garit District'. 'Sadahurip Pyramid' not man-made structure, but remnant of old volcano, a parasite of G. Talagabodas)

Astadiredja, K.A.S. (1978)- Flysch facies of the Citarum Formation, West Java. Riset Geol. Pertambangan (LIPI) 1, 2, p. 30-35.

Astadiredja, K.A.S., Nurdrajat & F. Muhamadsyah (1993)- Turbidite parasequence set of the Citarum Formation, Rajamandala High, West Java. Proc. 22nd Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 2, p. 1175-1180.

(Citarum Fm overlies Rajamandala Lst, is ~3000m thick and composed of two parasequence sets of submarine fan deposits)

Astuti, B.S. (2015)- Perubahan muka air laut di Cekungan Serayu Utara bagian Barat selama Miosen Tengah hingga Pliosen di daerah Kuningan, Jawa Barat. Prosiding Seminar Nasional ReTII ke-10 (STTNAS), Yogyakarta, p. 35-40.

(online at: <https://journal.sttnas.ac.id/ReTII/article/view/160/129>)

('Changes in sea level in the western part of the North Serayu Basin during Middle Miocene to Pliocene in the Kuningan area, West Java'. N Serayu basin with oil and gas seeps. In Rambatan, Halang and Pemali Fms turbiditic series three sea level changes during M Miocene- Pliocene: sea level rise in mid N13-N18, sea level drop in mid-N18 -N19 and sea level rise in N19-N20)

Astuti, B.S., V. Isnaniawardhani, Abdurrokhim & A. Sudradjat (2017)- Micro tectonic at North Serayu Basin, Central Java: case study at type locality of Rambatan Formation. In: The 2nd Joint Conf. Utsunomiya University and Universitas Padjadjaran, Japan, p. 233-237.

(online at: https://uuair.lib.utsunomiya-u.ac.jp/dspace/bitstream/10241/10927/1/technical%20session_pro_3.pdf)

Astuti, B.S. & H.D. Kusuma (2016)- Tectonic influence on changes in Neogene sediment supply, western part of North Serayu Basin. Int. J. Engineering and Science Applications (UNHAS) 3, 1, p. 61-67.

(online at: <http://pasca.unhas.ac.id/ojs/index.php/ijesca/article/view/278/162>)

(W part of N Serayu Basin with thick Neogene sequence of Halang, Pemali and Rambatan Fms turbiditic series. M-L Miocene zones N13-N17 (Rambatan Fm) rel. thin and thickening during middle of N18-N19 (E Pliocene; Base Halang Fm). Followed by decreasing sediment supply during N19-N20)

Astuti, B.S. & A.F. Rizqi (2016)- The potential of Halang Formation as hydrocarbon reservoir. Proc. GEOSEA XIV and 45th Ann. Conv. Indon. Assoc. Geologists (IAGI) (GIC 2016), Bandung, p. 598-604.

(U Miocene- Lower Pliocene Halang Fm submarine fan deposits in Serayu Basin good reservoir potential)

Aswan (2004)- Micro and macro molluscan fossils from the Middle Miocene Nyalindung Formation, Sukabumi, West Jawa, Indonesia. Buletin Geologi (ITB) 36, 2, p. 47-72.

Aswan (2006)- Taphonomic significance and sequence stratigraphy of the lower part of Nyalindung Formation (Middle Miocene), Sukabumi. Bull. Dept. Geol. Inst. Teknologi Bandung (ITB) 38, p. 131-144. *(In Indonesian)*

Aswan (2006)- Middle Miocene climate change indicated by molluscan fossil associations and glacio-eustatic fluctuations in lithofacies, Nyalindung Formation, Jawa, Indonesia. Jurnal Teknologi Mineral (ITB) 13, 3, p.

(Sedimentary facies and tidal- shallow marine Nyalindung Fm molluscs from Cijarian River section, Sukabumi, W Java, suggest climate change at ~12 Ma (M Miocene). Increase in water depth corresponds to a marine climatic warming. At least nine cyclic facies changes from gravelly shellbed or sandstone to muddy sandstone. Cool period at ~12 Ma and warm period at ~11.75 Ma related to sea-level changes)

Aswan (2007)- Taphonomic significance and sequence stratigraphy of the lower part of Nyalindung Formation (Middle Miocene), Sukabumi. Bull. Dept. Geology- Inst. Tekn. Bandung 38, 3, p. 131-144.

Aswan (2009)- System tracts determination based on molluscan shell associations of the Nyalindung Formation. (Middle Miocene, Sukabumi, West Jawa); in terms of sequence stratigraphy. Bull. Dept. Geology, Inst. Technology Bandung (ITB), 39, p. 147-166.

Aswan (2014)- Paleoenvironmental interpretation based on ichnofossil study for the Rajamandala Formation of Gunung Guruh Area, Sukabumi, West Jawa. Buletin Geologi (ITB) 41, 2, p. 138-159.

Aswan (2014)- Ichnofossil study for the Rajamandala Formation of Gunung Guruh Area, Sukabumi, West Jawa, Indonesia. Proc. 43rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, PIT IAGI 2014-033, 5p.

(Latest Oligocene Rajamandala limestone of W Java with 22 ichnospecies in three associations: (1) Lockeia-Cylindrichnus (near shoreline with tidal wave influence), (2) Rosselia- Asterosoma (open marine, lower shoreface) and (3) Zoophycos-Chondrites (offshore shelf, with Helminthopsis, Teichichnus, etc.))

Aswan (2015)- Shallow marine and deep marine comparative ichnofossil study, case studies of Tapak Formation in the Purbalingga City and Penosogan Formation in the Karangsambung area, Central Jawa. Proc. Joint Conv. HAGI-IAGI-IAFMI-IATMI, Balikpapan, JCB2015-387, 4p.

(Trace fossils in M Miocene Penosogan Fm deep marine and Pliocene Tapak Fm beach- middle neritic clastics)

Aswan & T. Ozawa (2006)- Milankovitch 41000-year cycles in lithofacies and molluscan content in the tropical Middle Miocene Nyalindung Formation, Jawa, Indonesia. Palaeogeogr. Palaeoclim. Palaeoecology 235, p. 382-405.

(Mollusc associations suggest 9 cycles, each ~2m thick, reflecting changes in water depth of ~30m; no detailed age control, so 41k cyclicity perhaps more model-driven?)

Aswan, S. Rijani & Y. Rizal (2013)- Shell bed identification of Kaliwangu Formation and its sedimentary Cycle significance, Sumedang, West Jawa. J. Geologi Indonesia 8, 1, p. 1-11.

(online at: <http://ijog.bgl.esdm.go.id/index.php/IJOG/article/view/151/151>)

(Nineteen '6th order' sedimentary cycles in Pliocene Kaliwangu Fm E of Bandung, based on mollusc taphonomy)

Aswan, E. Sufiati, D. Kistiani, I.Y. Abdurrahman, W.D. Santoso, A. Rudyawan & T. Zin Oo (2017)- Late Miocene molluscan stage of Jawa insight from new field studies. In: 2nd Int. Conf. Transdisciplinary research on environmental problems in Southeast Asia (TREPSEA), Bandung 2016, IOP Conf. Series, Earth Environm. Science 71, 012031, p. 1-7.

(online at: <http://iopscience.iop.org/article/10.1088/1755-1315/71/1/012031/pdf>)

(Re-examination of Preangerian and Odengian Java molluscan stages of Oostingh (1938), in outcrops of W Jawa. Preangerian stage represented by exposures along Cijarian, Citalahab rivers (M Miocene (N9-N14); Odengian stage in Cijariang river M Miocene- middle Late Miocene (N9-N16). The Nyalindung Fm in Cijarian river also contains Vicarya verneulli, an index fossil that marks global rise in sea level in M Miocene (12 Ma))

Aswan, E. Suparka, S. Rijani, D. Sundari & E.Y. Patriani (2008)- Asymmetrical condition of the Bogor Basin (West Jawa, Indonesia) during the Middle Miocene to Pliocene based on taphonomic study of shellbed and its sequence architecture. Bull. Geol. Survey Japan 59, 7/8, p. 319-325.

(online at: https://www.gsj.jp/data/bulletin/59_07_04.pdf)

(Study of Nyalindung Fm in Sukabumi area in W part of Bogor basin and Kaliwangu Fm in Sumedang area, E part of basin; M Miocene- Pliocene)

Aswan & Y. Zaim (1994)- Penggunaan metoda biometri pada *Turritella bantamensis* Martin dari Formasi Bojong, Pandeglang, Jawa Barat. Proc. 23rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, 1, A1, p. 1-18.

(The use of biometric methods on Turritella bantamensis Martin from Bojong Formation, Pandeglang, West Jawa'. Measurements on Miocene gastropods)

Aswan, Y. Zaim & T. Ozawa (2004)- A new species of *Ampullonatica* from the Eocene Nanggulan Formation, Central Jawa, Indonesia and its implication for Paleogene Tethyan biogeography. Buletin Geologi (ITB) 36, 1, p. 15-20.

Aswan, Y. Zaim & Y. Rizal (2006)- Distribution of Quaternary freshwater molluscs fossils in Jawa. In: Y. Zaim et al. (eds.) S. Sartono: dari hominid ke delapsi dengan kontroversi, Penerbit Inst. Teknologi Bandung, Chapter 9, p. 109-120.

(Incl. occurrence of freshwater mollusca Melania, Brotia spp. Physa and Pilsbryconcha associated with stone artifacts in Kabuh Fm of Sangiran)

Aswan, Y. Zaim, Y. Rizal & I. Sopandi (2007)- Sedimentary cycle of Cijulang Formation, Tambaksari area, Ciamis, West Jawa. *Buletin Geologi (ITB)* 39, 1, p. 25-30.

Aswan, Y. Zaim, Y. Rizal & U.P. Wibowo (2015)- Molluscan evidence for slow subsidence in the Bobotsari Basin during the Plio-Pleistocene, and implications for petroleum maturity. *J. Mathem. Fundamental Sciences (ITB)* 47, 2, p. 185-204.

(online at: <http://journals.itb.ac.id/index.php/jmfs/article/view/469/911>)

(Deposition under marine conditions until E Pleistocene in Bobotsari Basin, S of Mt Slamet, C Java, while adjacent Bogor and North Serayu basins have fluvial deposits in Pleistocene)

Atmawinata, S. & H.Z. Abidin (1991)- Geological map of the Ujung Kulon quadrangle, West Java (1109-1), scale 1: 100,000. Geol. Res. Dev. Centre (GRDC), Bandung.

Audithia, W., S. Awari & J. Wiyono (2016)- New considerations for petroleum system implications of the Late Miocene reservoir in the North Serayu Basin, Central Java. *Proc. 40th Ann. Conv. Indon. Petroleum Assoc. (IPA)*, Jakarta, IPA16-150-G, 8p.

(Brief discussion of Late Miocene potential reservoirs in N Serayu Basin, Cipluk Sst and Parigi carbonate)

Bachri, S. (2010)- Pengaruh kegiatan tektonik dan gunung api terhadap karakteristik sedimentologi sedimen Neogen awal daerah bagian tengah Cekungan Serayu. *J. Sumber Daya Geologi* 20, 4, p. 199-208.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/173/169>)

('The influence of tectonic and volcanic activity on the sedimentological characteristics of Early Neogene sediment area of the central part of the Serayu Basin', C Java. Early Neogene sediments suggest increasing tectonic activity followed by increasing volcanic activity from older unit to younger rock units)

Bachri, S. (2011)- Karakteristik fasies sedimen Paleogen- Neogen Cekungan Serayu sebagai respon atas kegiatan tektonik dan vulkanisme. Ph.D. Thesis UNPAD University, p. *(Unpublished)*

(On Paleogene- Neogene sedimentary facies of C Serayu Basin, C Java, which during M Eocene- Oligocene was part of Bogor Trough/ Bobotsari Low. Low bounded by S Serayu Range high in S. In Neogene volcanic belt moved N to N of Bogor Through. Peak volcanism in Late Miocene- earliest Pliocene (Kumbang volcanics))

Bachri, S. (2011)- Basin development and Neogene deposition history in Bobotsari Low, Purbalingga Regency, Central Java. *J. Sumber Daya Geologi* 21, 6, p. 285-292.

(Bobotsari Low is part of Bogor Through in Purbalingga area. Bordered in S by high of S Serayu Range. Based on residual gravity map Bobotsari Low represents ENE-WSW trending graben. Paleogene not exposed, but supposed to be deposited, in back-arc basin. End Oligocene inversion formed mountainous area, which was subsequently eroded. E-M Miocene transgression. Paleocurrents indicates S-SE ward transport direction, suggesting fore-arc basin. Late Miocene turn to deep marine environment, with peak volcanic activity as suggested by Kumbang Volcanics. In distal environment turbidites of Penyatan Fm formed. Gradual shallowing to coastal environment (Tapak, Kalibiuk Fms) in N19-N20 (E-M Pliocene).

Bachri, S. (2012)- Atlas cekungan sedimen Indonesia: Cekungan Serayu. Pusat Survei Geologi, Bandung, p. 1.1-7.9.

('Atlas of sedimentary basins of Indonesia: Serayu Basin')

Bachri, S. (2012)- Batuan asal dan alas formasi Paleogen Cekungan Serayu. *J. Sumber Daya Geologi* 22, 1, p. 15-23.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/103/95>)

('Provenance and basement of the Paleogene formation in the Serayu Basin'. Volcanic detritus and abundant feldspars in most samples from M-L Eocene-Oligocene Worowari Fm suggest main source is from volcanic

rock, but also metamorphic slate fragments and quartz-rich rocks. Detrital zircons suggest Late Cretaceous basement age ($\sim 68 \pm 9$ Ma), probably part of Sunda Platform)

Bachri, S. (2014)- Pengaruh tektonik regional terhadap pola struktur dan tektonik Pulau Jawa. J. Geologi Sumberdaya Mineral 15, 4 (203), p. 215-221.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/60/62>)

('The effect of regional tectonics on the structural pattern and tectonics of Java island'. During Late Paleogene C and W parts of Java and Java Sea magmatically inactive or stable. Paleogene change in structural trend from NE-SW to E-W)

Bachri, S. & H. Panggabean (2010)- Sedimentologi Formasi Worawari Paleogen di Pegunungan Serayu Utara. J. Sumber Daya Geologi 20, 1, p. 25-32.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/159/154>)

('Sedimentology of the Paleogene Worawari Fm in the North Serayu Mountains'. New name Worawari Fm for M Eocene- Oligocene deep marine turbidites and olistostrome deposits ENE and NW of Banjarnegara, C Java. Turbidites at base with abundant radiolaria and deep water benthic forams (Bathysiphon, Cyclammina), develop into olistostrome of claystone matrix with blocks up to 10s of m, and polymict conglomerates, sandstones and include Nummulites limestones)

Bachri, S., E. Slameto & I. Nurdiana (2010)- Stratigrafi dan sedimentologi endapan dataran pasang-surut di Kali Tulis, Banjarnegara. J. Sumber Daya Geologi 20, 3, p. 169-176.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/170/166>)

('Stratigraphy and sedimentology of tidal flat deposits at Kali Tulis, Banjarnegara' Merawu Fm in Kali Tulis. Lower part mainly mudstone, interpreted as mud flat, and reportedly with E-M Miocene (N8-N14) planktonic foraminifera (= open marine; do not support mud flat facies interpretation; JTvG). Upper part sand-rich, interpreted as sand flat and with common volcanic rock fragments, suggesting provenance from volcanic arc)

Bahar, A., D. Santoso, F. Hakiki, S. Widiyantoro & Y. Surachman (2006)- Seismic identification and characterization of gas hydrates in Central Sunda margin- Indonesia. In: Proc. 8th SEGJ Int. Symposium, Kyoto 2006, p. 1-5.

(Significant hydrate accumulation interpreted from Bottom Simulating Reflector on BGR seismic lines in central Sunda margin (forearc region off SW Java- S Sumatra))

Baharuddin & S. Permanadewi (2012)- Indikasi batuan adakitik di Pacitan, Jawa Timur. J. Sumber Daya Geologi 22, 4, p. 209-215.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/120/114>)

('Indications of adakitic rocks in Pacitan, East Java'. Late Oligocene- E Miocene 'Old Andesites' volcanic and intrusive rocks from Pacitan area in Southern Mountains basaltic-andesite to rhyolite of island arc affinity. Several samples adakite-like, with high Sr and low Y, Yb)

Bariato, D.H., E. Aboud & L.D. Setijadji (2009)- Structural analysis using Landsat TM, gravity data, and paleontological data from Tertiary rocks in Yogyakarta, Indonesia. Mem. Fac. Engineering, Kyushu University, 69, 2, p. 65-77.

(online at: <https://qir.kyushu-u.ac.jp/dspace/bitstream/2324/14900/1/paper4.pdf>)

(Development of NE-SW trending Yogyakarta graben. Two major faults divide area into three parts. Different uplift rates created depressed block between two faults. Foraminifera suggest all blocks in shallow marine environment in zone N9 (~ 15 Ma). Pliocene uplift after deposition of Kepek and U Sentolo marls, followed by extension since Pleistocene. W part uplifted >590 m, central part <120 m, E part uplifted above 170-300m)

Bariato, D.H., A. Harijoko & K. Watanabe (2009)- The Tertiary volcanic rocks distribution in Yogyakarta and its vicinity, Indonesia. In: Proc. Earth Science Int. Conf., Manila 2009, p.

Bariato, D.H., P. Kuncoro & K. Watanabe (2010)- The use of foraminifera fossils for reconstructing the Yogyakarta graben, Yogyakarta, Indonesia. J. Southeast Asian Applied Geol. (UGM) 2, 2, p. 138-143.

(online at: <http://geologic-risk.ft.ugm.ac.id/fresh/jsaag/vol-2/no-2/jsaag-v2n2p138.pdf>)
(Yogyakarta region, C Java, NE-SW-trending central depression bordered by two parallel faults. Based on foraminifera observations, depression and bordering blocks were in same depositional environment (inner neritic) during N9 (M Miocene). Present positions indicate W part uplifted higher than others (>590m), Central part uplifted <120 mm, E part >170-300m)

Basuki, A., D.A. Sumanagara & D. Sinambela (1994)- The Gunung Pongkor gold-silver deposit, West Java, Indonesia. In: T.M. van Leeuwen et al. (eds.) Indonesian mineral deposits- Discoveries of the past 25 years. J. Geochemical Exploration 50, p. 371-391.
(Gunung Pongkor gold-silver deposit in W Java several steeply dipping epithermal quartz-veins, associated with Neogene calc-alkaline volcanism. K/Ar dates of mineralization 8-9 Ma. Production started in 1994)

Basuki, A., E. Suparka & Y. Sunarya (1999)- Gold deposit in the Cikidang area, West Java, Indonesia. In: G.H. Teh (ed.) Proc. 9th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA 08), Kuala Lumpur 1998, Bull. Geol. Soc. Malaysia 43, p. 251-259.
(<https://gsmpubl.files.wordpress.com/2014/09/bgsm1999025.pdf>)
(Epithermal gold deposit at NE side of Bayah Domain in SW Java. Associated with Plio-Pleistocene intrusion, hosted in Late Oligocene- E Miocene 'Old Andesite' and Cimapag Fm volcanics. Age of mineralization probably same as at Pongkor, where dated as 2.1- 1.5 Ma)

Basuki, N.I. (2009)- A petrographic study on diagenesis of reef-associated Rajamandala carbonate rocks, Padalarang area, West Java, Indonesia: In: 11th Reg. Congress Geology, Mineral and Energy Resources of Southeast Asia (GEOSEA 2009), Kuala Lumpur, p. 44-45. (Abstract only)

Basuki, N.I. & S.A. Wiyoga (2012)- Diagenetic pattern in the Citarate carbonate rocks, Cilograng Area, Lebak Regency, Banten Province. J. Geologi Indonesia 7, 3, p. 137-144.
(online at: <http://jgi.bgl.esdm.go.id/index.php/JGI/article/view/30/22>)
(E Miocene Citarate Fm in Cilograng, 10 km NW of Pelabuhan Ratu, displays 9 phases of diagenetic events,

Basuki, N.I., S. Prihatmoko & E. Suparka (2012)- Gold mineralization systems in Southern Mountain Range, West Java. In: N.I. Basuki (ed.) Proc. Banda and Eastern Sunda arcs, Indonesian Soc. Econ. Geol. (MGEI) Ann. Conv. 2012, Malang, p. 85-100.

Baumann, P. (1975)- The Middle Miocene diastrophism: its influence on the sedimentary and faunal distribution of Java and the Java Sea Basin. Bull. Nat. Inst. Geology and Mining (NIGM) 5, 1, p. 13-28.
(online at: <http://pustaka.geotek.lipi.go.id/wp-content/uploads/2016/02/NIGM-5-1.pdf>)
(Widespread evidence of M Miocene deformation and regression across much of Indonesia. Faunal composition and rapid diversification of larger foraminifera (species of Miogypsina, Lepidocyclina) may be response to fast changing environments. In NE Java basin Ngrayong sandstones unconformably overlie Upper Orbitoiden Limestone (OK), a hiatus spanning planktonic foram zones upper N9-lower N11. May also be time of overthrusting of allochthonous terranes of Timor, rise of Barisan Mountains in Sumatra)

Baumann, P. (1982)- Depositional cycles on magmatic and back arcs: an example from Western Indonesia. Revue Inst. Francais Petrole 37, 1, p. 3-17.
(Four main sedimentary cycles on Java-Sumatra-Sunda Shelf, each starting with transgression and each ending with a phase of volcanism and tectonism: (1) M Eocene- E Oligocene, (2) Late Oligocene- E Miocene, (3) E-M Miocene (missing in many places under M Miocene erosional surface, (4) M-Late Miocene, (5) Pliocene-Recent)

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(Summary of geology- stratigraphy of SW Java)

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(Listings of M Eocene mollusc assemblages from Nanggulan, W of Yogyakarta, studied earlier by Boettger 1883 and Martin 1914, 1931. Of 74 mollusc species, 16 also found in other Tethys basins, while 35 others have affinities with European Eocene species)

Beach, A., J.L. Brown, P.J. Brockbank, S.D. Knott et al. (1997)- Fault seal analysis of SE Asian basins with examples from West Java. In: A.J. Fraser, S.J. Matthews & R.W. Murphy (eds.) *Petroleum Geology of Southeast Asia*, Geol. Soc. Spec. Publ. 126, p. 185-194.

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('The species Buccinulum in the Early Miocene of the island Madura'. Descriptions of two new Rembangian (M Miocene?) gastropod species of Buccinulum from Madura in Martin collection: B. madurense and B. teschi)

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('Contributions to the petrography of the Indies Archipelago. I. Microscopic descriptions of gabbro, serpentine, augite andesites, basalts, tachylyt and Tertiary conglomerates from the surroundings of Ciletuh Bay'. One of first descriptions of rocks from SW Java melange complex)

Bellon, H., M. Polve, H. Pringgoprawiro, B. Priadi, R.C. Maury & R. Soeria-Atmadja (1989)- Chronologie 40K-40Ar du volcanisme Tertiaire de Java Central (Indonesie): mise en evidence de deux episodes distincts de magmatisme d'arc. *Comptes Rendus Academie Sciences, Paris, Ser. II*, 309, 19, p. 1971-1977.

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Bellon, H., R. Soeria-Atmadja, R.C. Maury, E. Suparka & Y.S. Yuwono (1989)- Chronology and petrology of back-arc volcanism in Java. In: B. Situmorang (ed.) *Proc. 6th Regional Conf. Geology mineral hydrocarbon resources Southeast Asia (GEOSEA VI)*, Jakarta 1987, IAGI, p. 245-257.

(On Miocene-Pleistocene volcanism on Java Sea islands Bawean, Karimunjawa (Late Miocene- Pliocene basalts, 6.5-3.7 Ma; different from subduction-related volcanics; extension-related?) and Java N coast (Lasem (1.6-1.1Ma), Ungaran, Muria). Pleistocene volcanoes (1.6- 0.3 Ma) increasing K2O content away from trench)

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(*Investigation of the coal found along the beach of Peucang Bay'. On occurrences of coal at far W point of Ujung Kulon Peninsula, facing Sunda Straits. Several thin layers of lignite in area with common petrified and coalified wood. No figures*)

Boachi, A. (1856)- Onderzoek naar het aanwezen van steenkolen in het terrein aan de Tjiletokbaai, Residentie Preanger Regentschappen. Natuurkundig Tijdschrift Nederlandsch-Indie 11, p. 461-464.

(*Investigation of the presence of coal in the terrane on the Ciletuh Bay, SW Java'. One of few reports by African Prince/ mining engineer Akwasi Boachi. Ciletuh Bay partly surrounded by serpentine hills, overlain by sandstone. Although unfossiliferous quartz sandstones present, no outcrops of coal were found (?)*)

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(online at: www.repository.naturalis.nl/document/552452)

(*Eocene and Miocene crab fossils from Java (Priangan, Yogyakarta and Rembang) from collections of Verbeek and Martin. Incl. U Eocene Scylia laevis n.sp. and Martinocarcinus ickeae n.sp. from Kali Puru, Nanggulan, Scyllarus junghuhni n.sp., Myra, Nucia and Calianassa from E Miocene of W Progo, Raninellopsis javana n.sp. from E Miocene of Rembang, Neptunus from Nyalindung, Callianassa frangens n.sp. from Ci Lalang, etc.*)

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(*The molluscs of the Oligocene beds of the Bawang River, Residency Yogyakarta, Java'. Molluscs from marls above andesite in North Serayu Mts. (= Early Miocene?; JTvG)*)

Boettger, O. (1883)- Die Mollusken der Oligocaenen Schichten vom Bawang-Flusse, Res. Djokdjakarta, Insel Java. Jaarboek Mijnwezen 1883, Wetenschappelijk Gedeelte, p. 225-266.

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(*Earthquake data used to build 3-D image of seismic attenuation in crust and upper mantle beneath C Java. Prominent zone of increased attenuation below and N of modern volcanic arc down to 15 km related to Eocene-Miocene Kendeng Basin. Enhanced attenuation also in upper crust near recent volcanoes pointing towards zones of partial melts*)

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(online at: <http://dx.doi.org/10.5169/seals-163383>)

(*Classic study of E Miocene (G. insueta zone) to Pliocene (Gr. menardii zone) planktonic foraminifera, based on continuous core samples from 1934 BPM well Bodjonegoro 1. (Showed validity of then new 'global' E Miocene- Pliocene planktonic foram zonation in Indonesia. Deep water benthic forams from same well described by Boomgaart, 1949; JTvG)*)

- Bolliger, W. & P.A.C. de Ruiter (1975)- Geology of the South Central Java Offshore area. Proc. 4th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 75-81.
(1971-1974 Shell work on South Java forearc basin exploration. Two dry wells in Miocene carbonate targets, Borelis 1 and Alveolina 1. Alveolina 1 with E-M Miocene carbonate section. Both wells TD in pre-Miocene volcanic agglomerates and basalt)
- Boomgaard, L. (1949)- Smaller foraminifera from Bodjonegoro (Java). Doct. Thesis, University of Utrecht, p. 1-175. (Unpublished)
(Classic study of E Miocene- Pliocene smaller benthic foraminifera in continuously cored Bojonegoro 1 well (BPM, 1934), E of Cepu. One of first examples of use of benthic forams for paleobathymetry interpretation. Entire late Early Miocene- Pliocene section is in bathyal facies)
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- Bronto, S. (2008)- Tinjauan geologi gunung api Jawa Barat- Banten dan implikasinya. Jurnal Geoaplika 3, 2, p. 47-61.
(‘Overview of the volcanic geology of Banten, W Java, and its implications’. Most of W Java and Banten areas covered by volcanoes and their products. Six groups: Dano and Cibaliung volcanic complex, Bayah Pongkor, Sukabumi-Southern Mountains, Bogor-Cianjur, Purwakarta and Bandung areas. Ages of volcanoes Paleogene-Quaternary, indicating superimposed volcanic episodes. Width of volcanic arc in W Java and Banten ~80-100km)
- Bronto, S. (2009)- Merapi volcano and the Southern Mountains, Yogyakarta: volcanoclastic rocks for petroleum geologist. Fieldtrip Guidebook, Indon. Petroleum Assoc. (IPA), p. 1-48.
- Bronto, S. (2009)- Fosil gunung api di Pegunungan Selatan Jawa Tengah. In: Proc. Workshop Geologi Pegunungan Selatan, Yogyakarta 2007, Pusat Survei Geologi, Bandung, Spec. Publ. 38, p. 171-194.
(‘Fossil volcanoes in the Southern Mountains of Central Java’. 24 Oligo-Miocene paleo-volcanic centers identified in W part of S Mountains of C Java. Four groups: Parangtritis- Sudimoro, Baturagung- Bayat, Wonogiri-Wediombo and Karangtengah- Pacitan. General stages of volcanic evolution: (1) Oligocene basaltic

pillow lavas in Kebo-Butak and Watupatok Fms; (2) first construction of andesitic cones of Mandalika and Wuni Fms; (3) destruction of composite volcanoes to form calderas and pumice-rich Semilir Fm, and (4) second phase of construction of andesitic cones of E Miocene Nglanggran Fm)

Bronto, S. (2010)- Identifikasi gunung api purba Pendul di Perbukitan Jiwo, Kecamatan Bayat, Kabupaten Klaten-Jawa Tengah. *J. Sumber Daya Geologi* 20, 1, p. 3-13.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/157/152>)

('Identification of the ancient Pendul Volcano in the Jiwo Hills, Bayat, Klaten Regency, C Java'. Gunung Pendul is composed of microgabbro (K-Ar age 32.8 ± 6.6 Ma in Surono 2006). At E flank outcrop of pillow basalt lava flows, probably deposited on ocean floor. In- and extrusives probably remnants of eroded ancient volcano. Ages of volcanism at Pendul volcano in Bayat in particular and in S Mountains into four periods: Paleocene, Late Eocene- E Oligocene, E and M Miocene. S Mountains volcanism may be continuous from Late Eocene-E Miocene)

Bronto, S. (2010)- Geologi gunung api purba. Geological Survey (Badan Geologi), Bandung, p. 1-181.

('Geology of ancient volcanoes'. Also as 2013 second edition. Introductory text on volcano geology based on examples from Indonesia)

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(online at: <http://journal.akprind.ac.id/index.php/fti/article/view/742/470>)

('Mud volcanoes in Cengklik and surrounding areas, Boyolali District, Central Java Province'. In Boyolali district mud volcanoes in E-W zone 20km long/3-5 km wide from Lake Cengklik to Solo River. With andesite basalt skoria in Gununglondo)

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(Volcanic arcs of Paleogene, Neogene and Quaternary were superimposed, and among them intra-arc basins developed)

Bronto, S., R. Ciochon, Y. Zaim, R. Larick, A. Wulff, Y. Rizal, S. Carpenter, A. Bettis, Sudijono & Suminto (2004)- Studi petrologi basal sebagai indikasi vulkanisme di daerah Grumbulpring, Sangiran- Jawa Tengah. *J. Sumber Daya Geologi* 14, 2, p. 37-50.

('Petrological study of basalt as an indication of volcanic activity in the Grumbulpring area, Sangiran, C Java'. Young Basalt outcrop S of Sangiran. Possible relation to mud volcano of Sangiran?)

Bronto, S., G. Hartono & B. Astuti (2004)- Hubungan genesa antara batuan beku intrusi dan ekstrusi di Perbukitan Jiwo, Kecamatan Bayat, Klaten, Jawa Tengah. *Majalah Geologi Indonesia* 19, 3, p. 147-163.

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('Tertiary volcanic gravity slide rocks in the S Mountains near Yogyakarta; special study at Ngalang, Putar rivers and Jentir'. E Miocene volcanic rocks in Southern Mountains in volcanic debris avalanche facies)

Bronto, S. & U. Hartono (2006)- Potensi sumber daya geologi di daerah cekungan Bandung dan sekitarnya. J. Geologi Indonesia 1, 1, p. 9-18.

(online at: www.bgl.esdm.go.id/publication/index.php/dir/article_detail/160)

(On energy and minerals potential of the Bandung basin, W Java)

Bronto, S. & D.Z. Herman (2012)- Geologi Gunung Padang dan sekitarnya, Kabupaten Cianjur- Jawa Barat. Proc. 41st Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 2012-GD-01, 4p.

('Geology of Gunung Padang and surroundings, Cianjur District, West Java'. Volcanic complex, E Oligocene andesite age (32.3 ± 0.3 Ma). Basal andesite columnar structure, used for megalithic site Punden Beruntak)

Bronto, S., A. Koswara & K. Lumbanbatu (2006)- Stratigrafi gunung api daerah Bandung Selatan, Jawa Barat. J. Geologi Indonesia 1, 2, p. 89-101.

(online at: www.bgl.esdm.go.id/publication/index.php/dir/article_detail/169)

('Volcanic stratigraphy of the South Bandung region, West Java'. South Bandung mountaineous area, high plain of Pangalengan and Bandung city eleven Pliocene- Quaternary rock units (nine volcanic) over subsurface Miocene volcanic rocks)

Bronto, S. & B.S. Langi (2016)- Geologi Gunung Padang dan sekitarnya, Kabupaten Cianjur- Jawa Barat. J. Geologi Sumberdaya Mineral 17, 1, p. 37-49.

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('Geology of Mt Padang and surrounding area, Cianjur District, West Java'). Mt Padang Megalithic site SE of Sukabumi built from local columnar jointed lavas)

Bronto, S., S. Mulyaningsih, G. Hartono & B. Astuti (2008)- Gunung Api purba Watuadeg: sumber erupsi dan posisi stratigrafi. J. Geologi Indonesia 3, 3, p. 117-128.

(online at: www.bgl.esdm.go.id/publication/index.php/dir/article_detail/225)

(Oligocene? pillow basalt lava flows exposed at Opak River, W of Watuadeg Village, Sleman- Yogyakarta. Small hill ~15m high and 150m away from river to W was eruption source. Lavas overlain by pumice-rich Semilir Fm volcanoclastic rock (Early Miocene), probably unconformable over basaltic pillow lavas)

Bronto, S., S. Mulyaningsih, G. Hartono & B. Astuti (2009)- Waduk Parangjoho dan Songputri: alternatif sumber erupsi Formasi Semilir di daerah Eromoko, Kabupaten Wonogiri, Jawa Tengah. J. Geologi Indonesia 4, 2, p. 79-92.

(online at: www.bgl.esdm.go.id/publication/index.php/dir/article_detail/243)

(Two alternative eruption centers for pumice-rich acid volcanics of E Miocene Semilir Fm in Eromoko area, S of Wonogiri, S Mountains, SE Java)

Bronto, S., S. Pambudi & G. Hartono (2002)- The genesis of volcanic sandstones associated with basaltic pillow lavas: a case study at the Djiwo Hills, Bayat area (Klaten, Central Java). J. Geologi Sumberdaya Mineral 12, 131, p. 2-16.

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(Late Oligocene Kebo-Butak Fm at Baturagung escarpment, Jiwo, S Mountains, >650m thick, composed of volcanic sandstones and calcareous sediments, deposited in submarine fan environment. Associated with pillow

basalts, and hyaloclastites. Sandstone composed of very angular volcanic glass grains, probably products of nearby submarine volcano. Interbedded deep marine limestone with planktonic foraminifera, incl. Globigerina tripartita, G. binaiensis, Globorotalia kugleri (should be lower N4, latest Oligocene; not N5 as suggested?; JTvG))

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(On Juwangi calcarenitic limestones near Kedung Ombo, C Java)

Brotopuspito, K.S., R.D. Indriana & M. Nukman (2006)- Sedimentary rock thickness at Kendeng- Rembang zone, Central Java- Indonesia, as constructed based on regional Bouguer gravity anomaly map. Proc. Jakarta 2006 Int. Geosciences Conf. and Exhib., Indon. Petroleum Assoc. (IPA), OT-44, 5p. *(Extended Abstract)*

(Sediment thickness below Kendeng-Rembang zones 11,000- 13,000m, with Kendeng deeper than Rembang)

Brouwer, H.A. (1915)- Geologische overzichtskaart van den Nederlandsch-Indische Archipel, schaal 1:1 000 000. Toelichting bij Blad XVII (Oost Java, Madoera, Bali, Lombok, Soembawa). Jaarboek Mijnwezen Nederlandsch Oost-Indie 44 (1915), Verhandelingen 2, p. 3-54.

(Geological overview map and explanation from E Java to Sumbawa; sheet 17 of 1:1 million map series. All islands on this map Neogene sediments and young volcanics only)

Brouwer, J. (1957)- Stratigraphy of the younger Tertiary in North-East Java and Madura. Bataafse Int. Petroleum Maatschappij (BPM), The Hague, Report EP-37680, p. 1-41. *(Unpublished)*

Budhitrisna, T. (1992)- Geologic map of Salatiga Quadrangle, 1408-6, scale 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung.

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Budiarto R. (1976)- Sunda Strait, a dividing line between Tertiary structural patterns in Sumatra and Java islands. Majalah Geologi Indonesia (IAGI) 3, p. 11-20.

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(online at: <https://digital.library.adelaide.edu.au/dspace/bitstream/2440/110285/2/02whole.pdf>)

Budiman, I. (1996)- The causative body of the old Ungaran volcano based on a gravity data model. J. Geologi Sumberdaya Mineral 6, 60, p. 9-15.

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(Interpretation of N-S gravity profile of Karangsambung area, C Java. Gravity high interpreted as basement high, possibly Eocene sandstones. No ties to surface geology)

Budisantoso Pendowo (1991)- Geology of the Besuki Quadrangle, Java, Explanatory notes and map. Geol. Res. Dev. Centre (GRDC), Bandung, p.

Budiyani, S., D. Priambodo, B.W. Haksara & P. Sugianto (1991)- Konsep eksplorasi hidrokarbon untuk Formasi Parigi di Cekungan Jawa Barat Utara. Proc. 20th Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, p. 180-198.

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Budiyani, S. & A. Mukmen (1994)- Penyebaran Formasi Ngrayong sebagai penghasil hidrokarbon di daerah Gondang dan sekitarnya cekungan Jawa Timur. Proc. 23rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, 1, p. 140-154.

(Distribution of Ngrayong Formation as a producer of hydrocarbons in Gondang and surrounding areas of East Java basin. Study of M Miocene Ngrayong Fm sandstone around Gondang-1 well (Pertamina- Trend 1991), NE Java Basin. In submarine fan facies. Gondang 1 tested 779 BOPD and 4.4MMSCF gas/day from Ngrayong Fm. With log cross-sections and examples of seismic mounding)

Buning, F. (1922)- Het voorkomen en de ontginningswijze van natuurasphalt in verband met de asphalt-exploitatie te Cheribon. Indisch Bouwkundig Tijdschrift 25, 18, p. 330-335.

(<http://colonialarchitecture.eu/islandora/object/uuid%3A0628d403-571e-487c-80d0-4825dc5742af/datastream/PDF/view>)

(On the occurrence and exploitaton of natural asphalt in Kromong Mts, between G. Gedong en G. Pagemitan, near Cirebon, with some chemical- technical analyses. Bitumen content of Cirebon asphalt ~38.5%, melting point 52°C. No geology, no figures.3 Estimated asphalt reserves 1500-2000 tons. See also Mannhardt 1920, Pringgoprawiro et al. 1977)

Burckle, L.H. (1982)- Diatom biostratigraphy of Late Miocene and Pliocene sediments of eastern Java (Indonesia). Marine Micropaleontology 7, p. 363-368.

(Marine diatoms from Late Miocene- Pliocene Njepung section, Kendeng zone, E Java. Foraminifera studied by Saint-Marc & Suminta,1979. Lower part of Globigerina marls in Late Miocene- E Pliocene Thalassiosira convexa zone, middle part M Pliocene Nitzschia jousea zone. Open oceanic environment with strong upwelling suggested by presence of Thalassiosira nitzschioides, especially in lower part of section)

Burgon, G.E. & P. Willumsen (1995)- Indonesian Petroleum Association East Java Fieldtrip October 13-15, 1995. IPA Field trip Guide Book, p. 1-68.

(3-day trip to Sekarkorong, Ngepon, Mudi, Bromo, Kalipanjang)

Burgon, G., P. Lunt & T. Allan (2002)- IPA Fieldtrip to Eastern Java, 2002. Indonesian Petroleum Association, Field trip Guide Book, 33p.

(Semarang-Surabaya route, generally N of most E Java fieldtrips, with stops at Kali Lutut, documenting Early Miocene? uplift event, etc.e)

Burhanudin, B. & Y. Prakarsa (2000)- Remodeling geology of Parigi reservoir at Tugu Barat- a structure, North West Java Basin. Proc. 29th Ann. Conv. Indon. Assoc. Geol. (IAGI), 1, p. 141-150.

Burhannudinnur, M. (2012)- Komplek mud volcano Kradenan. Proc. 41st Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 2012-EG50, p. 305-309.

(The Kradenan mud volcano complex'. Java. Probably fed from overpressured Early Miocene Tawun Fm)

Burhannudinnur, M. (2013)- Pengaruh tektonik dan laju sedimentasi dalam pembentukan gunung lumpur (mud volcano) di zona Kendeng dan Rembang Cekungan Jawa Timur. Ph.D. Thesis (S3), Inst. Teknologi Bandung (ITB), p.

(Tectonics and rate of sedimentation effect in mud volcano generation in the Kendeng and Rembang zones, East Java Basin'. Mud volcanoes are surface expressions of extruuing overpressured formations or shale diapirs. E Java mud volcanoes grouped into four models, i.e. Kuwu, Crewek Medang and Lusi. Mud volcanoes caused by contractional tectonic deformation, sedimentation rate (>280m/My), deep burial (>1000m) and dominance of shale (>85%). If mud volcano system is at critical pressure phase, drilling will cause rapid explosion of mud volcano. If mud volcano system is in near critical phase, explosion will start when drill pipe is deepened. Overpressured mud zone has potential for unconventional gas reservoir with high gas storage capacity)

Burhannudinnur, M. (2014)- Pergerakan sedimen bawah permukaan (PSBP) di Jawa Timur. Bull. Ilmiah Mineral dan Energi (MINDAGI; Trisakti) 7, 1, p. 9-34.

(Subsurface sediment movement (PSBP) in East Java'. Review of mud volcanoes, etc., from overpressure)

Burhannudinnur, M., Benyamin & Y. Prakasa (2000)- Remodeling geology of Parigi reservoir at Tugu Barat Field, West Java. Proc. 29th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 1, p. 143-147.

(Tugu Barat A is oil field in onshore NW Java basin, in Parigi reefal limestone reservoir. Initially view as single pool, but composed of multiple reservoir layers with different Gas-Oil and Oil-Water contacts. Porosities 7-44%. Revised oil reserve estimate 11 MBO)

Burhannudinnur, M., D. Noeradi, B. Sapiie & D. Abdassah (2012)- Karakter mud volcano di Jawa Timur. Proc. 41st Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 2012-EG49, p. 300-304.

('Character of mud volcanoes in East Java'. Mud volcanoes of Randublatung zone, NE Java basin, contain variety of gases: biogenic gas, petroleum gas, dry condensate gas. Mud probably sourced from Tawun Fm)

Cahyo, F.A., I. Fardiansyah, O. Malda & C. Prasetyadi (2011)- 3D modeling of Kerek turbidite sand bodies based on outcrop study in Kedungjati area, Central Java: an analog for sandy Miocene Formation in western Kendeng Zone. Proc. 35th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA11-SG-036, 18p.

(Outcrop study of Late Miocene Kerek Fm calcareous sandstone turbidites in measured sections in Kedungjati area, W Kendeng zone. Depositional environment interpreted as lower submarine fan system. Paleocurrent directions from flute casts suggest main sediment supply from NW (opposite of presumed southern origin of volcanic provenance in Ngawi area?; JTvG))

Cahyo, F.A., O. Malda, I. Fardiansyah & C. Prasetyadi (2013)- Three-dimensional facies modeling of deepwater fan sandbodies: outcrop analog study from the Miocene Kerek Formation, Western Kendeng Zone (North East Java Basin). Berita Sedimentologi 26, p. 19-25.

*(online at: www.iagi.or.id/fosi/files/2013/05/BS26-Java.pdf)
(similar to paper above)*

Cahyono, A., A. Shirly, F. Syafitra, Premonowati, H. Ibadurrahman & Y.R Sinulingga (2016)- Ngimbang clastics & carbonate Kujung distribution based on paleogeography reconstruction. Proc. GEOSEA XIV and 45th Ann. Conv. Indon. Assoc. Geologists (IAGI) (GIC 2016), Bandung, p. 432-438.

(Paleogeographic maps of M Eocene Ngimbang Fm clastics source rock and Oligo-Miocene Kujung Fm carbonate reservoir facies in NE Java basin. Ngimbang clastics in series of NE-SW trending grabens)

Cahyono, A.B. & C.F. Burgess (2007)- Cepu 3D seismic- variations in Oligo-Miocene carbonate buildup morphology. Proc. 31st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA07-G-116, p. 561-567.

(Carbonate build-up morphologies in Cepu Block vary from steep, narrow pinnacles to broad platform deposits. Buildups developed on isolated platform that began to form in E Oligocene. Through Late Oligocene-E Miocene, carbonate deposition ceased over parts of platform while other areas continued to grow, resulting in isolated carbonate buildups, drowning at different times, with morphologies related to underlying extensional faults and subsidence rates. Buildups up to 2 km thick. Thicker buildups drown in E Miocene and are covered by M Miocene clastics of low seal quality. Other areas of Cepu platform drowned in Oligocene. These carbonates have different morphology, lower reservoir quality and more clay-rich seals and commonly contain large gas columns)

Carlile, J.C., I.L. Price & S. Prihatmoko (2005)- The Cibaliung gold deposit, Banten: discovery to decision to mine. In: S. Prihatmoko et al. (eds.) Indonesian mineral and coal discoveries, Indon. Assoc. Geol. (IAGI) Spec. Issue, Jakarta, p. 45-57.

(Cibaliung low sulphidation epithermal Au-Ag deposit at SW tip of Java. First discovered in 1992, decision to mine in 2004. Miocene-age mineralization (~10 Ma), formed at shallow depths (250-300m), hosted in Neogene volcanics. Site possibly influenced by NW-SE Sumatra Fault system, creating small pul-apart basin (see also Harijoko et al. 2004, 2007)

Carnell, A. (1996)- The Rajamandala limestone of the Sukabumi area of West Java. SPE Indonesia Branch, Field Trip Guide Book, 46p.

- Carnell, A. (2000)- The Rajamandala limestone at Sukabumi; can it be considered a field analogue for the Baturaja limestone, Proc. American Assoc. Petrol. Geol. (AAPG) Int. Conf., Bali, p. A13-A14.
(Late Oligocene Rajamandala reefal limestone of W Java outcrops between Cibadak in W and Bandung in E. Deposition interpreted as series of small coral islands, surrounded by foraminiferal/algal dominated shelf sediments. Rajamandala Fm often regarded as analogue for oil-productive Batu Raja Lst of S Sumatra and NW Java, but they are not direct age equivalents (Batu Raja Fm age is of Early Miocene age; JTvG))
- Carthaus, E. (1911)- Zur Geologie von Java, insbesondere des Ausgrabungsgebietes. In: M.L. Selenka & M. Blankenhorn, Die *Pithecanthropus*-Schichten auf Java, Geologische Ergebnisse der Trinil-Expedition (1907-1908), Engelmann, Leipzig, p. 1-33.
(On the geology of Java, in particular the excavation area'. Mainly on Plio-Pleistocene deposits around Trinil excavation area of Selenka Expedition, C Java)
- Caudri, C.M.B. (1932)- De foraminiferen-fauna van eenige *Cycloclypeus*-houdende gesteenten van Java. Verhandelingen Geologisch-Mijnbouwkundig Genootschap Nederland Kol., Geol. Serie 9, p. 171-204.
(The foraminiferal fauna from some Cycloclypeus-bearing rocks of Java'. Miocene larger forams from Java localities S Kediri, S. Priangan and Purwakarta. Little or no stratigraphy context)
- Caudri, C.M.B. (1939)- Lepidocyclinen von Java. Verhandelingen Geologisch-Mijnbouwkundig Genootschap Nederland Kol., Geol. Serie 12, p. 135-257.
(Lepidocyclinids from Java'. Descriptions of 26 Lepidocyclina species from Oligo-Miocene samples from C and W Java and Madura, collected by Gerth. (probably too much 'splitting' of morphotypes; many species names probably synonyms; JTvG))
- Caughey, C.A.J., N.J. Dyer, A. Kohar, L. Haryono et al. (eds.) (1995)- Seismic atlas of Indonesian oil and gas fields II: Java, Kalimantan, Natuna, and Irian Jaya. Indon. Petroleum Assoc. (IPA), Jakarta, Seismic Atlas 2, p.
- Chan, J.S.L. (2015)- High-sulfidation epithermal Cu-Ag-Au deposit, Kluwih, Eastern Java, Indonesia- alteration and implications for potential porphyry Cu mineralisation. In: Proc. PACRIM 2015 Congress, Hongkong, Australasian Inst. of Mining and Metallurgy (AusIMM), Melbourne, Publ. Ser. 2/2015, p. 213-218.
(Cu-Ag-Au mineralisation at Kluwih prospect in E Java, Indonesia related to high-sulfidation hydrothermal system within dacitic volcanic dome. Mineralisation mainly in steeply dipping quartz-enargite-pyrite veins in porphyritic dacite and breccia of dome and in underlying andesite with zircon U-Pb age of 11.5 Ma. Probability of underlying porphyry copper system. No location info)
- Chandra, B.Y., A.T. Rahardjo & Dardji Noeradi (2013)- Sequence stratigraphy of Bayah Formation at Banten area based on Core of DDH-1 Well and DDH-2 well: palynological and palynofacies approach. Proc. Joint Conv. 38th Indon. Assoc. Geoph. (HAGI) - 42nd Indon. Assoc. Geol. (IAGI), Medan, JCM2013-0005, 4p.
(Sequence stratigraphy of Middle-Late Eocene Bayah Fm on Bayah High, Banten Province, SW Java, based on palynology data from cores DDH-1 (242m) and DDH-2 (315m). Seven depositional sequences, with depositional environments varying from fluvial plain to estuarine)
- Chandra, B.Y., A.T. Rahardjo & Dardji Noeradi (2014)- Palynofacies analysis of the Eocene Bayah Formation in Bayah High, Banten Block, SW Java. Berita Sedimentologi 29, p. 80-94.
*(online at: www.iagi.or.id/fosi)
(Description of palynofacies of Eocene Bayah Formation from cores of wells DDH-1 and DDH-2)*
- Choiriah, S.U. (1999)- Paleoclimatic interpretation using calcareous nannoplankton, Solo River Ngawi area, Indonesia. Abstract, AAPG Foundation Grants-in-Aid Recipients 1999, American Assoc. Petrol. Geol. (AAPG) Bull. 83, 11, p. 1896 (Abstract).
(Late Miocene to M Pleistocene of Kendeng zone shows climate changes in nannoplankton. Twelve alternating warm- cold zones. Kerek Fm Zone 1 and 2 warm zone and cold zone of lower NN12 and NN12-NN13 respectively. Kalibeng Fm: transitional zone 3 (NN13-NN14), Zone 4 warm (NN14-NN15), Zone 5 (cold, NN15), Zone 6 (warm, NN16), Zone 7 (cold zone, NN16), Zone 8 (warm, NN16), Zone 9 (transitional, NN16),

and Zone 10 (warm, NN16-NN18). Klitik Fm: zone 11 cold, NN18, zone 12 warm zones, 12a,b, NN19 and NN20, with barren zone between 12a and 12b)

Choiriah, S.U. & R. Kapid (1999)- Nannoplankton biozonation in Bengawan Solo River, Ngawi. Proc. 28th Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, 3, p. 35-45.

(In Indonesian. Nannofossils from samples from Kerek Fm (NN12-NN13; Late Miocene), Kalibeng Fm (NN13-NN18; end Miocene- Early Pliocene) and Sonde/ Klitik Mb (NN19-NN20; E- M Pleistocene) of Solo River section, Kendeng zone, N of Ngawi. Results suggest younger ages than concluded by earlier authors (e.g. Van Gorsel and Troelstra 1981, Theodoridis 1984))

Choiriah, S.U., R. Kapid & H. Pringgoprawiro (2000)- Interpretasi paleotemperatur berdasarkan nannoplankton lintasan S. Bengawan Solo, Ngawi, Jawa Timur. Proc. 29th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 4, p. 47-59.

(Interpretation of paleotemperatures based on nannoplankton in the Solo River section, Ngawi, East Java'. Nannofossil species and diversity from Late Miocene- Pliocene (zones NN11-NN20) in Solo River section in Kendeng Zone, suggest 12 alternating warm-cold zone)

Choiriah, S.U., B. Prastistho, R.E.J. Kurniawan & Suroño (2006)- Foraminifera besar pada satuan batugamping formasi Wungkal- Gamping daerah Sekarboló, Jiwo Barat Bayat, Klaten, Jawa Tengah. Proc. 35th Conv. Indon. Assoc. Geol. (IAGI), Pekanbaru, 16p.

(Larger foraminifera in the Wungkal- Gamping limestones in the Sekarboló area, West Jiwo Bayat, Klaten, C Java')

Choiriah, S.U. & B. Triwibowo (2002)- Studi biozonasi nannoplankton daerah Gunung Pendul Formasi Wungkal, Bayat Klaten, Jawa Tengah. In: Sumberdaya Geologi daerah Istimewa Yogyakarta dan Jawa Tengah, Ikatan Ahli Geologi Pengurus Daerah DIY-Jateng, p. 41-53.

(Nannoplankton biozonation of the Wungkal Fm in the Gunung Pendul area, Bayat, Klaten, C Java')

Chotin, P., A. Giret, J.P. Rampnoux, Sumarso & Suminta (1980)- L'île de Java, un enregistreur des mouvements tectoniques a l'aplomb d'une zone de subduction. C.R. Somm. Soc. Geologique France, 22, 5, p. 175-177.

(Java island, a record of tectonic movements up a subduction zone'. Java fault systems N30°, N70°, N90°, N135° and N165°. Left-lateral strike slip faults at N70° offset Quaternary intra-arc and volcanic chain)

Chotin, P., A. Giret, J.P. Rampnoux, L. Rasplus, Suminta & S. Priyomarsono (1984)- Etude de la fracturation dans l'île de Java, Indonesia. Bull. Soc. Geologique France 26, 6, p. 1325-1333.

(Study of the fracturing on Java island'. Java fault systems determine locations of volcanoes along N 000 and N 045 tension gashes. N 070 strike slip zone marks boundary between western subduction system and eastern collision-subduction Australian system)

Chotin, P., L. Rasplus, J. Rampnoux, Suminta & N. Hasjim (1984)- La sedimentation associee a une structure décrochante majeure dans la partie centrale de l'île de Java (Indonesie). Bull. Soc. Geologique France 26, p. 1259-1268.

(The sedimentation associated with a major strike-slip fault in the central part of the island of Java, Indonesia'. N70E strike-slip fault is reactivation of pre-Neogene Sundaland margin)

Clements, B. (2008)- Paleogene to Early Miocene tectonic and stratigraphic evolution of West Java, Indonesia. Ph.D. Thesis Royal Holloway, University of London, p. 1-431. *(Unpublished)*

(Eocene arc S of Java, mostly submerged; rarely did its products reach Java. Arc became emergent during Late Oligocene- E Miocene and volcanic activity probably increased. M Miocene carbonates deposited above arc rocks. Late Miocene resumption of volcanism N of Paleogene arc. Another arc jump since Late Miocene and modern Sunda Arc volcanoes now on deformed Late Miocene arc products. Paleogene quartz sandstones sourced from Sundaland granitic and metamorphic rocks. Zircons from M Eocene record contributions from Cretaceous arc and post collisional volcanic rocks. New structural model for W Java suggests major thrusting

in S Java has previously been overlooked. Paleogene and Late Miocene arcs have thrust northwards by >50 km and are now thrust onto shelf sequences that formed on Sundaland continental margin. In C Java deeper structural level is exposed and arcs have been removed by erosion. Age of thrusting Late Miocene or Pliocene)

Clements, B. & R. Hall (2006)- Provenance of Paleogene sediments in West Java, Indonesia. Proc. Jakarta 2006 Int. Geosciences Conf. and Exhib., Indon. Petroleum Assoc. (IPA), 5p.
(Eo-Oligocene quartz-rich sediments in W Java from multiple sources, from North. Much of quartz is from low-grade metamorphics)

Clements, B. & R. Hall (2007)- Cretaceous to Late Miocene stratigraphic and tectonic evolution of West Java. Proc. 31st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA07-G-037, p. 87-104.
(Cretaceous-Late Miocene paleogeographic maps W Java)

Clements, B. & R. Hall (2008)- U-Pb dating of detrital zircons from West Java show complex Sundaland provenance. Proc. 32nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA08-G-115, 19p.
(Ages of zircons from M Eocene volcanoclastic Ciletuh Fm indicate Late Cretaceous- E Paleogene local volcanic arc source. M Eocene- Oligocene quartzose formations sourced from Sundaland, with wide zircon age ranges (Proterozoic- Eocene). M Eocene Ciemas Fm zircons mainly Permo-Triassic ages, and derived from Malay Peninsula and Tin Islands granites, Late Eocene Bayah Fm higher contribution of E-M Cretaceous granites from Borneo Schwaner Mts)

Clements, B., R. Hall, H.R. Smyth & M.A. Cottam (2009)- Thrusting of a volcanic arc: a new structural model for Java. Petroleum Geoscience 15, 2, p. 159-174.
(Java apparently simple structure with E-W physiographic zones broadly corresponding to structural zones. Simplicity complicated by structures inherited from Cretaceous subduction, by extension related to development of volcanic arcs, extension related to development of Makassar Straits, Late Cenozoic contraction, and active cross-arc extensional faults. Major thrusting in S Java displaced Early Cenozoic volcanic arc rocks N-wards by 50km or more. C Java displays deepest structural levels of N-directed thrusts, with Cretaceous basement exposed; overthrust arc largely removed by erosion. In W and E Java overthrust volcanic arc still preserved. W Java arc now thrust onto shelf sequences that formed on Sundaland continental margin. In E Java volcanic arc thrust onto thick volcanic/sedimentary sequence formed N of arc in basin due largely to volcanic arc loading)

Clements, B., I. Sevastjanova, R. Hall, E.A. Belousova, W.L. Griffin & N. Pearson (2012)- Detrital zircon U-Pb age and Hf-isotope perspective on sediment provenance and tectonic models in SE Asia. In: E.T. Rasbury et al. (eds.) Mineralogical and geochemical approaches to provenance, Geol. Soc. America (GSA), Spec. Paper 487, p. 37-61.

*(online at: http://searg.rhul.ac.uk/pubs/clements_etal_2012%20Sundaland%20zircons.pdf)
(U-Pb age populations of zircons in Paleogene formations in W Java: 80-50 Ma (Late Cretaceous-Paleogene), 145-74 Ma (Cretaceous), 298-202 Ma (Permian-Triassic), 653-480 Ma and 1290-723 Ma. Late Cretaceous and Paleogene zircons derived from two volcanic arcs in Java and W Sulawesi, respectively. Java arc was active before microcontinent collision, and W Sulawesi arc developed later, on newly accreted crust at SE Sundaland margin. Collision age is ~80 Ma. Zircons older than ~80 Ma have continental Sundaland provenance. Mid-Cretaceous zircons in U Eocene- Lw Oligocene derived from granites of Schwaner Mts of SW Borneo, Permian-Triassic zircons from granites in SE Asian Tin Belt. Older zircons from allochthonous basement and sedimentary rocks deposited prior to rifting of continental blocks from Gondwana in E Mesozoic)*

Condon, W.H., L. Pardyanto & K.B. Ketner (1975)- Geologic map of the Banjarnegara and Pekalongan Quadrangles, Java. Geol. Res. Dev. Centre Bandung, 5p. (also 2nd ed. 1996)
(Map of C Java Dieng Plateau, Sundoro volcano, N Serayu Mts folds and at S border Cretaceous ophiolitic basement and melange outcrops of Lok Ulo)

Cook, P., D. Jayson, S.Y. Ritha, P.J. Nichols, D.W. Ellis & J. Zwaan (2003)- Quantifying geohazards through advanced visualisation and integration in the Terang-Sirasun development, Kangean PSC, Indonesia. Proc. 29th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 1-17.

(Terang-Sirasun reservoir Plio-Pleistocene Paciran Fm Globigerina calcarenites. Development of 1 TCF GIIP complicated by shallow gas in overburden and faults, some with seabed expression. Sirasun fewer faults and little shallow gas but near shelf-slope break, with potential mass flow features. Little geology info)

Cottam, M., R. Hall, L. Cross, B. Clements & W. Spakman (2010)- Neogene subduction beneath Java, Indonesia: slab tearing and changes in magmatism. Geophysical Res. EGU General Assembly 2010, Vienna, p. 12437. (Abstract only; online at: <http://meetingorganizer.copernicus.org/EGU2010/EGU2010-12437.pdf>)
(Java island complex history of volcanism and unusual subduction characteristics, consistent with subduction of a hole in downgoing slab. Episode of Late Miocene thrusting at ~7 Ma observed throughout Java linked to N-ward movement of volcanic arc. In E Java gap in seismicity between ~250-500 km and seismic tomography shows hole in slab. Explained by tearing of subducting slab when buoyant oceanic plateau arrived at trench S of E Java at ~8 Ma (Kundu & Gahalaut 2011 suggest slab detachment under E Java between 10-20 Ma))

Courteney, S. (1996)- The future hydrocarbon potential of Western Indonesia. In: C.A. Caughey, D.C. Carter et al. (eds.) Proc. Int. Symp. Sequence Stratigraphy in SE Asia, Jakarta 1995, Indon. Petroleum Assoc. (IPA), p. 397-415.
(Over 3000 exploratory wells drilled in W Indonesia and ~750 discoveries reported. W Indonesia mature province with >300 fields producing in 12 basins. A further 100 fields abandoned or shut-in. Framework based on sequence stratigraphy established for productive basins)

Courteney, S., P.J. Cockroft, R. Miller, R.S.K. Phoa & A.W.R. Wight (1989)- Introduction. Indonesia Oil and Gas Fields Atlas, 4, Java. Indon. Petroleum Assoc. (IPA), Jakarta, p. 1- 13, A1-A4.

Crie, M.L. (1888)- Recherches sur la flore Pliocene de Java. Sammlungen Geol. Reichs-Museum. Leiden, ser. 1, 5, p. 1-21.
*(online at: www.repository.naturalis.nl/document/552405)
(Investigations on the Pliocene flora of Java'. Plant fossils from tunnel drilled in volcanic terrains of Gunung Kendang, E of Sukabumi and SW of Cianjur, W Java. With Naucleoxylon spectabile (also in Jaarboek Mijnwezen 17 (1888), p. 49-71))*

Cunningham, M.J.M., M. Muharam, L. Damanik, E. Hermawan & J. Widjaja (2015)- Structural controls on the localisation of low-sulfidation epithermal mineralisation in West Java, Indonesia. In: Proc. PACRIM 2015 Congress, Hongkong, Australasian Inst. of Mining and Metallurgy (AusIMM), Melbourne, Publ. Ser. 2/2015, p. 227-235. (Extended Abstract)
(In SW Java low-sulfidation epithermal gold mineralisations in series of extensional and strike-slip faults that cut Miocene-Pliocene calc-alkaline volcanic rocks intruded by shallow-level plutons. Discussion of epithermal mineralisation at Mt Subang, Cianjur region, SW Java)

Dahrin, D. (1993)- Etude bathymetrique et gravimetrique de Detroit de la Sonde et du volcan Krakatau (Indonesie): implications geodynamiques et volcanologiques. Doct. Thesis Universite de Paris VII, p. 1-335.
*(online at: http://horizon.documentation.ird.fr/exl-doc/pleins_textes/pleins_textes_6/TDM/42325.pdf)
(Bathymetric and gravimetric study of Sunda Straits and Krakatau volcano (Indonesia): geodynamic and volcanological implications'. Sunda Straits characterized by extensional tectonics ('pull-apart basin'). Krakatau volcano bimodal basalt-dacite volcanics and is different from volcanoes of Java and Sumatra)*

Dam, M.A.C. (1994)- The Late Quaternary evolution of the Bandung Basin, West Java, Indonesia. Ph.D. Thesis, Vrije Universiteit, Amsterdam, p. 1-252. (Unpublished)

Dam, M.A.C. & P. Suparan (1992)- Geology of the Bandung Basin. Geol. Res. Dev. Centre (GRDC), Bandung, Spec. Publ. 13, p. 1-77.

Dam, M.A.C., P. Suparan, J.J. Nossin & R.P.G.A. Voskuil (1996)- A chronology for geomorphological developments in the greater Bandung area, West-Java, Indonesia. J. Southeast Asian Earth Sci. 14, p. 101-115.

(Bandung area large intramontane basin surrounded by volcanic highlands, which developed during Middle-Late Quaternary, in particular since 125 kyr B.P.)

Dames, T.W.G. (1955)- The soils of East Central Java. Contr. General Agricultural Research Station, Bogor, 141, p. 1-155.

(1:250,000 scale map of soils in part of Central Java, from Muria volcano in N to Solo, Yogyakarta, Southern Mountains region in S)

Danes, J.V. (1910)- Die Karstphanomene im Goenoeng Sewoe auf Java. Tijdschrift Kon. Nederlands Aardrijkskundig Genootschap, ser. 2, 27, p. 247-260.

(online at: <https://babel.hathitrust.org/cgi/pt?id=mdp.39015078113373;view=1up;seq=703;size=150>)

(‘The karst phenomena in Gunung Sewu on Java’. Brief summary of early study of famous cone karst of Southern Mountains of C and E Java. No illustrations; published in more detail in 1915)

Danes, J.V. (1915)- Das Karstgebiet Goenoeng Sewoe in Java. Sitzungsberichte Konigl. Boehm. Gesellschaft Wissenschaften in Prag, Math.-Naturwiss. Kl., Prague, p. 1-90.

(‘The Gunung Sewu karst region of Java’. Classic Southern Mountains karst study around Wonosari, Pacitan, etc. See also review by Hol (1918))

Dardji, Noeradi (1997)- Evolusi cekungan Paleogen di daerah Ciletuh Jawa Barat Selatan. Buletin Geologi (ITB) 27, p. 27-42.

(‘Evolution of the Paleogene basin in the Ciletuh area, SW Java’)

Dardji, N., E.A. Subroto, H.E. Wahono, E. Hermanto & Y. Zaim (2006)- Basin evolution and hydrocarbon potential of Majalengka-Bumiayu transpression basin, Java Island, Indonesia. AAPG 2006 Int. Conf. Exhib., Perth. *(Abstract only)*

(NW-SE zone from Majalengka to Bumiayu characterised by fold belt of Neogene sediments. Zone is between two majors NE-SW lineaments i.e. Cimandiri and N70E fault zones. Both indicate left lateral movement and place Majalengka-Bumiayu folded zone in transpression zone. Stratigraphy complicated, composed of Oligo-Miocene to Pleistocene rocks. Distal turbidite system in lower part, shallowing upward to coarser turbidites and to fluvial-shallow marine clastics in Plio-Pleistocene. At least twelve oil seeps, ten suspected gas seeps and one discovery well in E-M Miocene turbiditic sandstones)

Dardji, N., T. Villemin & J.P. Rampnoux (1994)- Paleostresses and strike-slip movement: the Cimandiri Fault Zone, West Java, Indonesia. J. Southeast Asian Earth Sci. 9, 1-2, p. 3-11.

(Cimandiri FZ sinistral strike-slip zone)

Darman, H. (1996)- Studi provenance batupasir Formasi Halang, kaitannya dengan paleogeografi Miosen daerah Bantarkawung, Brebes, Jawa Tengah. Berita Sedimentologi (Indon. Sedimentologists Forum) 3, p. 4-13.

(‘Provenance study of Halang Fm sandstones and implications for Miocene paleogeography of the Bantarkawung area, Brebes, C Java’. Late Miocene- E Pliocene Fm sandstones mainly composed of feldspars and volcanic lithics. Quartz <5%. Provenance source probably volcanic arc in South of Java)

Darman, H., B. Muljana & J.T. van Gorsel (2013)- Short note: mineral composition of Eocene and Miocene sandstones in Java Island. Berita Sedimentologi 26, p. 33-37.

(online at: www.iagi.or.id/fosi/files/2013/05/BS26-Java.pdf)

(Quartz-rich sandstones common in Eocene across Java and in Miocene of N part of Java Island. Feldspar and volcanic rock fragments more dominant in most other Miocene sandstones. Sandstones from Late Miocene Halang Fm in NW Java dominated by feldspar and volcanic rock fragments)

Darmoyo, A.B. & S.P.C. Sosromihardjo (1999)- The sedimentology of the Plio-Pleistocene volcanoclastic in the Lapindo Brantas block, East Java. In: H. Darman & F.H. Sidi (eds.) Tectonics and sedimentation of Indonesia, FOSI-IAGI-ITB Regional Seminar to commemorate 50th anniversary of Van Bemmelen's Geology of Indonesia, Bandung 1999, p. 51-52. *(Extended Abstract)*

(Plio-Pleistocene Pucangan Fm volcanoclastic reservoirs in 1994 Wunut gas discovery, E Java. Sediments derived from volcanic arc in S)

Darmoyo, A.B., S.P.C. Sosromihardjo & B. Satyamurti (2001)- The sedimentology of Pleistocene volcanoclastic in the Lapindo Brantas block, East Java. *Majalah Geologi Indonesia* 16, 1, p. 15-38.

(Pleistocene volcanoclastics gas-bearing in Wunut field, E Java. Pleistocene overall regressive marine to non-marine sequence prograding to N in E Pleistocene, more to NE and E in Late Pleistocene- Holocene. Five higher order sequences in 1.5 My of Pleistocene- Holocene; tied to Mitchum 1993 cycle chart)

Daryono & H. Pandita (2015)- Identifikasi umur dan lingkungan pengendapan Formasi Kepek di Desa Kepek 2, Kecamatan Kepek, Kabupaten Gunung Kidul. *Prosiding Seminar Nasional ReTII ke-10 (STTNAS)*, Yogyakarta, p. 1-8.

(online at: <https://journal.sttnas.ac.id/ReTII/article/view/161/130>)

*('Determination of age and depositional environment of the Kepek Formation at Kepek village, Gunung Kidul'. Kepek Fm marls overlies Wonosari Lst and are youngest sediments in Southern Mountains of C Java. Relatively gentle slope (<10°), thickness <200m. With common open marine foraminifera, incl. planktonic species *Globoquadrina dehiscens*, *Globorotalia plesiotumida* (indicating zone N17, Late Miocene))*

Datun, M. (1982)- Penelitian asal pasir Ngrayong, Jawa Tengah. *Majalah Geologi Indonesia (IAGI)* 9, 2, p. 71-78.

('Investigation of Ngrayong sandstone provenance, Central Java'. Measured sections of 590m thickness in Candi and Todanan areas show M Miocene (N11-N12) Ngrayong sandstones composed of quartz (71-87%), clay minerals (0-11%), glauconite (0-11%), opaque mineral and plagioclase (0-2.2%), biotite (0- 0.2%). Quartz types: metamorphic 64.4%, plutonic 28.3%, reworked sedimentary 7.1% and vein quartz 0.2%. Ngrayong provenance mainly metamorphic and granitic plutonic rocks)

Datun, M., Sukandarrumidi, B. Hermanto & N. Suwarna (1996)- Geological map of the Ngawi Quadrangle, Jawa, 2nd Ed. (Quad. 1508-4), 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung.

(Kendeng Zone and W Cepu zone folded M Miocene- Pliocene sediments)

Datun, M., B. Toha & Widiasmoro (1985)- Fieldtrip guidebook Sangiran Dome and Southern Mountains, Central Java. Gadjah Mada University, 29p. *(Unpublished)*

Datun, M. & A. Priyantoro (1998)- Pengaruh tekstur dan diagenesa terhadap porositas dan permeabilitas Batupasir Formasi Jatibarang dan Cibulakan di daerah Cirebon Jawa Barat. *Teknik Geologi UGM*, p.

('Effects of texture and diagenesis on porosity and permeability of sandstones of the Jatibarang and Cibulakan Formations in the Cirebon area')

Davies, R.J. (2017)- The cause of the 2006 Lusi mud volcano (Indonesia): please let's not rewrite history. *Marine Petroleum Geology*, p. *(in press)*

(Commentary of Mauri et al. 2017 paper that fails to mention gas well drilling as possible trigger of mud volcano eruption)

Davies, R.J., M. Brumm, M. Manga, R. Rubiandini, R. Swarbrick & M. Tingay (2008)- The East Java mud volcano (2006 to present): an earthquake or drilling trigger? *Earth Planetary Sci. Letters* 272, p. 627-638.

('Lusi' active mud volcano in E Java probably caused by drilling of nearby Banjar Panji-1 exploration well)

Davies, R.J., M. Manga, M. Tingay, S. Lusianga & R. Swarbrick (2010)- Discussion: Sawolo et al. (2009) The LUSI mud volcano controversy: was it caused by drilling? *Marine Petroleum Geol.* 27, p. 1651-1657.

(online at: <http://seismo.berkeley.edu/~manga/daviesetal2010.pdf>)

(Disagree with the Sawolo et al. (2009) conclusion that drilling was not cause of E Java Lusi mud volcano)

Davies, R.J., S.A. Mathias, E. Swarbrick & M. Tingay (2011)- Probabilistic longevity estimate for the LUSI mud volcano, East Java. *J. Geol. Soc., London*, 168, 2, p. 517-523.

(Estimate of duration of LUSI mud volcano in E Java, assuming carbonates at 2500-3500m are water source, with area 100-600 km², thickness 0.2-1.0 km, porosity 15-25%, initial pressure 13.9-17.6 MPa, and separate, shallower source of mud. Time for flow to decline to <0.1 ML/day is 26 years. Can continue to flow at lower rates for 1000s of years. Land surface subsidence of ~95-475 m can be expected within 26 year time)

Davies, R.K., D.A. Medwedeff, G.P. O'Donnell et al. (1996)- Regional and reservoir scale analysis of fault systems and structural development of Pagerungan gas Field, East Java Sea, Indonesia. American Assoc. Petrol. Geol. (AAPG) Annual Conv., San Diego, Abstracts, 5, p. A33. *(Abstract only)*
(Pagerungan gas field complexly faulted and folded anticline N of Sakala-Paliat Fault System, offshore Bali. Eocene clastic reservoir affected by two generations of faults: Eocene normal and Neogene compressional)

Davies, R.J., R.E. Swarbrick, R.J. Evans & M. Huuse (2007)- Birth of a mud volcano: East Java, 29 May 2006. GSA Today 17, 2, p. 4-9.
(Mud eruption appears triggered by drilling of overpressured porous and permeable limestones at ~2830m in Banjar Panji 1 exploration well)

Davis, R.C. (1995)- Analysis of oil and gas seeps from Central Java, results of field survey. Multi-client study. PT Geoservices, Jakarta, 130p.
(N Serayu Mts 'classic' oil seep of Reerink 1865 mixed terrestrial-marine biomarkers, but significantly different isotope ratios from 'Cepu' oils)

De Beaufort, L.F. (1928)- On a collection of Miocene fish-teeth from Java. Wetenschappelijke Mededeelingen Dienst Mijnbouw Nederlandsch-Indie 8, p. 3-6.
*(Fish teeth (incl. shark) and teeth of ?crocodile and Cetacea (whales) in agglomerate at base of manganese ore seam in Kleripan mine, Kulun Progo, Yogyakarta district. Seam is between Miocene limestones, possibly with *Lepidocyclina flexuosa*. Kleripan fish fauna similar to that of oil-bearing limestone in Ngembak described by Martin 1919, presumably with *Cycloclypeus annulatus* (= *M Miocene*))*

De Boer, P.L., C.G. Langereis, J.D.A. Zijderveld, A.J.T. Romein et al. (1987)- Beryllium-10 data from redeposited Late Miocene pelagic sediments (East Java, Indonesia). Nuclear Instruments and methods in Physics Res. B29, p. 322-325.
(online at: <https://dspace.library.uu.nl/handle/1874/16106>)
*(¹⁰Be measurements from *M Mio-* Pliocene sediments of Solo River section, Kendeng zone, E Java, used for estimating rate of sedimentation. Large variations reflect short term variations and downslope mass transport of units previously deposited higher on submarine slope)*

De Creve, W.H. (1865)- Aardolie en haar voorkomen in Nederlandsch Indie. Tijdschrift Nijverheid Landbouw Nederl. Indie 1865, 6. 4, p.
('Petroleum and its occurrence in Netherlands Indies'. Early paper on occurrence of oil seeps on Java)

De Genevraye, P. & L. Samuel (1972)- The geology of Kendeng Zone (East Java). Proc. 1st Ann. Conv. Indon. Petroleum Assoc., p. 17-30.
(Classic BEICIP Kendeng zone summary paper)

De Groot, C. (1851)- Eiland Bawean. Natuurkundig Tijdschrift Nederlandsch-Indie 1, 2, p. 262-274.
*(First geological reconnaissance of Bawean island, Java Sea. Mainly travel report, not much specific geologic information. Most of island is volcanic rock, including columnar basalt. also hot springs. Sediments include limestone (with E-M Miocene larger forams; see Van Bemmelen 1949, p. 321), white quartz-rich sandstones, minor coal (lignite), believed to be of Pliocene age (but: Hochstetter 1858, p. 291 noted fossils collected by De Groot included *Terebratula*, *Pecten* and *Spondylus* that looked rather like Cretaceous))*

De Haan, W. (1954)- Tertiaire ertsgangtektoniek in Zuid-Bantam (Java). Geologie en Mijnbouw 16, p. 84-87.
(online at: <https://drive.google.com/file/d/0B7j8bPm9Cse0RmhTbFhyUkk4dFE/view>)

('The Tertiary ore vein tectonics in South Banten, Java'. Joint systems in metalliferous areas of South Banten mainly trending ESE-WSW and SE-NW (N115° E). One prominent gold-silver vein at Cikotok strikes WNW-ESE, explained by formation along contact with andesite intrusive body)

Deighton, I., P. Conn & C. LeRoy (2010)- New seismic in the Java forearc basin: implications for plate tectonic reconstructions. Proc. HAGI-SEG Int. Geosciences Conf., Bali 2010, IGCE10-OP-167, 8p.

(New long-offset 2D seismic along S Java forearc basin images basement under mid-late Tertiary forearc fill. W sector of offshore S Java Basin heterogeneous basement with no significant internal reflectivity over large areas but some low angle dipping reflector sequences. This and sharp rugose basement interface suggest oceanic or transitional crust. E sector of offshore S Java relatively thin Miocene- younger sediments, underlain by 3+ seconds of block-faulted parallel-bedded sedimentary section, similar in seismic character to Mesozoic from Australian NW Shelf, and possibly fragment of Gondwanaland ('Argo Land'). Underlying basement too deep to image. Two basin sectors separated by a prominent structural high)

Deighton, I., T. Hancock, G. Hudson, M. Tamannai, P. Conn & K. Oh (2011)- Infill seismic in the Southeast Java forearc basin: implications for petroleum prospectivity. Proc. 35th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA11-G-068, 14p.

(More new, deep 2D seismic lines along E part of Java forearc, imaging >3 seconds TWT of unexpected block-faulted parallel-bedded sediments, with similarities in seismic character to Mesozoic sections from Australian NW Shelf, buried under >2 seconds TWT of mid-late Tertiary forearc deposits. Also map of M Miocene reef complexes)

Den Berger, L.G. (1927)- Unterscheidungsmerkmale von rezenten und fossilen Dipterocarpaceen Gattungen. Bulletin du Jardin botanique de Buitenzorg, Ser. 3, 8, p. 495-498.

('Characteristics of recent and fossil Dipterocarp species'. With descriptions of fossil wood from West Java, incl. Dryobalanoxydon javanicum, D. tobleri, etc.)

Dengler, L. (1893)- Ueber einige neue Erdole aus Java. Thesis Technische Hochschule, Karlsruhe, p. 1-51.

('On some new crude oils from Java'. Early chemical analyses of crude oils from five NE Java wells: Koeti 4, Koeti 20, Berbek 2, Gogor and Roengkoet. Oils mostly naphthene, followed by paraffins. Gogor and Roengkoet oils very heavy and no paraffins)

Deplus, C., S. Bonvalot, D. Dahrin, M. Diament, H. Harjono & J. Dubois (1995)- Inner structure of the Krakatau volcanic complex (Indonesia) from gravity and bathymetry data. J. Volcanology Geothermal Res. 64, p. 23-52.

(Study of inner structure of Krakatau volcano, Sunda straits, from bathymetry and gravity surveys)

Devi, E.A., F. Rachman, A.H. Satyana, Fahrudin & R. Setyawan (2018)- Paleofacies of Eocene Lower Ngimbang source rocks in Cepu Area, East Java Basin based on biomarkers and Carbon-13 isotopes. Proc. Global Colloquium on GeoSciences and Engineering, Bandung 2017, IOP Conf. Ser., Earth Environm. Science 118, 012009, p. 1-7.

(online at: <http://iopscience.iop.org/article/10.1088/1755-1315/118/1/012009/pdf>)

(Eocene Lower Ngimbang carbonaceous shales from Kujung-1 and Ngimbang-1 wells in Cepu area. C-13 isotope data suggest transitional/ deltaic source facies in Kujung-1 to marginal marine in Ngimbang-1)

Devi, E.A., F. Rachman, A.H. Satyana, Fahrudin & R. Setyawan (2018)- Geochemistry of Mudi and Sukowati oils, East Java Basin and their correlative source rocks: biomarker and isotopic characterization. Proc. 42nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA18-271-SG, 23p.

(Oils from Kujung Fm reservoirs in Mudi and Sukowati fields, NE Java, from one oil family with deltaic-marginal marine source facies. Oils correlated to Eocene Lower Ngimbang shales. Mixed deltaic (vitrinite macerals type III) and marginal marine (liptinite and alganite macerals type II). Source richness fair- excellent. Top oil window (Ro 0.6) between 1900-2850m depth)

- De Vogel, H.A.F. (1859)- Kajangan-api of vuurwellen van Bodjonegoro. *Natuurkundig Tijdschrift Nederlandsch-Indie* 16, p. 320-324.
(*Early description of long-lived, burning Kayangan Api ('fire-spirit') gas seep(s) in teak forest near Dander, 25 km SSW of Bojonegoro, NE Java. With occasional sulfurous odor*)
- Dewi, A.O., B. Rahmad & A. Mardianza (2016)- Geochemical study of Jatibarang Formation source rock and oil in Cipunegara area, North West Java Basin. *Proc. GEOSEA XIV and 45th Ann. Conv. Indon. Assoc. Geologists (IAGI) (GIC 2016)*, Bandung, p. 573-575.
(*Samples from of E Tertiary Jatibarang Fm shale of unnamed wells dominantly type III kerogen*)
- Dharma, B. (2000)- Fossil molluscs from Java. *Club Conchylia Informationen* 32, p. 59-64.
- Diament, M., C. Deplus, H. Harjono, M. Larue, O. Lassal, J. Dubois & V. Renard (1990)- Extension in the Sunda Strait (Indonesia): a review of the Krakatau programme. *Oceanologica Acta, Spec. Vol. 10*, p. 31-42.
(*New data confirm NW displacement of fore-arc sliver plate, causing extension in Sunda Straits that is related to rifting and accretion in Andaman Sea. Deformation of forearc sliver can explain why only 50-70 km of opening in Sunda Strait and 460km of accretion in Andaman Sea*)
- Dianto, Y. & Y. Saamena (2008)- Gunung Badak, Cikepuh-Citisuk, dan Citirem, kompleks petrotektonik jalur subduksi Kapur Jawa Barat. *Proc. 37th Ann. Conv. Indon. Assoc. Geol. (IAGI)*, Bandung, 1, p. 717-729.
(*'Gunung Badak, Cikepuh-Citisuk and Citirem, Cretaceous subduction complex, W Java'. Another summary of the Ciletuh melange complex of SW Java, with some new rock geochemical data*)
- Dibyantono, H. & S. Sutrina (1977)- Bouger anomaly map of Banjornegara & Pekalangan quadrangle, Java, 1: 100 000. *Geol. Res. Dev. Centre (GRDC)*, Bandung.
- Direktorat Jenderal Minyak dan Gas Bumi, Cepu (1993)- Geological map of the Kendeng zone, 1:100,000. (*Unpublished*)
- Dirk, M.H.J. (1997)- Studi petrologi batuan ofiolit dari komplek bancuh Ciletuh, Jawa Barat. *J. Geologi Sumberdaya Mineral* 7, 67, p. 26-31.
(*'Petrologic study of ophiolite rocks from the Ciletuh melange complex, W Java'. Ciletuh area melange' with ophiolitic rocks including peridotite (dunite, hartzburgite, lherzolite, wehrlite), gabbro and basalt, metamorphosed into greenschist facies*)
- Ditya, A., K. Petersen, H.B. Soenandar, I. Sulistyaningrum & S. Becker (2014)- Cepu Block hydrocarbon migration and seal evaluation- new insights from application of fluid inclusion technologies. *Proc. 38th Ann. Conv. Indon. Petroleum Assoc. (IPA)*, Jakarta, IPA14-G-194, 17p.
(*Fluid inclusion analysis and geochemical fingerprinting from wells in Cepu Block, E Java, suggests all wells in hydrocarbon fields experienced early charge of waxy, terrestrial oil. Most structures (except Kedung Keris) also experienced later gas charge, displaced oil in many structures moving oil updip to ultimate trap at Banyu Urip. Clastics immediately above carbonates at Banyu Urip not sealing facies; ultimate top seal for Banyu Urip appears to be basal Pliocene Z1 SB*)
- Djaja, I. (1987)- The FWS Area on the F-High Trend, offshore NW Java: a new approach to an old play. *Proc. 16th Ann. Conv. Indon. Petroleum Assoc. (IPA)*, Jakarta, 1, p. 41-56.
(*On potential play at E side of Arjuna basin in 'Main' Sst and 'Massive' Lst formations*)
- Djadihardja, Y.S., H. Beiersdorf, S. Burhanudin, C. Reichert, S. Hidayat, M. Wiedicke, H. Permana et al. (1999)- Investigation of methane venting and hydrothermal activity in the Sunda Trench, Southern offshore of West Java Island. *Proc. 28th Ann. Conv. Indon. Assoc. Geol. (IAGI)*, Jakarta, 2, p. 47-58.
(*BGR SONNE 1998-1999 cruise seismic survey over SW Java- SE Sumatra offshore forearc shows Bottom Simulating Reflector (BSR) in accretionary prism, containing gas hydrate. Also methane vent at 2938m water depth with molluscs and worms*)

Djoehanah, S., D.H. Natawidjaja & Praptisih (1993)- Karakteristik perubahan litologi, biostratigrafi dan model sedimentasi dari Formasi Waturanda- Penosogan- Halang. Proc. 22nd Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 2, p. 1076-1090.

(Characteristics of changes in lithology, biostratigraphy and sedimentation models of the Waturanda-Penosogan-Halang Formations'. Miocene deep marine deposits of C Java: Waturanda Fm mainly volcanic breccias, Penosogan Fm (N8-N13), Halang Fm (N14-N18) turbiditic formations. With foram distribution charts)

Djuanda, H. (1985)- Facies distribution in the Nurbani carbonate build-up, Sunda Basin. Proc. 14th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 2, p. 507-533.

(E-M Miocene Nurbani reef Batu Raja carbonate build-up on W flank Sunda Basin. Sub-commercial 1983 oil-gas discovery. Basal transgressive platform limestone with several successive carbonate build-ups. Three lithofacies: (1) reef front skeletal packstones- wackestones along E flank, (2) lagoonal back-reef mudstones-marly limestones and (3) narrow band of reef core coral- algal boundstone. Best reservoir in skeletal packstones and wackestones with extensive mouldic and vuggy porosity, and with some fracturing)

Djuhaeni (1994)- Stratigraphie sequentielle des series sedimentaires marines du Neogene et du Pleistocene dans la region de Cepu, bassin Nord-Est de Java, Indonesie. Doct. Thesis, Universite Claude Bernard, Lyon, p. 1-218. *(Unpublished)*

(Sequence stratigraphy of the marine Neogene-Pleistocene in the Cepu region, NE Java)

Djuhaeni (1995)- Hubungan antara fluktuasi paras muka laut relatif dan biostratigrafi pada endapan Neogen dan Plistosen di daerah Cepu, Cekungan Jawa Timur Utara. Jurnal Teknologi Mineral (ITB) 2, p. 33-48.

Djuhaeni (1996)- Signifikansi aplikasi konsep stratigrafi sikuen pada endapan berumur Neogen-Plistosen di daerah Cepu, Cekungan Jawa Timur Utara. Jurnal Teknologi Mineral (ITB), 3, 2, p. 43-60.

(Application of sequence stratigraphic concepts in the Neogene- Pleistocene of the Cepu area, NE Java' Fourteen measured sections sampled for foraminifera. Sequence boundaries, characterized by erosional surfaces caused by drop of sea-level, identified. Sequences in NE Java Basin primarily highstand systems tracts dominated by carbonate or pelagic/hemipelagic facies. Basal parts of sequences may be lowstand and transgressive systems tracts)

Djuhaeni (1996)- Efek tektonik dan eustasy terhadap perkembangan sikuen: suata contoh pada endapan Miosen Atas-Pliosen, zona N17-N20 di daerah Cepu, Cekungan Jawa Timur Utara. Proc. 25th Ann. Mtg. Indon. Assoc. Geol. (IAGI), Bandung, 2, p. 242-261.

(Tectonic and stratigraphic effects on sequences in Upper Miocene- Pliocene N17-N20 in Cepu area)

Djuhaeni (1997)- Fenomena stratigrafi selama Miosen-Tengah hingga Pliosen di cekungan Jawa Timur Utara. Proc. 26th Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, p. 314-325.

(Middle Miocene- Pliocene sequence stratigraphic phenomena in the NE Java basin'. Major sequence boundary at base MMiocene zone N9 overlain by Ngrayong sandstone lowstand ST. Overlain by transgressive Bulu Lst (N13?), Wonocolo Fm shales, etc.)

Djuhaeni (2004)- Stratigrafi cekungan Jawa Timur Utara: perkembangan tatanama satuan stratigrafi. In: Proc. Workshop Stratigrafi Pulau Jawa, Bandung 2003, Geol. Res. Dev. Centre (GRDC), Bandung, Spec. Publ. 30, p. 59-69.

(NE Java basin stratigraphy)

Djuhaeni (2004)- Problem tatanama satuan litostratigrafi endapan volkanoklastik laut-dalam di P. Jawa: suatu alternatif peningkatan kedalam kelompok. In: Stratigrafi Pulau Jawa, Geol. Res. Dev. Centre (GRDC), Bandung, Spec. Publ. 30, p. 95-106.

(Problems of marine volcanoclastic deposits nomenclature on Java')

- Djuhaeni & S. Martodjojo (1989)- Stratigrafi daerah Majalengka dan hubungannya dengan tatanama satuan litostratigrafi di cekungan Bogor. *Geologi Indonesia*, 12, 1 (Katili Volume), p. 227-252.
(*'Stratigraphy of the Majalengka area and relationships with nomenclature of lithostratigraphy units in Bogor basin'. C Java Majalengka-Sumedang area between Bogor and Kendeng Troughs characterized by M Miocene-Pliocene deep marine turbiditic facies, incl. Late Miocene volcanoclastics*)
- Djuhaeni & S. Martodjojo (1990)- Studi batupasir Selorejo di daerah Cepu, Jawa Tengah. *Proc. 19th Ann. Mtg. Indon. Assoc. Geol. (IAGI)*, Bandung, 1, p. 216-229.
(*'Study of the Selorejo sand in the Cepu area'. Late Pliocene Selorejo 8-72m thick bioclastic calcarenites, calcareous sands and clays in Cepu area rich in marine benthic and planktonic foraminifera (zone N21). Interpreted as lowstand channel and offshore bar deposit, tied to ~2.8 Ma SB*)
- Djuhaeni & D. Nugroho (2002)- Siklus transgresi-regresi dan sedimentasi Tersier di Cekungan Jawa Timur Utara: suatu kajian berdasarkan stratigrafi sikuen. *Buletin Geologi (ITB)*, 34, 3, Special Ed. (Prof. Soejono Martodjojo volume), p. 191-204.
(*online at: http://digilib.itb.ac.id/files/disk1/36/jbptitbtp-gdl-grey-2002-dwiharsonu-1775-2002_gl_-1.pdf*)
(*NE Java Tertiary sediments two transgression-regression (TR) supercycles. Early transgression at P15 (Upper Eocene), and maximum transgression during N19-N20 (Pliocene), with maximum regression at N11 (Middle Miocene). First TR Supercycle P15 to N11 (Upper Eocene-M Miocene). Maximum transgression at N7, marked by middle-neritic marl, part of Tuban Fm. Second TR supercycle N11 - N22 (Pliocene). Maximum transgressive during N19-N20, the biggest transgression in Tertiary, marked by upper-bathyal Mundu Fm marls, or Paciran Fm shelfal limestones. Evolution of sedimentation from Kujung Fm up to Lidah Fm indicated relationship between sediment supply, local tectonic and relative sea-level fluctuation or transgression-regression*)
- Djunaedi, M.T. & M. Taufiq (2010)- Larger foraminifera from the bottom of Wonocolo Formation, East Java. *Proc. 39th Ann. Conv. Indon. Assoc. Geol. (IAGI)*, Lombok, PIT-IAGI-2010-248, 10p.
(*In Indonesian. Larger foraminifera from base of Wonocolo Fm at Kedungatta River, Larangan village, Pati District, three species: Cycloclypeus eidae, Lepidocyclina (T.) ruteni and Lepidocyclina B form, indicating zone Tf1-2 age, upper M Miocene- lower Late Miocene. Can be correlated with planktonic foraminifera zones N15/N16. Deposited in middle neritic environment*)
- Djuri, M. (1973)- Geologic map of the Arjawinangun Quadrangle, Java, scale 1:100,000. *Geol. Survey Indonesia*, Bandung.
(*Area around and NW of Ciremai volcano, W-C Java*)
- Djuri, M. (1975)- Geologic map of the Purwokerto and Tegal Quadrangles, Java, scale 1:100,000. *Geol. Survey Indonesia*, Bandung.
(*Area around Slamet volcano; some of folding of Miocene rocks concentric around Slamet*)
- Donovan, S.K., W. Renema & D.N. Lewis (2010)- A new species of *Goniocidaris* Desor (Echinoidea, Cidaroida) from the Middle Miocene of Java. *Alcheringa* 34, 1, p. 87-95.
(*Distinctive cidaroid echinoid spines from M Miocene Bulu Fm, 5 km NNW of Sale, along Rembang-Bojonegoro road, E Java. Described as Goniocidaris paraplu n.sp.. Associated with Katacycloclypeus annulatus, Nephrolepidina, Miogypsina, etc.*)
- Doornink, H.W. (1932)- Tertiary Nummulitidae from Java. *Verhandelingen Geologisch-Mijnbouwkundig Genootschap Nederland Kol.*, Geol. Serie 9, 4, p. 267-316.
(*M Eocene- E Oligocene Nummulites from Gerth Java collections. No locality maps, stratigraphy*)
- Douville, H. (1912)- Quelques foraminiferes de Java. *Sammlungen Geol. Reichs-Museums Leiden*, 1, 8, 5, p. 279-294.
(*online at: www.repository.naturalis.nl/document/552404*)
(*'Some foraminifera from Java'. Eocene larger foraminifera collected by Martin from Kali Poeroe in Nanggulan area, previously studied by Verbeek (1881). With well-preserved Nummulites (N. vredenburgi, N.*

djokdjokartae (= megaspheric generation of *N. vredenburgi*), *N. pengaronensis*) and *Orthophragmina* (= *Discocyclina*) (*D. javana*, *D. fritschi* n.sp., *D. omphalus*, *D. dispansa*, *D. decipiens*). With 3 plates)

Douville, H. (1916)- Les foraminifères des couches de Rembang. Sammlungen Geol. Reichs-Museums Leiden, ser. 1, 10, p. 19-35.

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(*'The foraminifera from the Rembang Beds'. Miocene Cycloclypeus annulatus and Lepidocyclina papulifera* n.sp. from Ngampel, Ngandong, etc., S of Rembang in NE Java, sampled by Martin. Also *Flosculinella bontangensis* from Sedan in sample collected by Verbeek)

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(*'Notes on the stratigraphy of the sediments in the Trinil region'. Brief note on stratigraphy of latest Pliocene-Pleistocene deposits around Trinil excavation area of Selenka Expedition, C Java*)

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(*E Java Basin three main intervals of carbonate platform and mound growth: Kujung (carbonate mound and off-mound, ~28-22 Ma), Tuban (mixed carbonate mounds-siliciclastics, ~22-15 Ma), and Wonocolo (Bulu limestone, ~13-12 Ma). Each interval multiple generations of carbonate growth and demise. Geometries of platform and mound margins vary through time and interval from steep and aggradational to gradual and progradational and do not have consistent windward-leeward direction*)

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(*'A new location of glaucophane in the soil of Java, with some remarks regarding its probable origin'. Material from extinct mud volcano of Pulungan, Kalang Anyar, S of Surabaya (= just N of Lusi/ Sidordjo mud blowout. Presence of glaucophane suggests High P metamorphic 'accretionary' basement, not Australian continental terrane?; JTvG)*

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(*Brief note on first reported occurrence of nautiloid *Aturia aturi* in Indonesia, in Late Miocene dark shales of Middle Bodjongmanik beds, 4 km N of Jasinga, W Java, below beds with *Lepidocyclina**)

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- Duyfjes, J. (1941)- Report of the geological survey made in the southern part of the District Djampangkoelon during two trips in 1940. Geological Survey Bandung Open File Report E40-88 (or 8/g/41)
(*Early report on Ciletuh area Pretertiary, etc. rocks*)
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(*'Comparison between content of foraminifera (plankton and benthos) and mollusks in shallow marine depositional environments, Case study on the Cimandiri Formation, Sukabumi, West Java'. Shallow marine Cimandiri Fm sediments of late Middle Miocene age (N12-N15). Locally abundant molluscs (Turritella angulata assemblage of Oostingh 1938), particularly infaunal species*)
- Ediyanto & R. Basuki (2002)- Perkembangan lingkungan pengendapan Formasi Cimandiri Bagian Tengah pada penampang Sungai Cijarian, Sukabumi Jawa Barat, berdasarkan paleontologi moluska. Proc. 31st Ann. Conv. Indon. Assoc. Geol. (IAGI), Surabaya, p. 822-844.
(*online at: <http://repository.upnyk.ac.id/5625/>*)
(*'The development of depositional environment of the middle part of the Cimandiri Formation in the Cijarian River section Sukabumi, West Java, based on the paleontology of molluscs'. 14 genera of gastropods and pelecypods in Cimandiri Fm at Cijarian river. Lower interval mainly sandstone, middle part silt and fine sandstone, at top coarse sandstones. Depositional environments interpreted as: inlet-tidal estuarine- surf-shallow marine - inlet- surf*)
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(*online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/385/334>*)

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('Facies and depositional environment of the Parigi Formation limestone, in the Pangkalan area, Karawang, West Java')

Flathe, H. & D. Pfeiffer (1965)- Grundzuge der Morphologie, Geologie und Hydrogeologie im Karstgebiet Gunung Sewu (Java, Indonesien). Geol. Jahrbuch 83, p. 533-562.

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and E Java. Limestone gently folded and dips slightly to SE. Terrain here called sinus karst because of sinusoidal contour of rounded hills which rise 30-70m above floor. Drainage mainly subsurface)

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Gerth, H. (1922)- Echinodermata- Echinoidea. In: Die Fossilien von Java auf Grund einer Sammlung von Dr. R.D.M. Verbeek und von anderen bearbeitet durch Dr. K. Martin. Sammlungen Geol. Reichs-Museums Leiden (N.F.) 1, 2, 3, p. 497-520.

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(Tertiary echinoids chapter in K. Martin's 'Fossils of Java' series, with descriptions of ~42 species of Eocene-Pliocene echinoids from Java collections of Junghuhn, Verbeek, Martin, etc. With one plate)

Gerth, H. (1929)- The stratigraphical distribution of the larger foraminifera in the Tertiary of Java. Proc. 4th Pacific Science Congress, IIB, p. 591-599.

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Gerth, H. (1930)- Ein neues Eocaen-Vorkommen bei Djokja auf Java. Proc. Kon. Nederl. Akademie Wetenschappen, Amsterdam, 33, 4, p. 392-395.

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(‘A new Eocene locality near Yogyakarta on Java’. White limestone outcrops of Gunung Gamping, 4 km W of Yogyakarta. Illustrated in Junghuhn (1850) and thought to be of Miocene age by Verbeek and Fennema (1896) and Martin (1914), but abundant *Pellatispira* and some *Nummulites* demonstrate Late Eocene age. Typical reefal limestone with common coral, i.e. different facies from nearby *Nummulites* limestone localities of Jiwo and Nanggulan)

Gerth, H. (1931)- Der geologische Bau Javas. Geol. Rundschau 22, 3-4, p. 188-200.

(‘The geologic framework of Java’. Java island only three areas of Pretertiary outcrop, below thick cover of Tertiary sediments. Unconformities between Pretertiary and Paleogene and between Paleogene and Neogene reflect Tertiary orogenic phases: main phase at end of Neogene. Today’s active volcanoes appeared in Quaternary. With cross-sections, stratigraphic columns and tables)

Gerth, H. (1933)- Neue Beiträge zur Kenntnis der Korallenfauna des Tertiärs von Java. I. Die Korallen des Eocaen und des älteren Neogen. Dienst Mijnbouw Nederlandsch-Indie, Wetenschappelijke Mededeelingen 25, p. 1-45.

(‘New contributions to the knowledge of the coral fauna of the Tertiary of Java. I. The corals of the Eocene and older Neogene’. Descriptions of four species of solitary corals from Nanggulan, W of Yogyakarta, and species from Oligo-Miocene of Rajamandala, Serayu and Rembang areas. Little stratigraphy and locality information)

Gerth, H. & W.F.F. Oppenoorth (1929)- The Upper Eocene Nanggoelan beds. Fourth Pacific Science Congress, Java 1929, Excursion D1, p. 1-7.

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(Borobudur basin N of Yogyakarta City, surrounded by three andesitic volcanoes: Merapi, Merbabu and Sumbing. Volcanic activity strongly influenced evolution of basin. Two major volcanic deposition events up to tens of meters thick at ~119,000 years BP and ~31,000 years BP in S part of basin. Several generations of paleolakes in Borobudur basin and Borobudur Temple probably stood by water body. Borobudur temple never buried under volcanic material in historic times)

Goppert, H.R. (1854)- Die Tertiärflora der Insel Java, nach den Entdeckungen des Herrn Fr. Junghuhn beschrieben und erörtert in ihrem Verhältnisse zur Gesamtflora der Tertiärperiode. C.W. Mieling, The Hague, p. 1-169.

(online at: <http://books.google.com/books/>)

(*'The Tertiary flora of the island of Java, after discoveries of Mr Fr. Junghuhn, described and placed in context of total flora of the Tertiary period'. First description of Tertiary plant leaves and petrified wood fragments from Java, collected by Junghuhn. Mainly from 3 localities*)

Goppert, H.R. (1864)- Über die Tertiärflora von Java. Neues Jahrbuch Mineral. Geol. Palaont. 1864, p. 177-186.

(*'On the Tertiary flora of Java'*)

Grandesso, P. (2001)- Contribution to biostratigraphy of the Nanggulan Formation (Java) based on planktonic foraminifera. Memorie Scienze Geol., Padova, 53, p. 23-28.

(*Nanggulan section W of Yogya: lower part (Kalisonggo Mb, 200m) with planktonic foram assemblages of zones P11- P14 (M Eocene), upper part (Seputih Mb, 60m) zones P15-P19 (Late Eocene-Early Oligocene)*)

Grandjean, J.B. & T. Reinhold (1933)- De diatomeenaarde van Darma in Cheribon. De Mijnningieur 14, 3, p. 40-46.

(*'The diatomaceous earth of Darma in Cirebon'. Plains of Darma, S of Ciremai volcano, S of Darma, SW of Kuningan, lake deposits with interbedded fine Ciremai tuffs and ~15-40cm thick beds of white diatom earth. Composed mainly of fresh-water diatoms Cymbella, Melosira, Synedra, Navicula, Nitzschia and Gomphonema; age probably Pliocene. Used in Java sugar industry for filtration raw cane sugar solutions and insulation of pipes*)

Gross, O.P., R.J. Drevet, A. Sulaeman, E.M. Johnstone, J.G. McPherson, J. Stevens & D.C. Johnstone (2006)- A new look at the East Java Basin using a genetic basin analysis approach. Proc. AAPG/ IPA Int. Geosc. Conf., Jakarta 2006, Indon. Petroleum Assoc. (IPA), 5p.

(*Extended abstract of ExxonMobil NE Java basin study*)

Gultaf, H., B. Sapiie, M. Syaiful, A. Bachtiar & A.P. Fauzan (2015)- Paleostress analysis of Grindulu Fault in Pacitan and surrounding area its implication to regional tectonic of East Java. Proc. 39th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA15-G-059, 34p.

(*Analysis of Cretaceous- Recent paleostress history along SW-NE trending Grindulu Fault in Pacitan District in Southern Mountains of E Java. With plate reconstructions of Sundaland region- East Java Microplate since Cretaceous (80 Ma)*)

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(*'Hydrocarbon potential of Banyumas sub-basin, S part of C Java'. Banyumas Sub-basin numerous oil and gas seeps. Several wells drilled, but unsuccessful. Source rock identified includes Paleogene of Nanggulan and Late Miocene of Halang Formations. Oil from seeps of fluvio-deltaic kerogen origin*)

Guppy, H.B. (1889)- Preliminary note on the geological structure of the Sindang-barang district, on the South coast of Java. Scottish Geogr. J. 5, 2, p. 73-76.

Haanstra, U. & E. Spiker (1932)- Über Fossilien aus dem Altmiozan von Rembang (Nord Java). Proc. Kon. Nederl. Akademie Wetenschappen, Amsterdam 35, 8, p. 1096-1104.

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(*'On fossils from the Early Miocene of Rembang, N Java'. Study of molluscs collected by Erb from Ngrayong Beds at N side Lodan saddle. Grey and brown-grey clays interbedded with Lepidocyclina limestones, marls and quartz sandstones. Molluscs 47 species, of which 17% Recent*)

- Haberland, C., M. Bohm & G. Asch (2014)- Accretionary nature of the crust of Central and East Java (Indonesia) revealed by local earthquake travel-time tomography. *J. Asian Earth Sci.* 96, p. 287-295.
(*Seismic travel time data confirms accretionary nature of crust in C Java segment of Sunda subduction zone (109.5-111.5E). Images show asymmetrical crustal structure and can be interpreted to show low-velocity continental fragment or remnant of Woyla Arc in south coastal area (E of 110°E), which has been accreted to Sundaland margin. Central part of Java crust lower than average crustal velocities, likely reflecting ophiolitic, arc rocks and metamorphic rocks of Meratus assemblage subduction melange*)
- Hadi, T., L. Samuel & H. Widodo (1982)- Field trip guide book Prupuh- Karren carbonate rocks. Joint ASCOPE/ CCOP workshop on hydrocarbon occurrence in carbonate formation, Surabaya 1982, 9p.
(*Descriptions of Early Miocene Prupuh and late Miocene Karren limestone formations for 1-day fieldtrip*)
- Hadiwisastra, S. (2001)- Calcareous nannoplankton biostratigraphy of the Nanggulan Formation, Central Java-Indonesia. *Jurnal Teknologi Mineral (ITB)* 8, 4, p.
(*Calcareous nannoplankton zonation of Nanggulan Fm, C Java, zones CP 13- CP 16 (M- L Eocene)*)
- Hadiwisastra, S. & H. Kumai (2000)- Calcareous nannoplankton of Paleogene sediment from the Bayat area, Central Java. *J. Geol. Soc. Japan (Chishitsugaku Zasshi)* 106, 10, p. 651-658.
(*online at: www.jstage.jst.go.jp/article/geosoc1893/106/10/106_10_651/_pdf*)
(*First paper on calcareous nanofossils of ~70m thick section of Wungkal Fm, E side of Gunung Pendul, Bayat area, 20km E of Yogyakarta. Range from Late Eocene/CP 14- Early Oligocene/CP 16c. Eocene-Oligocene boundary recognized by last occurrence of Discoaster saipanensis, Discoaster barbadiensis and Cribrocentrum reticulatum. Subzone CP 16c in upper part of section identified by co-occurrence of Reticulofenestra umbilicus, Cyclicargolithus floridanus and Reticulofenestra bisecta*)
- Hadiwisastra, S. & H. Kumai (2000)- Biostratigraphy of calcareous nanofossils in the Paleogene chaotic sediments in the Karangsambung area, Central Java, Indonesia. *J. Geoscience, Osaka City University*, 43, 2, p. 21-31.
(*online at: http://dlistv03.media.osaka-cu.ac.jp/infolib/user_contents/kiyo/DB00010785.pdf*)
(*Paleogene of Loh Ulo mainly olistostromes with mudstones and scaly clays with exotic blocks. Lower part (Karangsambung Fm) with late M Eocene NP16-NP17 and reworked Upper Cretaceous nanofossils; upper part (Totogan Fm) Oligocene age*)
- Hadiwisastra, S., S. Siregar, E.P. Utomo & Suwijanto (1994)- Depositional setting and distribution of carbonate facies of Wonosari Formation, Central Java. In: *Proc. Int. Symp. Neogene Evolution of Pacific Ocean Gateways, Inter-University Seminar House of Kansai, Kobe, Japan, IGCP-355*, p. 137-144.
- Hadiwisastra, S., S. Suparka, K.H. Thio & S. Siregar (1979)- Suatu tinjauan mengenai batuan metamorf di daerah Cihara, Bayah, Jawa Barat. *J. Riset Geologi Pertambangan (LIPI)*, 2, 1, p. 1-6.
(*'Some views on the metamorphic rocks in the Cihara area, Bayah, W Java'. Actinolite chlorite schist, hornblende schist, mica schist exposed N of Cihara granodiorite. Associated rocks are basalt, graywacke and brecciated tuff, black shale, granodiorite and dacite in E-W trending, 750m wide zone of cataclastic rocks, thought to be horizontal fault zone (metamorphic core complex?)*)
- Hadiyat, A. (1982)- Geologi dan kemungkinan-kemungkinan minyak dan gas bumi daerah Wangon Jeruklegi Jawa Tengah. Thesis Institute Teknologi Bandung (ITB), p.
(*'Geology and oil and gas possibilities of the Wangon Jeruklegi area, Central Java'*)
- Hakiki, F., F. Musgrove, Y. Xiao & U. Handyastuti (2013)- Understanding Oligo- Miocene carbonate drilling losses causes and achieving zonal isolation. *Proc. 37th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA13-G-193*, p. 1-17.
(*Losses of drilling mud while drilling Oligo-Miocene carbonates in Banyu Urip Field mostly in tight rock of drowning cap of carbonate reservoir, which is characterized by fractures and hydrothermal leaching, and also in basal 50' of clastic section above top carbonate, which is carbonate-cemented and brittle*)

Hakiki, F., F. Musgrove, P. Varnai, A. Ditya & D. Sapardina (2015)- Banyu Urip field development- result of drilling 32 wells. Proc. 39th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA15-G-228, 15p.
(New development wells at Banyu Urip carbonate platform field, NE Java refined shape of M Miocene Drowning Cap. Excellent pressure connectivity throughout reservoir from carbonate reservoir to overlying clastic section. Average porosity in carbonate platform interior 27%, with low porosity rim of ~8-9% (a gradual diagenetic transition caused by less fresh-water dissolution)

Hakiki, F., R.P. Sekti, T. Simo, S.M. Fullmer & F. Musgrove (2012)- Oligo-Miocene carbonate reservoir quality controls- deposition and diagenesis study of Banyu Urip Field, onshore East Java. Proc. 36th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA12-G-037, p. 1-13.
(Oligo-Miocene carbonates of Banyu Urip Field almost 1000m aggrading phase composed of repeated 50m thick shallowing-upward cycles. Drowning phase up to 300m thick, dominated by red algae. Early diagenesis associated with exposure to fresh water at sequence boundaries creates cementation and dissolution over 50m cycle. Late burial diagenesis also important, demonstrated by vugular dissolution that cross cuts stylolites)

Hakim, A., C. Idham A. & D. Nugroho (2014)- Analisis umur batugamping Formasi Bojonglopang dan hubungan stratigrafi batugamping Formasi Bojonglopang dengan breksi Formasi Jampang. Buletin Geologi (ITB) 41, 1, p.
('Age analysis of limestone of the Bojonglopang formation and stratigraphic relationship between the Bojonglopang limestone and the Jampang Formation breccia')

Hakim, A.Y.A. & B. Sulistijo (2013)- Integrated exploration method to determine Cu prospect in Seweden District, Blitar, East Java. Procedia Earth and Planet. Sci. 6, p. 64-69.
(On polymetallic mineralization in Seweden district, S Mountains of Java. Presence of sulphides, incl. pyrite, chalcopyrite, galena and sphalerite, also malachite. Not much detail)

Hall, R., B. Clements, H.R. Smyth & M.A. Cottam (2007)- A new interpretation of Java's structure. Proc. 31st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA07-G-035, 23p.
(Paleogene arc volcanoes acted as load which caused flexural basin to develop between Sunda Shelf and S Mountains Arc. Thrusting in S Java displaced Paleogene volcanic arc rocks N by >50 km and eliminated flexural basin in W Java. Amount of thrusting diminishes from W to E Java. Three distinct structural sectors in Java, W, Central and E. C Java displays deepest structural levels of N-directed thrusts, and Cretaceous basement is exposed; overthrust volcanic arc largely removed by erosion. In W and E Java overthrust arc preserved. In W Java arc thrust onto shelf sequences of Sundaland margin. In E Java volcanic arc thrust onto thick volcanic/sedimentary sequence formed N of arc in flexural basin due largely to arc loading. Traps beneath overthrust arc offer new hydrocarbon exploration possibilities, particularly in W Java)

Hamilton, P.J., H. Smyth, R. Hall & P.D. Kinny (2006)- Zircon age constraints on the basement in East Java, Indonesia. Geochimica Cosmochim. Acta 70, 18, Suppl. 1, p. A225 (Goldschmidt Conference Abstract)
(Inherited zircon U-Pb dates in E Java volcanoclastics mixed populations, reflecting recycling from earlier eruptions. Inherited dates peaks at: (1) Cretaceous- restricted to W and NW of E Java, close to Cretaceous basement exposures (2) Cambrian-Archean (500-750 Ma, 900-1250 Ma and 2500-2700 Ma)- confined to S Mountains Arc. Peaks in distribution of dates similar to E Gondwana basement ages and Permo-Triassic-modern sediments from W Australia, suggesting S Mountains volcanoes sampled deep crust of continental Gondwanan origin beneath E Java, different from Cretaceous accretionary basement of W and N Java)

Han, J.K. & S.H. Choi (2011)- Geochemical exploration for metallic mineral resources on the Pacitan District, East Java, Indonesia. Econ. Environm. Geol. (Korean Soc. Econ. Env. Geol.) 44, p. 1-10.
*(online at: www.koreascience.or.kr/)
(Pacitan district in S Mountains of E Java, exploration for metallic mineral found anomalous zones in Gempol for Cu; Jompong for Au; Kasihan for Cu-Pb-Zn)*

- Han, J.K. & S.H. Choi (2012)- Ore geology of skarn ore bodies in the Kasihan Area, East Java, Indonesia. *Econ. Environm. Geol. (Korean Soc. Econ. Env. Geol.)* 45, p. 1-8.
(online at: http://ocean.kisti.re.kr/downfile/volume/kseeg/JOHGB2/2012/v45n1/JOHGB2_2012_v45n1_1.pdf)
(*Copper-zinc-bearing skarns in Kasihan area (Pacitan District, S Mountains, near E and C Java border), in limestone layers of Late Oligocene Arjosari Fm*)
- Handayani, L (2010)- Thermal structure of subducting slab along the Java Arc and its significance to the volcanoes distribution. *ITB J. Mathematical Fundamental Sci.* 42 A, 2, p. 127-134.
(online at: <http://journals.itb.ac.id/index.php/jmfs/article/view/66/62>)
(*On thermal modeling of subducting plate below Java and tectonics of overriding plate. Age of subducting lithosphere under Java increases from W to E, from about 90 Ma to 120 Ma. Volcanoes of W Java generally closer to trench (~240 km) than volcanoes of E Java (~290 km), possibly related to differences of thermal structure of subducting plate*)
- Hanifa, N.R., T. Sagiya, F. Kimata, J. Efendi, H.Z. Abidin & I. Meilan (2014)- Interplate coupling model off the southwestern coast of Java, Indonesia, based on continuous GPS data in 2008-2010. *Earth Planetary Sci. Letters* 401, p. 159-171.
(*Three-year GPS observation on SW Java suggest coastal uplift of uplift of 1.4- 14 mm/yr, and horizontal slip deficits, indicating potential of rupture propagation to shallow part of plate interface and generation of large tsunami*)
- Hantoro, W.S. (1979)- Turbidit pada Formasi Kerek. *J. Riset Geologi Pertambangan (LIPI)* 2, 1, p. 22-31.
(online at: <http://pustaka.geotek.lipi.go.id/wp-content/uploads/2016/02/Riset-Vol.2-No.1-2-2-.pdf>)
(*'Turbidites of the Kerek Formation', C Java. Kerek Fm of NE Java Kendeng zone M Miocene turbiditic volcanoclastics, overlain by Late Miocene turbiditic limestones*)
- Hantoro, W.S. (1980)- Kendali stratigrafi terhadap penyebaran batubara dan serpih bitumen di Karangbolong, Jawa Tengah. *J. Riset Geologi Pertambangan (LIPI)* 3, 2, p. 27-44.
(online at: <http://pustaka.geotek.lipi.go.id/wp-content/uploads/2016/02/Riset-Vol.3-No.2-2.pdf>)
(*'Stratigraphic control on the distribution of coal and oil shale in Karang Bolong, Central Java'. In Argosari area thin oil shale (45-150cm) at top of Old Andesite Fm, formed in continental environment (originally discovered by Keil, 1932; unpublished). At younger horizon E Miocene coal, at transition from underlying non-marine to overlying marine facies*)
- Hanzawa, S. (1930)- Note on foraminifera found in the *Lepidocyclina*-limestone from Pabeasan, Java. *Sci. Rept. Tohoku University, ser. 2 (Geol.)*, 14, 1, p. 85-96.
(online at: <http://ci.nii.ac.jp/naid/110004624567/en>)
(*Late Oligocene larger forams collected by Yabe in 1929 from limestone cliff at N foot of Pasir Pabeasan, W of Tagogapu, W Java (Rajamandala Lst). With Lepidocyclina (N), Eulepidina, Heterostegina borneensis, Borelis pygmaea n.sp. (This assemblage, with absence of Spiroclypeus and Miogypsinoidea more likely Te1/ Early Chattian?; JTvG)*)
- Haqqi, A.S.F., H. Pratama, A.P. Indra, Abbas & V. Arnoldy (2015)- 3D modeling of Miocene Cinambo turbidite sandstone based on surface data in Cadasngampar Area, Sumedang District, West Java. *Proc. 39th Ann. Conv. Indon. Petroleum Assoc. (IPA)*, Jakarta, IPA15-SG-145, 13p.
(*E-M Miocene Cinambo Fm submarine fan deposit in Bogor Basin. Paleocurrents mainly NW to SE*)
- Hardjadinata, K. & I. Saefudin (1994)- Studi batuan vulkanik dan plutonik Tersier di daerah Pacitan. *J. Geologi Sumberdaya Mineral* 4, 34, p. 2-19.
(*'Study of Tertiary volcanic and plutonic rocks in the Pacitan area', S Mountains, SE Java. Volcanic rocks NE of Pacitan in S Mnts of E Java are part of 'Old Andesites' island arc volcanics. Include picrite basalt- andesite in Lower Pacitan Fm, dated as ~30.8 Ma, and Upper Pacitan Fm basalt-andesite-dacite dated as ~17.4 Ma (17.392 ± 1.976 Ma!)*)

Harijoko, A., Y. Ohbuchi, Y. Motomura, A. Imai & K. Watanabe (2007)- Characteristics of the Cibaliung gold deposit: Miocene low-sulfidation-type epithermal gold deposit in Western Java, Indonesia. *Resource Geology* 57, 2, p. 114-123.

(M-L Miocene (11.2-10.6 Ma) epithermal gold mineralization in Cibaliung area, SW Java, hosted by M Miocene Honje Fm andesitic- basaltic lavas (11.4 Ma) and covered by Pliocene Cibaliung tuff (4.9 Ma))

Harijoko, A., K. Sanematsu, R.A. Duncan, S. Prihatmoko & K. Watanabe (2004)- Timing of the mineralization and volcanism at Cibaliung Gold Deposit, Western Java, Indonesia. *Resource Geology* 54, 2, p. 187-195.

(Cibaliung low-sulfidation epithermal gold deposit at ~70 km W of Bayah dome. Gold-bearing quartz veins hosted by Late Miocene Honje Fm basaltic andesite, comparable to gold host rocks at Bayah dome. $^{40}\text{Ar}/^{39}\text{Ar}$ dating show mineralization ages from 11.2-10.7 Ma; K-Ar dating shows age of andesite and Cibaliung tuff 11.4 ± 0.8 Ma and 4.9 ± 0.6 Ma, respectively. Cibaliung deposit is oldest epithermal gold deposit yet discovered in W Java)

Harijoko, A., R. Uruma, H.E. Wibowo, L.D. Setijadji, A. Imai & K. Watanabe (2010)- Long-term volcanic evolution surrounding Dieng geothermal area, Indonesia. In: Proc. World Geothermal Congress 2010, Bali, 6p.

(Dieng Volcanic Complex in C Java on back side of Java Quaternary arc. Large collapse structure with 17 post intra-caldera eruptive centers. Oldest rocks erupted at ~3.6 Ma, youngest 0.07 Ma. Volcanic edifices grouped into 3 stages: pre-caldera (~3 Ma), post-caldera I (~2- 1 Ma) and post-caldera II (<1 Ma). Magmas cyclically evolved from basaltic to dacitic composition)

Harjanto, A. (2008)- Magmatisme dan mineralisasi di daerah Kulonprogo dan sekitarnya. Dokt. Dissertation Inst. Teknologi Bandung (ITB), p. 1- . *(Unpublished)*

(Magmatism and mineralization in the Kulonprogo area and surroundings', C Java. Volcanic rocks in Kulon Progo part of Oligocene-Miocene (~29.6-22.6 Ma) Sunda magmatic arc. Calc-alkaline series with chemistry of transtensional oceanic island arc and active continental margin. Three stages of alteration-mineralization, with gold, galena, sphalerite, chalcopyrite, molybdenite, etc. mineralizations. Quartz veins NE-SW trending)

Harjanto, A. (2011)- Petrologi dan geokimia batuan vulkanik di daerah Kulonprogo dan sekitarnya daerah istimewa Yogyakarta. *J. Ilmiah Magister Teknik Geologi (UPN)* 4, 1, 27p.

(online at: <http://jurnal.upnyk.ac.id/index.php/mtg/article/view/274/237>)

(Petrology and geochemistry of volcanic rocks in the area of Kulon Progo and surroundings, Yogyakarta region'. Oligocene-Miocene volcanic rocks in Kulon Progo ('Old Andesite Fm') consist of interbedded volcanic breccia, tuff, andesite, dacite and diorite. Compositions basalt, andesite to dacite from low-K to calc-alkaline series. Typical island arc affinities)

Harjanto, A., E. Suparka, S. Asikin & Y.S. Yuwono (2011)- Endapan emas epitermal berumur Neogen daerah Kulon Progo dan sekitarnya, daerah istimewa Yogyakarta. *J. Ilmu Kebumihan Teknologi Mineral* 22, 2, p. 133-143.

(online at: <http://eprints.upnyk.ac.id/351/1/Paper%20JIK%20UPN%20Des%202009.pdf>)

(Neogene epithermal gold deposits in the Kulon Progo area and surroundings, Yogyakarta special region' In S mountains W of Yogyakarta, C Java, intrusions of Late Oligocene- E Miocene diorite, andesite, and dacite of Kaligesing/Dukuh Fm (K/Ar age ~8.1 Ma??), associated with epithermal quartz veins with gold mineralization)

Harjono, H., D. Dahrin & S. Wirasantosa (1995)- Neogene opening of the Sunda Strait: constraint from gravity data. In: S. Nishimura & R. Tsuchi (eds.) Proc. Oji Seminar on Neogene evolution of Pacific Ocean Gateways, Kyoto, IGCP-355, p. 57-61.

Harjono, H., M. Diament, J. Dubois, M. Larue & M.T. Zen (1991)- Seismicity of the Sunda Strait: evidence for crustal extension and volcanological implications. *Tectonics* 10, p. 17-30.

(Sunda Strait between Java frontal subduction and Sumatra oblique subduction. Microearthquake survey recorded 300 local events. Crustal earthquakes in the Sunda Strait area occurs in three main areas: (1) beneath the Krakatau complex, (2) in graben in W part of strait; and (3) in diffused zone to S of Sumatra. Sunda Strait is in extensional tectonic regime as result of NW movement of Sumatra sliver plate along Semangko fault zone)

Harjono, H., M. Diament, L. Nouaili & J. Dubois (1989)- Detection of magma bodies beneath Krakatau volcano (Indonesia) from anomalous shear waves. *J. Volcanol. Geothermal Res.* 39, p. 335-348.

(Seismograms for ray paths under Krakatau complex show diminution of amplitude of S waves. Attenuating body in two zones, probably disconnected: upper zone ~9 km deep, probably reflecting irregular pockets of magma, and lower zone at at least 22 km deep, related to extensional nature of Sunda Strait)

Harjono, H., M. Diament & M. Sabrier (1993)- Correction and addition to "Seismicity of the Sunda Strait; evidence for crustal extension and volcanological implications" by Hery Harjono et al.. *Tectonics* 12, 3, p. 787-790.

(Corrected Table 3 of Sunda Strait earthquake focal mechanisms in Harjono et al. 1991)

Harley, M.M. & R.J. Morley (1995)- Ultrastructural studies of some fossil and extant palm pollen, and the reconstruction of the biogeographical history of subtribes Iguanurinae and Calaminae. *Review Palaeobotany Palynology* 85, p. 153-182.

(On palm-like pollen types from M Eocene lignite in lower Nanggulan Fm at Watupuru River, Kalisonggo, Nanggulan, C Java. Two monosulcate forms (Iguanurinae) are compared to fossil form-genus Palmaepollenites kutchensis and Palmaepollenites sp. Third pollen type referred to Dicolpopollis malesianus (Calaminae). Also present in E Java Sea, W Sulawesi and India subcontinent)

Harloff, C.E.A. (1929)- Voorloopige mededeeling over de geologie van het Praetertiair van Loh Oelo in Midden-Java. *De Mijningenieur* 10, 8, p. 172-177.

(‘Preliminary note on the geology of the Pre-Tertiary of Luk Ulo in Central Java’. Likely presence of nappe structures with 15km or more displacement. Cretaceous sediments with Orbitolina and radiolarites ‘intruded’ by dynamo-metamorphically altered gabbrodioritic intrusive, 18km long/ 800m wide, also containing peridotite/ serpentinite. Complex overthrust by two complexes of crystalline schists (with glaucophanite, eclogite, marble, schists, etc.), with mylonitized thrust surfaces. Thrust direction from S to N. Sediment complex isoclinally folded, almost all dipping to South. Likely age of thrusting Late Cretaceous. Cretaceous and igneous-metamorphic complex unconformably overlain by M Eocene and younger sediments)

Harloff, C.E.A. (1929)- Over radiolarienhoudende gesteenten in het Praetertiair van Loh Oelo (Midden Java). *De Mijningenieur* 10, p. 240-242.

(‘On radiolarian-bearing rocks in the Pre-Tertiary of Lok Ulo, Central Java’. Chert with radiolarians in deep water limestone)

Harloff, C.E.A. (1929)- Loh Oelo. Fourth Pacific Science Congress, Java 1929, Excursion Guide C1, 18p.

(One of earliest descriptions of classic Lok Ulo area, with oldest rocks on Java: Cretaceous metamorphic basement, Paleo-Eocene accretionary-wedge like sediment, folded Eo-Oligocene sediments, etc.)

Harloff, C.E.A. (1933)- Geologische kaart van Java, Toelichting bij Blad 67 (Bandjarnegara), 1:100 000. Dienst Mijnbouw Nederlandsch-Indie, Bandung, p. 1-47.

(‘Geological map of Java, 1:100,000; Banjarnegara sheet’. Map sheet covering South Serayu Mountains. With core of Pretertiary rocks of Luk Ulo complex, composed of crystalline schists, phyllites, serpentinite, greywackes, red radiolarites, and two small occurrences of limestones with common mid-Cretaceous Orbitolina. Eocene sandstones with limestone lenses with Nummulites, Discocyclina, Pellatispira, etc., unconformable on crystalline schists, radiolarian chert, etc., with clasts of glaucophane schist and other metamorphics, granite, etc.. Thick Miocene tuffaceous marls with Miogypsina and andesites unconformable on Eocene)

Harloff, C.E.A. & A.J. Pannekoek (1933)- De omgeving van den Boroboedoer. *Tijdschrift Kon. Nederlands Aardrijkskundig Genootschap*, p. 13-23.

(‘The surroundings of the Borobudur’. No evidence found for postulated presence of Quaternary lake around Borobudur temple complex)

Harrison, R. (2012)- The geology, alteration and mineralization of the Tumpangpitu porphyry Cu-Au and high-sulfidation epithermal Au-Ag deposit. In: N.I. Basuki (ed.) Proc. Banda and Eastern Sunda arcs, Indonesian Soc. Econ. Geol. (MGEI) Ann. Conv. 2012, Malang, p. 273-278.
(*New copper-gold porphyry discovery in East Java*)

Harrison, R.L., A. Maryono, M.S. Norris, B.D. Rohrlach, D.R. Cooke, J.M. Thompson et al. (2018)- Geochronology of the Tumpangpitu porphyry Au-Cu-Mo and high-sulfidation epithermal Au-Ag-Cu deposit: evidence for pre- and postmineralization diatremes in the Tujuh Bukit District, Southeast Java, Indonesia. *Economic Geology* 113, 1, p. 163-192.
(*Tumpangpitu porphyry and high-sulfidation epithermal deposit in Tujuh Bukit district, SE Java. Porphyry resource 1.9 billion tonnes @ 0.45% Cu and 0.45 g/t Au, with additional resource in epithermal mineralization. At least 8 discrete intrusions. Tujuh Bukit district floored by Miocene sedimentary and andesitic volcanic rocks. Volcanic-hydrothermal activity at Tujuh Bukit began with formation of weakly altered Tanjung Jahe diatreme complex (U-Pb zircon ages ~8.8- 8.5 Ma). Mineralization preceded by large, equigranular dioritic batholith (~5.8-5.1 Ma). Syn- to late-mineralization porphyries emplaced in E Pliocene (~5.40- 3.9 Ma). High-sulfidation Au-Ag ± Cu lithocap ~4.3 Ma*)

Harsolumakso, A.H. (1999)- Diabas di daerah Karangsembung, Luk Ulo, Kebumen, Jawa Tengah: apakah bentuk kelompok batuan basaltik berupa tubuh intrusif? Pros.Seminar Nas. Sumberdaya Geologi, 40 Tahun (Pasca Windu), Jurusan Teknik Geologi, Universitas Gadjah Mada, Yogyakarta, p. 1-6.
(*Diabase in the Karangsembung area, Luk Ulo, Kebumen, Central Java: What formed the basaltic rock group in the form of intrusive bodies?'. Diabase at Karangsembung village exposed as isolated hill surrounded by clay and clay breccias of Karangsembung and Totogan Formations. Late Eocene-Oligocene K/Ar ages (~26-38 Ma, island-arc tholeiitic affinity and product of submarine volcanism. Now tectonic slice in SSW verging thrust systems, deformed in Oligo-Miocene)*)

Harsolumakso, A.H. & D. Noeradi (1996)- Deformasi pada Formasi Karangsembung di daerah Luk Ulo, Kebumen, Jawa Tengah. *Buletin Geologi (ITB)* 26, 1, p. 45-54.
(*Deformation of the Karangsembung Fm in the area of Luk Ulo, Kebumen, C Java'. Eocene Karangsembung Fm overlies Late Cretaceous-Paleocene melange complex. Scaly clay with limestone and conglomerate blocks not olistostrome, but highly folded and thrust, probably in Oligocene- E Miocene. Folds trend ENE-WSW and indicate SSE vergent thrust system)*)

Harsolumakso, A.H., C. Prasetyadi, B. Sapiie & M.E. Suparka (2006)- The Luk Ulo-Karangsembung Complex of Central Java, Indonesia: from subduction to collision tectonics. Proc. Persidangan Bersama Geosains UKM-ITB, Langkawi, 6p. (*Extended Abstract*)
(*Late Cretaceous-Paleocene Luk Ulo Melange Complex in C Java formed in subduction zone. Shift from NE-SW Cretaceous subduction trend to E-W trend in Oligocene due to collision of micro-continent. Luk Ulo Paleogene three units: (1) metasediments with E Eocene Nummulites; (2) tectonized pebbly mudstones with blocks containing Discocyclus and Asteroicyclus; (3) deformed Late Eocene turbidite sandstones and shales (indicating late Eocene- Oligocene deformation during microcontinent collision). These differ from Bayat and Nanggulan areas, with rel. undeformed transgressive Eocene sequence (margin of microcontinent))*)

Harsolumakso, A.H., B. Sapiie, Z. Tuakia & R.I. Yudha (2016)- Luk Ulo melange complex, Central Java, Indonesia; characteristics, origin and tectonic significance. In: 13th Ann. Mtg. Asia Oceania Geoscience Soc. (AOGS), Beijing 2016, SE21-A030, 1p. (*Poster presentation*)
(*Luk Ulo melange is tectonic melange as result of Cretaceous- Paleocene? subduction, and with younger melange resulting from Eo-Oligocene collision event of E Java microcontinent. Blocks of ultramafic rocks, schists, pillow basalts, pelagic sediments, granodiorites, limestones and sandstones in matrix of claystones often with scaly and phyllitic texture suggestive of diagenesis at depths up to 4-8 km*)

Harsolumakso, A.H., M.E. Suparka, D. Noeradi, R. Kapid, N.A. Magetsari & C.I. Abdullah (1996)- Status olistostrom di daerah Luk Ulo, Jawa Tengah: suatu tinjauan stratigrafi, umur dan deformasi. Proc. Seminar Nasional Peran Sumberdaya Geologi Dalam PJP II, p. 101-121.

('Status of the olistostrome in the Luk Ulo, C Java: a review of the stratigraphy, age and deformation')

Harsolumakso, A.H., M.E. Suparka, D. Noeradi, R. Kapid, Y. Zaim, N.A. Magetsari & C.I. Abdullah (1996)- Karakteristik struktur melange di daerah Luk Ulo, Jawa Tengah. In: Sampurno et al. (eds.) Pros. Seminar Nasional Geoteknologi III, LIPI, Bandung, p. 422-441.

('Characteristics of melange structure in the Luk Ulo, Central Java'. U Cretaceous- Paleocen melange complex with metamorphic and ultramafic rocks. Common boudinage structures)

Harsolumakso, A.H., M.E. Suparka, Y. Zaim, N. Magetsari, R. Kapid, D. Noeradi, C.I. Abdullah & C. Ansori (1995)- Karakteristik satuan melange dan olistostrom di daerah Karangsembung, Jawa Tengah: suatu tinjauan ulang. In: Y. Kumoro et al. (eds.) Proc. Seminar Sehari Geoteknologi dalam industrialisasi, Hasil-hasil Penelitian Puslitbang Geoteknologi LIPI, p. 190-215.

('Review of the characteristics of melange and olistostrome units in the Karangsembung area, C Java'. Upper Cretaceous- Paleocene Luk Ulo melange complex, overlain by Eocene Karangsembung Fm and Oligocene Totogan Fms, both with locally common large clasts)

Harsolumakso, A.H., E. Suparka & N.A. Magetsari (1998)- Struktur melange dan asosiasi ofiolit daerah Luk Ulo, Kebumen, Jawa Tengah, serta implikasinya terhadap tektonik jalur pertemuan lempeng. Laporan Penelitian DIK-ITB, 18p. *(Unpublished ITB Research report)*

('Melange structure and ophiolite association of the Luk Ulo area, Kebumen, Central Java, and the implications for tectonic plate subduction'. On Luk Ulo tectonic melange of mafic-ultramafic rocks (ophiolite). Rocks highly deformed, fractured and brecciated, as blocks or boudinage structure in similar rocks or on other rocks)

Harsono Pringgoprawiro (1968)- On the age of the Sentolo Formation based on planktonic foraminifera. Inst. Technology Bandung, Dept. Geol. Contr. 64, p. 5-21.

(Sentolo Fm overlying 'Old Andesites' in W Progo Mts are Burdigalian- Pliocene in age)

Harsono Pringgoprawiro (1983)- Biostratigrafi dan paleogeografi cekungan Jawa Timur Utara suatu pendekatan baru. Doct. Thesis Inst. Technology Bandung, p. 1-239. *(Unpublished)*

(NE Java basin biostratigraphy and paleogeography)

Harsono Pringgoprawiro & Baharuddin (1980)- Biostratigrafi foraminifera plangton dan beberapa bidang pengenal Kenozoikum akhir dari sumur-sumur Tobo, Cepu, Jawa Timur. Geologi Indonesia (IAGI) 7, 1, p. 21-31.

(Planktonic foraminifera study in shallow wells Tobo 5, 6, 8 near Cepu. Deepest well Tobo 5 penetrated Late Miocene Ledok sands-shales between 412-451 m, overlain by rel. thin (60m?), but complete Pliocene Mundu marl section. Entire section apparently deep water with rich planktonic foram faunas)

Harsono Pringgoprawiro & B. Riyanto (1988)- Formasi Andesite Tua: suatu revisi. Geologi Indonesia 13, 1, p. 1-21.

('Old Andesite Formation- a revision'. Review of Late Oligocene- E Miocene 'Old Andesites' of S Mountains of Java)

Harsono Pringgoprawiro, N. Soeharsono & F.X. Sujanto (1977)- Subsurface Neogene planktonic foraminifera biostratigraphy of North-West Java Basin. Proc. 2nd Working Group Mtg. Biostratigraphic datum-planes of the Pacific Neogene, Geol. Res. Dev. Centre (GRDC), Bandung, Spec. Publ. 1, p. 125-165.

(Miocene- Pliocene planktonic foram zonation, based on 7 Pertamina wells in NW Java)

Harsono Pringgoprawiro & Sukido (1992)- Geologic map of the Bojonegoro Quadrangle, Jawa (1500-5), 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung, 23p.

Harsono Pringgoprawiro, S. Suwito P. & Roskamil (1977)- The Kromong carbonate rocks and their relationship with the Cibulakan and Parigi Formation. Proc. 6th Ann. Conv. Indon. Petroleum Assoc. 1, p. 221-240.

(Kromong carbonate 20 km W of Cirebon, W Java, at N tip of Kromong complex which consist mostly of andesitic intrusive rocks. Limestone belongs to Miocene Cibulakan and Parigi formations. Age of Upper Cibulakan Fm E-M Miocene Tf 1-2, Parigi limestone is Late Miocene Tf3. Plio-Pleistocene andesitic and dacitic rocks intruded carbonates. Oil and asphalt seeps found along faults in N part of area (N.B. Praptisih et al. (2012) show Parigi Lst is Early-Middle Miocene age (Te5-Tf1-2), not Late Miocene; JTvG)

Harting, A. (1929)- Tagogapoe. A short geological description of the mountain Tagogapoe and Tjitaroem. Fourth Pacific Science Congress, Java 1929, Bandung, Excursion Guide C1, 14p.
(‘Eocene’ quartz sandstones with Nummulites fichteli-intermedia (=Lower Oligocene) overlain by ‘Miocene’ Lepidocyclina limestone (= Late Oligocene) outcrops in Rajamandala area, W of Bandung)

Hartmann, E. (1920)- Verslag over eene verkenning van de Sadjira antiklinal en omgeving in Bantam. Jaarboek Mijnwezen Nederlandsch Oost-Indie 47 (1918), Verhandelingen I, p. 141-149.
(‘Report on a reconnaissance of the Sajira anticline and surroundings, Banten’, W Java. Includes mention of some very thin coal beds in M Palembang layers, traces of oil in Lower Palembang layers and nearby gas seeps named Kaboel (96% CO₂; Fennema 1891) and burning gas at Kedjaban)

Hartono & Suharsono (1997)- Geologic map of the Tuban quadrangle, Java. Sheet 1509-3, scale 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung.

Hartono, G. & S. Bronto (2007)- Asal-usul pembentukan Gunung Batur di daerah Wediombo, Gunungkidul, Yogyakarta. J. Geologi Indonesia 2, 3, p. 143-158.
*(online at: www.bgl.esdm.go.id/publication/index.php/dir/article_detail/198)
(Southern Mountains Wediombo ‘Old Andesite’ lavas and breccias associated with Batur intrusive rock probably remnants of one paleovolcano)*

Hartono, G., S. Pambudi, M. Arifai, A. Yusliandi & S. Agung P. (2014)- Vulkanisme dan sebaran sumber daya non hayati di Pegunungan Selatan Yogyakarta dan Wonogiri, Jawa Tengah. Majalah Geologi Indonesia 29, 1, p. 37-47.

*(online at: www.bgl.esdm.go.id/publication/index.php/dir/article_detail/843)
(‘Volcanism and distribution of non-biologic resources in Southern Mountains of Yogyakarta and Wonogiri, C Java’. S Mountains of C Java consists of Oligocene- E Miocene volcanic rock, with Baturagung Volcano High in W and Gajahmungkur Volcano in E. Paleovolcanic eruption centres at Parangtritis, Imogiri, Pilang, Karangdowo, Patuk, Bayat, Tenong, Panggung, and Wediombo. Non-economic metal and nonmetal deposits)*

Hartono, G., A. Sudrajat & I. Syafri (2008)- Gumuk gunung api purba bawah laut di Tawang Sari- Jomboran, Sukoharjo- Wonogiri, Jawa Tengah. J. Geologi Indonesia 3, 1, p. 37-48.

*(online at: www.bgl.esdm.go.id/publication/index.php/dir/article_detail/218)
(‘The Gumuk ancient underwater volcano at Tawang Sari-Jomboran, Sukoharjo Wonogiri, C Java’. Description of Oligo-Miocene ‘Old Andesite’ submarine basaltic breccias and pillow lavas in S Mountains, E of Bayat)*

Hartono, G. & I. Syafri (2007)- Peranan Merapi untuk mengidentifikasi fosil gunung api padi -Formasi Andesit Tua studi kasus di daerah Wonogiri. Geologi Indonesia 33, 2, GRDC Spec. Publ. p. 63-80.

(Merapi modern volcano used as model to interpret Oligo-Miocene ‘Old Andesite’ volcanic centers and volcanic cycles in the Wonogiri area, Southern Mountains, C Java)

Hartono, H.G. & S. Bronto (2009)- Analisis stratigrafi awal kegiatan gunung api Gajahdangak di daerah Bulu, Sukoharjo; implikasinya terhadap stratigrafi batuan gunung api di Pegunungan Selatan, Jawa Tengah. J. Geologi Indonesia 4, 3, p. 157-165.

*(online at: www.bgl.esdm.go.id/dmdocuments/jurnal20090301.pdf)
(‘Stratigraphic analysis of early activity of Gajahdangak volcano in the Bulu area: implications for stratigraphy of volcanic rocks in the Southern Mountains, C Java’. Late Oligocene- E Miocene volcanism in S Mountains generally starts with basaltic pillow lavas, followed by construction of composite volcanoes consisting of basaltic to andesitic lava flows, breccias and tuffs (‘Mandalika Fm’), followed by destructive*

phase with high silica pumice-rich pyroclastic breccias and tuffs (Semilir Fm'). Illustrated by stratigraphy of Gajahdangak Volcano W of Wonogiri)

Hartono, H.G., S. Pambudi, M. Arifai, A. Yusliandi T. & S. Agung P. (2013)- Volkanisme dan sebaran bahan non hayati di Pegunungan Selatan Yogyakarta. Proc. 8th Seminar Nasional, Sekolah Tinggi Teknologi Nasional, Rekayasa Teknologi Industri dan Informasi, p. G24-G31.
(*'Volcanism and distribution of non-biological materials in the Southern Mountains, Yogyakarta'*)

Hartono, H.G. & A. Sudradjat (2017)- Nanggulan Formation and its problem as a basement in Kulonprogo Basin, Yogyakarta. Indonesian J. Geoscience 4, 2, p. 71-80.
(*online at: <https://ijog.geologi.esdm.go.id/index.php/IJOG/article/view/373/239>*)

Hartono (1960)- *Hantkenina* in the Nanggulan area. Direktorat Geologi Indonesia, Publikasi Teknik, Seri Paleontologi 1, p. 1-8.
(*First record from Java of of Late Eocene planktonic foram Hantkenina from shallow corehole along Kali Progo, 6 km N of Nanggulan, W of Yogyakarta. Associated with larger forams Nummulites Discocyclina, Pellatispira*)

Hartono, H.M.S. (1965)- The stratigraphic position of the Karren Limestone in the Tuban area, East Java. Bull. Geol. Survey Indonesia 2, 1, p. 27-30.
(*Plio- Pleistocene Karren Lst present in Rembang-Madura zone, thickness 120m or more. Dips gently to N and unconformably overlies different Miocene formations, incl. Late Miocene? Mundu Fm Globigerina marls*)

Hartono, H.M.S. (1969)- *Globigerina* marls and their planktonic foraminifera from the Eocene of Nanggulan, Central Java. Contr. Cushman Found. Foraminiferal Research 20, 4, p. 152-159.
(*Late Eocene planktonic foraminifera from Globigerina marls above Discocyclina and Axinea layers and below 'Old Andesite' breccias in Nanggulan area, C Java. Including Hantkenina nanggulanensis n.sp., H. alabamensis, Globorotalia centralis, G. ampliapertura, Hastigerina micra, etc.*)

Hartono, H.M.S. (1973)- Geologic map of the Tuban Quadrangle, Java, Quad. 12/XIII, scale 1:100,000. Geol. Survey Indonesia, Bandung.

Hartono, T. (2001)- Formasi Kerek: fasies turbidit kipas bawah (lower fan) di daerah Dadapayam, Salatiga- Jawa Tengah. Jurnal Teknologi Mineral (ITB) 8, 3, p.
(*Kerek Fm of C Java intermittent calcareous sandstone, claystone and thin marl layers (5-200 cm), deposited in deep marine lower fan turbiditic facies. Presence of Bulimina marginata, B. strata, Dentalina sp., Planulina sp. and Gyroidina soldanii suggest deposition in middle- lower bathyal zone. Age Middle -Upper Miocene (N14-N16), based on presence of Globorotalia siakensis and Gr. acostaensis*)

Hartono, T. (1995)- Biostratigrafi daerah Dadapayam, Salatiga- Jawa Tengah. J. Riset Geologi Pertambangan (LIPI) 1, 1, p. 33.
(*online at: <http://pustaka.geotek.lipi.go.id/wp-content/uploads/2016/02/Riset-Vol.1-No.1-1995-.pdf>*)
(*'Biostratigraphy of the Dadapayam area, Salatiga, Central Java'. Planktonic foraminifera from ~1000m thick Late Miocene turbiditic series NNE of Salatiga, SE of Semarang, composed of Kerek Fm below (zone N15-N16) and more tuffaceous sand-rich Banyak Fm above (N17-N18)*)

Hartono, U. (ed.) (2012)- Geologi Pegunungan Selatan bagian Timur, Kabupaten Bantul, Gunung Kidul, Klaten dan Wonogiri. Centre for Geological Survey (PSG), Bandung, Spec. Publ., p.
(*'Geology of the eastern part of the Southern Mountains, districts Bantul, Gunung Kidul and Wonogiri'*)

Hartono, U., Baharuddin & K. Brata (1992)- Geology of the Madiun Quadrangle, Java, 1508-2. Explanatory notes and map, Geol. Res. Dev. Centre (GRDC), Bandung, 22p.

- Hartono, U., H. Panggabean et al. (eds.) (2009)- Prosiding Workshop geologi Pegunungan Selatan 2007. Geol. Survey Inst., Bandung, Spec. Publ. 38, p. 1-233.
(Collection of papers on geology of Southern Mountains, C and E Java, from 2007 Yogyakarta workshop)
- Hartono, U., I. Syafri & R. Ardiansyah (2008)- The origin of Cihara granodiorite from South Banten. J. Geologi Indonesia 3, 2, p. 107-116.
(online at: <https://ijog.geologi.esdm.go.id/index.php/IJOG/article/view/52/52>)
(Late Oligocene Cihara Granodiorite N of Bayah, SW Java, originated from magma of continental origin in subduction zone environment. Two possibilities of parental magmas: basaltic/ or andesitic magma of Cikotok Fm or crustal melting magma from subduction process (E Miocene radiometric age; Safudin 1995))
- Haryanto, H., E. Yogapurana & A. Kusuma (2016)- Intricate seismic time-frequency analysis in Kujung patch reef, Northeast Java Basin. Proc. 40th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA16-59-G, 9p.
(Attenuation/ spectral decomposition of N Madura Platform seismic to determine fluid composition)
- Haryanto, I. (2004)- Tektonik sesar Baribis-Cimandiri. Proc. 33rd Ann. Conv. Indon. Assoc. Geol. (IAGI), p. 60-66.
(Tectonics of the Baribis- Cimandiri Fault'. W Java E-W Baribis fault is Plio-Pleistocene thrust. SW-NE Cimandiri fault older, sinistral strike-slip fault)
- Haryanto, I. (2006)- Struktur geologi Paleogen dan Neogen di Jawa Barat. Bull. Scientific Contr. (UNPAD) 4, 1, p. 87-95.
(online at: <http://jurnal.unpad.ac.id/bsc/article/view/8118/3694>)
- Haryanto, I. (2013)- Struktur sesar di Pulau Jawa bagian barat berdasarkan hasil interpretasi geologi. Bull. Scientific Contr. (UNPAD) 11, 1, p. 1-10.
(online at: <http://jurnal.unpad.ac.id/bsc/article/view/8283/3830>)
(Fault structure in the western part of Java Island based on the results of geological interpretations'. Brief review of four major fault trends in Tertiary of W Java. E-W trending faults most common and mainly reverse faults, and of late Tertiary age and formed in N-S directed compressional system. Other faults (N-S, NW-SE and NE-SW) formed simultaneously with thrust fold belt structures, generally as strike slip faults or oblique transtensional or transpressional faults)
- Haryanto, I., A.H. Harsolumakso & S. Asikin (2002)- Tectonics of Baribis Fault. Proc. 31st Ann. Conv. Indon. Assoc. Geol. (IAGI), Surabaya, 2, p. 858-869.
(Baribis Fault in W Java continuation of E Java Kendeng zone N-directed thrust fault zone. Older than Plio-Pleistocene tectonics)
- Haryanto, I., J. Hutabarat, A. Sudrajat, N.N. Ilmi & E. Sunardi (2017)- Tektonik sesar Cimandiri, Provinsi Jawa Barat. Bull. Scientific Contr. (UNPAD) 15, 3, p. 255-274.
(online at: <http://jurnal.unpad.ac.id/bsc/article/view/15103/pdf>)
(Tectonics of the Cimandiri Fault, West Java'. WSW-ENE trending Cimandiri fault from Pelabuhan Ratu to Jampang to Rajamandala, etc. Formed at end of M Eocene, initially as thrust fault that developed paleo high and uplifted Ciletuh Formation in forearc basin. Evolved into normal fault today)
- Haryanto, I., Nurdradjat & I. Saputra (2015)- Identifikasi struktur geologi berdasarkan aspek morfologi, stratigrafi, pola jurus lapisan batuan dan sebaran batuan: studi kasus daerah Bantarujeg- Majalengka, Provinsi Jawa Barat. Bull. Scientific Contr. (UNPAD) 13, 2, p. 140-151.
(online at: <http://jurnal.unpad.ac.id/bsc/article/view/8400/3908>)
(Identification of geological structures based on aspects of morphology, stratigraphy, deformation and distribution of rock layers: a case study in the Bantarujeg- Majalengka area, W Java'. Zone of NNE-directed thrusting N of Bantarujeg (SE of Ciremai volcano))

- Haryanto, I., A. Ramadian & F. Helmi (2009)- Tektonik batuan pra-Tersier Jawa Barat Indonesia. Bull. Scientific Contr. (UNPAD) 7, 2, p. 82-90.
(online at: <http://jurnal.unpad.ac.id/bsc/article/view/8235/3783>)
(*'Tectonics of pre-Tertiary rocks of West Java, Indonesia'. Ciletuh Pre-Tertiary melange oldest rocks outcrop in W Java. Outcrop mechanism in this area due to uplift, thrusting and folding, followed by sliding*)
- Haryanto, I., E. Sunardi, A. Sudradjat, Abdurrokhim & Jamal (2014)- Plate tectonic and regional structural geology in West Java. In: 1st Int. Conf. Geoscience for Energy, Mineral Resources, and Environment, 10p.
(online at: http://seminar.ftgeologi.unpad.ac.id/wp-content/uploads/2016/11/FULLPAPER_Iyan-POSTER.pdf)
(*Two major fault patterns in Java: (1) NE-SW trending, related to Cretaceous subduction activity and (2) E-W trending, associated with Tertiary subduction. NE-SW trending faults caused formation of highs and basins, like Biliton Basin, Bawean Basin, Karimun High, etc; E-W fault pattern caused formation of fore arc basins, volcanic ridges and back arc basins. Tertiary subduction reactivated Cretaceous fault patterns and produced N-S faults, forming highs and lows like Sunda Basin, NW West Java Basin, Tanggerang High, Ujungkulon Basin and High, Bayah High, etc.*)
- Haryanto, I., E. Sunardi, A. Sudradjat & Suparka (2014)- Hipotesis mengenai sejarah tumbukan lempeng zaman Kapur di Indonesia bagian barat. In Proc. Seminar Nasional Fakultas Teknik Geologi, Geologi untuk meningkatkan kesejahteraan masyarakat, UNPAD, Bandung, p. 47-55.
(online at: <http://seminar.ftgeologi.unpad.ac.id/wp-content/uploads/2015/03/HIPOTESIS-MENGENAI-SEJARAH-TUMBUKAN-LEMPENG-ZAMAN-KAPUR.pdf>)
(*'Hypotheses about the history of the Cretaceous plate collision in western Indonesia'. Cretaceous subduction along Java and SE Kalimantan started by double subduction. Eurasian and Australian-origin plates with subduction under both margins were separated by narrow oceanic plate. Late Cretaceous collision produced Ciletuh, Rajamandala, Biliton, Bawean and Meratus highs*)
- Haryono, E. & M. Day (2004)- Landform differentiation within the Gunung Kidul Kegelkarst, Java, Indonesia. J. Cave and Karst Studies 66, 2, p. 62-69.
(online at: <http://eko-haryono.staff.ugm.ac.id/wp-content/v66n2haryono.pdf>)
(*Gunung Kidul/ Gunung Sewu three karst subtypes: labyrinth-cone, polygonal, and residual cone karst. Labyrinth-cone subtype in central Gunung Kidul karst where hard, thick limestones have undergone intensive deformation. Polygonal karst in western perimeter on hard but thinner limestone beds. Residual cone subtype occurs in weaker and more porous limestones (wackestones or chalks), despite considerable bed thickness*)
- Hasibuan, F. (2004)- Biostratigrafi Kenozoikum moluska di Jawa, Indonesia. In: Stratigrafi Pulau Jawa, Geol. Res. Dev. Centre Bandung, Spec. Publ. 30, p. 71-86.
(*'Biostratigraphy of Cenozoic molluscs in Java, Indonesia'. Review of Eocene- Pliocene mollusc biostratigraphy of Java. With extensive reference list*)
- Hasibuan, F. (2006)- *Ostrea (Turkostrea) doidoiensis* Hasibuan from the Bayah Formation, West Jawa: a new find. J. Sumber Daya Geologi 16, 1 (151), p. 16-29.
(*M Eocene oyster species from lower part of Bayah Fm at Cibobos Bay, W of Bayah, Banten, SW Java. In sandstone with shallow marine trace fossils and crab fossils. Species originally described from SW Sulawesi Malawa Fm and may also be present in Nanggulan Fm of C Java (O. jogiacartensis of Martin (1914-1915))*)
- Hastuti, D.E.W., E. Suparka, S. Asikin & A.H. Harsolumakso (2003)- Miocene volcanism related to hydrothermal alteration in Ponorogo, East Java, Indonesia. In: B. Ratanasthien et al. (eds.) Pacific Neogene paleoenvironments and their evolution, 8th Int. Congress on Pacific Neogene Stratigraphy, Chiang Mai, 2003, p. 418-425.
- Hastuti, E.D.W. (2017)- The study of ore minerals parageneses in Ponorogo area, East Java. In: Sriwijaya Int. Conf. Engineering, Science and Technology (SICEST 2016), MATEC Web of Conferences 101, 04018, p. 1-6.
(online at: [/www.matec-conferences.org/articles/mateconf/pdf/2017/15/mateconf_sicest2017_04018.pdf](http://www.matec-conferences.org/articles/mateconf/pdf/2017/15/mateconf_sicest2017_04018.pdf))

(Mineralisation in Oligocene-E Miocene rocks in Ponorogo District, S Mountains at least two stages: (1) early hypogene processes, with pyrite-sphalerite-chalcopyrite-magnetite-galena; (2) later supergene enrichment with pyrite-sphalerite-covelite-bornite-limonite. Assemblages probably formed at ~100-360°C)

Hayat, D.Z. (2003)- Analisis data gayaberat dalam permodelan struktur geologi bawah permukaan serta kaitannya dengan cebakan hidrokarbon di daerah Subang dan sekitarnya. *J. Geologi Sumberdaya Mineral* 13, 141, p. 20-31.

(Analysis of gravity data in modeling of subsurface geological structure and its relation to hydrocarbon deposits in Subang and the surrounding area'. Gravity showing up to 2km deep Tertiary basinal areas in Pamanukan-Subang area, N of Bandung, W Java)

Hehuwat, F. & M.S. Siregar (2004)- Nanggulan-Bayat Eocene and Southern Mountains Miocene carbonate sedimentation models from the Yogyakarta area. *LIPI Indonesian Inst. Sciences*, 2 vols.

(Fieldtrip guidebook Southern Mountains)

Hehuwat, F., Suparka & Suwijanto (1974)- NE-SW lineaments on Java as observed from ERTS-1 images. *Tectonophysics* 23, p. 425. *(Abstract only)*

(C and E Java NE-SW trending lineaments, few 10 km long. Direction of lineaments corresponds to Meratus trend. Unpaired terraces, linear scars, morphological unconformities, different land-use patterns across lineament, and coastline configurations, strongly suggest fault-origin of lineaments)

Heide, F. (1939)- *Über Tektite von Java*. *Zentralblatt Mineralogie Geol. Palaont.*, 1939 A, p. 199-206.

(About tektites from Java)

Heidrick, T.L. & Gayatri I. Marliyani (2006)- *Nanggulan tectonostratigraphy*. *(Unpublished)*

(Online at: [www.michel.web.ugm.ac.id/sedimentology/nanggulan%20by%20gayatri/...](http://www.michel.web.ugm.ac.id/sedimentology/nanggulan%20by%20gayatri/))

Hendriyanto, N. & H. Amijaya (2008)- Organic geochemistry, petrography and mineralogy of Wungkal-Gamping mudstone in Bayat Area, Klaten, Central Java. *Proc. 37th Ann. Conv. Indon. Assoc. Geol. (IAGI)*, Bandung, 1, p. 630-637.

(Dark grey Eocene Wungkal-Gamping Fm mudstones E of Pendul Hill, Bayat, have 0.16-0.42% TOC, showing no hydrocarbon source potential. Sporinite color orange to red or brown, equivalent of Ro of ~0.65- 1.1% (peak mature- late mature). High maturity may be local due to proximity to Pendul igneous intrusion. Dark grey color of mudstone not caused by organic material but is mainly chlorite)

Hendrizan, M. (2016)- Nutrient level change based on calcareous nannofossil assemblages during Late Miocene in Banyumas Subbasin. *Indonesian J. Geoscience* 3, 3, p. 173-183.

(online at: <https://ijog.geologi.esdm.go.id/index.php/IJOG/article/view/332/225>)

(Late Miocene of Kali Pasir outcrop section, Banyumas, C Java, with abundant Discoaster (D. brouweri) and large Reticulofenestra in muddy facies of early Late Miocene (NN8-NN10a) representing deep thermocline. Decreasing Discoaster and small Reticulofenestra in turbiditic section of later part of Late Miocene (NN10b-NN11) indicate shallow thermocline/ nutricline. Strong eutrophication in Kali Pasir section probably driven by increased nutrient-rich terrestrial material, related to onset of Indian monsoon in Late Miocene/8-9 Ma)

Hendrizan, M. (2018)- A review of biostratigraphic studies in the olistostrome deposits of Karangsembung Formation. *Proc. Global Colloquium on GeoSciences and Engineering, Bandung 2017, IOP Conf. Series, Earth Environm. Science* 118, 012011, p. 1-5.

(online at: <http://iopscience.iop.org/article/10.1088/1755-1315/118/1/012011/pdf>)

(Age of Karangsembung Fm olistostrome deposits in C Java Oligocene, based calcareous nannofossils from matrix. Older reported ages (M-L Eocene, etc.) probably reworked)

Hendrizan, M., R. Kapid & Djuhaeni (2014)- Biostratigraphy of the Late Miocene Halang Formation in the Loh Pasir succession, Banyumas, Central Java. *Berita Sedimentologi* 30, p. 32-43.

(online at: www.iagi.or.id/fosi)

(Biostratigraphic study nannofossils from 1.4 km thick outcrop section of Late Miocene Halang Fm at Loh Pasir, C Java. 121 samples with 57 species, divided into five Late Miocene biozones: Discoaster brouweri, D. hamatus, D. bollii, D. prepentaradiatus and D. quinqueramus)

Hendrizen, M., Praptisih & P.S. Putra (2009)- Kajian terbaru lingkungan pengendapan Formasi Batuasih berdasarkan kandungan foraminifera: studi kasus daerah Sukabumi, Propinsi Jawa Barat. Proc. 38th Ann. Conv. Indon. Assoc. Geol. (IAGI), Semarang, 12p.

(A recent study on the depositional environment of the Batuasih Formation based on foraminifera content: a case study in the Sukabumi area, West Java Province'. Same as Hendrizen et al. 2012, below))

Hendrizen, M., Praptisih & P.S. Putra (2012)- Depositional environment of the Batuasih Formation on the basis of foraminifera content: a case study in Sukabumi Region, West Java Province, Indonesia. J. Geologi Indonesia 7, 2, p. 101-112.

(online at: www.bgl.esdm.go.id/publication/index.php/dir/article_detail/403)

(Batuasih Fm overlies (Eocene?) Walat Fm and grades upwards into Late Oligocene Rajamandala Lst. Outcrops in 3 sections W of Sukabumi: Batuasih village, 36m; Cibatu River, 113m; Padaarang, 2.6m. Mainly black shaly claystone, with limestone intercalations in upper part. Foraminifera poorly preserved black benthic and planktonic foraminifera, deposited in shelfal marine environment in E Oligocene (zone P19, with Globorotalia opima, Globigerina tripartita, etc.))

Herklots, J.A. (1854)- Fossiles de Java. Description des restes fossiles d'animaux des terrains Tertiaires de l'ile de Java, recueillis des lieux par M. Fr. Junghuhn, docteur-es-sciences, publies par ordre de S.M. le Roi des Pays Bas. E.J. Brill, Leiden, p. 1-24.

(online at: www.archive.org/details/fossilesdejava00herk)

(Description of animal fossils from the Tertiary terrains of Java, collected by Dr F. Junghuhn, published by order of the King of the Netherlands'. Early description of Tertiary echinoid fossils from Java (see also revision of identifications by Martin (1880))

Hetzel, W.H. (1935)- Geologische kaart van Java 1:100.000, Toelichting bij blad 54 (Madjenang). Dienst Mijnbouw Nederlandsch-Indie, p. 1-53.

(Map sheet in E Priangan- Banyumas Regencies of W and C Java (W of Bumiayu sheet). Mainly folded Neogene sediments. M-L Miocene: from old to young: Pemali, Rambatan, Lawak and Halang series (possibly partly facies equivalents). Pemali series Globigerina marls with Lower T_f limestone intercalations (M Miocene Cycloclypeus annulatus). Pliocene: Kumbang series (unfossiliferous andesitic volcanics), Tapak, Kalibiuk and Glagah series. With oldest mammal fossil of Java? (rhinoceros tooth Aceratherium boschi Von Koenigswald 1933, in late Miocene or E Pliocene limestone? Oil seep in Halang series near Tjisenti in NE part of map sheet)

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(Magnetic anomaly survey around Krengseng manganese mine in Kliripan field, SE West Progo Mts, C Java, Mining activities in area took place since 1912 around three fields, Kliripan, Andjir and Kembang. Manganese mainly as concretions in or on top of Miocene reef limestone, formed by dissolution of limestone)

Higasinaka, H., M.T. Zen & S. Soemarno (1968)- Magnetic prospecting at the Tjikotok gold mine, West Java. Bull. Nat. Inst. Geology and Mining (NIGM), Bandung, 1, 1, p. 47-56.

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(Modelling of magnetotelluric and geomagnetic data from C Java. Two zones of extremely high conductivity best explained as geothermal activity in the vicinity of active volcanism (Mt. Merapi))

Hol, J.B.L. (1918)- Danesø verhandeling over den Goenoeng Sewoe. *Tijdschrift Kon. Nederlands Aardrijkskundig Genootschap* 35, p. 414-421.

(Review of Danes (1915) detailed report on cone karst of Southern Mountains, South Central Java)

Honza, E. & B. Ganie (1987)- Formation of accretionary wedge in the eastern Sunda Trench. *CCOP Techn. Bull.* 19, p. 119-124.

(Brief discussion of multichannel seismic profiles across accretionary prism and forearc basin of E Java- Bali)

Honza, E., M. Joshima, A. Setiya Budhi & A. Nishimura (1987)- Sediments and rocks in the Sunda forearc. *Comm. Co-Ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Techn. Bull.* 19, p. 63-68.

(Three piston cores up to 7.5m deep in forearc off C and E Java at water depths between 3212-442m all Late Quaternary clays with ash beds. No evidence of turbidites)

Hooze, J.A. (1882)- Onderzoekingen in het kolenterrein bij Soekaboemi, benevens eene mededeeling omtrent de aardlagen aangetroffen in den spoorwegtunnel bij Tjimenteng in de Preanger Regentschappen. *Jaarboek Mijnwezen Nederlandsch Oost-Indie* 11 (1882), Wetenschappelijk Gedeelte, p. 5-65.

(Investigations in the coal terrain near Sukabumi, with a report on the beds encountered in the railway tunnel near Cimenteng in the Preanger Regency'. Geological map and survey of Eo-Oligocene coal beds W and SW of Sukabumi. Main coal bed at Gunung Walat about 40 cm thick good quality coal, dipping ~35° to SE. Potential for exploitation not favorable)

Horsfield, T. (1816)- Essays of the geography, mineralogy and botany of the western portion of the territory of the native princes of Java. *Verhandelingen Bataviaasch Genootschap* 8, 60, p. 175-312.

(online at: <http://bhl.ala.org.au/item/107941page/1/mode/1up>)

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(online at: <http://ia700308.us.archive.org/8/items/natuurkundigtijd12koni/natuurkundigtijd12koni.pdf>)

(Investigation into the presence of coal on Ciletuh Bay, Priangan Residency')

Huguenin, J.A. (1861)- Onderzoek naar mangaanerts, voorkomende te Tjikangkareng, regentschap Soekapoera, Residentie Preanger Regentschappen. *Natuurkundig Tijdschrift Nederlandsch-Indie* 22, 1861, p. 218-227.

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(online at: <https://repository.ugm.ac.id/135210/1/474-489%20S03.pdf>)
('Stratigraphic control and gravity structure at the Sijunggung hydrocarbon seepage, North Serayu Basin'. N Serayu basin of C Java with many oil and gas seeps, indicative of active petroleum system. In Sijunggung Village (Banjarmangu District) surface seepage in outcrop of E-M Miocene Rambatan Fm. Dominant deformation of Rambatan Fm is gravity sliding to NNE in extensional regime)

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('Microcontinent tectonic reconstruction of the Southern Mountains of East Java: a hypothesis based on analysis of ancient magnetism'. Old zircon ages in Miocene volcanics of S Mountains suggest SE Java is fragment of Gondwana that collided with Sundaland at end-Cretaceous. Seismic tomography study does not show extent of microcontinent, and paleomagnetic studies indicate paleolatitude in Eocene age is at 16°S of

current position. Collision occurred in Late Oligocene- M Miocene, accommodated by double subduction and transform fault which later became Progo-Muria Fault and trapped oceanic crust under Kendeng basin)

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('Distribution of en echelon folding on the Rembang anticlinorium'. N Rembang anticlinorium of NE Java composed of E-W trending inverted folds arranged in ENE-WSW en echelon pattern, indicating reactivation of ENE-WSW trending basement fault. Two tectonic phases: (1) N-S compression (Pliocene), causing en-echelon folds and NE-SW sinistral shear; (2) NW-SE directed extension, causing formation of normal faults)

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('Geochemistry of the Cikotok Formation volcanic rocks in the northern segment of the Bayah dome, Banten'. Cikotok Fm volcanics of Bayah Dome, SW Java, part of mid-Tertiary 'Old Andesites'. Geochemistry of andesite and basalt lavas suggests formation in island arc setting: SiO₂ 48-58%, Al₂O₃ 12.5-17.2%, TiO₂ 0.5- 0.81%)

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('Geochemical characteristics of source rocks of the Walat Formation, Sukabumi Regency, West Java'. On hydrocarbon source potential of Late Eocene- E Oligocene Walat Fm. Formation currently in mature stage (Tmax 439-458 °C), with fair-very good organic matter richness (TOC up to 3.7%) and mainly Type III gas-prone kerogen')

Imai, A., J. Shinomiya, M.T. Soe, L.D. Setijadji, K. Watanabe & I.W. Warmada (2007)- Porphyry-type mineralization at Selogiri Area, Wonogiri Regency, Central Java, Indonesia. *Resource Geology* 57, 2, p. 230-240.
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Indranadi, V.B. (2012)- Petrography of Sambipitu Sandstone, Southern Mountains: implications for tectonic setting and paleogeography. *Proc. 41st Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 2012-GD-30*, p. 13-19.

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(Yogyakarta depression is releasing bend of pull-apart basin, formed as response of sinistral transtensional strike-slip movement along NE-SW Opak-Muria Fault. Fault activity started and controlled basin configuration and facies in M Miocene- Pliocene. S Mountains Zone regional uplift as response of compressional tectonic regime since M Miocene. Peak of this event is in Pliocene (~5 Ma). Yogyakarta earthquake in 2006 shows Opak-Muria Fault still active to present-day)

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('Characterization of Rajamandala Fm carbonate rocks based on larger foraminifera in the Padalarang area, West Java'. Cluster analysis shows larger foram biofacies: (1) open sea shelf: planktonic foraminifera; (2) deep shelf margin: planktonic foraminifera, Cycloclypeus, Operculina, Heterostegina, Amphistegina, Spiroclypeus; (3) foreslope: Lepidocyclina, Miogypsinoides, Pararotalia and Spiroclypeus; (4) organic buildup: coral; (5) open platform: Quinqueloculinids and Austrotrillina, Pararotalia, coral and algae; (6) restricted platform/lagoon: Quinqueloculinids, Austrotrillina, Borelis)

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(*Nannoplankton biostratigraphy of the Batuasih Formation and correlation with planktonic foraminifera biostratigraphy*). *Biostratigraphy of Batuasih Fm near Cibadak, W Java, suggests Oligocene (Globorotalia opima and Sphenolithus distentus- S. ciperoensis zone) to earliest Miocene? (Catapsydrax dissimilis and D. druggi- Triq. carinatus zone) age. Underlies latest Oligocene Rajamandala Limestone; JTvG)*

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(online at: <http://seminar.ftgeologi.unpad.ac.id/wp-content/uploads/2016/02/Miocene-Planktonic-Foraminiferal-Biodatum-of-the-Jatiluhur-Sections.pdf>)
(*Five planktonic foraminiferal biodatums identified in sections at Ciherang, Cikeo, Cigajah, etc. rivers and Jatiluhur reservoir: Orbulina suturalis (E-M Miocene boundary; N9); Top Globigerinoides subquadratus (M Miocene; near top N13); Base Globorotalia acostaensis (near base Late Miocene; N16); Base Gr. plesiotumida (Late Miocene; N17); and B Gr. margaritae (Miocene-Pliocene boundary; N18)*)

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(*In Lulut area N of Bogor, W Java, M Miocene shallow marine Jatiluhur Fm clastics interfingers with Klapanunggal Fm limestone, rich in corals and algae. Planktonic foraminifera of Jatiluhur Fm zones N9-N14. Little detail: no sample localities, distribution charts, etc.*)

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(Apparent diachronous ages of Batuasih marl- Rajamandala Limestone succession: older in East. Nannofossils from Batuasih Fm in Sukabumi area CP18, CP19a, CP19b, overlain by Rajamandala Lst with Upper Te zone larger forams. At E end of Rajamandala ridge (Padalarang) Batuasih Fm nannos zone CP18, planktonic foram zone N1, overlain by Rajamandala Lst with Lower and Upper Te zone larger forams)

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(Metamorphic rocks in C Java Luk-Ulo Early Cretaceous accretionary complex two types of protoliths, with different P-T evolution: (1) 'oceanic plate protolith' metabasites- metapelites, associated with serpentinite, chert, red limestone, some undergone high P metamorphism (blueschist, eclogite), and (2) 'continental crustal protolith' metapelites, calc-silicate rocks and metagranites (gneiss, quartzite, marble). Metamorphics not simply result of oceanic subduction metamorphism along Indo-Australian oceanic plate (Sundaland craton margin), but early involvement of continental crust during collisional event in Karangsambung area)

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Kamaruddin, H., H. Sudarman, Hartono & H. Rionanda (2015)- The Pongkor Au-Ag deposit, West-Java, Indonesia: the resources and reserves up-date. In: N.I. Basuki (ed.) *Proc. Indonesian Soc. Econ. Geol. (MGEI) 7th Ann. Conv., Balikpapan*, p. 77-84.

(Late Pliocene Pongkor epithermal low-sulfidation gold-silver deposit on NE flank of Bayah dome in W Java Discovered in 1988, mining operation started in 1992. Current mineable reserves 4.79 Mt at 14.3 g/t Au and 153 g/t Ag. Total metal content of ore reserves ~68,515 kg gold and 732,884 kg silver)

Kamtono & D.D. Warhana (2012)- Nose structure delineation of Bouguer anomaly as the interpretation basis of probable hydrocarbon traps: a case study on the mainland area of Northwest Java Basin. *J. Geologi Indonesia* 7, 3, p. 157-166.

(online at: <http://jgi.bgl.esdm.go.id/index.php/JGI/article/view/32/24>)

(Gravity survey in onshore NW Java Basin, which is mostly covered by young volcanics. Gas fields of Jatirangon and Cicauh areas exist on flank of nose structure of Pangkalan-Bekasi High, while oil/gas field of N Cilamaya is on flank of nose structure of Cilamaya-Karawang High)

Kamtono, K.L. Gaol & Praptisih (1996)- Konfigurasi batuan-dasar daerah Karangsambung dengan pendekatan studi penampang gayaberas. *Proc. 25th Ann. Conv. Indon. Assoc. Geol. (IAGI)*, 3, p. 301-311.

(Configuration of basement rocks in the Karangsambung area constrained by gravity profiles')

Kamtono, Praptisih & M.S. Siregar (2005)- Studi potensi batuan induk pada sub cekungan Banyumas dan Serayu Utara. *J. Riset Geologi Pertambangan (LIPI)* 16, 1, p. 1-12.

('Study of source rock potential in the Banyumas and North Serayu sub-basins'. Analyses of 9 samples of fine-grained rocks in Banjarnegara- Karangsembung area show generally low TOC's (0.08- 1.42%). Two samples from Eocene- Early Miocene may have hydrocarbon source potential)

Kapid, R. (1991)- Le Mio-Pliocene marin du NE de Java, Indonesia: biostratigraphie qualitative et quantitative des foraminifères et du nannoplancton. These Doct. Université de Reims-Champagne-Ardenne, Reims, p. 1-163.

('The marine Mio-Pliocene of NE Java, Indonesia: qualitative and quantitative biostratigraphy of foraminifera and nannoplankton')

Kapid, R. (1994)- Studi foraminifera dan nannofosil pada kala Pliosen- Plistosen di sumur eksplorasi To.05 dan To. 06, Cekungan Jawa Timur Utara. Jurnal Teknologi Mineral (ITB), 1, p.

('Study of foraminifera and nannofossils in the Pliocene- Pleistocene of exploration wells To.05 and To. 06, NE Java Basin')

Kapid, R. & S.U. Choiriah (2000)- Batas umur Pliosen/Plistosen berdasarkan analisis nanofosil pada lintasan sungai Bengawan Solo daerah Ngawi Jawa Timur. Jurnal Teknologi Mineral (ITB) 7, 1, p. 29-42.

('Quantitative analysis of calcareous nannofossils from Solo River, Ngawi. Pliocene-Pleistocene boundary defined based on top Discoaster s.l. and first appearance of Gephyrocapsa s.l. Same boundary as Van Gorsel and Troelstra (1981) based on appearance of Gr. truncatulinoides. Comparison between this study and palynology analysis indicates same climatic changes at Plio-Pleistocene boundary. Also shoreline displacement of Java Sea toward E since Late Pliocene')

Kapid, R. & A.H. Harsolumakso (1996)- Studi nannoplankton pada Formasi Karangsembung dan Totogan di daerah Luk Ulo, Kebumen, Jawa Tengah. Buletin Geologi (ITB), 26, 1, p. 13-43.

('Nannoplankton studies in the Karangsembung and Totogan formations, Lok Ulo area, Kebumen, C. Java'. Nannoplankton age from C Java Karangsembung Fm scaly clays Mid - Late Eocene (NP16-NP21), suggesting compressional deformation in C Java continued into this time. Overlying Totogan Fm clay breccia with various blocks with Late Eocene (NP 18-20) to Oligocene- earliest Miocene (NP23-NN2) nannofossils.

Kapid, R. & G.A. Permana (2003)- Calcareous nannofossils and foraminifera as indices of paleoenvironment (case study on Waturanda, Penosogan and Halang Formations in South-Central Java, Indonesia). In: Proc. 8th Int. Congress Pacific Neogene stratigraphy, Chiang Mai 1993, p. .

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('Late Miocene- Early Pliocene in Kali Cilik section, 12 km N of Bojonegoro, E Java. Ledok Fm roughly NN11-lower NN12/ D. quinqueramus zone, Late Miocene, 5-7 Ma. Underlying Wonocolo Fm is NN10/ Late Miocene, overlying Mundu Fm is upper NN12-NN14/ Early Pliocene')

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Kariyoso, G. & D.J. Purwoko (1979)- A contribution to the study of hydrocarbon reservoirs using seismic data in West Java, Indonesia. Proc. 8th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 351-380.

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('Gold mineralization and associated minerals in the Cijulang River area, Ciamis regency, West Java'. Gold mineralization SE of Ciamis in volcanic breccias of E Miocene Jampang Fm)

- Kastowo (1975)- Geologic map of the Majenang Quadrangle, Java, scale 1:100,000. Geol. Survey Indonesia, Bandung.
(see also Kastowo & Suwarna 1996; 2nd edition. *C Java quadrangle with mainly folded Miocene- Pliocene sediments. Pliocene or younger thrusting to N*)
- Katili, J.A. & P. Koesoemadinata (1962)- Structural pattern of South Banten and its relation to the ore-bearing veins. Contr. Dept. Geology Inst. Technol. Bandung (ITB) 52, p. 3-28.
- Keetley, J.T. (1997)- The structure and geology of the Honje, Bayah and adjacent offshore areas, West Java, Indonesia. Honours Thesis, La Trobe University, Melbourne, p. 1-116. (*Unpublished*)
- Keetley, J.T., G.T. Cooper, K.C. Hill, Y. Kusumabrata, P.B. O Sullivan & L. Saefudin (1997)- The structural development of the Honje High, Bayah High and adjacent offshore areas, West Java, Indonesia. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Int. Conf. Petroleum Systems of SE Asia and Australasia, Jakarta, Indon. Petroleum Assoc. (IPA), p. 655-665.
(*W-most Java and Sunda Strait N-S trending half-grabens, with extension phases in Eo-Oligocene, M-L Miocene and Pliocene*)
- Keil, K.F.G. (1932)- Verslag over het voorkomen van olieschalie met therapeutisch werkzame bestanddelen (ichthyolt) in het Karangbolong Gebergte, Res. Banjoemas (Kedu). Indonesia Geol. Survey Bandung, Open File Report E35-31, p. 1-10.
(*Report on the occurrence of oil shale with therapeutic components (ichthyolt) in the Karangbolong Mountains, Banyumas Residency'. Several localities of (Middle?) Miocene, 'lagoonal' fine tuffaceous rocks impregnated with bitumen, between andesite breccias. Previously exploited by Chinese for medicinal purposes*)
- Kemmerling, G.L.L. (1915)- De geologie en geomorphologie van Cheribon. Verslagen Geol. Sectie Geologisch Mijnbouwkundig Genootschap Nederland Kol., 2, p. 94-100.
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- Kertapati, E.K. (1989)- Seismotectonics of Java island and adjacent regions. In: B. Situmorang (ed.) Proc. 6th Regional Conf. Geology mineral hydrocarbon resources of Southeast Asia (GEOSEA VI), Jakarta 1987, Indon. Assoc. Geol. (IAGI), p. 259-269.
(*Earthquakes 1963-1983 show seismic zone dipping to N at 40°- 70°. Upper crustal earthquakes under compressional stress in NW direction. Subcrustal earthquakes under extensional stress, with main extension nearly parallel to strike of seismic zone*)
- Ketner, K.B., Kastowo, S. Modjo, C.W. Naeser, J.D. Obradovich, K. Robinson, T. Suptandar & Wikarno (1976)- Pre-Eocene rocks of Java, Indonesia. U.S. Geol. Survey J. Research 4, 5, p. 605-614.
(online at: <http://pubs.usgs.gov/journal/1976/vol4issue5/report.pdf>)
(*Pre-Eocene of Lokulo area, C Java, sedimentary rocks (clastics, red radiolarian chert, limestone), partly of E Cretaceous age (with Late Aptian-Albian Orbitolina; R.C. Douglass), overthrust by sheared, chaotic melange. Sediments possibly large blocks in melange. Melange with metamorphics (schist with K-Ar age 117 Ma, phyllite with Rb-Sr age 85 Ma, quartzite and marble) and quartz porphyry with fission-track age of 65 Ma, granite, basalt, gabbro, peridotite, pyroxenite, and serpentinite. Both formations unconformably overlain by Eocene conglomerates (with glaucophane schist). Pre-Eocene of Jiwo Hills mainly unfossiliferous metamorphics (schist, gneiss, amphibolite), also serpentinite and radiolarian chert and reworked Cretaceous Orbitolina limestone in Tertiary conglomerate. W Java Ciletuh area Letu River with hilltops of peridotite/ gabbro, etc.)*)
- Khaing, S.Y., S.S. Surjono, J. Setyowiyoto & Y. Sugai (2017)- Facies and reservoir characteristics of the Ngrayong sandstones in the Rembang Area, Northeast Java (Indonesia). Open Journal of Geology 7, Scientific Research Publishing, p. 608-620.
(online at: http://file.scirp.org/pdf/OJG_2017051111291575.pdf)

(Study of reservoir characteristics of M Miocene Ngrayong Sandstone from outcrops N of Blora, Rembang zone. Ngrayong single transgressive-regressive cycle, with foreshore and tide-dominated shoreface facies. Sands f-m grained, subangular- poorly rounded, well-sorted, mainly composed of quartz, orthoclase, plagioclase, and micas. Texturally mature. Porosity 26- 40%, permeability 95- 3385 mD. Eight lithofacies)

Kholiq, A. (2007)- Stratigrafi foraminifera kelompok *Rotalia* Cekungan Jawa Barat Utara. Proc. Joint Conv. 32nd HAGI, 36th IAGI and 29th IATMI, Bali 2007, p. 729-734.

('Stratigraphy of foraminifera of the Rotalia group in the NW Java Basin'. Stratigraphic range of 9 species of Rotalia group in Miocene- Pleistocene of CKR-1 well in Ciputat sub-basin, correlated to nannoplankton and planktonic foraminifera zones. Ammonia umbonata NN4-NN5. Asterorotalia yabei NN5-NN10 (N9-N16). Pseudorotalia catilliformis NN12- NN15 (N17-N20). Pseudorotalia (Asanoina) globosa and P. alveiformis NN12- early NN18 (N18- N21). Pseudorotalia indopacifica NN12- lower NN18 (N17- N21). Pseudorotalia schroeteriana angusta NN19- NN22 (N17- lower N22). Pseudorotalia schroeteriana late NN15- NN19 or younger. Cavarotalia annectens top N19- N23)

Khurniawan, S., N.R. Apriliani & Aswan (2015)- Penentuan lingkungan pengendapan Formasi Penosogan berdasarkan analisis fosil jejak di lintasan Kali Jaya, Karangsambung, Kebumen, Jawa Tengah. Buletin Geologi (ITB) 42, 1, p. 21- .

('Determination of depositional environment of the Penosogan Formation based on trace fossil analysis in the Kali Jaya section, Karangsambung, Kebumen, Central Java'. Outer neritic- upper bathyal environment of turbiditic clastic series)

Kisimoto, K., Y. Okuda, T. Yokokura, K. Tamaki, B. Ganie & A. Supangat (1987)- Seismic reflection of the Sunda Trench in Eastern Java. CCOP Techn. Bull. 19, p. 25-28.

Klein, W.C. (1922)- Beschrijving van twee kalkgrotten bij Bodjonegoro (eiland Java). Verhandelingen Geologisch-Mijnbouwkundig Genootschap Nederland Kol., Geol. Serie 5, 5, p. 305-322.

('Description of two limestone caves near Bojonegoro, Java'. Two large caves in Miocene coral-orbitoid limestone ('zone m3' of Verbeek) in NE Java, 23 km apart. Nglirip multiple cave entrances in teak forest, 2.5 km from Nglirip village. Rengel (also called Gua Ngerong) just N of Bojonegoro-Tuban road, is source of subterranean river. River may be fed by water from sawahs of Grabagan, 7.5 km NW of Rengel cave, or from possible absorbtion point 400m E of Manjung, 19 km to WNW of Rengel)

Klein, W.C. (1925)- Het Tertiairprofiel van het Tjikao dal in het landschap Krawang (W. Java). Verhandelingen Geologisch-Mijnbouwkundig Genootschap Nederland Kol., Geol. Serie 8 (Verbeek Volume), p. 305-310.

('The Tertiary section of the Tji Kao valley in the Krawang area, W Java'. BPM survey of thick (>3800m) exposed Tertiary sand-shale section in Ci Kao valley, NW of Bandung. Relatively constant dip of ~40° to S. Sands contain no quartz, all andesite debris. No details on age, faunas)

Koch, R.E. (1923)- Die jungtertiären Foraminiferenfauna von Kabu (Res. Surabaya, Java). Eclogae Geol. Helvetiae 18, 2, p. 342-361.

(online at: <http://retro.seals.ch/cntmng?type=pdf&rid=egh-001:1923-1924:18::756&subp= hires>)

('The Late Tertiary foraminifera fauna from Kabu (Surabaya residency, Java)'. Listing of 107 species of benthic and planktonic foraminifera from foraminiferal marls collected along road Babad-Ngimbang Kabu-Djombang, E Java. Probably deeper marine faunas, of Late Miocene- E Pliocene age)

Koesmono, M. (1976)- Geologic map of the Sindangbarang and Bandarwaru quadrangles, Java. Quads. 9/XIV-B and 9-XIV-E, scale 1:100,000. Geol. Survey Indonesia, Bandung.

(Geologic map of SW Java coastal area)

Koesoemadinata, R.P. & D. Hartono (1981)- Stratigrafi dan sedimentasi daerah Bandung, Proc. 10th Ann. Conv. Indonesian Assoc. Geol. (IAGI), Bandung, p. 318-336.

('Stratigraphy and sedimentation of the Bandung area')

Koesoemadinata, R.P., A.H.P. Kesumajana & O. Sadjati (2000)- The utilization of paleo-heatflow to define a source rock maturity: case study at Ngimbang-01, North East Java Basin, Indonesia. AAPG Int. Conference & Exhibition, Bali, 1p. (*Abstract only*)

(*In Ngimbang-01 well, NE Java, (Eocene) source rock would have matured 34 My ago using heatflow history approaching reality, whereas by using constant heatflow through time, maturity started at 16 Ma*)

Koesoemadinata, R.P. & A. Pulunggono (1975)- Geology of the southern Sunda shelf in reference to the tectonic framework of the Tertiary sedimentary basins of western Indonesia: J. Assoc. Indon. Geol. (IAGI) 2, 2, p. 1-11.

Koesoemadinata, R.P. & S. Siregar (1984)- Reef facies model of the Rajamandala Formation, West Java. Proc. 13th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 1-18.

(*Rajamandala Fm limestone outcrops along Bandung- Jakarta road, ~600m thick, dips 40-60° to S, ENE-WSW strike, asymmetric folding-thrusting to N. Graded granular facies represent turbidite toe of slope, foraminiferal algal facies are fore-reef; coral-algal bafflestone- boundstones are reef ramparts (quarried as marble). Possible milliolid limestone facies with isolated patch reefs represents lagoonal back reef*)

Koesoemadinata, R.P., K.N. Tabri & Dardji (1985)- Rajamandala-Tagogapu Area, West Java. Indon. Petroleum Assoc. (IPA) 14th Annual Conv. Post Convention Fieldtrip, p. 1-67.

Koesoemadinata, R.P., K.N. Tabri, Premonowati & B. Yuwono (2000)- Carbonate fieldtrip to Tagog Apu, Rajamandala Area West Java, September 2000. Guide Book, Indonesian Assoc. Geol., Jakarta Chapter, p. 1-70.

Koesoemo, Y.P. (1993)- Stratigrafi sikuen Rembang Kendeng kala Miosen Tengah- Akhir daerah Jawa Timur. Masters Thesis ITB Bandung, p.

(*'Middle- Late Miocene sequence stratigraphy of the Rembang and Kendeng zones, East Java'. Seven sequences distinguished*)

Koesoemo, Y.P. (2002)- Middle Miocene submarine fan as a new idea of hydrocarbon stratigraphic trap model in Randublatung Depression Northeast Java Basin. Proc. 28th Ann. Conv. Indon. Petroleum Assoc. 1, p. 749-755.

(*Six sea level falls interpreted during Middle (15.5, 13.8, 12.5, 10.5 Ma) and Late Miocene (6.3, 5.5 Ma). Some sediments eroded and transported to S and deposited as submarine fans, as evidenced by mounded geometries on seismic. Concept of submarine fan new idea for hydrocarbon traps in study area*)

Koesoemo, Y.P. (2004)- Turbidite Pucangan Formation and petroleum system in the Eastern part of the Kendeng zone, North-East Java basin. In: R.A. Noble et al. (eds.) Proc. Deepwater and Frontier Exploration in Asia and Australasia Symposium, Jakarta, Indon. Petroleum Assoc., p. 287-289.

(*Short paper describing outcrops SW of Surabaya of Late Pliocene- Pleistocene turbiditic Pucangan Fm sands, associated with 2.9 Ma SB*)

Koesoemo, Y.P., N.T. Yuwono & S. Musliki (1996)- Sequence stratigraphy concept applied to the Middle Miocene to Pliocene outcrops in the Northeast Java Basin, Indonesia. In: C.A. Caughey, D.C. Carter et al. (eds.) Proc. Int. Symp. Sequence Strat. Southeast Asia, Jakarta 1995, Indon. Petroleum Assoc., p. 329-344.

(*4 main depositional cycles: (1) Ngimbang, Kujung Fms (Eocene-Late Oligocene); (2) Prupuh, Tuban, Tawun and Ngrayong Fms (Late Oligocene-M Miocene); (3) Bulu? Wonocolo, Lcdok and Mundu Fms (M Miocene-Late Pliocene); and (4) Selorejo and Lidah Fms (Late Pliocene-Pleistocene). Little documentation*)

Koichiro, S., Y. Watanabe, A. Imai and Y. Motomura (2005)- Alteration and gold mineralization of the Ciurug vein, Pongkor Au-Ag deposit, Indonesia. In: J. Mao & F.P. Bierlein (eds.) Mineral deposit research: meeting the global challenge 2005, Springer, Berlin, p. 995-998.

(*Pongkor gold-silver mine ~80 km SW of Jakarta, in high-grade epithermal vein-system, associated with young basaltic-andesitic volcanics. Four stages of mineral vein formation*)

- Koolhoven, W.C. Benschop (1929)- Geology of Gandoel Hill near Borobudur (Central Java). Fourth Pacific Science Congress Java 1929, Excursion Guide D1, 6p.
(*Gandul hill W of Borobudur and S of Borobudur- Salaman road, on N slope of Menoreh Mts. Possible Eocene grey shales with micaceous sandstones and quartz conglomerates, indurated by E Miocene andesite intrusives (4km wide andesite plug). Overlain by andesitic breccias with intercalations of E-M Miocene limestone with Lepidocyclina, Miogypsina, etc.*)
- Koolhoven W.C.B. (1932)- Over eenige edelmetaal-voorkomens in de omgeving van Poerwakarta (Res. Krawang, West-Java). De Mijnningieur 13, p. 163-167.
(*On some precious metal occurrences in the area of Purwakarta (Krawang, W Java)*)
- Koolhoven, W.C.B. (1933)- Beschouwingen omtrent voorkomen, genese, ouderdom en exploratie van goud en edelmetaalhoudende ertsen op Java. De Mijnningieur 14, 1, p. 6-14 (part 2: vol. 14, 2, p. 26-30, part 3: vol. 14, 3, p. 47-51).
(*'Discussion of distribution, genesis, age and exploration of gold and precious metal ores on Java' In 3 parts. Many historic records of gold on Java. Timing of ore formation in SW and SE Java in M Miocene, in NW Java in Mio-Pliocene or later. Many of precious metal ore occurrences on Sumatra and Java associated with acid liparite/ dacite deposits, but are systematically slightly younger*)
- Koolhoven, W.C.B. (1933)- Toelichting bij Blad 14 (Bajah). Geological map of Java, 1:100,000, Dienst Mijnbouw Nederlandsch-Indie, p. 1-66.
(*Explanatory notes Geological Map of Java 1:100,000, map sheet 14 (Bayah)*)
- Koolhoven, W.C.B. (1933)- Toelichting bij Blad 10 (Malingping), Geologische kaart van Java 1:100,000. Dienst Mijnbouw in Nederlandsch-Indie, Bandung, p.
(*Unpublished report E33-73 at Geological Survey, Bandung*)
(*Explanatory notes Geological Map of Java 1:100,000, map sheet 10 (Malingping')*)
- Koolhoven, W.C.B. (1936)- Het Palaeogeen op Java (een kritiek). De Ingenieur in Nederlandsch-Indie (IV), 3, 9, p. 161-164.
(*Critical review of the Java chapter of Badings (1936) paper on Paleogene of Indies Archipelago*)
- Koomans, C.M. (1938)- A tourmaline-zoisite rock from Loh-Oelo, Java. Leidsche Geol. Mededelingen 10, p. 104-109.
(*online at: www.repository.naturalis.nl/document/549446*)
(*Metamorphic rock collected by Harloff from Luk Ulo area, C Java, with tourmaline, muscovite and zoisite (= medium-grade, derived from Ca-rich metasediment?; JTvG)*)
- Kopp, H. (2002)- BSR occurrence along the Sunda margin: evidence from seismic data. Earth Planetary Sci. Letters 197, p. 225-235.
(*Sunda margin BSR occurrences restricted to areas of upward migration conduits for methane-laden fluids*)
- Kopp, H. (2011)- The Java convergent margin: structure, seismogenesis and subduction processes. In: R. Hall, M.A. Cottam & M.E.J. Wilson (eds.) The SE Asian gateway: history and tectonics of the Australia-Asia collision, Geol. Society, London, Spec. Publ. 355, p. 111-137.
(*Java S margin characterized by distinct variation in lower to upper plate material transfer and recurring catastrophic tsunamogenic earthquakes, linked to subduction of oceanic basement relief and resulting in varying degrees of fore-arc deformation. Shallow subduction processes governed by sediment supply in trench and nature of oceanic lithosphere. Shallow upper plate crust-mantle transition along Java margin section. Off C Java, high relief oceanic basement features potentially act as asperities or barriers to seismic rupture*)
- Kopp, H. (2013)- The control of subduction zone structural complexity and geometry on margin segmentation and seismicity. Tectonophysics 589, p. 1-16.
(*General paper on subduction zones and seismic activity, with examples from S Java- SW Sumatra forearc*)

Kopp, H., E.R. Flueh, C.J. Petersen, W. Weinrebe & A. Wittwer (2006)- The Java margin revisited: evidence for subduction erosion off Java. *Earth Planetary Sci. Letters* 242, p. 130-142.

(High-resolution bathymetry suggests tectonic erosion of frontal accretionary prism by underthrusting of oceanic basement relief such as seamounts and ridges)

Kopp, H., D. Hindle, D. Klaeschen, O. Oncken, C. Reichert & D. Scholl (2009)- Anatomy of the western Java plate interface from depth-migrated seismic images. *Earth Planetary Sci. Letters* 288, p. 399-407.

(W Java forearc segmentation into discrete mechanical domains. W Java margins subducting plate interface shows irregular morphological relief of subducted seamounts and thicker than average patches of underthrust sediment)

Kopp, H., D. Klaeschen, E.R. Flueh, J. Bialas & C. Reichert (2002)- Crustal structure of the Java margin from seismic wide-angle and multichannel reflection data. *J. Geophysical Research* 107, B2, 2034, 24p.

(Seismic data across subduction zone yield used to build cross section of subduction zone, confirmed by supplementary gravity modeling. Sunda accretionary margin has massive accretionary prism, >110 km wide between trench and forearc basin. It is composed of frontal wedge and fossil part behind present backstop structure which constitutes outer high. Moderate seismic velocities indicate sedimentary composition of outer high. Subducting oceanic slab traced down to almost 30 km underneath accretionary prism. Adjacent forearc domain with pronounced basin, possibly underlain by remnant fragments of oceanic crust)

Kopp, H. & N. Kukowski (2003)- Backstop geometry and accretionary mechanics of the Sunda margin. *Tectonics* 22, 6, doi:10.1029/2002TC001420, p. 1-16.

(Convergent Sunda margin off Indonesia is accretion-dominated subduction zone. New seismic reflection data off SE Sumatra- SW Java allows mapping of backstop regimes. Initially, outer high evolved as material was pushed against static rigid arc framework backstop underlying forearc basin. Increasing lithification of outer high formed dynamic backstop, which controls accretion today. Out-of-sequence thrust marks transition from recent active frontal accretionary prism to outer high. Existence of static and dynamic backstop controls forearc geometry and segmentation of forearc. Mass balance calculations indicate accretionary processes since late Eocene. Accretion is associated with low values of basal friction)

Koswara, M., J. Negre & L. Hendrata (1990)- The integration of geophysical, geological and petrophysical data: a case study in North West Java, Indonesia. In: 8th Offshore South East Asia Conf., Singapore 1990, SE Asia Petroleum Expl. Soc. (SEAPEX) Proc. 9, p. 100-111.

(Evaluation of two onshore NW Java wells ~60km E of Jakarta, drilled in 1988-1989, in >500m thick Late Miocene/Tf3 Parigi Fm carbonate buildups)

Koulakov, I., M. Bohm, G. Asch, B.G. Luehr, A. Manzanares, K.S. Brotospusito, P. Fauzi et al. (2007)- P- and S-velocity structure of the crust and the upper mantle beneath Central Java from local tomography inversion. *J. Geophysical Research* B08310, 19p.

(online at: <https://agupubs.onlinelibrary.wiley.com/doi/pdf/10.1029/2006JB004712>)

(Local source tomographic inversion used to obtain 3-D models of crust and mantle wedge beneath C Java. Clearly image of shape of subduction zone. Slab dip increases gradually from near-horizontal to ~70°. Double seismic zone in slab between 80-150 km depth. Low-velocity anomaly in crust, just N of volcanic arc (Merapi-Lawu anomaly; MLA), with 30-36% lower velocities than fore arc at 10 km. This shows probable high content of fluids and partial melts in crust (more likely deep sedimentary basin ?; JTvG). Inclined low-velocity anomaly in upper mantle links cluster of seismicity at 100 km with MLA and may reflect ascending fluids paths)

Koulakov, I., A. Jakovlev & B.G. Luehr (2009)- Anisotropic structure beneath central Java from local earthquake tomography. *Geochem. Geophys. Geosystems* 10, 2, Q02011, p. 1-31.

(online at: <https://agupubs.onlinelibrary.wiley.com/doi/pdf/10.1029/2008GC002109>)

(New tomographic data from local seismicity. Crust and upper mantle velocity structure beneath C Java strongly anisotropic. Forearc area between S coast and volcanoes heterogeneous, explained by complex block structure of crust. Beneath volcanoes faster velocities in vertical direction, probably channels, dykes. In crust

beneath middle part of C Java, N to Merapi and Lawu large slow anomaly with E-W zone of fast velocity, probably caused by regional extension)

Krausel, R. (1923)- *Über einen fossilen Baumstamm von Bolang (Java). Ein Beitrag zur Kenntnis der fossilen flora Niederländisch-Indiens. Proc. Kon. Akademie Wetenschappen, Amsterdam, 25, p. 9-16.*

(Online at: www.dwc.knaw.nl/DL/publications/PU00014846.pdf)

*('On a fossil tree trunk from Bolang, Java; a contribution to the knowledge of the fossil flora of Netherlands Indies'. Bolang locality has silicified tree trunks up to 2m long, 60 cm in diameter. Age of deposits uncertain. Specimen from dipterocarp tree family, deemed to be new species named *Dipterocarpoxyylon javanense* (= *Dryobalanoxyylon javanense* according to Den Berger, 1927; JTvG)*

Krausel, R. (1926)- *Über einige Fossile Holzer aus Java. Leidsche Geol. Mededelingen 2, 1, p. 1-8.*

(online at: www.repository.naturalis.nl/document/549486)

*('On some fossil woods from Java'. Petrified wood from Late Tertiary deposits of Bandung and Batavia belongs to Dipterocarpaceae. *Naucleoxyylon spectabile* of Crie (1888) re-assigned to *Dipterocarpoxyylon* (Den Berger 1927 re-assigned to *Dryobalanoxyylon*; JTvG))*

Kristanto, A.S., F.D. Erdanto, M. Fadli, D.W. Widiyanto, Y. Nusantara & T. Diharja (2018)- *A venture into Early- Middle Miocene clastics: an exploration opportunity in the western part of the East Java Basin. Proc. 42nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA18-107-G, 14p.*

(E-M Miocene shallow-marine clastic play in Tuban (Burdigalian) and Tawun Fms (Langhian) in Alas Dara Kemuning PSC (NW part of Cepu Block), NE Java basin. Coarsening-upward packages. Oil and gas-condensate in recent N-1 well (inversion structure?) and nearby NU-2 and NU-4 wells. Reservoirs moderate-good porosity, low permeability (carbonate cement), except in Ngrayong sands)

Kundanurdoro, P. (2009)- *Studi sikuen stratigrafi endapan berumur Oligosen atas- Miosen bawah (P22- N6) Cekungan Jawa Timur Utara di daerah Tuban, Jawa Timur. J. Ilmiah Magister Teknik Geologi (UPN) 2, 2, 14p.*

(online at: <http://jurnal.upnyk.ac.id/index.php/mtg/article/view/194/156>)

*('Study of sequence stratigraphy of U Oligocene- Lower Miocene sediments (P22- N6) in NE Java Basin in Tuban area, East Java'. Six sequences distinguished in open marine marls and limestone (calcuturbidites?) in four outcrop sections in Rembang zone E of Tuban. Apparently good planktonic foram age control from Top Gr. *opima* zone (P21) Gr. *kugleri* to above top Ga *binaiensis* (N6). Prupuh Lst = upper N4- lower N5)*

Kundu, B. & V.K. Gahalaut (2011)- *Slab detachment of subducted Indo-Australian plate beneath Sunda arc, Indonesia. J. Earth System Science 120, 2, p. 193-204.*

(online at: www.ias.ac.in/jess/apr2011/193.pdf)

(Patterns of seismicity, seismic tomography and geochemistry of arc volcanoes reflect horizontal slab tear in subducted Indo-Australian slab beneath Java segment of Sunda arc (105°E -116°E) at depth of 300-500 km. Interaction of spreading centre with Sunda arc in E Tertiary probably nucleated small horizontal tear on slab and slab detachment process dominated beneath Java arc after 20 Ma (E Miocene) but before 10 Ma (Late Miocene), well before collision of Australian continental mass)

Kupper, H. (1941)- *Bijdrage tot de stratigraphie van het Tagogapoe- Gn. Masigit gebied (Noord Priangan, Java). De Ingenieur in Nederlandsch-Indie (IV), 8, 12, p. 105-109.*

('Contribution to the stratigraphy of the Tagogapu- Gn Masigit area (N Priangan, Java). Early paper on Late Oligocene- E Miocene Rajamandala Lst W of Bandung)

Kurniasih, A., I. Adha, H. Nugroho & P. Rachwibowo (2018)- *Petrogenesis batuan metamorf di perbukitan Jiwo Barat, Bayat, Klaten, Jawa Tengah. J. Geosains dan Teknologi (UNDIP) 1, 1, p. 1-7.*

(online at: <https://ejournal2.undip.ac.id/index.php/jgt/article/view/2503/1494>)

('Petrogenesis of metamorphic rocks in the West Jiwo Hills, Klaten, Central Java')

(Bayah Complex metamorphic rocks low grade greenschist facies, associated with Eocene Nummulites limestones, serpentinite/ gabbro. Schist-phyllite from protolith of continental origin (siltstone, claystone))

Kurniawan, E., A. Bachtiar, C. Irawan & D. Apriadi (2003)- Facies and reservoir characteristics of shallow marine deposit at Cipamingkis River. Proc. 32nd Annual Conv. IAGI and 28th Ann. Conv. HAGI, Jakarta, 23p. (*Detailed sedimentological study of M Miocene Cibulakan Fm outcrops of glauconitic sands and shales along riverbed of Cipamingkis River, SE of Jakarta. Analog of age-equivalent hydrocarbon zones in offshore NW Java Basins. Twelve facies distinguished, interpreted as lower shoreface to offshore environments. Reservoir geometries mainly sheet-like, some patchy, mounded geometry. In Indonesian*)

Kurniawan, R.E.J., Surono, B. Prastistho & S. Umiyatun (2006)- Studi nanofosil pada satuan Batulempung, Formasi Wungkal- Gamping, lintusan Watu Prahu, Bayat, Klaten, Jawa Tengah. Proc. 35th Conv. Indon. Assoc. Geol. (IAGI), Pekanbaru 2006, 11p. (*'Nannofossil study of the claystone unit of Wungkal- Gamping Fm, Bayat, C Java'. Watuprahu section at Jiwo Hills SE of Yogyakarta contains Late Eocene nannofossil zones NP18-NP19 (incl. Cribrocentrum reticulatum, Discoaster saipanensis, D. barbadiensis, etc.)*)

Kurniawan, R., H.I. Sulaeman, R.A. Kristianto, Z. Fanani & C. Prasetyadi (2012)- Analisa struktur dan stratigrafi terhadap keterdapatan rembesan minyak dan gas berdasarkan data permukaan di Formasi Kerek, Wonosegoro, Boyolali, Jawa Tengah. Proc. 41st Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 2012-E-13, 5p. (*On structure, stratigraphy and oil and gas seeps and outcrop data of Kerek Formation in W Kendeng zone, Boyolali area, C Java. Many of seeps tied to faults*)

Kurnio, H. (2007)- Review of coastal characteristics of iron sand deposits in Cilacap, Central Java. Bull. Marine Geol. 22, 1, p. 35-49. (*online at: <http://ejournal.mgi.esdm.go.id/index.php/bomg/article/view/4/4>*) (*Mineable magnetite-bearing iron sand deposits in Cilacap, S coast of C Java. Coastal area successive sandy beach ridges separated by marshy valleys, typical of prograded coasts. Iron sand deposits derived mainly from denudation of Oligocene- E Miocene 'Old Andesite Fm' in hinterland. Serayu River main agent of sediment supply to coast (see also Sarmili et al. 1999)*)

Kurnio, H. & T. Naibaho (2011)- Pematang Pantai Purba sebagai perangkap gas biogenik di pesisir Indramayu Provinsi Jawa Barat suatu kajian pendahuluan. J. Sumber Daya Geologi 21, 5, p. 275-281. (*online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/154/151>*) (*'Pematang Pantai Purba as a biogenic gas trap on the coast of Indramayu West Java Province a preliminary study'. Biogenic gas seepage at beach sands along N coast of Java near Indramayu*)

Kurnio, H., T. Naibaho & M.A. Mustafa (2010)- Karakteristik Pantai Indramayu dengan keberadaan gas biogenik. J. Sumber Daya Geologi 20, 1, p. 33-40. (*online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/160/155>*) (*'Characteristic of Indramayu Beach with presence of biogenic gas'. Indramayu coast at N coast of W Java with sandy coastal dunes between mangroves. Biogenic gas from mangroves may accumulate in dune sands*)

Kusumahbrata, Y. (1994)- Sedimentology and stratigraphy of the Bayah, Walat and Ciletuh Formations, SW Java basin, Indonesia. Ph.D. Thesis University of Wollongong, NSW, p. 1-253. (*online at: <http://ro.uow.edu.au/theses/1404/>*) (*Bayah, Walat and Ciletuh Fms M Eocene quartz-rich sequences in SWJava Basin, in fore-arc region of present Sunda Arc system. Bayah and Walat Fms fluvial- deltaic, Ciletuh Fm submarine fan. Volcanic rock fragments rare in most samples from Bayah and Walat Fms, but relatively common in some samples from Ciletuh Fm. Paleocurrent data of Bayah and Walat Fm suggest sediment mainly derived from NNE. Ciletuh submarine fan mainly E to W paleocurrent directions? Provenance analysis suggest rel. quartz-rich 'recycled orogen' type*)

Kusumahbrata, Y. (1994)- Sedimentary petrographic study of the Bayah, Walat and Ciletuh Formations, Southwest Java: its importance for interpreting provenance and petrographic correlation. Proc. 23rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, 1, p. 41-54.

(SW Java Eocene-Oligocene sandstones quartz-rich 'recycled orogen' (sub-) litharenites, dominated by various types of quartz and chert, probably derived from mix of metamorphic, granitic, volcanic (rel. rare) and sedimentary rocks. Provenance area to N or NE. Upward decrease in feldspars and volcanics and increase of polycrystalline quartz in some sequences consistent with uncovering of magmatic arc through erosion (NB: little evidence of arc volcanism in these rocks?)

Kusumastuti, A., A.B. Darmoyo, W. Suwarlan & S.P.C. Sosromihardjo (2000)- The Wunut Field: Pleistocene volcanoclastic gas sands in East Java. Proc. 27th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 195-215.

(Lapindo 1994 gas discovery in Pleistocene Pucangan Fm volcanoclastics in E Kendeng zone, S of Surabaya. Reservoirs part of NE prograding volcanoclastic wedge from modern arc. 17 gas sands between 500-3000'; most reserves in deepest zone. Porosity 25-35%. Closure formed in Late Pleistocene (gravity-driven detachment related to uplift in volcanic arc?). Gas charge probably leakage from underlying Miocene Porong Reef)

Kusumayudha, S.B. & H. Murwanto (1994)- Penentuan tektonogenesis kompleks bancuh Karangsambung berdasarkan analisis kekar gerus. In: Proc. Seminar Geologi dan Geotektonik Pulau Jawa sejak Akhir Mesozoik hingga Kuartar, Geology Department Gadjah Mada University, Yogyakarta, p. 101-120.

(Structural analysis of C Java Karangsambung-Luk Ulo melange and olistostrome complex)

Lassal, O., P. Huchon & H. Harjono (1989)- Extension crustale dans le detroit de la Sonde (Indonesie). donnees de la sismique reflexion (Campagne Krakatau). Comptes Rendus Academie Sciences, Paris, 309, p. 205-212.

('Crustal extension in Sunda Straits (Indonesia), based on seismic reflection data (Krakatau campaign)')

Lehmann, H. (1936)- Morphologische Studien auf Java. Geographische Abhandl., Stuttgart, Ser. 3, 9, p. 1-114.

('Geomorphologic studies on Java'. Mainly on Southern Mountains SE of Yogya and NE Java Kendeng-Rembang zones around Cepu. Introduction of term 'cone-karst')

Lehner, P., H. Doust, G. Bakker, P. Allenbach & J. Guenau (1983)- Active margins 3, Java Trench. In: A.W. Bally (ed.) Seismic expression of structural styles- a picture and work atlas, American Assoc. Petrol. Geol. (AAPG), Studies in Geology 15, 3, p. 45-80.

(Two profiles across Java Trench P7 and N508 show subduction of Late Jurassic- E Cretaceous descending Indian Ocean crust, overlain by imbricated accretionary wedge of sediment. Uppermost portion of basement, probably pillow basalts, structurally deformed and partly imbricated. Thrusts steepening away from trench. Individual imbrications may bend over toward trench in uppermost part, probably triggering submarine slides and turbidity flows. Sediment fill of fore-arc basins Late Oligocene/E Miocene- Recent. Offshore wells in fore-arc basin Oligocene volcanoclastics below base Miocene unconformity. Reefs on unconformity indicates fore-arc basin subsided to present depth after Oligocene orogenic pulse. Neogene transgressive-regressive cycle with basal marine sandstones and limestones. Doming and fracturing of entire island arc region during Oligocene was followed by Miocene regional subsidence and tectonic quiescence. Compressional folding and basin inversion began in Late Miocene and appears to have been continuous into Recent time)

Lelgemann, H., M. A. Gutscher, J. Bialas, E.R. Flueh, W. Weinrebe & C. Reichert (2000)- Transtensional basins in the western Sunda Strait. Geophysical Research Letters 27, p. 3545-3548.

(On crustal structure and evolution of Sunda Strait, based on 1999 seismic survey. Transtensional character of the area shown by faulted blocks of arc basement and active normal faults on both sides of large graben at W entrance to Sunda Strait. Over 6 km of graben fill sediment, associated with substantial crustal thinning. S part of region 50 km from trench and Moho of downgoing plate is at depth of 28 km)

Lelono, E.B. (2000)- Palynological study of the Eocene Nanggulan Formation, Central Java, Indonesia. Ph.D. Thesis, Royal Holloway, University of London, p. 1-457. *(Unpublished)*

(Nanggulan Fm age diagnostic M-L Eocene fauna and palynomorph assemblages. Many palynomorphs affinity with Indian forms, suggesting plant migration into SE Asia following plate collision in E Tertiary. Distribution of similar M Eocene palynomorph assemblages suggests Sundaland extended from Java to SW Sulawesi.)

Podocarpidites pollen in upper unit indicates cooling, probably equivalent to M-L Eocene boundary event recorded elsewhere. Nanggulan Fm is transgressive sequence)

Lelono, E.B. (2001)- Sea level changes during Middle-Late Eocene in the Nanggulan Formation, Central Java. Lemigas Scientific Contr. 1, p. 8-15.

Lelono, E.B. (2007)- Gondwanan palynomorphs from the Paleogene sediments of East Java?; the evidence of earlier arrival. Proc. Joint Conv. 32nd HAGI, 36th IAGI, and 29th IATMI, Bali, JCB2007-010, 14p.
(Appearance of Gondwanan/ Australian pollen, including Dacrydium and Casuarina, in Late Eocene-Oligocene of wells in N Madura- E Java Sea is unusual, as these are generally first recorded only in E Miocene of NW Java Sea, S Sumatra, C Java, S Sulawesi and Natuna, after collision of Australian plate and Sundaland in latest Oligocene. This may indicate earlier arrival of Gondwanan/ Australian fragment in E Java area than in other areas of Indonesia)

Lelono, E.B. (2012)- Oligocene palynology of onshore West Java. Lemigas Scientific Contr. Oil Gas 35, 2, p. 67-82.

(online at: www.lemigas.esdm.go.id/)

(Palynological studies of Oligocene in (unnamed) onshore wells in Ciputat sub-basin, W Java. Generally poor pollen assemblages. Unlike equivalent beds offshore NW Java, lacustrine elements rare, suggesting absence of lake deposit. Oligocene defined by presence of Oligocene marker Meyeripollis naharkotensis. Depositional environment transition non-marine- shallow marine. Common brackish pollen of Zonocostites ramonae and Spinizonocolpites echinatus indicate mangrove/ back-mangrove environment)

Lelono, E.B. (2016)- Cooling event in the boundary of Middle/Late Eocene of Java. Proc. 5th Int. Conf. Earth Science & Climate Change, Bangkok, J Earth Sci. Climate Change 7, 5, (Suppl.), p. 63. *(Abstract only)*

(Eocene palynomorphs in Nanggulan Fm, C Java: M Eocene abundant and diverse lowland/rain forest elements suggesting warm- wet conditions with Palmaepollenites kutchensis, Retitricolporites equatorialis, Camptosperma sp., Marginipollis concinus and Dicolpopollis malesianus. Late Eocene marked by regular grass pollen and reduction of rainforest elements, indicating development of savanna in cool-dry climate condition (also recorded in Toraja Fm of S Sulawesi and Late Eocene of Makassar Strait. First occurrence of hinterland pollen Podocarpidites spp. marks M-L Eocene boundary)

Lelono, E.B. & R.J. Morley (2011)- Oligocene climate changes of Java. Lemigas Scientific Contr. 34, 3, p. 169-176.

(online at: [www.lemigas.esdm.go.id/id/pdf/scientific_contribution/..](http://www.lemigas.esdm.go.id/id/pdf/scientific_contribution/))

(E Oligocene characterized by common rain forest elements, suggesting everwet rain forest climate at that time. Early part of Late Oligocene much reduced rain forest elements, and presence of regular Gramineae pollen, suggesting more seasonal climate, whereas for latest Late Oligocene rain forest (and peat swamp) elements return in abundance, suggesting very wet rain forest climate)

LEMIGAS/ BEICIP (1974)- Geology of the Kendeng zone (Central and East Java), p.. *(Unpublished)*

LeRoy, L.W. (1941)- Small foraminifera from the Late Tertiary of the Netherlands East Indies. 3. Some small foraminifera from the type locality of the Bantamien substage, Bodjong beds, Bantam Residency, West Java. Quarterly Colorado School Mines 36, 1, p. 107-132.

LeRoy, L.W. (1944)- Miocene foraminifera from Sumatra and Java, Netherlands East Indies. 2. Small foraminifera from the Miocene of West Java, Netherlands East Indies. Quarterly Colorado School Mines 39, 3, p. 70-113.

(Descriptions of 107 species of small benthic foraminifera from Miocene marls at Tjijarian bridge, E of Pelabuhan Ratu, W Java)

Lokier, S.W. (1999)- Volcaniclastic controls on carbonate sedimentation within the Gunung Sewu area, south area, South Central Java, Indonesia. Proc. 1st FOSI-IAGI Reg. Seminar, Tectonics and sedimentation of

Indonesia and 50th Anniversary Memorial of R.W. van Bemmelen's Book- The Geology of Indonesia, p. 50
(Abstract only)

Lokier, S.W. (1999)- The development of the Miocene Wonosari Formation, South Central Java. Proc. 27th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 217-222.

(M Miocene Wonosari/Punung Fm of south C Java active volcanic setting with carbonate development. S of E Miocene island-arc a moderate to high-energy carbonate platform developed. Calcareous algae and larger foraminifera packstone dominate; corals and other biota as tertiary elements. N of carbonate platform deep (~200-400m) fore-arc basin, with volcanoclastic sedimentation from arc in N and carbonates from shallow platform to S. Some interdigitation of sediment types. Periodic inputs of marine volcanoclastics in carbonate environment. Sustained periods of volcanoclastic sedimentation resulted in decrease in species but increased numbers of individuals, attributed to increase in nutrients, lack of competitors and changes in substrate)

Lokier, S.W. (2000)- The Miocene Wonosari Formation, Java, Indonesia: volcanoclastic influences on carbonate platform development. Ph.D. Thesis, University of London, p. 1-648. (Unpublished)

(Regional study of Middle Miocene Wonosari Limestone in Southern Mountains of C and E Java)

Longley, I., C. Kenyon, A. Livsey & J. Goodall (2016)- A methodology for future exploration in mature Indonesian basins- why play mapping integrated with well failure analysis matters- an example from the East Java Basin, Indonesia. Proc. IPA 2016 Technical Symposium, Indonesia exploration: where from- where to, Indon. Petroleum Assoc. (IPA), Jakarta, 25-TS-16, p. 1-10.

(E Java Basin in back-arc geological setting onshore and offshore E Java. 380 exploration wells drilled, with ~90 discoveries. Seven main charge cells identified: Muriah, Cepu, Central Deep, N Madura, S Madura, Kangean and Southern Basin. Etc.)

Lorie, J. (1879)- Bijdrage tot de kennis der Javaansche eruptiefgesteenten. Doct. Thesis Utrecht University, Wyt & Zonen, Rotterdam, p. 1-269.

(‘Contribution to the knowledge of Javanese volcanic rocks’)

Loth, J.E. & J. Zwierzycki (1926)- De kristallijne schisten op Java ouder dan Krijt. De Mijnningieur 7, 2, p. 22-25.

(‘The crystalline schists on Java are older than Cretaceous’. Mid-Cretaceous limestones with Orbitolina concavata near village of Karang Tengah in Loh Ulo river area, C Java, are not intercalated with serpentinite and chlorite schist as argued by Verbeek & Fennema (1896, p. 352), but are in interbedded marl-limestone series ~20m above ‘transgressive conglomerate’ with common quartz pebbles on top of chlorite schist. Beds consistently and steeply S-dipping, probably isoclinally folded. Schists at higher levels and thrust over Cretaceous sediments (from S to N). (Cretaceous limestones quarried for limestone kilns; not much left?; JTvG))

Lowell, J.D. (1980)- Wrench vs. compressional structures with application to Southeast Asia. Proc. SE Asia Petroleum Expl. Soc. (SEAPEX) 5, Singapore, p. 63-70.

(Example from NE Java basin oil field structures: look compressional, not wrench-controlled. C. Sumatra Pungut and Tandun oil fields do have indications of wrenching)

Lubis, H., S. Prihatmoko & Y. Herryurianto (2012)- Geology and exploration for low sulfidation epithermal gold-silver mineralization in Kerta, Banten. In: N.I. Basuki (ed.) Proc. Banda and Eastern Sunda arcs, Indonesian Soc. Econ. Geol. (MGEI) Ann. Conv. 2012, Malang, p. 39-72.

Ludwig, O. (1933)- Geologische kaart van Java 1:100,000. Toelichting bij blad 30 (Poerwakarta). Dienst Mijnbouw Nederlandsch-Indie, Batavia. p. 1-45.

(‘Geological map of Java 1:100,000- Explanatory notes of Sheet 30, Purwakarta’)

Ludwig, O. (1934)- Geological map of Java, scale 1:100,000. Explanatory note to Sheet 26 (Sagaranten). Geol. Survey Indonesia.

(Unpublished Sagaranten sheet of 1:100,000 geologic map of Java)

Luehr, B.G., I. Koulakov, W. Rabbel, J. Zschau, A. Ratdomopurbo, K.S. Brotospito, P. Fauzi & D.P. Sahara (2013)- Fluid ascent and magma storage beneath Gunung Merapi revealed by multi-scale seismic imaging. *J. Volcanology Geothermal Res.* 261, p. 7-19.

(3D seismic velocity structure of Merapi volcano provided image of lithosphere and subduction zone beneath C Java. Dip of subducting slab steepens from nearly horizontal (0-150 km from trench), through 45° (150- 250 km), to 70° (>250 km). Active volcanoes of Merapi, Sumbing, and Lawu are located at edge of large low velocity body that extends from upper crust to upper mantle beneath C Java. Detected strong anomaly beneath C Java is unique in size and amplitude. This segment of arc has high magma flux)

Lunt, P. (1991)- The Neogene geological history of East Java, some unusual aspects of stratigraphy. *Proc. 20th Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta*, p. 26-36.

(NE Java. New interpretation of early M Miocene (N11-N12) Ngrayong Fm quartz sandstones: deep marine deposit, not fluvio-deltaic, based mainly on presence of deep-water foram Cyclammina (but these are also common in age-equivalent beds of Mahakam Delta and probably reworked from uplifted Paleogene of E Kalimantan; JTvG). Erosional unconformity identified at end-Miocene (Tuban Uplift; base of Ledok Fm and age-equivalent Karren Fm limestones)

Lunt, P. (2000)- A draft review of the Lutut Beds in the type area. *AAPG Bali 2000 Int. Conv./ IPA fieldtrip-appendix*, 13p.

(Lutut sands in thrust belt SW of Semarang are E Miocene (N6-N7, NN4) immature erosional products of metamorphic basement, radiolarian chert and Eo-Oligocene sediments, apparent product of mid-E Miocene orogenic event. Very different from M Miocene Ngrayong Fm mature quartz sands)

Lunt, P. (2013)- The sedimentary geology of Java. *Indon. Petroleum Assoc. (IPA), Jakarta, Spec. Publ.*, p. 1-340.

(Comprehensive book on Java sedimentary geology Major tectonic events affecting sedimentation: (1) Late Mesozoic accretion of Paternoster microplate. Rembang Line is N edge of accreted 'Woyla Terranes'; (2) Mid-Eocene onset of sedimentation, but no clear backarc basins; (3) Early Oligocene half-graben extension; (4) Late Oligocene- E Miocene 'Old Andesite' volcanic arc in S Java, simultaneous with widespread carbonates in N Java; 20/21 Ma marks end of 'Old Andesite' volcanism; (5) 20-12 Ma tectonically quiescent; possible effect of 18 Ma S Central Kalimantan uplift; 15 Ma is max. flood over Sundaland; (6) M Miocene/12 Ma fault inversion/ widespread subsidence phase; (7) Late Miocene/ 8 Ma: inversion of 'Woyla terranes'; main phase Rembang-Madura-Kangean zone uplift; (8) mid-Pliocene-Pleistocene thrusting episodes)

Lunt, P. & G. Burgon (2003)- State of the art or state of decay?- the role of classic geological skills in 21st century exploration. *Proc. 2003 SE Asia Petrol. Expl. Soc. (SEAPEX) Exploration Conf., Singapore*, 11p.

(Examples of application of classic geology in hydrocarbon exploration on Java. Early Miocene sediments show major tectonic event during quiet sag phase of previous workers. Sag phase Oligo-Miocene carbonates show complex distribution, suggesting local tectonic controls more important than assumed eustatic trends)

Lunt, P., G. Burgon & A. Baky (2009)- The Pemali Formation of Central Java and equivalents: indicators of sedimentation on an active plate margin. *J. Asian Earth Sci.* 34, p. 100-113.

(C Java clastics sections near Bumiayu with record of intra-Late Miocene/ ~7 Ma tectonic event)

Lunt, P., R. Netherwood & O.F. Huffman (1998)- IPA Field Trip to Central Java, 1998, *Indon. Petroleum Assoc. (IPA) Fieldtrip Guidebook*, p. 1-63.

(Details on Karangsembung, Baturagung/ Jiwo Hills and Sangiran Dome outcrops)

Lunt, P., D.M. Schiller & T. Kalan (1996)- Indonesian Petroleum Association East Java geological field trip guide book. *IPA Field Trip Guidebook*, p. 1-57.

(S. Mountains, Kendeng zone and Rembang zone outcrops descriptions)

- Lunt, P. & H. Sugiarno (2007)- The Bagelen Beds, Central Java. *J. Sumber Daya Geologi* 17, 5 (161), p. 336-356.
(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/312/272>)
(*Bagelen Beds of C Java ~10 km N of Lok Ulo deep marine clay olistostrome deposit of earliest Oligocene (~32.5 Ma), possibly latest Eocene age. No indication of being tectonized. Probably with blocks of M Eocene (Ta) nummulitid limestone, similar to Lok Ulo. Mix of basement and Eocene boulders in Sangiran Dome possibly from underlying similar E Oligocene olistostrome*)
- Lunt, P. & H. Sugiarno (2003)- A review of the Eocene and Oligocene in the Nanggulan area, South Central Java, 34p. (*Unpublished*)
(*Middle- Late Eocene clastics overlain by 'middle' Oligocene deep marine Tegalsari marls, overlain by Late Oligocene-Early Miocene 'Old Andesites'*)
- Lunt, P. & H. Sugiarno (2007)- A report on fieldwork in the Rajamandala- Citarum area, West Java. *Geol. Res. Dev. Centre (GRDC), Bandung (in press?)*, 27p. (*Unpublished Manuscript*)
(*Rajamandala Limestone Late Oligocene age. Underlying quartz-rich clastics are Early Oligocene in age*)
- Lunt, P., H. Sugiarno & T. Allan (2000)- A review of the Lutut Member in the type area, North Central Java. (*Unpublished report*)
- Maha, M., B. Rahmad & H. Widiyanto (2007)- Facies dan petrografi batubara Formasi Nanggulan daerah Kalisonggo, Kecamatan Girimulyo, Kabupaten Kulon Progo, Daerah Istimewa Yogyakarta. *Proc. Joint Conv. 32nd HAGI, 36th IAGI and 29th IATMI, Bali 2007*, p. 593-616.
(*Facies and petrography of Nanggulan formation coal of the Kalisonggo area, Girimulyo Subdistrict, Kulon Progo Regency, Special Region of Yogyakarta'. Coal bed 0.53m thick in M-L Eocene Nanggulan FmW of Yogya. Vitrinite 57-69%, lignite grade (vitrinite Rv max 0.34-0.44%)*)
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(*Datum levels and zonation of smaller benthic forams and their relations with planktonic foraminifera in well 95, Cepu area, C, Java'. Shallow well W of Cepu, TD 340m, penetrating Late Pliocene- Pleistocene Mundu, Selorejo and Lidah Fms. Calcarina calcar restricted to Pleistocene (planktonic foram zones N22-N23), Pseudorotalia indopacifica basal occurrence near base zone N20*)
- Mahfi, A. (1984)- A paleomagnetic study of Miocene and Eocene rocks from Central Java, Indonesia. M.A. Thesis, University of California, Santa Barbara, p. 1-186. (*Unpublished*)
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(*Report on the occurrence of asphalt and phosphate deposits at the base of the Kromong Mountains, Palimanan District, Residency Cirebon'. Four small asphalt deposits/ oil seeps in Miocene limestone ~20 km W of Cirebon, just SW of Palimanan village, known since Verbeek & Fennema 1896. Associated with hot springs and phosphate around Kromong/ Gunung Gundul andesite-cored anticline. With 1:20,000 scale map. Stratigraphy description see also Harsonon Pringgoprawiro et al (1977)*)

Mansfeldt, H.A. (1876)- Verslag over een onderzoek naar den stand van de particuliere aardolie-ontgining in de Residentie Cheribon. *Jaarboek Mijnwezen Nederlandsch Oost-Indie* 1876, 2, p. 183-206.

(*Report on an investigation of the private petroleum exploitation in the residency Cirebon'. Report on 1875 government geologist visit to first (minor) Java oil production W of Cirebon. Minor oil encountered here by Reerink in shallow 'Tjibodas' wells near Madja oil seep*)

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Marcoux, E. & J.P. Milesi (1994)- Epithermal gold deposits in West Java, Indonesia: geology, age and crustal source. In: T.M. van Leeuwen et al. (eds.) *Indonesian mineral deposits- discoveries of the past 25 years*, *J. Geochemical Exploration* 50, 1-3, p. 393-408.

(*Epithermal gold mineralization in SW Java hosted by Miocene and Pliocene intrusions and volcanics. Most ore deposits of Bayah Dome related to extensive Pliocene magmatism dated as 5.7- 2.0 Ma. Mineral deposits localised by structural controls, in particular a strike-slip fault reactivated as normal fault. Lead isotopes suggest existence of underlying Precambrian crust in W Java*)

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(*Pliocene age (1.7 Ma) Cirotan Au-Ag ore deposit of Cikotok District, SW Java, producing since 1955. Considered as hybrid deposit transitional between low-level adularia-sericite epithermal type and porphyry-tin type of deposit*)

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(Study of foraminifera in water well drilled to 255m in 1950 at S side of Jakarta. Mainly barren, non-marine section with 3-4 thin intervals with shallow marine microfauna (Asterorotalia, Pseudorotalia, Elphidium, etc.). Uppermost samples rich in reworked planktonic forams. Age of section latest Pliocene- Pleistocene)

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(online at: https://repository.asu.edu/attachments/170517/content/Marliyani_asu_0010E_16033.pdf)
(Analysis of seismicity and active faulting on Java, particularly Cimandiri and Pasuruan Faults and volcano morphology)

Martha, A.A., P. Cummins, E. Saygin, S. Widiyantoro & Masturyono (2017)- Imaging of upper crustal structure beneath East Java-Bali, Indonesia with ambient noise tomography. *Geoscience Letters* 4, 14, p. 1-12.
(online at: <https://link.springer.com/content/pdf/10.1186%2Fs40562-017-0080-9.pdf>)
(Ambient Noise Tomography used to image upper crustal structure under E Java- Bali. Main is thickness of sediment cover. Kendeng basin dominated by very low velocities)

Martha, A.A., S. Widiyantoro, P. Cummins, E. Saygin & Masturyono (2016)- Investigation of upper crustal structure beneath eastern Java. Proc. 5th Int. Symposium on Earth hazard and disaster mitigation, AIP Conf. 1730, Bandung, 020011, p. 1-7.
(Ambient Noise Tomography method used to detect structure under E Java. N Rembang zone and most of S Mountains zone areas of high gravity anomaly and high velocity zones. Kendeng zone and most of basin in Rembang zone associated with low velocity zones)

Martin, K. (1879-1880)- Die Tertiarschichten auf Java, nach den Entdeckungen von Fr. Junghuhn, Palaeontologischer Teil (1879-1880). E.J. Brill, Leiden, p. 3-164.
(*'The Tertiary beds of Java, after the discoveries of Fr. Junghuhn; paleontological part'. First of many Martin publications on Tertiary fossils from Java. With descriptions of many new species, incl. Cycloclypeus annulatus from Citarum valley, W Java. Chapter on corals p. 132-146, mainly from Miocene of Nyalindung area, W Java*)

Martin, K. (1880)- Revision of the fossil Echini from the Tertiary strata of Java. Notes from the Leyden Museum 2, p. 73-84.
(online at: www.repository.naturalis.nl/document/551344)
(Brief revisions of 19 species of echinoids originally described by Herklots (1854). Most of these are not new species as proposed by Herklots and many of them are still living today. No figures or locality information)

Martin, K. (1880)- Untersuchungen uber die Organisation von *Cycloclypeus* Carp. und *Orbitoides* D'Orb.. *Niederlandisches Archiv fur Zoologie* 5, 2, p. 185-206.
(*'Investigations on the organization of Cycloclypeus and Orbitoides'. Early descriptions of Miocene Java larger foraminifera Cycloclypeus (C. annulatus, C. communis, C. neglectus) and Lepidocyclina (here still called Orbitoides; including new species radiata, carteri, gigantea)*)

Martin, K. (1881)- Tertiaerversteinerungen vom ostlichen Java, nach Sammlungen Junghuhn's und der Indischen Bergbeamten. Sammlungen Geol. Reichs-Museums Leiden, Ser. 1, 1, p. 105-130.
(online at: www.repository.naturalis.nl/document/552410)
(*'Tertiary fossils from East Java, from collections of Junghuhn and Indies mining engineers'. Incl. descriptions of Eocene larger foraminifera Nummulites djokjokartae n.sp. and Discocyclina (Orbitoides dispansa) from Yogyakarta area, echinoids (Pleurechinus javanus, etc.), bivalves, gastropods, etc. With 4 plates*)

Martin, K. (1882)- Tertiaerversteinerungen vom ostlichen Java, nach Sammlungen Junghuhn's und der Indischen Bergbeamten. *Jaarboek Mijnwezen Nederlandsch Oost-Indie 1882, Wetenschappelijk Gedeelte* p. 253-280.
(*'Tertiary fossils from East Java, etc', Same as Martin (1881) paper above*)

Martin, K. (1883)- Nachtrage zu den 'Tertiarschichten auf Java', 1er Nachtrag: Mollusken, nach Sammlungen der Indischen Bergbeamten, Junghuhn's und Reinwardt's. Sammlungen Geol. Reichs-Museums Leiden, Ser. 1, 1, E.J. Brill, p. 194-270.

(also in *Jaarboek Mijnwezen Nederlandsch Oost-Indie 1883, Wetenschappelijk Gedeelte p. 285-358*)
(Continuation of 'The Tertiary beds of Java', part 1, molluscs. Descriptions of 71 species)

Martin, K. (1883-1887)- Palaontologische Ergebnisse von Tiefbohrungen auf Java, nebst allgemeineren Studien uber das Tertiär von Java, Timor und einiger anderer Inseln. Sammlungen Geol. Reichs-Museums Leiden, Ser. 1, 3, p. 1-380.

(online at: www.repository.naturalis.nl/document/552425)

(*'Paleontological results of deep wells on Java, and more general studies on the Tertiary of Java, Timor and some other islands'. Descriptions of Tertiary fossils from outcrops and from water wells on Java (Grissee (=Gresik?)- NE Java, Batavia, Ngembak- W of Purwodadi), mainly collected by Van Dijk of Geological Survey. Mainly on gastropods and bivalves, also fish teeth, crabs. With 15 plates*)

Martin, K. (1883)- Palaontologische Ergebnisse von Tiefbohrungen auf Java, nebst allgemeineren Studien uber das Tertiär von Java, Timor und einiger anderer Inseln- 1. *Jaarboek Mijnwezen Nederlandsch Oost-Indie 12* (1883), *Wetenschappelijk Gedeelte*, p. 371-412.

(*'Paleontological results of deep wells on Java, and more general studies on the Tertiary of Java, Timor and some other islands'. Part 1 of Martin (1883) paper above*)

Martin, K. (1884)- Palaontologische Ergebnisse von Tiefbohrungen auf Java, nebst allgemeineren Studien uber das Tertiär von Java, Timor und einiger anderer Inseln- 2. *Jaarboek Mijnwezen Nederlandsch Oost-Indie 13* (1884), *Wetenschappelijk Gedeelte*, p. 77-216.

(*'Paleontological results of deep wells on Java, and more general studies on the Tertiary of Java, Timor and some other islands'. Part 2 of Martin (1883) paper above*)

Martin, K. (1885)- Palaontologische Ergebnisse von Tiefbohrungen auf Java, nebst allgemeineren Studien uber das Tertiär von Java, Timor und einiger anderer Inseln-3. *Jaarboek Mijnwezen Nederlandsch Oost-Indie* (1885), *Wetenschappelijk Gedeelte*, p. 5-108.

(*'Paleontological results of deep wells on Java, and more general studies on the Tertiary of Java, Timor and some other islands'. Part 3 of Martin (1883) paper above*)

Martin, K. (1887)- Palaontologische Ergebnisse von Tiefbohrungen auf Java, nebst allgemeineren Studien uber das Tertiär von Java, Timor und einiger anderer Inseln-4. *Jaarboek Mijnwezen Nederlandsch Oost-Indie* (1887), *Wetenschappelijk Gedeelte 2*, p. 253-342).

(*'Paleontological results of deep wells on Java, and more general studies on the Tertiary of Java, Timor and some other islands'. Part 4 of Martin (1883) paper above*)

Martin, K. (1891)- Die Fossilien von Java, auf Grund einer Sammlung von R.D.M. Verbeek und von anderen, Band I, Gasteropoda. Sammlungen Geol. Reichs-Museums Leiden, N.F., 1, 1-2, p. 1-132.

(online at: www.repository.naturalis.nl/document/552454)

(*Reprinted in Jaarboek Mijnwezen Nederlandsch Oost-Indie 1896, Wetenschappelijk Gedeelte, p. 43-328*)

(*'The fossils of Java, based on a collection of R.D.M. Verbeek'. First of series of papers by Martin and collaborators on fossils of Java, published between 1891-1922. Volume 1 mainly extensive taxonomic descriptions of Tertiary gastropods. With 20 plates*)

Martin, K. (1891)- Die Fossilien von Java, auf Grund einer Sammlung von R.D.M. Verbeek, Mollusken Heft 5-7. Sammlungen Geol. Reichs-Museums Leiden, N.F., 1, 1-2, p. 133-332

(online at: www.repository.naturalis.nl/document/552458)

(*Second continuation of Martin (1891) monograph on Tertiary gastropods of Java. Includes 19 species of Turritella, also Purpura, Triton, Acanthina, Ranella, Cassis, Strombus, Potamides, etc.. With 45 plates*)

- Martin, K. (1891)- Die Foraminiferen fuhrenden Gesteine, Studien uber *Cycloclypeus* und *Orbitoides*. Appendix in Die Fossilien von Java, auf Grund einer Sammlung von R.D.M. Verbeek, Sammlungen Geol. Reichs-Museums Leiden, N.F., 1, p. 1-12.
(online at: www.repository.naturalis.nl/document/552466)
(*'The foraminifera-bearing rocks- Studies on Cycloclypeus and Orbitoides'*. Early summary paper on *W, C and E Java larger foraminifera (mainly species of Cycloclypeus)*)
- Martin, K. (1895)- Neues uber das Tertiar von Java und die mesozoischen Schichten von West-Borneo. Sammlungen Geol. Reichs-Museums Leiden, E.J. Brill, ser. 1, 5, 2, p. 23-51.
(online at: www.repository.naturalis.nl/document/552400)
(*'News on the Tertiary of Java and the Mesozoic beds of West Borneo'*. Mainly listings of Tertiary gastropods from various localities of Java. No maps, no illustrations)
- Martin, K. (1900)- Die Eintheilung der Versteinerungs-fuhrenden Sedimente von Java. Jaarboek Mijnwezen Nederlandsch Oost-Indie (1900), 108p.
(*'The classification of the fossiliferous rocks of Java'* Overview of fossils and discussion of probable ages of formations from various parts of Java and Madura. Very 'wordy'; no maps, tables or other illustrations)
- Martin, K. (1900)- Die Eintheilung der Versteinerungs-fuhrenden Sedimente von Java. Sammlungen Geol. Reichs-Museums Leiden, Ser. 1, 6, p. 135-244.
(online at: www.repository.naturalis.nl/document/552390)
(*'The classification of the fossiliferous rocks of Java'* Same paper as Martin (1900))
- Martin, K. (1907)- Eine Altmiocane Gastropodenfauna von Rembang, nebst Bemerkungen uber den stratigraphischen Wert der Nummuliden. Sammlungen Geol. Reichs-Museums Leiden, Ser. 1, 8, p. 145-152.
(online at: www.repository.naturalis.nl/document/552421)
(*'An Early Miocene gastropod fauna from Rembang, with comments on stratigraphic value of nummulitids'*. Listing of 40 gastropod species from Sedan and Gunung Butak, Rembang District, NE Java, only 6 species still known from recent faunas. Fauna held for Early Miocene (but associated with *Cycloclypeus annulatus*, so more likely Middle Miocene age, probably Bulu Limestone; JTvG). No figures)
- Martin, K. (1907)- Systematische Übersicht uber die Gastropoden aus Tertiaren und jungeren Ablagerungen von Java. Neues Jahrbuch Mineral. Geol. Palaont. 1907, 2, p. 151-162.
(*'Systematic overview of Tertiary and younger gastropods from Java'*. Listing of 648 gastropod species names. No illustrations, ranges, descriptions, etc.)
- Martin, K. (1908)- Das Alter der Schichten von Sonde und Trinil auf Java. Verslagen Kon. Nederl. Akademie Wetenschappen Amsterdam, Afd. Wis. Naturkunde, 17. p. 7-16.
(*'The age of the Sonde and Trinil beds on Java'*)
- Martin, K. (1909)- Die Fossilien von Java, auf Grund einer Sammlung von R.D.M. Verbeek, Lamellibranchiata. Sammlungen Geol. Reichs-Museums Leiden, N.F., 1, 2, p. 333-386.
(online at: www.repository.naturalis.nl/document/552467)
(*Second continuation of Martin (1891) monograph on Java Tertiary fossils: Tertiary bivalves, incl. Ostrea, Placuna, Pecten, Arca, etc. With 12 plates*)
- Martin, K. (1911)- Enkele beschouwingen over de geologie van Java. Verslagen Vergadering Kon. Nederl. Akademie Wetenschappen, Amsterdam, Afd. Wis. Naturkunde, p. 19-23.
(*'Some considerations on the geology of Java'*. Observations from Martin's 1910 travels in Priangan and Yogyakarta area)
- Martin, K. (1911)- Vorlaufiger Bericht uber geologische Forschungen auf Java- 1 Teil. Sammlungen Geol. Reichs-Museums Leiden, E.J. Brill, Ser. 1, 9, 1, p. 1-76.
(online at: www.repository.naturalis.nl/document/552384)

(*'Preliminary report on geological investigations on Java- part 1'. Includes chapters on geology and fossils of Preanger (1: Nyalindung (p. 5-24), 2. Kalksteine von Radjamandala: 'Old Miocene' Rajamandala limestone with Alveolina, Heterostegina many Lepidocyclina (p. 24-29), and Yogyakarta areas (p. 56-76)*)

Martin, K. (1912)- Vorläufiger Bericht über geologische Forschungen auf Java- 2 Teil. Sammlungen Geol. Reichs-Museums Leiden, Ser. 1, 9, 1, p. 108-200.

(online at: www.repository.naturalis.nl/document/552391)

(*'Preliminary report on geological investigations on Java- part 2'. Includes chapters on (1) folded Eocene beds of Kali Puru near Nanggulan, with Nummulites, Orthophragmina (= Discocyclina), 108 species of gastropods and molluscs and overlain by andesites;(2) two 'Gunung Gamping' limestone hills, one near Nanggulan with E Miocene Miogypsina and Lepidocyclina and one just W of Yogyakarta, of possible Miocene age, with some gastropods of Eocene affinity;(3) localities in Rembang zone Ngandang- Ngampel, with widespread M Miocene Cycloclypeus annulatus limestones and 72 species of gastropods; (4) Pliocene beds of Candi near Semarang*)

Martin, K. (1912)- Verdere beschouwingen over de geologie van Java. Verslagen Kon. Nederl. Akademie Wetenschappen Amsterdam, Afd. Wis. Natuurk., p. 1151- 1158.

(*'Further considerations on the geology of Java' Mainly on Eocene- Miocene rocks and fossils around Yogyakarta. No illustrations*)

Martin, K. (1913)- Einige allgemeinere Betrachtungen über das Tertiär von Java. Geol. Rundschau 4, 3, p. 161-173.

(online at: <https://www.digizeitschriften.de/dms/img/?PID=GDZPPN000450731>)

(*'Some general considerations on the Tertiary of Java'. Early overview of Java stratigraphy, with ages of formations dated by percentages of Recent mollusc species*)

Martin, K. (1914)- Die Fauna des Obereocans von Nanggulan auf Java. Sammlungen Geol. Reichs-Museums Leiden, ser. 2, 4-5, p. 107-222.

(online at: www.repository.naturalis.nl/document/552460)

(*'The fauna of the Upper Eocene of Nanggulan, C Java'. Descriptions of well- preserved fossils from classic U Eocene locality of Nanggulan, W of Yogyakarta. Chapters: A. Gastropoda, B. Scaphopoda, C. Lamellibranchiata, D. Rhizopoda (foraminifera incl. Nummulites djokdjokartae, N. pengaronensis, Discocyclina dispansa, D. fritschi) and E. General part. With 8 plates*)

Martin, K. (1916)- Die Altmiocäne Fauna des West-Progogebirges auf Java. A. Gastropoda. Sammlungen Geol. Reichs-Museums Leiden, N.F., 2, 6, p. 223-261.

(online at: www.repository.naturalis.nl/document/552451)

(*'The Early Miocene fauna of the West Progo Mountains on Java, A. Gastropods', Conus, Mitra, Potamides, etc. from E Miocene SW of Yogyakarta*)

Martin, K. (1917)- Die Altmiocäne Fauna des West-Progogebirges auf Java. B. Scaphopoda, C. Lamellibranchiata, D. Rhizopoda. Sammlungen Geol. Reichs-Museums Leiden, N.F., 2, 7, p. 261-296.

(online at: www.repository.naturalis.nl/document/552451)

(*'The Early Miocene fauna of the West Progo Mountains on Java- Scaphopoda, Lamellibranchiata, Foraminifera'. Continuation of Martin (1916), with descriptions of shallow marine fossil assemblages of E-M Miocene of S Mountains, SW of Yogyakarta: B. Scaphopoda (Dentalium), C. Lamellibranchiata (Arca, Cardium, etc.), D. Rhizopoda (larger forams Miogypsina thecidaeformis, Lepidocyclina, Cycloclypeus, Flosculinella globulosa, Orbiculina)*)

Martin, K. (1918)- On the Miocene fauna of the West Progo Mountains in Java. Proc. Kon. Akademie Wetenschappen, Amsterdam, 20, 6, p. 800-804.

(online at: www.dwc.knaw.nl/DL/publications/PU00012270.pdf)

(*Rich Miocene macrofossils from right bank of Progo River, W of Yogyakarta, Main localities: marls at Gunung Spolong and clay Kembang Sokkoh (well preserved, still some shine and color). Shallow marine Indo-Pacific*)

mollusc assemblage, 103 species, only 7% still alive today. Associated with Miogypsina thecidaeformis. Most likely age Early Miocene)

Martin, K. (1919)- Unsere palaeozoologische Kenntnis von Java mit einleitenden Bemerkungen über die Geologie der Insel. Brill, Leiden, p. 1-158.

('Our paleozoological knowledge of Java, with introductory remarks on the geology of the island'. Early overview of Cretaceous- Recent fossils of Java and introduction to Java geology. Tertiary mollusc species in Indonesia different from Paris Basin and other European localities, suggesting absence of open-sea connection between Far East and Europe as far back as Late Eocene)

Martin, K. (1921)- The age of the Tertiary sediments of Java. Proc. First Pan-Pacific Science Congress, Honolulu 1920, Bernice P. Bishop Museum, Spec. Publ. 7, 3, p. 754-765.

(Brief review of Martin's stratigraphic- paleontological work on Java. Age determinations based mainly on molluscs (% of living species) and orbitoidal foraminifera. None of Eocene mollusc species still living)

Martin, K. (1921)- Die Mollusken der Njalindungschichten erster Teil, Gasteropoda. In: Die Fossilien von Java auf Grund einer Sammlung von Dr. R.D.M. Verbeek und von anderen bearbeitet durch Dr. K. Martin. Sammlungen Geol. Reichs-Museums Leiden, N.F., 1, 2, 3, E.J. Brill, Leiden, p. 446-496.

(online at: www.repository.naturalis.nl/document/552465)

('The molluscs of the Nyalindung Beds, part 1, Gastropods'. Descriptions of molluscs from fossil-rich claystones of M -L Miocene Nyalindung Beds of Priangan, SW Java. 162 species of gastropods and bivalves with living species ~15%, suggesting E Miocene age)

Martin, K. (1922)- Die Mollusken der Njalindungschichten, Gasteropoda (Fortsetzung), Scaphopoda, Lamellibranchiata, Allgemeiner Theil. Sammlungen Geol. Reichs-Museums Leiden. (N.F.) 1, 2, 4, E.J. Brill, Leiden, p. 471-496.

('The molluscs of the Nyalindung Beds, Gastropoda (continuation), Scaphopoda, Lamellibranchiata, General Part')

Martin, K. (1926)- Pliocene versteeningen van Cheribon in Java. Wetenschappelijke Mededeelingen Dienst Mijnbouw Nederlandsch-Indie 4, p. 1-24.

('Pliocene fossils from Cirebon in Java'. Shallow marine and brackish water molluscs from Pliocene of Tji Doerei, SW of Karang Suwung)

Martin, K. (1928)- Eine Nachlese zu den neogenen Mollusken von Java. Leidsche Geol. Mededelingen 3, p. 105-129.

(online at: www.repository.naturalis.nl/document/549774)

('Supplement to the Neogene molluscs from Java'. Additions to Martin (1919) paper, based on new Miocene-Pliocene mollusc material collected by Geological Survey in W Progo Mts (C Java), Nyalindung Beds (W Java) and Tjilang Beds. No maps or stratigraphy info)

Martin, K. (1931)- Mollusken aus dem Obereocaen von Nanggulan. Wetenschappelijke Mededeelingen Dienst Mijnbouw Nederlandsch-Indie 18, p. 1-56.

('Molluscs from the Upper Eocene of Nanggulan'. Follow-up of Martin 1915 paper. Taxonomic descriptions of molluscs (mainly gastropods) from the shallow marine Upper Eocene of Nanggulan, C Java, collected by Zwierzycki, Van der Vlerk and Gerth. 72 new species. No stratigraphy, locality descriptions)

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(Fieldtrip guide with geologic summary Saguling Dam area, SW of Bandung, W Java, incl. M Miocene tuffs)

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(Three magmatic arcs in Java: Late Cretaceous- Eocene in N (Java Sea; 87-52 Ma), M Oligocene- E Miocene in S (Indian Ocean) and modern arc along axis of Java. Northern 'Shelfal basin (Java Sea and NW Java shelf N of Bogor Trough) underlain by Jurassic-Cretaceous metamorphics (213-125 Ma) and younger granites. Bogor Basin underlain by Cretaceous-Eocene accretionary crust and is backarc basin during most of Tertiary. Miocene turbidite fans in Bogor Basin progressively younger to N (associated with episodic N-migrating/loading by thrust sheets?). Gravity suggest NW-SE basement grain across W Java ('Sumatra trend'))

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(*Eocene- Oligocene Ciletuh Fm of SW Java has lower slope characteristics and conformably overlies melange complex*)

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(*online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/88/82>*)
(*'Relationship between the Sadeng Valley, Baturetno Basin and Solo River terraces, Central Java'*)

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(*'Diagenetic processes in Lower Miocene limestone of Campurdarat, S Mountains, Eastern Java'*)

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(*online at: <http://ijog.bgl.esdm.go.id/index.php/IJOG/article/view/81/81>*)
(*'Dolomitization in the Rajamandala Lst Formation in the Gua Pawon section, W Bandung'. Middle part of latest Oligocene Rajamandala Fm commonly affected by dolomitization, generally associated with meteoric water dissolution creating several caves*)

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(*'Sedimentology of the Rajamandala Limestone Formation in the Sanghyang section, Citatah, West Bandung'. Late Oligocene- E Miocene Rajamandala Lst in Sanghyang section 180m thick. Basal part in reef core- foreereef slope facies, changing upward to interbedded foreereef slope- reef flank facies with several reef core facies*)

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(*online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/94/88>*)
(*'Limestone sedimentology of the Jonggrangan Formations along the Kiskendo Cave section, Girimulyo, Kulon Progo'. Petrography and depositional environment interpretations of ~150m thick Middle- Late Miocene*

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(*Sedimentological development of limestone based on petrographic data of the Sentolo Formation along the Pengasih section, Kulunprogo'. Measured section of M Miocene-Pliocene Sentolo Fm at 4km long Pengasih section, ~30km WSW of Yogyakarta. Regressive sequence from deeper shelf margin, fore slope talus, reef flank, platform to back reef*)

Maryanto, S. (2015)- Sedimentologi dan diagenesis batugamping Formasi Wonosari di Ngrijang Sengon, Pacitan, Jawa Timur. *J. Geologi Sumberdaya Mineral* 16, 4, p. 213-229.
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(*Dinoflagellate cysts from Eocene Nanggulan Fm at Kali Puru section, 3.5 km NW of Nanggulan village, W of Yogyakarta, C Java, incl. 13 species of Paleogene dinoflagellate cysts belonging to nine genera of Gonyaulacales group. Four new species; Glaphyrocysta circularis and G. dentata of Ceratioid Lineage and Exochosphaeridium reticulatum and E. brevispinosum of Gonyaulacoid Lineage*)

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(Gas from Lusi eruption shows CO₂ and CH₄ have deep thermogenic origin. Thermally altered Ngimbang Fm source rocks (>4400m depth) could generate erupted gas. Lusi hydrocarbons derive from Ngimbang-Kujung petroleum system. Mantle He from Lusi suggests deep magmatic intrusions from Arjuno-Welirang volcano. Lusi is not mud volcano but sediment-hosted hydrothermal system)

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Miller, S.A. & A. Mazzini (2017)- More than ten years of Lusi: a review of facts, coincidences, and past and future studies. *Marine Petroleum Geol.*, p. (in press)

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(Sakala structure E of Kangean Island is E Miocene compressional inversion of Late Eocene-Oligocene extensional zone, creating syn-extensional Prupuh structure)

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(online at: <https://www.e-periodica.ch/digbib/view?pid=egh-001:1948:41#343>)

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(‘The age of the Eocene limestone of Gunung Gamping W of Yogyakarta, Java’. Limestone of Gamping outcrop W of Yogya is Upper, rather than Lower Eocene and represents reef deposit formed at same time as Nanggulan limestones farther W (already identified as Late Eocene Pellatispira limestone by Gerth 1930; JTvG))

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(Dinoflagellate cysts in three Miocene surface sections in West and C Java: Cipimangkis River near Jatiluhur (Late Miocene Cisubuh Fm), Kali Jaya NNE of Kebumen (around E-M Miocene boundary) and Cijarian River along Bogor- Pelabuhan Ratu road (M Miocene Cimandiri Fm). Most samples common dinoflagellate cysts. 29 species, 15 new, from genera Achomosphaera, Dilabidinium, Edwardsiella, Hystrichosphaeropsis, Javadinium, Lejeunecysta, Operculodinium, Spiniferites, etc.)

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(*Two Oligocene surface sections studied in W Java, Batuasih Fm near Cibadak and equivalent section near Padalarang, both marine claystones overlain by Rajamandala Fm limestones. Foraminifera and nannoplankton date Batuasih section around Early-Late Oligocene boundary. Dinoflagellate cysts in phosphatic nodules heavily affected by thermal metamorphism. Padalarang section planktonic foraminifera indicative of zones P20-P21, also around Early- Late Oligocene boundary. Dinoflagellate cysts may indicate slightly younger age than Batuasih. Twenty-six dinoflagellate species found, including three new species*)
- Morina, H., I. Syafrli & L. Jurnaliah (2014)- Lingkungan pengendapan satuan batulempung sisipan batupasir pada Formasi Kerek daerah Juwangi dan sekitarnya, berdasarkan karakteristik litologi, analisis struktur sedimen, dan kandungan fosil bentonik. *Bull. Scientific Contr. (UNPAD)* 12, 3, p. 147-154.
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(*'Depositional environment of the sandstones-claystones of the Kerek Formation in the Juwangi area and surroundings, based on lithology, structure analysis of sediment and benthic fossil content'. Foraminifera interpreted as outer neritic*)
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(*Summary of palynology work in Java (Eocene of Nanggulan and Bayah), Sumatra (E Oligocene Pematang Fm, Late Oligocene Talang Akar Fm, E Miocene Gumai Fm, M Miocene Air Benakat Fm)*)
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(*Seismic structural interpretation in area around Lusi mud eruption in E Java. Watukosek fault originated as extensional lineament and evolved into sinistral shear zone in post-Miocene*)
- Muchsin, N., R. Ryacudu, T.W. Kunto, S. Budiyan, B. Yulianto et al. (2002)- Miocene hydrocarbon system of the Southern Central Java region. *Proc. 31st Ann. Conv. Indon. Assoc. Geol. (IAGI)*, Surabaya, 1, p. 58-67.
(*E Miocene NW-SE trending grabens in S C Java region, with Miocene unconformable on volcanic arc rocks ('Old Andesites'; Gabon Fm; K-Ar age ~25-26 Ma). M Miocene Kalipucang Fm carbonate platform and time equivalent Pemali Fm shales, overlain by M-L Miocene deepwater Rambatan and Halang Fms. Etc.*)
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- Muhaimin, R. & S. Alam (2012)- The tide-influenced fluvial facies architecture analysis of the Walat Formation, Bogor Trough. *Proc. 41st Ann. Conv. Indon. Assoc. Geol. (IAGI)*, Yogyakarta, 2012-SS-18, 7p.
(*Study of outcrop sections of E Oligocene (?) Walat Fm quartz sandstone in Cibadak, W of Sukabumi. Interpreted as multistory high-sinuosity fluvial channels in lower coastal-plain, influenced by tides. With Scoyenia and Skolithos ichnofacies. Paleocurrents showing bimodal dispersal pattern (no data; JTvG). Petrographic analysis shows arkosic arenite with quartz 69%, feldspar 21% and rock fragments ~10%*)
- Muhar, A. (1957)- Micropaleontological examination of samples from the geological survey in Tuban. *BPM Report SB1770*, 14p. (*Unpublished*)
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- Muin, A. (1985)- Contribution a la geologie du basin nord-oriental de l'île de Java, Indonesie: sedimentologie dan bassin d'arrière arc. *Doct. Thesis, Universite de Grenoble*, p. 1-335. (*Unpublished*)
(*online at: <https://tel.archives-ouvertes.fr/tel-00711880/document>*)
(*NE Java backarc basin mobile zones of both great subsidence and lateral displacements, tied to plate motions. Tertiary basin evolution placed in paleogeographic context, characterized by 5 megasequences, each starting with transgressive, ending with regressive phase. Sedimentological studies of turbiditic facies of Kerek Fm in*)

Kendeng zone and Ngrayong Fm in Rembang zones (Ngepon, Prantakan, Gegunung, etc.). Principal paleocurrent direction of Ngrayong Sst from N to S and NE to SW. M Miocene Kerek Fm derived from mainly volcanic source in S)

Mukti, M.M., C. Armandita, H.B. Maulin & M. Ito (2008)- Turbidites depositional systems of the lower part of Halang Formation, stratal architecture of slope to basin floor succession. Proc. 37th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 1, p. 162-176.

(M-Late Miocene Halang Fm volcanoclastics in W part North Serayu Basin, C Java, 350m thick, paleocurrents downslope from W to E- SE)

Mukti, M.M., M. Hendrizon Praptisih & M. S. Siregar (2009)- Carbonate depositional environment in the East Pacitan area. In: L.D. Setijadji et al. (eds.) Proc.Int. Seminar on Geology of Southern Mountains, Int. Conf. Earth Science Technology, Yogyakarta 2009, p. 65-68.

(online at: http://lib.ugm.ac.id/digitasi/upload/2994_MU.121000006-mmmukti.pdf)

(Carbonate sedimentological study of M - Late Miocene Wonosari Fm in E Pacitan, SE Java. Include coral boundstone facies, foraminifera packstone-wackestone, larger foram packstone, coral- larger foram rudstone, and algal-foram packstone facies, representing reef-associated carbonate platform. Back reef-inner shelf environment interpreted to S of Pacitan area)

Mukti, M.M. & M. Ito (2010)- Discovery of outcrop-scale fine-grained sediment waves in the Lower Halang Formation, an upper Miocene submarine-fan succession in West Java. Sedimentary Geology 231, p. 55-62.

(On fine-grained sand waves in muddy overbank deposits of channel deposits in lower Halang Fm turbidite system in Late Miocene Bogor Trough back-arc basin, W Java)

Mukti, M.M., M. Ito & C. Armandita (2009)- Architectural elements of a longitudinal turbidite system: the upper Miocene Halang Formation submarine-fan system in the Bogor Trough. West Jawa. Proc. 33rd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA09-G-168, 14p.

(Lower part of volcanogenic U Miocene Halang Fm S of Kuningan, W Java re-interpreted as longitudinal turbidite system downsloping in E along axis of Bogor Trough)

Mukti, M.M., M.S. Siregar, Praptisih & N. Supriatna (2005)- Carbonate depositional environment and platform morphology of the Wonosari Formation in the area East of Pacitan. J. Riset Geologi Pertambangan (LIPI) 16, 2, p. 29-38.

(M-U Miocene Wonosari Fm carbonates represent reefal or outer shelf facies, with slope environments to the North of the reef zone and back reef- inner shelf environment to S and W)

Mulhadiyono (1973)- Petroleum possibilities of the Banyumas area. Proc. 2nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 121-129.

(Pertamina work in S part of C Java with oil seeps and hydrocarbon shows in shallow BPM wells. Stratigraphic column showing oldest rocks Late Oligocene marls, overlain by earliest Miocene Gabon volcanics (= 'Old Andesites'), E-M Miocene Penanjung 'flysch', M Miocene Kalipucang Limestone. No geology map. Most prospective interval deemed to be M-L Miocene turbiditic reservoirs)

Muljana, B. & Darji Noeradi (2009)- Provenance of volcanogenic turbidite in Majalengka, West Java, Indonesia. In: Proc. Int. Symp. Earth Science and Technology, Fukuoka 2009, Kyushu University, p. 253-258.

Muljana, B. & K. Watanabe (2011)- Sandstone composition and provenance of the Cinambo and Halang Formations in Majalengka, West Java, Indonesia. Proc. Int. Symposium on Earth Science and Technology, Fukuoka 2011, Kyushu University, p. 427-428.

Muljana, B. & K. Watanabe (2012)- Modal and sandstone composition of the representative turbidite from the Majalengka Sub-Basin, West Java, Indonesia. J. Geography Geology 4, 1, p. 3-17.

(online at: www.ccsenet.org/journal/index.php/jgg/article/view/14122)

(Majalengka subbasin with ~4 km thick M-L Miocene turbidite-sequence. Sandstones mainly recycled orogen (from developing thrust-fault belts) and magmatic arc provenance from Oligocene magmatic arc at S Mountains. No evidence for source from continental terrain. Quartz mainly from recycled sediment. Lithic fragments mainly andesitic grains)

Muljana, B., K. Watanabe & M.F. Rosana (2011)- Sandstone composition of the turbidite series of the Middle to Late Miocene of Majalengka sub-basin, West Java, Indonesia. Proc. Int. Symposium on Earth Science and Technology, Fukuoka 2011, p. 429-434.

Muljana, B., K. Watanabe & M.F. Rosana (2012)- Source rock potential of the Middle to Late Miocene turbidite in Majalengka sub-basin, West Java, Indonesia: related to magmatism and tectonism. J. Novel Carbon Resource Science (Kyushu University) 6, p. 15-23.

(online at: http://ncrs.cm.kyushu-u.ac.jp/assets/files/JNCRS/JNCRS_Vol6_15-23.pdf)

(Hydrocarbon source potential in M-L Miocene turbiditic series in Majalengka Basin dominated by immature to mature gas-prone terrestrial Type III kerogen)

Mulyana, A. (2014)- Studi sekuen stratigrafi Formasi Parigi Lapangan C, Cekungan Jawa Barat Utara, Kabupaten Subang, Jawa Barat. J. Ilmiah Magister Teknik Geologi (UPN) 7, 1, 18p.

(online at: <http://jurnal.upnyk.ac.id/index.php/mtg/article/view/271/234>)

(Sequence stratigraphy study of the Parigi Formation in Field C, NW Java Basin, Subang Regency, West Java'. M-L Miocene Parigi Fm reefal limestone buildups in NW Java basin with 3 electro-lithofacies)

Mulyaningsih, S. (2016)- Volcanostratigraphic sequences of Kebo-Butak Formation at Bayat Geological Field Complex, Central Java Province and Yogyakarta Special Province, Indonesia. Indonesian J. Geoscience 3, 2, p. 77-94.

(online at: <https://ijog.geologi.esdm.go.id/index.php/IJOG/article/view/236/207>)

(Bayat Complex in C Java with Late Oligocene Kebo-Butak Fm, with basalt, pumice tuff and shale, indicative of volcanic arc complex. Basalt composed of labradorite, olivine, clinopyroxene and volcanic glass. Black pumice and tuff contain clinopyroxene, olivine, and volcanic glass. Feldspathic tuff and pumice tuff are crystal vitric tuffs with more feldspar, quartz and amphibole than glass. Zeolite and chlorite alteration. Two deep submarine paleovolcanoes: Tegalorejo (basaltic) and Baturagung (mainly pyroclastic material))

Mulyawan, R.S. & S. Husein (2014)- Kompleks sesar Trembono sebagai gravitational structures. Proc. 7th Seminar Nasional Kebumihan, Dept. Teknik Geologi, Gadjah Mada University, Yogyakarta, P4P-01, p. 676-689.

('The Trembono fault complex as gravitational structures'. Trembono fault complex in Gunung Kidul Regency, S Mountains, formed in late Oligocene- E Miocene Kebo-Butak Fm volcanoclastics in extensional regime with NE-SW extension direction. Timing of formation unclear. Possible gravitational structure. See also Nugraha et al. 2016)

Muller, A. & V. Haak (2004)- 3-D modeling of the deep electrical conductivity of Merapi volcano (Central Java): integrating magnetotellurics, induction vectors and the effects of steep topography. J. Volcanology Geothermal Res. 138, 3-4, p. 205-222.

Murwanto, H., Y. Gunnell, S. Suharsono, S. Sutikno & F. Lavigne (2004)- Borobudur monument (Java, Indonesia) stood by a natural lake: chronostratigraphic evidence and historical implications. The Holocene 14, 3, p. 459-463.

(9th century Borobudur Buddhist temple built on promontory extending into of existing lake. Fluctuating life history of lake spanned at least 20,000 years)

Murwanto, H., A. Subandrio, A. Rianto & Suharsono (2000)- Study of the trace of ancient Solo River in the South Wonogiri. Proc. 29th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 4, p. 265-271.

(Canyon crossing S Mountains limestone terrane to Sadeng Bay, SE of Yogya, is ancient course of Solo River. River originates on S slope of Lawu volcano, and was forced to find northern outlet after M Pliocene uplift of Southern Mountains)

Murwanto, H., Sutikno & A. Subandrio (1998)- The ancient lake environment in the Borobudur area, Central Java. Proc. 27th Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 3 (Geodin., Magmat. Volkanologi), p. 84-93.

(Area surrounding Borobudur hills once formed Quaternary lake environment. With black clays containing plants and pollen fossils of lake community vegetation. Former lake filled by lahar and pyroclastic deposits)

Musgrove, F. & M. Sun (2012)- Developing a large carbonate buildup field- Banyu Urip, Cepu Block. Proc. 36th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA12-G-035, p. 1-12.

(Banyu Urip Field >1 Billion BBL oil in place. High relief Oligo-Miocene isolated carbonate buildup, rising ~3000' above surrounding carbonate platform. 150' thick cycles of shallow water carbonate, exposed to fresh water leaching to form high quality reservoir rock with average 26% porosity and 100 mD permeability in interior. Edges of platform heavily cemented)

Musgrove, F.W. & M. Sun (2013)- Developing the largest carbonate oil field in SE Asia- Banyu Urip, Cepu Block. In: Petroleum Geoscience Conf. Exhib. (PGCE 2013), Kuala Lumpur 2013, O22, 4p. *(Extended Abstract)*

(Short version of paper above)

Muslih, Y.B. & A.F. Putra (2018)- Subsidence mechanisms in offshore South Java and its comparison to onshore geology: extensional and flexural tectonics. Proc. 42nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA18-168-G, 15p.

(Offshore S Java displays extensional structures in fore-arc position, with structures trending mainly NE-SW to ENE-WSW. NE-SW structural trends continue into onshore S Java (unlike N-S faults in N Java))

Musliki, S. (1988)- The Pliocene Selorejo Formation and its hydrocarbon prospect in Cepu, North East Java, Indonesia. M.Sc. Thesis, University of New South Wales, Sydney, p. *(Unpublished)*

Musliki, S. (1989)- Seismic stratigraphy applied to the Northeast Java Basin. Proc. 18th Ann. Conv. Indon. Assoc. Geologists (IAGI), Yogyakarta, p. .

Musliki, S. (1990)- The Pliocene Selorejo Formation and its hydrocarbon prospects in Cepu and surrounding areas. Proc. 19th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 1, p. 379. *(Abstract only)*

(Late Pliocene Selorejo Fm distributed in belt of 10km wide, 100km long, from Pati in NW to Dander in SE in NE Java basin. Composed of bedded limestones and foraminiferal sandstones, 0-130m thick. Deposited unconformably over Pliocene Mudu Fm after main Plio-Pleistocene tectonic phase. Gas-bearing in Balun structure near Cepu (age latest Pliocene N21 according to Djuhaini & Martodjojo 1990))

Musliki, S. (1991)- The effect of structural style to the hydrocarbon accumulation in the Northeast Java Basin. Proc. 20th Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, p. 86-96.

(NE Java basin up to 6000m of Tertiary sediments, in three zone: (1) Rembang anticlinorium in N, (2) Randublatung in middle (gently deformed; most prospective) and (3) Kendeng foldbelt in S (deep basement, detached folds; least prospective for oil-gas, although with oil seeps). All known oil-gas fields in structural traps. All structural traps identified and most of them drilled; future discoveries expected in stratigraphic traps like reefs, facies changes, buried highs, etc. Steep gravity gradient suggest boundary between Randublatung and Kendeng zones is fault zone)

Musliki, S. (1992)- Depositional cycles of the Northeast Java Basin and their relation to the hydrocarbon potential. International Symposium on Neogene, Northeast Pacific Area, Bandung, October, p. 19-22.

Musliki, S. (1994)- The Neogene Kalimu, Kalinges and Kanopu Formations in the Northeast Java basin. Proc. 23rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, 1, p. 55-66.

(Proposing new formation names for existing Neogene formations of NE Java basin: (1) Kalimu Fm for Late Miocene- Pliocene marls of Kalibeng Fm (Kendeng zone), GL Formation (Randublatung zone) and Mundu Fm

(Rembang zone); (2) Kalinges Fm for Late Pliocene carbonates of Klitik/ Ngepung Mb (Kendeng zone), and Selorejo Fm (Randublatung and Rembang zones); (3) Kanopu Fm for Pleistocene volcanoclastics facies of Pucangan- Kabuh- Notopuro Fms (Kendeng zone) and Trinil Mb (Randublatung and Rembang zones))

Musliki, S. (1996)- Palaeogeographic interpretation based on lithostratigraphic units and relative sea level changes during the Plio-Pleistocene period in the Northeast Java Basin. In: B. Ratanasthien & S.L. Rieb (eds.) Proc. Int. Symposium on Geology and Environment, Chiang Mai, Thailand, p. 147-158.
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1996/)

Musliki, S. (1997)- Possible hydrocarbon accumulation within Eocene coarse clastic reservoir in the Northeast Java Basin. Proc. 26th Ann. Conv. Indon. Assoc. Geol. (IAGI), p. 22-35.
(*Comparison of NE Java with S Sumatra and E Kalimantan suggests Eocene- Oligocene Ngimbang Fm clastics should have hydrocarbon potential. Clastics in exploration wells in NE Java generally poor reservoir quality and no hydrocarbons. Offshore NE Java good quality basal clastics in KE6, JS14-A1, Pagerungan 2, JS5-1 and some had hydrocarbons.*)

Musliki, S. (1999)- The development of stratigraphic interpretation and its implication to the success of hydrocarbon exploration in the Northeast Java Basin. Proc. 28th Ann. Conv. Indon. Assoc. Geol. (IAGI), 3, p. 131-138.

Musliki, S. (2000)- The effect of Middle Miocene tectonic phase to the paleogeography, sedimentary processes and hydrocarbon prospect in the Northeast Java basin. Proc. 29th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 1, p. 151-159.
(*M Miocene N11-N12 Ngrayong Fm sandstone main reservoir in 25 oil fields of NE Java basin. Ngrayong Fm unconformably overlain by different Late Miocene- Pliocene formations, supposedly reflecting end-M Miocene orogeny/ global sea level drop at ~12-13 Ma. Overlying Bulu Lst generally dated as zone N13 or N14. All structural closures probably drilled, but still stratigraphic traps potential*)

Musliki, S. & Suratman (1996)- A Late Pliocene shallowing upward carbonate sequence and its reservoir potential, Northeast Java basin. Proc. 25th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 43-54.
(*Late Pliocene Klitik-Ngepung-Selorejo Fms carbonate facies widely distributed in NE Java, with outcrops mainly in Kendeng- Kembang zones. Late Pliocene carbonates interpreted as shallowing- upward sequence starting in Late Pliocene, ~2.9 Ma. Marls of Kalibeng- Mundu Fm followed by Globigerina Marl, Globigerina Lst, Reefal Limestone, Limestone Debris and Mollusc Limestone facies, covered by Lidah Fm clays. Best reservoirs Globigerina Lst facies: high porosity- permeability, composed of sand- size planktonic foraminifera. Significant gas (Balun field) and oil (Lidah, Kruka, Kuti, Metatu, Bogomiring fields) produced from this facies*)

Muthi, A., I Gde Basten, I Gede Made Suasta & N.E.W. Litaay (2013)- Characteristics of alteration and mineralization at Randu Kuning- Wonogiri Project. Majalah Geologi Indonesia 28, 1, p. 15-28.
(online at: www.bgl.esdm.go.id/publication/index.php/dir/article_detail/717)
(*Randu Kuning gold-copper porphyry prospect in Wonogiri/ Selogiri property with sheeted Cu-Au bearing quartz veins. Main lithologies diorites and breccias. Mineralization in quartz veins in and adjacent to microdiorite intrusion tied to large eroded volcanic centre in N-migrating Oligocene- Miocene volcanic arc*)

Nachrowi, T.Y. & Y.P. Koesoemo (2003)- A geological trip to Cepu area for non-geoscientist personnel. Indon. Petroleum Assoc. Field Trip Guidebook, p. 1-51.
(*Very basic write-up of NE Java basin geology*)

Nahrowi, Baharuddin & Aminuddin (1979)- Stratigrafi Paleogene muda- Neogen Tua daerah Tuban, Paciran dan Panceng, Jawa Timur. Presentation 8th Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, 47p.
(*Stratigraphy of the late Paleogene- early Neogene in the Tuban, Paciran and Panceng areas, East Java*)

Nahrowi, N.Y. & Suratman (1990)- Aspek stratigrafi, sedimentologi dan petrografi endapan turbidit (studi kasus: Formasi Kerek & Anggota Banyak daerah Kedungjati, Jawa Tengah). Proc. 19th Ann. Conv. Indon. Assoc. Geol. (IAGI), 1, p. 149-174.

(Aspects of stratigraphy, sedimentology and petrography of turbidite deposits (study of Kerek Formation and Banyak member in the Kedungjati area, C Java)

Naibaho, N.E., A.H. Sasoni, R.R. Putra, T.A.A. Kristiono & I.V. Rumende (2012)- Geological field mapping: to identify a structural pattern in Talagadatar as a thrust fold belt based on surface data and tectonic setting into Sumedang, West Java. Proc. 41st Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 2012-GD-11, p.

(Fieldwork in Sumedang area at Talagadatar, NE of Bandung, shows six thrusts and four anticlines and synclines, forming fold-thrust system with two periods of activity, Late Miocene- E Pliocene and Late Pliocene- E Pleistocene)

Nainggolan D.A. (2008)- Struktur bawah permukaan daerah Semarang dan sekitarnya dari metode gaya berat dan magnet. J. Sumber Daya Geologi 18, 3, p. 185-202.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/265/245>)

(Sub-surface structure of Semarang and surroundings from gravity and magnetic methods'. Semarang area mainly covered by young volcanic rocks. Cipluk oil field, S of Kendal already closed in 1930. Structures in area mainly E-W and N-S directions)

Nainggolan D.A. (2009)- Struktur geologi bawah permukaan daerah Pekalongan dan sekitarnya berdasarkan analisis anomali gaya berat dan magnet. J. Sumber Daya Geologi 19, 2, p. 127-138.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/200/191>)

(Sub-surface geological structures of Pekalongan and surrounding areas based on gravity and magnetic anomaly analysis')

Napitupulu, H. (1998)- Organic geochemistry and thermal maturity modeling of hydrocarbon generation in the NW Java Basin, Indonesia. Ph.D. Thesis University of Texas at Dallas, p. 1-250.

Napitupulu, H., L. Ellis & R.M. Mitterer (2000)- Post-generative alteration effects on petroleum in the onshore Northwest Java basin, Indonesia. Organic Geochem. 31, p. 295-315.

(NW Java Basin on-and offshore oils mainly derived from Oligocene fluvial-deltaic Talangakar Fm, with API gravities 17°-53°. In shallow reservoirs heavy biodegraded oils (API <22°). Post-generative alteration processes widespread. Pristane to phytane biomarker ratios affected by evaporative fractionation. Isotope and biomarker data identified two oil families: (1) marine influenced delta front-prodelta settings and (2) from higher plant-rich delta plain- delta front environment)

Napitupulu, H., R.M. Mitterer & J.A. Morelos-Garcia (1997)- Differentiation of oils from the NW Java Basin into three oil types based on biomarker composition. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Int. Conf. Petroleum Systems of SE Asia and Australasia, Jakarta 1997, Indon. Petroleum Assoc. (IPA), p. 667-679.

(Three source rock facies in NW Java Basin based on biomarker composition of oil: (1) deltaic with typically high concentration of oleanane, etc. (2) probably lacustrine with abundant botryococcane, etc. and (3) two oils with intermediate-high sulfur content suggestive of marine carbonate depositional setting, although high pristane/phytane, etc. conflict with this interpretation; may be mixed with oil from a non-carbonate source)

Naranjo, J.C. (2007)- Tertiary basin initiation and sedimentation; East Java Basin, Indonesia. Masters Thesis, University of Wisconsin, Madison, p. 1-70. *(Unpublished)*

(Majority of proposed E Java Basin formation mechanisms back-arc related, but onshore part of basin appears to be constructed on pre-existing basement structural grain, not tectonic or fault-initiated. Passive basin fill of initial Eocene-Oligocene Ngimbang Fm clastic-dominated sedimentation suggests pronounced paleo-basement topography. Mounded geometries of shallow-water carbonates, continuing into Kujung time (Oligocene-Miocene), on NE-SW basement highs. Mild initial subsidence during Eocene increases with time)

- Naranjo, J.C., J.A. Simo, E. Dragan & A.R. Carroll (2007)- Tertiary basin initiation and sedimentation; East Java Basin, Indonesia. AAPG 2007 Ann. Conv., 1p. *(Abstract only)*
(Seismic isochron mapping shows axis of Eocene-Oligocene E Java basin trended NE-SW. Oligocene-Miocene isochron map shows change to WNW-ESE orientation. Subsidence rates increased at this time, inconsistent with rift origin for earlier basin history. Prolific carbonate accumulations formed in areas with ~500m or less Oligocene-Miocene subsidence; areas with greater subsidence (up to 900m) became sediment-starved deeps. Major carbonate platform formed in N part of basin. Two SW-trending projections from platform represent buildups formed on paleohighs, corresponding to areas of lesser Eocene-Oligocene subsidence)
- Nas, C. (1986)- Geologi endapan batubara daerah Cibobos-Cimandiri, Banten Selatan, Jawa Barat. Thesis Sarjana, Institut Teknologi Bandung, p. 1-238. *(Unpublished)*
('Geology of coal deposits in the Cibobos-Cimandiri area, South Banten, West Java')
- Nash, J.M.W. (1931)- Enige voorlopige opmerkingen omtrent de hydrogeologie de Brantasvlakte, Handelingen 6e Nederl.-Indisch Natuurwetenschappelijk Congres, Bandung, Sect. Geologie-geografie, p. 680-689.
('Some preliminary remarks on the hydrogeology of the Brantas plain'. Seven E-W trending anticlines in Brantas River flood plain/ delta in E Java, still growing today. Mud volcanoes may have been active in area during Majapahit empire (see also Satyana 2008))
- Natawidjaja, D.H. (1993)- Geological structures of Penosogan area Kebumen, Central Java: the significance of slump structures and extensional faults. Proc. 22nd Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 1, p. 137-146.
(Microtectonic analysis of Penosogan area, E of Karangsembung. NE-SW directed M Miocene syndepositional slump structures in turbiditic deep-water deposits, post M Miocene extensional structures Latest deformation is N-S compression)
- Natawidjaja, D.H. & M.R. Daryono (2016)- Present-day tectonics and earthquake history of Java, Indonesia. Proc. GEOSEA XIV and 45th Ann. Conv. Indon. Assoc. Geologists (IAGI) (GIC 2016), Bandung, p. 365-374.
(Java fewer major earthquakes than Sumatra, and focused along many smaller active faults (left-lateral Lembang fault, Cimandiri reverse fault, Baribis everse fault, Opak fault, Lasem fault and others)
- Natawidjaja, D.H., B. Sapiie, A. Pamumpuni, G.I. Marliyani & M.R. Daryono (2017)- Baribis-Kendeng thrust-fold zone of Java, Indonesia: new evidences of active back-arc tectonics and their implications to seismic hazards. Proc. Joint Conv. HAGI-IAGI-IAFMI-IATMI (JCM 2017), Malang, 5p.
(Geologic studies and earthquake records suggest E-W trending Baribis (W Java) and Kendeng (C-E Java) thrust belts in back-arc zone are connected and still active fold-thrust belt. Connects E to Flores back thrust)
- Natori, H. (1978)- Foraminifera from West Jawa. In: M. Untung & Y. Sato (eds.) Gravity and geological studies in Jawa, Indonesia. Indonesia- Japan Joint Research Program on Regional Tectonics of Southeast Asia, Geol. Res. Dev. Centre (GRDC), Bandung, Spec. Publ. 6, p. 81-89.
- Natori, H., D. Kadar, Sudyono, P. Siregar & F. Hasibuan (1978)- Foraminifera from Central Jawa. In: M. Untung & Y. Sato (eds.) Gravity and geological studies in Jawa, Indonesia. Indonesia- Japan Joint Research Program on Regional Tectonics of Southeast Asia, Geol. Res. Dev. Centre (GRDC) Spec. Publ. 6, p. 89-101.
- Nawawi, A., A. Suseno & A. Heriyanto (1996)- East Java Basins. Pertamina BPPKA, Jakarta, p. 1-107.
- Nayoan, G.A.S. (1972)- Correlation of the Tertiary lithostratigraphic units in the Java Sea and adjacent areas. Proc. First Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 11-30.
(Brief overview of principal basins of Java Sea from S Sumatra to N Madura/ Barito, with correlation of stratigraphic successions)
- Nehlig, P. & E. Marcoux (1992)- Le gisement d'œr epithermal de Cirotan (Ouest Java, Indonesie): contraintes microthermometriques. Comptes Rendus Academie Sciences, Paris 315, Ser. II, p. 821-827.

('The epithermal gold deposit of Cirotan, W Java; microthermometric constraints'. Microthermometric study of fluid inclusions from Cirotan epithermal gold deposit in Citotok Mining District, SW Java, suggest mineralization under rel. high salinities. Mineralized fractures tied to Pliocene quartz-microdiorite (4.5 Ma), intrusive in rhyolitic ignimbrites dated as 9.5 Ma. Absence of phase separation suggests minimal erosion of 410m since mineralization)

Ngkoimani, L.O., S. Bijaksana & C.I. Abdullah (2006)- Paleomagnetic and geochronological constraints on the Cretaceous- Miocene tectonic evolution of Java. Proc. Jakarta 2006 Int. Geosciences Conf. and Exhib., SOT-11, 4p. *(Extended Abstract)*

(Paleomagnetic study of area of 'Old Andesites' near Yogyakarta suggest paleolatitudes of C Java moved from 16-20°S in Cretaceous-Eocene (~76-47 Ma) to between 12-13°S in Oligocene (~30-25 Ma), 10-11° S in Miocene (6-11 Ma), to 7°-8° S today, supporting hypothesis that C and E parts of Java formed microcontinent that collided with Sundaland in Late Cretaceous-Eocene (but: collision should be younger if continued to move N after Eocene?; JTvG))

Ngkoimani, L.O., S. Bijaksana, M. Mahrizal & C.I. Abdullah & T.H. Liong (2005)- Magnetic properties of igneous rocks from Banyuwangi, East Java and their reliability for paleomagnetic study. Indonesian J. Physics 16, 2, p. 33-41.

(online at: <http://www.ijphysics.com/index.php/ijp/article/download/120/120>)

(Paleomagnetic investigation of two igneous intrusions (no absolute age known) in Gunung Nangkajajar at E tip of Java near Banyuwangi. Paleolatitude of these intrusions was ~30° S, well S of present position)

Niethammer, G. (1909)- Die Eruptivgesteine von Lok Oelo auf Java. Tschermaks Miner. Petrogr. Mitteilungen 28, 3, p. 205-273.

('The volcanic rocks from Lok Ulo on Java'. Petrographic descriptions of Cretaceous and Tertiary volcanic and metamorphic rocks, collected by Tobler in 1902. Includes discussions of Cretaceous Orbitolina limestone folded within serpentinite, first record of quartzose glaucophane schist, etc.)

Nilsen, T.H. (2002)- Summary report on outcrop geology and general setting of the Banyumas Block, South-Central Java, Indonesia. Report for Coparex Banyumas, Jakarta, 31p. *(Unpublished)*

(Lunt 2007, p. 147: M-L Eocene in Banyumas area rel. deep water facies with slope channel sands and slumped Nummulites limestone blocks)

Ningrum, H.N.R. & Abdurrokhim (2016)- Study of paleoenvironmental changes based on lithofacies and foraminifera analysis in Padalarang Area, West Bandung Regency, West Java Province. Proc. GEOSEA XIV and 45th Ann. Conv. Indon. Assoc. Geologists (IAGI) (GIC 2016), Bandung, p. 524-532.

(Summary of Oligocene- M Miocene (bio-)stratigraphy of Padalarang area, W of Bandung. Oldest rocks deep marine M Oligocene (N2) Batuasih Fm shale. Overlain by Late Oligocene (N3-N4) Rajamandala Lst, overlain by E Miocene outer neritic- bathyal clastics (N5-N13), etc. (No references to many earlier papers on this area))

Nishimura, S., H. Harjono & S. Suparka (1992)- The Krakatau islands: the geotectonic setting. GeoJournal 28, 2, p. 87-98.

(Sunda Strait transitional zone between Java frontal and Sumatra oblique subduction modes. W Java and Sumatra geologically continuous. Krakatau at intersection of two graben zones and N-S active, shallow seismic belt (fracture zone with fissure extrusion of alkali basaltic rocks commencing at Sukadana and continuing S as far as Panaitan island through Rajabasa, Sebuku and Krakatau). Paleomagnetic studies suggest Sumatra rotated CW relative to Java from at least 2.0 Ma to present at 5-10h/ Ma, so opening of Sunda Strait may have started before 2 Ma. W Sumatra has been moving N along Semangko fault and S part Sunda Strait pulled apart. Assuming perpendicular component (58 mm/y) of oblique subduction has not changed, subduction started at 7-10 Ma. Sunda Strait under tensional regime as result of clockwise rotation along continental margin and N-ward movement of Sumatra sliver plate along Semangko fault zone)

Nishimura, S., J. Nishida, T. Yokoyama & F. Hehuwat (1986)- Neotectonics of the Strait of Sunda, Indonesia. J. Asian Earth Sci. 1, p. 81-91.

(Sunda Strait rapidly subsiding trough, with thick U Pliocene- Quaternary clastics from Lampung to Krakatau fracture zone. Krakatau complex at intersection of two graben zones and N-S active seismic belt. Gravity anomalies in (1) N of Ujung Kulon, indicating existence of low gravity caldera, from which Malingping and Banten tufts were ejected 0.1 Ma ago, and (2) area of Kotaagung, where graben structure was observed and ignimbrite eruption occurred at 1 Ma. Paleomagnetic studies suggest Sumatra rotated clockwise relative to Java from 2.0 Ma- present at 5-10°/ My. Difference in strike of Java and Sumatra exceeds 20 °, so rotation of Sumatra and opening of Strait Sunda might have started before 2 Ma)

Nishimura, S., K.H. Thio & F. Hehuwat (1980)- Fission-track ages of the tuffs of the Pucangan and Kabuh Formations and the tektite at Sangiran, Central Java. In: S. Nishimura (ed.) Physical geology of Indonesian island arcs, Kyoto University Press, p. 72-80.

Nishimura, S., K.H. Thio & F. Hehuwat (1980)- Fission-track ages of tephra and tuffs from Bayat and Karansambung, Central Java. Physical Geology of Indonesian Island Arcs, Kyoto University, Kyoto, p. 81-87.

Noble, R.A., K.H. Pratomo, K. Nugrahanto, A.M.T. Ibrahim, I. Prasetya et al. (1997)- Petroleum systems of Northwest Java, Indonesia. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Conf. Petroleum Systems of SE Asia and Australasia. Indon. Petroleum Assoc. (IPA), Jakarta, p. 585-600.

(NW Java at least ten active petroleum systems and 150 oil and gas fields. Expected EUR >4 BBOE from ~14 BBOE in-place. Onshore sub-basins Ciputat, Kepuh, Pasir Bungur, Cipunegara/E15 and Jatibarang. Oil and gas originating here migrated through structural high in N direction towards offshore. Offshore petroleum systems S Ardjuna, C Ardjuna, Sunda, Yani/N Seribu Trough and Asri systems. Ten systems characterized in terms of source rock type, migration/ carrier bed system, major reservoir and seal, and style of entrapment)

Noble, R.A., C.H. Wu & C.D. Atkinson (1991)- Petroleum generation and migration from Talang Akar coals and shales offshore N.W. Java, Indonesia. Organic Geochem. 17, 3, p. 363-374.

Noeradi, Dardji (1994)- Contribution a l'etude geologique d'une partie occidentale de l'Ile de Java, Indonesie. Stratigraphie, analyse structurale, et etude quantitative de la subsidence des bassins sedimentaires Tertiaires. Approche de la geodynamique d'une marge continentale active au droit d'une zone de subduction. Doct. Thesis Universite de Chambéry, p. 1-253.

(online at: <http://edytem.univ-savoie.fr/archives/lgham/dardji/Dardji-Noeradi-these-1994+.pdf>)

('Contribution to the geological study of a western part of Java island: stratigraphy, structural analysis and quantitative subsidence modeling, etc.'. Late Cretaceous- Paleocene oblique subduction, with Indo-Australian plate moving N-S. Creation of NE-SW oriented volcanic arc and intra-arc basin with sinistral faults trending N30°-40°E. This marginal basin closes in M Eocene (43 Ma), with ultrabasic basement uplift and block melange deposition of Ciletuh Fm. Closure coincides with start of pivoting of SE Asian continent to SW after India collision. New E-W trending volcanic arc forms in Late Oligocene- E Miocene in S part of island. Volcanism continues until end M Miocene (14 Ma). In NW Java rapid subsidence started in Late Oligocene (23 Ma), with formation of horsts and grabens. In Late Miocene speed of Indo-Australian Plate increases from 4 to 7 cm/yr, causing N-ward movement of volcanic arc axis to present-day position and deformation in Cimandiri-Bayah and NW Java basin. Regional compression N25°-30°E reactivates old N70°-80°E faults. Creation of pull-apart basin in Gulf of Pelabuhan Ratu in Late Miocene (10 Ma) with rapid subsidence)

Noeradi, Dardji, T. Villemin & J.P. Rampnoux (1991)- Cenozoic fault systems and paleostress along the Cimandiri Fault Zone, West Java, Indonesia: In: Proc. Silver Jubilee symposium on the dynamics of subduction and its products, Yogyakarta, September 1991, Indonesian Inst. Sciences (LIPI), p. 245-270.

Noeradi, Dardji, E.A. Subroto, H.E. Wahono, E. Hermanto & Y. Zaim (2006)- Basin evolution and hydrocarbon potential of Majalengka-Bumiayu transpression basin, Java Island, Indonesia. Proc. AAPG Int. Conf. Exhib., Perth., p. *(Abstract only)*

Nolf, D. & S. Bajpai (1992)- Marine Middle Eocene fish otoliths from India and Java. Bull. Inst. Royal Sciences Naturelles Belgique, Sciences de la Terre, 62, p. 195-221.

(online at: www.vliz.be/imisdocs/publications/276754.pdf)

(Two comparable M Eocene marine fish otoliths associations from India and Java. Nine clayey glauconitic sand samples from Nanggulan area, C. Java, with 24 neritic teleost species, dominated by apogonids. New species Apogon townsendoides, Lactarius nonfungus, Percoideorum sciaenoides, etc.. Associated nannofossils upper Zone NP16, E Bartonian age)

Norris, M., B.D. Rohrlach & A. Maryono (2011)- The discovery of the Tujuh Bukit porphyry epithermal copper-gold-silver deposits, East Java, Indonesia. In: Proc. NewGenGold 2011 Conf., Case histories of discovery, Perth, p. 201-211.

(Tujuh Bukit group of telescoped epithermal and porphyry copper-gold-silver deposits in E Java, ~205 km SE of Surabaya. Cluster of deposits, including Tumpangpitu, Candrian, Katak and Gunung Manis in area of ~5 km diameter. Tumpangpitu comprises high sulphidation Cu-Au-Ag epithermal mineralisation that is telescoped onto large underlying Au-rich porphyry Cu-Au-Mo system, associate with young tonalite intrusives)

Nossin, J.J. & C. Voute (1986)- The geomorphology of the Borobudur plain, its archaeology and history (Central Java, Indonesia). Int. Inst. Aerospace Survey and Earth Sciences (ITC) Journal 1986, 4, p. 280-289.

(Borobudur Plain was a lake in second half of Quaternary, with deposits up to 10m thick)

Nossin, J.J. & C. Voute (1986)- Notes on the geomorphology of the Borobudur Plain (central Java, Indonesia) in an archaeological and historical context. In: Proc. 7th Int. Symp. Remote sensing for resources development and environmental management, Enschede 1986, 2, p. 857-863.

Notosiswoyo, S. & S.B. Kusumayuda (1999)- Hydrogeology of the Gunung Sewu karstic area, Central Java, Indonesia: a conceptual model. In: G.H. Teh (ed.) Proc. 9th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA 08), Kuala Lumpur 1998, Bull. Geol. Soc. Malaysia 43, p. 351-358.

(online at: <https://gsmpubl.files.wordpress.com/2014/09/bgsm1999035.pdf>)

(Hydrogeologic models for karst terrane of M Miocene Gunung Sewu Gp carbonates, S Mountains, C Java)

Noujaim, A.K. (1976)- Drilling in a high temperature and overpressured area, Sunda Straits, Indonesia. Proc. 5th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 2, p. 211-214.

(1973 Aminoil C-1SX well few km from Krakatau volcano very high temperature. Well TD at TD 9860' with formation Temp >450° F, after penetrating >8000' U Pliocene clastics)

Novian, M.I., P.K.D. Setiawan, S. Husein & W. Rahardjo (2009)- Stratigrafi Formasi Semilir bagian atas di Dusun Boyo, Desa Ngalang, Kecamatan Gedang Sari, Kabupaten Gunung Kidul, diy: pertimbangan untuk penamaan anggota Buyutan. In: Proc. Workshop Geologi Pegunungan Selatan, Yogyakarta 2007, Pusat Survei Geologi, Bandung, Spec. Publ. 38, p. 195-208.

(Stratigraphy of the Upper Semilir Formation in Hamlet Boyo, Ngalang Village, District Gedang Sari, Gunung Kidul, with considerations for naming the Buyutan Member'. Semilir Fm dominated by tuffs, volcanic breccias and volcanic sandstones. Measured sections and facies analysis (mainly deltaic environments))

Novian, M.I., P.P. Utama & S. Husein (2013)- Penentuan batuan sumber Gununglumpur di sekitar Purwodadi berdasarkan kandungan fosil foraminifera. Pros. Seminar Nasional Kebumihan 6, Jurusan Teknik Geologi FT UGM, Yogyakarta, p. 519-534.

(Determination of source rock of the mud mounds near Purwodadi from fossil foraminifera content'. Samples from Kesongo and Crewek 'mud volcanoes' in Randublatung zone of NE Java basin with planktonic foraminifera of zones N18-19, N14/N12 and N7-N9 and E Miocene large foraminifera. Mud volcanoes probably sourced from oldest material, i.e. late E Miocene bathyal marine Tawun Fm, but includes rocks of younger formations (Ngrayong, Wonocolo, Ledok, etc.))

Novita, D. (2012)- Asalmuda jadi batupasir vulkaniklastik Formasi Kebo-Butak daerah Mojosari dan Kalinampu, Bayat Jawa Tengah. Proc. 41st Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 2012-SS-06, 3p.

('Origin of Kebo Formation volcanoclastic sandstones, Butak Mojosari area and Kalinampu, Bayat, C Java'. Outcrop sections of Eocene at Mojosari and Kalinampu show Kalinampu with rel. high feldspar content and with polycrystalline and volcanic quartz. Mojosari more common volcanic quartz and no or rare feldspar. Interpreted as marine slope deposits)

Novita, D., D.H. Bariato & M.I. Novian (2013)- Biozonasi Formasi Kebo bagian bawah jalur Kalinampu-Sendangrejo, Bayat Jawa Tengah. *J. Teknik Geologi (UGM)* 2, 1, 5p.

(online at: <http://lib.geologi.ugm.ac.id/ojs/index.php/geo/article/view/20>)

('Biozonation of the lower part of the Kebo Formation near Kalinampu-Sendangrejo, Bayat, C Java'. Area contains Oligocene Nampurejo pillow lava. Three measured sections with nine facies. Kalinampu-Sendangrejo section 13 M Eocene to E Miocene foraminifera biozones (P11-N5). Sumberan-Mojosari section 7 Late Eocene-Oligocene biozones (P14-N2). Depositional environment bathyal)

Novita, D., D.H. Bariato & M.I. Novian (2014)- Planktonic foraminifera biozonation of the Middle Eocene-Oligocene Kebo Formation, Kalinampu area, Bayat, Klaten, Central Java. *Berita Sedimentologi* 31, p. 70-81.

(online at: www.iagi.or.id/fosi/files/2014/12/BS31-Biostratigraphy_SEAsia_Part3.pdf)

(Identification of 12 M Eocene (P11)- E Miocene (N5) planktonic foraminifera zones in Kebo Butak Fm of S Mountains of C Java. Depositional environments bathyal marine)

Noya, Y. (1994)- Geology and mineralization of the Cikotok area, West Java, Indonesia. M.Sc. Thesis Curtin University of Technology, Perth, p. 1-219. *(Unpublished)*

(Cikotok gold-silver deposits discovered in 1936 in Bayah Dome of S Banten, ~200 km SW of Jakarta. Total production from 1940-1992 ~7704 kg of gold and 218,853 kg of silver. Pliocene-age mineralization in quartz veins infill brittle fractures, formed at low T, in Oligo-Miocene felsic volcanics ('Old Andesite Fm') host rocks. Small andesitic and granodioritic intrusive rocks emplaced in M-L Miocene. Cikotok ore typified by high silver content which occurs as fine-grained argentite and possible as electrum. Ore minerals in large sulphide (chalcopyrite, sphalerite and galena)-bearing quartz veins and in hydrothermal breccias. Three zones. Epithermal origin, with average formation T 245°C. Depth below surface ~200 m at time of formation)

Noya, Y., T.C. Amin & N. Suwarna (1999)- Petrology of gold and silver-bearing volcanic rocks from Cikotok area, West Java. *J. Geologi Sumberdaya Mineral* 9, 95, p. 16-26.

(Gold-bearing host rocks of Cikotok Gold Mine area, SW Java, in hydrothermally altered andesitic, basaltic and rhyo-dacite lavas of Oligocene- E Miocene 'Old Andesites/ Cikotok Fm, intruded by M Miocene(?) granodiorite and andesitic dykes)

Noya, Y., D. Sukarna & S. Andi Mangga (1994)- The nature of mineralization at the Cikotok area, West Java. *Proc. 23rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta*, 2, p. 981-1000.

(Cikotok high-silver/ minor gold mineralization in SW Java large epithermal sulphide-quartz veins and in hydrothermal breccias. Host rocks Oligo-Miocene 'Old Andesite' volcanics. Ag-Au in sulphide minerals sphalerite, galena and chalcopyrite. Formed at 200m below surface (exploited from 1936-2008))

Noya, Y., T. Suwarti, Suharsono & L. Sarmili (1992)- Geology of the Mojokerto Quadrangle, Jawa (1508-6), 1:100,000. *Geol. Res. Dev. Centre (GRDC), Bandung*, 12p. + map.

(Eastern Kendeng and Rembang zones)

Noya, Y., S.A. Wilde, S.A Mangga & D. Sukarna (1999)- A study of fluid inclusions at the Cikotok Gold Mine, West Java. In: G.H. Teh (ed.) *Proc. 9th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA 08)*, Kuala Lumpur 1998, *Bull. Geol. Soc. Malaysia* 43, p. 307-319.

(online at: <https://gsmpubl.files.wordpress.com/2014/09/bgsm1999030.pdf>)

(Cikotok gold-silver deposits of SW Java, ~200 km SW of Jakarta, are Pliocene mineralization hosted in Oligo-Miocene 'Old Andesite' volcanics, forming part of Bayah Dome Complex. Fluid inclusions homogenisation temperatures between 184-306°C, mean 245°C, trapping pressure equivalent to depth of 210m, all typical of low salinity epithermal gold deposits)

Nugraha, A.M.S., A. Ditya, M. Zamzam, Y. Hernawati & B. Sapiie (2009)- Fracture characteristics within carbonate rocks facies and its implication to reservoir characterization, case study Rajamandala Formation, West Java. Proc. 38th IAGI Ann. Conv. Exh. Indon. Assoc. Geol. (IAGI), Semarang, 18p.

Nugraha, A.M.S. & R. Hall (2012)- Cenozoic history of the East Java forearc. Proc. 36th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA12-G-028, p. 1-21.

(E Java forearc stratigraphy 6 tectono-stratigraphic units with 3 major unconformities. Lowest unit with continuous strong reflectors may be Paleogene or Mesozoic and is absent under C and W Java. M Eocene-Lower Oligocene deposited above M Eocene unconformity during extensional phase, followed by U Oligocene-Lw Miocene deposition with arc volcanism. Localized contraction of Lower Miocene and older units prior to termination of arc activity. Extensive carbonate deposition above E-M Miocene unconformity during quiet period with reduced volcanism. Significant subsidence began in Late Miocene. Deformation at S side of forearc after deposition of U Miocene, interpreted to be caused by arrival of buoyant plateau at subduction margin)

Nugraha, A.M.S. & R. Hall (2013)- Cenozoic history of the East Java forearc. Berita Sedimentologi 26, p. 5-40. (online at: www.iagi.or.id/fosi/files/2013/05/BS26-Java.pdf) (similar to paper above)

Nugraha, A., F. Pambudi, V.S. Sundari, S. Sugiarto & S. Hussein (2014)- Karakteristik deformasi struktur pada sistem kompleks sesar mendatar Terombo di dusun Sumberan, Kecamatan Ngawen, Kabupaten Gunung Kidul. Proc. 9th Seminar Nasional Kebumihan, Dept. Teknik Geologi, Gadjah Mada University, Yogyakarta, P4P-01, p. 21-33.

(online at: <https://repository.ugm.ac.id/137862/1/DOB-01.pdf>)

('Characteristics of structural deformation in the complex Terombo horizontal fault system in Sumberan village, Ngawen sub-district, Gunung Kidul regency'. Trembono fault complex NE-SW trending strike-slip faults in Tertiary rocks in S Mountains near Sumberan, deforming Kebo-Butak submarine volcanoclastic rocks)

Nugraha, K., I. Haryanto, Faisal Helmi & M.F. Rosana (2016)- Gravity collapse- structural model of Ciletuh Amphitheatre, West Java, Indonesia. Proc. Asia Oceania Geoscience Conference, p.

(Ciletuh amphitheatre is Pliocene - Pleistocene gravitational failure, forming amphitheatre that now exposes Eocene quartz sandstone unit and Cretaceous melange rock)

Nugrahadi, A., Y. Suracman, S. Mulyono, D. Muljawan, A. Lesanpura, J.P. Hutagaol & Kusnadi (1999)- Oblique subduction zone in the Southern West Java Offshore. Proc. 28th Ann. Conv. Indon. Assoc. Geol. (IAGI), 1, p. 73-82.

Nugrahanto, K. & M. Hutabarat (1994)- Reservoir characterization in a channel sand utilizing transgressive events: an example from the Talang Akar formation, offshore Northwest Java. Proc. 23rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, 1, p. 88-103.

(Reservoir characterization study of Late Oligocene BZZ-69B sand in upper Talang Akar sandstone in BZZ field, Arjuna Basin (incised valley fill))

Nugrahanto, K. & R.A. Noble (1997)- Structural control on source rock development and thermal maturity in the Ardjuna Basin, offshore northwest Java, Indonesia. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Int. Conf. Petroleum Systems of SE Asia & Australasia, Jakarta, Indon. Petroleum Assoc. (IPA), p. 631-653.

(Ardjuna Basin originated during Eocene-Oligocene period of extension. Incorporates major source kitchen for hydrocarbons with at least 2.8 BB Oil and 5 TCF Gas discovered to date. Three sub-basins. S sub-basin thickest sediments (~14,000' in axis), followed by C (~10,000') and N (~9000') sub-basins)

Nugroho, D. (2016)- Evolusi sedimentasi batugamping Oligo-Miosen Formasi Rajamandala di daerah Padalarang, Jawa Barat. Ph.D. Thesis, Inst. Teknologi Bandung (ITB), p. 1- . (Unpublished)

('Evolution of Oligo-Miocene Rajamandala Formation limestone in the Padalarang area, West Java')

Nugroho, D., T. Simo, D. Noeradi, S.M. Fullmer, M.K. Hicks, S.E. Kaczmarek, C. Liu, J.T. Van Gorsel et al. (2009)- Significance of the sedimentology and stratigraphy for the evolution and demise of the Oligocene Rajamandala Limestone, Padalarang, West Java, Indonesia. Proc. 33rd Ann. Conv. Indon. Petroleum Assoc., IPA09-G-161, p. 11-24.

(Rajamandala Limestone Chattian carbonate platform, prograding to NE, drowned at end-Chattian)

Nurhandoko, B.E.B., S. Widowati, R. Kurniadi, M.R. Abda, A.D. Purnama, R. Martha, Susilowati, E. Fatiah & M.R. Asmarahadi (2016)- Integrated subsurface Temperature modeling: case study of East Java Basin. Proc. 40th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA16-723-G, 9p.

(Subsurface temperatures along N-S profile in E part of East Java basin)

Nur Hasjim (1988)- Le Neogene marin du Nord-Est de Java, Indonesie; etude biostratigraphique (foraminiferes et nannoplancton). Geomedia Mem. 1, p. 1-129.

('The marine Neogene of NE Java; biostratigraphic study'. Foraminifera and nannofossils listings from several classic Tertiary outcrop sections in NE Java)

Nursecha, M.A.Q., J. Jyalita & S. Husein (2014)- Tectonic control on hydrocarbon seepages of Sijenggung, North Serayu Basin, Central Java. Proc. 38th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA14-SG-021, 13p.

(N Serayu Basin, N of Karangsembung in C Java has number of hydrocarbon (mainly gas?) seepages. North Serayu Basin back-arc basin with major subsidence in M Miocene- E Pliocene with Halang Fm volcanic arc deposits in Late Miocene, intense N-S compressional folding in (Late?) Pliocene and reactivation of volcanism in Pleistocene. Pekacangan river section with Sijenggung gas seep in deep marine E-M Miocene Rambatan Fm. Multiple thrust faults/folds with >200% shortening believed to be responsible for hydrocarbon seepage)

Nutt, W.L. & J. Sirait (1985)- Application of offset seismic profiles in the Jatibarang volcanic reservoir. Proc. 14th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 2, p. 385-398.

Obermann, A., Karyono, T. Diehl, M. Lupi & A. Mazzini (2017)- Seismicity at Lusi and the adjacent volcanic complex, Java, Indonesia. Marine Petroleum Geol., p. (in press)

(Ongoing seismic events events in E Java mainly nucleate at 8-13 km depths below Arjuno-Welirang volcanic complex. Practically no seismicity in sedimentary basin hosting Lusi mud eruption. Focal mechanisms indicate mainly sinistral strike-slip faulting SW of Lusi and suggesting Watukosek fault system extends from volcanic complex towards NE of Java)

Okada, H. (1981)- Calcareous nannofossils of Cenozoic formations in Central Java. In: T. Saito (ed.) Micropaleontology, petrology and lithostratigraphy of Cenozoic rocks of the Yogyakarta region, Central Java. Spec. Publ. Dept. Earth Sci, Yamagata University, Japan, p. 25-34.

(Nannofossils from M Eocene- M Oligocene Nanggulan Fm, E Miocene Sentolo Fm, etc. 'Old Andesites' underlain by mid Oligocene Sphenolithus distentus, overlain by middle E Miocene S. belemnites zone CN2. Upper part of Sentolo Fm may be E Pliocene age)

Okamoto, S., S. Kojima, S. Suparka & J. Supriyanto (1994)- Campanian (Upper Cretaceous) radiolarians from a shale clast in the Paleogene of central Java, Indonesia. J. Southeast Asian Earth Sci. 9, 1-2, p. 45-50.

(Brown shale clast in Paleogene breccia in Karangsembung with Campanian tropical radiolarians not seen in coeval Campanian assemblages from blocks in Luk-Ulo melange, suggesting juxtaposition of material from different paleolatitudes in Late Cretaceous, but juxtaposed before deposition of Paleogene)

Oktariani, H., Winantris & L. Fauzielly (2018)- Fosil kayu *Dryobalanoxylon* sp. pada Formasi Genteng di Kabupaten Lebak Provinsi Banten dan paleofitogeografinya di Indonesia. Bulletin of Geology (ITB) 2, 1, p. 175-196.

(online at: <https://buletineologi.com/index.php/buletin-geologi/issue/view/4/Paper-5%20vol.%202%20no.%201>)

('Fossil wood Dryobalanoxyton sp. in the Genteng Formation in Lebak Regency, Banten, and its paleophytogeography in Indonesia'. E Pliocene fossilized wood of dipterocarp family in Genteng Fm tuff in Sindangsari Village, W Java. Genus known from Miocene- Pleistocene of Sumatra, W Java and Kalimantan)

Oktariani, H., Winantris, L. Fauzielly & R. Damayanti (2017)- *Dryobalanoxyton* sp.: a fossil wood preserved in the Genteng Formation from Lebak Regency, Banten Province, Indonesia. J. Geol. Sciences and Applied Geology (UNPAD) 2, 3, p. 119-126.

(online at: jurnal.unpad.ac.id/gstag/article/download/15620/7347)

(English version of Oktariani et al. 2018)

Oostingh, C.H. (1933)- Neue Mollusken aus dem Pliozan von Java. De Mijningenieur 14, 11, p. 192-197 and 14, 12, p. 212-215.

('New molluscs from the Pliocene of Java'. New bivalve and gastropod species from Cimanceuri area, S of Bantam, collected by Oppenoorth in 1925)

Oostingh, C.H. (1934)- Die Purpurinen aus dem Pliocan des Tjidjoerej in Cheribon, Java. De Ingenieur in Nederlandsch-Indie (IV) 1, 2, p. 28-30.

(On species of Pliocene gastropod genus Thais, incl. T. (Stramonita) martini n.sp. from Bumiayu, W Java)

Oostingh, C.H. (1934)- Aanteekeningen over eenige bivalven uit het Neogeen van Java. De Ingenieur in Nederlandsch-Indie (IV) 1, 4, p. 19-22.

('Notes on some bivalves from the Neogene of Java'. On Mio-Pliocene Metis and Cardilia from various localities on Java)

Oostingh, C.H. (1934)- Die Cardiiden aus dem Cheribonien von Bentasari in Tegal, Java. De Ingenieur in Nederlandsch-Indie (IV), 1, 5, p. 76-78.

('The cardiids from the Cheribonian of Bentasari in Tegal, Java'. Three species of Cardium-type molluscs from Pliocene of Bentasari basin, C Java, including a Laevicardium described here for first time from Indonesia)

Oostingh, C.H. (1935)- Einige neue Gastropoden aus dem Miocan von Mittel-Bantam (Java). De Ingenieur in Nederlandsch-Indie (IV), 2, 9, p. 79-83.

('Some new gastropods from the Miocene of Middle Banten (Java)'. New species from coal-bearing Middle Bojongmanik beds, West Java, collected by Ziegler and Koolhoven)

Oostingh, G.H. (1935)- Die Mollusken des Pliocaens von Boemiajoe (Java). Wetenschappelijke Mededeelingen Dienst Mijnbouw Nederlandsch-Indie 26, p. 1-247.

('The molluscs from the Pliocene of Bumi Ayu, Java')

Oostingh, C.H. (1938)- Die Mollusken des Pliocaens von Sud-Bantam in Java- part 1. De Ingenieur in Nederlandsch-Indie (IV) 5, 2, p. 17-33.

('The molluscs from the Pliocene of South Bantam, Java'. First of series of 10 papers)

Oostingh, C.H. (1938)- Die Mollusken des Pliocaens von Sud-Bantam in Java, II (1. Fortsetzung). De Ingenieur in Nederlandsch-Indie (IV) 5, 3, p. 35-47.

('Molluscs from the Pliocene of South Bantam, Java'; part 2'. Descriptions of species of gastropod Clathrodrillia group)

Oostingh, C.H. (1938)- Die Mollusken des Pliocaens von Sud-Bantam in Java, III (2. Fortsetzung). De Ingenieur in Nederlandsch-Indie (IV) 5, 4, p. 49-60.

('Molluscs from the Pliocene of South Bantam, Java'; part 3'. Descriptions of species of gastropod family Terebridae)

Oostingh, C.H. (1938)- Die Mollusken des Pliocaens von Sud-Bantam in Java, IV (3. Fortsetzung). De Ingenieur in Nederlandsch-Indie (IV) 5, 7, p. 105-115.

(‘Molluscs from the Pliocene of South Bantam, Java’; part 4’. Descriptions of species of gastropod families Volutacea, Olividae, Harpidae)

Oostingh, C.H. (1938)- Die Mollusken des Pliocaens von Sud-Bantam in Java, V (4. Fortsetzung). De Ingenieur in Nederlandsch-Indie (IV) 5, 8, p. 119-129.

(‘Molluscs from the Pliocene of South Bantam, Java’; part 5’. Descriptions of species of gastropod family Marginellidae)

Oostingh, C.H. (1939)- Die Mollusken des Pliocaens von Sud-Bantam in Java, VI. De Ingenieur in Nederlandsch-Indie (IV) 6, 1, p. 7-16.

(‘Molluscs from the Pliocene of South Bantam, Java’; part 6’. Descriptions of species of gastropod family Mitridae)

Oostingh, C.H. (1939)- Die Mollusken des Pliocaens von Sud-Bantam in Java, VII. De Ingenieur in Nederlandsch-Indie (IV) 6, 4, p. 43-51.

(‘Molluscs from the Pliocene of South Bantam, Java’; part 7’. Descriptions of species of gastropod group Mitra)

Oostingh, C.H. (1939)- Die Mollusken des Pliocaens von Sud-Bantam in Java- part VIII. De Ingenieur in Nederlandsch-Indie (IV) 6, 8, p. 103-119.

(‘Molluscs from the Pliocene of South Bantam, Java’; part 8’. Descriptions of species of gastropod family Fasciolariidae, Melongenidae, Buccinidae, etc.)

Oostingh, C.H. (1939)- Die Mollusken des Pliocaens von Sud-Bantam in Java, IX. De Ingenieur in Nederlandsch-Indie (IV) 6, 12, p. 163-187.

(‘Molluscs from the Pliocene of South Bantam, Java’; part 9’. Descriptions of species of gastropod family Nassariidae, etc.)

Oostingh, C.H. (1940)- Die Mollusken des Pliocaens von Sud-Bantam in Java, X. De Ingenieur in Nederlandsch-Indie (IV) 7, 4, p. 45-60.

(‘Molluscs from the Pliocene of South Bantam, Java’. Last of series of 10 papers. Descriptions of species of gastropod families Pyrenidae and Muricidae)

Oostingh, C.H. (1939)- Note on the stratigraphical relations between some Pliocene deposits in Java. De Ingenieur in Nederlandsch-Indie (IV), 6, 9, p. 140-141.

(On correlations of Pliocene formations in Cirebon, Bumiayu and Kendeng regions)

Oostingh, C.H. (1941)- Three new species of gastropods from the Pliocene of Semarang (Central Java). De Ingenieur in Nederlandsch-Indie (IV) 8, 7, p. 63-64.

Oppenoorth, W.F.F. (1931)- Java kaartering. Jaarboek Mijnwezen Nederlandsch-Indie 59 (1930), Alg. Ged., p. 38-48.

(‘Java mapping program’. With summary of provisional Eocene- Pleistocene stratigraphic subdivision of Java’)

Oppenoorth, W.F.F. & H. Gerth (1929)- The Upper Eocene Nanggoelan Beds near Djogjakarta. Fourth Pacific Science Congress Java 1929, Bandung, Excursion Guide D1, 20p.

(Overview of geology and fauna of ~200m thick Middle Eocene section of Nanggulan, ~20 km W of Yogyakarta. Three levels: basal quartz sandstone (>80m; marine transgression; Axinea= Glycymeris Beds) with a 1m thick coal bed and layers rich in Nummulites (Djokdjokartae Beds), overlain by marls with Discocyclus and tuffs (Discocyclus Beds), overlain by andesitic sandstone, also with Discocyclus. Eocene intruded and overlain by E Miocene ‘Old Andesites’)

Osberger, R. (1954)- Research on fossil corals from Java. Indonesian J. Natural Science (Majalah Ilmu Alam untuk Indonesia) 110, p. 201-207.

(Work on corals from Bandung survey collections from four localities on Java: Geger Tjabe (C Java, SE of Tegal; Pliocene reef), Pamitran (SW of Nyalindung, SW Java; M-U Miocene), Djunggrangan (E Miocene) and Punung (Southern Mountains, C Java, NW of Pacitan; M Miocene)

Osberger, R. (1954)- Jungtertiare Korallen von Java, Teil I. Neues Jahrbuch Geol. Palaont. Abhandl. 100, 1, p. 119-158.

('Late Tertiary corals from Java, part 1')

Osberger, R. (1955)- Jungtertiare Korallen von Java, Teil II. Neues Jahrbuch Geol. Palaont. Abhandl. 101, 1, p. 39-74.

('Late Tertiary corals from Java, part 2'. Descriptions of Indosmilia cf. bantamensis, Scalariogyra escharoides, Coelocoenia spp., Petrophylliella spp., Ceratophyllia javana, etc. from Lower Miocene at Punung, and Anisocoenia crassisepta, Favites virens, Favia speciosa, Orbicella borradailei, Echinopora gracilis, Stylophora spp., Seriatopora ornata, Goniopora affinis Dictyaraea, Madrepora duncani and Alveopora polyacantha from the upper M Miocene near Cimerang)

Osberger, R. (1955)- Beschreibung einiger tertiarer Korallen von Java. Neues Jahrbuch Mineral. Geol. Palaont., Monatshefte, 1955, 6, p. 252-256.

('Description of some Tertiary corals of Java')

Osberger, R. & E. von Krauss (1953)- Die Manganerz Lagerstätte Burahol bei Karangnunggal auf Java. In: Skizzen zum Antlitz der Erde, Festschrift Kober, Vienna, p. 336-353.

('The Burahol manganese ore deposits near Karangnunggal on Java'. On manganese oxide ores of Burahol hill near Karangnunggal, S of Tasikmalaya, SW Java, in andesitic breccias and tuffs in sequence of E Miocene deposits. Weathering of basic volcanic rocks supplied manganese, and kaolin beds in beginning stages of laterization provided alkaline environment needed to promote precipitation)

Paltrinieri, F., P. Saint-Marc & B. Situmorang (1976)- Stratigraphic and paleogeographic evolution during Cenozoic time in Western Indonesia. SEAPEX Offshore SE Asia Conf., Singapore 1976, Paper 10, p. 1-29.

(Overview of W Indonesia Cenozoic stratigraphy and paleogeography. In W Indonesia two phases of sedimentation, Eocene- to early M Miocene and late M Miocene- Late Pliocene. Three major orogenic events: early Tertiary, early M Miocene, Plio-Pleistocene)

Paltrinieri, F., S. Sajekti & Suminta (1976)- Biostratigraphy of the Jatibungkus section (Lokulo area) in Central Java. Proc. 5th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 195-204.

(Jatibungkus section (Karangsambung Fm) with continuous M Eocene (P 14)- earliest Oligocene (P 17) marine section with planktonic foraminifera. Jatibungkus Mb ~80m thick reefal limestone in middle of section between pF zones P14-P15, and with Late Eocene larger foraminifera Discocyclina and Pellatispira (LBF zone Tb). This is relatively coherent package in overall chaotic olistostrome area. Late Eocene faulting/ uplift event, tied to S-ward shift of subduction zone, caused period of non-deposition, with sedimentation resuming in Late Oligocene (zone N2) clay-breccia formation. Succession almost normal, although probably part of Eocene olistostrome complex)

Pandita, H. (2008)- Lingkungan pengendapan Formasi Sambipitu berdasarkan fosil jejak di Daerah Nglipar, Java. Jurnal Teknologi Mineral (ITB) 15, 2, p. 85-94.

('Depositional environment of the Sambipitu Formation based on trace fossils in the Nglipar Region')

Pandita, H. (2014)- Paleontologi moluska Neogen genus Turritella dari Pulau Jawa sebagai dasar penyusunan biozonasi Turritella. Ph.D. Thesis Inst. Teknologi Bandung (ITB), p.

('Neogene molluscan paleontology of the genus Turritella from Java as basis for development of a Turritella biozonation')

Pandita, H. & S. Pambudi (2007)- Study trace fossil at Sambipitu Formation in Nglipar Area. Proc. Joint Conv. 32nd HAGI, 36th IAGI, and 29th IATMI, Bali, JCB2007-014, 9p.

(Study of trace fossils of M Miocene (N12-N13) turbiditic Sambipitu Fm in two sections in Nglipar Area, S Mountains. Common trace fossils, including Chondrites, Rhizocorallium and Thalassinoides. Three facies: Cruziana, Zoophycos and Cruziana-Skolithos facies. Cruziana facies present in Kedungkeris section in E, but not in Ngalang section in W, suggesting deeper paleoenvironment of lower part of Sambipitu Fm in West)

Pandita, H. & Y. Zaim (2009)- Paleoeкологи Formasi Pucangan di daerah Kabuh ditinjau dari kandungan fosil moluska. Prosiding 4th Seminar Sekolah Tinggi Teknologi Nasional, Yogyakarta, p. 172-180.

(online at: <http://retii.sttnas.ac.id/wp-content/uploads/2015/08/RETII2009.pdf>)

('Palaeoecology of the Pucangan Formation in the Kabuh area based on fossil molluscs content'. E Pleistocene deposits of E Kendeng zone, E Java with two paleoecologically significant mollusc assemblages: Corbula-Ostrea (brackish-marine lower delta plain) and Arca-Ostrea (marine lower delta plain))

Pandita, H., Y. Zaim, Aswan & Y. Rizal (2013)- Relationship of biometrical aspect of Turritellidae with geochronological aspect in West Java. Int. J. Geosciences 4, 4, p. 777-784.

(online at: www.scirp.org/journal/PaperInformation.aspx?paperID=33473.U2QRPfldWpA)

(Turritellidae gastropods studied in 5 localities in W Java (type localities of Martin 1919 and Oostingh 1938). Two consistent groups: small size in U Miocene- Lower Pliocene and large shells in Pliocene-Pleistocene)

Pandito, R.H.B., R.M Zainal, I. Rahman & A. Haris (2017)- New perspective for exploration: hydrocarbon potential of Ngimbang Formation- Northeast Java Basin. Proc. Joint Conv. HAGI-IAGI-IAFMI-IATMI (JCM 2017), Malang, 4p.

(S well tested gas in Late Oligocene limestone in 2013 (In W Tuban block? Not real well name? Should be Lower Kujung Fm?; JTvG)

Panigoro, H. (1981)- Geologi dan asosiasi ofiolit daerah Ciletuh, Kabupaten Sukabumi, Jawa Barat. Thesis, Inst. Teknologi Bandung, p. 1-132. *(Unpublished)*

('Geology and ophiolite association of the Ciletuh area, Sukabumi, West Java')

Panjaitan, J.P. & B.D. Sugihartoko (2007)- Porosity development and diagenetic study at Parigi Formation, Well JPP-14 δKarina Field North West Java Basin based on wireline log and petrography data. Proc. 31st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA07-SG-020, 6p.

(Characterization of porosity and diagenesis of Parigi Fm carbonate in JPP-14 well, 'Karina Field', onshore NW Java basin)

Panjaitan, S. (2009)- Aplikasi metode gaya berat untuk identifikasi potensi hidrokarbon di dalam cekungan Jakarta dan sekitarnya. J. Sumber Daya Geologi 19, 6, p. 341-350.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/218/208>)

('Application of gravity methods for identification of hydrocarbon potential in the Jakarta basin and beyond')

Panjaitan, S. (2010)- Prospek migas pada Cekungan Jawa Timur dengan pengamatan metode gayaberat. Bul. Sumber Daya Geologi 5, 3, p. 168-181.

(online at: www.bgl.esdm.go.id/publication/index.php/dir/article_detail/480)

('Oil and gas prospects in the East Java Basin using gravity data'. Bouguer Anomalies in E Java basin three types: (1). High gravity anomaly formed by limestone high; (2) Medium gravity anomaly formed by sedimentary rock basin and (3) Low gravity anomaly formed by Kendeng Zone)

Panjaitan, S. & N.Astawa (2010)- Studi potensi migas dengan metode gayaberat di lepas pantai utara Jakarta. J. Geologi Kelautan 8, 1, p. 23-35.

(online at: <http://ejournal.mgi.esdm.go.id/index.php/jgk/article/view/183/173>)

('Study of the oil and gas potential off the north coast of Jakarta with gravity methods'. N-S normal faults and E-W reverse faults shown on gravity model)

Pannekoek, A. (1936)- Beitrage zur Kenntnis der Altmiocenen Molluskenfauna von Rembang (Java). Ph.D. Thesis University of Amsterdam, p. 1-80.

('Contributions to the knowledge of the Early Miocene mollusc fauna of Rembang (Java)'. Descriptions of Early Miocene molluscs, mainly from Sedang oil concession, Rembang zone, NE Java. Little or no stratigraphy)

Pannekoek, A.J. (1938)- De geomorphologie van het West-Progo gebergte. Jaarverslag Topogr. Dienst Nederl.-Indie 34, p. 1-30.

('The geomorphology of the W Progo Mountains', C Java)

Pannekoek, A.J. (1946)- Geomorfologische waarnemingen op het Djampang-Plateau in West Java. Tijdschrift Kon. Nederlands Aardrijkskundig Genootschap 63, 3, p. 340-367.

(Geomorphology of Jampang Plateau, SW Java. Eocene with quartz sandstones but no volcanics, strongly folded before deposition of widespread Miocene volcanoclastic sediments. Folded E-M Miocene (E Miocene Jampang series andesitic breccias and tuffs and M Miocene Cimandiri series) unconformably overlain by Late Miocene volcanoclastics). Uplift and tilting of Jampang region in M Pleistocene)

Pannekoek, A.J. (1948)- Enige karstterreinen in Indonesie. Tijdschrift Kon. Nederlands Aardrijkskundig Genootschap 66, p. 209-214.

('Some karst terrains in Indonesia', including Central-East Java Southern Mountains)

Pannekoek, A.J. (1949)- Outline of the geomorphology of Java. Tijdschrift Kon. Nederlands Aardrijkskundig Genootschap (2) 66, p. 270-326.

(Rel. extensive discussion of geomorphologic zones and features of W, C and E Java)

Panuju & R. Kapid (2007)- Revisi biostratigrafi nanoplankton Miosen Awal bagian bawah (Zona NN1-NN2) di Cekungan Jawa Timur Utara. Proc. Joint Conv. 32nd HAGI, 36th IAGI and 29th IATMI, Bali 2007, JCB2007-097, p. 617-628.

('Revision of the basal Early Miocene nannoplankton zonation (zones NN1-NN2) in the NE Java Basin'. Basal Miocene zone NN1 zone, characterized by Top Helicosphaera recta at bottom and Base Discoaster druggii at top, can be subdivided into 3 subzones by Top Clausiococcus fenestratus and Top Cyclicargolithus abisectus or Sphenolithus delphix. Zone NN2, characterized by Base Discoaster druggii at base Top Triquetrorhabdulus carinatus at top, can be subdivided by Top Ilselithina fusa (based on Rembang zone outcrop samples?))

Panuju, G. Rahmat, A. Priyantoro, E. Wijaksono & B. Wicaksono (2017)- Analisis sikuenstratigrafi untuk identifikasi kompartementalisasi reservoir karbonat Formasi Ngimbang Blok Suci, Cekungan Jawa Timur Utara. Lembaran Publikasi Minyak dan Gas Bumi (Lemigas) 51, 3, p. 145-157.

(?online at: <http://www.journal.lemigas.esdm.go.id/ojs/index.php/LPMGB/article/view/26/27>)

('Sequence stratigraphic analysis for identification of carbonate reservoir compartmentalization of the Ngimbang Formation in the Suci Block, NE Java Basin'. Study of wells and seismic sections indicates Ngimbang carbonate reservoirs deposited in Late Eocene- E Oligocene in inner neritic- upper bathyal environments, shallow in W (KMI-1) to deeper in E (Suci- 2). Three separate units, including Late Eocene carbonate platform facies around Suci-2, Eocene- basal Oligocene carbonate platform facies around KMI-1 and Suci 2 and upper E Oligocene reef facies around Suci 1 well. Gas accumulation only in Suci-1)

Park, R.K. (2003)- A modern carbonate environment and model for hydrocarbon exploration and development: Pulau Seribu Field Trip, May 17-20, 2003. Indon. Petroleum Assoc., Jakarta, p.

Park, R.K., A. Matter, P.C. Tonkin (1995)- Porosity evolution in the Batu Raja carbonates of the Sunda Basin - windows of opportunity. Proc. 24th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 163-184.

(Much of E Miocene Batu Raja carbonate porosity of meteoric freshwater leaching origin, associated with 4th and 5th order cycles of sea level change. Composite LBR facies map Krisna-Yvonne area)

Park, R.K., C.T. Siemers & A.A. Brown (1992)- Holocene carbonate sedimentation, Pulau Seribu, Java Sea- the third dimension. In: C.T. Siemers, M.W. Longman et al. (eds.) Carbonate rocks and reservoirs of Indonesia: a Core workshop. Indon. Petroleum Assoc. (IPA), Jakarta, p. 2-1 to 2-39.

(Shallow core holes on Thousand Islands off Jakarta show ~30m of coral-dominated carbonate, formed mainly between 10,000- 4500 yrs BP. Overall cementation limited. Porosities- permeabilities very high in relatively unaltered Holocene carbonate sediment, especially in coral-rudstone rampart deposits)

Parkinson, C.D., K. Miyazaki, K. Wakita, A.J. Barber & D.A. Carswell (1998)- An overview and tectonic synthesis of the pre-Tertiary very-high-pressure metamorphic and associated rocks of Java, Sulawesi and Kalimantan, Indonesia. *The Island Arc* 7, 1-2, p. 184-200.

(High-P metamorphic rocks in Cretaceous accretionary complexes of Java, Sulawesi and SE Kalimantan. Predominantly low-intermediate metamorphic grade and 110-120 Ma K-Ar radiometric ages. Metamorphic rocks exhumed from greater depths include eclogite and jadeite-glaucophane-quartz rock in Luk Ulo, C Java. Many metamorphic rocks recrystallized in N-dipping subduction zone at margin of Sundaland craton in E Cretaceous. Exhumation possibly facilitated by collision of Gondwanan continental fragment with Sundaland margin at ~120-115 Ma)

Partakusuma, A. & M. Effendi (1977)- Production of Jatibarang volcanic rock. Proc. First Asean Conference, p. 377-384.

Patmosukismo, S. & I. Yahya (1974)- The basement configuration of the Northwest Java area. Proc. 3rd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 129-152.

(Onshore NW Java basin basement penetration in wells include granitoids, with K-Ar ages 94 Ma, 65 Ma (Jatibarang) and 58 Ma (Tangerang). Also metamorphic argillite at Pamanukan dated as ~213 Ma (Late Triassic))

Patonah, A. (2011)- Lingkungan tektonik ofiolit kompleks melange Ciletuh Jawa Barat berdasarkan pendekatan petrologi. *Bull. Scientific Contr. (UNPAD)* 9, 3, p. 139-151.

(online at: <http://journals.unpad.ac.id/bsc/article/view/8270>)

(Petrology/ geochemistry of partly metamorphosed ophiolite sequence in Ciletuh melange complex, SW Java. Composed of serpentinite, hartzburgite, dunite, gabbro and pillow basalt)

Patonah, A., Haryadi & B. Priadi (2009)- Petrology of high pressure metamorphic rocks from Luk Ulo Melange Complex, Karangsambung, Central Java-Indonesia. *Bull. Scientific Contr. (UNPAD)* 7, 1, p. 1-6.

(online at: <http://jurnal.unpad.ac.id/bsc/article/view/8228/3776>)

(Glaucophane schist from Luk Ulo melange complex at Lamuk. GOA and Kalimuncar with glaucophane, crossite, albite, quartz, rare lawsonite. Formed at 500-580 °C and 4- 14.5 kbar, in lower interval of subduction zone. With some retrograde metamorphism. Radiometric age of mica schist ~85-102 Ma (Suparka 1987))

Patonah, A., F. Helmi, J. Prakoso & T. Widiaputra (2015)- Basement kompleks Bayah, Kabupaten Lebak, Propinsi Banten. *Bull. Scientific Contr. (UNPAD)* 13, 3, p. 182-191.

(online at: <http://jurnal.unpad.ac.id/bsc/article/view/8405/3912>)

('Bayah basement complex, Lebak District, Banten Province'. Metamorphic rocks believed to be basement of Bayah complex in SW Java exposed at reverse fault, together with younger rocks (Eocene Bayah Fm and Oligocene Cihara granodiorite). With foliation, boudinage and crenulation structures. Multiple types of metamorphic rocks (mica schist, amphibolite schist), low-high grade metamorphism and different protoliths, interpreted as result of intermediate pressure metamorphism)

Patonah, A. & H. Permana (2010)- Petrologi amfibolit kompleks melange Ciletuh, Sukabumi, Jawa Barat. *Bull. Scientific Contr. (UNPAD)* 8, 2, p. 69-77.

(online at: <http://jurnal.unpad.ac.id/bsc/article/view/8245>)

(Amphibolite in Ciletuh melange complex associated with serpentinite, harzburgite, dunite, gabro and basalt. Dominated by amphibole, andesine and rare quartz. Formed at P 5-6 kbar, T 640-660°C. Amphibolites result of ophiolite obduction, with retrograde metamorphism to amphibolites epidote during accretion and uplift in Late Oligocene)

- Patonah, A. & I. Syafri (2014)- Karakteristik batuan metamorf Bayah di Desa Cigaber, Kabupaten Lebak, Provinsi Banten. Bull. Scientific Contr. (UNPAD) 12, 2, p. 92-98.
(online at: <http://jurnal.unpad.ac.id/bsc/article/view/8369/pdf>)
(*'Characteristics of Bayah metamorphic rocks in Cigaber village, Lebak, Banten Province'. Metamorphic rocks in Bayah Complex dominated by biotite schist, some actinolite schist, hornblende schist and chlorite schist. Regional metamorphism with retrograde metamorphism, probably during Eocene- Oligocene uplift*)
- Patriani, E.Y. (2011)- Studi biofasies formasi foraminifera berumur Miosen Tengah pada batuan karbonat di Pegunungan Selatan, daerah Wonosari, D.I.Yogyakarta. M.Sc. Thesis, Inst. Teknologi Bandung (ITB), p. (Unpublished)
(*'Study of foraminifera biofacies in the Middle Miocene carbonate formations in the Southern Mountains, Wonosari area, D.I.Yogyakarta'*)
- Patriani, E.Y., S. Rijani & D. Sundari (2016)- Perubahan biofasies foraminifera pada batugamping di Pantai Baron dan Serpeng, Provinsi D.I. Yogyakarta. J. Geologi Sumberdaya Mineral 17, 2, p. 61-71.
(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/19/18>)
(*'Foraminifera biofacies change in the limestone at Baron Beach and Serpenge, Yogyakarta Province'. E-M Miocene Wonosari Fm limestones at Baron Beach and Serpeng area of S Mountains. Two groups of carbonate facies: (1) at base basinal, with planktonic foraminifera, (2) overlain by foreslope, with Cycloclypeus, Katacycloclypeus annulatus and Amphistegina. Also Lepidocyclina and Miogypsina*)
- Pendowo, B. & H. Samodra (1997)- The geology of the Besuki quadrangle, East Java (Quadrangle 1600-3), scale 1: 100,000, 2nd Ed., Geol. Res. Dev. Centre (GRDC), Bandung, 10p.
(*Second edition of 1991 map in E Java. Folded Late Miocene- Pliocene sediments with zircon-bearing tuff of 7.3Ma age. Late Pliocene- Recent volcanics. Late Pliocene (2 Ma) leucite-bearing volcanics of G. Ringgit unconformably overlain by Pleistocene volcanics of Ringgit, Argopuro, Old Ijen, etc.*)
- Perdana, L.A., Amrizal & I.G.B.E. Sucipta (2008)- The P-T path of metamorphic rocks from Karangsambung area, Kebumen, Central Java. Proc. 37th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 1, p. 139-147.
(*Lok Ulo Cretaceous tectonic melange complex consists of dismembered ophiolites, sedimentary rocks, and schists and gneisses as tectonic slabs in black-shale matrix. High pressure metamorphism in Karangsambung area produced metamorphic rock between glaucophane blueschist and eclogite, formed at depth of ~35-50 km. Eclogites were subducted to ~70 km depth at geothermal gradient of ~6 C°/km*)
- Perdana, R., M. Haikal, W.K. Hidajat & Fahrudin (2016)- 3D strike-slip Fault model in Kendeng Zone using data combination of structural geological mapping and analogue sandbox modeling: a case study of the Kedungjati Fault, Grobogan District, Central Java Province. Proc. 40th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA16-288-SG, 17p.
(*Structural interpretation of area S of Kedungjati, W Kendeng zone, C Java. E-W trending thrust faults of M Miocene- younger sediments and younger N-S trending dextral strike-slip faults*)
- Permadi, R. & U.M. Saputra (2014)- Studi palinologi untuk sikuen stratigrafi di lintasan A Formasi Tapak, Cekungan Banyumas. Proc. 43rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, PIT IAGI 2014-279, 5p.
(*'Palynology study for sequence stratigraphy of track A, Tapak Formation, Banyumas Basin'. Palynology of 166 samples from 3 areas in Banyumas basin, C Java: Kedung Randu, Mount Tugel and Bunkanel. All with Stenochlaeniidites papuanus and within Late Pliocene Dacrycarpidites australiensis- Podocarpus imbricatus palynozone. Depositional environments from back-mangrove to mangrove. Three sequences identified. No samples location map*)
- Permana, A.K. (2007)- Studi sikuen stratigrafi anggota atas formasi Cibulakan, Cekungan Jawa Barat Utara. In: Geologi Indonesia: dinamika dan produknya, Geol. Res. Dev. Centre (GRDC), Bandung, Spec. Publ. 33, 2, p. 219-231.
(*Sequence stratigraphy study of short cored interval in Cibulakan Fm of well 'M-13', NW Java Basin*)

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Permana, H., E.Z. Gaffar, Sudarsono, H. Nurohman & S. Indarto (2015)- Struktur dan tektonik lereng selatan 'kaldera purba Garut-Bandung', Garut Selatan, Jawa Barat. In: H. Harjono et al. (eds.) Pros. Pemaparan Hasil Penelitian Geoteknologi 2015, Pusat Penelitian Geoteknologi (LIPI), Bandung, p. I51-I62.

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(*'Structure and tectonics of the southern slope of the 'Garut-Bandung ancient caldera', South Garut, W Java'*)

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(online at: <http://iopscience.iop.org/article/10.1088/1755-1315/118/1/012004/pdf>)

(*Luk Ulo Paleocene-Eocene melange complex composed of tectonic slices of rocks (serpentinite, gabbro, eclogite, blueschist, amphibolite, granite, chert, etc.) in scaly clay matrix. Metamorphic rocks formed in E Cretaceous (101-125 Ma) at 70-100 km depth and ~6°C/km thermal gradient. Basalt of subducted oceanic crust Cretaceous age (130-81 Ma) comparable to ages of cherts (Early-Late Cretaceous). Metabasic rocks (eclogite, blueschist, amphibolite) possibly originated as part of edge of microcontinent that merged as part of melange during collision with Eurasian margin*)

Permana, H., P.S. Putra, A.F. Ismayanto, I. Setiawan, M. Hendrizan & M.M. Mukti (2010)- Perkembangan cekungan antar-busur di daerah Majalengka- Banyumas: sejarah tektonik kompleks di wilayah batas konvergensi. Proc. 39th Ann. Conv. Indon. Assoc. Geol. (IAGI), Lombok, PIT-IAGI-2010-232, 8p.

(*'Intra-arc basin development in the region of Majalengka-Banyumas: complex tectonic history in convergent margin'. Majalengka - Banyumas area M- L Miocene intra-arc basin with E-W and NW-SE structural grains parallel to postulated intra-arc basin, which could be responsible for development of sub-basins and volcanic products through splay or duplex fault or pull apart related to oblique subduction. Middle-Late Miocene submarine-fan complex. Basin now inverted and forms mountain range*)

Permana, H., P.S. Putra, A.F. Ismayanto, I. Setiawan, M. Hendrizan & M.M. Mukti (2011)- Perkembangan cekungan antar-busur di daerah Majalengka- Banyumas: sejarah tektonik kompleks di wilayah batas konvergensi. J. Sumber Daya Geologi 21, 2, p. 77-90.

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('Some previously undescribed fossil wood species from Java'. Silicified wood from Bolang, 35km W of Bogor, dominated by Dipterocarpoxyton and Dryobalanoxylon, also Sapindoxylon and Parinarioxylon)

Piccoli, G. (ed.) (2001)- New studies on the Cenozoic fossil fauna of Nanggulan (Java Indonesia). *Memorie Scienze Geol.*, Padova, 53, p. 15-65.

(Collection of ten short papers by Italian students on Middle Eocene stratigraphy and molluscs of Nanggulan section, 20km W of Yogyakarta)

Piccoli, G. & Premonowati (2001)- New studies about molluscs from Eocene of Nanggulan (Java Indonesia). *Memorie Scienze Geol.*, Padova, 53, p. 17-22.

(Nanggulan exceptionally rich Eocene mollusc faunas, known since Verbeek & Fennema 1896. 300m thick mudstone-dominated section, subdivided into Axinea Beds at base, (Nummulites) Djokjokartae Beds in middle and Discocyclusina Beds at top, and mainly of Middle Eocene age)

Piccoli, G. & E. Savazzi (1983)- Five shallow benthic faunas from the Upper Eocene (Baron, Priabona, Garoowe, Nanggulan, Takashima). *Boll. Soc. Paleontologica Italiana* 22, 1-2, p. 31-47.

(Comparison of five shallow marine benthic mollusc faunas from U Eocene of Tethys domain, incl. Nanggulan in C Java. Martin (1914-1931) created many new species names for molluscs from Nanggulan, considering them as endemic, but many are synonyms of S European species of same age. Eocene Nanggulan molluscs equatorial assemblages)

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(Two recent commercial biogenic gas discoveries in NW part of E Java Basin (Bawean Arch): Lengo (1998) and Mustika (2015). Also in JS15-1/ Kepodang field (1971). Gas reservoir in Miocene Kujung I carbonate platform; sourced from coal and carbonaceous shales of Kujung III Fm in Muriah Trough, <7000' deep and low geothermal gradient. Many wells in area found gas with very high CO₂ content. Lengo-1 biogenic gas 68% methane, 12% CO₂ and 20% Nitrogen)

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- Polhaupessy, A.A. & Sudijono (1985)- Palynological study of Quaternary formations in the Solo and Madiun areas. Geol. Res. Dev. Centre (GRDC), Bandung, Spec. Publ. 17, p. 109-117.
(Pollen analyses of Pucangan, Kabuh and Setri Formations. Predominance of Graminae pollen suggest widespread grass-dominated swamp and possibly savannah in all formations, suggesting Late Pliocene-Pleistocene climates more seasonal than today)
- Pott, G. (1942)- Summaries of the coal fields of (a) Bajah and Tjimandiri (South Bantam) and (b) Bodjongmanik (Bantam). Report Geological Survey, Bandung, p. *(Unpublished)*
- Pozzobon, M. (1997)- Le malacofaune Cenozoiche di Nanggulan e di Panggang Presso Yogyakarta (Giava, Indonesia); inquadrata nella fauna della Tetide. Thesis University of Padova, p. 1-151.
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- Pozzobon, M. (2001)- Some Eocene molluscs from Nanggulan and a new species of *Cyclina* (Bivalvia) in the Miocene mollusc assemblage from Panggang (Java, Indonesia). *Memorie Scienze Geol.*, Padova, 53, p. 36-40.
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(Ujung Pangkah Field 1998 oil-gas discovery off NE Java, N of Solo River delta. Reservoir Early Miocene platform margin carbonate reef build-up with complex reservoir properties and common faulting/ fractures. Fracture density decays quickly in about 200' from main faulting zone; prevailing fracture direction NE-SW)
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(North Seribu Trough, offshore NW Java, is hydrocarbon generative center. NST oils differ from established oil families of Ardjuna Subbasin and S Seribu Trough and probably generated from lacustrine facies of Talang Akar Fm in central NST depocenter)
- Pramono, W. & H. Amijaya (2008)- Geochemical characteristic of oil seepage in Bantal area, Semarang, Central Java. *Proc. 37th Ann. Conv. Indon. Assoc. Geol. (IAGI)*, Bandung, 1, p. 691-704.
(Oil seeps in Bantal area, 35 km SE of Semarang, at W end of Kendeng zone. Geochemical analysis shows n-alkane high in C8-C15 and C25-C28, pristane/phytane ratio >1, etc.. Oil from mixed algal and higher plant kerogens, deposited in lacustrine environment. Oil degraded. Possible source rock is shale below Pelang Fm)
- Pramumijoyo, S. & M. Sebrier (1991)- Neogene and Quaternary fault kinematics around the Sunda Strait area, Indonesia. *J. Southeast Asian Earth Sci.* 6, 2, p. 137-145.
(Sunda Strait transition zone from orthogonal subduction off Java to oblique subduction off Sumatra. Opening of Sunda Strait consequence of right lateral movement of Sumatran Fault System-SFS. Two main kinematics on faults around Sunda Strait area: dextral strike-slip and normal. Strike-slip deformations in Miocene or older rocks, Pliocene and younger formations only normal faulting. Dextral slip on SFS began during M Miocene and normal faulting prevailed in Sunda Strait since 5 Ma, controlling bathymetry of Sunda Strait)

Praptisih (2016)- Karakteristik batuan induk hidrokarbon dan hubungannya dengan rembesan minyak di lapangan minyak Cipluk, Kabupaten Kendal, Provinsi Jawa Tengah. *Bul. Sumber Daya Geologi* 11, 2, p. 93-101.

(online at: <http://buletinsdg.geologi.esdm.go.id/index.php/bsdg/issue/archive>)

'Characteristics of hydrocarbon source rock and its relation to oil seepage in the Cipluk oil field, Kendal Regency, Central Java province'. Oil from seep S of Sojomerto near abandoned Cipluk oil field, WSW of Semarang, is mature and from estuarine-shallow lacustrine source rocks, with organic material derived from land plants. Does not correlate to nearby gas-prone Kerek and Penyatan Fms)

Praptisih (2016)- Fasies, lingkungan pengendapan dan sifat fisik (kesarangan dan kelulusan) batuan karbonat Formasi Parigi di daerah Pangkalan Karawang, Jawa Barat. *J. Geologi Sumberdaya Mineral* 17, 4, p. 205-215.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/13/6>)

'Facies, depositional environment and physical properties (porosity and permeability) of the Parigi Formation carbonate rocks in area Pangkalan Karawang area, West Java'. Facies and facies distribution of M-L Miocene Parigi Fm limestones in Pangkalan area, NW Java. Porosity up to 25.8%, permeability up to 21.2 mD)

Praptisih (2016)- Fasies batuan karbonat di daerah Bojongmangu Bekasi, Jawa Barat. In: R. Delinom et al. (eds.) *Pros. Geotek Expo 2016, Pusat Penelitian Geoteknologi (LIPI), Bandung*, p. 255-264.

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*'Facies of carbonate rocks in Bojongmangu area, Bekasi, West Java'. M Miocene Parigi Fm outcrops in Bojongmangu- Bekasi area. With *Lepidocyclina (Trybliolepidina) rutteni*, and N17 planktonics. Four reef slope facies)*

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*'Study of sediments of the Cinambo Formation in the Sumedang area, West Java'. Age of Cinambo Fm upper bathyal marine turbiditic series in Sumedang area is M Miocene, based on presence of *Globorotalia peripheroacuta*, *Gr. praefohsi*, *Gr. fohsi*, etc.)*

Praptisih (2017)- Geokimia batuan induk hidrokarbon Formasi Cinambo di daerah Sumedang, Jawa Barat. *Bul. Sumber Daya Geologi* 12, 3, p. 144-153.

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(Geochemistry of the Cinambo Formation hydrocarbon rocks in the Sumedang area, West Java'. 16 samples of claystone from Miocene Cinambo Fm with TOC 0.32-1.5% (low hydrocarbon potential). Organic matter mainly gas-prone Type III kerogen. Biomarkers suggest no correlation with oil seepage in Majalengka area)

Praptisih (2018)- Biomarker characteristics of source rock and oil seepage correlation in Central Java. *Proc. Global Colloquium on GeoSciences and Engineering, Bandung 2017, IOP Conf. Series, Earth Environm. Science* 118, 012008, p. 1-7.

(online at: <http://iopscience.iop.org/article/10.1088/1755-1315/118/1/012008/pdf>)

(Oil seepage in different parts of C Java. Biomarkers of rocks and oils suggest oil seepage in Banjarnegara derived from Totogan Fm, Bayat oil derived from Wungkal Fm. Cipluk oil deposited in estuarine facies, therefore not from Kerek Fm. Oils in Kedungjati and Bantal areas not from Kerek and Pelang Fms)

Praptisih & Kamtono (2002)- Fasies turbidite pada Formasi Halang di daerah Cilacap Utara, Jawa Tengah. *Buletin Geologi (ITB)*, 34, 3, Special Ed. (Prof. Soejono Martodjojo volume), p. 133-140.

(Turbidite facies of the Halang Formation in the North Cilacap area, Central Java')

Praptisih & Kamtono (2011)- Fasies turbidit Formasi Halang di daerah Ajibarang, Jawa Tengah. *J. Geologi Indonesia* 6, 1, p. 13-27.

(online at: www.bgl.esdm.go.id/publication/index.php/dir/article_detail/299)

('Turbidite Facies of the Halang Fm in the Ajibarang area, C Java'. M Miocene- E Pliocene Halang Fm turbidites N of Cilacap deposited in middle fan setting of submarine fan system. Clastic source from SSW)

Praptisih & Kamtono (2012)- Studi potensi batuan induk Formasi Jatiluhur di daerah Bogor, Jawa Barat. Proc. 41st Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 2012-E-03, 5p.

(Study of source rock potential of Miocene Jatiluhur Fm in Bogor area suggest only minor gas potential)

Praptisih & Kamtono (2014)- Carbonate facies and sedimentation of the Klapanunggal Formation in Cibinong, West Java. Indonesian J. Geoscience 1, 3, p. 175-183.

(online at: <http://ijog.bgl.esdm.go.id/index.php/IJOG/article/view/198/185>)

(Miocene Klapanunggal Fm (=Parigi Fm) limestone well exposed in and near Cibinong, W Java. Carbonates in four facies (1) reef front to reef crest boundstone, (2) slope, and back-reef lagoon packstones, (3) reef front rudstone and (4) lower slope limestone breccia. Reef front and slope facies in N-NE, reef crest and back reef lagoon to S-SW)

Praptisih & Kamtono (2016)- Potensi batuan induk hidrokarbon pada Formasi Cinambo di daerah Majalengka, Jawa Barat. J. Geologi Sumberdaya Mineral 17, 1, p. 1-11.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/25/25>)

('Hydrocarbon source rock potential of the Cinambo Formation in the Majalengka area, West Java'. Clays of Late Miocene Cinambo Fm S of Majalengka E of Bandung mainly Type III kerogen, oil and gas prone)

Praptisih, Kamtono, P.S. Putra & M. Hendrizen (2009)- Karakteristik batuan sumber (source rock) hidrokarbon pada Formasi Batuasih di daerah Sukabumi, Jawa Barat. J. Geologi Indonesia 4, 3, p. 167-175.

(online at: www.bgl.esdm.go.id/publication/index.php/dir/article_detail/250)

('Characteristics of hydrocarbon source rocks of the Batuasih Formation in the Sukabumi area, West Java'. Oligocene Batu Asih Fm marine claystone in Sukabumi area poor to fair organic richness and gas prone)

Praptisih, Kamtono & M.S. Siregar (2007)- The hydrocarbon source rock potential of the Rambatan Formation in the Banjarnegara area, S Central Java. Proc. Joint Conv. 32nd HAGI, 36th IAGI and 29th IATMI, Bali 2007, p. 692-703.

(E-M Miocene Rambatan Fm in N of Banjarnegara, S Central Java, potential for generating small amounts of oil and gas. Area with oil and gas seeps)

Praptisih, Kamtono, M.S. Siregar & E.A. Subroto (2007)- Studi batuan induk pada sub cekungan Serayu Utara, Banjarnegara dan sekitarnya, Jawa Tengah. In: A. Tohari et al. (eds.) Pros. Seminar Geoteknologi Kontribusi ilmu kebumih dalam pembangunan berkelanjutan, Puslitbang Geotekn. (LIPI), Bandung, p. 1-6.

(online at: <http://pustaka.geotek.lipi.go.id/index.php/2016/01/20/prosiding-2007/>)

('Study of source rock in the North Serayu sub-basin, Banjarnegara and surroundings, Central Java'. Totogan Fm TOC up to 2.1%, Tmax 405-489°C. Hydrogen Index (HI) 16-86 mg HC/TOC, indicating minor gas potential. Rambatan Fm up to 1.6% TOC, Tmax: 435-458°C and HI 47-163 mg HC/TOC, show minor oil and gas potential. Most organic material land-derived (oleanane, resin))

Praptisih, Kamtono, P. Sulastya & M. Hendrizen (2010)- Studi batuan induk di daerah Padalarang dan sekitarnya, Jawa Barat. Proc. 39th Ann. Conv. Indon. Assoc. Geol. (IAGI), Lombok, PIT-IAGI-2010-325, 8p.

('Study of source rocks in the Padalarang area'. Oligocene claystone Member of Rajamandala Fm shows TOC value 0.50- 1.17%, fair- good for hydrocarbons. T max 422- 524°C, indicating one mature sample and 10 immature. Rock Eval analysis shows HI values from 63- 113 mg HC/g)

Praptisih, Kamtono, P. Sulastya & M. Hendrizen (2009)- Batuan induk (source rock) hidrokarbon di sub cekungan Bogor bagian Selatan, Jawa Barat. In: I. Setiawan et al. (eds.) Pros. Pemaparan Hasil Penelitian Geoteknologi 2009, Pusat Penelitian Geoteknologi (LIPI), Bandung, p. 183-192.

(online at: <http://pustaka.geotek.lipi.go.id/index.php/2016/01/20/prosiding-2009/>)

('Hydrocarbon source rocks in the southern part of the Bogor Basin, West Java'. Oligocene Batuasih Fm claystones from Gunung Walat area near Sukabumi potential hydrocarbon source rocks. TOC 0.49-1.72%. Level of maturity. between 424- 524° C)

Praptisih & M.S. Siregar (2002)- Petrografi dan fasies batugamping Formasi Wonosari di daerah Bayat, Jawa Tengah. In: Proc. Sumberdaya geologi daerah istimewa Yogyakarta dan Jawa Tengah, Ikatan Ahli Geologi Indonesia (IAGI), Pengda DIY-Jateng, p. 32-40.

('Petrography and limestone facies of the Wonosari Fm in the Bayat area, C Java')

Praptisih & M.S. Siregar (2011)- Fasies karbonat Formasi Campurdarat di daerah Tulungagung, Jawa Timur. Proc. Joint 36th HAGI and 40th IAGI Ann. Conv., Makassar, JCM2011-236, 9p.

*('Carbonate facies of the Campurdarat Formation in the Tulungagung area, E Java'. Facies of E-M Miocene limestone in S Mountains. Larger forams *Lepidocyclina* and *Miogypsina* suggestive of Zone Te (could be Lower Tf?; JTvG). Interpreted as E Miocene barrier reef system)*

Praptisih & M.S. Siregar (2012)- Fasies karbonat Formasi Campurdarat di daerah Tulungagung, Jawa Timur. J. Sumber Daya Geologi 22, 2, p. 65-72.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/107/99>)

(Same paper as Praptisih and Siregar (2011) above)

Praptisih, M.S. Siregar, M. Hendrizan & P.S. Putra (2009)- Fasies batuan karbonat di daerah Klapanunggal, Bogor. In: I. Setiawan et al. (eds.) Pros. Pemaparan Hasil Penelitian Geoteknologi 2009, Pusat Penelitian Geoteknologi (LIPI), Bandung, p. 173-181.

(online at: <http://pustaka.geotek.lipi.go.id/index.php/2016/01/20/prosiding-2009/>)

('Facies of carbonate rocks in the Klapanunggal area, Bogor'. M? Miocene Parigi Fm reefal limestones commonly called Klapanunggal Fm in Cibinong area. Four facies associations)

Praptisih, S. Siregar & Kamtono (2004)- Studi fasies batugamping di daerah Tasikmalaya dan sekitarnya, Jawa Barat. Proc. 33rd Ann. Conv. Indon. Assoc. Geol. (IAGI), p. 52-59.

(M and Late Miocene reefal limestone in Tasikmalaya area; not much stratigraphic detail)

Praptisih, S. Siregar & Kamtono (2008)- Study fasies batugamping Eosen di daerah Banjarnegara, Jawa Tengah. Proc. 37th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 1, p. 208-211.

*('Study of Eocene limestone facies in the Banjarnegara area, C Java'. Late Eocene limestone at Gunung Karang in Wora-Wari area >10m thick olistolith in Oligocene Totogan Fm. Foraminiferal packstone-grainstone and boundstone facies with *Nummulites*, *Asterocyclina*, *Discocyclina*, *Spiroclypeus*, *Pellatispira*, red algae, etc., deposited in fore-reef facies)*

Praptisih, M.S. Siregar, Kamtono, M. Hendrizan & P.S. Putra (2012)- Fasies dan lingkungan batuan karbonat Formasi Parigi di daerah Palimanan, Cirebon. J. Riset Geologi Pertambangan (LIPI) 22, 1, p. 33-43.

(online at: www.geotek.lipi.go.id/riset/index.php/jurnal/article/viewFile/44/6)

*('Facies and environment of Parigi Fm carbonates in the Palimanan area, Cirebon'. Outcrop of Parigi Fm in the anticlinal structure of Kromong carbonate complex, Palimanan area. Seven facies, including boundstones, foraminiferal packstones, etc. Depositional environment reef and associated facies, with reef front in NE and back reef in SW. Foraminifera believed to indicate Early Miocene age (but faunal list includes mixture of E Miocene (*Te5*; *Spiroclypeus*, *Miogypsinoides*) and M Miocene (*Tf1-2*; *Cycloclypeus annulatus*); JTvG)*

Praptisih, M.S. Siregar, Kamtono & A. Rachmat (2002)- Studi fasies batugamping Formasi Kalipucang di daerah Kedung Glunggung Karangbolong, Gombang, Jawa Tengah. Proc. 31st Ann. Conv. Indon. Assoc. Geol. (IAGI), Surabaya, 2, p. 850-857.

*('Facies study of limestone of the Kalipucang formation in the Kedung Glunggung area, Karangbolong, Gombang, Central Java'. *Lepidocyclina* packstone facies in S Mountains of C Java interpreted as foreslope of M Miocene Karangbolong reef system)*

Prasetyadi, C. (2007)- Evolusi tektonik Paleogen Jawa Bagian Timur. Doct. Thesis Inst. Teknologi Bandung (ITB), p. 1-323. (*Unpublished*)
(*'Paleogene tectonic evolution of East Java'. Luk Ulo melange complex of latest Cretaceous- Paleocene age. Luk Ulo Pretertiary structural grain NE-SW or NNE-SSW. K-Ar ages of ophiolite-associated schist 110-125 Ma (block), siliceous shale 90-115 Ma*)

Prasetyadi, C. (2008)- Provenan batupasir Eosen Jawa bagian Timur. Proc. 37th Conv. Indon. Assoc. Geol. (IAGI), Bandung, 1, p. 80-97.
(*'Eocene sandstone provenance in East Java'. Eocene sediments in E half of Java at Luk Ulo-Karangsambung, Nanggulan, Bayat and in E Java basin. 37 outcrop samples range from arkosic to arenitic sst, with quartz as dominant component (av. 65% range 35-98%), feldspar 2-27%, lithics 2-45%. Metamorphic rock grains dominate in most samples. Data suggest two different provenance areas: recycled orogen in Karangsambung and craton interior in Nanggulan, Bayat and E Java basin. Karangsambung lies in accretionary basement area, Nanggulan-Bayat in continental basement area (E margin of E Java microcontinent?)*)

Prasetyadi, C. (2008)- Exploring Jogja geoheritage: the lifetime of an ancient volcanic arc in Java. 10p.
(*Fieldtrip guide S of Yogyakarta*)

Prasetyadi, C., A.H. Harsolumakso, B. Sapiie & J. Setiawan (2002)- Tectonic significance of pre-Tertiary rocks of Jiwo Hill, Bayat and Luk Ulo, Karangsambung areas in Central Java: a comparative review. Proc. 31st Ann. Conv. Indon. Assoc. Geol. (IAGI), Surabaya, 2, p. 680-700.
(*Pretertiary rocks in Karangsambung (Luk Ulo subduction melange) and Bayat areas similar metamorphic rocks and SE-NW (WSW-ENE?) 'Meratus' structural trends. Karangsambung more 'ocean plate stratigraphy', with ultrabasic rocks and mid-Cretaceous pelagic cherts in sheared clay matrix (mainly in N), and with boudinage features sandstone beds in S part. Jiwo/ Bayat area possibly more continental, without 'block-in-matrix' structure, with (undated) Pretertiary phyllites and schists overlain by M Eocene clastics and Nummulites limestones, overlain by 'Old Andesites' (mainly marine) arc volcanics. Karangsambung probably closer to trench than Bayat*)

Prasetyadi, C. & M. Maha (2004)- Jiwo Hills, Bayat-Klaten: a possible Eocene-origin paleohigh. Jurnal Ilmu Kebumihan Teknologi Mineral (UPN, Yogyakarta) V, 17, 2, p. 61-64.

Prasetyadi, C., M.G. Rachman, S.E. Hapsoro, A. Shirly, A. Gunawan & I. Purwaman (2016)- Seismic-based structural mapping of RMKS fault zone: implication to hydrocarbon accumulation in East Java Basin. Proc. GEOSEA XIV and 45th Ann. Conv. Indon. Assoc. Geologists (IAGI) (GIC 2016), Bandung, p. 104-107.
(*Rembang-Madura-Kangean-Sakala (RMKS) Fault zone in NE Java and further East is sinistral slip fault which started to develop in M Miocene. E-W trending*)

Prasetyadi, C., I. Sudarno, V.B. Indranadi & Surono (2011)- Pola dan genesa struktur geologi Pegunungan Selatan, provinsi daerah Istimewa Yogyakarta dan provinsi Jawa Tengah. J. Sumber Daya Geologi 21, 2, p. 91-107.
(*online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/138/135>*)
(*'The pattern and genesis of geological structure of the Southern Mountains, provincial areas of Yogyakarta and Central Java province'. S Mountains structures dominated by faults, mainly oriented NE-SW (16) and N-S (14) and mainly sinistral, some reactivated as normal faults. Others oriented NW-SE (3) and E-W (3) and mainly dextral and normal faults*)

Prasetyadi, C., E.R. Suparka, A.H. Harsolumakso & B. Sapiie (2005)- Eastern Java basement rock study: preliminary results of recent field study in Karangsambung and Bayat areas. Proc. 34th Conv. Indon. Assoc. Geol. (IAGI), Surabaya, p. 310-321.
(*Karangsambung basement mid-Cretaceous- Paleocene subduction complex, characterized by tectonic block-in-matrix structure. Melange structural dip mostly to S-SE, opposite of expected for NW-dipping subduction zone, therefore interpreted as overturned. With M Cretaceous limestone blocks with Orbitolina. Melange overlain by*

Eocene clastics. Bayat basement mostly phyllite and schists of unknown age, unconformably overlain by Eocene and M Miocene sediments)

Prasetyadi, C., E.R. Suparka, A.H. Harsolumakso & B. Sapiie (2006)- An overview of Paleogene stratigraphy of the Karangsambung area, Central Java: discovery of new type of Eocene rock. Proc. Int. Geosci. Conf. Exhib., Indon. Petroleum Assoc. (IPA), Jakarta 2006, 06-PG-09, 4p.

(First record of Early Eocene larger forams and M-L Eocene limestone blocks in metamorphosed tectonic melange Larangan area in N part of Luk Ulo melange complex, suggesting Late Eocene (collisional?) deformation after Cretaceous- Paleocene subduction-related deformation. E Eocene metasedimentary unit generally dips to S)

Prasetyadi, C., E.R. Suparka, A.H. Harsolumakso & B. Sapiie (2006)- The occurrence of a newly found Eocene tectonic melange in Karangsambung area, Central Java. Proc. 35th Conv. Indon. Assoc. Geol. (IAGI), Pekanbaru, 16p.

(Discovery of M Eocene Asterocyclina-bearing limestone blocks in polymict Larangan Complex at N side of Luk Ulo Melange complex indicates age of tectonic melange not only Cretaceous-Paleocene, but also M-L Eocene. Shifting of NE-SW Cretaceous subduction trend to Oligocene E-W trend due to collision of microcontinent. Two deformation phases prior to onset of 'Old Andesite' subduction-related volcanism: Cretaceous-Paleocene subduction-related and Late Eocene post subduction (collisional?) deformation)

Prasetyadi, C., E.R. Suparka, A.H. Harsolumakso & B. Sapiie (2006)- The Larangan Complex: a newly found Eocene tectonic melange rock in Karangsambung area, Central Java, Indonesia. Proc. 17th Int. Geological Congress, Fukuoka, 1p. *(Abstract only)*

(Karangsambung melange complex does not only include Cretaceous-Paleocene Luk Ulo Complex, but also Eocene Larangan complex with M Eocene Asterocyclina-bearing limestone in melange)

Prasetyanto, I.W., Widodo & D. Wintolo (1997)- Mineralisasi logam mulia di Kecamatan Selogiri, Kabupaten Wonogiri, Propinsi Jawa Tengah. Proc. 17th Ann. Conf. Indon. Assoc. Geol. (IAGI), Jakarta, p. 865-869.

('Mineralization of precious metals in Selogiri, Wonogiri District, Central Java')

Prasetyo, A., J. Romora S., Yeftamikha, Fransiskus L.B & I.S. Nugroho (2016)- A petrographical review of metamorphic rocks from Ciletuh Complex in West Java and their related metamorphism in Central Indonesia region. In: R. Hidayat et al. (eds.) Proc. 9th Seminar Nasional Kebumihan, Dept. Teknik Geologi, Gadjah Mada University, Yogyakarta, p. 624-633.

(online at: <https://repository.ugm.ac.id/273596/>)

(Ciletuh Cretaceous subduction complex in SW Java. Metamorphic rocks in Gunung Badak area consist of Grt-Ms-Qz schist, Ms phyllite, quartzite and serpentinite. In Tegal Pamidangan area Ms-Qz phyllite and slate (greenschist-facies). Protoliths of metamorphic rocks pelitic, ultramafic and quartz-rich rocks. No blueschist or eclogite-facies rocks recognized (but reported by endang suhaeli et al. 1977). Presence of serpentinite among low-grade metamorphic rocks indicates metamorphic environment associated with oceanic crust/ mantle. Similar to Jiwo Hills, C Java, metamorphics)

Prasetyo, U., Aswan, Y. Zaim & Y. Rizal (2012)- Perubahan lingkungan pengendapan pada beberapa daerah di Pulau Jawa selama Plio-Plistosen berdasarkan kajian paleontologi moluska. Jurnal Teknologi Mineral (ITB) 19, 4, p. 173-180.

('Changes in depositional environment in some areas of Java during the Plio-Pleistocene based on paleontological studies of mollusks'. Three areas studied in W and C Java (in Bogor, N Serayu and Bobotsari Basins), all showing transition from shallow marine facies (with Turritella) in Late Pliocene to marginal marine (with Melanoides, Sulcospira, Tellina, Paphia) and non-marine (no molluscs) in Pleistocene (also as U.P. Wibowo ITB S2 Masters Thesis, 2009))

Pratomo, K.H., A. Sudjai, A. Bachtiar, M. Syaiful, D. Rahayu, P.H. Narendra et al. (2009)- Tuban and Camar troughs (East Java basin) revival: new insight. Proc. 38th Ann. Conv. Indon. Assoc. Geol. (IAGI), Semarang, PITIAGI2009-189, 4p.

(Tuban and Camar Troughs in Offshore NE Java Basin surrounded by dry holes and generally condemned as lean, shallow and inadequate hydrocarbon kitchens. Recent well post-mortem re-evaluation and remapping of kitchens modifies understanding of petroleum system. Oil shows present in Tuban-1 and other dry holes may also have oil- gas show. Re-mapping of Tuban and Camar kitchen area better understanding of development of Pre-CD lacustrine-fluvial-deltaic source rock in these lows)

Prayitno, W., J.W. Armon & S. Haryono (1992)- The implications of basin modeling for exploration- Sunda Basin case history, offshore southeast Sumatra. Proc. 21st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 379-416.

Prawiranegara, D.A.R., F.E. Saputra, F. Raseno, B.H. Utomo, A. Sani & A. Wahid (2016)- Understanding the petroleum system of North Serayu Basin: an integrated approach from geology, geophysics and geochemistry. Proc. 40th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA16-63-SG, 27p.
(Review of N Serayu basin NE of Slamet volcano in C Java. Many oil seeps and all elements of viable petroleum system, but no commercial hydrocarbons. Rambatan and Halang Fms potential reservoirs of magmatic arc provenance. Volcanic gravity tectonics in Pleistocene considerable influence on petroleum play)

Premonowati, I. (1990)- Pliocene mollusca from Kalibiuk and Damar Formations in Semarang area of Central Jawa, Indonesia. Buletin Geologi (ITB) 20, p. 37-49.

Premonowati (1996)- Biostratigrafi dan spesiesasi koral Formasi Rajamandala, Jawa Barat. Proc. 25th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 2, p. 31-51.
(Coral biostratigraphy of the Rajamandala Formation'. Late Oligocene, W Java)

Premonowati (1998)- Identifikasi perubahan terumbu terhadap fluktuasi muka laut Formasi Paciran daerah Jawa Timur Utara. Proc. 27th Ann. Conv. Indon. Assoc. Geol. (IAGI), 2 (Sed. Pal. Strat.), Yogyakarta, p. 37-47.
(On identification of sea level fluctuations in Paciran Fm reefal limestones, Tuban area, NE Java. Reef 1 125m above sealevel today, age ~5.4 Ma. Reef 3 157m a.s.l., age 4.2 Ma. Reef 5 194m a.s.l., age 3.4 Ma. Reef 7 50-12.5m a.s.l., age 0.94-2.1 Ma))

Premonowati (2001)- Geologi Formasi Paciran- daerah pantai utara Jawa Timur. Majalah Geologi Indonesia 16, 1, p. 1-14.
(Geology of the Paciran Formation in the area of the East Java north coast'. Facies study of Paciran Fm reefal limestone along N coast of NE Java shows 5 eustatic cycles. Age here shown as Late Miocene- Holocene)

Premonowati (2005)- Stratigrafi terumbu Formasi Paciran daerah Tuban. Ph.D. Thesis Inst. Teknologi Bandung (ITB), p. 1-291. *(Unpublished)*
(Reef stratigraphy of the Paciran Formation in the Tuban area'. Plio-Pleistocene Paciran carbonate platform formed since 4 Ma (N19). Twelve reefal units, each 25-50m thick. Reefs 1-9 indicate rhythmic rel. sea level changes; Reef 7 is maximum flooding surface, Reefs 9- 12 indicate sea level drop. Reef 1 deposited in Zone N18, Reef 2 at 5 Ma (Zone N19), and Reef 12 (youngest) 6000 years ago in last interglacial. Tectonic uplift caused Paciran Fm outcrops at 335m above sea level now)

Premonowati, R.P. Koesoemadinata, Harsono Pringgoprawiro & W.S. Hantoro (1999)- Ecological stratification in the Holocene reef of Paciran Formation: a case study from Tanjung Kodok, Lamongan, East Java. Proc. 28th Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, 3, p. 57-74.
(In Indonesian. Holocene reef at Tanjung Kodok, at NE Java coast, with 5 periods of buildup)

Premonowati, R.P. Koesoemadinata, Harsono Pringgoprawiro & W.S. Hantoro (2000)- Paciran reef stratigraphy, Tuban area, East Java, based on accumulative induction methods approach. Proc. 29th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 4, p. 61-68.
(Large Paciran reef complex of NE Java 5 phases of growth in Pliocene- Recent, based on terrace morphology, paleosoil distribution, etc.)

- Premonowati, R.P. Koesoemadinata, Harsono Pringgoprawiro & W.S. Hantoro (2005)- Stratigrafi terumbu Formasi Paciran daerah Tuban. *Jurnal Teknologi Mineral (ITB)* 12, 1, p.
(*Summary of Premonowati thesis work on Pleistocene Paciran limestone, Tuban area, NE Java*)
- Premonowati, R.P. Koesoemadinata, Harsono Pringgoprawiro & W.S. Hantoro (2004)- Stratigrafi isotop oksigen dan karbon dari Formasi Paciran Jawa Timur. In: I. Zulkarnain et al. (eds.) *Proc. Seminar on Nuclear Geology and Mining Resources*, Jakarta 2004, p. 208-219.
(*Oxygen and Carbon isotope stratigraphy of Paciran Fm, East Java'. Oxygen and carbon isotopes analyzed from 25 samples of unaltered calcite, to determine paleotemperature fluctuations and to validate sea level changes of Reef 1 to Reef 17 units from 4 Ma- now. Early reef formation (reef 1 to reef 3 between 4- 2.9 Ma. From reef 4 - Reef 8 (2.6- 1.4 Ma) stagnant temperatures and almost warmer condition. After that drastic rise in paleotemperature*)
- Premonowati, R.P. Koesoemadinata, H. Pringgoprawiro & W.S. Hantoro (2006)- Model of reef development in response to sea level fluctuation and isotope stratigraphy of Paciran Formation, East Java, Indonesia. *Proc. 35th Ann. Conv. Indon. Assoc. Geol. (IAGI)*, Pekanbaru 2006, PITIAGI2006-039, 7p.
(*Oxygen and carbon isotope analysis from Paciran limestone Fm to validate sea level changes during Reef 1- Reef 12 formation between 4 Ma- Recent. Reef 1- Reef 3 (4- 2.88 Ma) temperatures warmer, Reef 4 (2.59 Ma)- Reef 8 (1.4 Ma) stagnant temperature and almost warmer. Warmer conditions at reef 8-Reef 10 formation (0.7 Ma). Temperatures fluctuating until Reef 12 (E Holocene)*)
- Premonowati, C. Prasetyadi, S. Rahardjo, J. Sinulingga, Y. Sulistiyana & D. Rukmana (2007)- Subsurface geological models of Semanggi brownfield, Cepu Block, Java. *Proc. Simposium Nasional IATMI, UPN -Veteran Yogyakarta 2007*, TS01, 6p.
(*online at: www.iatmi.or.id/assets/bulletin/pdf/2007/2007-01.pdf*)
(*Semanggi field 1900 BPM discovery, still producing 250 BOD from M Miocene Wonocolo IIIB (zone N8-N9) and M Miocene (N9) Ngrayong VII-VIII sandstones in anticlinal structure. W block more productive than E. Ten sequences in E-M Miocene U Tawun-Bulu interval. Modeled as transgressive-aggradational shallow marine sheet sands*)
- Premonowati, C. Prasetyadi, S. Rahardjo, J. Sinulingga, Y. Sulistiyana & D. Rukmana (2007)- Subsurface geological models of Semanggi, Cepu Block, Java. *Proc. Joint Conv. 32nd HAGI, 36th IAGI and 29th IATMI*, Bali 2007, p. 714-719.
(*Same as Premonowati et al. (2007), above*)
- Premonowati, B., Prastistho & I.M. Firdaus (2011)- Allostratigraphy of Punung paleoreef based on lithofacies distributions, Jlubang Area, Pacitan region, East Java. *Proc. Joint. 36th HAGI and 40th IAGI Ann. Conv.*, Makassar, JCM2011-055, 8p.
(*On M Miocene Punung Fm reefal limestone in S Mountains, E Java. Dominated by red algae. Not much detail*)
- Premonowati, B., Prastistho & I.M. Firdaus (2012)- Allostratigraphy of Punung paleoreef based on lithofacies distributions, Jlubang Area, Pacitan Region-East Java. *J. Geologi Indonesia* 7, 2, p. 113-122.
(*online at: www.bgl.esdm.go.id/publication/index.php/dir/article_detail/405*)
(*Same paper as above on Punung/Wonosari Fm reefal limestones in Jlubang area in Pacitan Regency, S Mountains of E Java. Dominated by red algae and seven phases in paleoreef complex*)
- Premonowati & W.B. Setyawan (1998)- Lingkungan fasies dan diagenesa batugamping Formasi Rajamandala-Jawa Barat. *Proc. 27th Ann. Conv. Indon. Assoc. Geol. (IAGI)*, 2 (Sed. Pal. Strat.), Yogyakarta, p. 125-139.
(*Relationship between facies and limestone diagenesis of the Rajamandala Formation, West Java'. Brief review of latest Oligocene Rajamanda carbonate platform (mainly from Koesoemadinata and Siregar 1984). Four lithofacies*)
- Premonowati & W.B. Setyawan (1999)- Carbonate facies of Pleistocene reef complex from Rembang basin, East Java. *Proc. 28th Ann. Conv. Indon. Assoc. Geol. (IAGI)*, Jakarta, 3, p. 47-56.

(In Indonesian. Four carbonate facies types and five stages of reef development in Pleistocene coral reef limestone at Tanjung Kodok near Paciran at NE Java coast)

Premonowati, Sudarmoyo, Agus W., Joko P., Budi E., Arief N. & Eka P. (2009)- Reservoirs of Zone 12, Zone 15 and Zone 16 of the Upper Cibulakan Formation, South Pamanukan Field, Northwest Java Basin- stratigraphic or structural traps? Proc. 38th Ann. Conv. Indon. Assoc. Geol. (IAGI), Semarang, 13p.
(Late Early Miocene (N7-N8) U Cibulakan Fm in S Pamanukan gas field, onshore NW Java basin, 190m thick, with 3 sandstone reservoir zones 3-9m thick. Possible stratigraphic traps)

Priadi, B. & A.S.S. Mubandi (2005)- The occurrence of plagiogranite in East Java, Indonesia. Proc. Joint Session 30th HAGI- 34th IAGI- 14th PERHAPI Ann. Conv., Surabaya, p.

Priadi, B., A.S.S. Mubandi, M.M. Wibawa, D. Osmon & I. Suroto (2005)- Geochemistry of the Tertiary low potassium volcanics in East Java, Indonesia. Buletin Geologi (ITB) 37, 1, p. 15-28.

Priadi, B. & I.G.B.E. Sucipta (1998)- Tholeiitic to alkaline Cenozoic magmatism in East Java Indonesia. Proc. 27th Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 3 (Geodin., Magmat. Volkanologi), p. 26-36.
(Oldest tholeiitic volcanic rocks in Java (28.3 Ma, Late Oligocene, Pacitan, S Mountains) indicate volcanic arc magmatism. Gradual enrichment in incompatible elements with time to Quaternary)

Priangga Utama, A., Sukandarrumicli & S. Wiyono (2005)- Genesa bentonit di kecamatan Wonosegoro Kabupaten Boyolalali, propinsi Jawa Tengah, dan rekayasa pemanfaatannya sebagai bahan baku produk keramik. Teknosains 18, 1, p.
(The genesis of bentonite at Wonosegoro district, Boyolali Residency, C Java, and its uses as ceramic material.' Bentonite layer in turbiditic clastics series in W Kendeng Zone fold belt, 40 km N of Boyolali, NE Java. Bentonite originated from devitrification of pyroclastic volcanic glass)

Pribadi, R. (2006)- Structural pattern and fault seal analysis of a potential hydrocarbon trap, East Java basin. Proc. Jakarta 2006 Int. Geosc. Conf. Exhib., Indon. Petroleum Assoc., Jakarta06-SPG-03, 3p. *(Extended Abstract)*

Prihatmoko (1998)- Prospectivity analysis of Java island for porphyry and epithermal deposits. M. Econ. Geol. Thesis, University of Tasmania, p. 1-73. *(Unpublished)*

Prihatmoko, S., A. Hendratno & A. Harijoko (2005)- Mineralization and alteration systems in Pegunungan Seribu, Gunung Kidul and Wonogiri. Proc. Joint 34th Ann. Conv. Indon. Assoc. Geol. (IAGI), 30th Indon. Assoc. Geoph. (HAGI), Surabaya, JCS2005-N090, p. 13-23.
(Two as yet non-commercial mineralization/ alteration systems identified around C Java Southern Mountains, i.e. Selogiri in N and Wediombo at S coast, both hosted by old volcanics and intrusives. Selogiri porphyry system formed at 1-1.5 km deeper than high-sulfidation system of Wediombo, showing N part of Seribu Mts uplifted higher than S part, probably related to development of Quaternary magmatic arc to N)

Priyanto, B., D. Indrajaya, L.P. Siringoringo & V.A. Herliani (2009)- Miocene carbonate mound of Gunung Maindu, Tuban: an analogue model for prospective carbonate mound hydrocarbon reservoirs in the East Java basin, Indonesia. Proc. 38th Ann. Conv. Indon. Assoc. Geol. (IAGI), PITIAGI2009-047, Semarang, 11p.
(Brief discussion of E-M Miocene up to 300m (?) thick reefal carbonate mound (below Ngrayong Sandstone) at Gunung Maindu (Mahindu), Montong, W of Tuban, E Java. Not much detail)

Priyanto, B., A. Ramdhani, R. Mardani & V.A. Herliani (2009)- Facies of Ngrayong Sandstone based on outcrop data and petrographic description of the Prantakan River section, Rembang zone, East Java, Indonesia. Proc. 38th Ann. Conv. Indon. Assoc. Geol. (IAGI), Semarang, PITIAGI2009-046, 1p. *(Abstract only)*
(M Miocene Ngrayong sandstone studied in 50m section at Prantakan River, E Java, represents regional influx of quartz sandstones in region. Multiple coarsening-upward packages. Not much detail)

- Priyantoro, A. (1997)- Genesa deposit mangaan daerah Kliripan dan sekitarnya kecamatan kokap kabupaten Kulon Progo DIY. Teknik Geologi UGM, p.
(*'Genesis of manganese deposits in the Kliripan area, Kulon Progo Regency'. (Kliripan was site of pre WW-II manganese mining operation in early 1900's in S Central Java; JTvG)*)
- Pulunggono, A. & S. Martodjojo (1994)- Perubahan tektonik Paleogen-Neogen merupakan peristiwa tektonik penting di Jawa. In: Proc. Seminar Geologi dan Geotektonik Pulau Jawa sejak Akhir Mesozoik hingga Kuartar, Geol. Dept. Gadjah Mada University, Yogyakarta, p. 253-274.
(*'Paleogene-Neogene tectonic changes are important tectonic events on Java'*)
- Purasongka, N.W., I. Syafri & L. Jurnaliah (2015)- Karakteristik batuan sedimen berdasarkan analisis petrografi pada Formasi Kalibeng Anggota Banyak. Bull. Scientific Contr. (UNPAD) 13, 1, p. 1-15.
(*online at: <http://jurnal.unpad.ac.id/bsc/article/view/8382/3896>*)
(*'Characteristics of sedimentary rocks based on petrographic analysis of the Banyak Mb of the Kalibeng Fm'. Petrography of 6 samples from Late Miocene (N16-N17) Banyak Mb of Kalibeng Fm in Kendeng zone from 170m section at Kali Jragung, Semarang District, C Java. Suggest magmatic arc provenance, possibly from Ungaran volcano. No locality map*)
- Purbohadiwidjojo, M.M. (1964)- On the Tjimanuk River delta. Geol. Survey Indonesia Bull. 1, 2, p. 35-38.
- Purbohadiwidjojo, M.M. (1965)- An example of gravity tectonics from Central Java. Geol. Survey Indonesia Bull. 2, 1, p.
- Purnama, Y.S., A. Gunawan, W. Darmawan, R.C. Rohmana, D. Adipradipto, J. Halim, R.N. Julias & B. Rahmanto (2018)- Characters of sedimentology, rock property and geochemistry of the Ngrayong and Tuban Formations in the Pati Trough, onshore North East Java Basin. Proc. 42nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA18-291-G, 32p.
(*P1 (2015) and P2 (2016) wells on Plio-Pleistocene Pakel anticline in Rembang zone, NE Java, with gas-condensate in poorly consolidated late E Miocene Tuban and early M Miocene Ngrayong Fm tidal sandstones. Gas samples from P2 well from mixed of biogenic (40%) and thermogenic sources*)
- Purnamaningsih Siregar (1981)- Diatom fossils of the Pucangan Formation, Sangiran Area, Central Java. Proc. 10th Ann. Conv. Indon. Assoc. Geol. (IAGI), p. 238-247.
(*11 samples with diatoms in Pucangan Fm of Sangiran. Lower Pucangan Fm warm shallow marine facies, middle part fresh-brackish water, upper part marine with low diatom productivity. Age Early Pleistocene?*)
- Purnamaningsih Siregar & Harsono Pringgoprawiro (1981)- Stratigraphy and planktonic foraminifera of the Eocene-Oligocene Nanggulan Formation, Central Java. Publ. Geol. Res. Dev. Centre (GRDC), Bandung, Seri Paleontologi 1, p. 9-28.
(*Planktonic foram zonation of M Eocene- E Oligocene Nanggulan Fm marine clastic section 20km W of Yogyakarta. With Globorotalia lehneri, G. centralis, G. cerroazulenis, Truncorotaloides rohri, Hantkenina spp., etc.. Overlain by Late Oligocene 'Old Andesite Fm'*)
- Purnomo, E., R. Ryacudu, A. Ascaria & T. Kunto (2004)- Pondok Tengah discovery, Indonesia- a new big fish in mature explored basin. In: 66th EAGE Conf. Exhib., Paris, 4p. (*Extended Abstract*)
(*Pondok Tengah 2003 oil discovery in NW Java Basin, 40km E of Jakarta. Hydrocarbon column 205 m thick (175m in Lower Miocene Batu Raju Fm carbonates and 30m in Talang Akar Fm sandstones). Preliminary reserves estimate 233 MBO. Carbonate reservoir N-S trending low-relief buildup in S part of Rengasdengklok High, bounded to S by Ciputat Low*)
- Purnomo, E., R. Ryacudu, E. Sunardi, A. Kadarusman et al. (2006)- Petrographic compositional distinction between Jatibarang and Talang Akar Formations, Jatibarang sub-basin, North West Java basin. Proc. 35th Ann. Conv. Indon. Assoc. Geol. (IAGI), Pekanbaru 2006, p.

Purnomo, E., R. Ryacudu, E. Sunardi & R.P. Koesoemadinata (2006)- Paleogene sedimentation of the Jatibarang sub-basin and its implication for the deep play petroleum system of the onshore Northwest Java Basin, Indonesia. Proc. Jakarta 2006 Int. Geosciences Conf. and Exhib., Indon. Petroleum Assoc. (IPA), Jakarta06-PG-02, 3p. (*Extended Abstract*)

Purnomo, J. & Purwoko (1994)- Kerangka tektonik dan stratigrafi Pulau Jawa secara regional dan kaitannya dengan potensi hidrokarbon. Proc. Geologi dan Geoteknik Pulau Jawa sejak Akhir Mesozoik hingga Kuartar, Jurusan Teknik Geologi, Gadjah Madah University, Yogyakarta, p. 253-274.

('The regional tectonic and stratigraphic framework of Java Island and its relation to hydrocarbon potential'. Java tectonics three main phases: (1) Eocene-Oligocene extensional rifting; (2) Neogene compressional wrench faulting, with shear faults reactivation of Paleogene normal faults; (3) Plio-Pleistocene compressional thrust-folding, creating E-W oriented anticlines)

Purwaningsih, M.E.M. (2002)- Demise of the Oligo-Miocene reefs of the southern East Java Basin. Drowning events on carbonate isolated platforms. Buletin Geologi (ITB) 34, 3, Spec. Ed. (Prof. Soejono Martodjojo volume), p. 117-132.

(Paleohighs on old structural grain became sites of Oligo-Miocene carbonate buildups in E Java Basin. Carbonates on basement highs of southern isolated platform of E Java Basin show similar stages of deposition. In W East Cepu High, Late Oligocene Kujung carbonate buildups shows depositional stages in SW-NE direction. Seismic stratigraphy of carbonates shows four sequences. Carbonates backstepping on previous stages, forming buildup complex within isolated platform. Generally, buildups grew away from southern marine influence. BD Ridge younger carbonates similar history to E Cepu carbonates. E Miocene carbonate buildups followed ENE- WSW paleohigh in Madura Strait. Four depositional units terminated by drowning indicated by condensed section on top of carbonates. Oligo-Miocene buildups on other isolated platforms of the southern E Java Basin similar histories: transgressive stratal pattern with local tectonic influence. Drowning events caused demise of buildups. These events may mark onset of Neogene inversion tectonic episode in this area)

Purwaningsih, M.E.M., A.H. Satyana, S. Budiyan, D. Noeradi & N.M. Halik (2002)- Evolution of the Late Oligocene Kujung reef complex in the Western East Cepu High, East Java Basin: seismic sequence stratigraphic study. Proc. 31st Ann. Conv. Indon. Assoc. Geol. (IAGI), Surabaya, 2, p. 655-671.

(Seismic stratigraphy of E Cepu isolated platform identified 4 sequences in Late Oligocene Kujung Fm carbonates. Deposition of upper sequences contemporaneous with tilting of platform to SW, forming NE-ward backstepping pattern. In mid E Miocene carbonate deposition ended due to clastic sedimentation and more tilting to SW)

Purwanti, Y. & A. Bachtiar (2001)- Analyses of Eocene petroleum kitchen in East Java Basin: implication for prospect ranking. Proc. 30th Ann. Conv. Indon. Assoc. Geol. (IAGI) and 10th GEOSEA Regional Congress on Geol., Mineral Energy Res., Yogyakarta 2001, p.

Purwasatriya, E.B. & G. Waluyo (2010)- Studi stratigrafi pada rembesan minyak serta hubungannya dengan petroleum system di cekungan Banyumas. Proc. 39th Ann. Conv. Indon. Assoc. Geol. (IAGI), Lombok, PIT-IAGI-2010-308, 9p.

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Puspopturo, B. (1983)- The use of seismic data in predicting the abnormal high pressure zone for exploration drilling in Pertamina Unit E.P. III working area. Proc. 12th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 323-343.

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(NW Java exploration history. Improved seismic processing lead to discovery well MB-3 and success of subsequent drilling)

Puswanto, E., D. Hastria & Ansori (2012)- Petrogenesis andesit amigdaloïdal Jatibungkus kaitannya dengan batuan beku mafis kompleks ofiolit Karangsembung. In: Pros. Pemaparan Hasil Penelitian Pusat Penelitian Geoteknologi LIPI, Bandung 2012, p. 45-53.

(Petrogenesis of amygdaloidal Jatibungkus andesite in connection with the mafic Karangsembung ophiolite' Jatibungkus basaltic-andesitic pillow lavas interpreted as tholeitic magma formed in mid-ocean ridge. Deformed during formation Oligocene-Miocene Totogan Fm)

Puswanto, E. & E. Hidayat (2014)- Analisis paleostruktur lava basal-andesitik Kali Mandala dan diabas Gunung Parang. In: H. Harjono et al. (eds.) Pros. Pemaparan hasil penelitian, Puslitbang Geoteknologi (LIPI), Bandung, p. 365-377.

(online at: <http://pustaka.geotek.lipi.go.id/index.php/2016/01/20/prosiding-2014/>)

('Analysis of paleostructure of basaltic-andesitic lava in Kali Mandala and diabas at Gunung Parang'. Faults in U Cretaceous - Paleogene pillow lavas in Luk Ulo melange, Karangsembung, C Java, affected by common NE-SW trending normal faulting; accompanied by M- L Eocene rift phase.)

Putra, P.S. & P. Praptisih (2017)- Re-interpretasi Formasi Kerek di daerah Klatung, Kendal, berdasarkan data stratigrafi dan foraminifera. J. Geologi Sumberdaya Mineral 18, 2, p. 77-88.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/272/280>)

(Outcrops around Cipluk oilfield in northern C Java generally viewed as Kerek Fm, but stratigraphic and micropaleontological studies suggest interbedded marls- sandstones are Pliocene- Pleistocene age, upper bathyal turbiditic facies and should be viewed as part of Kalibeng Fm. Incl. Globorotalia tosaensis, Pulleniatina, Gr. crassaformis, Neogloboquadrina humerosa, etc.)

Putra, P.S., M. Sapri H. & M.M. Mukti (2007)- Studi sedimentasi laut dalam dan pengaruh tatanan tektonik Cekungan Serayu Utara. In: A. Tohari et al. (eds.) Pros. Seminar Geoteknologi Kontribusi ilmu kebumiharian dalam pembangunan berkelanjutan, Puslitbang Geoteknologi (LIPI), Bandung, p. 7-18.

(online at: <http://pustaka.geotek.lipi.go.id/index.php/2016/01/20/prosiding-2007/>)

('Study of marine sedimentation and influence of tectonic structure, North Serayu Basin'. Kali Lutut section with five main tectonically-driven facies/cycles in turbiditic Late Miocene (nanno zones CN7- CN9) sediments. With common (reworked?) E Miocene Miogypsina larger forams)

Putra, P.S. & E. Yulianto (2015)- A reinterpretation of the Baturetno Formation: stratigraphic study of the Baturetno Basin, Wonogiri, Central Java. Indonesian J. Geoscience 2, 3, p. 125-137.

(online at: <http://ijog.bgl.esdm.go.id/index.php/IJOG/article/view/210/197>)

(Baturetno Fm black clay of Baturetno Basin S of Wonogiri (N part of S Mountains), formerly believed to be lake deposit, related to shifting course of Bengawan Solo Purba River and Late Pliocene tectonic tilting in S Java. Floating pebbles of andesite, claystone, coral, limestone in clay best explained as mudflow process)

Putra, P.S. & E. Yulianto (2016)- Sedimentological and micropaleontological characteristics of the Black Clay deposit of the Baturetno Formation, Wonogiri, Central Java. Indonesian J. Geoscience 3, 3, p. 163-171.

(online at: <https://ijog.geologi.esdm.go.id/index.php/IJOG/article/view/218/217>)

(Quaternary Baturetno Fm black clay with freshwater diatoms, but mostly barren of palynomorphs and low TOC. Unlikely to be lacustrine, probably mud-flow deposit. Carbon dating ages ~7000 yrs BP, i.e. much younger than Late Pliocene tilting in S Java)

Putra, P.S., E. Yulianto, Praptisih, N. Supriatna, D. Trisuksmono, Amar, A.U. Nurhidayati, J. Ridwan & J. Griffin (2015)- Studi paleotsunami di selatan Jawa. In: H. Harjono et al. (eds.) Pros. Pemaparan Hasil Penelitian Geoteknologi 2015, Pusat Penelitian Geoteknologi (LIPI), Bandung, p. I95-I101.

(online at: <http://pustaka.geotek.lipi.go.id/wp-content/uploads/2016/04/Prosiding-2015.pdf>)

('Paleotsunami study at the south coast of Java'. 2-3 paleotsunami sandy layers identified along S coast of SW Java (Lebak) and C Java (Pangandaran). Thickness ~3-10cm)

Quinif, Y. & C. Dupuis (1985)- Un karst en zone intertropicale: le Gunung Sewu a Java: aspects morphologiques et concepts evolutifs. Revue Geomorphologie Dynamique 34, 1, p. 1-16.

(On morphology and evolution of cone karst in Gunung Sewu/ Southern Mountains, S Java. Attributed to fluvial origin)

Rahardjo, A.T., A.A. Polhaupessy, S. Wiyono, L. Nugrahaningsi & E.B. Lelono (1994)- Zonasi pollen Tersier Pulau Jawa. Proc. 23rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, 1, p. 77-87.

(Pollen zonation for the Tertiary of Java Island'. Eocene- Pliocene zonation of 7 pollen zones, calibrated to planktonic foram zonation. Key zonal species Proxapertites operculatus (Eocene), Meyeripollis naharkotensis (Oligocene), Florschuetzia spp. (Miocene- Recent), Stenochlaeniidites papuanus (latest Miocene- Pliocene) and Dacrycarpidites australiensis (Late Pliocene- Recent))

Rahardjo, Wartono (1982)- Depositional environment of nummulitic limestones of the Eastern Jiwo Hills, Bayat area, Central Java. Geologi Indonesia (IAGI) 9, 1, p. 36-39.

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Rahardjo, Wartono (1983)- Paleoenvironment reconstruction of sedimentary sequence of the Baturagung escarpment, Gunung Kidul area, Central Java. Proc. 12th Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, p. 135-140.

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Rahmad, B. & M. Maha (2010)- Endapan batubara Paleogen Formasi Nanggulan Kulon Progo, Yogyakarta: kajian geologi batubara dan fasies batubara. Proc. 39th Ann. Conv. Indon. Assoc. Geol. (IAGI), Lombok, PIT-IAGI-2010-202, 20p.

(On Late Eocene coal of Nanggulan Fm exposed in Kali Songgo, E flank of Kulon Progo Dome, W of Yogya. Coal thickness 53 cm. Sediments soft and hardly diagenetically altered. Coal rank is lignite, with average vitrinite reflectance 0.27% - .037%. Nanggulan Fm coal depositional facies is forest swamp)

Rahmad, B., M. Maha & A. Rodhi (2008)- Reflektan vitrinite dan komposisi maseral seam batubara Eosen Formasi Nanggulan daerah Kalisonggo, Kecamatan Girimulyo, Kabupaten Kulon Progo, Daerah Istimewa Yogyakarta. Proc. 37th Conv. Indon. Assoc. Geol. (IAGI), Bandung, 1, p. 439-449.

(Vitrinite reflectance and maceral composition of Nanggulan Fm Eocene coal seam, Kalisonggo area, Kulon Progo Regency, Yogyakarta'. Late Eocene coal of Nanggulan Fm deposited in telmatic to forest marsh environment, with slightly dry to wet condition. Vitrinite reflectance 0.27-0.37%, indicating lignite coal rank (demonstrating Eocene W of Yogya never deeply buried; JTVG). Macerals comprise vitrinite textolinite, etc.)

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(Biostratigraphic study and carbonate microfacies analysis of the Wungkal Gamping Formation, Padasan Section, Gunung Gajah, Bayat, C Java'. Middle and Late Eocene limestones with Nummulites, Assilina, Discocyclina, Pellatispira, Tansinhokella, Alveolina, Operculina, Austrotrilina, Ranikothalia, etc.)

Ramadhan, B., M. Maha, S.E. Hapsoro, A. Budiman & I. Fardiansyah (2015)- Unravel Kendeng petroleum system enigma: recent update from transect surface observation of Kedungjati- Djuwangi- Kerek area, East Java. Proc. 39th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA15-G-065, 9p.

(Kendeng Zone depocenter in E Java and continuing into S Madura Basin with oil seeps and small oil-gas fields. E-M Miocene Kerk Fm sandstones poor reservoir quality (2-10% porosity). Remaining potential in 'Globigerina sands' in E and S parts of Kendeng zone near Ngawi)

Ramadhan, G.C., E.F. Karyanto, M.W. Haidar, Premonowati Hadipramono & S. Widada (2013)- Seismic facies analysis of Oligo-Miocene reef in Rama Field, onshore East Java Basin: impact of fluctuating relative sea-level change to facies development. Proc. 37th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA13-SG-056, p. 1-12.

('Rama Field' (not real name, but probably = Sukowati; JTvG) in NE Java Basin is one of mature oil fields in Oligo-Miocene carbonates of Kujung Fm. Seismic facies analysis showed 5 growth stages: (1) initial Rupelian carbonate aggradation; (2) major sea level drop followed by lowstand deposits in E Chattian; (3) Late Oligocene- E Miocene backstepping carbonates; (4) E Miocene carbonates no longer develop upward, but prograded towards basin; (5) E-M Miocene drowning of platform)

Ramadhan, G.C., I. Saputra, E. Purnamasari, M. Daniar, Y.D. Putra, F.A. Cahyo & C. Prasetyadi (2013)- Organism variety effect on carbonate rock porosity of Jonggrangan Formation: alternative approach to predict porosity complexity. Majalah Geologi Indonesia 28, 1, p. 29-40.

(Facies and porosity of E-M Miocene Jonggrangan Fm of Kulon Progo area, C Java)

Ramadhina, P., R.C. Normana, T.S. Dewi, M. Widyastuti & I.M.D Setiadi (2016)- Investigation of organism heterogeneity and its porosity in limestone based on integrated outcrop data: implication for determining depositional facies of Bulu Formation. In: R. Hidayat et al. (eds.) Proc. 9th Seminar Nasional Kebumihan, Dept. Teknik Geologi, Gadjah Mada University, Yogyakarta, p. 745-753.

Ramadhan, A.M., F. Hakim, L.M. Hutasoit, N.R. Goulty, W. Sadirsan, M. Arifin et al. (2013)- Importance of understanding geology in overpressure prediction: the example of the East Java Basin. Proc. 37th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA13-G-152, p. 1-13.

(E Java zones of high overpressure in: (1) post-Tuban Fm- low overpressure; (2) Tuban Fm- moderate-high overpressure; (3) Kujung Fm carbonate buildups- hydrostatic pressure)

Ratman, N. & G. Robinson (1996)- The geology from Gunung Slamet to the Dieng Plateau, Central Java. Bull. Geol. Res. Dev. Centre (GRDC), Bandung 20, p. 1-34.

(Brief review of Central Java geology)

Ratman, N. & H. Samodra (2004)- Stratigrafi batuan Eosen di Perbukitan Jiwo, Jawa Tengah. J. Sumber Daya Geologi 14, 3 (147), p. 148-159.

('Stratigraphy of Eocene rocks in the Jiwo Hills, Central Java'. Eocene Nummulites- Assilina limestones and quartz sandstones on metamorphic basement, grading upward into marls with Eocene (P13-P15) planktonics)

Ratman, N. & H. Samodra (2004)- Stratigrafi dan lingkungan lengendapan batuan karbonat, Gunung Sewu di daerah Wonosari dan sekitarnya. In: Stratigrafi Pulau Jawa, Geol. Res. Dev. Centre (GRDC), Bandung, Spec. Publ. 30, p. 181-186.

(' Stratigraphy and depositional environment of carbonate rocks, Gunung Sewu, in Wonosari and surrounding area'. Carbonates of Gunung Sewu three formations: Oyo (upper E Miocene-M Miocene), Wonosari (Late Miocene), and Kepek (Late Miocene-Pliocene. N.B: Oyo-Wonosari Fm probably older; JTvG).

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(*Modeling of Plio-Pleistocene WNE-ESE trending 'Majalengka fold-thrust belt', involving steep M-L Miocene bathyal sediments in Sumedang area, between Bandung- Cirebon, W Java suggests 30-40% shortening*)
- Reerink, J. (1865)- Nota omtrent eene rijke aardoliesoort, voorkomende op Java, in Poerbolingo, Res. Banjoemas. Tijdschrift Nijverheid Landbouw in Nederlandsch-Indie 11, p. 362-363.
(*Very brief, early report on oil seep in stream near villages of Kalian Jattan and Segran, 3 days travel from Purbolingo, Banyumas Residency, C Java*)
- Reich, S., F.P. Wesselingh & W. Renema (2014)- A highly diverse molluscan seagrass fauna from the early Burdigalian (Early Miocene) of Banyunganti (South-Central Java, Indonesia). Annalen Naturhist. Museums Wien, Ser. A, 116, p. 5-129.
(*online at: http://verlag.nhm-wien.ac.at/pdfs/116A_005129_Reich.pdf*)
(*Study of E Miocene shallow marine mollusc fauna from Jonggrangan Fm near Banyunganti village, Progo Mts., S C Java, in beds transgressive over 'Old Andesite' volcanics. 184 species, including 158 carnivorous and herbivorous gastropods. Age suggested by associated zone Tfl larger foram fauna ~E Burdigalian; by Sr isotopes ~18.9 Ma. Abundance of gastropods Smaragdia, Bothropoma, Bittiinae points to seagrass environment. Four new gastropod species: Bothropoma mediocarinata, Plesiotrochus hasibuani, Rissoina banyungantiensis and R. reticuspiralis*)
- Reinhold, T. (1937)- Fossil diatoms of the Neogene of Java and their zonal distribution. Verhandelingen Geologisch-Mijnbouwkundig Genootschap Nederland Kol., Geol. Serie 12, p. 43-132.
(*First and most elaborate paper on marine fossil diatoms of Indonesia, from Middle Miocene and younger 'Globigerina Marls' and diatomites of C and E Java*)
- Reitsema, T.L. (1930)- Over een voorkomen van daciet aan de zuidkust van Jogjakarta, in het Goenoeng Sewoe kalksteengebied. Natuurkundig Tijdschrift Nederlandsch-Indie 90, p. 259-266.
(*'On an occurrence of dacite on the S coast of Yogyakarta in the Gunung Sewu limestone area'*)
- Reitsema, T.L. (1930)- Een voorkomen van Nummulieten kalksteen aan den noordrand van het Westelijk grensgebergte, gouv. Djokjakarta. Natuurkundig Tijdschrift Nederlandsch-Indie 90, p. 291-293.
(*'An occurrence of Nummulites limestone at N edge of the 'Western border mountains', Yogyakarta region'. Dark grey breccious limestone with Nummulites below m1 breccia-layers, near villages Gegerbajing and Plana, between Nanggulan and Purworejo*)
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- Reminton, C.H. & U. Pranyoto (1985)- A hydrocarbon generation analysis in Northwest Java Basin using Lopatin's method. Proc. 14th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 2, p. 121-141.
(*NW Java Basin producing from Jatibarang Volcanics, Talang Akar Fm and Baturaja Fm equivalents, Upper Cibulakan (Zones 16, 15, 14, 12), and Parigi Fm carbonates. Top oil window (TTI 15) in Randegan (E part NW Java Basin) at 1800-2000m, in Cilamaya- Pamanuka -Kandanghaur between 2000-2300m. TTI 16 only in Purwakarta-1 in Jatibarang volcanics. Talang Akar in Gantar- N Cilamaya areas mature in S. Baturaja Fm mature in Purwakarta- Gantar and S-ward. Only S of Purwakarta lower part of U Cibulakan Mb sufficiently mature to generate hydrocarbons. CO2 content believed from dissolving carbonates of Baturaja Fm formed after burial of Talang Akar sediments with high content of carbonaceous materials*)

- Reuss, A.E. (1867)- *Über fossile Korallen der Insel Java*. In: *Reise der Oesterreichischen Fregatte Novara um die Erde in den Jahren 1857, 1858, 1859*, Geol. Theil 2, Gerold, Staatsdruckerei, Vienna, p. 165-185.
(online at: www.landmuseum.at/pdf_frei_remote/MON_GEO_0032_0165-0185.pdf)
(*'On fossil corals from Java Island'. 17 species of Neogene corals collected by Von Hochstetter during Austrian Novara Expedition 1857-1859. Main locality Gunung Sel in Tji-Lanang valley, Rongga District*)
- Ridha, M., M. Nurdiansyah, J.S. Zamili, P.T. Triwigati, Y.B. Muslih & W.N. Farida (2018)- *Banumeneng calciclastic submarine fan (CSF) as a Late Neogene record in the curvature border of Western Kendeng, Java: new insight for exploration target*. Proc. 42nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA18-547-SG, 20p.
(*Calciturbidites in Dolok River, Banyumeneng, Demak, in Kerek Fm(?) in W Kendeng zone. With M Miocene planktonic foraminifera and bathyal benthic foraminifera and reworked? Eocene larger foraminifera (Discocyclina, Nummulites, Assilina). Paleocurrent (flute cast) suggest sourced from NNW (Sunda Shelf)*)
- Rifqi, M.A., A.P. Armia, A. Nugraha, M. Fajar & A. Prasetyo (2014)- *Seismic facies analysis of turbidite complex in Ngrayong Formation, East Tuban Area, East Java Basin, Indonesia*. Proc. 38th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA14-G-138, 10p.
(*M Miocene quartz-rich Ngrayong Fm prolific hydrocarbon reservoir in E Java Basin (>155 MMBO produced from 17 fields). Three main units in Ngrayong Fm, indicating regressive and transgressive phase of depositional cycle. In E Tuban Area Ngrayong Units II-III three cycles of turbidite deposition, each ending with hemipelagic deposition, locally eroded during next turbidite deposition cycle. Seismic facies identified: mounded mass transport complexes, continuous sheet-like deposits and channel-levee features. Sediment provenance from NW*)
- Rinawan, R., J. Sunarja & S. Soeharto (1994)- *Ciri mineralisasi emas tipe xenothermal di daerah Cirotan, Jawa Barat*. Proc. 23rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, 2, p. 981-1000.
(*'Characteristic of xenothermal-type gold mineralization in Cirotan, West Java'. Cirotan Pliocene Au-Ag deposit in Bayah Dome area, SW Java. Host rocks Eocene- Miocene 'Old Andesites'. Nearby microdiorite intrusion with K/Ar age of 4.5 Ma. Au-Ag mineralization associated with dextral strike-slip fault and dated as Late Pliocene (1.7 +/- 0.1 Ma). Also contains rel. high T minerals cassiterite and wolframite*)
- Ritter, O., A. Hoffmann-Rothe, A. Muller, E.M. Arsadi, A. Mahfi, I. Nurnusanto, S. Byrdina & F. Echernacht (1999)- *A magnetotelluric profile across Central Java, Indonesia*. Geophysical Research Letters 25, 23, p. 4265-4268.
(*Magnetotelluric data at 8 sites along N30°E striking profile in C Java. Conductive features: (1) strong 'ocean effect' at S-most site, (2) zone of very high conductivity in C part of profile (volcanic or geothermal activity?), (3) conductor in N (active fault zone?)*)
- Rizal, Y. (2004)- *Neogene lithological formations and fossil remains in the Majalengka area (West Jawa, Indonesia)*. In: *Late Neogene and Quaternary biodiversity and evolution*, Proc. 18 Int. Senckenberg Conf., Weimar, 3p. (*Extended Abstract*)
(online at: http://www.senckenberg.de/fis/doc/abstracts/94_Rizal.pdf)
(*Pliocene marine Kaliwangu Fm (N19) locally overlain by E Pleistocene black clay with freshwater molluscs and vertebrate fossils (cervids, proboscideans and crocodiles). Overlain by Pleistocene fluvial Citalang Fm, also with bone and tooth fragments in conglomerates (= Von Koenigswald 1935 fossil locality)*)
- Rizal, Y., Aswan, Y. Zaim, W.D. Santoso, N. Rochim, Daryono, S.D. Anugrah, Wijayanto, I. Gunawan et al. (2017)- *Tsunami evidence in South Coast Java, case study: tsunami deposit along South coast of Cilacap*. In: *2nd Int. Conf. Transdisciplinary research on environmental problems in Southeast Asia (TREPSEA)*, Bandung 2016, IOP Conf. Series, Earth Environm. Science, 71, 012001, p. 1-12.
(online at: <http://iopscience.iop.org/article/10.1088/1755-1315/71/1/012001/pdf>)
(*Three paleo-tsunami deposits identifid along Cilacap coast of S Java. dated and tied to earthquakes of 1883, 1982 and 2006. Three more older layers. Paleo-tsunami layer characterized by light sands on top of paleo-soil, with common mud clasts and marine benthic foraminifera*)

Rizal, Y., R. Lagona & W.D. Santoso (2017)- Turbidite facies study of Halang Formation on Pangkalan River, Karang Duren- Dermaji village, Banyumas district, Central Java- Indonesia. In: 2nd Int. Conf. Transdisciplinary research on environmental problems in Southeast Asia (TREPSEA), Bandung 2016, IOP Conf. Series, Earth Environm. Science, 71, 012032, p. 1-15.

(online at: <http://iopscience.iop.org/article/10.1088/1755-1315/71/1/012032/pdf>)

(M Miocene- E Pliocene Halang Fm in Pangkalan river, Banyumas Basin, with five turbiditic facies associations: proximal channel, distal levee, frontal splay 1, crevasse splay, and frontal splay 2. Mud rich system. ~400m thick Late Miocene Kumbang Fm andesitic volcanic breccia reflects sediment supply change)

Rizal, Y., Pamungkas G.M. & A. Rudyawan (2016)- Sedimentation of the Cantayan Formation in Sirnasari, Bogor, West Java- Indonesia. Int. J. Engineering Sciences and Research Techn. (IJESRT) 5, 11, p. 349-359.

(online at: www.ijesrt.com/issues%20pdf%20file/Archive-2016/November-2016/46.pdf)

(Sedimentation of E Pliocene part of Cantayan Fm along Cibeet River in Bogor Trough in Sirnasari area, SE of Bandung. Classic turbidite facies)

Robba, E. (1996)- The Rembangian (Middle Miocene) mollusc-fauna of Java, Indonesia: I. Archaeogastropoda. Rivista Italiana Paleont. Strat. 102, 2, p. 267-292.

(online at: <https://riviste.unimi.it/index.php/RIPS/article/view/5251/5275>)

(Langhian archaeogastropods from Burdigalian- Langhian Tawun Fm/ Rembang Beds in Sedan-Tuban area of Rembang anticlinorium, NE Java. 18 species incl. new taxa Ilanga rebjongensis, Ethalia stefanoi, Pareucubelus pannekoeki and Leptothyra laddi)

Robba, E. (2013)- Tertiary and Quaternary fossil pyramidelloidean gastropods of Indonesia. Scripta Geologica 144, p. 1-191.

(online at: www.repository.naturalis.nl/document/479757)

(Descriptions of pyramidelloidean gastropods collected from Rembang anticlinorium (NE Java; mainly Langhian Tawun Fm) and review of collections of Naturalis Biodiversity Center, Leiden. Rembangian (M Miocene) assemblage 89 species, four formerly described (Leucotina speciosa, Megastomia regina, Exesilla, 52 are proposed as new; most undescribed species. Neogene fauna composed almost entirely of extinct species. Most Neogene species endemic to Indonesian Archipelago)

Roberts, K., R.J. Davies, S. Stewart & M. Tingay (2011)- Structural controls on mud volcano vent distributions: examples from Azerbaijan and Lusi, East Java. J. Geol. Soc., London, 168, 4, p. 1013-1030.

(Vent distributions in Azerbaijan mud volcanoes used to propose what controls distribution of 169 vents at Lusi mud volcano, E Java. Initial eruptions along NE-SW trend, parallel to Watukosek fault, changing to eruptions that follow E-W trends, subparallel to regional fold axes)

Robertson Research-Pertamina (1986)- East Java and Java Sea basinal area, stratigraphy, petroleum geochemistry and petroleum geology. Multi-client Study, 4 vols. p. (Unpublished)

Robertson Utama Indonesia, PT (2002)- East Java and East Java Sea- a petroleum systems evaluation. Multi-client Study, vol. 1: Text, 95p. + figs., vol. 2: Appendices, Vols. 3-6: Enclosures. (Unpublished)

(Comprehensive overview of NE Java basin stratigraphy and petroleum geology. With paleogeographic maps Eocene (Ngimbang) to Pliocene (GL marls))

Rohadi, S., S. Widiyantoro, A.D. Nugraha & Masturyono (2013)- Tomographic imaging of P- and S-wave velocity structure beneath Central Java, Indonesia: joint inversion of the MERAMEX and MCGA earthquake data. Int. J. Tomography Simulation 24, 3, p.

(Tomographic inversions from combined local and regional earthquake events. Low velocity anomaly at Lawu-Merapi zone. Strong low velocity anomaly zone between Cilacap and Banyumas, probably reflecting large dome of sediment. Low velocity anomaly also in Kebumen, coinciding with extensional oceanic basin toward land. Merapi's magma source comes from S of Merapi. High velocity anomaly pattern beneath W part of C Java may represent subducted Indo-Australian plate)

Rohmana, R.C., F.P. Dewi, S. Wibowo, A. Novadhani & I. Fardiansyah (2013)- Quartz-rich sandy facies behind the Miocene volcanic activity in South East Java: insight from sandstone characteristics within Jatén Formation. Proc. 37th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA13-SG-031, p. 1-9.

(M Miocene sandstones of Jatén Fm in C Java Southern Mountains quartz-rich, but mainly bipyramidal volcanic quartz)

Rohrlach, B. (2011)- The geology of the Tujuh Bukit copper-gold project, East Java, Indonesia. Sydney Minerals Exploration Discussion Group (SMEDG), Presentation 16 June 2011, 53p.

(online at: https://www.smedg.org.au/Rohrlach_Tujuh_Bukit_Copper_Gold.pdf)

(SE-most Java Cu-Au prospects in Bukit Tujuh District, explored since 2007. Main prospects Tumpangpitu Cu-Au-Mo porphyry system and overlying cap of Tumpangpitu Au-Ag oxide System)

Rolando, A. (2001)- The new species *Terebellum olympiae* n.sp. (Gastropoda, Seraphidae) from the Middle Eocene mollusc assemblage of Nanggulan (Yogyakarta province, Java, Indonesia). *Memorie Scienze Geol.*, Padova, 53, p. 41-44.

(Listing of 44 mollusc species, one new, from water well outcrop near Watumarah, 4 km W of Nanggulan, in upper part of Nanggulan Fm. Age late M Eocene, planktonic foram zones P13-P14)

Rosana, M.F. & H. Matsueda (2002)- Cikidang hydrothermal gold deposit in Western Java, Indonesia. *Resource Geology* 52, 4, p. 341-352.

(Cikidang gold deposit discovered in 1991 in Bayah dome gold district (also Pongkor, Cikotok mines). Gold in low-sulfidation quartz-adularia-sericite(-calcite) vein deposits. Host rocks Miocene lapilli tuff and breccia)

Romario, I.F.B., D. Mindasari, R.E. Suprpto & M.A. Yusuf (2015)- Oligo-Miocene tectonic of Java and the implication for flexural basin of Southern Mountain in affecting depositional system in Kerek Formation. Proc. Joint Convention HAGI-IAFI-IAFMI-IATMI, Balikpapan 2015, 6p.

(Study of M-L Miocene Kerek Fm in Kendeng back-arc basin, C Java. Marine clastics of 'dissected arc' provenance type (reflecting uplift of Southern Mountains volcanic arc))

Romario, I.F.B., R.E. Suprpto, D. Pambudi, R. Chandra, I.H. Pratama, M.I. Fauzan, R.J. Pratama & R. Rachman (2016)- Studi paleogeografi Neogen batas cekungan Kendeng- Serayu Utara: tantangan dan implikasi pada konsep eksplorasi minyak dan gas bumi di tinggian Semarang regional Jawa Tengah bagian utara. In: R. Hidayat et al. (eds.) Proc. 9th Seminar Nasional Kebumihan, Dept. Teknik Geologi, Gadjah Mada University, Yogyakarta, p. 115-126.

(online at: <https://repository.ugm.ac.id/273481/>)

('Neogene paleogeographic study of the limits of Kendeng-Serayu basin: challenges and implications for oil and gas exploration concepts at the Semarang regional high, north Central Java'. N-S trending Semarang High at W side of Kendeng zone surrounded by oil seeps and possibly migration focus)

Rosana, M.F., S. Prihatmoko & T. Setiabudi (2014)- Low-sulfidation epithermal Au mineralization in Western Java and Southern Sumatra. In: I. Basuki & A.Z. Dahlius (eds.) *Sundaland Resources*, Proc. Ann. Conv. Indon. Soc. Econ. Geol. (MGEI), Palembang, p. 109-128.

(W Java and S Sumatera split up by Sunda Strait, but geologically similar, in particular volcanic and magmatic events. Three groups of magmatic-volcanic events: Eocene-Early Miocene, Mio-Pliocene and Quaternary, all ranging from basaltic andesite with acidic-intermediate intrusives. Low sulfidation epithermal vein systems grouped into 'low base metal' (Cibaliung, Kerta, Gunung Pongkor, Cikidang, Putih Doh, Kedondong) and 'high base metal' (Cirotan, Ojolali), plus 'high silver' (Way Linggo). Mineralization ages Late Miocene- Pliocene, and all hosted in Mio-Pliocene magmatic-volcanic group)

Rosana, M.F., I. Syafri, U. Mardiana & N. Sulaksana (2006)- Petrology of Pre-Tertiary melange complex of Gunung Badak, Sukabumi, West Java. In: Proc. Geosains dalam Pembangunan Ekonomi & Kesejahteraan Serantau, Langkawi 2006, 5p.

(online at: http://resources.unpad.ac.id/unpad-content/uploads/publikasi_dosen/1D%20Persidangan%20Geosience%20UKM%20-ITB.pdf)

(Gunung Badak melange in Ciletuh Bay, SW Java, with ophiolite (peridotite, serpentinite, gabbro, pillow basalt), metamorphics (quartzite, phyllite, schist) and sediments (greywacke, Nummulites lst, black shale, red clay, polymict breccias), overlain by Eocene Ciletuh Fm clastics. Rocks tectonically mixed as result of subduction. Peridotites in small outcrops in N and C part of Gunung Badak, locally serpentinized. Gabbros as dikes with porphyric textures, mostly of hyperstene, labradorite. Pillow basalt-spilitic lavas outcrop in N part. Phyllite, schist and quartzite as fragments of polymict breccias in N flank of Gunung Badak. Sedimentary rocks composed of greywacke in Mandra island, limestone and polymict breccias in Manuk, Kunti islands. Ciletuh Fm provenance from N part of Java, probably granitic Sundaland basement)

Rosana, M.F., E.T. Yuningsih, K.D. Saragih, R. Ikhran & N. Ardiansyah (2015)- Petrologi batuan ofiolit daerah Sodongparat, Kawasan Ciletuh, Sukabumi. Bull. Scientific Contr. (UNPAD) 13, 3, p. 221-230.

(online at: <http://jurnal.unpad.ac.id/bsc/article/view/8409/3916>)

('Petrology of ophiolite rocks in the Sodongparat area, Ciletuh Region, Sukabumi'. Pretertiary ophiolite in Ciletuh area, SW Java, assemblage of basalt, gabbro and ultramafics, associated with sedimentary-volcanic and metamorphic rocks. Ophiolite sequence incomplete, and emplacement can be equated with 'Cordilleran' ophiolite. Tectonic environmental of gabbro Island Arc Tholeiite (IAT) and Mid-Ocean Ridge, while basalt is Mid-Ocean Ridge Basalt (MORB). Some retrograde metamorphism)

Rothpletz, W. (1943)- Geological map of Nanggulan area, 1:10,000. Geological Survey, Bandung, File E43, p. *(Unpublished map)*

Rothpletz, W. (1956)- Gunung Gamping sebelah barat Jogjakarta. Pusat Djawatan Geologi, Bandung, p. 1-5. *('Mount Gamping west of Yogyakarta'. Brief description of Eocene-Miocene limestone outcrop 4 km W of Yogya. Initially viewed as Mioene limestone by Junghuhn, but Eocene foraminifera identified by Gerth (1929))*

Roza, S.E.V., L. Jurnaliah & Abdurrokhim (2016)- Biostratigraphy correlation of Jatiluhur, Kalapanunggal, and Subang Formation in northern part of Bogor Through. Proc. GEOSEA XIV and 45th Ann. Conv. Indon. Assoc. Geologists (IAGI) (GIC 2016), Bandung, p. 424-427.

*(Summary of biostratigraphy work on M-L Miocene (N13-N17) of Cipamingkis and Cileungsi sections. Klapanunggal Lst of uppermost Jatiluhur Fm with *Lepidocyclina* spp., *Katacycloclypeus annulatus* and *Flosculinella* (equivalent of plankton zones N14-N16?))*

Rudolph, M.L., L. Karlstrom & M. Manga (2011)- A prediction of the longevity of the Lusi mud eruption, Indonesia. Earth Planetary Sci. Letters 308, p. 124-130.

Rudolph, M.L., M. Manga, M. Tingay & R.J. Davies (2015)- Influence of seismicity on the Lusi mud eruption. Geophysical Research Letters 42, 18, p. 7436-7443.

(online at: <http://onlinelibrary.wiley.com/doi/10.1002/2015GL065310/epdf>)

(Modeling of propagation of seismic waves beneath Lusi mud eruption (E Java) suggests no significant amplification of incident seismic energy in U Kalibeng Fm (source of erupting solids). Hypothesis that Lusi mud eruption was triggered by clay liquefaction after earthquake unlikely. Also other constraints favor nearby drilling activity as trigger of mud eruption)

Rudolph, M.L., M. Shirzaei, M. Manga & Y. Fukushima (2013)- Evolution and future of the Lusi mud eruption inferred from ground deformation. Geophysical Research Letters 40, 6, p. 1089-1092.

(online at: <http://onlinelibrary.wiley.com/doi/10.1002/grl.50189/epdf>)

(Ground deformation around Lusi mud volcano, E Java, decaying exponentially. Discharge predicted to decrease to 10% of present rate in 5 years)

Rusmana, E., K. Suwitodirdjo & Suharsono (1991)- The geology of the Serang quadrangle, Jawa (Quadr. 1109-6, 1110-3), 1: 100, 000. Geol. Res. Dev. Centre (GRDC), Bandung, 19p.

Rutten, L. (1914)- Studien uber Foraminiferen aus Ost-Asien, 7. Zwei Fundstellen von *Lepidocyclina* aus Java. Sammlungen Geol. Reichs-Museums Leiden (1), 9, p. 322-324.

(online at: www.repository.naturalis.nl/document/552393)

'Two localities with Lepidocyclina on Java'. W Java limestone belt between Cibadak- Sukabumi- Tagogapu (=Rajamandala Limestone; JTvG) characterized by large Lepidocyclina. Rutten not sure if earliest Miocene or Oligocene)

Rutten, L. (1916)- Vier dwarsprofielen door de Tertiaire mergelzone tusschen Soerabaja en Ngawi. Verhandelingen Geologisch-Mijnbouwkundig Genootschap Nederland Kol., Geol. Serie 3 (Molengraaff-volume), p. 149-152.

(online at: <https://ia601908.us.archive.org/30/items/verhandelingsva3191geol/verhandelingsva3191geol.pdf>)
('Four cross-sections through the Tertiary marl zone between Surabaya and Ngawi' (Kendeng zone))

Rutten, L. (1918)- On the rate of denudation in Java. Proc. Kon. Nederl. Akademie Wetenschappen, Amsterdam, 20, 2, p. 838-848.

(online at: www.dwc.knaw.nl/DL/publications/PU00012275.pdf)

(English version of Rutten (1917) 'Over denudatiesnelheid op Java'. Large amounts of annual sediment discharge in modern rivers suggesting very high denudation rates on Java (~0.5-2.0 mm/year))

Rutten, L. (1918)- 'Old Andesites' and 'brecciated Miocene' to the East of Buitenzorg (Java). Proc. Kon. Nederl. Akademie Wetenschappen, Amsterdam, 20, 1, p. 597-608.

(online at: www.dwc.knaw.nl/DL/publications/PU00012250.pdf)

(Survey E of Bogor suggests Verbeek & Fennema 1896 assertion of presence of 'Old Andesites' in that area is incorrect; only rel. young volcanics and Miocene sediments without volcanic content are found)

Rutten, L.M.R. (1925)- Over de richting der Tertiaire gebergtevormende bewegingen op Java. Kon. Akademie Wetenschappen, Amsterdam, Afd. Natuurkunde, 34, 1, p. 65-78.

('On the direction of Tertiary mountain building movements on Java'. See Rutten 1925 English version below)

Rutten, L.M.R. (1925)- On the direction of the Tertiary mountain-building movements in the Island of Java. Proc. Kon. Nederl. Akademie Wetenschappen, Amsterdam, 28, 2, p. 191-203.

(online at: www.dwc.knaw.nl/DL/publications/PU00015144.pdf)

(English version of paper above. Vergence of thrusting not clear in W Java, but, unlike observations of Van Es and Ziegler, obvious N-directed folding in Kendeng zone, E Java)

Rutten, L.M.R. (1925)- On the origin of the material of the Neogene rocks in Java. Proc. Kon. Akademie Wetenschappen, Amsterdam, 29, 1, p. 15-33.

(online at: www.dwc.knaw.nl/DL/publications/PU00015249.pdf)

(Older Tertiary (~M Miocene and older) sands on Java mostly quartz-rich and from northerly, continental source. Late Tertiary- Quaternary more common volcanoclastics from South)

Rutten, L.M.R. (1927)- Chapters 5-9 on the geology of Java. In: L.M.R. Rutten (1927) Voordrachten over de geologie van Nederlandsch Indie, Wolters, Groningen, p. 54-143.

(Review of geology of Java in Rutten's classic lecture series)

Rutten, M.G. (1952)- Geosynclinal subsidence versus glacially controlled movements in Java and Sumatra. Geologie en Mijnbouw 14, 6, p. 211-220.

(online at: <https://drive.google.com/file/d/0B7j8bPm9Cse0S2czQkxZN3B5cE0/view>)

(Critical discussion of Smit Sibinga (1949) paper on influence of glacial eustatic movements on E Java and SE Sumatra Plio-Pleistocene stratigraphy. Rutten sees no such influence)

Ryacudu, R. & A. Bachtiar (1999)- The status of the OO-Brebes fault system, and its implication to hydrocarbon exploration in the Eastern Part of North West Java Basin. Proc. 27th Ann. Conv. Indon. Petroleum Assoc., p. 1-12.

(E part NW Java basin little exploration success. It is delineated by N-S bounding fault N of Cirebon, W-facing normal fault, which is splay of NW-SE trending OO fault, and E-facing Cirebon fault onshore. Hydrocarbon

accumulations (OO, X, Jatibarang, Cemara Fields) adjacent to this boundary. Most hydrocarbons in Paleogene clastic reservoirs. Paleogene deposits good reservoir quality and potential source rock from deltaic- lacustrine Talang Akar and upper Jatibarang Fms. Unsuccessful exploration in E part of NW Java Basin ('E Carbonate Shelf') due to lack of these deposits. N-S trending faults act as releasing double-bend structure of NW-SE right-stepping strike-slip fault system (OO and Brebes Faults), generated by Miocene N-S compressive stress and thought to be extensional regime of Cretaceous- Oligocene Meratus System, rejuvenated in Miocene)

Ryacudu, R., E. Purnomo, E. Sunardi, B.G. Adhiperdana & V. Isnainiwardhani (2006)- Vertical petrographic variation of mixed intrabasinal and extrabasinal detritus Klantung well, North Central Java Basin. Proc. 35th Ann. Conv. Indon. Assoc. Geol. (IAGI), Pekanbaru 2006, p.

Ryacudu, R., E. Purnomo, E. Sunardi, A. Kadarusman, J. Hutabarat, Nurdrajat & B.G. Adhiperdana (2006)- Petrographic compositional distinction between Jatibarang and Talang Akar Formation, Jatibarang sub-basin, Northwest Java. Proc. 35th Ann. Conv. Indon. Assoc. Geol. (IAGI), Pekanbaru 2006, 8p.
(Petrographic description of core samples from Eocene-Oligocene volcanoclastic Jatibarang Fm in four wells)

Sadjati, O., A.H.P. Kesumajana & R.P. Koesoemadinata (1999)- Penggunaan paleoheatflow dalam penentuan sejarah kematangan batuan induk, studi kasus sumur Ngimbang-01, Cekungan Jawa Timur Utara, Indonesia. Proc. 28th Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, 2, p. 115-120.
('The use of paleo heatflow to define source rock maturation; a case study at Ngimbang-01 well, NE Java Basin'. In area of Ngimbang 1 well source rock may have matured at 34 Ma, using realistic variable heat flow model, whereas constant present-day heat flow predicts onset of maturity at 16 Ma)

Saefudin, I. (1994)- Pentarikhan jejak belah terhadap batuan terobosan dasit dan andesit daerah Pacitan, Jawa timur. J. Geologi Sumberdaya Mineral 4, 38, p. 18-25.
('Fission track dating of dacite and andesite intrusive rocks of the Pacitan area, East Java'. Absolute age of altered hornblende dacite at Tegalombo ~25km NE of Paciran: 30.8 ± 2.9 Ma (Late Oligocene). Fresh andesites at Mt Guling and Menteron E of Pacitan ~19.5 and 17.3 Ma (E Miocene))

Saefudin, I., S. Permanadewi & A.Sutarsih (1995)- Umur mutlak granodiorit, Cihara, Lebak, Jawa Barat. J. Geologi Sumberdaya Mineral 5, 41, p. 2-8.
('Absolute age of the Cihara granodiorite, Lebak, W Java'. Fission-track dating of zircon from granodiorite in Bayah area, SW Java, suggests E Miocene age (~21-23 Ma). K/Ar analysis of one sample 22.4 Ma \pm 0.4 Ma)

Safitri, D. & F. Hendrasto (1998)- Planktic foraminifera biostratigraphy of the Penosogan, Sempor and Rawakele Formations of the Kebumen Area, Central Java Indonesia. Proc. 27th Ann. Conv. Indon. Assoc. Geol. (IAGI), p. 179. *(Abstract only)*

Said, Salatun & Windiastuti (2009)- Analisis fasies dan lingkungan pengendapan Formasi Tuban, Jawa Timur Utara. J. Ilmiah Magister Teknik Geologi (UPN) 2, 2, 14p.
(online at: <http://jurnal.upnyk.ac.id/index.php/mtg/article/view/188/150>)
('Facies analysis and depositional environment of the Tuban Formation, NE Java'. Brief descriptions of E Miocene carbonate (Sr ages ~20.2- 15.2 Ma) in PetroChina wells ANC 1-3 (real name Sukowati?; JTvG). Five major lithofacies facies. Environments lagoon, back reef, reef, and fore reef. With log correlation figure)

Saint-Marc, P. & Suminta (1979)- Biostratigraphy of Late Miocene and Pliocene deep water sediments of eastern Java, Indonesia. J. Foraminiferal Research 9, 2, p. 106-117.
(online at: <http://jfr.geoscienceworld.org/content/9/2/106.full.pdf>)
(Planktonic foram biostratigraphic study of Late Miocene- Pliocene Globigerina Marls Fm of Ngepung section, ENE of Ngawi, Kendeng zone, E Java. Marls with sandy and tuffaceous intercalations, 640m thick, with abundant planktonic foraminifera. Correlation with Bodjonegoro sequence relatively easy)

Saito T. (ed.) (1981)- Micropaleontology, petrology and lithostratigraphy of Cenozoic rocks of the Yogyakarta region, Central Java. Spec. Publ. Dept. Earth Sci, Yamagata University, Japan, p. 1-61.

(Collection of papers reporting on fieldwork around Yogyakarta. Measured sections and micropaleontologic content at Pereng (E-M Miocene; N8-N12), Niten (E Miocene, N7), Djurang (M Miocene, N14-N15), Kalisonggo/ Nanggulan (Eocene), Oyo River (E-M Miocene, N4-N10) and and Bayat (Eocene))

Saito, T. (1981)- Metamorphic and related rocks from Jiwo Hills near Yogyakarta, Java. In: T. Saito (ed.) Micropaleontology, petrology and lithostratigraphy of Cenozoic rocks of the Yogyakarta region, Central Java. Spec. Publ. Dept. Earth Sci, Yamagata University, Japan, p. 7-14.

Samankassou, E., A. Mazzini, M. Chiaradia, S. Spezzaferri, A. Moscariello & D. Do Couto (2018)- Origin and age of carbonate clasts from the Lusi eruption, Java, Indonesia. *Marine Petroleum Geol.* 90, p. 138-148. *(Carbonate clasts from Lusi feeder conduit brecciated and mobilized to the surface carbonate lithologies buried as deep as possibly ~3.8 km. Since deeper carbonate samples erupted in 2006 belong to typically not overpressured Kujung Fm, an additional overpressure may be generated from deeper units (Ngimbang Fm) (dating mainly by Sr-isotopes)).*

Samodra, A., W. Waluyo, D.S. Widarto, Sardjito, E. Purnomo & El. Biantoro (2009)- Seismic and magnetotelluric studies of the Kawengan oil field and Banyuasin oil prospect, North East Java Basin, Indonesia. Proc. 9th SEGJ Int. Symposium Imaging and interpretation, Sapporo, 4p. *(Extended Abstract)*
(MT survey supports presence of three Kujung Fm carbonate build-ups in area of Kawengan oilfield and Banyuasin area, C Java)

Samodra, H. (2016)- Batupasir kuarsa Wediwutah: asal kuarsa dan informasi keragaman geologi Formasi Wonosari, Kabupaten Gunung Kidul. *J. Geologi Sumberdaya Mineral* 17, 2, p. 73-84.
(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/20/19>)
(‘The Wediwutah quartz sandstone: quartz provenance and information of geodiversity of the Wonosari Formation, Gunung Kidul Regency’. Quartz sst in basal part of Wonosari Fm Wediwutah area of S Mountains. Fission-track ages of zircon in quartz sandstones of Wediwutah 12.6 ± 1.2 Ma and from Gombang 24.3 ± 2.9 Ma. Possibly derived from different sources, i.e. Oyo Fm tuffs and Semilir Fm)

Samodra, H., S. Gafoer & S. Tjokrosapoetro (1992)- Geology of the Pacitan Quadrangle, Jawa, 1507-4. Geol. Res. Dev. Centre (GRDC), Bandung, Explanatory Notes 22p. + map.

Samodra, H., Suharsono, S. Gafoer & T. Suwarti (1992)- Geology of the Tulungagung Quadrangle, Jawa, 1507-5. Geol. Res. Dev. Centre (GRDC), Bandung, Explanatory notes 16p. + map.

Samodra, H., G.S. Suharsono & T.Suwarti (1992)- Geology of the Tulugagung Quadrangle, Jawa. (1057-5), 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung.

Samodra, H. & K. Sutisna (1997)- Geologic map of the Klaten (Bayat), sheet Jawa, scale 1:50.000. Geol. Res. Dev. Centre (GRDC), Bandung.

Samodra, H. & S. Wirjosujono (1993)- Stratigraphy and tectonic history of the eastern Southern Mountains, Jawa, Indonesia. *J. Geologi Sumberdaya Mineral* 3, 17, p. 14-22.
(Review of S Mountains geology, C Java. Widespread Late Oligocene- E Miocene volcanics (Nglanggran volcanic arc in W, Mandalika arc in E, with more submarine volcanism), with Manda. Eocene-Miocene rocks in S Mountains only slightly folded; in W (Bayat) segment general dips of 15-30° to S; faulting more common. Two continental fragments posulated in S Mountains, Bayat (with pre-Eocene schists and phyllites) and Mandalika)

Sampurno & Samodra (1991)- Geological map of the Ponorogo Quadrangle, Jawa (1508-1), 1: 100,000. Geol. Res. Dev. Centre (GRDC), Bandung, 19p.

Sampurno, G., R. Kapid & D.M. Barmawidjaja (1996)- Analisis foraminifera kuantitatif pada kala Pliosen di daerah Ledok Kabupaten Blora, Jawa Tengah. Proc. 25th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 2, p. 16-30.

('Quantitative analysis of Pliocene foraminifera of the Ledok area, C Java')

Samuel, L. & M. Yohannes (1986)- Direction of current, Ledok Formation, Cepu area. Proc. 14th Ann. Conv. Indon. Assoc. Geologists (IAGI), Yogyakarta, p. .

Sano, S.I. (1978)- Gravity anomalies associated with island arc. Third Regional Conf. Geology Mineral Hydrocarbon Resources of Southeast Asia (GEOSEA), Bangkok, p. .

Sano, S.I., M. Untung & K. Fuji (1978)- Some gravity features of island arcs of Jawa and Japan and their tectonic implications. In: M. Untung & Y. Sato (eds.) Gravity and geological studies in Jawa, Indonesia. Geol. Survey Indonesia and Geol. Survey Japan Joint Research Program on Regional Tectonics of Southeast Asia, GRDC Spec. Publ. 6, p. 183-207.

Santosa, S. & S. Atmawinata (1992)- Geology of the Kediri Quadrangle, Jawa. Quadrangle 1508-3, 1:100,000. Geol. Res. & Dev. Centre, Bandung, 18p.

Santosa, K. & E.A. Subroto (2006)- Revealing undetected geological structure within Ngimbang Formation in the Ngimbang-1 well, Northeast Java Basin, Indonesia, based on vitrinite reflectance data. Proc. 35th Conv. Indon. Assoc. Geol. (IAGI), Pekanbaru, PITIAGI2006-054, 8p.

(Maturation studies for several E Java wells. In Ngimbang 1 at ~2500m sudden increase in vitrinite and spore color, suggesting normal fault within Eocene Lower Ngimbang Fm, between Kujung High and Ngimbang low)

Santosa, S. & T. Suwarti (1992)- Geology of the Malang Quadrangle, Jawa (1608-1), 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung, 25p. + map

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(online at: <http://jurnal.tekmira.esdm.go.id/index.php/imj/article/view/530/394>)

(Paleogene coal deposits in three fields in Bantene, SW Java: (1) Bayah coals in Eocene Bayah Fm mainly vitrinite and subordinate inertinite; sub-bituminous A to high volatile bituminous A (Ro 0.60-0.79%); (2) Cihideung coals in Bayah Fm sub-bituminous A to medium volatile bituminous (Ro 0.53-1.23%), and (3) Cimandiri coals in Oligocene Cijengkol Fm sub-bituminous A and high volatile bituminous A (Ro 0.6- 0.83%). Most coals high pyrite contents, mainly in Bayah coals (2-13%), indicating marine influence during deposition)

Santoso, B. & N.S. Ningrum (2008)- Petrographic analyses of coal deposits from Cigudeg and Bojongmanik areas with regard to their utilisation. Indonesian Mining J. 11, 2, p. 42-48.

(online at: <http://jurnal.tekmira.esdm.go.id/index.php/imj/article/view/594/456>)

(Petrography of rel. thin Late Miocene coals in Bojongmanik Fm of W Java. Six seams, 0.2- 1.0m thick, one seam in Bojongmanik 1.5- 2.2m thick. Grade lignite- subbituminous)

Santoso, B., A.D. Zeiza & F.P. Nugroho (2007)- Neogene tectonic and sedimentary control to hydrocarbon generation in Banyumas sub-Basin, South of Central Java. Proc. 31st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA07-SG-002, 6p.

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Santoso, D., Alfian, L. Hendrajaya, J.S. Watkins, S. Alam & S. Munadi (1995)- Estimation of Parigi reservoir characteristics using seismic attributes, AVO analysis and AVO inversion, and seismic inversion. Soc. Explor. Geophysics (SEG) Ann. Mtg., Houston 1995, Expanded Abstracts, p. 577-580. *(Extended Abstract)*

(Seismic imaging and reservoir interpretation of M Miocene Parigi Fm carbonate buildups in NW Java Basin)

Santoso, D. & M.E. Suparka (1994)- Penafsiran gaya berat, magnetik dan geologi kompleks melange Luh Ulo, Jawa Tengah. Jurnal Teknologi Mineral (ITB) 1, 1, p.

('Gravity, magnetic and geological interpretation of Luh Ulo melange complex, Central Java'. Cretaceous-Paleocene melange Complex in Karangsambung area, ~20 km N of Kebumen, C Java, can be divided into two

units: Jatisamit Melange and Seboro Melange, differing by more abundant exotic blocks in Jatisamit Melang. Blocks of sedimentary rocks, metamorphic rocks and ophiolite members such as pillow lava, gabbro and serpentinite, all embedded in sheared clay matrix. Overlain by Eocene olistostromes and younger sediments. Ophiolite Complex found in same area interpreted to be from mid-oceanic ridge of Cenomanian age)

Santoso, D. & M.E. Suparka (2001)- Geological interpretation of the melange Complex, Luh Ulo, Central Java based on gravity and magnetic data. In: Selected papers on the geodynamics of the Indonesian regions, Jurnal Geofisika, Spec. Edition, Indon. Assoc. Geophysicists (HAGI), p. 1-399.

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(online at: <http://iopscience.iop.org/article/10.1088/1755-1315/62/1/012038/pdf>)

(Gravity measurements show low density structure beneath dormant Mt. Pandan volcano in E Java. May be interpreted as subsurface magma body, and suggest possibility of magmatic activity below Mt. Pandan)

Santoso, W.D., H. Insani & R. Kapid (2014)- Paleosalinity conditions on Late Miocene- Pleistocene in the North East Java Basin, Indonesia, based on nannoplankton population changes. J. Riset Geologi Pertambangan (LIPI) 24, 1, p. 1-11.

(online at: http://jrisetgeotam.com/index.php/jrisetgeotam/article/view/77/pdf_21)

*(In Rembang zone of NE Java Basin peaks in abundance of nannofossil species *Calcidiscus leptoporus* and *Helicosphaera carteri* used to infer rel. hyposaline conditions in Late Miocene Ledok and Late Pliocene-E Pleistocene Selorejo Fms)*

Santoso, W.D., H. Insani, Y. Rizal & R. Kapid (2014)- Nannoplankton population as indicator of sea level change in Gunung Panti Area, North East Java Basin. Proc. Int. Conf. Transdisciplinary Research on Environmental Problem in Southeastern Asia (TREPSEA 2014), 7p.

Santy, L.D., A. Koesworo, R. Fakhruddin, R. Setiawan & D. Irawan (2009)- Ichnologi dan sedimentologi untuk pemodelan facies sedimentasi pada Formasi Sambipitu-Oyo, Pegunungan Selatan, Yogyakarta. In: Proc. Workshop Geologi Pegunungan Selatan, Yogyakarta 2007, Pusat Survei Geologi, Bandung, Spec. Publ. 38, p. 209-233.

*(Ichnology and sedimentology for sediment facies modeling in the Sambipitu-Oyo Formations, Southern Mountains, Yogyakarta'. Sandstones of E-M Miocene Sambipitu and Oyo Fms in Southern Mountains SE of Yogyakarta with locally common trace fossils, incl. *Skolithos*, *Planolites*, *Chondrites*, *Thalassinoides*, *Subphyllochora* and *Scolicia*. Eight facies associations in Ngalang River, from tidal, shoreface to 'lobe' facies)*

Sapardina, D., R. Sekti, F. Musgrove & N. Stephens (2013)- Tight rinds in SE Asia Oligo-Miocene isolated carbonate platforms. Proc. 37th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA13-G-195, p.

(Wells drilled near edge of Oligo-Miocene isolated carbonate platforms in Cepu Block, E Java basin, have low porosity (~8% compared to 20-35% in Platform Interior in most fields). Tight zones ~400' wide, on oceanward and landward edges, and caused by combination of depositional and diagenetic processes, primarily lack of leaching that makes Platform Interior good reservoir. Similar to Malampaya field, Philippines)

Sapei, T., A.H. Suganda, K.A.S. Astadiredja & Suharsono (1992)- Geology of the Jember Quadrangle, Jawa, 1607-6 and 1607-3, scale 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung, p. 1-9.

(Southern Mountains of E Java, with folded Oligo-Miocene sediments and volcanics in S and widespread Quaternary volcanics in North)

Sapiie, B., R. Anshory, S. Susilo & Putri (2007)- Relationship between fracture distribution and carbonate facies in the Rajamandala limestone of West Java region. Proc. 31st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 8p.

(Fracture characteristics strongly dependent on carbonate facies. Stylolites more common in boundstone facies than in wacke- and packstones. Fracture density also higher in boundstone facies. Fracture density also controlled locally by presence of faults and folds)

Sapiie, B., I. Gunawan, A. Herlambang, M. Rismawaty, A. Rifiyanto, S. Rahardjo, A. Samudra & P.R. Putra (2017)- Problems in conducting fault seal analysis in carbonate reservoir. Proc. 41st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA17-263-G, 8p.

(Fault Seal Analysis study in Rajamandala limestone near Bandung. Faults in carbonates generally leaking)

Sapiie, B., A.H. Harsolumakso & S. Asikin (2006)- Paleogene tectonics evolution and sedimentation of East Java Basin. AAPG Int. Conf., Perth, p. *(Abstract only)*

Sapiie, B., A. Pamumpuni, E.S. Lanin, I. Janata, D. Nugroho & T. Simo (2011)- Carbonate fractured reservoir characterization using analogue outcrop study of the Rajamandala Carbonate Complex, West Java. Proc. 35th Ann. Conv. Indon. Petroleum Assoc. (IAP), Jakarta, IPA11-G-190, p. 1-16.

(Fracture distribution and characteristics in Late Oligocene Rajamandala Limestone outcrops dependent on carbonate facies)

Sapiie, B., A. Pamumpuni, I.J. Saputra, E. Lanin, A.M. Surya Nugraha, W. Kurniawan, L.A. Perdana, M.A. Riswanti, A. Herlambang & T. Simo (2011)- Structural characterization of the Rajamandala Limestone. In: B. Sapiie & T. Simo, The stratigraphy and structure of the Oligocene (Chattian) Rajamandala Limestone, Bandung, Western Java, Indonesia, a technical field trip for geoscientists, Indon. Petroleum Assoc. Field Trip, 8p.

Sapiie, B., D. Noeradi, A. M. Suryanugraha, W. Kurniawan, T. Simo & D. Nugroho (2010)- Palinspatic reconstructions of Rajamandala carbonate complex as implication of paleogeography in the Western Java, Indonesia. Proc. 34th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA10-G-057 3D, 12p.

(Rajamandala Carbonate Complex N-verging, ENE-WSW trending thrust-fault system, with~50% shortening. Rajamandala platform carbonate complex developed on NNE-SSW regional basement high, with Cimandiri fault acting as shelf edge. Youngest Plio-Pleistocene deformation parallel to pre-existing structure, suggesting basement- involved deformation)

Sapiie, B., A. Shirly & A. Badai (2006)- Fault zone characterization and fault seal analysis in the Gunung Walat area, West Java. Proc. 35th Ann. Conv. Indon. Geol. Assoc. (PIT IAGI), Pekanbaru 2006, p.

Saputra, R. & Akmaluddin (2015)- Biostratigrafi nannofosil gampingan Formasi Nanggulan bagian bawah berdasarkan batuan inti dari Kec. Girimulyo dan Kec. Nanggulan, Kab. Kulon Progo, DI Yogyakarta. Proc. 8th Seminar Nasional Kebumihan, Dept. Teknik Geologi, Gadjah Mada University, Yogyakarta, p. 400-412.

(online at: <https://repository.ugm.ac.id/135460/>)

('Calcareous nannofossil biostratigraphy of the Lower Nanggulan Formation based on core from Girimulyo and Nanggulan, Kulon Progo District, DI Yogyakarta'. 175m of UGM-cored section of Songo Beds and Watupuru Beds zones NP15-NP17, Middle Eocene)

Saputra, S.E., A. Amir, A.H. Satyana & N.A. Ascaria (2005)- Sedimentology of the Wonosari carbonates, Southern Yogyakarta: outcrop study and petroleum implications. Proc. Joint Conv. 30th HAGI and 34th Ann. Conv. Indon. Assoc. Geol. IAGI, Surabaya 2005, p.

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Saputra, A.A. & N.I. Setiawan (2016)- Studi petrologi dan geokimia batuan metamorf jalur Sungai Muncar, Desa Seboro, Kecamatan Sabang, Kabupaten Kebumen, Provinsi Jawa Tengah. In: R. Hidayat et al. (eds.)

Proc. 9th Seminar Nasional Kebumihan, Dept. Teknik Geologi, Gadjah Mada University, Yogyakarta, p. 512-529.

(online at: <https://repository.ugm.ac.id/273555/>)

(Study of the petrology and geochemistry of metamorphic rocks of the Muncar River, Seboro Village, Sadang District, Kebumen, C. Java'. Metamorphic rocks from Muncar River in Lok Ulo complex low P to high P facies (increasing to N?): greenschist, amphibolite, glaucophane blueschist and eclogite. Reflect orogenic metamorphism in subduction environment. Tourmaline-bearing facies probably derived from MORB basalt, eclogite phengite from oceanic intra-plate basalt (OIB). Also presence of serpentinite, marble)

Sardjono (2006)- Crustal architecture of Java Island, Indonesia- an approach via constrained gravity modeling. Proc. IPA-AAPG Jakarta 2006 Int. Geosc. Conf. and Exhib. OT-16, 5p.

(Gravity modeling along seven N-S transects show Java island composed of continental crust, but in places high gravity anomalies with rel. short wavelengths suggest fragments of upper mantle material close to surface)

Sari, R. & S. Husein (2012)- Sedimentasi gaya berat Formasi Kebo bagian bawah, daerah Mojosari, Kecamatan Bayat, Kabupaten. Proc. 41st Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 2012-SS-02, 4p.

('Gravity deposition in lower part of Kebo Formation, Mojosari area, Bayat District'. M Oligocene Lower Kebo Fm in S Mountains SE of Yogyakarta is submarine fan deposit)

Sari, R., I.K.A.A. Permana, R. Fikri & Y. Prakasa (2018)- Understanding Paleogene depositional environment in East Cepu High using geochemistry as an approach for exploration opportunity in North East Java Basin. Proc. 42nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA18-156-G, 8p.

(East Cepu High NE-SW trending Paleogene paleo-high, with several oil-gas fields in Oligo-Miocene carbonate build-ups. Hydrocarbons from Paleogene Ngimbang Fm source rocks, but from different environments. Hydrocarbons in SE from fluvio-deltaic deposits, in NW from deltaic-shelf deposits)

Sarmili, L., U. Kamiludin & R. Suprijadi (2002)- Uplifted coral reef of Paciran Formation in East Java. Bull. Marine Geol. 17, 1, p.

Sarmili, L., U. Kamiludin, Suprijadi & Rahadian (1999)- Marine and coastal iron sand (magnetite) distribution in Cilacap region, Central Java. Bull. Marine Geol. 14, 2, pp. 1-8.

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(online at: <http://ejournal.mgi.esdm.go.id/index.php/jgk/article/view/272/262>)

('The formation of accretionary prisms at Ciletuh Bay in relation to the Cimandiri Fault, West Java'. Series of thrust faults interpreted on (shallow) seismic profiles at Ciletuh Bay, interpreted as accretionary prism)

Sartika, D.N., I.W. Warmada, B.H. Harahap & Widiasmoro Soewondo (2009)- Late Oligocene tholeiitic lava from Kenanga River, Tegalombo, Pacitan, East Java. J. Southeast Asian Applied Geol. (UGM) 1, 1, p. 1-8.

(online at: <https://jurnal.ugm.ac.id/jag/article/view/6671/5219>)

(Late Oligocene pillow basalts at Kenanga River, 5 km SE of Watupatok. Porphyritic- aphyric texture, vesicular-amygdaloidal, with plagioclase and pyroxene phenocrysts in volcanic glass matrix. Geochemical indicates tholeiitic island arc basalt)

Sartono (1961)- Shifting of the coastline and interfingering in the Neogene of the easternmost part of the Gunung Sewu, Punung, Pacitan (East Java). ITB Contrib. Dept. Geology 48, p. 3-19.

Sartono, S. (1964)- Stratigraphy and sedimentation of the easternmost part of Gunung Sewu (East Djawa). Geol. Survey Indonesia, Bandung, Publ. Teknik Seri Geol. Umum 1, p. 1-95.

(Rel. extensive study of stratigraphy and Miocene carbonate development in Southern Mountains and W Progo Mountains, S Central Java)

- Sartono, S. (1984)- Orogenesa intra-Miosen di Indonesia. Proc. 13th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, p.
(*Intra-Miocene orogeny in Indonesia*)
- Sartono, S. (1987)- Olistostrom sebagai batuan dasar di Jawa. Proc. 16th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, p.
- Sartono, S. (1990)- Extensive slide deposits in Sunda Arc geology, the Southern Mountain of Java, Indonesia. Buletin Geologi (ITB) 20, p. 3-13.
- Sartono, S. & H. Murwanto (1987)- Olistostrome sebagai dasar batuan di Jawa. Proc. 16th Ann. Conv. Indon. Assoc. Geol. (IAGI), p.
(*Olistostrome as basal rock in Java*)
- Sasongko, W., F.H.M. Mahendra, F. Buha D & M.R. Legi H (2016)- Kajian tatanan tektonik, asal batuan dan iklim purba pada batupasir Formasi Nanggulan berdasarkan analisis petrografi. In: R. Hidayat et al. (eds.) Proc. 9th Seminar Nasional Kebumihan, Dept. Teknik Geologi, Gadjah Mada University, Yogyakarta, p. 530-545.
(online at: <https://repository.ugm.ac.id/273761/1/C-11.pdf>)
(*Study of tectonic setting, provenance and paleoclimate of the Nanggulan Formation sandstone based on petrographic analysis. Petrography of Eocene Nanggulan Fm sst of Kulon Progo Dome, C Java, suggests changes in provenance from lower sands from continental block (granitic rock of E Java microcontinent) followed by recycled orogen (low-grade metamorphics; folding-uplift of E Java microcontinent) to undissected magmatic arc in upper Nanggulan Fm (onset of magmatic arc activity). Climate humid-subhumid*)
- Sastramihardja, T. (1991)- Pola struktur dan periode deformasi daerah Cihara, Banten Selatan- Jawa Barat. J. Riset Geologi Pertambangan (LIPI) 10, 1, p. 42-52.
(*Structural pattern and deformation periods of the Cihara area, South Banten, West Java. SW Java 3 deformation periods: (1) Pretertiary compression with axis of N355°E, (2) Oligo-Miocene compression with N5°E axis and (3) M Miocene NE-SW compression with dextral strike-slip faulting*)
- Sato, T., Rendy, D. Syavitri, E. Widiyanto, D. Priambodo, M. Burhannudinnur & A. Prasetyo (2016)- Unconformities detected by high-resolution calcareous nannofossil biostratigraphy and its effect on petroleum system in Northeast Java Basin. Proc. GEOSEA XIV and 45th Ann. Conv. Indon. Assoc. Geologists (IAGI) (GIC 2016), Bandung, p. 461-466.
(*Calcareous nannofossil biostratigraphy of NE Java basin well DDR (Dander)-1, interval 110- 2241m (= shale above Ngimbang Lst). Age E Miocene- latest E Pliocene (NN3-NN15). Four unconformities: (1) 1100m (10.54-10.79 Ma); (2) 720m (9.56- 9.67 Ma); (3) 560m (8.52- 8.76 Ma); and (4) 380m (4.0- 7.17Ma). Sedimentation rates 20-40cm/ 1000 years with unconformities. Unconformities correlated to global climatic events such as Asian monsoons intensification (8 -10Ma) and Messinian salinity crisis (5.5Ma) and may be related to global eustacy changes*)
- Satyana, A.H. (1989)- Studi petrotektonik kerabat ofiolit pada kompleks melange Gunung Badak, Ciletuh, Kecamatan Ciemas, Kabupaten Sukabumi, Jawa Barat. Thesis Jurusan Geologi, Padjadjaran University, Bandung, p. (Unpublished)
(*Petrotectonic study of ophiolite members of the Gunung Badak melange complex, Ciletuh, Ciemas District, Sukabumi, West Java*)
- Satyana, A.H. (2002)- Oligo-Miocene reefs: East Java's giant fields. In: F.H. Sidi & A. Setiawan (eds.) Proc. Giant Field and New exploration concepts seminar, Indon. Assoc. Geol. (IAGI), Jakarta 2002, p. 45-62.
(*On recent discovery of two giant fields in Oligocene- Early Miocene Kujung- Prupuh carbonates in E Java Basin: Bukit Tua-Jenggolo (Gulf/ConocoPhillips, 2001; land-attached platform) and Banyu Urip (ExxonMobil Cepu, 2001; isolated buildup)*)

Satyana, A.H. (2003)- Deep-water sedimentation of Java: hydrocarbon opportunities and resistance. Indon. Petroleum Assoc. (IPA) Newsl., October 2003, p. 8-13.

(Hydrocarbon play potential in deep marine Tertiary basinal areas of Java (Bogor Basin, Serayu, Kendeng, East Java basins))

Satyana, A.H. (2005)- Structural indentation of Central Java: a regional wrench segmentation. Proc. Joint Conv. 34th Ann. Conv. Indon. Assoc. Geol. (IAGI) and 30th Ann. Conv. HAGI, Surabaya, p. 193-204.

(Indentation of coastlines of N and S Central Java caused by two major Paleogene wrench faults with opposing trends and slips which terminate in southern C Java near Nusa Kambangan: (1) Muria-Kebumen Fault, left-lateral, trending SW-NE (Meratus trend); and (2) Pamanukan-Cilacap Fault, right-lateral, trending NW-SE (Sumatran trend). Maximum uplift of Cilacap-Kebumen exposed basement rocks in Luk Ulo area. S of maximum uplift region submergence of Southern Mountains across southern C Java)

Satyana, A.H. (2005)- Oligo-Miocene carbonates of Java, Indonesia: tectono-volcanic setting and petroleum implications. Proc. 30th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 217-249.

(Java Oligo-Miocene carbonates widely distributed, during time of "Old-Andesite" volcanism. Two trends: (1) North (Cepu-Surabaya-Madura, North Central Java and Ciputat-Jatibarang areas), comprising Kujung, Tuban, Baturaja and M Cibulakan formations and (2) South (Gunung Kidul- Banyumas- Jampang- Bayah-Sukabumi-Rajamandala). N Trend carbonates in back-arc setting, 75-150 km from contemporaneous volcanic arc in S Java. S Trend reefs on ridges in Bayah-Sukabumi-Padalarang areas not contemporaneous with volcanism. Volcanic quiescence across Java from 18- 12 Ma, when sea transgressed many areas in SE Asia, causing abundant reefal carbonates deposition along S Trend. N Trend carbonates prolific petroleum reservoirs. S Trend no hydrocarbons, but inadequately explored)

Satyana, A.H. (2006)- New insight on tectonic of Central Java, Indonesia and its petroleum implications. Abstract AAPG Int. Conf., Perth 2006. *(Extended Abstract)*

(C Java conspicuous indentation of coastlines compared to W and E Java. Two major Paleogene strike-slip faults with opposing trends and slips responsible for indentation: (1) SW-NE Muria-Kebumen Fault, left-lateral, and (2) NW-SE Pamanukan-Cilacap Fault, right-lateral. Faults caused indentations of N and S coastlines, subsidence of North C Java, uplift of Serayu Range and exposure of pre-Tertiary Luk Ulo melange complex, disappearance of S Mountains in southern C Java due to subsidence, and N-ward shift of Quaternary volcanic arc in C Java)

Satyana, A.H. (2007)- Central Java, Indonesia- a *terra incognita* in petroleum exploration: new considerations on the tectonic evolution and petroleum implications. Proc. 31st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA07-G-085, p. 1-22.

(Two major Paleogene strike-slip faults with opposing trends and slips responsible for indentation of Java coastline: (1) SW-NE trending Muria-Kebumen Fault, left-lateral and (2) NW-SE, right-lateral Pamanukan-Cilacap Fault. Faults caused: uplift of Serayu Range and exposure of Luk Ulo melange, subsidence of N part of C Java and indentation of northern coastline, subsidence of S Mountains in southern C Java and indentation of S coastline, and N-ward shifting of Quaternary volcanic arc in C Java. Presence of two opposite regional strike-slip faults crossing each other in southern C Java has configured petroleum geology of C Java)

Satyana, A.H. (2009)- Disappearance of the Java's Southern Mountains in Kebumen and Lumajang depressions: tectonic collapses and indentations by Java's transverse major fault zones. In: International Conference on Java's Southern Mountains, Yogyakarta 2009, Gadjah Mada University, 8p.

(Two 'gaps' in Java Southern Mountains: (1) Kebumen Depression in C Java and (2) Lumajang Depression in SE Java. Two sets of fault zones, trending transversal to Java Island responsible for collapse of S Mountains in these areas)

Satyana, A.H. (2014)- Subvolcanic hydrocarbon prospectivity of Java: opportunities and challenges. Proc. 39th Ann. Conv. Indon. Assoc. Geoph. (HAGI), Solo, 4p.

(Presence of oil and gas seeps in volcanic areas of Java show presence of active petroleum systems under volcanic covers. This hydrocarbon prospectivity of Java Island so far unexplored. Focus areas for this target suggested here is at border between W Java- C Java, and subsided northern C Java)

Satyana, A.H. (2015)- Subvolcanic hydrocarbon prospectivity of Java: opportunities and challenges. Proc. 39th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA15-G-105, 15p.
(Expanded version of Satyana (2014). Common oil and gas seeps in volcanic areas of Java show presence of active petroleum systems underneath volcanic cover, but so far unexplored. Areas with prospectivity: Banten Block, Majalengka-Banyumas area and N Serayu area. Seismic imaging and reservoir quality issues)

Satyana, A.H. (2016)- The emergence of Pre-Cenozoic petroleum system in East Java Basin: constraints from new data and interpretation of tectonic reconstruction, deep seismic, and geochemistry. Proc. 40th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA16-573-G, 30p.
(Geochemistry of Sepanjang oil in Eocene reservoir from Kangean area in Java Sea and general East Java oils suggest possible presence of marine Lower Cretaceous-sourced oil, based on low oleanane and sterane content. Deep seismic lines in East Java Sea and South Java forearc suggest possibility of Pre-Eocene section in Australia-derived microcontinent(s) (But: proven oil source rocks on Australian NW Shelf older than Cretaceous, and without any oleanane?; JTvG)

Satyana, A.H. & C. Armandita (2004)- Deepwater plays of Java, Indonesia: regional evaluation on opportunities and risks. In: R.A. Noble et al. (eds.) Proc. Deepwater and Frontier Exploration in Asia and Australasia Symposium, Jakarta, Indon. Petroleum Assoc. (IPA), p. 293-319.
(Review of Mio-Pliocene deepwater sedimentation in Bogor, North Serayu and Kendeng Zones, across middle of Java. Depressions formed by isostatic subsidence compensating for uplifted volcanic arcs located to S. In Plio-Pleistocene time trough/basins significantly uplifted and deformed, and currently form fold and thrust belts. Deepwater plays viable in Java. Oil seeps and oil fields in N Serayu Trough in turbiditic volcanoclastic sandstones. Oil fields in E Java have reservoirs of Ngrayong sands considered as deepwater deposits on slope of Rembang Zone. Fields in Pliocene-Pleistocene volcanoclastic turbidites of E Kendeng Zone also show prospectivity of deepwater plays in Java. With Ngrayong Fm paleogeography)

Satyana, A.H., C. Armandita, B. Raharjo & I. Syafri (2002)- New observations on the evolution of the Bogor Basin, West Java: opportunities for turbidite hydrocarbon play. Buletin Geologi (ITB), Spec. Ed. (Prof. Soejono Martodjojo volume), 34, 3, p. 101-116.
(Outcrop studies in Sumedang area suggest Bogor Basin also received sediments from N (e.g. upper M Miocene Cinambo, Lower Pliocene Subang and Bantarujeg Fms) not just from S, as suggested by Martodjojo (1984). Most sands deposited in ponded basins on slope area and as submarine fans on basin floor)

Satyana, A.H. & Asnidar (2008)- Mud diapirs and mud volcanoes in depressions of Java to Madura: origins, natures and implications to petroleum system. Proc. 32nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA08-G-139, 20p.
(Numerous mud diapirs and mud volcanoes in Bogor-North Serayu-Kendeng-Madura Strait Zone, an axial depression with rapid deposition of Mio-Pleistocene sediments and subsequently compressed. Oil and gas seeps and producing oil and gas fields in same zone)

Satyana, A.H., E. Biantoro & A. Luthfi (2003)- Gas habitat of the East Java Basin, Indonesia- meets the future demand. Abstract 65th EAGE Conf. & Exhibition, Stavanger 2003, 4p. *(Extended Abstract)*
(E Java basin basin rich in gas. Thermogenic gas in two trends: (1) Cepu- Kangean High (in Oligo-Miocene carbonates on Cepu High, Eo-Oligocene Ngimbang carbonate at Suci, Eocene clastics at Pagerungan and W Kangean) and (2) N Madura Platform (Kucung and Rancak carbonate reservoirs at KE, Bukit Tua, Jenggolo, Payang). Gases from Cepu High high-CO₂ gas due to thermal degradation of carbonates. Biogenic gases in two trends: (1) Surabaya- Madura Strait (Wunut, Oyong, Maleo, MDA, Terang-Sirasun-Batur-Kubu), and (2) Muriah- Bawean (Kepodang Field). Reservoirs M Miocene Tawun to E Pliocene Mundu sands and carbonates)

Satyana, A.H. & A. Darwis (2001)- Recent significant discoveries within Oligo-Miocene carbonates of the East Java Basin: integrating the petroleum geology. Proc. 30th Ann. Conv. Indon. Assoc. Geol. (IAGI) and GEOSEA 10th Reg. Congress, Yogyakarta, p. 37-41.

(NE Java basin paper describing Oligo-Miocene deposition of carbonate buildups on ENE-WSW trending highs (W Cepu, E Cepu, Porong-BD platform), formed during Eocene rifting, followed by M Miocene and younger inversion)

Satyana, A.H. & M. Djumlati (2003)- Oligo-Miocene carbonates of the East Java Basin, Indonesia: facies definition leading to recent significant discoveries. AAPG Int. Conf., Barcelona, Spain, Ext. abstract, 5p.

(Brief but good overview of Oligo-Miocene carbonates distribution of East Java basin, showing isolated platforms on WSW-ENE trending faulted basement highs, formed during Paleogene rifting. Tectonic inversion started in mid-Miocene and peaked in Pleistocene time)

Satyana, A.H., E. Erwanto & C. Prasetyadi (2004)- Rembang-Madura-Kangean-Sakala (RMKS) Fault zone, East Java Basin: the origin and nature of a geologic border. Proc. 33rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 23p.

(Major E-W left-lateral wrench zone, forming deformed zone 15-40 km wide and 675 km long from Rembang in W through Madura and Kangean Islands to Sakala offshore in E. Fault Zone at hinge or shelf edge between stable E Sunda Shelf (Paternoster-Kangean micro-continent) in N and deep-water area with different basement lithology in S. Initiation of fault zone in late E Miocene in Sakala area, M Miocene in Rembang area. Flower structures on seismic sections, showing basement-involved, deeply-rooted vertical master faults with upward diverging splays with reverse separations. In map view, these splays are mapped as fold and fault belts trending W-E and WNW-ESE. Extensional component of wrench zone subsided Paleogene rifted blocks like Central Deep and formed normal faults. Tectonic inversion observed. Shale diapirism common S of fault zone in thick shale sequences deposited rapidly to S of RMKS FZ)

Satyana, A.H. & M.E.M. Purwaningsih (2002)- Geochemistry and habitats of oil and gas in the East Java Basin regional evaluation and new observations. Proc. 31st Ann. Conv. Indon. Assoc. Geol. (IAGI), p. 68-102.

(Geochemical data from ~100 wells and seeps. Most oils from terrestrial- marginal marine facies. Offshore oils more terrestrial than onshore. Ngimbang, Lower Kujung and Lower Tuban shales sources of oils and thermogenic gases. Biogenic gases from Neogene Tawun- Lidah shales. High CO₂ associated with thermal degradation of Paleogene Kujung carbonates)

Satyana, A.H. & M.E.M. Purwaningsih (2002)- Lekukan struktur Jawa Tengah: suatu segmentasi sesar mendatar. In: Proc. Conf. Sumberdaya geologi daerah istimewa Yogyakarta dan Jawa Tengah, IAGI Central Java section, Yogyakarta, p. 55-66.

(Indentation of C Java structure by wrench faults. Two wrench zones representing Paleogene tectonic elements of major shears in W Indonesia (NE-SW Sumatran Trend and SW-NE Meratus Trend) meet in C Java)

Satyana, A.H. & M.E.M. Purwaningsih (2003)- Geochemistry of the East Java Basin: new observations on oil grouping, genetic gas types and trends of hydrocarbon habitats. Proc. 29th Ann. Conv. Indon Petrol. Assoc. (IPA), Jakarta, 1, p. 585-607.

(Similar to 2002 paper. Biogenic gas in M Miocene-Pliocene reservoirs in Terang-Sirasun, Oyong, Maleo (Madura straits), Kepodang (Java sea) Wonolelo seep in W Cepu, etc. High CO₂ gas (30-80%) in two areas: Cepu High, offshore Java Sea)

Satyana, A.H. & M.E.M. Purwaningsih (2003)- Oligo-Miocene carbonates of Java: tectonic setting and effects of volcanism. Proc. 32nd Ann. Conv. Indon. Assoc. Geol. (IAGI) and 28th Ann. Conv. HAGI, Jakarta, 27p.

(Java Late Oligocene-Early Miocene widespread platform and reefal carbonates. Period also noted for 'Old Andesite' volcanism along S part of Java. Two trends: (1) N Trend, including Cepu-Surabaya-Madura, N Central Java, and Ciputat-Jatibarang areas consists of carbonates of Kujung, Prupuh, Tuban, Poleng, M Cibulakan and Baturaja and (2) S Trend, with Gunung Kidul- Banyumas- Jampang- Bayah- Sukabumi-Rajamandala areas. N Trend developed in back-arc setting, 75-150 km away from Oligo-Miocene volcanic arc in S Java. No volcanic material found in these carbonates. S Trend in intra-arc setting. No reefal carbonates in

G. Kidul-Banyumas-Jampang areas. Rajamandala reefs developed prior to E Miocene Jampang volcanism. Volcanic quiescence in Java from 18-12 Ma (M Miocene) resulted in significant reefal carbonates development along S Mountains of Java, like Wonosari/Punung in Gunung Kidul, Jonggrangan in Kulon Progo, Karangbolong/Kalipucang in Banyumas, and Bojonglopang in Jampang areas)

Sawolo, N., E. Sutriyono, B.P. Istadi & A.B. Darmoyo (2009)- The LUSI mud volcano triggering controversy: was it caused by drilling? *Marine Petroleum Geol.* 26, 9, p. 1766-1784.

(online at: <http://seismo.berkeley.edu/~manga/sawolo2009.pdf>)

(*Study suggesting LUSI mud volcano is naturally occurring mud volcano in area prone to mud volcanism. Conclusion disputed by Davies et al. (2010) and Tingay (2009, 2016)*)

Sawolo, N., E. Sutriyono, B.P. Istadi & A.B. Darmoyo (2010)- Was LUSI caused by drilling?- Authors reply to discussion. *Marine Petroleum Geol.* 27, 10, p. 1658-1675.

(*Reply to Davies et al. (2010) discussion, who argued LUSI mud volcano was triggered by drilling*)

Saygin, E., P.R. Cummins, A. Cipta, R. Hawkins, R. Pandhu, J. Murjaya, Masturyono, M. Irsyam, S. Widiyantoro & B.L.N. Kennett (2016)- Imaging architecture of the Jakarta Basin, Indonesia, with transdimensional inversion of seismic noise. *Geophysical J. Int.* 204, 2, p. 918-931.

(*Shear wave velocity model of Jakarta Basin from seismic noise shows low-velocity basin under most of N Jakarta down to ~1-1.5 km*)

Scheibener, E. & T.L. Reitsema (1931)- Een voorkomen van kwartszandsteen, daciet en contactmetamorphe gesteenten in het heuvelterrein nabij Godean, gouvernement Jogjakarta. *Natuurkundig Tijdschrift Nederlandsch-Indie* 91, 2, p. 196-202.

(online at: <http://62.41.28.253/cgi-bin/>)

(*'An occurrence of quartz sandstone, dacite and contact metamorphic rocks in small hills near Godean, Yogyakarta area'. Locality of G. Pare, NW of Godean, W of Yogya. Quartz described as polycrystalline, with undulose extinction (= metamorphic quartz?; possibly Eocene sandstone with intrusive younger andesitic volcanics; JTvG)*)

Scheidecker, W.R. & D.A. Taiclet (1976)- Arjuna B structure: a case history. *Proc. 5th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta*, 1, p. 95-114.

(*Second offshore oil discovery in Indonesia, in 1968. Upper Cibulakan Fm and 'Main' and 'Massive' sand reservoirs improve in quality away from crest of structure*)

Schilder, F.A. (1937)- Neogene Cypraeacea aus Ost- Java (Mollusca, Gastropoda). *De Ingenieur in Nederlandsch-Indie (IV)*, 4, 11, p. 195-210.

(*'Neogene Cypraeacea from East Java'. Descriptions of cowrie shells from Miocene of Lodan anticline, Pliocene of Solo River and E Pleistocene of Mojokerto region, collected during mapping by Bandung Geological survey*)

Schilder, F.A. (1939)- Uber einige fossile Cypraeacea aus dem Sunda-Archipel. *Neues Jahrbuch Mineral. Geol. Palaont.* 81, 3, p. 494-500.

(*'On some fossil Cypraea from the Sunda Archipelago'. Gastropods*)

Schilder, F.A. (1941)- The marine mollusca of the Kendeng beds (East Java). *Gastropoda, Part 3 (Families Eratoidae, Cypraeidae, and Amphiperidae)*. *Leidsche Geol. Mededelingen* 12, p. 171-194.

(online at: www.repository.naturalis.nl/document/549360)

(*Part of series of papers on Kendeng Beds marine molluscs by Van Regteren Altena 1938-1950 and Schilder. Gastropods from Upper Kalibeng and Pucangan Fms includes Zoila kendengensis, Volva surajensis n.sp., etc.*)

Schiller, D.M., R.A. Garrard & L. Prasetyo (1991)- Eocene submarine fan sedimentation in Southwest Java. *Proc. 20th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta*, 1, p. 125-181.

(Outcrops of M- L Eocene Ciletuh Fm f-vc sandstones and sandy conglomerates, interpreted as sand-dominated submarine fan complex. Two lithofacies: (1) composed of mostly quartz (58-84%) and variety of lithic fragments; (2) less pervasive volcanic facies, composed almost entirely of volcanoclastic sediments. Mesozoic granitic continental crust and Late Cretaceous subduction complex areas to N interpreted to have supplied majority of quartz and lithic fragments, while possible Eocene local volcanic arc is believed to have sourced volcanics. Reservoir quality of quartzose sst poor due to compaction and carbonate cementation).

Schiller, D.M., B.W. Seubert, S. Musliki & M. Abdullah (1994)- The reservoir potential of Globigerinid sands in Indonesia. Proc. 23rd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 189-212.

(Porous limestones composed of sand-sized planktonic forams in outcrops and wells with variable reservoir quality and thickness. Up to 30-45% primary porosity, 100-1000 md perm and 30-40m thick. Two types: foram sand "drifts" deposited by bottom currents and foram "turbidites" deposited as submarine channel-fills and fans. "Foram drift" facies more common and best reservoir characteristics. Foram drift deposits in E Java-Madura Strait mostly latest Early Pliocene. Facies development related to tectonic event, partly coinciding with 3.8 Ma global sea level lowstand. Similar globigerinid-rich facies in Late Pliocene Selorejo Fm of C and E Java. E Pliocene drift facies widespread from E-most-C Java to Bali Sea, Late Pliocene examples appear restricted to Rembang Zone of NE Java)

Schipper, J. & C.W. Drooger (1974)- Miogypsinidae from East Java and Madura. Proc. Kon. Nederl. Akademie Wetenschappen, Amsterdam, B77, 1, p. 1-14.

(Three E-M Miocene miogypsinid species assemblages from same samples studied for lepidocyclinids and planktonics by Van der Vlerk and Postuma (1967): rel. long-lived M. globulina (N5-N7?), M. cushmani (~N8?) and M. antillea (Gr. peripheroronda zone; N9))

Schlumberger, C. (1900)- Note sur deux especes de *Lepidocyclina* des Indes Neerlandaises. Sammlungen Geol. Reichs-Museums Leiden ser. 1, 6, 1, p. 128-134.

(online at: www.repository.naturalis.nl/document/552395)

(Note on two species of Lepidocyclina from the Netherlands Indies'. Lepidocyclina insulae natalis (probably E Miocene Eulepidina; JTVG) from Ngembak well, E Java, and stellate Lepidocyclina martini from Miocene of Madura, collected by Verbeek)

Schluter, H.U., C. Gaedicke, H.A. Roeser, B. Schreckenberger, H. Meyer, C. Reichert, Y. Djajadihardja & A. Prex (2002)- Tectonic features of the southern Sumatra-Java forearc of Indonesia. Tectonics 21, 5, p. 11/1-11/15.

(Seismic suggests two units in accretionary wedge off SW Sumatra- SW Java: Paleogene inner wedge and Neogene- Recent outer wedge. Transtensional pull-apart basins along W Sunda Strait, etc.)

Schmid, F. & H.W. Walther (1962)- Ein neuer Fundpunkt von Pliozan auf dem Gunung Sadeng bei Puger (Ost-Java) und seine Bedeutung fur das Alter der Manganvererzung. Geol. Jahrbuch 80, p. 247-276.

(A new Pliocene locality at Gunung Sadeng near Puger (E. Java) and its significance for the age of the manganese mineralization')

Schmid, F. & H.W. Walther (1962)- Uber ein neues Pliozan-Vorkommen auf dem Gunung Sadeng bei Puger (Ost-Java). Paleontol. Zeitschrift 36, Suppl. 1, p. 216-217.

(On a new occurrence of Pliocene on the Gunung Sadeng near Puger (E Java)'. Pliocene in S Mountains of SE Java N of Puger village, SE Java, are E Miocene Old Andesites overlain by M Miocene marls and Wonosari reefal limestones, locally with metasomatic manganese mineralization. At 80m above sea level karstified limestone overlain by thin conglomerates and sands with clasts of manganese impregnated limestone and well-preserved, probably Pliocene-age shallow marine mollusc fauna)

Schuppli, H. (1932)- Kort verslag over de geologische situatie van het Zuid-Rembangsche heuvelland. Jaarboek Mijnwezen Nederlandsch-Indie 59 (1930), Verhandelingen 3, p. 95-121.

('Brief report on the geological situation of the South Rembang hill country'. Early report on Mio-Pleistocene stratigraphy and structure of Kendeng zone by BPM geologist. With analyses of foraminifera and molluscs by Van der Vlerk and Martin)

Schuster, J. (1911)- Die Flora der Trinil-Schichten. In: M.L. Selenka & M. Blanckenhorn (eds.) Die *Pithecanthropus*-Schichten auf Java, Geologische und palaontologische Ergebnisse der Trinil-Expedition (1907-1908), Engelmann, Leipzig, p. 235-257.

('The flora of the Trinil Beds'. Central Java Pleistocene plant fossils from Trinil area 52 species, with 21 species no longer present on Java, but known from other parts of SE Asia, often at altitudes of 700-1500m. Lowland tropical species appear to be absent. All suggesting climate cooler than today (possibly ~6-7°C less)). (Flenley 1979, Van Zeist 1984: presence of leaves with entire margins and drip-tips suggest everwet conditions, not monsoonal with pronounced dry season like C-E Java today))

Schuster, J. (1911)- Monographie der fossilen Flora der *Pithecanthropus*-Schichten. Abhandl. Kon. Bayerischen Akademie Wissenschaften, Munchen, Math.-phys. Kl. 25, 6, p. 1-64.

(online at: <http://bhl.ala.org.au/bibliography/7643/summary>)

('Monograph of the fossil flora of the Pithecanthropus beds'. Same paper as above)

Schweitzer, C.E, R.M. Feldmann & C. Bonadio (2009)- A new family of brachyuran (Crustacea, Decapoda, Goneplacoidea) from the Eocene of Java, Indonesia. *Scripta Geologica* 138, p. 1-10.

(online at: www.scripstageologica.nl/cgi/t/text/get-pdf?c=scripta;idno=09138a01)

*(New family to accommodate fossil crab *Martinocarcinus ickeae* Boehm 1922 from Late Eocene of Kali Puru, Nanggulan, C. Java)*

Scolari, F. (1999)- Middle Eocene molluscs from the eastern and western Tethys; a discussion on shared taxa. In: B. Ratanasthien & S.L. Rieb (eds.) *Proc. Int. Symp. on Shallow Tethys (ST)*, Chiang Mai, 5, p. 403-414.

(Eocene fossil molluscs from Nanggulan, C Java. Two Tethyan molluscs species recorded for first time from Nanggulan. Looks like typical Tethyan fauna)

Scolari, F. (2001)- The new species *Sundabittium shutoi* from the Middle Eocene of Nanggulan (Java, Indonesia). *Memorie Scienze Geol., Padova*, 53, p. 45-48.

(New gastropod species from M Eocene lower Nanggulan Fm('Axinea Beds'))

Sebayang, R. (2011)- Play baru, daerah lama, perspektif baru: identifikasi batugamping N11-N14 pada sub cekungan Ngimbang menggunakan data seismik 2D. *Proc. Joint. 36th HAGI and 40th IAGI Ann. Conv., Makassar, JCM2011-097*, 16p.

('New play, old area, new perspective: identification of N11-N14 limestone in the Ngimbang sub-basin from 2D seismic data'. Interpretation of M Miocene reefal buildups on 2D seismic in E Java basin, E of Cepu block, possible equivalents of Bulu Limestone and limestones in Tapen 1 well between 1475-1760m)

Sebayang, R.I., D. Priambodo, A. Prasetyo & D. Noeradi (2014)- Middle Miocene reefal limestone as a new exploration play in Ngimbang sub basin, East Java, Indonesia- a case study. In: EAGE 6th Int. Conf. and Exhibition- Geosciences, Saint Petersburg, Tu P 12, 5p. *(Extended Abstract)*

(P-1 Well, 30 Km NW of Ngimbang Sub Basin, East Java Basin testing 488 and 744 BOPD from DST in M Miocene reefal limestone in July 2012. Seismic shows presence of reefal limestone reflection patterns at M Miocene (N11-N14) level. Facies map was also made to give a picture of the N11-N14 paleogeography. Growth of Mid Miocene reefal limestone in area related to Miocene uplift event in area of earlier deep marine facies)

Sebrier, M., S. Pramumijoyo & O. Bellier (1993)- Miocene to Recent kinematic evolution around the Sunda Strait and southern end of the great Sumatra Fault: microtectonic approach. *10th Ann. French Indonesian Cooperation in Oceanography, Jakarta*, p. 37-40.

Sekti, R.P., F. Hakiki, A.N. Derewetzky, C.J. Strohmenger, S.M. Fullmer, T. Simo, B. Sapiie & D. Nugroho (2011)- Facies analysis and sequence stratigraphy of Tertiary subsurface (Cepu Block) and surface

(Rajamandala Limestone) carbonates of Java, Indonesia. Proc. 35th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA11-G-063, p. 1-15.

(Cepu Block late M Eocene- E Miocene subsurface carbonate buildups and associated deeper water calciturbidites and debrites similar range of environments as outcrops of Late Oligocene Rajamandala Lst)

Sembodo (1973)- Notes on formation evaluation in the Jatibarang volcanic reservoir. Proc. 2nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 131-147.

(Log analysis of Eocene Jatibarang volcanic oil-gas reservoir rocks, NW Java)

Sendjaja, P., A. Kusnida, E. Partoyo, Baharuddin, A. Hikmat et al. (2015)- Atlas geokimia Jawa bagian barat. Pusat Survei Geologi, Bandung, p. 1-41.

('Geochemical Atlas of West Java'. Distribution maps of 30 elements in stream samples from W Java: Ag, Al, As, Ba, Ca, Ce, Cl, Co, Cr, Cu, Fe, Hg, etc.)

Setiadi, D.J. (2001)- Fluvial facies of the Citalang Formation (Pliocene-Early Pleistocene), West Java, Indonesia. J. Geosciences, Osaka City University, 44, p. 189-199.

(online at: http://dlisv03.media.osaka-cu.ac.jp/infolib/user_contents/kiyo/DB00010811.pdf)

(Pliocene- E Pleistocene Citalang Fm of N Sumedang ~1000m of fluvial deposits, one of thickest non-marine deposits on Java. Twelve facies defined in four sections. Overall environment interpreted as braided streams)

Setiadi, I. (2017)- Basement configuration and delineation of Banyumas Subbasin based on gravity data analysis. J. Geologi Sumberdaya Mineral 18, 2, p. 67-76.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/237/279>)

(Gravity data from Banyumas Basin, C Java, suggest six sub-basins with depocenter of 5.5 km, SE-NW strike-slip fault and E-W trending basement highs)

Setiadi, I. & A.W. Pratama (2018)- Pola struktur dan konfigurasi geologi bawah permukaan Cekungan Jawa Barat Utara berdasarkan analisis gayaberat. J. Geologi Sumberdaya Mineral 19, 2, p. 59-72.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/345/339>)

('Structural pattern and subsurface geological configuration of the North West Java Basin based on gravity analysis'. Gravity analysis suggests average basement depth in NW Java basin is 3.3 km and five subbasins: Bekasi, Rengasdengklok, Cikampek, Subang and Majalengka subbasins)

Setiawan, D., M.N. Juliansyah & I.W. Ardana Darma (2014)- Stratigraphic- structural framework, play types and play fairway and underexplored play in East Java Basin. Proc. 38th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA14-G-309, 12p.

(Review of geology and Cenozoic hydrocarbon plays in offshore E Java Basin in and around Pangkah PSC)

Setiawan, D., F.D. Maryanto, D. K. Wikanswasti & A.I. Wardhana (2015)- Tuban Sandstone; an overlooked reservoir. Proc. 39th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA15-G-039, 9p.

(In offshore NE Java basin E Miocene Tuban Fm shale usually seal for Oligocene- E Miocene Kujung Fm carbonate reservoirs, but more sandy Tuban facies present in E (Ronggolawe 1 well). Tuban marine sandstone reservoirs may have been overlooked in other areas like Pangkah. Tuban Sst prograded to S)

Setiawan, H. (2011)- Characteristic of turbidite deposits of Halang Formation based on outcrops and thin Section petrography description in Cisanggarung River, Kuningan, West Java. Proc. 35th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA11-SG-005, 8p.

(Descriptions of outcrops and thin sections of M Miocene- E Pliocene Halang Fm upper bathyal turbidites along Cisanggarung River, S of Cirebon/ Kuningan. Formation comprises tuffaceous sandstone, conglomerate, marl and claystone, with andesite breccia in lower part. Low quartz, high feldspar suggest mainly volcanic arc provenance. Paleocurrent direction from N 280°-300°E (or SW?))

Setiawan, L.O.B. (2015)- Future exploration play concept in Western Kendeng fold thrust belt: based on comprehensive stratigraphic and geochemical analyses of outcropped Miocene Kerek and Pelang Formation and oil seeps. Proc. 39th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA15-SG-094, p.

Setiawan, N.I., M.I. Novian & M.I.K. Aminuddin (2015)- Petrologi, geokimia dan umur batuan granitoid di Komplek Luk-Ulo, Karangasambung, Kebumen, Jawa Tengah. Proc. 8th Seminar Nasional Kebumian, Universitas Gadjah Mada, Yogyakarta, p. 865-880.

('Petrology, geochemistry and age of granitoid rocks in the Luk-Ulo Complex, Karangasambung, Kebumen, Central Java'. Granitoid blocks along upstream Luk-Ulo River four groups, all calc-alkaline, metaluminous types. Zircon ages of granite with graphic texture and hornblende granite all latest Cretaceous (~66-70 Ma); foliated granodiorite and garnet granite / granodiorite with zircon melting ages ~100-120 Ma, with inherited zircons as old as 437 ± 13 Ma. Cordilleran-type granitoids of Karangasambung normal volcanic arc products, with possibility of post-tectonic collisional granite from partial melting of continental crust)

Setiawan, N.I., Y. Osanai & C. Prasetyadi (2013)- A preliminary view and importance of metamorphic geology from Jiwo Hills in Central Java. In: Proc. 6th Seminar Nasional Kebumian, Dept. Teknik Geologi, Universitas Gadjah Mada, Yogyakarta 2013, BPS02, p. 11-23.

(online at: <https://repository.ugm.ac.id/135116/1/11-23%20BPS02.pdf>)

(Jiwo Hills E of Yogyakarta with low-grade metamorphic rocks (phyllite, mica schist, calc-silicate schist, marble) with NE-SW foliation trend. Rare epidote-glaucophane schist outcrops near serpentinite exposure in W of complex. Several carbonate rocks converted to garnet-wollastonite skarn under contact metamorphism at diabase intrusion. Epidote-glaucophane schist mainly glaucophane, epidote, quartz, phengite, titanite, and hematite. Presence of blueschist facies confirms Jiwo Hills is one of high-P metamorphic terranes together with Luk Ulo (C Java), Meratus (S Kalimantan) and Bantimala (S Sulawesi). Serpentinites may have facilitated exhumation of blueschist in Jiwo Hills)

Setiawan, N.I., Y.S. Yuwono & E. Sucipta (2011)- The genesis of Tertiary "Dakah Volcanic" in Karangasambung, Kebumen, Central Java. Proc. 36th HAGI and 40th IAGI Ann. Conv., Makassar, JCM2011-105, p. 105-121.

(Late Eocene- E Oligocene island arc tholeiite volcanics in melange sediments of Karangasambung and Totogan Fm)

Setiawan, T. (2012)- Petrologi batuan dasar daerah Rengasdengklok, Jawa Barat dan implikasi tektoniknya serta potensi reservoir hidrokarbon. Ph.D. Thesis, Inst. Teknologi Bandung (ITB), p. 1- . *(Unpublished)*

('Petrology of basement in the Rengasdengklok area, West Java and implications for tectonics and hydrocarbon reservoirs potential'. NW Java basin N-S trending horsts and grabens. Basement penetrations show fracture porosity and hydrocarbon shows. Pondok Makmur Field in NE Ciputat Basin with basal dolomitic limestone that is fractured and of Eocene- Late Oligocene age)

Setiawati, Y.D., M. I. Novian & D.H. Barianto (2013)- Studi fasies Formasi Wungkal-Gamping Jalur Gunung Gajah, Desa Gunung Gajah, Kecamatan Bayat, Kabupaten Klaten, Provinsi Jawa Tengah. In: Proc. 6th Seminar Nasional Kebumian, Teknik Geologi Universitas Gadjah Mada, Yogyakarta 2013, 9p.

('Facies study of the Wungkal-Gamping Formation at Desa Gunung Gajah, Bayat District, C Java')

(Facies study of Eocene Wungkal-Gamping Fm at Gunung Gajah village in Bayat area, Southern Mountains. Nine facies types. Deposition begins in E Eocene (P8) to M Eocene (P13). Erosional unconformity between E Eocene (P8) and M Eocene (P10). Lower part of Wungkal-Gamping Fm is debris flow, followed by suspension currents, and traction currents influenced by tides and waves of sea water. Deepening at P10 then shallowing at P11, early P12 deepening, then shallowing until P13)

Setijadji, L.D. (2005)- Geoinformation of island arc magmatism and associated earth resources: a case study of Java Island, Sunda Arc, Indonesia. Ph.D. Thesis, Kyushu University, Fukuoka, Japan, p. 1-201.

(Java arc volcanism well-defined volcanic belts since Oligocene. Arcs experienced CCW rotation during Cenozoic with W-most Java as rotational pole. Backarc magmatism since latest Miocene- Recent in C and E Java. W Java subducted oceanic crust old (Cretaceous) and cold, avoiding partial slab melting. In C and E

Java subducted slab younger (<50 Ma) and warm enough to melt, resulting in adakitic igneous rocks. Backarc magmatism after detachment of subducted slab between 270-500 km depth. Deeper mantle is upwelling through slab window, producing backarc magmas characterized by low $87\text{Sr}/86\text{Sr}$ and $143\text{Nd}/144\text{Nd}$ values (mantle array). More than 90% of metallic mineral deposits within Tertiary volcanic arc centers)

Setijadji, L.D. (2010)- Segmented volcanic arc and its association with geothermal fields in Java Island, Indonesia. Proc. World Geothermal Congress 2010, Bali 2010, p. 1-12.

(online at: www.geothermal-energy.org/pdf/IGAstandard/WGC/2010/1275.pdf)

(Java has largest geothermal resources in Indonesia, but not uniformly distributed along island. Bigger prospects concentrated in few locations and can be related to geologic segmentation of Quaternary volcanoes. Major geothermal fields associated with magmas of Late Pleistocene ages (~0.5-0.2 Ma))

Setijadji, L.D., A. Harijoko, A. Imai, K. Watanabe, Y. Kohno & R. Uruma (2007)- Migration of subduction in Central Java, Indonesia., Proc. 5th Int. Workshop Earth Science and Technology, Fukuoka, p. 377-384.

Setijadji, L.D., A. Imai, T. Itaya & K. Watanabe (2007)- Geology of metallic deposits in Java island (Indonesia) with a special reference to the island arc magmatism. Proc. Int. Workshop Earth Resources Technology, Fukuoka, p. 33-36.

Setijadji, L.D., A. Imai & K. Watanabe (2007)- Characteristics of mineralized volcanic centers in Javanese Sunda Island Arc, Indonesia. American Geoph. Union, Spring Meeting 2007, Abstract V23B-08, 1p.

(online at: <http://adsabs.harvard.edu/abs/2007AGUSM.V23B..08S>)

(Distinct volcanic belts related to Java trench subduction only since Oligocene. Metallic deposits in porphyry, high-sulfidation and low-sulfidation epithermal systems, all tied to subaerial volcanism and subvolcanic plutonism. Some volcanogenic massive sulfides deposits show mineralization in submarine environment. Most mineral deposits related to volcanic centers of Tertiary arcs; no mineralization associated with backarc magmatism. Major metallic deposits tied to deep, old crustal structures (strike-slip faults) . Existing mines in (1) young (U Miocene- Pliocene) epithermal gold deposits in SW Java; (2) Oligocene-Miocene porphyry Cu-Au deposits, mainly in E Java and probably related to partial melting of subducted slab)

Setijadji, L.D., S. Kajino, Y. Kohno, D.H. Barianto et al. (2005)- Reconstruction of Cenozoic volcanic centers in Java Island (Indonesia): a key for understanding the geodynamic of subduction zone. Proc. 3rd Int. Workshop on Earth Science and Technology, Fukuoka 2005, p. 433-443.

Setijadji, L.D., S. Kajino, A. Imai & K. Watanabe (2006)- Cenozoic island arc magmatism in Java Island (Sunda Arc, Indonesia): clues on relationships between geodynamics of volcanic centers and ore mineralization. Resource Geology 56, 3, p. 267-292.

(online at: <https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1751-3928.2006.tb00284.x>)

(Java island multiple events of Cenozoic arc magmatism. Crustal compositions, subducted slabs and tectonics determined spatial-geochemical evolution of magmatism and metallogeny. Backarc-ward migrations of volcanic centers through Tertiary. Post-Miocene-Pliocene roll-back effects of retreating slab, slab detachment, and backarc magmatism in C Java. Increasing K-contents of magmas towards backarc-side and in younger magmas. Oceanic nature of crust and likely presence of hot slab subducting under E Java created adakitic magmas. Deep-seated crustal faults focused locations of overlapping volcanic centers and metalliferous fluids into few major gold districts. Porphyry deposits mostly in Lower Tertiary volcanic centers in E Java; high-grade, low-sulfidation epithermal gold deposits in U Miocene-Pliocene volcanic centers)

Setijadji, L.D. & A. Maryono (2012)- Geology and arc magmatism of the eastern Sunda magmatic arc, Indonesia. In: N.I. Basuki (ed.) Proc. Banda and Eastern Sunda arcs, Indonesian Soc. Econ. Geol. (MGEI) Ann. Conv. 2012, Malang, p. 1-22.

Setijadji, L.D. & K. Watanabe (2009)- Updated age data of volcanic centers in the Southern Mountains of Central-East Java Island, Indonesia. In: Proc. Int. Seminar Geology of the Southern Mountains of Java, Yogyakarta 2009, 1, p. 125-132.

(online at: http://lib.ugm.ac.id/digitasi/upload/3005_MU.121000017-ldsetijadi.pdf)
(*Volcanic centres around Yogyakarta span ~30 Myrs, becoming younger to N: (1) Oldest group Late Oligocene age in S Mountains (~30-24 Ma; Kulon Progo South, Parangtritis, Bayat); (2) late Early- M Miocene cluster (~20-10 Ma; Selogiri, Semin, Wediombo, Menoreh/ Borobudur, Ponorogo) and (3) modern arc volcanoes of last ~2 My. Six Oligocene-Miocene volcanic centers form backbone of S Mountains*)

Setijadi, R., A. Widagdo & S.W.A. Suedy (2011)- Metode bioprediksi perubahan iklim menggunakan fosil polen dan spora pada kala Pliosen di daerah Banyumas. *Dinamika Rekayasa* 7, 1, p. 14-16.

(online at: <http://download.portalgaruda.org/>)

(*'Climate change bioprediction method using fossil pollen and spores of Pliocene age in Banyumas'. Pollen and spores in Tapak Fm of indicate *Podocarpus imbricatus* zone age (Late Pliocene; with *Podocarpus imbricatus* and *Stenochlaenidites papuanus*) and 3 hot-cold-hot climate change events*)

Setyanta, B. (1999)- Stratigrafi kompleks Gunung Wayang, Pathuk, Yogyakarta, dan hubungannya dengan stratigrafi cekungan Pegunungan Selatan. *J. Geologi Sumberdaya Mineral* 9, 89, p. 23-30.

(*Stratigraphy of the Gunung Wayang complex, Pathuk, Yogyakarta, and relation with stratigraphy of the Southern Mountains'. On E Miocene Gn Wayang volcanic breccia unit between Semilir and Nglanggran Fms*)

Setyaji, B., I. Murata, J. Kahar, S. Suparka & T. Tanaka (1997)- Analysis of GPS measurement in West-Java, Indonesia. *Ann. Disaster Prevent. Res. Inst., Kyoto University*, 40, B-1, p. 27-33.

(*GPS measurements along Cimandiri and Lembang fault zones, W Java, suggest N part Cimandiri FZ moved to NE and area under NE-SW directed compression*)

Setyowati, T.P. & D.H. Amijaya (2016)- Hubungan kekerabatan minyak bumi daerah Wonorejo dan sekitarnya, Boyolali, Jawa Tengah, berdasarkan data biomarker. In: R. Hidayat et al. (eds.) *Proc. 9th Seminar Nasional Kebumihan, Dept. Teknik Geologi, Gadjah Mada University, Yogyakarta*, p. 93-102.

(online at: <https://repository.ugm.ac.id/137866/>)

(*'Oil characteristics in Wonorejo and surrounding areas, Boyolali, Central Java, based on biomarker data'. Biomarkers from oil seeps in Kerek Fm in W Kendeng Zone near Wonorejo (Gunungsari, Repaking and Kemusu villages). Oils α API 15.8, 29.8, and 18.8, and biodegraded. Probable source rock Ngimbang Fm*)

Setyowiyoto, J., M. Datun & S. Winardi (2007)- Geologi dan tinjauan petroleum system daerah Bancak, Kabupaten Semarang berdasarkan manifestasi permukaan. *Media Teknik (UGM)* 29, 1, p. 15-26.

(*Geology and review of petroleum system of the Banjak area, Semarang District, C Java. Oil and thermogenic gas seeps near Bata in W Kendeng zone SSE of Semarang, NE of Salatiga*)

Setyowiyoto, J., B.E.B. Nurhandoko, A. Samsuri, B. Widjanarko & Thurissina (2007)- Influence of porosity and facies of Baturaja carbonate to the seismic wave velocity: case study of Tambun Field West Java. *Proc. 31st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA07-G-102*, 16p.

(*Strong relationship between seismic velocity and lithology facies*)

Setyowiyoto, J. & S.S. Surjono (2003)- Analisis sedimentologi dan fasies pengendapan Formasi Kerek di daerah Biren dan Kerek, Kabupaten Ngawi, Jawa Timur. *Media Teknik (UGM)* 25, 4, p. 12-17.

(online at: <http://i-lib.ugm.ac.id/jurnal/detail.php?dataId=3349>)

(*'Analysis of sedimentology and facies of the Kerek Formation between Biren and Kerek, Ngawi, East Java'. Good outcrops along Solo River. Measured section of 250m of SW dipping Kerek Fm sandstone-claystone turbiditic series. Banyuurip and Sentul Members deposited in middle-outer fan environment; age M- U Miocene (N13-N17). Sediments sourced from N (quartzose material) and southern mountains (andesite and tuff clasts)*)

Seubert, B.W. & F. Sulistianingsih (2008)- A proposed new model for the tectonic evolution of South Java, Indonesia. *Proc. 32nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA08-G-034*, p. 1-22.

(*New model for tectonic evolution of Java, suggesting several continental fragments, separated by individual subduction zones, docked onto Java and underlie S Mountains. Old Andesites are arc-volcanic product of older subduction phase which predates present-day subduction, and formed above S-dipping subduction zone*)

Sharaf, E.F. (2004)- Stratigraphy and sedimentology of Oligocene- Miocene mixed carbonate and siliciclastic strata, East Java basin, Indonesia. Ph.D. Thesis, University of Wisconsin, Madison, p. 1-220. *(Unpublished)*
(Oligocene-Miocene strata of E Java mixed carbonate and siliciclastic sediments. Multiple stages of isolated carbonate mound growth surrounded by deeper marine off-mound sediments or by shallow-marine siliciclastics. Three main intervals: Kujung (~28--22 Ma; carbonate mound and off-mound), Tuban (~22-15 Ma; mixed carbonate-siliciclastic) and Ngrayong (Serravallian, ~15--12 Ma; siliciclastic progradation of tidally influenced deltas grading into turbidites, basinal shale, mudstone and chalk)

Sharaf, E.F., M.K. Boudagher-Fadel, J.A. Simo & A.R. Carroll (2006)- Biostratigraphy and strontium isotope dating of Oligocene-Miocene strata, East Java, Indonesia. *Stratigraphy* 2, 3, p. 239-257.
(Oligocene-Miocene in E Java grouped into three stratigraphic intervals, Kujung, Tuban and Ngrayong Fms. Larger foraminifera and planktonic foraminifera overlap in occurrence in many localities. Biostratigraphic ranges of larger benthic and planktonic foraminifera tied to the ages from Strontium isotope dating)

Sharaf, E.F., M.K. Boudagher-Fadel, J.A. Simo & A.R. Carroll (2014)- A revision of the biostratigraphy and strontium isotope dating of Oligocene-Miocene outcrops in East Java, Indonesia. *Berita Sedimentologi* 30, p. 44-58.

(online at: www.iagi.or.id/fosi)

(Updated version of Sharaf et al. (2006, 2006) papers on NE Java basin Miocene biostratigraphy)

Sharaf, E., J.A. Simo, A.R. Carroll & M. Shields (2005)- Stratigraphic evolution of Oligocene-Miocene carbonates and siliciclastics, East Java basin, Indonesia. *American Assoc. Petrol. Geol. (AAPG) Bull.* 89, p. 799-819.

(Multiple stages of carbonate mound growth in E Java Oligo-Miocene. Three phases (1) Kujung (mound carbonates), (2) Tuban (mixed carbonate-siliciclastic), and (3) Ngrayong (siliciclastic). Kujung unit (~28-22 Ma) limited to few outcrops. At base shallow-marine carbonates that grade laterally into deep-marine calcareous mudstone- chalk (lower Kujung). Lower Kujung sediments covered by chalk and marls. Tuban (~22-15 Ma) shallow-marine mixed carbonate and siliciclastics and marine shale and chalk. At least six cycles of deltaic deposition with episodes of carbonate mound growth. Ngrayong unit (~15-12 Ma) period of regional siliciclastic influx and progradation of tide-influenced deltas and grades into turbidites, basinal shale, mudstone, and chalk. Ngrayong beds truncated by Serravallian-Tortonian Bulu carbonates)

Shields, M.L. (2005)- The evolution of the East Java Basin, Indonesia. Ph.D. Thesis, University of Wisconsin, Madison, p. 1-402. *(Unpublished)*

(E Java Basin originated in Eocene on continental crust, developing NE-SW trending paleo-highs at inception. Paleo-highs separated at wavelength of 80-100 km. Geohistory profiles and low heat flows in wells point to basin origin by lithospheric flexure of continental crust, not rifting. Stratigraphy mainly shelfal carbonates with influx of quartz sandstone in Miocene. Quartzose source from N of basin in Borneo, associated with exposed granites. Only Pliocene-Recent sediments (<5 Ma) sourced from volcanic centers to S. Basin development four stages (1) crustal buckling, starting in M Eocene with sediments in lows on folded continental crust; (2) flexural deepening, starting in Late Oligocene with gradual subsidence until E Miocene; (3) foreland inversion, starting in M Miocene, until M Pliocene; (4) arc convergence in U Pliocene with N-ward vergence of Sunda magmatic arc. During Pleistocene N-verging thrusts on S side of basin initiated reversal of basin symmetry)

Shingo, Y., A. Imai, R. Takahashi, K. Watanabe, A. Harijoko, I.W. Warmada, A. Idrus & P. Phoumphone (2010)- Condition of gold ore formation at Trenggalek Prospects, East Java, Indonesia. *Proc. Int. Symposium on Earth Science and Technology, Fukuoka 2020, Japan*, p. 411-414.

Shirzaei, M., M.L. Rudolph & M. Manga (2015)- Deep and shallow sources for the Lusi mud eruption revealed by surface deformation. *Geophysical Research Letters* 42, 10.1002/2015GL06457, 8p.

(Inverse modeling of surface deformation at Lusi mud eruption in E Java suggests volume changes occur in two regions beneath Lusi, at 0.3-2.0 km and at 3.5-4.75 km. Shallow mud source supply ~2-3 times larger than deep source, but additional fluids ascend from >4 km)

Shulgin, A., H. Kopp, C. Muller, L. Planert, E. Lueschen, E.R.Flueh & Y. Djajadihardja (2011)- Structural architecture of oceanic plateau subduction offshore Eastern Java and the potential implications for geohazards. *Geophysical J. Int.* 184, 1, p. 12-28.

(online at: <http://gji.oxfordjournals.org/content/184/1/12.full.pdf+html>)

(Offshore S of E Java in early stage of Roo Rise oceanic plateau subduction. Oceanic plateau crust 12-18 km thick and area of ~100,000 km². Upper oceanic crust high degree of fracturing. Forearc crust thickness 14 km, with sharp increase to 33 km towards Java. Two possible models: either accumulation of Roo Rise crustal fragments above backstop or uplift of backstop caused by basal accumulation of crustal fragments)

Shuto, T. (1974)- Notes on Indonesian Tertiary and Quaternary Gastropods mainly described by the Late Professor K. Martin I. Turritellidae and Mathildidae In: T. Kobayashi & R. Toriyama (eds.) *Geology and Palaeontology of Southeast Asia*, University of Tokyo Press, 14, p. 135-160.

(Taxonomic revisions of many of the new gastropod species described by K.Martin (~1880-1922), mainly Miocene- Pliocene turritellids from Java. With range chart, but no information on localities)

Shuto, T. (1978)- Notes on Indonesian Tertiary and Quaternary gastropods mainly described by the late Professor K. Martin, II. Potamididae and Cerithiidae. In: T. Kobayashi & R. Toriyama (eds.) *Geology and Palaeontology of Southeast Asia*, University of Tokyo Press, 19, p. 113-160.

(Second part of taxonomic revisions study of many of the new gastropod species described by K. Martin from Java. Incl. *Sundabittium* n.gen. for gastropod *Cerithium fritschi* from Eocene of Nanggulan)

Shuto, T. (1980)- A note on the Eocene turrids of the Nanggulan Formation, Java. In: H. Igo & H. Noda (eds.) *Prof. Sahuro Kanno Memorial*, Vol. 1, p. 25-52.

Sidarto (2008)- Dinamika sesar Citarik. *J. Sumber Daya Geologi* 18, 3, p. 167-180.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/262/242>)

(*Dynamics of the Citarik Fault'. NNE-SSW trending fault across W Java, through Pelabuhan Ratu- Bogor-Bekasi. Active since M Miocene, initially transtensional, but left-lateral strike slip fault since Plio-Pleistocene*)

Sidarto (2009)- Geologi Pegunungan Selatan di daerah Gunungkidul dan sekitarnya ditafsir pada cita alos. In: *Proc. Workshop Geologi Pegunungan Selatan, Yogyakarta 2007*, Pusat Survei Geologi, Bandung, Spec. Publ. 38, p. 1-18.

(*'Geology of the Southern Mountains in the Gunungkidul area and surroundings with Alos remote sensing data'. Brief review of geology/ structure of western S Mountains area*)

Sidarto & M.J. Morwood (2004)- Solo River terrace mapping in the Kendeng Hills area: use of Landsat imagery and digital elevation model overlays. *J. Sumber Daya Geologi* 14, 3 (147), p. 196-207.

(*Sartono 1976 distinguished 6 Quaternary terraces up to 96m elevation along Solo River N of Ngawi. In this study 11 terraces of point bar deposits identified, combined in four groups. Oldest terrace Sembungan, 20m above river base. Ngandong terrace, famous for hominid fossils, 16m above river base*)

Sidarto, T., Suwarti & D. Sudana (1993)- Geological map of the Banyuwangi Quadrangle, Jawa, 1704-4, scale 1:100,000. *Geol. Res. Dev. Centre (GRDC)*, Bandung.

(*E-most coastal area of Java, with folded Late Oligocene- early M Miocene tuffaceous sediments of Batuampar Fm, overlain by M Miocene Punung Lst, intruded by M Miocene andesites. Overlain by Pleistocene and younger volcanics*)

Siemers, C.T., J.A. Deckelman, A.A. Brown & E.R. West (1993)- Characteristics of the fractured Ngimbang carbonate (Eocene), West Kangean-2 well, Kangean PSC, East Java Sea, Indonesia. In: C.T. Siemers et al. (eds.) *Carbonate rocks and reservoirs of Indonesia*, Core Workshop Notes, Indon. Petroleum Assoc., Jakarta, p. 10.1- 10.40.

(*Gas in tight, fractured M-U Eocene W of Kangean Island. Mud-dominated platform facies, average matrix porosity 2%*)

Siemers, C.T., L.C. Kleinhans & R. Young (1992)- Indonesian Petroleum Association 1992 SW Java Field Trip/ Core Workshop. IPA Field Trip Guidebook, p. 1-116.

(Fieldtrip to SW Java Eocene at Gunung Walat, Bayah. With overviews of sedimentary structures, depositional environments and core from Widuri/ NW Java and Bentayan/ S Sumatra wells)

Siesser, W.G., D.W. Orchiston & T. Djubiantono (1984)- Micropalaeontological investigation of Late Pliocene marine sediments at Sangiran, Central Java. *Alcheringa* 8, 2, p. 87-99.

(Upper Kalibeng Fm and marine intercalations of Lower Pucangan Fm at Sangiran contain >30 calcareous nannoplankton taxa, indicating Late Pliocene age for both. Upper Kalibeng Fm assigned to Zone NN16 (3.25-2.3 Ma), Lower Pucangan Fm within zones NN16- NN18 (3.25- 1.65 Ma) (but may contain common reworked nannos). Assemblages also include reworked Late Miocene Discoaster quinqueramus)

Silitonga, P.H. (1973)- Geologic map of the Bandung Quadrangle, Java. Quad. 9/XIII-F, scale 1:100,000. Geol. Survey Indonesia, Bandung.

Silitonga, P.H. & M. Masria (1978)- Geologic map of the Cirebon Quadrangle, Java. Scale 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung.

Simamora, W.H. (2006)- Anomali geomagnet; kaitannya dengan zone mineralisasi di daerah Malingping, Bayah dan sekitarnya, Kabupaten lebak, Propinsi Banten. *J. Sumber Daya Geologi* 16, 5 (155), p. 285-301.

('Geomagnetic anomaly; relation to the mineralized zones in the Malingping area, Bayah and surroundings, Lebak Regency, Banten Province'. Three groups of magnetic anomalies. Low anomaly tied to intrusion of acid magmatic rocks at 500-2000m depth, similar to Cihara granodiorite intrusion, and important for Au and Ag mineralization in Cikotok and Cirotan areas)

Simandjuntak, T. (2004)- New insight on the prehistoric chronology of Gunung Sewu, Java, Indonesia. In: *Modern Quaternary Research in SE Asia* 18, p. 9-30.

(Gunung Sewu ('Thousand Mountains' more accurately 40,000 hills) karsted Miocene limestone area underwent uplift in M Pleistocene)

Simandjuntak, T.O. (1995)- Back-arc thrusting and Neogene orogeny in Java, Indonesia. In: J. Ringis (ed.) *Proc. 31st Sess. Comm. Co-ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP)*, Kuala Lumpur 1994, 2, p. 242-260.

(Late Neogene long, S-dipping thrust zone in back arc of Java, called Baribis Thrust in W Java and Kendeng Thrust in E Java. In W terminates at S end of Sumatra fault system in Sunda Strait, in E continues across Madura Straits to Flores Sea. Part of 'Sunda Orogeny'. also causing plutonic intrusions and uplift of S Java and Nusatenggara)

Simandjuntak, T.O. (1979)- Sediment gravity flow deposits in Pangandaran-Cilicap region, South-West Java and their bearing on the tectonic development of southwestern Indonesia. *Bull. Geol. Res. Dev. Centre (GRDC)*, Bandung 2, p. 21-54.

(Sedimentology of Oligocene-Lower Miocene Jampang Fm near S Coast of C-W Java. Gravity flows rich in volcanic arc material. Lower part of succession derived from S or SW, upper part from N or NW. Similar deposits in Late Miocene- E Pliocene Halang Fm)

Simandjuntak, T.O. (2004)- Tectonostratigraphy of Jawa. In: *Proc. Workshop Stratigrafi Pulau Jawa*, Bandung 2003, Geol. Res. Dev. Centre (GRDC), Bandung, Spec. Publ. 30, p. 21-36.

(Six tectonostratigraphic zones: Basement (J-K metamorphics 213-125 Ma and Cretaceous- Eocene granites 87-52 Ma), Paleogene volcanics, Paleogene shelf, Neogene volcanics and inter-arc, Neogene fore-arc and Neogene back-arc)

Simo, J.A., A. Ruf, T. Hughes, K. Steffen, A. Gombos et al. (2006)- Seismic and outcrop carbonate platform geometries and facies: Oligocene-Miocene, Java, Indonesia. Proc. Jakarta 2006 Int. Geosc. Conf. Exhib., Indon. Petroleum Assoc. (IPA), Jakarta, 06-INT-12, 5p.

(Seismic imaging of two intervals of isolated carbonate platform and mound development N of Madura: E Miocene, Kujung Fm and Late Miocene, Wonocolo Fm)

Simo, T., D. Nugroho, J.T. van Gorsel, F. Hakiki, R.P. Sekti, C.J. Strohmenger, D. Noeradi & B. Sapiie (2011)- Sedimentology and sequence stratigraphy of the Rajamandala Limestone. In: B. Sapiie & T. Simo, The stratigraphy and structure of the Oligocene (Chattian) Rajamandala Limestone, Bandung, Western Java, Indonesia, a technical field trip for geoscientists, Indon. Petroleum Assoc. (IPA) Field Trip, 15p.

Simo, T., R. Sekti, F. Hakiki, M. Sun, R.D. Myers & S. Fullmer (2012)- Reservoir characterization and simulation of an Oligocene-Miocene isolated carbonate platform; Banyu Urip, East Java basin, Indonesia. AAPG Geoscience Technology Workshop, Bali 2012, Search and Discovery Art. 20159, p. 1-31.

(online at: www.searchanddiscovery.com/documents/2012/20159simo/ndx_simo.pdf)

(In Cepu area, NE Java, widespread carbonate deposition in Late Eocene- E Oligocene, followed by M and end-Rupelian erosion/ exposure. After M-Oligocene unconformity increasing accommodation forced carbonate factory to backstep to small areas over pre-existing highs, followed by Chattian-Burdigalian aggradational phase. Change from carbonate to siliciclastic deposition during Burdigalian-Langhian transition. Banyu Urip carbonate reservoir is steep-flanked carbonate buildup with ~3300' of relief. Common fractures)

Simo, T., M. Weidmer, S. van Simaey, R. Sekti, H. van Gorsel, C. Strohmenger & A. Derewetzky (2011)- Sequence stratigraphic correlation and sedimentological implications, East Java Basin; comparisons and lessons learned from outcrop and subsurface studies. Proc. 35th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA11-G-234, p. 1-9.

(Stratigraphic correlation in onshore NE Java Basin between Late Oligocene- Miocene of subsurface Cepu Block and outcrops in Rembang Hills)

Siregar, M.S. (1978)- Stratigrafi dan sejarah pengendapan serpih bitumen di daerah Mangunweni-Karangbolong. J. Riset Geologi Pertambangan (LIPI) 1, 2, p. 21-29.

(online at: <http://pustaka.geotek.lipi.go.id/wp-content/uploads/2016/02/Riset-Vol.1-No.2-78.pdf>)

('Stratigraphy and depositional history of oil shale in the Mangunweni-Karang Bolong area'. Thin (0.3-1.6m) oil shale of early M Miocene age, near Mangunweni in Karangbolong area of S C Java. Oil content 6.2- 14.5%. Above volcanic breccia, below sandstone-limestone. Deposited in lagoonal environment.)

Siregar, M.S. (1996)- Endapan pasang-surut dalam Formasi Wonosari. Proc. 25th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 2, p. 120-126.

Siregar, M.S. (1997)- Sedimentasi batugamping Fm. Kalipucang di Jawa Barat Selatan. Proc. 26th Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, p. 923-930.

('Limestone sedimentation of the Kalipucang Fm, SW Java')

Siregar, M.S. (1984)- Sedimentasi Formasi Rajamandala di daerah Tagogapu- Padalarang, Jawa Barat. J. Riset Geologi Pertambangan (LIPI) 5, 2, p. 25-36.

(online at: <http://pustaka.geotek.lipi.go.id/wp-content/uploads/2016/02/Riset-Vol.5-No.2-2.pdf>)

*('Sedimentation of the Rajamandala Formation in the Tagogapu- Padalarang area, West Java'. Three types of limestone in E part of outcrops of latest Oligocene- earliest Miocene Rajamandala Fm: planktonic packstone, *Lepidocyclina* packstone and coral-lithoclast rudstone, interbedded with planktonic foram marl)*

Siregar, M.S. (2005)- Sedimentasi dan model terumbu Formasi Rajamandala di daerah Padalarang-Jawa Barat. J. Riset Geologi Pertambangan (LIPI) 16, 1, p. 61-81.

(online at: <http://elib.pdii.lipi.go.id/katalog/index.php/searchkatalog/downloadDatabyId/7924/7924.pdf>)

('Sedimentation and reef model of the Rajamandala Formation in the Padalarang area, W Java'. Late Oligocene- E Miocene Rajamandala Fm carbonates interpreted to represent ENE-WSE trending barrier reef)

with reef front and basin to N. Reef front three facies (planktonic packstone, Lepidocyclus packstone and rudstone); reef core boundstone facies three subfacies (framestone, bafflestone and bindstone). Boundstone facies deposited in reef crest to reef flat environment. Miliolid packstone facies in various environments including surge channel, lagoon and back reef)

Siregar M.S., Kamtono, Praptisih & M.M.Mukti (2004)- Reef facies of the Wonosari Formation, South Central Java. *J. Riset Geologi Pertambangan (LIPI)* 14, 1, p. 1-17.

(Limestones of Wonosari Fm S of Yogyakarta excellent exposures of Tertiary reefs. Facies include planktonic packstone-wackestone (basinal toe of slope), packstone-rudstone (reef slope), coral boundstone (reef), grainstone-packstone facies (surge channel to lagoonal sediments) and algal-foraminiferal packstones (back reef to shelf sediments))

Siregar, M.S. & D. Mulyadi (2007)- Fasies dan diagenesa Formasi Rajamandala di daerah Padalarang, Jawa Barat. In: A. Tohari et al. (eds.) *Pros. Seminar Geoteknologi Kontribusi ilmu kebumiharian dalam pembangunan berkelanjutan*, Puslitbang Geoteknologi (LIPI), Bandung, p. 19-23.

(online at: <http://pustaka.geotek.lipi.go.id/index.php/2016/01/20/prosiding-2007/>)

('Facies and diagenesis of the Rajamandala Formation in the Padalarang area, West Java'. Five carbonate facies distinguished in Late Oligocene Rajamandala Lst. Facies map showing ~15km long WSW-NNE trending zone of reefal boundstone, fringed by reef slope Lepidocyclus packstones to N, lagoon- backreef miliolid packstones to S)

Siregar M.S. & Praptisih (2008)- Fasies dan lingkungan pengendapan Formasi Campurdarat di daerah Trenggalek-Tulungagung, Jawa Timur. *J. Riset Geologi Pertambangan (LIPI)* 18, 1, p. 36-46.

(online at: www.geotek.lipi.go.id/wp-content/uploads/2008/08/04_safeipraptisih_1.pdf)

(Facies study of Campurdarat Fm carbonates in S part of Trenggalek- Tulungagung area (E Java, S coast). Four carbonate facies types. Interpreted as barrier-reef with back-reef part to S and reef front facing North. Age reported as Early Miocene, but larger foraminifera characteristic of zone Lower T_f and could be Middle Miocene; JTvG)

Siregar, M.S., Praptisih, Kamtono & M.M. Mukti (2004)- Reef facies of the Late Miocene Wonosari Formation, South of Central Java. *J. Riset Geologi Pertambangan (LIPI)* 14, 1, p. 1-17.

Siregar, P. & Harsono Pringgoprawiro (1981)- Stratigraphy and planktonic foraminifera of the Eocene-Oligocene Nanggulan Formation, Central Java. *Publ. Geol. Res. Dev. Centre (GRDC), Bandung, Seri Paleontologi* 1, p. 9-28.

(M Eocene- Early Oligocene planktonic forams in Nanggulan Fm marine clastic section overlain by Old Andesites)

Siswoyo (1982)- Heat flow measurements in the Northeast Java Basin, Indonesia. *Proc. 18th Sess. Comm. Co-ord. Joint Prospecting Mineral Res. Asian Offshore Areas (CCOP), Seoul 1981*, p. 236-243.

Siswoyo, S. & Sandjojo (1980)- Heat flow in Cepu Area, Northeast Java Basin, Indonesia. *Proc. 16th Sess. Comm. Co-ord. Joint Prospecting Mineral Res. Asian Offshore Areas (CCOP), Bandung 1979*, p. 272-280.

(Study of heat flow from 82 wells at 6 fields in Cepu area. Average T gradient 4.34 ± 0.42 °C/ 100m. Heat flow 2.10 ± 0.17 HFU, much higher than world average)

Siswoyo & S. Subono (1995)- Heatflow, hydrocarbon maturity and migration in Northwest Java. *CCOP Techn. Bull.* 25, p. 23-36.

Situmorang, B. & S. Pusoko (1989)- Evaluasi geologi rembesan gas di daerah Merapi, Purwodadi, Jawa Tengah. *Lembaran Publikasi Minyak dan Gas Bumi (Lemigas)* 23, 2, p.

(online at: www.journal.lemigas.esdm.go.id/index.php/LPMGB/article/view/387)

('Evaluation of the geology of a gas seep in the Merapi region, Purwodadi, Central Java'. Natural gas seep in Merapi area, on W side of Godong High)

Situmorang, B., Siswoyo, E. Thajib & F. Paltrinieri (1976)- Wrench fault tectonics and aspects of hydrocarbon accumulation in Java. Proc. 5th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 2, p. 53-68.

Situmorang, B. & L. Tambunan (1985)- Generation and maturation of hydrocarbons in Cepu area, Central Java. Lemigas Scientific Contr. 9, 1, p. 14-21.

(Oil-gas production in Cepu area from upper Tuban (Ngrayong Sand) and Kawengan Fms. Rel. high total organic content (av. 0.75%) in Tuban Fm; low TOC in Kawengan Fm. Thermal maturity confined to Tuban Fm. Kerogen mainly Type III, with limited Type II. Source probably in Tuban Fm and/or deeper section)

Situmorang, R.L., D.A. Agustianto & M. Suparman (1986)- Geological map of the Waru and Sumenep Quadrangle, Madura, scale 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung.

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Sjamsuddin, I.F. & Djuhaeni (2008)- Biostratigrafi dan lingkungan pengendapan Formasi Ngrayong di daerah Cepu. Proc. 37th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 1, p. 98-112.

(Biostratigraphy and depositional environment of the Ngrayong Formation in the Cepu area'. Discussion of foram biostratigraphy in and around M Miocene (N9-N12) quartz-rich Ngrayong sandstone in wells Cepu 1-6 (not real well names?). With foram distribution charts, well correlations and paleogeographic map showing transition from inner neritic in N to bathyal paleoenvironment in S)

Sjarifudin, M.Z. & S. Hamidi (1992)- Geology of the Blitar Quadrangle, Jawa (Quad. 1507-6), 1:100,000. Geol. Res. Dev. Centre, Explanatory Notes 7p. +map.

Slameto, E., H. Panggabean & S. Bachri (2010)- Kandungan material organik dan sifat geokimia batulempung Paleogen dan Neogen di cekungan Serayu: suatu analisis potensi batuan induk hidrokarbon. J. Sumber Daya Geologi 20, 4, p. 189-197.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/172/168>)

(Organic content and geochemical properties of Paleogene and Neogene claystones in the Serayu Basin: an analysis of potential hydrocarbon source rocks'. Geochemistry of 2 samples of Paleogene claystone, 3 Neogene and one oil seep sample. TOC of Neogene claystone higher than Paleogene. One Neogene sample classified as oil-gas source; all others gas source rock. Neogene claystone at Gintung River can be correlated with oil seep. Kerogen types of all claystones Type III (terrestrial) to Type II (mixing terrestrial and marine))

Smit-Sibinga, G.L. (1949)- Pleistocene eustacy and glacial chronology in Java and Sumatra. Verhandelingen Nederl. Geologisch Mijnbouwkundig Genootschap, Geol. Serie 15, p. 1-31.

(Discussion of control of Pleistocene glacial eustatic cycles on Pleistocene stratigraphy of C-E Java and S Sumatra (N.B.: Sumatra stratigraphy age interpretations too young; JTvG) (See also critical discussion by M.G. Rutten (1952))

Smit-Sibinga, G.L. (1952)- Geosynclinal subsidence versus glacially controlled movements in Java and Sumatra. Geologie en Mijnbouw 14, 6, p. 220-225.

(Rebuttal of Rutten (1952) critique of Smit Sibinga (1949) paper. Repeats conclusion that Pleistocene eustatic sea level changes do interfere with large scale sedimentation trends)

Smyth, H.R. (2005)- Eocene to Miocene basin history and volcanic activity in East Java, Indonesia. Ph.D. Thesis University of London, p. 1-476. *(Unpublished)*

(Exposed Cretaceous basement in E Java of arc and ophiolitic character. Archean zircons in Miocene volcanics indicate basement beneath E Java includes Australian origin continental crust. Arc volcanism starts in M Eocene, earlier than previously thought (Late Oligocene). Many Cenozoic deposits previously interpreted as continental clastics from Sundaland with significant volcanic component and local basement source. Many quartz sst described as 'mature' are primary, crystal-rich volcanoclastics. Extensive explosive Plinian-style

volcanism in M Eocene- E Miocene of E Java. Potential super-eruption in S Mountains (Semilir Eruption) at ~20 Ma. Load of volcanic arc may have generated Kendeng zone flexural basin. Late Cenozoic deformation and associated uplift in number of phases and not single event)

Smyth, H.R., Q.G. Crowley, R. Hall, P.D. Kinny, P.J. Hamilton & D.N. Schmidt (2011)- A Toba-scale eruption in the Early Miocene: the Semilir eruption, East Java, Indonesia. *Lithos* 126, 3-4, p. 198-211.
(Major E Miocene 'Semilir eruption' in S Mountains of E Java, with main phase at ~20.7 Ma)

Smyth, H. & R. Hall (2003)- Field guide to the geology of South East Java. University of London SE Asia Research Group Fieldtrip, October 2003, p.

Smyth, H., R. Hall, J. Hamilton & P. Kinny (2003)- Volcanic origin of quartz-rich sediments in East Java. *Proc. 29th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 541-559.*
(Volcanic arc active in S Java from M Eocene-E Miocene. After lull in M Miocene, Late Miocene-Recent arc activity ~50 km farther N. Most Eocene-Miocene sands onshore Java have high volcanogenic content)

Smyth, H., R. Hall, J. Hamilton & P. Kinny (2005)- East Java: Cenozoic basins, volcanoes and ancient basement. *Proc. 30th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 251-266.*
(E Java geology and history overview. Archean zircons suggest Gondwana continental crust below part of S Mountains)

Smyth, H.R., R. Hall & G.J. Nichols (2008)- Significant volcanic contribution to some quartz-rich sandstones, East Java, Indonesia. *J. Sedimentary Res.* 78, 5, p. 335-356.
(Cenozoic quartz-rich sandstones from E Java long been assumed to be product of erosion of continental source, but significant volcanic component. Quartz from acidic volcanic sources commonly overlooked)

Smyth, H.R., R. Hall & G.J. Nichols (2008)- Cenozoic volcanic arc history of East Java, Indonesia: the stratigraphic record of eruptions on a continental margin. In: A.E. Draut, P.D. Clift & D.W. Scholl (eds.) *Formation and applications of the sedimentary record in arc collision zones.* Geol. Soc. America (GSA), Spec. Publ. 436, p. 199-222.
(Indian Ocean lithosphere subducted continuously beneath Java from ca. 45 Ma, resulting in formation of volcanic arc, although volcanic activity not continuous. S Mountains Arc active from M Eocene- E Miocene (~45-20 Ma), and activity included significant acidic volcanism. Zircon ages in arc rocks indicates that acidic character of volcanism related to contamination by fragment of Archean- Cambrian continental crust beneath the arc. Activity in S Mountains Arc ended at 20 Ma with phase of intense eruptions. Volcanic quiescence from ~20-12 Ma, after which arc volcanism resumed in modern Sunda Arc, with axis 50 km N of older arc)

Smyth, H.R., P.J. Hamilton, R. Hall & P.D. Kinny (2007)- The deep crust beneath island arcs: inherited zircons reveal a Gondwana continental fragment beneath East Java, Indonesia. *Earth Planetary Sci. Letters* 258, p. 269-282.
(Inherited zircons from Oligo-Miocene volcanic arc rocks along E Java S coast only Archean- Cambrian zircons, probably from underlying Gondwana continental fragment, probably from W Australia. Clastics from N and W parts of E Java mainly Cretaceous zircons, not present in arc rocks to S. This implies continental crust was present at depth beneath arc in S Java when Cenozoic subduction began in Eocene.)

Soe, U.T., J. Sinomiya, I.W. Warmada, L.D. Setijadji, A. Imai & K. Watanabe (2004)- Geology and gold-copper mineralization at Selogiri area, Wonogiri regency, Central Java, Indonesia. *Proc. 1st Int. Symp. Earth Res. Engineering and Geological Engineering Education, Yogyakarta, p. 20-24.*

Soebowo (1987)- Studi fasies turbidit Formasi Halang de daerah Panusupan, Banyumas, Jawa Tengah. *J. Riset Geologi Pertambangan (LIPI)* 8, 1, p. 34-47.
(Study of turbidite facies of the Halang Formations in the Panusupan area, Banyumas, Central Java'. Latest Miocene- E Pliocene (N18-N19) turbiditic sandstones, claystones, tuffaceous sandstone in Banyumas basin SW of Purwokerto sourced from magmatic arc in N)

Soedjoprajitno, S. & Djuhaeni (2006)- Unit genesa pasir Ngrayong di Desa Ngepon Jatim, Cekungan Jawa Timur Utara. Buletin Geologi (ITB), Bandung, 38, 1, p.
(*Genesis of Ngrayong sand unit in Ngepon village, East Java, NE Java Basin*)

Soeharto, R.S. (1987)- Gold and silver mineralization in sulphide vein deposits of the Cikotok area, West Java, Indonesia, M. Sc. Thesis, University of Wollongong, p. 1-130.
(online at: <http://ro.uow.edu.au/theses/2830/>)
(*Cikotok mineralization in Tertiary volcano-magmatic belt of Java Island. Gold-silver mineralization at Cikotok accompanied by base metal sulphides, and is hosted by altered calc-alkaline volcanic rocks of Oligo-Miocene Old Andesite Fm (mostly andesites). Alteration of host rocks mainly silicification, propylitization, carbonatization, sericitization, chloritization and argillitization*)

Soeka, S. & Mudjito (1993)- Paleogene foraminiferal biostratigraphy and its problem in the South Central Jawa, Indonesia. In: T. Thanasuthipitak (ed.) Int. Symposium Biostratigraphy of mainland Southeast Asia: facies and paleontology, Chiang Mai 1993, p.

Soeka, S., Suminta & T. Sudjaah (1980)- Neogene benthonic foraminiferal biostratigraphy and datum-planes of East-Jawa basin. Proc. 9th Ann. Mtg. Indon. Assoc. Geol. (IAGI), Yogyakarta, p.
(*Review of six Late Miocene-Pleistocene biozones based on rotaliid benthic foraminifera from outcrop sections in NE Java. Defined by evolutionary appearances of (old to young): Asterorotalia subtrispinosa, A. trispinosa, Pseudorotalia catilliformis, Asanoina globosa, P. tikotoensis/ P. indopacifica and Calcarina calcar*)

Soeka, S., Suminta, E. Thayib & T. Sudjaah (1981)- Neogene benthonic foraminiferal biostratigraphy and datum-planes of East Java basin. Lemigas Scientific Contr. 5, 1, p. 1-25.
(*Similar to Soeka et al. 1980 above. Six biozones, numbered NB1- NB6, identified, based on 12 outcrop sections in NE Java basin, using first appearances of biostratigraphically significant benthic forams*)

Soeka, S., Suminta, E. Thayib & T. Sudjaah (1982)- The Miocene/Pliocene boundary in the North-East Java basin. Lemigas Scientific Contr. 6, 2, p.

Soenandar, H.B. (1996)- Western Indonesian Basins: constraints on their thermal history and provenance from Fission Track Analysis. Ph.D. Thesis, University of Waikato, Hamilton, NZ, p. 1-378. (*Unpublished*)

Soenandar, H.B. (1997)- Thermal history of the western Indonesian basins (Sunda-Asri, Northwest Java and Southwest Java): evidence from fission track geochronology of apatite. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Conf. Petroleum Systems of SE Asia and Australasia, Jakarta, Indon. Petroleum Assoc. (IPA), p. 601-629.
(*Apatite fission track from basement in Ciletuh, SW Java, basement of NW Java Basin, and from Eocene-Pleistocene sediments of Sunda-Asri, NW Java and SW Java forearc basins. Forward modelling indicates rapid increase in geothermal gradient Sunda-Asri and NW Java Basin since Plio-Pleistocene, probably caused by formation of Neogene volcanic belt. Ciletuh-Cimandiri region of SW Java forward modelling implies ~90°C of cooling in Late Miocene-E Pliocene, corresponding to ~3 km of uplift where basement is exposed*)

Soenandar, H.B. (1999)- The role of the Sunda Shelf as the provenance of western Indonesia Tertiary basin: a zircon fission track study result. In: H. Darman & F.H. Sidi (eds.) Tectonics and sedimentation of Indonesia, FOSI-IAGI-ITB Regional Seminar to commemorate 50th anniversary of Van Bemmelen's Geology of Indonesia, Bandung 1999, p. 22. (*Abstract only*)
(*Zircon FT data from W Java: SW Java melange and NW Java basin basement: ~88-110 and 191-220 Ma; Eo-Oligocene sediments of Ciletuh, Walat, Jatibarang: ~61-65 and 128-161 Ma, etc.. All rocks strong Late Cretaceous signals, replaced by E Miocene component by E Miocene*)

Soenandar, H.B. & P.J.J. Kamp (1998)- Constraints on sedimentary provenance in the Sunda-Asri Northwest Java Basins and the Ciletuh region: evidence from zircon fission track (FT) analysis. Proc. 26th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 348. (*Poster abstract*)

(Zircon FT data from basement and sediments SW Java. All rocks strong Late Cretaceous signals, etc. etc.)

Soenarti, E. (1973)- Analisa batugamping Jatibungkus, Karangsembung, Jawa Tengah. Thesis Dept. Teknik Geologi, Institute Teknologi Bandung, p. *(Unpublished)*

('Analysis of the Jatibungkus Limestone, Karangsembung, Central Java'. Eocene limestone study; see also Paltrinieri et al. 1976)

Soenarto, S. & S. Namida (1978)- Aspek tektonik terhadap perkembangan stratigrafi di daerah Todanan, Jawa Tengah. Geologi Indonesia (IAGI) 5, 1, p. 59-69.

('Tectonic aspects from the stratigraphic evolution of the Todanan area, East Java')

Soeparyono, N. & P.G. Lennox (1989)- Structural development of hydrocarbon traps in the Cepu Oil field Northeast Java, Indonesia. Proc. 18th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 139-156.

(Cepu oil fields in shallow water limey-clastic sequence in rifting back-arc basin with NE-SW basement faults. Deformation in early M Miocene caused basement fault reactivation in Nglobo-Semanggi with wrenching and development of flower structures, causing erosion of main reservoir rocks. Later Pliocene flower structures in Nglobo-Semanggi area, reflected at surface as en echelon anticlines. Tambakromo-Kawengan area minor N over S thrusting along E-W oriented listric reverse faults with detachment at shallow depths and development of Tambakromo-Kawengan hydrocarbon-bearing folds. Such folds related to imbricate blind thrusts parallel to Tambakromo-Kawengan thrust)

Soeparyono, N. & P.G. Lennox (1990)- Structural development of hydrocarbon traps in the Cepu oil fields, Northeast Java, Indonesia. J. Southeast Asian Earth Sci. 4, 4, p. 281-291.

(New model for Cepu oil fields. Generally shallow-water sequence developed in rifting back-arc basin with NE-SW oriented basement faults. Early M Miocene reactivation of basement faults in Nglobo-Semanggi area with flower structures caused areally restricted erosion of main reservoir rocks. Upper Pliocene deformation accelerated development of flower structures in Nglobo-Semanggi, shown at surface as en echelon, oil-bearing anticlines. Tambakromo- Kawengan area minor N over S thrusting along E-W oriented reverse faults with shallow detachment depth. Further hydrocarbon-bearing folds may exist N of Tambakromo-Kawengan structure: blind imbricate thrusts parallel to Tambakromo- Kawengan thrust)

Soeparyono, N. & P.G. Lennox (1991)- Structural styles, Cepu oil fields, Jawa, Indonesia. Exploration Geophysics (Bull. Soc. Australian Exploration Geophysicists) 22, 2, p. 369-374.

(Same paper as Soeparyono & Lennox 1990, 1991. Reinterpretation of 18 local and 7 regional seismic lines, well data and surface geology enabled new structural model for Cepu oil fields, which include both wrench and compressional structures)

Soepomo, D. & S. Bachri (1983)- Geologi daerah Kliripan dan sekitarnya Kab. Kulonprogo DIY serta genesa deposit biji mangan di Kliripan. Teknik Geologi Univ. Gadjah Mada (UGM), p.

('Geology of the Kliripan area and surroundings and genesis of manganese ore deposits at Kliripan')

Soeria-Atmadja, R., R.C. Maury, H. Bellon, H. Pringgoprawiro, M. Polve & B. Priadi (1991)- The Tertiary magmatic belts in Jawa. In: Proc. Silver Jubilee Symposium on the dynamics and its products, Yogyakarta 1991, Res. Dev. Center for Geotechnology (LIPI), p. 98-112.

Soeria-Atmadja, R., R.C. Maury, H. Bellon, H. Pringgoprawiro, M. Polve & B. Priadi (1994)- Tertiary magmatic belts in Jawa. J. Southeast Asian Earth Sci. 9, 1-2, p. 13-27.

(Two episodes of arc volcanism in E Jawa: 'Old Andesites' ~40-18 Ma in Southern Mountains, then start of modern Sunda Arc at 12-11 Ma ~50 km farther N)

Soeria-Atmadja, R. & D. Noeradi (2005)- Distribution of early Tertiary volcanic rocks in South Sumatra and West Jawa. The Island Arc 14, p. 679-686.

(Three main phases of volcanism: (1) M-L Eocene (43-33 Ma) island-arc tholeites (2) tholeiitic pillow basalt in Miocene (11 Ma) and (3) calc-alkaline magmatism in Pliocene- Quaternary. Early Tertiary volcanics of Jawa S

coast can be traced E as far as Flores; do not continue into S Kalimantan. Outboard shift in ?Eocene relative to Late Cretaceous arc related to docking of 'Sumba microcontinent', which also comprises much of E Java-Paternoster Platform- Spermonde Shelf, etc.)

Soeria-Atmadja, R., H. Pringgoprawiro & B. Priadi (1990)- Tertiary magmatic activity in Java: a study on geochemical and mineralogical evolution. In: Pros. Persidangan Sains Bumi and Masyarakat, Univ. Kebangsaan Malaysia, Kuala Lumpur July 1990, p. 164-180.

Soesilo, J., A. Subandrio & Sutarto (1996)- Studi petrologi lava bantal pada seri Oligo-Miosen di Kaki Lereng Peg. Selatan, Jateng. Proc. 25th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung 1996, 3, p. 409-420.
(*Study of the petrology of pillow lava from the Oligo-Miocene series of Kaki Lereng, S Mountains, C Java'*)

Soesilo, J., E. Suparka, C.I. Abdullah & V. Schenk (2010)- Petrology and geochemistry of the quartz-white mica schist in the Luk Ulo Melange Complex, Central Java. Buletin Geologi 40, 3, p. 123-138.
(*online at: <http://eprints.upnyk.ac.id/12890/>*)
(*Quartz-white mica schist from Pretertiary Luk Ulo complex in Sadang Area, 8 km N of Karangsembung and in Kaliwiro area, S Wonosobo mainly contains quartz; white mica, albite, garnet, etc. Foliated, gently N-NW dipping. Rutile and garnet indicated high pressure. Geothermometry/ geobarometry calculations suggest metamorphism at ~50 km depth*)

Soesilo, J. & Sutanto (2000)- Study on garnet bearing quartz-muscovite schist blocks of the Luk Ulo Melange Complex, Kebumen, Central Java. Proc. Ann. Mtg. Indon. Assoc. Geol. (IAGI), Bandung 2000, 4, p. 1-5.
(*Garnet-bearing quartz-muscovite schist outcrops in Kali Brengkok in melange together with ophiolite, Nummulites limestone, turbidite sediments, high pressure metamorphites and metabasite. Interpreted as continental protolith. K-Ar dates from muscovite yielded ~Aptian ages of 117, 115 and 110 Ma (Ketner et al. 1976, Miyazaki et al. 1998). Presence of Nummulites limestones as boudins in melange suggest melange formation still in progress in Eocene)*)

Soetantri, B., L. Samuel & G.A.S. Nayoan (1973)- The geology of the oil fields in North East Java. Proc. 2nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 149-176.
(*Description of the old Cepu area oil fields, E Java. All young surface anticlines, with M Miocene- Pliocene clastics reservoirs*)

Soetarso, B. & P. Suyitno (1976)- The diapiric structures and its relation to the occurrence of hydrocarbon North East Java basin. Proc. 5th Ann. Mtg. Indon. Assoc. Geol. (IAGI), 2, p. .

Soewono & Setyoko (1987)- Application of the dual porosity concept for well log interpretation of Jatibarang volcanic tuff. Proc. 16th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 87-105.

Solihin, M., Abdurrokhim & L. Jurnaliah (2016)- Biozonasi foraminifera planktonik di lintasan Sungai Cipamingkis, daerah Jonggol, Provinsi Jawa Barat. Bull. Scientific Contr. (UNPAD) 14, 1, p. 55-62.
(*online at: <http://jurnal.unpad.ac.id/bsc/article/view/9791/pdf>*)
(*'Planktonic foraminifera biozonation in the Cipamingkis River section, Jonggol, West Java Province'. Jatiluhur Fm in Cipamingkis River with M-L Miocene planktonic forminifera of zones N13-N16*)

Solihin, M., P.F. Rahmadhani, R. Sevirajati, H. Taufik & L. Fauzielly (2015)- Distribution of ostracoda from measured section data at Cimerang River, Sukabumi, Jawa Barat. In: Proc. ICG 2015 2nd Int. Conf. and 1st Joint Conf. Faculty of Geology Universitas Padjaran and University of Malaysia Sabah, p. 259-263.
(*online at: <http://seminar.ftgeologi.unpad.ac.id/wp-content/uploads/2016/02/Distribution-of-Ostracoda-from-Measured-Section-Data-at-Cimerang-River.pdf>*)
(*Late M Miocene shallow marine deposits of Nyalindung Mb of Cimandiri Fm in Cimerang-River section, Sukabumi, W Java. Dominated by 6 species of ostracoda: Hemicytheridea ornata, H. reticulata, Cytherella hemipuncta, Cytherelloidea excavata, Cytherella javaseanse and Keijella carriei*)

Somosusastro, S. (1956)- A contribution to the geology of the eastern Jiwo hills and the southern range in Central Java. Indonesian J. Natural Science (Majalah Ilmu Alam untuk Indonesia) 112, p. 115-134.

Sopaheluwakan, J. (1977)- Ringkasan peristiwa-peristiwa tektonik pada batuan andesit tua di selatan Jawa Timur. Riset Geologi Pertambangan (LIPI) 1, 1, p. 34-41.

(online at: <http://pustaka.geotek.lipi.go.id/wp-content/uploads/2016/02/Riset-Vol.1-No.1-22-.pdf>)

(*'Summary of tectonic events at the Old Andesite rocks in the south of East Java'. Rocks of mid-Tertiary Old Andesite arc at least 2 deformation periods: (1) M Miocene N-S compression, with dioritic- granodioritic intrusions; (2) Plio-Pleistocene migration of subduction towards Indian Ocean, with local N-S compression*)

Sopaheluwakan, J. (1994)- Do Karangsambung (Central Java) and Bantimala (SW Sulawesi) form a single subduction process? a provocative view. Proc. 30th Anniv. Symp., Res. Dev. Centre for Geotechnology (LIPI), 2, p. 7-8.

(*Cretaceous subduction complexes of Ciletuh (W Java), Karangsambung and Bayat (C Java), Meratus (S Kalimantan), and Bantimala and Barru (S Sulawesi) may belong to same orogenic belt. Bantimala and Barru complexes may form single and intact Mesozoic basement, linked to Meratus Range prior to Makassar Strait opening. Karangsambung and Bantimala common early history and form single tectonic entity. Metamorphism-exhumation- accretion cycle in both areas in Late Jurassic-Cretaceous, with Bantimala earlier than Karangsambung. Karangsambung accretion may have continued to Paleocene. HP metamorphism at 500- 600° C and 10-14 kb between 135-110 Ma, transformed basaltic rocks and trench-fill sediments into blueschist and eclogite at depths of >40 km. Fast uplift to 20-25 km immediately after peak metamorphism, while subduction continued during most of Cretaceous in C Java and ceased in Albian time in Bantimala*)

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(*Hydrocarbons in pre-Parigi reservoirs on Pre-Tertiary basement. Reservoirs complex, consisting of volcanic tuff, conglomerate, sandstone and carbonate, and with facies changes and combination traps. Structures drape over basement blocks. Hydrocarbons in lower units (Jatibarang Volcanics, Lower Cibulakan) and probably also in upper units (U Cibulakan) originate from Talang Akar Fm. Vertical fractures important for hydrocarbon migration into upper units. High temperatures from DST probably related to recent volcanic influence and are higher than paleo temperatures indicated by maturation evaluation*)

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Spicak, A., V. Hanus & J. Vanek (2005)- Seismotectonic pattern and the source region of volcanism in the central part of Sunda Arc. J. Asian Earth Sci. 25, p. 583-600.

(*Seismotectonics between Java-Timor. Aseismic gap without strong earthquakes in Wadati-Benioff zone between 100-200 km depth. Active calc-alkaline volcanoes in Sunda Arc above this gap. Majority of earthquakes in wedge above subducted slab attributed to deep regional fracture zones, displaying thrust tectonic regime. Clusters of earthquakes beneath active volcanoes seismically active columns, induced by magma transport through lithospheric wedge. No seismically active columns beneath volcanoes of C Java: not at outcrop of seismically active fracture zone*)

Spicak, A., V. Hanus & J. Vanek (2007)- Earthquake occurrence along the Java Trench in front of the onset of the Wadati-Benioff zone; beginning of a new subduction cycle? Tectonics 26, 1, TC1005, p. 1-16.

(online at: <https://agupubs.onlinelibrary.wiley.com/doi/pdf/10.1029/2005TC001867>)

(Earthquake foci in central part of Sunda Arc (S Sumatra, W Java, Timor) show distinct strip of earthquakes distributed along Java Trench, separated by trench-parallel, 50-150 km wide aseismic link)

Sribudiyani, N., R. Muchsin, T. Ryacudu, P. Kunto, I. Astono et al. (2003)- The collision of the East Java microplate and its implication for hydrocarbon occurrences in the East Java Basin. Proc. 29th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 335-346.

(Collision of Gondwanan microplate and Sundaland in Late Cretaceous- M Eocene, creating Meratus Mts and Lok Ulo melange in C Java. E-W structural trends of E Java inherited from microplate. With maps of structural elements and Late Cretaceous magmatic arc (mainly in S Java Sea) and Eocene arc across Java area)

Srivastava, R. & N. Kagemori (2001)- Fossil wood of *Dryobalanops* from Pliocene deposits of Indonesia. The Palaeobotanist 50, 2-3, p. 395-401.

(Description of new species of petrified tree trunk (Dryobalanoxydon bogorensis) from volcanic sediments at Leuwilang, 20km W of Bogor, W Java. Shows affinities with modern genus Dryobalanops of family Dipterocarpaceae, found today in tropical rainforests of Malaysia, Sumatra and Borneo, but not on Java)

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('Guide for mountain trips on Java'. Mountaineering/ hiking guide book, describing climbing routes of 52 Java volcanoes by Volcanological Survey geologist)

Stehn, C.E. & J.H.F. Umbgrove (1939)- Bijdrage tot de geologie der vlakte van Bandoeng. Tijdschrift Kon. Nederlands Aardrijkskundig Genootschap 46, 3, p. 301-314.

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(E Java Basin stratigraphy tied to global eustatic cycle chart)

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(online at: <https://www.biodiversitylibrary.org/item/151131#page/667/mode/1up>)

('The Batu Dodol basalt cliff at Java's East coast and its recent uplift'. Dark-colored basalt cliff at easternmost coast of Java, covered by recent coral limestone up to 30-50' above present sea level, suggesting young uplift)

Suasta, I.G.M & I.A. Sinugroho (2011)- Occurrence of zoned epithermal to porphyry type Cu-Au mineralization at Wonogiri, Central Java. Proc. 36th HAGI and 40th IAGI Ann. Conv., Makassar, 15p.

(Wonogiri prospect in SE part of C Java province, 30km S of Solo. Randu Kuning prospect with (1) porphyry type Cu-Au mineralization at as quartz sulphide oxide sheeted and stockwork vein zones, and (2) epithermal Au

± base metal mineralization, mainly as quartz-carbonate- base metal veins hosted in intrusive and volcanic rocks proximal to Randu Kuning (see also Muthi et al. 2013))

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(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/259/239>)

('Sub-surface geologic structure structures of the Kebumen area based on analysis of gravity and geomagnetic anomaly patterns'. High anomalies in E and W of area have positive circular patterns, probably representing andesite intrusives in Karangbolong and Kulon Progo Highs, and Prateritary rock in Karangsembung area. Low anomaly anomaly in central area indicates Tertiary sedimentary basin)

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(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/90/84>)

('Gravity anomalies and geological hazard potential in the central part of West Java'. In C West Java Bouguer anomaly values 5-125 mGal. Lowest anomaly around Tagogapu, Padalarang area, showing sediment basin. Highest anomaly around Pelabuhanratu, reflecting presence of ultramafic rocks. Puncak area and surroundings are graben zone, filled by low density Quaternary volcanic rocks)

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(online at: www.searchanddiscovery.net/documents/2010/10236subroto/ndx_subroto.pdf)

(Geochemical study of SW Java Eocene- Miocene outcrop samples from Ciletuh and Gunung Walat. Best source quality in Miocene Cimandiri and Nyalindung Fms, Oligocene Batuasih Fm and Eocene Bayah Fm. Oligo-Miocene sediments immature- marginally mature and unlikely sources of gas, unless buried deeply in basin. Eocene Bayah Fm coals significant oil and gas potential and locally mature. No oil seepage in area)

Subroto, E.A., A. Ibrahim, E. Hermanto & D. Noeradi (2008)- Contribution of Paleogene and Neogene sediments to the petroleum system in the Banyumas Sub-Basin, Southern Central Java, Indonesia. American Assoc. Petrol. Geol. (AAPG) Int. Conf. Exhibition, Cape Town 2008, 6p. *(Extended abstract)*

(Oil samples from seeps and DST in Jati 1 well in Banyumas sub-basin, C Java, more fluviodeltaic than marine character. Biomarker distributions suggest all one family. Both Paleogene and Neogene intervals possible sources. Postulate NE-SW trending Paleogene basins across C Java ('Meratus Trend'))

Subroto, E.A., H.E. Wahono, E. Hermanto, D. Noeradi & Y. Zaim (2006)- Reevaluation of the petroleum potential in Central Java Province, Indonesia: innovative approach using geochemical inversion and modelling. American Assoc. Petrol. Geol. (AAPG) Int. Conf. Exhibition, Perth 2006, 6p. *(Extended abstract)*

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(Regional gravity map of C Java shows Kendeng zone is deep basin, dissected by NE-SW structural lineaments that can be interpreted as S-ward prolongation of Paleogene structural trend. Stratigraphic studies in

Paleogene outcrops in S part of Java revealed Paleogene basin present in S part of island. Geochemical analyses performed on selected sediments and oil samples)

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('Petrology of high-pressure metamorphic rocks in the Karangsambung area, Kebumen, C Java')

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Sudana, A. & A. Achdan (1992)- Geology of the Karawang Quadrangle, Jawa. Quad. 1209-5, 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung, 10p.

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(On possibly unconformable stratigraphic contact between Eocene Wungkal-Gamping Fm limestone with Oligocene Kebo-Butak Fm in Jiwo Hills, C Java. Presence of black claystone)

Sudarsono & I. Setiawan (2012)- Paragenesa mineral bijih sulfida hidrotermal di daerah Kluwih Kabupaten Pacitan Jawa Timur: pendekatan berdasarkan mineralogi dan inklusi fluida. J. Sumber Daya Geologi 22, 1, p. 25-33.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/104/96>)

('Ore mineral paragenesis of hydrothermal sulfide mineralization in the Kluwih area of Pacitan District, East Java: approach based on mineralogy and fluid inclusions'. Epithermal low sulphidation system in S Mountains, with chalcopyrite-bornite-galena-sphalerite)

Sudijono (1985)- Foraminifera from the mud volcanic area, Sangiran, Central Java. In: N. Watanabe & D. Kadar (eds.) Quaternary geology of the hominid bearing formations in Java. Geol. Res. Dev. Centre (GRDC), Bandung, Spec. Publ. 4, p. 253-273.

(Sedimentary rocks from mud volcano include limestones (M and Late Eocene with Nummulites- Pellatipira; E Miocene sandy limestones with Spiroclypeus, Lepidocyclina, Miogypsina, Miogypsinoidea) and marls with Eocene, Oligocene, Miocene and Pliocene planktonic forams)

Sudijono (2005)- Age and the depositional environment of the Kalibiuk Formation of the Cisaat river section, Bumiayu, Central Java. J. Sumber Daya Geologi 15, 2 (149), p. 118-135.

(Well-documented study of foraminifera of ~370m thick, clay-dominated Kalibiuk Fm, in Bumiayu area, C Java, suggesting mainly Late Pliocene ages (upper N20-N21). Lower part deposited in shelfal marine environment (Cassidulina- Hanzawaia fauna), upper part in brackish shallow marine and lagoon (Ammonia- Elphidium- Nonion- Asterorotalia fauna))

Sudiro, T.W., G.A.S. Nayoan, A. Yasid, M. Lattreille, H. Oesterle et al. (1973)- The structural units of the Jawa Sea. Proc. 2nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 2, p. 177-185.

(Java Sea several N-S and NE-SW trending highs and lows. Sedimentation started with Eocene transgression from East)

Sudjatmiko (1972)- Geologic map of the Cianjur Quadrangle, Jawa. Quad. 9/XIII-E, scale 1:100,000. Geol. Survey Indonesia, Bandung (2nd ed. 2003).

(Rajamandala area, etc., W of Bandung)

Sudjatmiko & Santosa (1992)- Geologic map of the Leuwidimar Quadrangle, Java, Quad. 1109-3, 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung, p. 1-38.

Sudrajat, A. (1975)- Batuan gunung api dan struktur geologi di Jawa Timur dan Nusa Tenggara Barat. J. Geologi Indonesia 2, p. 19-22.
(*Volcanic rocks and geologic structure of East Java and West Nusa Tenggara*)

Sudrajat, A., I. Syafri & E. Budiadi (2010)- The geotectonic configuration of Kulon Progo area, Yogyakarta. Proc. 39th Ann. Conv. Indon. Assoc. Geol. (IAGI), Lombok, 6p.
(*Analysis of satellite imagery with field visits suggest three regional tectonic stages controlled development elongated dome of Kulon Progo in S Mountains, 30 km W of Yogyakarta: Meratus (SW-NE), Sunda (NNW-SSE) and Java trends (E-W). Not result of vertical undation force, as suggested by Van Bemmelen (1949)*)

Sufiati, E. (2013)- Koleksi museum geologi fosil moluska holotype dari Bumiayu dan Cirebon, Jawa. UPT Museum Geologi, Bandung, p. 1-200.
(*The Geological Museum collection of fossil mollusc holotypes from Bumiayu and Cirebon*)

Sufiati, E., Aswan, A. Sopianji, D. Kistiani & R. Wahyudin (2014)- Evolusi lingkungan pengendapan Formasi Nyalindung berdasarkan kajian paleontologi Moluska, daerah Cideng, Sukabumi, Jawa Barat. Proc. 43rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, PIT IAGI 2014-069, 5p.
(*Evolution of depositional environments in the Nyalindung Fm based on paleontology study of molluscs, Cideng River area, Sukabumi, West Java'. Nyalindung Fm deposited in shallow marine environments. At least 11 times of depositional environment changes caused by changes in Late Miocene sea level. Associations of Turritella-Dentalina, Turritella-Bufonaria, Strombus-Balanus, etc.*)

Sugiaman, F.J. (1998)- Depositional and diagenetic models of Miocene Parigi and pre-Parigi carbonates, offshore northwest Java, Indonesia. Berita Sedimentologi (Indon. Geol. Forum) 10, p. 7-8.
(*Brief discussion of M-L Miocene Parigi Fm carbonate buildups in 'KL area', offshore NW Java*)

Sugiarto, S., I.B.O. Agastya, M.O. Jene, T. Ramadhan & Y.B. Muslih (2018)- Architectural elements of volcanoclastic mass transport of Banyak Member, Western Kendeng, East Java. Proc. 42nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA18-185-G, 16p.
(*Banyak Mb is Late Miocene - E Pliocene andesitic volcanoclastic deep marine Mass Transport Deposits (slumps and debris flows) in W Kendeng Basin. Related to renewed and increasing volcanic eruption activity in Southern Mountains of Java. Not much detail*)

Sugiatno, H. & C. Prasetyadi (1998)- Structural geology of the Rembang Hill, Central Java. Proc. 27th Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 3 (Geodin., Magmat. Volkanologi), p. 16-25.
(*Rembang Hill in W Rembang zone E-W trending monoclinial structure, bounded by flexure in N and Jatipohon fault in S, and cut by E-W and NE-SW normal and sinistral slip faults. Major N70°E trending Jatipohon fault interpreted as normal fault, downthrown to N, with later inversion. Three segments, Klambu, Klampok and Todanan. W-most Klambu segment dominated by NE-SW sinistral slip faults with drag folds. Purwodadi High S of Klampok may act as structural barrier, weakening effects of N-directed compressive stress in W. Stratigraphic onlap of Ledok Fm on Bulu/Wonocolo Fms suggests Rembang structuring around 7.0 Ma*)

Sugiharto (1984)- Stratigraphic traps defined by seismic data: a case study. Proc. 13th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 227-240.
(*KL field in Arjuna basin off NW Java stratigraphic traps in Baturaja Fm carbonate and M Miocene Cibulakan Fm clastics*)

Suharsono & T. Suwarti (1992)- Geology of the Probolinggo Quadrangle, Jawa. Quad.1608-2, 1:100,000. Geol. Res. Dev. Centre, 9p.

Suhartati (1984)- Penyebaran foraminifera bentos familia Rotaliidae dan Miliolidae pada Formasi Kalibeng Atas di daerah Sangiran, Kabupaten Sragen, Jawa Tengah. *J. Riset Geologi Pertambangan (LIPI)* 5, 1, p. 30-35.

(online at: <http://pustaka.geotek.lipi.go.id/wp-content/uploads/2016/02/Riset-Vol.5-No.1-2.pdf>)

(*'Distribution of benthic foraminifera of the Miliolidae and Rotaliidae families in the Upper Kalibeng Formation in the Sangiran area, Sragen, Central Java'. Mixed shallow and deep foraminiferal faunas*)

Suhendra, R. (2016)- Studi petrologi dan geokimia batuan metamorf berasosiasi dengan endapan emas orogenik pada lintasan Sungai Gebang, Desa Kaligua, Kecamatan Kaliwiro, Kabupaten Wonosobo, Provinsi Jawa Tengah. Thesis Gadjah Mada University, Yogyakarta, p. 1-333.

(summary online at: [http://etd.repository.ugm.ac.id/...](http://etd.repository.ugm.ac.id/))

(*Metamorphic rocks in Gebang River area of Karangsambung Complex, C Java, at least three types (1) overburden metamorphism (zeolite facies), (2) orogenic metamorphism (greenschist, epidote-amphibolite, amphibolite and blueschist facies), and (3) contact metamorphism (hornblende-hornfels and pyroxene hornfels facies). Occurrences of high sulfidation and skarn deposits show placer gold deposits in area not produced by single process (orogenic gold deposit)*)

Suhendra, R. (2017)- Petrogenesis of very low to low-grade metamorphic rocks in Luk Ulo melange complex, Karangsambung, Indonesia. Proc. 10th Seminar Nasional Kebumihan, Dept. Teknik Geologi, Universitas Gadjah Mada (UGM), Yogyakarta, p. 1091-1113.

(online at: <https://repository.ugm.ac.id/274159/1/OMP-09.pdf>)

(*Zeolite- and greenschist-facies metamorphic rocks in Karangsambung area widespread in N part of Luk Ulo Melange Complex, especially in Gebang River, Kaliwiro area, incl. scaly clay, mica schist, zeolitic rocks and basaltic lava. (S part of complex with higher-grade metamorphics)*)

Suherman, T. & A. Syahbuddin (1986)- Exploration history of the MB Field, coastal area of Northwest Java. Proc. 15th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 101-122.

(*1982 MB field straddles NW Java coast, ~35 miles NE of Jakarta. One of several fields in M Miocene Mid-Main Carbonate buildup. Productive interval over basement horst block, Rengasdengklok High. Faults defining N-S trending horst may have acted as pathways from basinal areas (Ardjuna/Pasir Putih or Ciputat subbasin)*)

Sujanto, F.X. & Y.R. Sumantri (1977)- Preliminary study on the Tertiary depositional patterns of Java. Proc. 6th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 2, p. 183-213.

(*Java five major E-W trending structural units, from N to S: Seribu Platform. N Java hinge belt, Bogor-Kendeng Trough, Axial Ridge-flexure, Southern slope of axial ridge-flexure*)

Sujatmiko (1972)- Geologic map of Cianjur Quadrangle, Java, 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung.

Sujatmiko (1994)- Batu permata Jawa Barat: potensi dan permasalahannya. Proc. 23rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, 2, p. 882-889.

(*'Gemstones of West Java: the potential and its problems'. Brief review of presence of agate, silicified wood, jasper, opal, etc., in S Mountains of west Java*)

Sujatmiko (2004)- Geologic map of Padalarang Quadrangle, Java, 1:100,000, 2nd Ed., Geol. Res. Dev. Centre (GRDC), Bandung.

Sujatmiko, H.C. Einfalt & U. Henn (2008)- Opal from Banten Province, Indonesia and its varieties. Proc. 37th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 1, p. 682-690.

(*Opal mined since early 1970s in 9 x 13 km² area in Banten Province, SE of Rangkasbitung. Opal found in 0.3-2.3m thick weathered pumice layer in Late Miocene Genteng Fm volcanoclastic sequence. Types of opal range from common opal to hyalite, fire opal, and white and black precious opal*)

- Sujatmiko & Santosa (1992)- Geology of the Leuwidamar Quadrangle, Jawa (Quad. 11093), 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung, 38p.
(*Map of SW Java, W of Pelabuhan Ratu. Oldest beds Eocene coal-bearing Bayat Fm*)
- Sujitno, P. & E. Ruslan (1978)- Seismik di Jawa Barat: kemajuan teknologi processing meningkatkan kemampuan interpretasi. Geologi Indonesia (IAGI). 5, p. 49-62.
- Sukamto, R. (1975)- Geologic map of the Jampang and Balekambang Quadrangles, Jawa, Quads. 9-XIV-A & 8-XIV-C, 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung, 11p.
- Sukandar, S., S.A. Siregar & L. Leverbvre (1982)- A reservoir description, based on wireline logs, geological and production data, aids selection of new well locations for optimum oil production. Proc. 11th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 415-427.
(*Reservoir description of Parigi limestone reef in Tugu Barat field, W Java. Thick gas cap and aquifer cause gas and water cuts in production from thin oil column. Two limestone facies: (1) reef core with high vertical permeability, and (2) overlying reef debris, with better stratification and reduced vertical permeability*)
- Sukandarrumidi (1983)- Geologi Pulau Kangean sebagai dasar pengembangan wilayah. Proc. 12th Ann. Conv. Indon. Assoc. Geol. (IAGI), p. 223-231.
(*Geology of Kangean island as basis of development of the region*)
- Sukandarrumidi (1986)- Neogene foraminifera from the Rembang Basin, East Java, Indonesia. M.Sc. Thesis University of Wales, Aberystwyth, p. 1-292. (*Unpublished*)
- Sukandarrumidi (1989)- Late Cenozoic foraminifera from West Java (Jatibarang oil field, Java Sea). Ph.D. Thesis University of Wales, Aberystwyth, p. 1-730. (*Unpublished*)
- Sukandarrumidi (1990)- Biostratigrafi sumur pemboran CLS-X, Jatibarang. Media Teknik 12, 3, p. 150-162.
(*Biostratigraphy of well CLS-X, Jatibarang'. M Miocene (Lepidocyclina verbeeki- Ammonia umbonata zone)- Pleistocene (Asterorotalia trispinosa zone) biostratigraphy of Jatibarang CLS-X well, drilled to 2630m, NW Java*)
- Sukanta U., E. Partoyo & A. Achdan (1994)- Depositional environment of the Besole Formation in the western part of the Blambangan region, East Jawa. J. Geologi Sumberdaya Mineral 4, 30, p. 9-14.
(*On depositional environment of E Miocene volcanics-dominated Besole Fm in easternmost SE Java (part of Late Oligocene- earliest Miocene 'Old Andesites complex of S Mountains). Lower part deep water deposits, with andesitic pillow lavas passing upward into classic turbidites. Volcanic arc to backarc setting. Current directions probably NW to SE*)
- Sukardi (1992)- Geology of the Surabaya, Sapulu Quadrangle, Jawa (1608-1609-1), 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung.
- Sukardi & T. Budhitrisna (1992)- Geology of the Salatiga Quadrangle, Jawa (1408-6), 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung, 15p. + map.
(*NE part of Central Java, with W part of Kendeng zone and Quaternary arc, including Sangiran Dome*)
- Sukarna, D. (1991)- Geochemistry and origin of gold in the Cikotok ore group (COG) and associated plutonic and volcanic rocks in the Bayah area, Banten- West Java, Indonesia. Ph.D. Thesis State University of Ghent, Belgium, p. 1-293. (*Unpublished*)
- Sukarna, D. (1993)- Geokimia dan isotop batuan basal primitif (batuan gunungapi daerah Bayah). J. Geologi Sumberdaya Mineral 3, 23, p. 2-9.
(*Geochemistry and isotopes of primitive basalts (volcanic rocks of the Bayah area)'. Primitive Late Eocene- E Oligocene basalt in Cisiuh River, Bayah area, SW Java*)

Sukarna, D. (1993)- Wall rock geochemistry and hydrothermal alteration of the Cikotok Ore Group (COG) in the Bayah area. Bull. Geol. Res. Dev. Centre (GRDC), Bandung, 16, p. 70-96.

Sukarna, D. (1994)- Paleogeography and evolution of the Bayah area during Tertiary. J. Geologi Sumberdaya Mineral 4, 37, p. 2-12.

(Bayah High area of SW Java (W of Pelabuhan Ratu) with outcrops of Eocene-Oligocene rocks, flanked by late E and M Miocene rocks. Three periods of tectonic activity: (1) Late Paleogene N-directed folding-thrusting of Paleogene; (2) latest M Miocene folding; and (3) latest Miocene faulting in N. In Late Cretaceous- E Eocene Bayah area was in fore-arc position, with source of Paleogene sands from N. Late Eocene- M Oligocene 'Lower Old Andesite' volcanic activity in Bayah area. Late Oligocene- E Miocene 'Upper Old Andesite' activity along all of S Java. No paleogeographic maps)

Sukarna, D. (1998)- Petrogenesis diorit Gunung Malang, daerah Bayah bukti bukti geokimia dan kimia mineral. J. Geologi Sumberdaya Mineral 8, 86, p. 2-12.

('Petrogenesis of the Mt. Malang diorite Mount Malang, Bayah area, based on geochemical and mineral chemistry'. Geochemistry of M Miocene(?) diorites at N side Bayah Dome, SW Java, which result from calc-alkaline island arc magmatism)

Sukarna, D. (1998)- Rb, Sr, Zr, Ba and Y behavior during mineralization in the Cirotan ore deposit. J. Geologi Sumberdaya Mineral 9, 90, p. 9-15.

(Cirotan ore deposit of Cikotok ore group in SW Java is epithermal gold deposit with polymetallic minerals, hosted in E Miocene 'Old Andesites')

Sukarna, D. (1999)- Rare elements distribution in Cirotan epithermal gold deposits. Indonesian Mining 5, p. 1-10.

Sukarna, D.J., A. Mangga S. & K. Brata (1993)- Geology of the Bayah area; implications for the Cenozoic evolution of West Java, Indonesia. In: G.H. Teh (ed.) Proc. Symp. Tectonic framework and energy resources of the W margin of the Pacific Basin, Bull. Geol. Soc. Malaysia 33, Kuala Lumpur 1992, p. 163-180.

(online at: <https://gsmpubl.files.wordpress.com/2014/09/bgsm1993013.pdf>)

(Review of SW Java Eocene- Pliocene sedimentary and volcanic rocks. Island arc volcanics in Late Eocene and Late Oligocene- earliest Miocene ('Old Andesites') and Late Miocene- Recent)

Sukarna, D., Y. Noya & S.A. Mangga (1994)- Petrology and geochemistry of the Tertiary plutonic and volcanic rocks in the Bayah area. Proc. 23rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, 1, p. 389-412.

(Three episodes of Tertiary igneous rocks in Bayah area, SW Java, all calc-alkaline arc rocks: (1) Lower Old Andesite (Late Eocene- E Oligocene, 53-36 Ma; rel. primitive basaltic magma in forearc setting?) (2) Upper Old Andesite (Late Oligocene- E Miocene and (3) MPV, late E Miocene- Late Miocene. 2 and 3 are volcanic arc deposits and can be linked to Indian Ocean Plate subduction; magmatic arc))

Sukiman, S (1977)- Sur deux bois fossiles du gisement de la region Pachitan a Java. Comptes Rendus 102nd Congres Nat. Soc. Savantes, Limoges, 1, p. 197-209.

('On two fossil woods from the deposits in Pacitan region of Java')

Sukiyah, E., I. Haryanto & A. Sudradjat (2016)- The skin tectonic control in the geomorphologic evolution of western part of Java, Indonesia. Proc. GEOSEA XIV and 45th Ann. Conv. Indon. Assoc. Geologists (IAGI) (GIC 2016), Bandung, p. 348-351.

(Dominant stress direction remains similar (N100E/ ~E-W strike azimuths) from M Eocene to Pliocene-Quaternary. U Miocene and younger strata same strike direction but generally more gentle dips. Ideal Java geomorphologic zonation from S to N: rel. undeformed plateau in S (Jampang)-(volcanic arc)- intensely folded ridges in middle- thin skin overthrusting in N)

- Sukmono, S., D. Santoso, A. Samodra, W. Waluyo & S. Tjiptoharsono (2006)- Integrating seismic attributes for reservoir characterization in Melandong Field, Indonesia. *The Leading Edge* 25, 5, p. 532-538.
(*Melandong Field in onshore NW Java Basin seismic reservoir characterization of fluvio-deltaic channels of Talang Akar Fm and carbonates of Batu Raja Fm*)
- Sulaeman, C., L. Cendekia Dewi & W. Triyoso (2008)- Karakterisasi sumber gempa Yogyakarta 2006 berdasarkan data GPS. *J. Geologi Indonesia* 3, 1, p. 49-56.
(*online at: www.bgl.esdm.go.id/publication/index.php/dir/article_detail/219*)
(*Yogyakarta May 2006 magnitude 6.5 earthquake epicenter 10 km E of Bantul. GPS data suggest left-lateral strike slip along SW-NE trending fault*)
- Sulistyo, Z.R. (2016)- Volcanostratigraphy of submarine volcano Kumbang Fm. in Capar Area, Kuningan: implication to potential volcano-clastic play in West Java Basin. *Proc. 40th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA16-3-G, 9p.*
(*Kumbang Fm Late Miocene submarine volcanoclastics in Bogor Trough. Sourced from proto-Ciremai volcano and interfingering with (upper?) Halang Fm. sediments. Potential volcanoclastic hydrocarbon play*)
- Sulistyoningrum, D. & Wartono Rahardjo (2010)- Identification and paleoecology of coralline fossils (Cnidaria: Anthozoa) from Jonggrangan Limestone, Western Slope of Kucir Hill, West Progo Area, Yogyakarta Special Province. *Proc. 34th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA10-G-056, 9p.*
(*On corals from M-L Miocene Jonggrangan Fm reefal limestone, Kucir Hill, W Progo Mts, S Central Java (age should be Tfl; late E- M Miocene; Lunt 2013, Reich et al. 2014)*)
- Sumanagara, D.A. & D. Sinambela (1991)- Penemuan endapan emas primer di Gunung Pongkor- Jawa Barat. *Proc. 20th Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, p. 97-114.*
(*'The discovery of the Gunung Pongkor primary gold deposit, West Java'. Pongkor gold mine discovered in 1988-1991, WSW of Bogor. Hosted in andesitic volcanics*)
- Sumanagara, D.A. & D. Sinambela (1993)- The discovery of the Gunung Pongkor gold deposit, West Java. In: M. Simatupang & B.H. Wahju (eds.) *Proc. Indonesian mineral development Conf., Jakarta 1991, Indon. Mining Assoc., Jakarta, p. 275-301.*
(*Similar to Sumanagara & Sinambela 1991, above*)
- Sumantri, Y.R. (1982)- Gas karbondioksida didalam cekungan minyak Jawa Barat Utara (suatu pandangan mengenai genesanya). *Proc. 11th Ann. Conv. Indon. Assoc. Geol. (IAGI), p. 213-236.*
(*'Carbon dioxide gas in the NW Java oil basin...'*)
- Sumarso & T. Ismoyowati (1975)- Contribution to the stratigraphy of the Jiwo Hills and their southern surroundings (Central Java). *Proc. 4th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 2, p. 19-26.*
(*Bayat area M-L Eocene clastics overlain by latest Oligocene- E Miocene volcanoclastics. M Miocene angular unconformity between Semilir beds (up to N9; basal M Miocene) and overlying Wonosari beds (N12). Late Miocene-Pliocene absent, probably erosion after Late Pliocene orogeny*)
- Sumarso & N. Suparyono (1974)- A contribution to the stratigraphy of the Bumiayu area. *Proc. 3rd Conv. Indon. Assoc. Geol. (IAGI), p.*
- Sumosusastro, S. (1957)- A contribution to the geology of eastern Djiwo Hills and the Southern Range in Central Java. *Indonesian J. Natural Science (Majalah Ilmu Alam untuk Indonesia)* 112, 2, p. 115-134.
(*Geologic history in Jiwo hills and adjacent Southern Mountains in C Java begins with Mesozoic deposition, uplifted during Late Cretaceous or E Eocene orogenic activity. Eocene transgressions and regressions followed by Oligocene orogenic phase with diorite intrusions folding pre-Tertiary-Eocene complex. Volcanic activity in lower Miocene time followed by M Miocene transgression, Mio-Pliocene uplift and E Pleistocene basalt extrusions. Collapse of geanticline along E-W faults to form rift zone was last tectonic event*)

- Sun, M. & I.N. Akbar (2011)- B-Field Reservoir simulation- characterization of carbonate fracture permeability using single and dual porosity models. Proc. 37th Ann. Conv. Indon. Petroleum Assoc., IPA11-E-237, 12p. *(Banyu Urip Field excess permeability due to karst and fractures)*
- Sunardi, E. (1997)- Magnetic polarity stratigraphy of the Plio-Pleistocene volcanic rocks around the Bandung Basin, West Java, Indonesia. Dr.Sc. Thesis, Osaka City University, Japan, p. *(Unpublished)*
- Sunardi, E. (1998)- Paleomagnetic study of selected dykes and lava from Bandung area. Berita Sedimentologi 8, p. 13-16. *(Summary of paleomagnetic study of Plio-Pleistocene volcanics in Bandung area)*
- Sunardi, E. (2004)- Lithofacies stratigraphy and characteristic of Jampang Formation. In: Stratigrafi Pulau Jawa, Geol. Res. Dev. Centre (GRDC), Bandung, Spec. Publ. 30, p. 107-111. *(E Miocene Jampang Fm oldest volcanogenic deposit on Java. Breccias clasts mainly basalt, also skeletal limestone, lithic tuff, ripped-up tuffaceous sandstone)*
- Sunardi, E. (2011)- Stratigraphy review of Kuningan area in relation to the petroleum potential. Bull. Scientific Contr. (UNPAD) 9, 3. p. 125-138. *(online at: <http://jurnal.unpad.ac.id/bsc/article/view/8269/3816>)* *(Kuningan area of Bogor Trough, E of Bandung and S of Cirebon, W Java, poorly known. First, shallow oil wells of Indonesia were drilled on oil seeps near Maja in N part of area by Reerink in 1871. Stratigraphy and hydrocarbon plays of offshore NW Java Basin may extend to Kuningan area)*
- Sunardi, E. & B.G. Adhiperdana (2008)- An account for the petroleum prospectivity in the Southern Mountains of west Java: a geological frontier in the west? Proc. 32nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA08-G-083, 12p. *(S mountains of W Java largely consists of inverted sub-basins, with deformed Tertiary sediments and dissected arc remnants. Base Tertiary ranges from >2000m depth to PreTertiary exposure at Ciletuh. Early Tertiary coal and shales likely source rocks. Geochemical results from 200-400m well samples of Paleogene sediments indicate mature and oil/gas prone source rocks. Potential for petroleum accumulations greatest in E part)*
- Sunardi, E. & B.G. Adhiperdana (2013)- Sedimentologi dan paleohidrologi sedimen fluvial Oligosen Formasi Walat, Sukabumi-Jawa Barat. Bionatura 15, 1, p. 8-13. *(online at: <http://jurnal.unpad.ac.id/bionatura/article/view/7212/3311>)* *(Sedimentology and paleohydrology of fluvial sediments of the Oligocene Walat Formation, Sukabumi, West Java'. Fluvial Walat Fm outcrops show upward decrease of fluvial sinuosity, and rivers becoming more braided, with wider and deeper channels upsection, with more coarse-grained facies Represents relative sediment supply increases beyond capacity of accommodation, possibly related to sea level drop through Paleogene, and global climate change from greenhouse to icehouse conditions in Eocene-Oligocene time (NB: age of Walat Fm more likely Late Eocene?; Lunt 2013))*
- Sunardi, E., B.G. Adhiperdana, Nurdrjat, N. Muchsin, T.W. Kunto & R. Ryacudu (2001)- Facies analysis of the Cisubuh Formation outcrops analogues at Brebes-Tegal-Pemalang District, Central Java. In: A. Setiawan et al. (eds.) Proc. 2n FOSI Reg. Seminar, Deep-Water Sedimentation of Southeast Asia, Indon. Sedimentologists Forum, Jakarta 2001, p. 43-47. *(Extended Abstract)*
- Sunardi, E., M. Hyodo & H. Kumai (2001)- Magnetic polarity stratigraphy of the Plio-Pleistocene volcanic rocks in and around the Bandung Basin, West Java, Indonesia. Gondwana Res 4, 4, p. 793. *(Abstract only)* *(Datung of ~4-1 Ma old volcanic rocks around Bandung using radiometric ages and magnetic polarity)*
- Sunardi, E. & J. Kimura (1998)- Temporal chemical variations of the late Neogene volcanic rocks around the Bandung Basin, West Java, Indonesia: an inferred timetable resolving the evolutionary history of the upper mantle. J. Min. Petrol. Economic Geology 93, p. 103-128. *(online at: https://www.jstage.jst.go.jp/article/ganko/93/4/93_4_103/_pdf)*

(Bandung Basin underlain by late Cenozoic volcanics. Pliocene lavas dated by K-Ar as 4.1 Ma and 3.3-2.8 Ma at W and SW side of Bandung Basin. Resurgence in melting with 'Old Quaternary' lavas between ~1.1- 0.6 Ma, simultaneous with uplift of Sunda Arc. Middle and Late Pleistocene lavas at Sunda (0.5-0.2 Ma) and Tangkuban Perahu (0.18-0.04 Ma) volcanoes)

Sunardi, E. & R.P. Koesoemadinata (1997)- Magnetostratigraphy of volcanic rocks in Bandung area. Proc. 26th Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, p. 404-418.

(Plio-Pleistocene magnetic polarity stratigraphy supplemented with K-Ar dating, etc., for lava flows and dykes for last 4 Ma around Bandung Basin. 15 volcanic units assigned to paleomagnetic zones Gilbert (Selacau - Paseban volcanic unit, with mean age of 4.1 Ma and with reversed polarity), Gauss (calc-alkalic series of Cipicung, Kromong E and W; 3.3, 3.1 and 2.9 Ma), Matuyama (Cicadas tholeiitic lavas; 1.7 Ma) and Brunhes. Etc.)

Sunarya, Y., S.S. Sudirman & T. Kosasih (1992)- The epithermal gold deposits in the Cikotok area, West Java, Indonesia. In: Epithermal gold in Asia and the Pacific, Mineral Concentrations and Hydrocarbon Accumulations in the ESCAP Region series, UN ESCAP, 6, p. 54-59.

(Gold mined since 1936 Cikotok area, Bayah Dome, SW Java. Gold in epithermal, sulphide-bearing quartz veins, mainly in N-S trending fractures. Hosted by propylitized Oligo-Miocene 'Old Andesites')

Sunarya, Y. & S. Suharto (1989)- The epithermal gold deposits in Cikotok area, West Java. In: First workshop on epithermal gold mineralization, ESCAP, Resources Div. and Geol. Survey Japan, Tsukuba 1989, 15p.

Sunjaya, E.S., A. Amir, D. Sudarmawan & A.H. Satyana (2006)- Sedimentology of Wonosari carbonates Southern Yogyakarta: outcrop study and petroleum implications. AAPG Int. Conf., Perth 2006. *(Abstract only)*
(Wonosari reefal carbonates rimmed shelf platform, deepening to N. Depositional environments from shallow S to deep N: (1) back reef-shelf with patch reef and algal foram packstones; (2) reef zone with boundstones and packstones-grainstones cut by surge channels; (3) reef slope with packstones and rudstones; (4) toe to slope with planktonic packstones and wackestones. Diagenetic processes: micritization, dolomitization, and dissolution. Locally good porosities. M Miocene Sambipitu Fm may provide source rocks but distribution limited. Mio-Pliocene Kepek limestones and marls may partly seal Wonosari reefs. Oil seeps absent in area)

Sunjaya E.S., M.I. Novian, E. Biantoro & A.H.Satyana (2006)- Exploration challenge on Kendeng zone: outcrop study and petroleum indication. Proc. 35th Ann. Conv. Indon Geol. Assoc. (IAGI), Pekanbaru, p. *(Poster abstract)*

Suparka, M.E. (1988)- Studi petrologi dan geokimia kompleks ofiolit Karangsambung utara Luh Ulo, Jawa Tengah, Evolusi geologi Jawa Tengah. Doct. Thesis, Inst. Teknologi Bandung (ITB), p. 1-181. *(Unpublished)*
('Study on petrology and geochemistry of North Karangsambung ophiolite, Luh Ulo, geological evolution of Central Java'. Karangsambung area (C Java) ophiolite consists of harzburgite, serpentinite, lherzolite, gabbro, diabase and pillow basalt. Originated from tholeiite magma from N-type mid oceanic ridge basalt. Radiometric ages of basalt and diabase 85.0 ± 4.3 Ma and 81.3 ± 4.1 Ma. Mica schist ~85 and 102 Ma. Ophiolite result of thrusting part of mid oceanic ridge from Indo-Australia oceanic plate onto Eurasian continental plate in Late Cretaceous-Paleocene)

Suparka, M.E., M. Aziz, C.I. Abdullah & Suparka (2007)- Mineralization of Cu-Au porphyry deposits in Cihurip and surrounding area, Garut Regency, West Java, Indonesia. Proc. Joint Conv 32nd HAGI, 36th IAGI, and 29th IATMI Ann. Conf., Bali 2006, p. 1319-1327.

(Cihurip Cu-Au mineralization in Garut Regency, S Mountains of W Java, hosted and enclosed by porphyry dyke, but not porphyry gold-copper deposit)

Suparka, M.E., S. Martodjojo & R. Soeria-Atmadja (1990)- Jalur magmatik maman Kapur-Tersier Awal di Jawa dan sekitarnya In: Pros. Persidangan sains bumi dan masyarakat, Univ. Kebangsaan Malaysia, Kuala Lumpur 1990, p. 81-91.

('Cretaceous- Early Tertiary magmatic belt in Java: and its surrounding areas')

Suparka, M.E. & R. Soeria-Atmadja (1991)- Major element chemistry and REE patterns of the Luk Ulo ophiolites, Central Java. Proc. Silver Jubilee Symposium on the dynamics of subduction and its products, Yogyakarta, LIPI, p. 204-218.

Suparka, S., K.H. Thio, S. Hadiwisastra & S. Siregar (1979)- Suatu tinjauan mengenai batuan metamorf di daerah Cihara, Bayah, Jawa Barat. J. Riset Geologi Pertambangan (LIPI) 2, 1, p. 1-6.

(online at: <http://pustaka.geotek.lipi.go.id/wp-content/uploads/2016/02/Riset-Vol.2-No.1-2-2-.pdf>)

(*'A review of the metamorphic rocks in the Cihara area, Bayah, West Java'. Actinolite chlorite schist, hornblende schist, micaschist and granodiorite gneiss N of Cihara granodiorite, W of Pelabuhan Ratu. Interpreted as cataclastic metamorphics of E-W transcurrent fault*)

Supriatna, S., L. Sarmili, D. Sudana & A. Koswara (1992)- Geologic map of the Karangnunggal Quadrangle, Java, Quad. 1308-1, 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung.

Supriyanto & A.M.T. Ibrahim (1993)- Model pertumbuhan sembulan karbonat akibat progradasi sesar naik di bagian Selatan cekungan Jawa Barat Utara. Proc. 22nd Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 2, p. 1162-1174.

(*Model of Miocene Upper Cibulakan and Parigi Fm carbonate development and thrust fault propagation in onshore NW Java basin*)

Suratman & Mardiasro (1997)- Iodium di Cekungan Jawa Timur Utara. Proc. 26th Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, p. 140-152.

(*'Iodine in the NE Java Basin'. NE Java Basin formation waters near Mojokerto and Surabaya locally relatively rich in iodine, especially in Pucangan Fm of Kendeng zone. Commercial production since >100 years; currently by PT Kimia Farma at Watudakon anticline (~220 kg/day)*)

Suratman, R.P. Koesoemadinata & E. Suparka (1994)- Stratigraphic sequence and carbonate diagenesis of the Paciran Formation, Northeast Java basin. Proc. 23rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, 1, p. 19-32.

(*Plio-Pleistocene Paciran Fm limestone on Tuban High in NE Java unconformable on early M Miocene Tuban Fm. Paciran Fm 7km E of Tuban with 'Karren' karst morphology. Two caliche horizons subdivide formation into three sequences. Diagenesis controlled by two sealevel drops in Pliocene and tectonic uplift in Pleistocene. Four diagenetic environments: marine, deep burial, paleo-arid freshwater and Recent freshwater*)

Suratman & S. Musliki (1996)- Anggota Ngrayong sebagai endapan regresif yang berprogradasi kaerah selatan. Proc. 25^h Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, p. 262 -274.

(*'The Ngrayong member as regressive deposit of a South-prograding system'. Middle Miocene Ngrayong sands represent major influx of sands into NE Java basin by prograding system from North*)

Surono (1992)- The stratigraphic relationship between the Punung and the Wonosari Formations, Central Java. Geol. Res. Dev. Centre (GRDC), Bandung, Bull. 15, p. 31-37.

(*M Miocene Punung and Wonosari limestones of S Mountains of C Java can not be differentiated and proposed to be united in one unit*)

Surono (2005)- Sedimentology of the Paleogene Nanggulan Formation, West of Yogyakarta. J. Sumber Daya Geologi 15, 1 (148), p. 75-82.

(*M-L Eocene Nanggulan Fm 250m outcrop section in Kunir River, Pendoweredjo Village, 21km W of Yogyakarta. Middle part delta plain environment, upper 30m shallow marine. Volcanic materials most common in Nanggulan Fm sandstones*)

Surono (2008)- Sedimentasi Formasi Semilir di Desa Sendang, Wuryantoro, Wonogiri, Jawa Tengah. J. Sumber Daya Geologi 18, 1, p. 29-41.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/225/215> (?))

(‘Semilir Fm sedimentation in Sendang village, Wonogiri, C Java’. Volcanic Semilir Fm widely exposed in S Mountains. Overlies Butak Kebo Fm and overlain by Nglanggran Fm. Composed of sandstone, lapilli tuff and pumice breccias. Calcareous clays with nanofossils of E Miocene age. Zircon fission track in pumice breccia suggest ~16-17 Ma age (end of E Miocene). Depositional environment shallowing upward)

Surono (2008)- Litostratigrafi dan sedimentasi Formasi Kebo dan Formasi Butak di Pegunungan Baturagung, Jawa Tengah Bagian Selatan. *J. Geologi Indonesia* 3, 4, p. 183-193.

(online at: www.bgl.esdm.go.id/dmdocuments/jurnal20080401.pdf)

(Oligocene- E Miocene ‘Old Andesite’ volcanics outcrop E-W along N foot of Baturagung Mountains, S Central Java. Early Oligocene Nampurejo basaltic pillow lava overlain by Late Oligocene Kebo Fm sandstone, siltstone, tuff, and shale and E Miocene Butak Fm polymict breccia with sandstone, shale, siltstone. Volcanics all deposited in marine basin. Volcanism most active during upper Kebo and Butak Fms)

Surono (2009)- Litostratigrafi Pegunungan Selatan bagian timur daerah istimewa Yogyakarta dan Jawa Tengah. *J. Sumber Daya Geologi* 19, 3, p. 209-221.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/206/197>)

(‘Lithostratigraphy of the eastern part of the Southern Mountains in the Yogyakarta area and East Java’. S Mountains of C Java intensive volcanic activity in Late Oligocene- E Miocene. Middle-Late Miocene widespread carbonate platform deposition)

Surono M. & R. Fakhruddin (2014)- Sedimen pasang-surut di Kali Keruh, Desa Lor Agung, Kabupaten Pekalongan. *J. Geologi Sumberdaya Mineral* 15, 1, p. 41-53.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/69/71>)

(‘Tidal sedimentary rocks at the Keruh Creek, Lor Agung village, Pekalongan Residency’. Documentation of 194m thick measured section of Late Miocene- E Pliocene (N17-N19) age in N Central Java (Halang Fm equivalent?). With tidal flat sedimentary structures (but apparently also rich in planktonic foraminifera = open marine setting?; JTvG))

Surono, U. Hartono & S. Permanadewi (2006)- Posisi stratigrafi dan petrogenesis intrusi Pendul, Perbukitan Jiwo, Bayat, Kabupaten Klaten, Jawa Tengah. *J. Sumber Daya Geologi* 16, 5 (155), p. 302-311.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/372>)

(‘Stratigraphic position and petrogenesis of the Pendul Intrusion, Jiwo Hills, Bayat, C Java’. Intrusive microgabbro into M-L Gamping-Wungkal Fm sediments. K-Ar analyses of diabase and diorite of Pendul Intrusion of Bayat/ Jiwo Hills suggests two intrusive ages, M Eocene- E Oligocene (39.8- 30.0 Ma) and M Miocene (17.2- 13.9 Ma). Nearby Tegalrejo Basalt 24.3 ± 0.7 Ma)

Surono & A. Permana (2009)- Lithostratigraphic and sedimentological significance of deepening marine sediments of the Sambipitu Formation, Gunung Kidul residence, Yogyakarta. *Proc. 38th Ann. Conv. Indon. Assoc. Geol. (IAGI), Semarang*, 16p.

(On latest E Miocene (N8) Sambipitu Fm at Ngalang River section, S Mountains SE of Yogya. Thickness 223m, overlies E Miocene Nglanggran Fm volcanic breccias and grades upward into marl-dominated M Miocene Oyo Fm. Lower Member dominated by sandstone and siltstone, alternating with breccias; Upper Member siltstone-mudstone intercalated with sandstone, marl and conglomerate. Lower Member deposited on tidal flat, affected by sedimentation of volcanic material, deepening to inner shelf in Upper Member (NB: generally viewed as deeper water turbiditic series?; JTvG))

Surono & M.A. Puspa (2007)- Formasi Semilir di Pegunungan Selatan, Jawa Tengah, suatu hasil letusan dahsyat gunung api Miosen. *Proc. Joint Conv. 32nd HAGI, 36th IAGI, and 29th IATMI, Bali*, p. 32-39.

(‘The Semilir Formation in the Southern Mountains of Central Java, a result of an enormous eruption of a Miocene volcano’. Early Miocene volcanics with zircon ages of ~19-20 Ma)

Surono & A. Permana (2011)- Lithostratigraphic and sedimentological significance of deepening marine sediments of the Sambipitu Formation, Gunung Kidul Residence, Yogyakarta. *Bull. Marine Geol.* 26, 1, p. 15-30.

(online at: <http://ejournal.mgi.esdm.go.id/index.php/bomg/article/view/31/31>)
(Same paper as Surono and Permana (2009) above)

Surono M., H. Samodra & Sidarto (2013)- Hubungan lembah Sadeng, cekungan Baturetno dan teras Bengawan Solo, Jawa bagian Tengah. *J. Sumber Daya Geologi* 23, 3, p. 153-161.
(*Relations between the Sadeng valley, Baturetno basin and Solo River terraces, Solo, Central Java'. When Old Lawu erupted blocked Solo River and flooding of Baturetno basin S of Wonogiri in S Mountains*)

Surono, B. Toha & I. Sudarno & S. Wiryosujono (1992)- Geological Map of the Surakarta- Giritontro Quadrangles, Jawa. 1: 100,000. Geol. Res. Dev. Centre (GRDC), Bandung, 2 sheets.

Suryantini & S. Ehara (2005)- Geothermal gradient study of onshore North West Java basin from petroleum wells. Proc. 3rd Int. Workshop Earth Science and Technology, Kyushu University, Fukuoka, p. 29-40.

Suryantini, S. Ehara & J. Nishijima (2006)- Preliminary geothermal gradient and heat flow compilation from Western Java, Indonesia. In: Ann. Mtg. Geothermal Resources Council, San Diego, Geothermal Resources Council Trans. 30, p. 699-704.
(*Geothermal gradients and heat flow data calculated from 67 oil-gas and 3 geothermal wells. Heat flow in NW Java basin slightly higher than normal, from 60.8- 135.2 mW m⁻². Temperature gradients 3.7- 6.6° C/100m. Very high heat flows in S part of basin. In volcanic area heat flow ~186.5 mW m⁻². High heat flow outside volcanic area at border between gravity highs and lows, interpreted as faults*)

Susanto E.E., K. Mano, Sudijono, T. Sihombing & F. Aziz (1995)- Geology of the middle course of the Solo River between Sambungmacan and Ngawi. In: Sudijono et al. (eds.) Geology of Quaternary environment of the Solo-Madiun area, Central-East Jawa, Geol. Res. Dev. Centre, Spec. Publ. 17, p. 39-44.

Susilohadi (2008)- Atlas seismik refleksi Selat Sunda. Marine Geol. Inst., Bandung, 14p.
(*Atlas of seismic reflection in Sunda Straits'*)

Susilohadi (1995)- Late Tertiary and Quaternary geology of the East Java Basin, Indonesia. Ph.D. Thesis, University of Wollongong. Australia, p. 1-169.
(online at: <http://ro.uow.edu.au/cgi/viewcontent.cgi?article=2973&context=theses>)
(*Study of M Miocene- Quaternary geology, stratigraphy and paleogeography of NE Java-Madura area. During M Miocene and before, the NE part of E Java Basin controlled by NE trending half-grabens along sutures between Late Cretaceous- E Tertiary subduction systems. Little is known about basin configuration in S part of basin before M Miocene. Since Late Miocene E -trending anticlinal zones developed, with Rembang anticlinal zone between Blora and Madura as dominant structure*)

Susilohadi, S., C. Gaedicke & Y. Djajadihardja (2009)- Structures and sedimentary deposition in the Sunda Strait, Indonesia. *Tectonophysics* 467, p. 55-71.
(*Sunda Strait opening initiated in early Late Miocene following M Miocene onset of Sumatra fault system. Three major graben systems/ pull-apart basins: W and E Semangko and Krakatau. Prior to Late Miocene most of Sunda Strait and surroundings probably developed in non-marine environment.*)

Susilohadi, S., C. Gaedicke & A. Ehrhardt (2005)- Neogene structures and sedimentation history along the Sunda forearc basins off southwest Sumatra and southwest Java. *Marine Geology* 219, 2-3, p. 133-154.
(*20 seismic lines in SW Sunda arc margin between Manna and W Java show fore-arc basin structures and stratigraphy since Late Paleogene. Paleomorphology of Cretaceous continental margin persisted until Oligocene and paleoshelf margin extended NW off Sumatra. Two structural events between Late Oligocene-Pliocene. Back thrust-faulting along S border of fore-arc basin and initiation of Cimandiri FZ in Late Oligocene; Sumatra and Mentawai FZ initiated in Pliocene. Four Neogene sedimentary cycles. Volcanic activity abundant since late M Miocene. Turbidite deposition common along and seaward of basin slope during sea level lows in late M Miocene and L Miocene*)

- Sutan Assin, N.A.D. & A.N.S. Tarunadjaja (1972)- *Djatibarang* the discovery and development of a new oilfield. Proc. First Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 125- 137.
(1969 onshore waxy oil discovery 170km E of Jakarta. Reservoir Eocene- Oligocene Jatibarang Volcanics Fm, composed of >400m of sandy lithic tuffs with intercalations of andesites, red clay and basaltic intrusives)
- Sutanto (1993)- Evolutions geochemiques et geochronologiques du magmatisme Tertiaire de Java (Indonesie). Memoire de DEA, Universite de Bretagne Occidentale, Brest, p. 1-89.
(*Geochemical and geochronological evolution of the Tertiary magmatism of Java*)
- Sutanto (2000)- Batuan vulkanik daerah Kulon Progo, geokronologi dan geokimia. Bul. Tekmira 14, p.
(*Volcanic rocks of the Kulon Progo area, geochronology and geochemistry*)
- Sutanto (2003)- Batuan vulkanik Tersier di daerah Pacitan dan sekitarnya. Majalah Geologi Indonesia 18, 2, p. 159-167.
(*Volcanic rocks of the Pacitan area and surroundings'. Eocene- U Miocene volcanic edifices around Pacitan, S coast of C Java, Common island arc andesites. K/Ar ages 42-9 Ma. M-U Miocene volcanics from adakitic magma, from melting of young and hot lithospheric plate*)
- Sutanto (2004)- Distribusi spasial dan temporal batuan gunung api Tersier di Jawa Tengah dan Jawa Timur. Jurnal Teknologi Mineral (ITB) 17, 2, p. 65-71.
(*Spatial and temporal distribution of Tertiary volcanic rocks in Central and East Java*)
- Sutanto (2008)- Geologi dan prospek geowisata Perbukitan Jiwo, Bayat, Jawa Tengah. J. Teknologi Technoscientia 1, 1, p. 111-121.
(online at: http://technoscientia.akprind.ac.id/wp-content/uploads/2009/11/Sutanto_111_121-okbgt.pdf)
(*C Java Jiwo Hills near Bayat one of three places on Java with exposures of Pre-Tertiary and Paleogene rocks. Oldest rocks pre-Tertiary metamorphics, unconformably covered by Eocene Gamping-Wungkal Fm with Nummulites limestones. Cut by Late Eocene- E Oligocene (39.8, 33.2, 31.3 Ma) basaltic dykes. Unconformably covered by Oyo Fm calcarenite and marls. Proposal to preserve Jiwo Hills geotourism sites*)
- Sutanto, R. Soeria Atmadja, R.C. Maury & H. Bellon (1994)- Geochronology of Tertiary volcanism in Java. Proc. Seminar Geologi dan Geotektonik Pulau Jawa, sejak Mesozoic hingga Kuartar, Jurusan Teknik Geologi, Universitas Gadjah Mada, Yogyakarta, p. 53-56.
- Sutarso, B. & P. Suyitno (1976)- The diapiric structures and relation to the occurrence of hydrocarbons in Northeast Java Basin. Proc. 5th Ann. Mtg. Indon. Assoc. Geol. (IAGI), Yogyakarta, 20p.
- Sutarso, B. & Suyitno Padmosukismo (1978)- The diapiric structures and their relation to the occurrence of hydrocarbon in North-East Java Basin. Geologi Indonesia (IAGI) 5, 1, p. 27-43.
- Sutarto, A. Idrus, A. Harijoko, L.D. Setijadji & F.M. Meyer (2015)- Veins and hydrothermal breccias of the Randu Kuning porphyry Cu-Au and epithermal Au deposits at Selogiri area, Central Java, Indonesia. J. Southeast Asian Applied Geol. (UGM) 7, 2, p. 82-101.
(online at: <https://jurnal.ugm.ac.id/jag/article/view/26982/16620>)
(*Randu Kuning prospect at Selogiri, ~40 km SE of Solo. Many Tertiary dioritic rocks in Randu Kuning area, with related porphyry Cu-Au and epithermal Au-base metal-bearing veins. Most porphyry veins cross cut by epithermal-type veins. Two type of hydrothermal breccias*)
- Sutarto, A. Idrus, A. Harijoko, L.D. Setijadji, F.M. Meyer, S. Sindern & S. Putranto (2016)- Hydrothermal alteration and mineralization of the Randu Kuning Porphyry Cu-Au and intermediate sulphidation epithermal Au-base metals deposits in Selogiri, Central Java, Indonesia. J. Applied Geology (UGM) 1, 1, p. 1-18.
(online at: <https://journal.ugm.ac.id/jag/article/view/26951>)
(*Randu Kuning prospect at Selogiri with both porphyry Cu-Au and intermediate sulphidation epithermal Au-base metals mineralization. Mineralization in porphyry mainly in quartz-sulphides veins and disseminated*)

sulphides. Epithermal mineralization as pyrite+ sphalerite+ chalcopyrite+ carbonate ± galena veins and hydrothermal breccias)

Sutarto, A. Idrus, A. Harijoko, L.D. Setijadji, F.M. Meyer & Danny, R. (2015)- Characteristic of the fluid inclusions in quartz veins at the Randu Kuning porphyry Cu-Au deposit, Selogiri, Central Java. Pros. Seminar Nasional Kebumihan X, UPN 'Veteran' University, Yogyakarta, p. 208-220.

Sutarto, A. Idrus, F.M. Meyer, A. Harijoko, L.D. Setijadji & Danny R. (2013)- The dioritic alteration model of the Randu Kuning porphyry Cu-Au, Selogiri Area, Central Java. Proc. Int. Conf. Georesources and Geological Engineering, Yogyakarta, p.122-132.

Sutarto, A. Idrus, F.M. Meyer, A. Harijoko, L.D. Setijadji & Sapto Putranto (2016)- Mineralization style and fluids evolution of the Randu Kuning porphyry Cu-Au and epithermal Au-base metals deposits at Selogiri, Central Java, Indonesia. Proc. GEOSEA XIV and 45th Ann. Conv. Indon. Assoc. Geologists (IAGI) (GIC 2016), Bandung, p. 248-259.

(Mineralization at Randu Kuning prospect in Selogiri area of C Java with early porphyry Cu-Au stage and late intermediate sulphidation epithermal Au-base metals stage. Associated with diorite intrusions.)

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Sutoyo (1994)- Sikuen stratigrafi karbonat Gunung Sewu. Proc. 23rd. Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, 1, p. 67-76.

(Sequence stratigraphy of carbonates of the Southern Mountains'. Late E- M Miocene carbonate sequence stratigraphy. Wonosari Fm with Lepidocyclina spp. and Cycloclypeus annulatus (Tf1-2). Not much detail)

Sutoyo & K. Santoso (1986)- Klasifikasi stratigrafi Pegunungan Selatan, daerah istimewa Yogyakarta dan Jawa Tengah. Proc. 15th Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, p.

(Stratigraphic classification of the Southern Mountains, Yogyakarta special region and Central Java'. Sambipitu Fm spans zones N7-N9)

Sutrisman, A. (1991)- Source rock distribution and evaluation in the Talang Akar formation, onshore northwest Jawa Basin, Indonesia. M.Sc. Thesis University of Wollongong, p. *(Unpublished)*

Suwardy, A., B. Situmorang, Mudjito & Hastowidodo (1984)- Sedimentological study of Gembong subdelta of Citarum delta complex. Proc. 13th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 507-532.

(Modern Citarum River Delta, NW coast of Java, shows different delta types at each of four tributaries).

Suwarti, T. & R. Wikarno (1992)- Geology of the Kudus Quadrangle, Jawa. Quad. 1409-3 & 1409-6, 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung, 8p.

Suwarti, T. & Suharsono (1993)- Geology of the Lumajang Quadrangle, Jawa, Quad. 1607-5, 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung, 10p.

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Suyanto, F.X. (1982)- Note on the carbonate outcrops in Krawang Selatan, Jampang Tengah and Jampang Kulon. Proc. 11th Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, p. 237-252.

(Age of Parigi Fm carbonates in Krawang Selatan NW of Purwakarta Late Miocene (Tf2-3, N16). Cibodas Fm carbonates of Jampang Kulon Late Miocene (N17). Reefal limestones of Cimandiri Fm of Jampang Tengah M Miocene (Tf1-2, N11-12) to Late Miocene (Tf2-3, N14-15))

Suyanto, F.X. (1982)- Carbonate reservoirs in North West Java onshore area. Proc. Joint ASCOPE/ CCOP Workshop on hydrocarbon occurrence in carbonate formations, Surabaya 1982, 35p.
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Suyanto, F.X. & Y.R. Sumantri (1977)- Preliminary study on Tertiary depositional pattern of Java. Proc. 6th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 183-213.

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(NW Java basement: igneous rocks intruding into older metamorphic rocks. Radiometric dates of youngest igneous rocks ~58- 65 Ma (Paleocene); oldest metamorphic argillite 213 Ma (Triassic))

Suyono, K. Sahudi & I. Prasetya (2005)- Exploration in West Java: play concepts in the past, present and future, efforts to maintain reserves growth. Proc. 30th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 267-281.
(Overview of 5 stages of oil-gas exploration of onshore NW Java since 1871. Not much technical info)

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(Carbonate facies model of Gunung Sewu, Wonosari, Yogyakarta'. On Miocene carbonates of Southern Mountains SE of Yogyakarta, C Java)

Suyoto (1992)- Klasifikasi stratigrafi Pegunungan Selatan daerah istimewa Yogyakarta dan Jawa Tengah. Proc. 23rd Ann. Conv. Indon. Assoc. Geol. (IAGI), p. 472-485.
(Stratigraphic classification of the Southern Mountains, Yogyakarta Special Region and Central Java)

Suyoto (1994)- Sekuan stratigrafi karbonat Gunungsewu. Proc. 23rd Ann. Conv. Indon. Assoc. Geol. (IAGI), p. 67-76.
(Carbonate sequence stratigraphy of the Southern Mountains', C. Java)

Suyoto (2005)- Stratigrafi sekuen cekungan depan busur Neogen Jawa Selatan berdasarkan data di daerah pegunungan Selatan Yogyakarta. Doct. Thesis Inst. Teknologi Bandung (ITB), p.
(S Mountains S of Yogyakarta nine Neogene sequence boundaries. In Pacitan area angular unconformity between Oligocene volcanics and overlying quartz sandstones. S1 = N7, S2 = N8, S3 = N9-N10, S4 = N11/N12, S5 = N 13 S6 = N14-N15, S7 = N 16/N 17, S8 = N18-N19, and S9 = N20-Recent. Correlation with global sea-level changes prove no age similarities. Two major transgressions and regressions: first transgression with S1 (late E Miocene), second with S6 (Late M Miocene). Early M Miocene onset of first regression with deposition of S3 and widespread caliche in Gunungsewu area, indicating Early M Miocene arid climate. Second regression in early Lt Miocene with deposition of S7 and diagenesis resulting in karst topography, still occurring today. Extensive karst topography indicates study area has been tropical since early U Miocene)

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('Tertiary pollen zonation of Java')

Svensen, H.H., K. Iyer, D.W. Schmid & A. Mazzini (2017)- Modelling of gas generation following emplacement of an igneous sill below Lusi, East Java, Indonesia. *Marine Petroleum Geol.*, p. *(in press)*
(Lusi mud eruption started in 2006, near Arjuno-Welirang volcanic complex in NE Java. Erupting steam, CO₂, and CH₄, mud breccia and boiling water. Lusi eruption possibly driven by heat from deep-seated igneous sill from neighboring volcanic arc. CO₂ may be from thermally matured organic matter in contact aureole of hypothetical 150m thick sill, emplaced within organic-rich Eocene Ngimbang Fm)

Syafri, I., E. Budiadi & A. Sudradjat (2013)- Geotectonic configuration of Kulon Progo Area, Yogyakarta. *J. Geologi Indonesia* 8, 4, p. 185-190.

(online at: <http://ijog.bgl.esdm.go.id/index.php/IJOG/article/view/168/168>)

(Kulon Progo Mountain elongated dome W of Yogyakarta. Structural elements mainly radial pattern. Mountain building of Kulon Progo not solely dominated by vertical undation force; but related to three regional tectonic stages: Meratus, Sunda and Java trends, with SW-NE, NNW-SSE and E-W directions respectively)

Syafri, I., A. Sudrajat, N. Sulaksana & G. Hartono (2010)- The evolution of Gajahmungkur paleovolcano, Wonogiri Regency, Central Java, as the reference to the revized terminology of "Old Andesite Formation". *Proc. 39th Ann. Conv. Indon. Assoc. Geol. (IAGI), Lombok 2010, PIT-IAGI-2010-231*, 8p.

(Evolution of Gajahmungkur E Miocene 'Old Andesite' paleovolcano in Wonogiri area, S Mountains, SE of Yogyakarta. Identified volcanic facies and location of paleovolcano vent. Four stages: (1) submarine volcano with pillow lavas, (2) emergence above sea level forming volcano island, with alternating lavas-pyroclastics; (3) self-destruction by formation of caldera, dominated by pumice, ignimbrite breccias; (4) declining activity, with more basaltic rocks)

Syafri, I., A. Sudrajat, N. Sulaksana & G. Hartono (2010)- The evolution of Gajahmungkur paleovolcano, Wonogiri, Central Java, as a reference to revize the terminology of "Old Andesite Formation". *J. Geologi Indonesia* 5, 4, p. 263-268.

(online at: www.bgl.esdm.go.id/publication/index.php/dir/article_detail/282)

(Same paper as Syafri et al. (2010), above)

Syafri, I., E. Sukiyah & Hendarmawan (2014)- The chemical and mineralogical characteristics of Quaternary volcanic rock weathering profile in the southern part of Bandung Area, West Java, Indonesia. *Int. J. Science and Research (IJSR)* 3, 4, p. 79-85.

(online at: <https://www.ijsr.net/archive/v3i4/MDIwMTMxMzg4.pdf>)

Syafrizal, A. Imai, Y. Motomura & K. Watanabe (2005)- Characteristics of gold mineralization at the Ciurug vein, Pongkor gold-silver deposit, West Java, Indonesia. *Resource Geology* 55, 3, p. 225-238.

(Pongkor gold-silver mine, W of Bogor, W Java, in paprallel N-S trending epithermal veins in basaltic-andesitic breccia and lapilli tuff with andesite lava. Ciurug vein four main mineralization stages. Main metallic minerals pyrite, sphalerite, chalcopyrite and galena. Bornite only in S part of Ciurug vein at 515 m. Gold grades in Ciurug vein vary from 1.2 to 100's of ppm, highest in latest mineralization stage in sulfide band in vein quartz)

Syafrizal, A. Imai & K. Watanabe (2007)- Origin of ore-forming fluids responsible for gold mineralization of the Pongkor Au-Ag deposit, West Java, Indonesia: evidence from mineralogic, fluid inclusion microthermometry and stable isotope study of the Ciurug-Cikoret veins. *Resource Geology* 57, 2, p. 136-148.

(On Pongkor young (~2Ma) epithermal gold- silver deposits at NE flank of Bayah dome, in andestic and dacitic host rocks. Mineralization of precious metal ore zone at fluid temperatures between 180-220°C, and with low salinity. Minimum depth of vein formation below the paleo-water table is ~90-130m)

Syarifin (2011)- Paleontologi Formasi Nyalindung. *Bull. Scientific Contr. (UNPAD)* 9, 1, p. 17-27.

(online at: <http://jurnal.unpad.ac.id/bsc/article/view/8259/3806>)

('Paleontology of the Nyalindung Formation'. Brief review of diverse M Miocene marine fauna in Nyalindung Fm in W Java, long known for rich mollusc faunas. Mollusc assemblages contain 18% Recent species, incl.

marker species *Siposiprarea caputviverae* and *Vicaria veurnelli*. Larger foraminifera *Lepidocyclina* (*T.*) *rutteni* and *L. (T.) kalahabensis* indicate zone Tf3 (see also Martin (1911, etc.) and Van der Vlerk (1924, 1928))

Takahashi, K. (1982)- Miospores from the Eocene Nanggulan Formation in the Yogyakarta region, Central Java. Trans. Proc. Palaeontological Soc. Japan, N.S. 126, p. 303-326.

(online at: http://naosite.lb.nagasaki-u.ac.jp/dspace/bitstream/10069/16852/1/tpps126_303.pdf)

(*Palynology study of 48 palynomorph types in M Eocene lignite at Nanggulan, 17 of which are new*)

Takahashi, R., Y. Shingo, A. Imai, K. Watanabe, A. Harijoko, I Wayan Warmada, A. Idrus, L.D. Setijadji, P. Phoumphone, A. Schersten & L. Page (2014)- Epithermal gold mineralization in the Trenggalek District, East Java, Indonesia. Resource Geology 64, 2, p. 149-166.

(*Gold-mineralized quartz veins at Trenggalek district of S Mountains Range in E Java, 100km E of Pacitan, hosted by M Miocene volcanoclastics- volcanics, located near andesitic plugs of 200-300m diameter. Plugs are subalkaline tholeiitic basaltic-andesite to calc-alkaline andesite in composition. Ar-Ar age of vein ~16.3 Ma, crystal tuff in limestone-pyroclastic rock sequence ~15.6 Ma. Gold mineralization in N prospects took place in shallow marine to subaerial transitional environment (130-165m below paleo-water table at Sentul prospect)*)

Tampubolon, R.A., A.S.O. Tampubolon, A.S. Baskoro, R. Lagona & Nadila Novandaru (2014)- Evolusi stratigrafi, analisis fasies dan geokimia dari sedimen Mio-Pliosen di cekungan Banyumas. Proc. 43rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, PIT IAGI 2014-245, 10p.

(*Stratigraphic evolution, facies analysis and geochemistry of Mio-Pliocene sediments in the Banyumas basin'. Late Miocene Upper Halang Fm facies associations of deep-sea fan, with immature sands. Kumbang breccia above Halang Fm massive and disorganized fragments derived from volcano. Overlain by Pliocene Tapak Fm with limestones and siliciclastics of shelf and tidal flat facies*)

Tang, J.E. (2006)- Provenance of quartz-rich sandstones deposited adjacent to the Tertiary Java Arc, Indonesia. Masters Thesis, University of Wisconsin, Madison, p. 1-299. (*Unpublished*)

(*E Java Basin sandstones volcanoclastic to lithic subarkose to quartzose. S Mountains M Eocene-E Oligocene lithic subarkoses and lithic arkoses with detrital zircons from Eocene (37-46 Ma), Late Cretaceous (60-92 Ma), M Triassic (224-240 Ma) and Proterozoic (1084-1998 Ma), suggesting input from volcanic arc and distal cratonic source. Late Oligocene- E Miocene sandstones volcanoclastic litharenites with zircon ages mainly Late Cretaceous (70-85 Ma), indicating minor cratonic input to arc-dominated sediments. W Kendeng Thrust Zone M Oligocene sandstones are volcanic arc-derived lithic arkoses; E Miocene sandstones are lithic subarkoses with recycled orogenic signature from uplift of local basement and older sandstone. Wide range of zircon ages, mainly Cretaceous (64-128 Ma), also Triassic (204-252 Ma) and Proterozoic (1754-2385 Ma). M Miocene quartz arenites from Rembang Uplift Zone most mature sands in basin and derived from craton, with zircons mainly Cretaceous (73-141 Ma), with some Tertiary, Early Mesozoic, Paleozoic, and Proterozoic ages*)

Tanikawa, W., M. Sakaguchi, H.T. Wibowo, T. Shimamoto & O. Tadaï (2010)- Fluid transport properties and estimation of overpressure at the Lusi mud volcano, East Java Basin. Engineering Geol. 116, p. 73-85.

(online at: http://bpls.go.id/bplsdownload/library/paper/2010_ENGEO3292_tanikawa_handoko_final.pdf)

(*Mudstone of Late Pliocene- E Pleistocene U Kalibeng Fm source of mud at Lusi mud eruption, with lowest permeability of all samples. Permeability of U Kujung Fm limestone two orders of magnitude larger than Lower Kujung Fm limestone. Overpressure mainly caused by thick low-permeability sediments Upper Kalibeng Fm and high sedimentation rate. High overpressure below mudstone almost lithostatic levels. Small stress fluctuations, like Yogyakarta earthquake, may have caused mud eruption*)

Tan Sin Hok (1934)- Über mikrosphäre Lepidocyclinen von Ngampel (Rembang, Mitteljava). De Ingenieur in Nederlandsch-Indie (IV), 1, 12, p. 2-3-211.

(*'On microspheric Lepidocyclinas from Ngampel (Rembang, C Java)'. Large microspheric Lepidocyclina from Lusi River near Ngampel, collected by Ter Haar, assigned to Lepidocyclina papulifera Douville*)

Tan Sin Hok (1935)- Über *Lepidocyclina gigantea* Martin von Sud-Priangan (West-Java), Tegal (Mittel-Java) und Benkoelen (Sud-Sumatra). De Ingenieur in Nederlandsch-Indie (IV), 2, 1, p. 1-8.

('On Lepidocyclina gigantea Martin from S Priangan (W Java), Tegal (C Java) and Bengkulu (S Sumatra)'. Large microspheric Lepidocyclinids)

Tan Sin Hok (1935)- Zwei neue mikrosphäre Lepidocyclinen von Java. De Ingenieur in Nederlandsch-Indie (IV), 2, 2, p. 9-18.

('Two new microspheric Lepidocyclinas from Java'. Two M-L Miocene new species described, L. (B) stratifera from Pasean village, C. Java, collected by Bothe and L. (B) omphalus, a stellate form from W Java)

Tan Sin Hok (1942)- The Oligocene coal area of Tjkarang (Tjimandiri coalfield, sheet 14 Bajah). Report Geological Survey, Bandung, E42-45, p. (Unpublished)

(Survey report for coal in SW Java during Japanese occupation)

Tan Sin Hok (1942)- The results of an investigation of the eastern part of the Soekaboemi- Tjibadak coalfield during June 6- June 16 1942. Report Geological Survey, Bandung, E42-41, 4p. (Unpublished)

(Survey report for coal in W Java during Japanese occupation)

Tan Sin Hok (1943)- Note on the occurrence of *Miogypsinoides* Yabe and Hanzawa in Oligocene deposits. Proc. Imperial Academy, Tokyo, 19, 9, p. 585-586.

(online at: www.jstage.jst.go.jp/article/pjab1912/19/9/19_9_585/_pdf)

(During exploration in 1942 of Cimandiri coalfield, W Java, sample N of mouth of Tjibeuleungbeung contains both Camerina fichteli and Miogypsinoides sp., accompanied by isolepidine-nephrolepidine and eulepidine Lepidocyclines, demonstrating Miogypsinoides first appeared in Oligocene time (Td))

Taufik, M. (2007)- Studi detail foraminifera bentonik besar di Formasi Baturaja. Proc. Joint Conv. 32nd HAGI, 36th IAGI and 29th IATMI, Bali 2007, p. 720-728.

('Detail study of larger benthic foraminifera in the Baturaja Fm'. Larger foraminifera from E Miocene reefal limestones of Baturaja Fm in 3 wells in West Java basin (no real well names or locations given; onshore?). Incl. Lepidocyclina, Austrotrillina, Spiroclypeus, Miogypsina, Miogypsinoides, Borelis, etc. (zone Te5). Seven ecozones based on LBF clusters. Equivalent of nannoplankton zones NNI-NN2)

Ter Haar, C. (1929)- Boemi-Ajoe District. Fourth Pacific Science Congress, Java 1929, Bandung, Excursion Guide E4, p. 1-15.

(Fieldtrip guide to locality of Pleistocene fossil vertebrates in Kali Glagah, Bumiayu district of Tegal Residency, C Java, which contain rhinoceros, hippopotamus, Elephas, Cervus, etc. Bone beds dip 25-40° (therefore believed to be possibly of Pliocene age) and underlain by thin-bedded Late Miocene marl- limestone (with Lepidocyclina (Tryblioepidina), volcanic breccia zone and Turritella Marls (mammal fauna now interpreted as E Pleistocene Satir 'island fauna'; age of folding in this area is therefore post ~1.5 Ma; JTvG))

Ter Haar, C. (1933)- Aanteekeningen over de sediment petrografie van Java. De Mijningenieur 14, 8, p. 136-138.

('Notes on the sediment petrography of Java'. New work confirms view of Rutten (1925) that Neogene sediments of S Java are composed of detritus from volcanic arc of S Java, but those from NW and E Java mainly detritus from old rocks in N (Sundaland). Heavy minerals of Eocene quartz sst of Bayah, SW Java rich in tourmaline, also zircon, anatase, rutile, etc., suggesting erosion of 'old' acid plutonic rocks. M Miocene sandstone from N Bantam with zircon, tourmaline, staurolite, brookite and rare augite (mix of 'old rocks and volcanic source), from N Rembang area mainly 'old rocks' provenance (zircon, andalusite, staurolite, anatase, brookite). Miocene sandstones from Tegal, C Java and S Mountains, of andesitic origin (augite, hypersthene, hornblende, magnetite). Etc.)

Ter Haar, C. (1935)- Geologische kaart van Java, 1:100,000. Toelichting bij blad 58 (Boemiajoe). Dienst Mijnbouw Nederlandsch-Indie, Batavia. 50p.

(Geologic map and description of Bumiaya area SW of Slamet volcano, showing complexly folded NE-directed thrusts involving Miocene rocks; partly remapped as Majenang Quadrangle by Kastowo & Suwarna, 1996?)

- Thaden, R.E., H. Sumadirdja & P.W. Richards (1975)- Geologic map of the Magelang and Semarang quadrangles (11-XIV-B, 11-XIII-E), Scale 1: 100,000. Geol. Res. Dev. Centre (GRDC), Bandung, 11p. + map.
- Thamrin, M. & S. Prayitno (1982)- Heat flow measurements in the Tertiary basin of northwest Java, Indonesia. Proc. 18th Sess. Comm. Co-ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Seoul 1981, p. 224-235.
- Thayib, E.S. (1977)- The status of the melange complex in Ciletuh Area, South-West Java. Lemigas Scientific Contr. 1, 2, p.
(Same as Thayyib et al. 1977, below)
- Thayyib S., Endang., E.L. Said, Siswoyo & S. Prijomarsono (1977)- The status of the melange complex in Ciletuh Area, South-West Java. Proc. 6th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 241-253.
(Structurally complex mixture of ultrabasic rocks (partly serpentinized peridotite, gabbro, pillow basalts), metamorphic rocks (including glaucophane schist, phyllite) and sheared sediments (probably Upper Cretaceous shales) probably melange complex. Possible continuation of Luk Ulo melange, 370 km to E. Overlain by M Eocene- E Oligocene Ciletuh Fm quartz sandstones)
- † Hoen, C.W.A.P. (1918)- Verslag over de uitkomsten van een geologisch-mijnbouwkundig onderzoek in een gedeelte der Residentie Rembang. Jaarboek Mijnwezen Nederlandsch Oost-Indie 45 (1916), Verhandelingen 2, p. 202-254.
(Report on geological investigations in Rembang Residency, E Java'. Rel. Detailed descriptions of Miocene stratigraphy of area around Ngandang-Lodan anticline, NW Rembang zone. Evaluation of 5-6 thin (<1m) coal horizons in what is now known as M Miocene Ngrayong quartz sandstone Formation, with detailed cross-sections across Ng-Lodan anticline. Similar coal-bearing series in Panowan-Kadjar anticline WSW of Lodan)
- † Hoen, C.W.A.P. (1930)- Geologische overzichtskaart van den Nederlandsch-Indischen Archipel 1:1,000,000, Toelichting bij Blad XVI (Midden Java). Jaarboek Mijnwezen Nederlandsch Oost-Indie 58 (1929), Verhandelingen, p. 1-72.
(Explanatory notes for 1929 1: 1 million scale geologic overview map of Central Java.)
- Thommeret. J. & Y. Thommeret (1978)- 14C datings of some Holocene sea levels on the north coast of the island of Java. Modern Quaternary Research in Southeast Asia 4, p. 51-56.
(Terrace of presumed beach deposits with marine fossils 1.3-2.4 m above present sea level along N coast of Java at Jepara. Dated as 5000- 3650 years B.P. and interpreted as Holocene sea level highstand episode)
- Thompson, S., D. Arpandi & F.X.Suyanto (1979)- Thermal maturity and oil generation with reference to the CMS-1 (Java) and Susu Selatan-1 (Sumatra) wells, Indonesia. Proc. 8th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 385-405.
(Liptinitic kerogen yield oil at earlier level of maturity than sapropelic kerogen. CMS-1 well (onshore NW Java) heavy waxy oils generated from liptinitic kerogen. Onset of oil generation at vitrinite reflectance 0.35% and spore colour index 3-3.5. Major oil generation at vitrinite reflectance 0.55%/ spore colour index 5. In Susu Selatan-1 well (N Sumatra), light oils generated from sapropelic kerogen. Optimum oil generation at vitrinite reflectance ~0.8%/ spore colour index 7.5. No heavy oil accumulations in this area)
- Tiede, C., A.G. Camacho, C. Gerstenecker & J. Fernandez (2005)- Modelling the density at Merapi volcano area, Indonesia, via the inverse gravimetric problem, Geochem., Geoph., Geosys. (G3), 6, 9, p. 1-13.
(3-D model of anomalous density for Merapi and Merbabu by inversion of gravity field)
- Tingay, M. (2010)- Anatomy of the Lusi mud eruption, East Java. Proc. ASEG Conf., Sydney 2010, 6p.
- Tingay, M. (2015)- Initial pore pressures under the Lusi mud volcano, Indonesia. Interpretation (SEG)3, 1, p. SE33-SE49.

(Lusi mud volcano at Porong, E Java erupted continuously since May 2006. Analysis of pore pressures immediately prior to Lusi eruption from nearby (150m) Banjar Panji-1 well indicate all sequences >350m below Lusi overpressured, and follow approximately lithostat-parallel pore pressure increase through Pleistocene clastics, Plio-Pleistocene volcanics (1870- 2833 m) and Miocene Tuban Fm carbonates, with pore pressure gradients of 17.2–18.4 MPa/km. Pore pressures in basal carbonates ~23.0 MPa above hydrostatic. 'Textbook disequilibrium compaction overpressure')

Tingay, M. (2016)- What caused the Lusi Mudflow disaster in Indonesia? In: 2nd AAPG/EAGE/MGS Conf. Innovation in geoscience: unlocking the complex geology of Myanmar, Yangon 2015, Search and Discovery Art. 41791, 33p. (Abstract + Presentation)

(Lusi mudflow S of Surabaya, E Java, has been erupting continuously for 9 years, displaced 40000 people and caused >US\$2.7 billion in damage. Ongoing debate whether the disaster was triggered by drilling kick in Banjar Panji-1 well (1 day earlier, 150m away), or natural event induced by 2006 Mw6.3 Yogyakarta earthquake (2 days earlier, 250km away). This study suggests drilling kick, not earthquake, caused catastrophic shear failure of borehole wall and subsequent reactivation of Watukosek fault)

Tingay, M., O. Heidbach, R. Davies & R. Swarbrick (2008)- Triggering of the Lusi mud eruption: earthquake versus drilling initiation. *Geology* 36, 8, p. 639-642.

(Lusi mud volcano in E Java unlikely to be triggered by Yogyakarta earthquake. Blowout in Banjar Panji-1 hydrocarbon exploration well was most likely mechanism for triggering Lusi mudflow)

Tingay, M., O. Heidbach, R. Davies & R. Swarbrick (2009)- The Lusi mud eruption of East Java. AAPG Int. Conf. Exhib., Cape Town 2009, 24p. (Extended abstract and presentation)

(Online at: www.searchanddiscovery.net/documents/2009/50187tingay/ndx_tingay.pdf)

(‘Lumpur Sidoarjo’ mud eruption probably triggered by drilling of Banjar Panji 1 well in May 2006. Expelling mud up to 170,000 m³/day. Mud flow now covers >700 ha of land to depths of up to 17m, engulfing 8 villages)

Tingay, M. M. Manga, M.L. Rudolph & R. Davies (2018)- An alternative review of facts, coincidences and past and future studies of the Lusi eruption. *Marine Petroleum geology*, p. (in press)

(Review of likely causes of Lusi mud eruption in E Java. Drilling reports and data confirm wellbore was not intact, there was subsurface blowout, and there was connection between well and eruption. Yogyakarta earthquake too far away to have initiated new eruption. Strongly favor initiation of eruption by oil well drilling)

Tingay, M., M.L. Rudolph, M. Manga, R.J. Davies & C.Y. Wang (2015)- Initiation of the Lusi mudflow disaster. *Nature Geoscience* 8, p. 493-494.

(Repeat earlier conclusions that ‘Lusi’ mudflow eruption S of Surabaya was not triggered naturally but was consequence of Lapindo drilling operations)

Titani, K. (1942)- Oil-fields in Java. *J. Mining Institute of Japan* 58, 685, p. 309-316. (In Japanese)

(online at: www.jstage.jst.go.jp/article/shigentozai1885/58/685/58_685_309/_pdf)

(Brief review of NE Java basin stratigraphy and oil fields)

Titisari, A. D. (2014)- Geochronology and geochemistry of Cenozoic volcanism in relation to epithermal gold mineralisation in western Java, Indonesia. Ph.D. Thesis, School of Earth Sciences, University of Melbourne, p. 1-297. (Unpublished)

(W Java hosts low-sulphidation epithermal gold deposits, with most important deposits in Pongkor, Cibaliung, Cikotok and Papandayan districts. Most volcanics with enriched LILE and LREE compositions characteristic of calc-alkaline arcs, but Papandayan basalts depleted LREE contents typical of island arc tholeiites. 40Ar/39Ar ages volcanic host rocks: Papandayan district ~18 Ma; Cibaliung district ~11 to ~9.5 Ma, Cikotok district ~18 - ~4.5 Ma, Pongkor district 2.7- ~2 Ma. Adularia crystallisation ages similar. Magmatic arc across W Java likely linked to SE Asia tectonic evolution, from E Miocene CCW rotation of Kalimantan to Late Miocene-Pliocene subduction. Three main events: E Miocene primitive tholeiite arc (20-18 Ma), M Miocene mature calc-alkaline arc (13-9 Ma) and Late Miocene- Pliocene evolved high-K calc-alkaline and shoshonitic arc (7-2

Ma). *E Miocene Papandayan basement thinned island arc crust. Miocene- Pleistocene mineralisation of Cibaliung, Cikotok and Pongkor associated with calc-alkaline arc built on Sundaland continental crust*

Titisiari, A.D., D. Phillips & Hartono (2014)- Geochemical variations on hosted volcanic rocks of Cibaliung epithermal gold mineralisation, Banten- Indonesia: implications for distribution of subduction components. *J. Southeast Asian Applied Geol. (UGM)* 6, 1, p. 39-52.

(online at: <https://jurnal.ugm.ac.id/jag/article/download/7216/5655>)

(Neogene Sunda-Banda arc hosts various styles of gold mineralisation. Major and trace element data for host basaltic andesites and rhyodacites of Cibaliung epithermal gold mineralisation characteristic of calc-alkaline arcs, with hydrous slab component)

Titisiari, A.D., D. Phillips, Prayatna & E.P. Setyaraharja (2017)- $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology of volcanic and intrusive rocks in the Papandayan metallic prospect area, West Java, Indonesia. *Resource Geology* 67, 1, p. 53-71.

(online at: <http://onlinelibrary.wiley.com/doi/10.1111/rge.12118/epdf>)

(Papandayan metallic district in W Java, Indonesia with epithermal Au-Ag vein system in Arinem area. $^{40}\text{Ar}/^{39}\text{Ar}$ ages of basalt (11.7, 18.2 Ma) and andesite (7.7 Ma) samples of Jampang Formation volcanic rocks. Diorite intrusives: Gunung Halang (13.0 Ma), Gunung Lingga (10.8 Ma) and Gunung Bulgir (7.4 Ma). Gunung Wayang fine-grained diorite dike 3.95 Ma. Adularia in Arinem vein (18.3 Ma). K-Ar illite ages of Arinem vein (9.4, 8.8 Ma). Ages suggest possibly multiple hydrothermal events)

Titisiari, A.D., D. Phillips & E.P. Setyaraharja (2014)- Magmatic arc evolution in the Pongkor epithermal gold mineralisation district. *Proc. 7th Seminar Nasional Kebumihan, Dept. Teknik Geologi, Gadjah Mada University, Yogyakarta*, P3O-01, p. 488-503.

(online at: <https://repository.ugm.ac.id/136277/1/488-503%20P3O-01.pdf>)

(Pongkor epithermal gold mineralisation on NE flank Bayah Dome (~ 80 km SW of Jakarta) hosted in basaltic-dacitic volcanic breccias, lapilli tuffs and andesites. $^{40}\text{Ar}/^{39}\text{Ar}$ dating of andesites yielded average age of 2.74 ± 0.03 Ma, but may be age of hydrothermal alteration. Enriched LILE and LREE values characteristic of calc-alkaline arcs. Some andesite samples indicative of high-K calc-alkaline and shoshonite arcs. Temporal evolution from mature arc to evolved arc (high-K calc-alkaline- shoshonite volcanics)

Tjia, H.D. (1961)- Tjataan mengenai stratigraphy Pegunungan Karangbolong, Djawa Tengah. *Proc. Inst. Teknologi Bandung (ITB)* 1, 3, p. 18-22.

(online at: http://journal.itb.ac.id/index.php?li=article_detail&id=847)

(Notes on the stratigraphy of the Karangbolong Mountains, C Java'. Karangbolong Mts part of Java S Mountains. Oldest rocks 'Old Andesite Fm' composed of Oligocene- Aquitanian andesitic eruptive and intrusive rocks, unconformably overlain by Karangbolong Lst (Tf1-3, with Nephrolepidina, Trybliolepidina, Cycloclypeus spp.). To N uppermost limestone beds overlain by and interfingering with beds of Marl-tuff Mb of Tertiary f3. After this time marine sedimentation in this area came to halt)

Tjia, H.D. (1962)- Topographic lineaments in Nusa Barung, East Java. *Proc. Inst. Teknologi Bandung (ITB)* 2, 2, p. 89-98.

(online at: <http://idci.dikti.go.id/pdf/JURNAL/ITB%20Journal%20of%20Science/>)

(Nusa Barung island off Puger at S coast of E Java mainly N-S trending karsted limestone ridges, probably of Late Miocene age. Pleistocene S-ward tilting of island (<4°), similar to most of S Mountains)

Tjia, H.D. (1964)- Paleo-current and initial slope indicators in the Subang area, W. Java. *Contrib. Dept. Geology Inst. Technology Bandung (ITB)*, 57, p. 63-74.

(Pliocene deposits of Subang area with sedimentary structures indicating currents mostly longitudinal. Some arenites of Lower Pliocene unit deposited by turbidity currents)

Tjia, H.D. (1964)- Slickensides and fault movements. *Geol. Soc. America (GSA) Bull.* 75, 7, p. 683-686.

(On slickensides in Lokulo area, C Java)

Tjia, H.D. (1966)- Structural analysis of the Pre-Tertiary of the Luk-Ulo area, Central Java. Inst. Technology Bandung (ITB), Contrib. Dept. Geology 63, 110p.

Tjia, H.D. (1968)- The Lembang Fault, West Java. *Geologie en Mijnbouw* 47, 2, p. 126-130.

(online at: <https://drive.google.com/file/d/0B7j8bPm9Cse0VEodFA2VGIONm8/view>)

(Lembang fault, 10 km N of Bandung, N-ward facing scarp exposed over 22 km, parallel to Java's longitudinal axis. Former investigators attributed mainly dip slip displacements to this fault, but W part of fault (W of Tjikapundung valley), latest development sinistral strike slip in nature, with horizontal displacement of ~140m. E part of fault between Maribaja and Mount Pulusari is dip slip fault with exposed throws of 130-450m)

Tjia, H.D. (2013)- Morphostructural development of Gunungsewu karst, Jawa Island. *J. Geologi Indonesia* 8, 2, p. 75-88.

(online at: <http://ijog.bgl.esdm.go.id/index.php/IJOG/article/view/157/157>)

(Review of landforms in karst hills in Miocene limestone of Southern Mountains SE of Yogyakarta, cone-and sinoid-shaped. Km-long linear ridge are relics of paleo-breaker zones. Also circular and spiral landforms, etc. Changes in orientation of inland and coastal ridges interpreted to reflect progressive CCW rotation of Gunungsewu microplate, in accordance with paleomagnetic data)

Tjia, H.D. & V. Tjioe (1964)- Origin of Tjongkang Hill near Tomo, West Java. *Bull. Geol. Survey Indonesia* 1, 60p.

Tobing, S.M. (2003)- Inventarisasi bitumen padat dengan 'outcrop drilling' di daerah Ayah, Kabupaten Kebumen, Jawa Tengah. Kolokium Hasil Kegiatan Inventarisasi Sumber Daya Mineral- DIM, TA. 2003, p. 26.1- 26.3.

(online at: www.dim.esdm.go.id/kolokium%202003/batubara/Prosiding%20Ayah.pdf)

(Investigation of solid bitumen/oil shale in M Miocene Kalipucang Fm, Ayah area, Kebumen Regency, near S coast of C Java. Stratigraphy in area Late Oligocene- E Miocene Gabon Fm andesitic-basaltic volcanics, unconformably overlain by M Miocene Kalipucang Fm, mainly reef limestone, Late Miocene- E Pliocene Halang Fm turbidites and Late E Miocene- M Miocene andesitic intrusives. Solid bitumen/oil shale deposits in Kalipucang Fm in three main layers, 0.35- 3.9m thick, dipping 7- 65° to W-NW. Oil content 7- 50 liters/ ton. Bitumen resources is ~830,000 barrels oil)

Toha, B., M. Datun & Widiasmoro (1986)- Guidebook of Southern Mountains: Turbidite system excursions. *Assoc. Indon. Geol. (IAGI)*, 21p.

Toha, B., R.D. Purtyasti, Sriyono, Soetoto, W. Rahardjo & P. Subagyo (1994)- Geologi daerah Pegunungan Selatan, suatu kontribusi. *Proc. Geologi dan Geotektonik Pulau Jawa sejak akhir Mesozoik hingga Kuartar*, Seminar Jurusan Teknik Geologi Fak. Teknik Universitas Gadjah Mada, p. 19-36.

(*'Geology of the Southern Mountains: a contribution'*)

Tregoning, P., F.K. Brunner, Y. Bock, S.O.O. Puntodewo, R. McCaffrey, J.F. Genrich, E. Calais, J. Rais & C. Subarya (1994)- First geodetic measurement of convergence across the Java Trench. *Geophysical Research Letters* 21, 19, p. 2135-2138.

(online at: http://web.pdx.edu/~mccaf/pubs/tregoning_java_grl_1994.pdf)

(GPS surveys on Christmas Island and Cibirong, W Java, suggest convergence at 67 ± 7 mm/year orthogonal to trench)

Triwibowo, B. & K. Santoso (2007)- Potensi dan kualitas batuan Formasi Kujung sebagai batuan induk, pada lintasan Kali Wungkal, Tuban, Jawa Timur. In: *Proc. Simp. Nas. IATMI, UPN, Yogyakarta, TS-03*, 13p.

(online at: http://elib.iatmi.or.id/uploads/IATMI_2007-TS-03_Bambang_Triwibowo,_UPNVY.pdf)

(*'Source rock potential and quality of Kujung Fm rocks in the Kali Wungkal section, Tuban, E Java'. Samples from Oligocene Kujung Fm marls near Tuban suggest poor source rocks: low TOC and immature*)

- Tuakia, M.Z., B. Sapiie & A.H. Harsolumakso (2015)- Karakteristik dan deformasi pada Satuan Larangan, Banjarnegara, Jawa Tengah. *Buletin Geologi (ITB)* 42, 1, p. 41-57.
(*Deformation characteristics of the Larangan Unit, Banjarnegara, Central Java*)
- Tun, M.M., I.W.Warmada, A. Harijoko, O. Verdiansyah & K. Watanabe (2014)- High sulfidation epithermal mineralization and ore mineral assemblages of Cijulang prospect, West Java, Indonesia. *J. Southeast Asian Applied Geol. (UGM)* 6, 1, p. 29-38.
(online at: <https://jurnal.ugm.ac.id/jag/article/view/7215/5654>)
(*Cijulang prospect in Garut District, W Java, high-sulfidation epithermal system in andesite lava and lapilli tuff. Mineralization characterized by pyrite-enargite-gold and associated acid sulfate alteration. Two stages: early Fe-As-S stage (with Au) and later Cu-Fe-As-S stage*)
- Tun, M.M., I.W.Warmada, A. Idrus, A. Harijoko, R. Al-Furqan & K. Watanabe (2014)- Characteristics of hydrothermal alteration in Cijulang area, West Java, Indonesia. *J. Southeast Asian Applied Geol. (UGM)* 7, 1, p. 1-9.
(online at: <https://journal.ugm.ac.id/jag/article/view/16917>)
- Turkandi, T., Sidarto, D.A. Agustiyanyo & M.M. Purbo Hadiwdjojo (1992)- Geology of the Jakarta and the Thousand Islands Quadrangle, Jawa, Quads. 1209-4, 1210-1, 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung, 14p.
- Twiss, W.J. (1921)- Een zinkertsvoorkomen in Zuid-Madioen. *De Mijningenieur* 2, 4, p. 44-51.
(online at: <https://babel.hathitrust.org/cgi/pt?id=coo.31924081565537;view=lup;seq=149>)
(*An occurrence of zinc-ore in South Madiun'. Small zinc mining operation in E Java near Kerpoe village, 2.5km NE of Slahoeng, 10 km S of Balong. Zones (veins?) of pyrite and sphalerite in steeply dipping Miocene clastics and limestones*)
- Uhlig, H. (1980)- Man and tropical karst in Southeast Asia. *GeoJournal* 4, 1, p. 31-44.
(*Mainly on 'cone karst' development in Gunung Sewu in S Mountains of Java. Also similar karst in Nusa Penida, S Bali, and N Bone and Maros in S Sulawesi*)
- Umbgrove, J.H.F. (1930)- Het ontstaan van het Dieng Plateau. *Leidsche Geol. Mededelingen* 3, 3, p. 131-149.
(online at: www.repository.naturalis.nl/document/549786)
(*The origin of the Dieng Plateau'. The elevated Dieng Plateau of C Java is not caldera formation or crater bottom, but floor of an old mountain lake, enclosed by circle of volcanoes*)
- Umbgrove, J.H.F. (1945)- Corals from the Upper Miocene of Tjisande, Java. *Proc. Kon. Nederl. Akademie Wetenschappen, Amsterdam*, 48, p. 340-344.
(online at: www.dwc.knaw.nl/DL/publications/PU00017948.pdf)
(*Reefal limestone lenses in U Halang Beds along Cisande River, N of Lurahgung, C Java. Associated with *Aceratherium boschi rhinoceros* tooth (oldest land mammal fossil known from Java). Twenty-one coral species, 15 could be identified, 47% still living. Percentage suggests Cisande limestone older than coral-bearing localities in Pliocene Sonde beds (Th), maybe around Mio-Pliocene boundary*)
- Umbgrove, J.H.F. (1946)- Corals from a Lower Pliocene patch reef in Central Java. *J. Paleontology* 20, 6, p. 521-542.
(*Small hill of Gunung Linggapadang near Prupuk, C Java, is Lower Pliocene patch reef in marly Tapak Beds. Reef comparable to patch reefs in Bay of Jakarta. Well-preserved coral fauna of 70 species*)
- Umbgrove, J.H.F. (1946)- Corals from the Upper Kalibeng beds (Upper Pliocene) of Java. *Proc. Kon. Nederl. Akademie Wetenschappen, Amsterdam*, 49, 1, p. 87-93.
(online at: www.dwc.knaw.nl/DL/publications/PU00018197.pdf)
(*35 coral species from Late Pliocene Upper Kalibeng Beds at Sonde in W part Kendeng zone, E Java, collected by members of Geological Survey*)

Umbgrove, J.H.F. (1950)- Corals from the Putjangan beds (Lower Pleistocene) of Java. J. Paleontology 24, 6, p. 637-651.

(Forty species of corals from lower Pleistocene Pucangan beds of Kendeng zone, E Java, with only 49% living species. This abnormally low percentage probably due to special character of fauna which consists mainly of solitary 'deep water' corals)

Umbgrove, J.H.F. & J. Cosijn (1931)- Java's zuidkust bij Tji-Laoet-Eureum. Verhandelingen Kon. Nederl. Geologisch Mijnbouwkundig Genootschap (KNGMG), Geol. Serie 9, 2, p. 133-134.

('Java's south coast near Tji-Laut Eureum'. Unusual erosional features on limestone plateau)

Umiyatun Choiria, S., B. Prastistho, R.E. Jati Kurniawan & Surono (2006)- Foraminifera besar pada satuan batugamping Formasi Gamping- Wungkal, Sekarbolo, Jiwo Barat, Bayat, Klaten, Jawa Tengah. Proc. Ann. Conv. Indon. Assoc. Geol. (IAGI), Pekanbaru, PIT IAGI2006-072, p. 1-11.

('Larger foraminifera from limestones of the Gamping- Wungkal Fm, W Jiwo, Bayat, C. Java'. M-U Eocene (zone Ta3) larger forams from classic Jiwo Hills locality include Nummulites javanus, N. djokdjakartae, N. pengaronensis, Assilina spp., Pellatospira orbitoidea, Discocyclusina spp. and Spiroclypeus vermicularis)

Umiyatun Choiria, S. & J. Setiawan (2001)- The claystone age of Wungkal Formation based on calcareous nannofossils in Gunung Pendul area, Bayat Klaten, Central Java. Proc. 30th Ann. Conv. Indon. Assoc. Geol. (IAGI) and 10th GEOSEA Conv., Yogyakarta, p.

Untung, M. (1974)- Bouguer anomaly map of Jawa and Madura, Scale 1:1,000,000 (2 sheets). Geol. Res. Dev. Centre (GRDC), Bandung.

Untung, M. (1982)- Sebuah rekonstruksi paleogeographi Pulau Jawa. Geologi Indonesia (J. Indon. Assoc. Geol., IAGI) 9, 2, p. 15-24.

Untung, M. & Y. Sato (1978)- Gravity and geological studies in Java, Indonesia. Geol. Survey Indonesia and Geol. Survey Japan, Spec. Publ. 6, p. 1-207.

Untung, M., K. Udjang & E. Ruswandi (1973)- Gravity survey in the Yogyakarta- Wonosari area, Central Java. Geol. Survey Indonesia, Publ. Teknik, Ser. Geofisika 3, 13p.

Untung, M. & G. Wiriosudarmo (1975)- Pola struktur Jawa dan Madura sebagai hasil penafsiran pendahuluan data gayaberat. Geologi Indonesia (IAGI) 2, 1, p. 15-24.

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Uruma, R., Y. Kohno, K. Watanabe, A. Imai, T. Itya, L.D. Setijadji & A. Harijoko (2007)- Migration of subduction in Central Java, Indonesia. In: Proc. 5th Int. Workshop Earth Science and Technology, Fukuoka, p. 377-384.

Usman, T.K., A. Bunyamin, E. Purnomo & I. Prasetya (2006)- Formasi Cisubuh sebagai batuan reservoir hidrokarbon di cekungan Jawa Barat Utara dan Jawa Tengah Utara. Proc. 35th Ann. Conv. Indon. Assoc. Geol. (IAGI), Pekanbaru 2006, PITIAGI-026, 7p.

('The Cisubuh Formation as hydrocarbon reservoir rock in the NW Java and North Central Java basins'. Late Miocene- Early Pliocene Cisubuh Fm oil bearing in wells Jatirarangon 2 and 3 and Klantung-1)

Usman, T.K., Y. Fahrudi, E. Purnomo & P. Astono (2005)- Potensi batuan induk di daerah Majalengka dan implikasinya terhadap keberadaan hidrokarbon di daerah cekungan Bogor. Proc. 34th Ann. Conv. Indon. Assoc. Geol. (IAGI) and 30th Ann. Conv. HAGI, Surabaya, JCS2005-G084, 7p.

('Source rock potential in the Majalengka area and implications for hydrocarbon rock potential of the Bogor Basin'. Geochemical/ biomarker study of rocks and oils from area near first oil well on Java, Maja 1)

Usman, T.K., I. Yuliandri, M. Fajar, D. Hilmawan, A. Naskawan, M.J. Panguriseng & W. Sadirsan (2011)- Strike-slip systems on Tanjung-Brebes area and their implication for hydrocarbon exploration. Proc. 35th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA11-G-116, 8p.

(On N Central Java basin (N Serayu Basin) pull-apart basin evolution and oil seeps)

Usman, T.K., I. Yuliandri, M.J. Panguriseng, W.S. Sadirsan & D. Priambodo (2011)- New concept of Paleogene basin evolution of northern West Java. Proc. Joint 36th HAGI and 40th IAGI Ann. Conv., Makassar, JCM2011-473, 5p.

(NW Java Basin basin evolution tied to S-ward shift of position of Indian Ocean subduction system from Jurassic to present-day. In E Eocene-Oligocene NW Java Basin was back arc system with shallow marine clastics, limestone intercalations and volcanics. Late Oligocene termination of volcanic system in NW Java and start of lacustrine deposition. Late Oligocene Rajamandala Fm is equivalent to Pondok Makmur Fm in NW Java, below Talang Akar Fm and interfingering with U Jatibarang Fm. In E Miocene growth of carbonates in NW Java Basin, with active volcanic sedimentation in Bogor Basin in S. No figures)

Utoyo, H. (2007)- Petrologi dan geokimia batuan gunung api terubah daerah Ponorogo, Jawa Timur. J. Sumber Daya Geologi 17, Spec. Issue (163), p. 35-46.

(Petrology and geochemistry of volcanic rocks in the Ponorogo area, East Java'. Volcanics of Late Oligocene-E Miocene Mandalika Fm (= 'Old Andesites?') of Ponorogo area, NE of Pacitan near C-E Java border, mainly andesitic, rhyolitic, dacitic to basaltic in composition, with dykes, pillow lavas, etc. Of calc-alkaline affinity, related to subduction. Presence of molybdenum suggests basement rock possibly of continental granitic type)

Utoyo, H., M.H.J. Dirk, S. Bronto & L.B. Kaspar (2004)- K-Ar age of volcanic rocks in Cipunegara, Subang, West Java. Proc. 33rd Ann. Conv. Indon. Assoc. Geol. (IAGI), p. 81-87.

(Andesites from NE of Bandung show Late Paleocene (59 ± 2 Ma) and Late Eocene (37 ± 4 Ma) ages; possibly oldest volcanic rocks in region)

Utoyo, H. & L. Sarmili (2008)- Petrogenesis endapan pasir besi di Pantai Panggul, Trenggalek. J. Geologi Kelautan 6, 2, p. 104-117.

(online at: <http://ejournal.mgi.esdm.go.id/index.php/jgk/article/view/154/144>)

(Petrogenesis of iron sand deposits at Panggul beach, Trenggalek'. Magnetite-rich sands along S coast of E Java derived mainly from outcrops of Oligo-Miocene Mandalika Fm volcanics ('Old Andesites') in S Mountains)

Uyeda, S., T. Eguchi, S. Kamal & W.S. Modjo (1982)- Preliminary study on geothermal gradient and heat flow in Java. UN-ESCAP CCOP Techn. Bull. 15, p. 15-28.

Van Baren, F.A. (1939)- On the occurrence of celestine in Young Tertiary deposits in the Residency Rembang (Java). Geologie en Mijnbouw, n.s., 1, 12, p. 288-290.

(online at: <https://drive.google.com/file/d/1dT-hyKAK5hV6zuPilo-LD3dbiUTgqKWX/view>)

(Marly soil on Upper Kalibeng Fm on NE Java with 90% of heavy mineral fraction composed of small idiomorphic crystals of celestine (celestite; SrSO₄) (origin not clear))

Van Bemmelen, R.W. (1934)- Geologische kaart van Java, 1: 100,000, Toelichting bij Blad 36 (Bandoeng). Dienst Mijnbouw Nederlandsch-Indie, Bandung. *(Unpublished Report)*

(Explanatory notes to Geological map of Java, 1: 100,000- sheet 36 (Bandung))

Van Bemmelen, R.W. (1934)- Ein Beispiel für Sekundartektogenese auf Java. Geol. Rundschau 25, 3, p. 175-194.

(An example of secondary tectogenesis on Java'. On young, linked extensional and compressional structuring in mountains N of Bandung)

Van Bemmelen, R.W. (1937)- Geologische kaart van Java 1:100,000. Toelichting bij Blad 66 (Karangkobar). Dienst Mijnbouw Nederlandsch-Indie, Bandung, 50p.

(C Java Ungaran region, with original descriptions of Penyaten Fm, etc.. Four small areas with Eocene outcrops)

Van Bemmelen, R.W. (1937)- Examples of gravitational tectogenesis from Central Java. *De Ingenieur in Nederlandsch-Indie (IV Mijnbouw en Geologie)*, 4, 3, p. 55-65.

(Example of N-directed Late Miocene folding-thrusting presumably caused by gravitational sliding in Karangkoobar region, N of Banjarnegara, northern C Java)

Van Bemmelen, R.W. (1937)- Igneous geology of the Karangkoobar region (Central Java) and its significance for the origin of the Malayan potash provinces. *De Ingenieur in Nederlandsch-Indie (IV)*, 4, 7, p. 115-135.

(Continuation of Van Bemmelen 1937 on gravitational tectogenesis of Karangkoobar area. Petrography of Late Miocene submarine calc-alkali basaltic rocks and associated feeders of Penjaten volcano, Pliocene volcanic necks (9) and breccias of Bodas- Ligoeng series, and Quaternary calc-alkali volcanism of Djembangan and Dieng Plateau. Successive eruptions in Dieng group with increasing SiO₂ content)

Van Bemmelen, R.W. (1937)- The volcano-tectonic structure of the Residency of Malang (Eastern Java) (an interpretation of the structure of the Tengger Mountains.). *De Ingenieur in Nederlandsch-Indie (IV)*, 4, 9, p. 159-172.

(Discussion of E Java between Madura Straits and Indian Ocean and Arjuna, Semeru- Bromo- Tengger and Lamongan volcanic complexes)

Van Bemmelen, R.W. (1938)- De Ringgit-Beser, een geplooid alkali-vulkaan in Oost-Java. *Natuurkundig Tijdschrift Nederlandsch-Indie* 98, p. 171-194.

(‘Ringgit-Beser, a folded alkali-volcano in East Java’. Ringgit-Beser volcanic complex originated in shallow sea at N coast of E Java during Plio-Pleistocene. Volcano grew above sea level, became connected with mainland, and was subjected to folding in younger Pleistocene (Beser Ridge anticline))

Van Bemmelen, R.W. (1940)- A limestone block in hyperstene dacite from the Koeda-neck (Kromong Complex, near Cheribon, Western Java). *De Ingenieur in Nederlandsch-Indie (IV)* 7, 3, p. 37-41.

(Kromong Mountains formed by complex of volcanic necks up to 587m high, at N foot of Ciremai volcano, ~20 km W of Cirebon. Volcanic necks probably of Late Pliocene age, intrusive in Miocene limestone and Mio-Pliocene marine sediments (Kaliwangu-series). Limestone with Miocene foraminifera exposed as uplifted blocks at NE and SE side of complex. At SE side large limestone inclusion on top of dacitic Koeda-neck, converted into fine-grained marble, with 1-2 cm reaction rim with secondary minerals)

Van Bemmelen, R.W. (1941)- Geologische kaart van Java, 1:100,000. Toelichting bij Blad 73 (Semarang) en 74 (Ongaran). *Dienst Mijnbouw Nederlandsch-Indie*, p. 1-116.

(Explanatory notes for Semarang and Ungaran 1: 100,000 Geologic map sheets, C. Java)

Van Bemmelen, R.W. (1941)- Granitische intrusies in het Zuidergebergte van West Java. *De Ingenieur in Nederlandsch-Indie (IV)*, 8, 2, p. 9-18.

(‘Granitic intrusions in the Southern Mountains of West Java’. Two examples: quartz-dioritic intrusion in Tjilajoe River, 60 km S of Bandung and Tendjoloet Ridge granodioritic intrusion 40 km SSW of Tasikmalaya. Probably part of ‘Old Andesites’ complex)

Van Bemmelen, R.W. (1947)- The Muriah volcano (Central Java) and the origin of its leucite-bearing rocks. *Proc. Kon. Nederl. Akademie Wetenschappen, Amsterdam*, 50, 6, p. 653-658.

(online at: www.dwc.knaw.nl/DL/publications/PU00018362.pdf)

*(‘Mediterranean-type’ leucite-bearing rocks of Muriah volcano formed from limestone assimilation by ‘Pacific-type’ magmas. Volcanics of Rahtawu cauldron large inclusions of contactmetamorphic limestones with *Katacycloclypeus annulatus*, large *Lepidocyclina*, etc., belonging to (M Miocene) Rembang layers)*

Van Bemmelen, R.W. (1949)- Java. In: *The geology of Indonesia*, Government Printing Office, The Hague, 1A, p. 545-659.

(Major review of Java geology, as known in late 1940's)

Van Benthem Jutting, T. (1937)- Non marine mollusca from fossil horizons in Java with special reference to the Trinil Fauna. Zoologische Mededelingen 20, p. 83-180.

(online at: www.repository.naturalis.nl/document/149951)

(Monograph of fresh water molluscs from collections of Dubois, Elbert and Selenka and Bandung Geological Survey, mainly from Latest Pliocene-Pleistocene of Kendeng zone/ Trinil area. Incl. Viviparus, Corbicula, Thiara, Lymnaea, etc.)

Van den Abeele, D. (1949)- Lepidocyclininae from Rembang (Java) with a description of *L. wanneri* n.sp. Proc. Kon. Nederl. Akademie Wetenschappen 52, 7, p. 760-765.

(online at: www.dwc.knaw.nl/DL/publications/PU00018695.pdf)

(Lepidocyclinids from E-M Miocene 'orbitoidal limestone (OK)' of Rembang Beds near Sumberan, Bringin and Gegunung oilfields, SE of Rembang, N and NW of Bojonegoro, collected by Wanner. Molluscs from same samples described by Wanner & Hahn (1935). Seven Lepidocyclina species, mainly subgenus Nephrolepidina, some Multilepidina. Lepidocyclina wanneri n.sp. introduced for specimens with multilepidine embryon)

Van den Bergh, G.D., W. Boer, H. de Haas, T.C.E van Weering & R. van Whije (2003)- Shallow marine tsunami deposits in Teluk Banten (NW Java, Indonesia), generated by the 1883 Krakatau eruption. Marine Geology 197, p. 13-34.

(Tsunamite from 1883 Krakatau eruption sandy layer with abundant reworked shell and other carbonate fragments. Coarse components consist of locally derived material eroded from seabed. Land-derived components in tsunamite only close to coast. Along open sea-facing slope of Banten Bay tsunamite relatively thin (67cm) but well-preserved)

Van den Hoek Ostende, L.W., J. Leloux, F.P. Wesselingh & C.F. Winkler Prins (2002)- Cenozoic Molluscan types from Java (Indonesia) in the Martin Collection (Division of Cenozoic Mollusca), National Museum of Natural History, Leiden. Nat. Natuurhist. Mus. Techn. Bull. 5, p. 1-130.

(online at: www.repository.naturalis.nl/document/45042)

(Listing and re-descriptions of Tertiary mollusc type specimens in K. Martin collection at Naturalis Museum, Leiden, mainly from Java. Contains 5700 type specimens of 912 species)

Vanderkluyzen, L., M.R. Burton, A.B. Clarke, H.E. Hartnett & J.F. Smekens (2014)- Composition and flux of explosive gas release at LUSI mud volcano (East Java, Indonesia). Geochem. Geophys. Geosystems 15, 7, p. 2932-2946.

(LUSI mud volcano in E Java erupting since 2006. Last few years of activity characterized by periodic short-lived eruptive bursts. Gases sampled 98% water vapor, 1.5% CO₂, 0.5% methane)

Van der Sluis, J.P. & D.R. de Vletter (1942)- Young Tertiary smaller foraminifera from the neighbourhood of Ngimbang, East Java. Proc. Kon. Nederl. Akademie Wetenschappen 45, 10, p. 1010-1015.

(online at: www.dwc.knaw.nl/DL/publications/PU00017817.pdf)

(129 species of mainly deeper marine foraminifera in Pliocene marls. Samples collected by Rutten in SW corner of 109-Lamongan map sheet. No location map, no stratigraphic context)

Van der Vlerk, I.M. (1923)- De stratigrafie van het Tertiair van Java. De Ingenieur in Nederlandsch-Indie 4, p. 53-56.

Van der Vlerk, I.M. (1924)- Foraminiferen uit het Tertiair van Java. Wetenschappelijke Mededeelingen Dienst Mijnbouw Nederlandsch Oost-Indie 1, p. 16-35.

(Miocene larger forams from W. Java: Lepidocyclina ruttenti n. sp. from Tji Lalang beds and Lepidocyclina/ Miogypsina/ Cycloclypeus and Rotalia beccarii atjehensis n. var. from Nyalindung beds near Sukabumi)

Van der Vlerk, I.M. & J.A. Postuma (1967)- Oligo-Miocene Lepidocyclinas and planktonic foraminifera from East Java and Madura, Indonesia. Proc. Kon. Nederl. Akademie Wetenschappen, B, 70, 4, p. 392-399.

(Composite section of Oligo-Miocene sediments of E Java and Madura with Lepidocyclinas and planktonic foraminifera. Lepidocyclinas 'grade of enclosure' increases systematically from 36% to 65% up section. Oligo-Miocene boundary placed above Globigerina ciperoensis ciperoensis zone)

Van der Werff, W. (1996)- Variation in forearc basin development along the Sunda Arc, Indonesia. *J. Southeast Asian Earth Science* 14, 5, p. 331-349.

(Sunda Arc fore-arc areas between Sumatra and Sumba. Present forearc basin configuration initially controlled by extension and differential subsidence of basement blocks in response to Late Eocene India-Asia collision. Late Oligocene increase in convergence between SE Asia and Indian Plates associated with new pulse of subduction resulted in basement uplift and formation of regional unconformity along entire Sunda Arc. In Miocene, Sumba and Savu forearc sectors characterized by forearc extension. Forearc basins initially with submarine fan deposits, followed by basin and slope sediments derived from evolving magmatic arc. Incipient collision between Australia and W Banda Arc caused back-arc thrusting and basin inversion. S of Java, increase in size of accretionary prism and convergence rates resulted in folding/ uplift of distal forearc basin strata. Along Sumatra W coast uplift along inner side of forearc along older transcurrent faults. Initial forearc basin subsidence relates to age of subducting oceanic lithosphere. Flexural loading of evolving accretionary prism and across arc strike-slip faulting may result in additional forearc subsidence.)

Van Dijk, P. (1872)- Geologische beschrijving der residentie Djokdjakarta. *Jaarboek Mijnwezen Nederlandsch Oost-Indie* 1872, 1, p. 151-192.

(‘Geological description of the Residency Jogjakarta’)

Van Dijk, P. (1872)- Beschrijving van het marmer voorkomende in de assistant-residentie Patjitan. *Jaarboek Mijnwezen Nederlandsch Oost-Indie* 1, p. 193-215.

(‘Description of the marble in the assistant-residency of Pacitan’. Investigation of suitability as building stone of ‘marble’ (crystalline limestone) at East side of Panggul Bay, Southern Mountains of SE Java. On 1992 GRDC map this is shown as E Miocene Campurdarat Fm in area with common andesitic intrusions)

Van Dijk, P. (1873)- Steenkolen in het Semarangsche. *Jaarboek Mijnwezen Nederlandsch Oost-Indie* 1873, 2, p. 164-174.

(‘Coal in the Semarang area’)

Van Dijk, P. (1883)- Onderzoek naar het voorkomen van aardolie in de nabijheid van Poerwodadi. assistent-residentie Grobogan. *Jaarboek Mijnwezen Nederlandsch Oost-Indie* 12 (1883), Wetenschappelijk Gedeelte 2, p. 359-369.

(‘Survey of the occurrence of natural oil near Purwodadi, Grobogan region’. NE Java. Hill near Ngemba village in Lusi River valley near Purwodadi with steeply dipping Tertiary sediments, including limestone breccia with salt water with oil seeps)

Van Dijk, P. (1884)- Over de geologie van het noordelijke, niet-vulkanische gedeelte van de residentie Soerabaja. *Jaarboek Mijnwezen Nederlandsch Oost-Indie* 1884, Wetenschappelijk Gedeelte, p. 5-76.

(‘On the geology of the northern, non-volcanic part of the Residency Surabaya’. Partly based on data from 700+m deep well near Gresik)

Van Es, L.J.C. (1917)- Bijdrage tot de kennis van de stratigrafie van het Tertiair in de Residentie Bantam. *Jaarboek Mijnwezen Nederlandsch Oost-Indie* 44 (1915), Verhandelingen 2, p. 133-234.

(‘Contribution to the knowledge of the stratigraphy of the Tertiary in the Banten Residency’ West Java. Attempt to compare S Banten and S Sumatra stratigraphies (but poor age control). Common andesitic intrusions)

Van Es, L.J.C. (1918)- Geologische overzichtskaart van den Nederlandsch-Oost-Indischen archipel (schaal 1:1,000,000)- Toelichting bij Blad XV (Lampongs, Straat Soenda, Bantam). *Jaarboek Mijnwezen Nederlandsch Oost-Indie* 45 (1916), Verhandelingen 2, p. 55-140.

(Overview map and explanatory notes off southernmost Sumatra and W Java)

Van Es, L.J.C. (1918)- De voorhistorische verhoudingen van land en zee in den Oost-Indischen Archipel, en de invloed daarvan op de verspreiding der diersoorten. Jaarboek Mijnwezen Nederlandsch Oost-Indie 45 (1916), Verhandelingen 2, p. 255-304.

(Early paleogeographic map of Indonesia at end Pliocene and its implications for migration of animal species)

Van Es, L.J.C. (1920)- Nadere gegevens over het Bodjongmanik kolenveld. Jaarboek Mijnwezen Nederlandsch Oost-Indie 47 (1918), Verhandelingen 1, p. 150-153.

(Additional data on the Bojongmanik coal field'; West Java. Details on coal thickness and composition. Coals thought to be too thin and poor quality for commercial exploitation)

Van Es, L.J.C. (1926)- Geologische waarnemingen op Java. I. Djivo en Zuidergebergte. De Mijnningieur 7, 9, p. 153-157.

(Geological observations on Java I: Jiwo and Southern Mountains'. Early description of classic Jiwo-Southern Mountains successions N of Gunung Pendoel Miocene andesite intrusion (not much different from Verbeek and Fennema 1996): Pretertiary chlorite schists and crystalline limestones, overlain by Eocene conglomerates (mainly quartz pebbles), sandstones, claystones and limestones with Nummulites, Discocyclina, Pellatispira, etc., Early Miocene volcanic breccias. All formations unconformably overlain by near-horizontal 'young-Miocene' limestones with Lepidocyclina ruttani, Miogypsina, Orbulina, etc. (= Lower Tf; JTvG), suggesting Jiwo Anticline was already folded in Middle Miocene. Possibly 2000m of erosion prior to deposition of M-L Miocene limestone, most of it probably draining North, because more erosion on N flank of anticline)

Van Es, L.J.C. (1926)- Oude exploratiewerken in Zuid-Madioen. De Mijnningieur 7, 11, p. 205-210.

(Old exploration works in South Madiun'. Brief review of small mining exploration/ exploitation concessions S of Madiun, E Java. Mainly quartz veins with chalcopyrite in volcanics. Mining concessions: (1) Kesihan (1908-1925) S of Tegalombo (copper, zinc); (2) Kali Teloe (1908- 1925), N and W of Tegalombo (copper))

Van Es, L.J.C. (1929)- Trinil. Excursion Guide E5, Fourth Pacific Science Congress, Java 1929, p. 1-14.

(Field guide to Trinil hominid site, C Java)

Van Es, L.J.C. (1935)- De beteekenis en het voorkomen van fosfaat op Java. De Ingenieur in Nederlandsch-Indie IV, 2, 5, p. 37-47.

(The significance and occurrence of phosphate on Java'. Small phosphate deposits found at many localities on Java, all in present or former cave deposits, and formed from bat excrement)

Van Gorsel, J.T., D. Kadar, Soenarto, Budianto Toha et al. (1987)- Central Java Fieldtrip June 18-21, 1987. Indonesian Petroleum Association (IPA) Field Trip Guidebook, p. 1-29.

Van Gorsel, J.T., D. Kadar & P.H. Mey (1989)- Central Java Fieldtrip 27-30 October 1989. Indonesian Petroleum Association (IPA) Field Trip Guidebook, p. 1-67.

Van Gorsel, J.T. & S.R. Troelstra (1981)- Late Neogene planktonic foraminiferal biostratigraphy and climatostratigraphy of the Solo River section (Java, Indonesia). Marine Micropaleontology 6, 2, p. 183-209.

(Late Miocene-Pleistocene planktonic foram biostratigraphy of deep water deposits of Kendeng zone in Ngawi section. Paleoclimate signal inferred from fluctuations in cooler-climate planktonic forams used to correlate with Mediterranean Miocene-Pliocene boundary stratotype)

Van Regteren Altena, C.O. (1938)- The marine Mollusca of the Kendeng Beds (East Java). Gastropoda, Part. I (Families Fissurellidae-Vermetidae inclusive). Leidsche Geol. Mededelingen 10, p. 217-320.

(online at: www.repository.naturalis.nl/document/549598)

(First of series of paleontological papers on molluscs from Plio-Pleistocene Kendeng Beds W of Surabaya. Material collected by Geological Survey, Bandung, personnel during Kendeng zone mapping survey (Duyffjes et al.) and by Cosijn. Molluscs mainly from Pucangan Fm, some Upper Kalibeng Fm)

- Van Regteren Altena, C.O. (1938)- The marine Mollusca of the Kendeng beds (East Java)- Gastropoda, Part I. Dienst Mijnbouw, Wetenschappelijke Mededeelingen 27, Bandung, p. 241-320.
(*Reprint of Van Regteren Altena (1938)- Leidsche Geol. Mededelingen, above*)
- Van Regteren Altena, C.O. (1942)- The marine Mollusca of the Kendeng Beds (East Java) Gastropoda, Part II (Families Planaxidae-Naticidae inclusive). Leidsche Geol. Mededelingen 12, 1, p. 1-86.
(*online at: www.repository.naturalis.nl/document/549625*)
(*Systematic study of marine molluscs from Plio-Pleistocene Kendeng beds of E Java, dealing with gastropods belonging to families Planaxidae, Potamididae, Cerithiidae, Triphoridae, Epitoniidae, Eulimidae, Pyramidellidae, Amaltheidae, Calyptraeidae, Xenophoridae, Strombidae, and Naticidae*)
- Van Regteren Altena, C.O. (1943)- The marine Mollusca of the Kendeng beds, East Java, Gastropoda, part IV (Families Cassididae-Ficidae inclusive). Leidsche Geol. Mededelingen 13, p. 89-120.
(*www.repository.naturalis.nl/document/549495*)
(*Taxonomic descriptions of Plio-Pleistocene gastropods of families Cassididae and Ficidae from Upper Kalibeng and Pucangan formations of Kendeng zone, East Java (part III of this series is by Schilder 1941)*)
- Van Regteren Altena, C.O. (1950)- The marine Mollusca of the Kendeng beds, East Java, Gastropoda, part V (Families Muricidae-Volemidae inclusive). Leidsche Geol. Mededelingen 15, 1, p. 205-240.
(*online at: www.repository.naturalis.nl/document/549261*)
(*More taxonomic descriptions of Plio-Pleistocene gastropods of East Java*)
- Van Regteren Altena, C.O. & C. Beets (1944)- Eine Neogene Molluskenfauna vom Tji Gugur (Priangan), W. Java. Verhandelingen Kon. Nederl. Geologisch Mijnbouwkundig Genootschap 14 (Gedenkboek Tesch), p. 37-67.
(*Rich Neogene mollusc faunas from Priangan, SW of Bandung. No maps or stratigraphic context info*)
- Van Regteren Altena, C.O. & C. Beets (1945)- Beschouwingen over de toekomst van het onderzoek der Caenozoische mollusken van Nederlandsch-Indie. Geologie en Mijnbouw 7, 5-6, p. 45-50.
(*Remarks on the future of research of the Cenozoic molluscs of the Netherlands Indies*)
- Van Simaëys, S., F. Musgrove, N. Stephens, A. Weidmer, A. Zeiza, R. Sekti, A. Derewetzky & T. Simo (2011)- Early carbonate growth in the East Java Basin, Indonesia: a case study from the Jambaran Field. Proc. 35th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA11-G-205, 13p.
(*Jambaran Field discovered in 2001. Tall gas column in steep-flanked Oligocene carbonate buildup with ~1000m of relief relative to platform. Main buildup ~10 km long, 1 km wide. Unconformities recognized on well logs and seismic coincide with global Rupelian- Chattian sea level fluctuations, subaerial exposure and meteoric diagenetic events*)
- Van Tuyn, J. (1932)- Over de rangschikking der Duizend eilanden. De Mijningenieur 13, 7, p. 132-134.
(*'On the alignment of the Thousand Islands' (Pulau Seribu, NW of Jakarta)*)
- Van Valkenburg, S. (1924)- Het district Djampang-Koelon. Jaarboek Topographische Dienst 1924, Batavia, p. 1-9.
(*'The Jampang-Kulon District'. Geographic- geological observations in SW Java*)
- Van Valkenburg, S. & J.T. White (1924)- Enkele aanteekeningen omtrent het Zuidergebergte (G. Kidoel). Jaarboek Topographische Dienst 1923, Batavia, p. 3-16.
(*'Some notes on the Southern Mountains (Gunung Kidul)'. Geographic-geological observations in Southern Mountains (Gunung Kidul) SE of Yogyakarta*)
- Vanessa, A. & O. Verdiansyah (2014)- Inklusi fluida pada endapan emas epitermal sulfidasi tinggi Cijulang, Garut, Jawa Barat. Proc. 43rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, PIT IAGI 2014-256, 5p.

('Fluid inclusions in high sulfidation epithermal gold deposit Cijulang, Garut, West Java'. High sulfidation epithermal gold deposits in volcanic rocks of Miocene Jampang Fm. Relatively high T (216-320 °C) and salinity 2-5 wt% NaCl at formation)

Verbeek, R.D.M. (1883)- Over de dikte der Tertiaire afzettingen op Java. Verhandelingen Kon. Akademie Wetenschappen, Amsterdam, 23, p.
('On the thickness of the Tertiary deposits on Java'. In Cirebon area Tertiary ~5000m thick)

Verbeek, R.D.M. (1891)- Voorloopig bericht over nummulieten, orbitoiden en alveolinen in Java en over den ouderdom der gesteenten waarin zij optreden. Natuurkundig Tijdschrift Nederlandsch-Indie 51, 2, p. 101-138.
*(http://books.google.com/books/about/Natuurkundig_tijdschrift_voor_Nederlands.html?id=uFoYAAAAAYAAJ)
'Preliminary note on Nummulites, orbitoids and alveolinids in Java and on the age of the rocks in which they occur'. Only 6 areas of Java with Early Tertiary in outcrop, 5 of which have Eocene sediments unconformably overlying Pretertiary metamorphics. Includes first descriptions of Eocene Nummulites (Nummulites javanus, N. bagelensis, Assilina, Discocyclina, Alveolina javana) from Java, also Timor. Mention of Cretaceous larger foram Orbitolina from Luk Ulo, C Java (smaller species than those known from W Kalimantan))*

Verbeek, R.D.M. (1897)- Kort geologisch overzicht van Java. Tijdschrift Kon. Nederlands Aardrijkskundig Genootschap 2, 12, p. 173-186.
*(online at: <https://babel.hathitrust.org/cgi/pt?id=hvd.hxhgly;view=lup;seq=193>)
'Brief geological overview of Java'. No maps, figures)*

Verbeek, R.D.M. (1898)- Die Geologie von Java. Petermanns Geogr. Mitteilungen 44, 2, p. 25-34.
('The geology of Java'. Brief overview of the geology in German, with 1:2,250,000 scale map)

Verbeek, R.D.M. & R. Fennema (1881)- Nieuwe geologische ontdekkingen op Java. Verhandelingen Kon. Akademie Wetenschappen, Amsterdam, Afd. Natuurkunde, 21, p. 47-90.
('New geological discoveries on Java'. First report of Pre-tertiary rocks on Java, in three areas: (1) metamorphic rocks of S Serayu Mts/ Lok Ulo, N of Kebumen, associated with serpentinite and red chert, steeply dipping, roughly E-W strike (Junghuhn had called these Tertiary; Verbeek notes similarities with Sumatra old slates); (2) metamorphic rocks on three of 'Zutphen islands' in Sunda Straits and (3) Gedeh Mt near Jasinga, at border of Bogor and Bantam Residencies. Also first record of leucite-bearing volcanics of Muriah volcano, N coast of C Java)

Verbeek, R.D.M. & R. Fennema (1882)- Nieuwe geologische ontdekkingen op Java. Natuurkundig Tijdschrift Nederlandsch-Indie 41, p. 5-48.
('New geological discoveries on Java'. Same paper as 1881 paper above)

Verbeek, R.D.M. & R. Fennema (1896)- Geologische beschrijving van Java en Madoera. J.G. Stemler, Amsterdam, 2 vols, p. 1-1135. + Atlas.
('Geological description of Java and Madura'. Classic, comprehensive geologic description of Java and Madura, with oversized atlas of geologic maps. First to recognize Paleogene sediments and Pre-Tertiary schists in Central Java, and locally great thickness of Tertiary sediments)

Verbeek, R.D.M. & R. Fennema (1896)- Description geologique de Java et Madoura. J.G. Stemler, Amsterdam, p. 1-1183.
*(Online at: http://openlibrary.org/works/OL1558191W/Description_geologique_de_Java_et_Madoura)
(or at: <http://ia600508.us.archive.org/20/items/descriptiongollIverb/descriptiongollIverb.pdf>)
'Geological description of Java and Madura'. French translation of Verbeek and Fennema Java book above)*

Verdiana, P.R.M., Y. Yuniardi & A.A. Nur (2014)- Petrologi dan petrografi satuan breksi vulkanik dan satuan tuf kasar pada Formasi Jampang, daerah Cimanggu dan sekitarnya, Jawa Barat. Bull. Scientific Contr. (UNPAD) 12, 3, p. 171-179.
(online at: <http://jurnal.unpad.ac.id/bsc/article/view/8378/3894>)

('Petrology and petrography of volcanic breccias and coarse tuff of the Jampang Formation, Cimanggu and surrounding areas, West Java')

Verstappen, H.T. (1953)- Djakarta Bay, a geomorphological study on shoreline development. Doct. Thesis, Rijksuniversiteit Utrecht, Drukkerij Trio, s-Gravenhage, p. 1-101. *(Unpublished)*

Verstappen, H.T. (1954)- Het kustgebied van Noordelijk West Java op de luchtfoto. Tijdschrift Kon. Nederlands Aardrijkskundig Genootschap 71, p. 146-152.

('The coastal region of northern West Java on air photos'. Geomorphical study of alluvial plain along N coast of W Java, which formed in last 5000 years, during lowering of sea level of 5-6m. With beach ridges, river levess, etc.)

Verstappen, H.T. (1956)- Landscape development of the Ujung Kulon Game Reserve. Penggemar Alam 36, Bogor, p. 37-51.

(Geomorphology study of poorly studied Ujung Kulon peninsula of SW Java. Not much on geology. Common travertine terraces in rivers of (Pliocene?)Marl Plateau, which appears to be tilted to NE)

Von Ettingshausen, C. (1883)- Beitrag zur Kenntnis der Tertiärflora der Insel Java. Sitzungsberichte Akademie Wissenschaften, Wien, 87, 1, p. 175-194.

(online at: www.zobodat.at/pdf/SBAWW_87_0175-0193.pdf)

('Contribution to the knowledge of the Tertiary flora of the island of Java')

Von Koenigswald, G.H.R. (1935)- Vorläufige Mitteilungen über das Vorkommen von Tektiten auf Java. Proc. Kon. Nederl. Akademie Wetenschappen, Amsterdam, 38, 3, p. 287-289.

(online at: www.dwc.knaw.nl/DL/publications/PU00016689.pdf)

('Preliminary note on the occurrence of tektites on Java'. Tektites (glass pebbles associated with meteorite impacts) rel. widespread in SE Asia (Indochina, Billiton, also Java). This paper reports on occurrence of tektites at base of M Pleistocene Trinil beds, associated with Trinil fauna. No locality details)

Von Koenigswald, G.H.R. (1957)- Tektites from Java. Proc. Kon. Nederl. Akademie Wetenschappen, B 60, p. 371-382.

(Description of large collection of tektites from Pleistocene Trinil beds of C Java, probably of extraterrestrial origin. Proposal to call these 'javanites' (now thought to be part of very large Australasian tektite strewn field tied to Pleistocene asteroid impact near Laos-Cambodia around 700-800 ka; JTvG))

Von Koenigswald, G.H.R. (1963)- Rims, flow ridges and flanges in Javanese tektites. Proc. Kon. Nederl. Akademie Wetenschappen, Amsterdam, B 66, p. 206-208.

(Mild ablation features (partial melting in Earth's atmosphere) on Pleistocene tektites from Sangiran)

Von Koenigswald, G.H.R. (1978)- Tektite studies XII: Minute tektites from Central Java. Proc. Kon. Nederl. Akademie Wetenschappen, Amsterdam, B 81, p. 55-60.

Von Richthofen, F. (1862)- Bericht über einen Ausflug in Java. Zeitschrift Deutschen Geol. Gesellschaft, Berlin, 14, p. 327-356.

(online at: <https://www.biodiversitylibrary.org/item/148846#page/339/mode/1up>)

(Report on a trip on Java'. Summary of geological fieldtrip to W Java volcanoes and South coast by famous German geologist Von Richthofen with Franz Junghuhn, famous Java naturalist. Also comments of geology of Timor, Sulawesi, etc.. Not much new; no figures)

Von Richthofen, F. (1874)- 3. Beobachtungen an dem gehobenen Korallenriff Ujung Tji Laut-oron an der Südküste von Java. Zeitschrift Deutschen Geol. Gesellschaft, Berlin, 26, p. 239-250.

(online at: <https://babel.hathitrust.org/cgi/pt?id=mdp.39015035474918;view=1up;seq=255>)

('Observations on the Ujung Tji Laut-oron raised coral reef on the East coast of Java'. 12-15m uplift of recent coral reef near mouth of Tji-Laut-oron river)

Von Staff, H. & H. Reck (1911)- Einige neogene Seeigel von Java. In: M.L. Selenka & M. Blankenhorn, Die Pithecanthropus-Schichten auf Java, Engelmann, Leipzig, p. 41-45.
(*'Some Neogene sea urchins from Java'. Echinoids from Pliocene? marls in Trinil area, C Java, collected by Selenka 1907 expedition*)

Vorstman, A.G. (1929)- Tertiaire vischotolieten van Java. Wetenschappelijke Mededeelingen Dienst Mijnbouw Nederlandsch-Indie 5, p. 1-16.
(*'Tertiary fish otoliths from Java'. Descriptions of otoliths from Late Eocene of Nanggulan, E Miocene Nyalindung beds and Late Miocene Tjilanang beds in Bandung survey collections*)

Wachjudin, S., R.A. Kuhnel & S.J. van der Gaast (1990)- The characteristics of bentonite from the Karangnunggal deposit, West Java, Indonesia. Applied Clay Science 5, 4, p. 339-352.

Wagner, D., I. Koulakov, W. Rabbel, B.G. Luehr, A. Wittwer, H. Kopp et al. (2007)- Joint inversion of active and passive seismic data in Central Java. Geophysical J. Int. 170, p. 923-932.
(*130 seismographic stations onshore and off C Java and operated for >150 days. Inversion images show strong low-velocity anomaly (-30%) in backarc crust N of active volcanoes. In upper mantle beneath volcanoes a low-velocity anomaly inclined towards slab, probably paths of fluids and melted materials in mantle wedge. Crust in forearc appears strongly heterogeneous. Onshore part two high-velocity blocks separated by narrow low-velocity anomaly, interpreted as weakened contact zone between two rigid crustal bodies. Recent Java earthquake at lower edge of this zone. Focal strike slip mechanism consistent with orientation of this contact*)

Wagner, D. W. Rabbel, B.G. Luehr, J. Wassermann, T.R. Walter, H. Kopp et al. (2008)- Seismic structure of Central Java. In: D. Karnawati, S. Pramumijoyo et al. (eds.) The Yogyakarta Earthquake of May 27, 2006, Star Publishing, Belmont, California, p. 2.1-2.11.
(*C Java tomographic data reveals two low velocity anomalies, one at foot of volcanic arc, on NE-SW trending zone that separates forearc in two rigid blocks, and was likely epicenter of 2006 earthquake. Aftershocks mostly in Gunung Kidul Mountains, in zone semi-parallel to and 10-15 km E of Opak River fault*)

Wagner, T., A.E. Williams-Jones & A.J. Boyce (2006)- Stable isotope-based modeling of the origin and genesis of an unusual Au-Ag-Sn-W epithermal system at Cirotan, Indonesia. Chemical Geology 219, p. 237-260.
(*Late Pliocene Cirotan low-sulphidation epithermal gold deposit in Bayah Dome of SW Java complex polymetallic assemblages and progressive enrichment in Sn-W and Au-Ag in late stages of mineralization. Five ore/ alteration stages. Metallogenic model explains enrichment in Sn and W by increased recycling of slab-derived sedimentary material during Pliocene subduction*)

Wahab, A. & D. Martono (1985)- Application of oil geochemistry for hydrocarbon exploration in Northwest Jawa. Proc. 14th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 2, p. 635-657.
(*Analysis of source rocks in NW Java shows Lower Cibulakan (Talang Akar) sediments are main source in area. Distribution of mature source rocks delineated by applying Lopatin method*)

Wakita, K. (2000)- Cretaceous accretionary-collision complexes in Central Indonesia. J. Asian Earth Sci. 18, p. 739-749.
(*Cretaceous accretionary-collision complexes formed by accretionary or collision processes, forearc sedimentation, arc volcanism, back arc spreading. Oceanic plate subducted under Cretaceous arc from S, carried microcontinents from Gondwanaland. Accretionary wedge with fragments of oceanic crust (chert, siliceous shale, limestone, pillow basalt). Jurassic shallow marine allochthonous formation emplaced by collision of continental blocks. Collision exhumed high-P metamorphics from deeper part of pre-existing accretionary wedge. Cretaceous tectonic units rearranged by Cenozoic thrusting and lateral faulting during successive collision of continental blocks and rotation of continental blocks in Indonesian region*)

Wakita, K., Munasri & W. Bambang (1991)- Nature and age of sedimentary rocks of the Luk-Ulo melange complex in the Karangsembung area, Central Java, Indonesia. Proc. Silver Jubilee Symposium on Dynamics of subduction and its products, LIPI, Yogyakarta, p. 64-79.

(Incl. Late Cretaceous age of radiolarite above pillow basalt at)

Wakita, K., Munasri & B. Widoyoko (1994)- Cretaceous radiolarians from the Luk-Ulo Melange complex in the Karangsembung area, Central Java, Indonesia. J. Southeast Asian Earth Sci. 9, p. 29-43.

(Five assemblages of Cretaceous radiolarians in shale and chert of Luk-Ulo Melange in Karangsembung area: I- Early Cretaceous ('up to Barremian'), II- Middle Cretaceous (Barremian-Albian?), III- early Late Cretaceous, IV- Late Cretaceous (Coniacian- M Campanian) and V- Late Cretaceous (Late Campanian-Maastrichtian). Siliceous- argillaceous rocks were deposited throughout Cretaceous time, and accreted at subduction trench in M- Late Cretaceous or earliest Paleocene. Fragmentation and mixing with schist and quartz porphyry must have occurred in Paleocene)

Waldron, H.H. (1962)- Geology of Djatiluhur damsite and vicinity, West Java, Indonesia. U.S. Geol. Survey (USGS) Prof. Paper 450-D, p. D21-D23.

(Brief review and map of folded Miocene clastic sediments with andesitic intrusions at Jatiluhur damsite, Bogor zone, W Java)

Waltham, A.C., P.L. Smart, H. Friederich, A.J. Eavis & T.C. Atkinson (1983)- The caves of Gunung Sewu, Java. Cave Science 10, p. 55-96.

(On caves in C Java Southern Mountains M Miocene Wonosari Limestone)

Waltham, D., R. Hall, H.R. Smyth & C. Ebinger (2008)- Basin formation by volcanic arc loading. In: A.E. Draut, P.D. Clift & D.W. Scholl (eds.) Formation and applications of the sedimentary record in arc collision zones. Geol. Soc. America (GSA), Spec. Paper 436, p. 11-26.

(Paper quantifies flexural subsidence from loading by volcanic arc. Good fit of model to Halmahera Arc and E Java. Loads generated by arc sufficient to account for subsidence in basins within ~100 km of active volcanoes at subduction plate boundaries, if plate is broken. Basins will be asymmetrical with coarse volcanoclastic material close to arc and volcanoclastic turbidites farther away. Density contrast between arc and underlying crust required to produce arc basins means they are unlikely to form in young intra-oceanic arcs)

Wanner, J. (1938)- *Balanocrinus sundaicus* n.sp. und seine Epoke aus dem Altmiocaen der Insel Madura. Neues Jahrbuch Mineral. Geol. Palaont., Beilage Band 79 B, p. 385-403.

(*'Balanocrinus sundaicus* n.sp. and its...from the Early Miocene of Madura Island'. New crinoid species from blue-grey marls, collected by Weber near Bawarukem River, northern C Madura. Associated with *Miogypsina thecidaeformis*, *M. kotoi*, eulepidinid *Lepidocyclina*, *Katacycloclypeus* (= more likely Middle Miocene?; JTvG))

Wanner, J. & E. Hahn (1935)- Miocaene Mollusken aus der Landschaft Rembang (Java). Zeitschrift Deutschen Geol. Gesellschaft, Berlin, 87, 4, p. 222-273.

(*'Miocene molluscs from the Rembang area (Java)'*. Molluscs from area N and NNW of Bojonegoro (Sedan, Butak, Ngampel, Ngandong and Lodan). Mainly from M Miocene orbitoid-Cycloclypeus Lst (later called OK Limestone and Ngrayong Beds) and some from overlying *Globigerina* Marls series (later subdivided into Wonocolo, Ledok and *Globigerina* Marls Fms.). Wanner notes N to S facies changes. Richest mollusc localities on Dermawu-Mahindu and Gegunung anticlines. Molluscs mainly gastropods, 68 species, half of them new)

Wardhana, D.D., Kamtono & K.L. Gaol (2016)- Struktur tinggian di sub cekungan Majalengka berdasarkan metode gayaberat. J. Riset Geologi Pertambangan (LIPI) 26, 2, p. 85-99.

(online at: http://jrisetgeotam.com/index.php/jrisetgeotam/article/view/278/pdf_88)

(*'Structural highs in the Majalengka subbasin based on gravity method'*. Majalengka sub-basin in E part of Bogor Basin, NE of Bandung, covered by thick volcanic deposits, but with oil and gas seeps. Gravity model show NW-SE reverse faults and E-W and SW-NE shear faults. Depth of basement 2700-5000m. Kadipaten-Majalengka and Ujungjaya-Babakan Gebang structural highs may have hydrocarbon traps)

Warmada, I.W. (2006)- Karakteristik mineralogi dan proses pengendapan emas pada endapan emas-perak epitermal Gunung Pongkor, Jawa Barat. *Media Teknik* 28, 4, p. 32-36.
(*Pongkor epithermal gold-silver deposit in W Java largest low-sulfidation deposit on Java. Formed in Pliocene (2.05 Ma). More than nine subparallel quartz-adularia-carbonate veins. Formation T ~220°C*)

Warmada, I.W., B. Lehmann & M. Simandjuntak (2003)- Polymetallic sulfides and sulfosalts of the Pongkor epithermal gold-silver deposit, West Java, Indonesia. *The Canadian Mineralogist* 41, 1, p. 185-200.
(online at: http://rruff.info/doclib/cm/vol41/CM41_185.pdf)
(*Pongkor gold-silver deposit Pliocene age (2.05 Ma) and largest low-sulfidation epithermal precious-metal deposit in Indonesia. Nine major subparallel quartz-'adularia'-carbonate veins with low sulfide content. Sulfides dominated by pyrite, chalcopyrite, sphalerite, galena. Gold occurs as Au-Ag alloy and uyttenbogaardtite (Ag₃AuS₂)*)

Warmada, I.W., B. Lehmann, M. Simandjuntak & H.S. Hemes (2007)- Fluid inclusion, rare-earth element and stable isotope study of carbonate minerals from the Pongkor epithermal gold-silver deposit, West Java, Indonesia. *Resource Geology* 57, 2, p. 124-135.
(*Pongkor gold- silver deposit near Bayah, SW Java, is largest low-sulfidation epithermal metal deposit in Indonesia, and is of Late Pliocene age (2 Ma). Nine subparallel, ~N-S trending quartz -adularia -carbonate veins with low sulfide content. Fluid inclusions indicate temperatures of 180-220°C and meteoric water origin*)

Warmada, I.W., M.T. Soe, J. Sinomiya, L.D. Setijadji, A. Imai & K. Watanabe (2005)- Petrology and geochemistry of intrusive rocks from Selogiri area, Central Java, Indonesia. *Proc. 2nd Int. Symp. Earth Resources Engineering and Geological Engineering Education (SEED)*, Yogyakarta 2005, p. 163-169.
(online at: <http://warmada.staff.ugm.ac.id/Articles/petrology-geochem-slgr.pdf>)
(*Selogiri gold prospect in W part of S Mountains, C Java, porphyry copper-gold deposit, overprinted by low sulfidation epithermal gold quartz deposits. Intrusions dated as ~21.7 Ma (microdiorite; Jogmec) and ~12.5-11.9 Ma. Selogiri deposit formed during one or two intrusion periods, and short period of hydrothermal activities but did not create economic ore deposit*)

Warmada, I.W., I. Sudarno & D. Wijonarko (2008)- Geologi dan fasies batuan metamorf daerah Jiwo Barat, Bayat, Klaten, Jawa Tengah. *Media Teknik (UGM)* 30, 2, p. 113-118.
(*'Geology and facies of metamorphic rocks in the West Jiwo area, Bayat, C Java'. Bayat area with metamorphic rock outcrops, intruded by igneous rocks (mainly diabase dikes). Phyllite, schist, gneiss and meta-sandstone widespread, locally also glaucophane schist, serpentinite and amphibolite. Three main metamorphic facies: greenschist, blueschist with transition to glaucophane greenschist, and amphibolite facies. Interpreted protolith of metamorphic rocks was melange of mafic/ultramafic rocks, pelitic rocks, carbonates and quartz sandstones*)

Weeda, J. (1958)- Oil basins of East Java. In: L.G. Weeks (ed.) *Habitat of oil*, American Assoc. Petrol. Geol. (AAPG), Spec. Publ. 18, p. 1359-1364.
(*In E-W trending E Java Tertiary basin 132 MBO produced since 1888 from 20 fields. Thick Miocene section, folded into 2 E-W trending zones in Plio-Pleistocene. Bulk of oil produced from M Miocene Ngrayong Sst (this was before Cepu oilfield discovery in Oligo-Miocene Kujung Fm Limestone; JTvG). Three oil types: (1) asphaltic oil from shallow Lidah and Kruka fields S of Surabaya from Pliocene U Globigerina Fm; (2) rel. light paraffinic oil from Upper Rembang and Lower Wonocolo sands in Ledok and nearby fields, and (3) heavy paraffinic oil in M Miocene Ngrayong sst at Kawengan*)

White, J.V., A.N. Derewetzky, G.C. Geary, V.K. Hohensee, E.M. Johnstone, C. Liu, A.C. Pierce & J. Stevens (2007)- Temporal controls and resulting variations in Oligo-Miocene carbonates from the East Java Basin, Indonesia: examples from the Cepu area. *Proc. 31st Ann. Conv. Indon. Petroleum Assoc. (IPA)*, Jakarta, p. 549-559.
(*Five high-relief carbonate buildups drilled in Cepu area of E Java: Sukowati, Banyu Urip, Jambaran, Cendana and Kedung Tuban. Gross differences despite having all grown from a common, broad, probable E Oligocene carbonate platform. Timing of deposition of buildups established through robust (turns out to include bad*)

dates; JTVG) Strontium isotope dating program. Carbonate deposition on buildups progressively terminated through time from W to E)

Whitten, T., R.E. Soeriaatmadja & A.A. Suraya (1996)- The ecology of Java and Bali. The ecology of Indonesia Series II, Periplus Ed., Singapore, p. 1-968.

(Not much on geology)

Wibisono (1971)- Neogene planktonic foraminifera from Kawengan, East Java, Indonesia. Lemigas Scientific Contr. 1, 1, Jakarta, p. 1-69.

Wibowo, A.W., A. Prasetyo, W.A. Syukur, A.B. Mulyawan, E.A. Wibowo & H. Hadisaputro (2011)- Study of early-Mid Miocene carbonate facies and distribution: implications for exploration opportunities in southern Cipunegara sub-basin, North West Java basin, West Java. Proc. Joint 36th HAGI and 40th IAGI Ann. Conv., Makassar, JCM2011-013, 4p.

(Onshore NW Java Cipunegara Sub-basin with small E-M Miocene (Upper Cibulakan Fm, 'mid-Main') coral reefal buildups along W-E trend in S part of basin. Reef sizes between 4- 40 km² and 50-200m thick)

Wibowo, A.W., A. Pujiyanto, W. Hindadari, A.W. Soedjono & D.N. Susanti (2014)- Stratigraphic plays in active margin basin: fluvio-deltaic reservoir distribution in Ciputat half graben, Northwest Java Basin. AAPG Int. Conf. Exhib., Istanbul 2014, Search and Discovery Art.10656, 7p. *(Extended Abstract)*

(online at: http://www.searchanddiscovery.com/documents/2014/10656wibowo/ndx_wibowo.pdf)

(Oligocene synrift, 'pre-Talang Akar Fm' fluvio-deltaic clastic deposits in N-S trending Ciputat half-graben. Hydrocarbon-bearing in probable stratigraphic traps. Seismic attributes suggest N-S channel(s))

Wibowo, H. (2006)- Spatial data analysis and integration for regional-scale geothermal prospectivity mapping, West Java, Indonesia. M.Sc. Thesis Int. Inst. Geo-Information Science and Earth Observation (ITC), Enschede, p. 1-106.

(online at: www.itc.nl/library/papers_2006/msc/ereg/wibowo.pdf)

Wibowo, H.T., B.P. Istadi & W. Somantri (2012)- The structural geology at Lusi mud volcano, Indonesia. Proc. 41st Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 2012-GD-06, 5p.

(Lusi Mud volcano in Renokenongo village, Porong District, E Java, at E end of Kendeng Zone in S part of E Java inverted back-arc basin formed in Oligocene- E Miocene. Rapid deposition of thick organic rich sediment as part of Brantas delta. NE-SW fault can be interpreted as oblique-sinistral strike slip fault or NW-SE fault as dextral strike slip. Continuous topographical changes along active fault zone)

Wibowo, U.P. & R. Kapid (2014)- Biostratigrafi nannoplankton daerah Rajamandala. J. Geologi Sumberdaya Mineral 15, 4 (203), p. 185-194.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/57/59>)

('Nannoplankton biostratigraphy of the Rajamandala area'. Brief review of nannofossils from 26 samples of Eocene- Miocene of Rajamandala area. Not much detail on sample localities or stratigraphic succession)

Wicaksana, H.I., A. Kurniasih & H. Nugroho (2017)- Ichnofossils analysis from Selorejo Formation in Gadu and Temengeng stratigraphic section Sambong, Blora, Central Java. Proc. Joint Conv. HAGI-IAGI-IAFMI-IATMI (JCM 2017), Malang, 5p.

(Shallow marine trace fossil assemblages in Late Pliocene (N20-21) Selorejo Fm of NE Java)

Widagdo, A. (2008)- Fase-fase tektonik pembentuk ruang mineralisasi emas di daerah Selogiri- Wonogiri. Dinamika Rekayasa 4, 1, p. 23-29.

('Tectonic phases of gold mineralisation in the Selogiri- Wonogiri area'. Selogiri prospect with metallic minerals pyrite, chalcopyrite, galena, sphalerite, magnetite, ilmenite, gold, etc. Four extensional tectonic phases in the study area, with metal mineralization generated by epithermal processes filling ~N-S trending fractures formed during extensional phase II (E Miocene))

Widagdo, A. & S. Pramumijoyo (2004)- Tectonic phases of structural forming and its relationship with mineralization in Selogiri area, Wonigiri, Central Java. Proc 1st Int. Symposium on Earth Resources Engineering and Geological Engineering Education, Yogyakarta 2004, p. 25-28.

Widarmayana, I.W.A., N. Anggraini, N. Stephens & F. Musgrove (2014)- Banyu Urip and other Cepu Block fields- nucleation of early carbonate buildups into isolated platforms. Proc. 38th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA14-G-336, 12p.

(Cepu Block early carbonate growth in Rupelian in two main depositional environments, shallow water carbonate on horst blocks and deeper water carbonate in graben areas. Early carbonate mounds coalesced into larger carbonate platforms that then rapidly grew vertically to become Cepu Block oil-gas fields. Coalesced buildups tend to be located along larger fault systems, resulting in dominant ENE-WSW orientation of fields)

Widarto, D.S., E. Widiyanto, Sardjito, E. Purnomo & E. Biantoro (2009)- Gravity and magnetotelluric studies of the South Losari oil prospect, Central Java, Indonesia. Proc. 9th SEGJ Int. Symposium Imaging and interpretation, Sapporo, 4p.

(Gravity anomaly patterns suggest S Losari basement configuration controlled NW-SE trending Riedel shears and step-over splays, which subdivided study area in two depressions)

Widi, B.N. & H. Matsueda (1998)- Epithermal gold-silver tellurides-deposit of Cineam, Tasikmalaya District, West Java, Indonesia. Direct. Mineral Resources Indonesia, Spec. Publ. 96, p. 1-19.

Widiyanto, V., A. Priksawan, S.F. Yuflih, R. Kusumawardana, A. Angela, A. Subandrio & C. Prasetyadi (2016)- Ancient Oligo-Miocene volcanoes morphology affect on carbonate facies growth of Wonosari Formation in South East Java. Proc. GEOSEA XIV and 45th Ann. Conv. Indon. Assoc. Geologists (IAGI) (GIC 2016), Bandung, p. 638-644.

(E-M Miocene Wonosari Fm limestone in Gedangan and Blitar areas of SE Java developed on slopes of Mandalika island arc volcanoes, causing volcanoclastic sediment influx into shallow carbonate facies)

Widiyanto, E., D. Santoso, I.T. Taib & W.G.A. Kadir (2004)- Basin boundaries determination in West Java using 2-D gravity modeling. Majalah Geologi Indonesia (IAGI) 33, p. *(in Indonesian)*

Widiarto, F.X., J. Setyoko, H. Humaida & A. Zaennudin (2010)- Sidik jari hidrokarbon dalam lumpur Porong, Sidoarjo, Jawa Timur. Proc. 39th Conv. Indon. Assoc. Geol. (IAGI), Lombok, PIT-IAGI-2010-187, 22p.

(Hydrocarbon fingerprinting from Porong mud, Sidoarjo, East Java'. Well-documented paper on analysis of oil and gas traces from mud of LUSI mud eruption S of Surabaya. Oil biomarkers suggestive of restricted marine or lacustrine source. Gas non-associated gas from marine source rock, with variable amounts of CO₂)

Widijono, B.S. (2011)- Anomali gayaberat dan mendala tektonik Jawa Timur dan sekitarnya. J. Sumber Daya Geologi 21, 6, p. 321-333.

(Gravity anomalies and tectonic terrains of North Java and its surrounding area'. Tectonic zones of East Java well imaged by gravity anomalies. Southern mountains zone anomalies 100-130 mGal, Quaternary volcanoes zone 0-100 mGal, Kendeng Zone 0-40 mGal, Randublatung- Rembang Zone 0-25 mGal, North Java offshore 25-50 MGal)

Widijono, B.S. & B. Setyanta (2007)- Anomali gaya berat, kegempaan serta kelurusan struktur geologi daerah Jogjakarta dan sekitarnya. J. Sumber Daya Geologi 17, 2, p. 74-90.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/281/252>)

(Gravity anomalies, seismicity and geological structure lineaments of Yogyakarta and surrounding areas'. Gravity modelling indicate presence of strike slip, thrust and normal faults in basement and Tertiary rocks)

Widijono, B.S. & Subagio (2009)- Anomaly gaya berat sebagai salah satu petunjuk keterdapatan gejala struktur geologi daerah Jogjakarta dan sekitarnya. In: Proc. Workshop Geologi Pegunungan Selatan, Yogyakarta 2007, Pusat Survei Geologi, Bandung, Spec. Publ. 38, p. 105-122.

(Gravity anomalies and geological structure of Yogyakarta and surrounding areas)

Widiyantoro, S. (2003)- Constraints on upper mantle structure and seismicity beneath the Sunda Strait from teleseismic data. Proc. 32nd Ann. Conv. Indon. Assoc. Geol. (IAGI) and 28th HAGI Ann. Conv., Jakarta, 6p.
(Sunda Strait area of active extension, marking transition from oblique subduction along Sumatra to near-perpendicular subduction along Java. Seismic tomography and seismicity pattern under Krakatau suggest (1) mantle plume ascending toward Krakatau volcano; and (2) columnar cluster of earthquakes below Krakatau trending almost vertically from Wadati-Benioff zone)

Widiyantoro, S. (2006)- Learning from the May 27, 2006 Yogya-Central Java destructive earthquake. Proc. 31st HAGI Ann. Conv., Semarang 2006, 5p. *(Extended abstract)*.
(Shear-wave seismic tomograms to explore buried structural features beneath Java. S-wave tomographic model suggests buried fault also exists below E Java)

Widiyantoro, S., H. Harjono, F. Lianto, Fauzi & Wandono (2004)- Seismisitas dan struktur kecepatan gelombang seismik di sepanjang Pulau Jawa. Proc. Ann. Conv. Indon. Assoc. Geoph. (HAGI), Yogyakarta, p.
(‘Seismicity and velocity structure along Java island’. Changes in seismic wave properties of subducting slab in E-W direction across Java and seismic gap below Central Java region)

Widiyantoro, S., Z. Zulhan, A. Martha, E. Saygin, P. Cummins, A.D. Nugraha & I. Meilano (2015)- Towards crustal structure of Java Island (Sunda Arc) from ambient seismic noise tomography. EGU General Assembly, Vienna 2015. *(Poster)*
(P- and S-wave tomography velocity model under Java from ambient seismic noise. Area of low gravity beneath Kendeng zone associated with low velocity zone. Southern Mountain range high gravity anomaly related to high velocity anomaly)

Widyastuti, S., Abdurrokhim & Y.A Sendjaja (2016)- Asal sedimen batupasir Formasi Jatiluhur dan Formasi Cantayan daerah Tanjungsari dan sekitarnya, Kecamatan Cariu, Kabupaten Bogor, Provinsi Jawa Barat. Bull. Scientific Contr. (UNPAD) 14, 1, p. 25-32.
(online at: <http://jurnal.unpad.ac.id/bsc/article/view/9813/pdf>)
(‘Provenance of the Jatiluhur and Cantayan Fm sandstones in the Tanjungsari and surrounding area, Cariu district, Bogor, W Java’. M-L Miocene sandstones in Bogor Trough: (1) Jatiluhur Fm (feldspathic wacke, derived from plutonic igneous rock, from Dissected Arc terrane) and Cantayan Fm (lithic arenite, derived from volcanic rock, from Transitional Arc- Undissected Arc terrane). Both units derived from magmatic arc terrane)

Wiedicke, M., H. Sahling, G. Delisle, E. Faber, S. Neben et al. (2002)- Characteristics of an active vent in the fore-arc basin of the Sunda Arc, Indonesia. Marine Geology 184, p. 121-141.
(Fluid venting at anticlinal structure at ~2910m water depth in forearc basin SW of Java, with water methane anomalies, elevated heat flow, vent-macrofauna (tube worms, bivalve Acharax), carbonate precipitation at sea floor and methane- rich pore fluids in sediment. Bottom-simulating reflectors (BSR) rise steeply towards vent, and lack of BSR below vent suggests perforation of hydrate-stability zone. Position on structure linked to oblique subduction suggests venting may be common along compressional /transpressional zones (Ujung Kulon FZ, Mentawai FZ) in NW fore arc of Sunda margin)

Wiedicke, M. & W. Weiss (2006)- Stable carbon isotope records of carbonates tracing fossil seep activity off Indonesia. Geochem. Geophys. Geosystems 7, 11, Q11009, 22p.
(Stable isotopes of carbonates in 20m long sediment cores from 1690-2995 m water depth in forearc basin off SW Java (Ujung Kulon) and SW Sumatra (Bengkulu) display significant 13C depletion, interpreted to be caused by methane seepage and associated authigenic carbonate precipitation near seafloor. Seep activity most intense between 3-7 kyr B.P. and 27-33 kyr B.P. Probable tectonic control of seepage. Benthic foram infauna at seep sites dominated by 5 species: Chilostomella oolina, Globobulimina pacifica, Hoeglundina elegans, Uvigerina peregrina and Bulimina striata. Epifauna mainly Pyrgo murrhina, Oridorsalis umbonatus, Cibicidoides wuellerstorfi and Sigmoidinopsis schlumbergeri)

Wijayanti, H.D.K., O. Verdiansyah, M.I. Novian, N.I. Setiawan & K. Rohman (2016)- Protolith of Joko Tuo Marble, Bayat, Central Java; contribution to paleoenvironment and age of metamorphic rock. Proc. GEOSEA XIV and 45th Ann. Conv. Indon. Assoc. Geologists (IAGI) (GIC 2016), Bandung, p. 319-322.

(Low-metamorphic marble and phyllite form basement outcrop in Joko Tuo area, E Jiwo Hills, C Java. Presence of marble blocks and well-preserved mid-Cretaceous larger foram Orbitolina sp. in foliated chlorite-biotite-graphite)

Wijono, S. (1987)- Hubungan beberapa parameter sedimen dengan populasi foraminifera bentonik pada Formasi Ledok, Jalur Kedung Planangan, Kab. Blora, Jawa Tengah. Proc. 16th Ann. Conv. Indon. Assoc. Geol. (IAGI), p.

(Relations between some sediment parameters and the benthic foraminifera population in the Ledok Formation, Kedung Planangan, Blora district, C Java)

Willumsen, P. & D.M. Schiller (1994)- High-quality volcanoclastic sandstone reservoirs in East Java, Indonesia. Proc. 23rd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 101-118.

(Late Pliocene-Pleistocene volcanoclastic reservoirs in 1993 Porong 1 and WD 8 wells and in outcrops good reservoir qualities)

Wiloso, D.A., B.W. Seubert, E.A. Subroto & E. Hermanto (2008)- Studi batuan induk hidrokarbon di cekungan Jawa Timur Bagian Barat. Proc. 37th Conv. Indon. Assoc. Geol. (IAGI), Bandung, 1, p. 476-489.

(Study of hydrocarbon source rocks in the W part of the E Java basin'. Eocene Ngimbang clastics Fm in Rembang-1 good source rock richness, early mature, and potential to produce oil and gas from Types II and III kerogen. C27-C28-C29 ternary plots from four oil seeps and source rock from three wells show correlation between oil from terrestrial source and Ngimbang clastics Fm)

Wiloso, D.A., E.A. Subroto & E. Hermanto (2009)- Confirmation of the Paleogene source rocks in the Northeast Java Basin, Indonesia, based from petroleum geochemistry. AAPG Int. Conf. Exhib., Cape Town 2008, Search and Discovery Art. 10195, 33p. *(Abstract + Presentation)*

(online at: www.searchanddiscovery.net/documents/2009/10195wiloso/images/wiloso.pdf)

(Geochemical analyses of sediments from 5 exploration wells (incl. Rembang 1, Padi-1), and four oil seeps indicate correlation between oils and thermally mature, organic-rich Late Eocene Ngimbang Fm)

Winardi, S., B. Toha, M. Imron & D.H. Amijaya (2010)- The potency of Nanggulan Formation shale as hydrocarbon source rock. Proc. 39th Ann. Conv. Indon. Assoc. Geol. (IAGI), Lombok, PIT-IAGI-2010-310, 13p.

(In W Indonesia Eocene shale generally considered as potential source rock. 11 samples of Eocene Nanggulan Fm shale with Nummulites and Discocyclina, outcropping at Nanggulan/ Kulonprogo 25 km W of Yogya, analyzed. Seven samples TOC >1%. Kerogen type III amorphous-humic. Maturity level of samples immature (highest Ro 0.39%, Tmax 422°C and TAI 2). At higher levels of maturity Nanggulan Fm shale has source rock potential. In adjacent Yogyakarta Low Nanggulan Fm modeled to be late mature, generating gas since 0.4 Ma)

Winardi, S., B. Toha, M. Imron & D.H. Amijaya (2013)- The potential of Eocene shale of Nanggulan Formation as a hydrocarbon source rock. J. Geologi Indonesia 8, 1, p. 13-23.

(online at: <http://ijog.bgl.esdm.go.id/index.php/IJOG/article/view/152/152>)

(Similar to Winardi et al. (2010) paper)

Wirasantosa, S. & K. Karta (1995)- Seismic reflection study of a fore-arc basin and accretionary prism South of West Java. In: J. Ringis (ed.) Proc. 31st Sess. Comm. Co-ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Kuala Lumpur 1994, 2, p. 261-266.

(Single channel seismic profiles off SW Java. Fore-arc basins with 0.2- >1.5 sec of sediment, with two sequences separated by Late Miocene unconformity. Fore-arc sediments normally faulted adjacent to Sunda Strait and Pelabuhan Ratu Bay)

- Witkamp, H. (1916)- De kalkbergen van Koeripan. Tijdschrift Kon. Nederlands Aardrijkskundig Genootschap 33, 3, p. 417-423.
(*The limestone mountains of Kuripan'. Group of three 30m high limestone hills near Ciseeng, W of Parung, W Java are sinter cones formed by hot spring activity*)
- Witkamp, H. (1939)- Een voorkomen van granodioriet in Zuid-Priangan. Tijdschrift Kon. Nederlands Aardrijkskundig Genootschap (2) 56, p. 638-653.
(*An occurrence of granodiorite in South Preanger', SW Java. Along Tjilajoe (Cilayu) River, 60km S of Bandung*)
- Wiyoga, S.A. & N.I. Basuki (2010)- A microfacies study of carbonate rocks of the Citarate Formation, Cilograng Area, Lebak District, Banten. Proc. 34rd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA10-SG-029, 7p.
(*Outcrop study of ~180m thick Early Miocene Citarate Fm limestone 10 km NW of Pelabuhan Ratu*)
- Wiyoga, S.A. & N.I. Basuki (2010)- Diagenetic pattern in the Citarate carbonate rocks, Cilograng area, Lebak District, Banten. Proc. 39th Ann. Conv. Indon. Assoc. Geol. (IAGI), Lombok, 8p.
(*E Miocene Citarate Fm limestones 10 km NW of Pelabuhan Ratu. Regional M Miocene deformation formed NNE-WSW trending faults and E-W folds. Diagenesis include early marine cementation by fibrous aragonite, compaction, aragonite dissolution, precipitation of equant-grained calcite cement in phreatic environment, dissolution to form moldic porosities, dolomitization, formation of stylolites and fractures, and precipitation of late ferroan calcite during burial*)
- Wiyono, J., F. Rakhmanto, F. Andriyani, A. Susilo & A.M. Masdar (2007)- Characterization of carbonate reservoir at $\delta X\delta$ Field using attribute and seismic inversion: examples from the Cepu area. Proc. 31st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, SG-12, p. 1-11.
(*Seismicinterpretation study of X Field (= Sukowati Field; JTvG). In Kujung Fm carbonate buildup, Tuban Block, NE Java basin*)
- Wolbern, I. & G. Rumpker (2016)- Crustal thickness beneath Central and East Java (Indonesia) inferred from P receiver functions. J. Asian Earth Sci. 115, 1, p. 69-79.
(*Earthquake data recorded in C and E Java suggests average crustal thickness of ~34 km. Support for presence of ophiolitic basement in center of island related to Meratus suture zone comes from shallowing of Moho to ~30 km (or less) under Kendeng zone, while to N and W Moho at anomalous depths to 39 km. Observed thick anomalies W and NW of Kendeng zone line up along hypothetical boundary between continental SW Borneo fragment and Meratus suture and may indicate crustal thickening caused by overthrusting in former collision zone. No clear evidence for postulated Muria-Progo lineament*)
- Woolfolk, E.R. & D.N. Tit (1939)- Geological report on the oil possibilities of the Banjoemas and Kedoe districts, South Central Java. Geological Survey, Bandung, Open File report E39-57, 13p.
(*Stanvac 1938 survey report. Ten anticlines mapped in marine Tertiary section in S Central Java. Two main volcanic breccia horizons and several unconformities. No surface oil or gas seeps encountered*)
- Wu, C.Q., Z.W. Zhang, C.F. Zheng & J.H. Yao (2014)- Mid-Miocene (~17 Ma) quartz diorite porphyry in Ciemas, West Java, Indonesia, and its geological significance. Int. Geology Review 57, 9-10, p. 1294-1304.
(*Miocene quartz diorite porphyry from Ciemas area, SW Java, belongs to calc-alkaline-high K calc-alkaline series and formed by M Miocene arc magmatism. Porphyry, dacite and andesite rocks similar compositions. Zircon ages of andesite, amphibolic tuff breccia and quartz diorite porphyry 17.5, 16.9 and 17.1 Ma*)
- Yabe, H. & K. Asano (1937)- Contributions to the paleontology of the Tertiary formations of West Java. Part I. Minute foraminifera from the Neogene of West Java. Science Reports Tohoku Imperial University, Ser. 2 (Geol.) 19, p. 87-127.
(*online at: [http://ci.nii.ac.jp/els/...](http://ci.nii.ac.jp/els/)*)

(Shallow marine benthic foraminifera from samples collected by Chitani in 1935 in M Miocene- Pliocene, in Banten and Bogor areas. With stratigraphic columns of NW Java Mio-Pliocene. No locality details)

Yabe, H. & K. Asano (1937)- New occurrence of *Rotaliatina* in the Pliocene of Java. *Chishitsugaku Zasshi* (= *J. Geol. Soc. Japan*) 44, 523, p. 326-328.

(online at: www.jstage.jst.go.jp/article/geosoc1893/44/523/44_523_326/_pdf)

*(Brief note describing new Pliocene rotalid foram species from Bojong and Cilegong, Banten, W Java. Derived from *Rotalia schroeteriana* and named *Rotaliatina globosa* (now assigned to *Asanoina* Finlay 1961))*

Yabe, H. & M. Eguchi (1941)- On some simple corals from the Neogene of Java. *Proc. Imperial Academy (Japan)* 17, 7, p. 269-273.

(online at: https://www.jstage.jst.go.jp/article/pjab1912/17/7/17_7_269/_pdf)

*(Description of small Miocene and Pliocene corals (*Heterocyathus*, *Fungia*), collected by Chitani in Banten and Bogor areas, W Java)*

Yaman, F., T. Ambismar & T. Bukhari (1991)- Gas exploration in Parigi and pre-Parigi carbonate buildups, NW Java Sea. *Proc. 20th Ann. Conv. Indon. Petroleum Assoc. (IPA)*, Jakarta, 1, p. 319-346.

(M Miocene Parigi and Pre-Parigi buildups with large quantities of gas. Reservoirs uniformly distributed vugular, mouldic and intragranular porosity. Gas is dry, interpreted to be thermogenic and sourced from deeper Talang Akar shales and coals. Migration of gas through vertical fault migration from Talang Akar into higher sections. Absence of oil implies heavier hydrocarbon fractions either stripped during migration or prevented from accumulating in buildups due to presence of earlier migrated gas)

Yang, F.Z., L. Luo, D. Jia, H.Q. Zhu, L. Wu & X. Li (2011)- Cenozoic tectonic evolution of the East Java Basin, Indonesia. *Acta Metallurgica Sinica* 17, 2, p. 240-248.

(online at: <http://geology.nju.edu.cn/EN/abstract/abstract9358.shtml>)

(In Chinese, with English summary. E Java Basin two rift phases and two compressional events. Eocene back-arc rifting basin resulted from N-ward subduction of Indo-Australian plate under Sundaland. Subduction changed direction to NE-SW in Oligocene, inducing 2nd phase of E-W extension and rifting. Collision of Roo Rise ocean plateau, S of E Java, at ~15 Ma caused inversion structures and formation of major oil traps. Part of Australian continental slope collided with Banda Arc at ~3.5-2 Ma, causing 2nd phase of compressional deformation in basin)

Yohanes, M.P. Koesoemo & Soejono Martodjojo (1993)- Sea level changes and tectonism, causes and responses between stable Rembang and active Kendeng zones. *Proc. 22nd Ann. Conv. Indon. Assoc. Geol. (IAGI)*, Bandung, 1, p. 135-.

Yohanes, M.P. Koesoemo (1998)- Sikuen stratigrafi dan potensi reservoir air beryodium di Zona Kendeng bagian Timur, Cekungan Jawa Timur Utara. *Proc. 27th Ann. Conv. Indon. Assoc. Geol. (IAGI)*, 2 (Sed. Pal. Strat.), Yogyakarta, p. 159-173.

('Sequence stratigraphy and iodine water reservoir potential of the East Kendeng zone, NE Java basin'. Study of Pleistocene Pucangan- Kabuh Fms in anticlinal structure ~6-8 km WNW of Mojokerto. Pleistocene folded, turbiditic Pucangan Fm and fluvial Kabuh Fm with iodine-bearing water (exploited by PT Kimia Farma wells at Watudakon). With gas seep at Bekucuk village)

Yokoyama, I., Surjo & B. Nazhar (1970)- Volcanological survey of Indonesian volcanoes, Part 4, A gravity survey in Central Java. *Tokyo University Earthquake Res. Inst. Bull.* 48, 2, p. 303-315.

Yulianto, I., R. Hall, B. Clements & C. Elders (2007)- Structural and stratigraphic evolution of the offshore Malingping Block, West Java, Indonesia. *Proc. 31st Ann. Conv. Indon. Petroleum Assoc., IPA07-G-036*, 13p.

(SW Java offshore Malingping Block series of extensional basins and highs, from W to E: Ujungkulon High, Ujungkulon Low, Honje High, W Malingping Low. Three major structural trends. Late Eocene movement on W-dipping NNE-SSW normal faults formed Ujungkulon Low. NE-SW faults parallel to Cretaceous subduction margin in Java interpreted as interaction between E-W extension and basement fabric. In shelf edge area, E-W

trending normal faults active in Late Eocene and Early Oligocene. Reefal limestone build-ups on highs in Late Oligocene- E Miocene. E Miocene movements on E-dipping faults created full-graben geometry of Ujungkulon Low. E Miocene volcanism suggested to have terminated carbonate deposition. Minor inversion in E Miocene but little other evidence for contraction. Major Late Pliocene uplift period, resulting in regional unconformity, followed by renewed subsidence)

Yulianto, M.N., R. Galena & C. Prasetyadi (2011)- Karakteristik sesar Anjak dan pemodelan struktur geologi menggunakan metode Balances cross section daerah Kedungjati, Jawa Tengah (Kendeng Barat) dan daerah Ngawi, Jawa Timur (Kendeng Timur). Proc. Joint. 36th HAGI and 40th IAGI Ann. Conv., Makassar, JCM2011-1305, 11p.

(Structure restoration in W and E Kendeng zones near Kedungjati and Ngawi, C-E Java)

Yulianto, B. (1993)- Lembah torehan Miosen Atas dan perenannya dalam terbentuknya perangkap stratigrafi di daerah Cepu dan sekitarnya. Proc. 22nd Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, p. 770-780.

(‘The Upper Miocene incised valley and its role in the formation of stratigraphic traps in the Cepu area and surroundings’. Cepu area M-U Miocene sequence stratigraphy. Seismic evidence for N-S trending incised valley(s) at Late Miocene Ledok Fm level and sand-rich section in Kawengan field)

Yulianto, B., B. Situmorang & L. Sriwahyuni (1994)- Peranan tektonik tarikan pada perkembangan runtunan pengendapan Tersier di bagian Barat Kawasan daratan cekungan Jawa Timur Utara. Proc. 23rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, 1, p. 123-132.

(‘The role of extensional tectonics on the development of Tertiary depositional sequence in the western part of the onshore NE Java Basin. Oligocene- E Miocene extensional phase created NE-SW trending half-grabens. Second extensional phase in M Miocene. Late Pliocene basin inversion, NE-SW wrench faults and regional uplift)

Yulianto, B., S. Sofyan & S. Musliki (1995)- Miocene- Pliocene Northeast Java Basin sequence stratigraphy. Int. Symposium Sequence Stratigraphy in SE Asia, Post-symposium fieldtrip, Indon. Petroleum Assoc. (IPA), p. 1-65.

(Outcrops of mainly Miocene clastics around Semarang, Cepu, Kendeng zone)

Yuniarni, R. (2014)- Karakteristik petrologi dan geokimia ofiolit Cikepuh, Kabupaten Sukabumi, Jawa Barat. Proc. 43rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, PIT IAGI 2014-067, 17p.

(‘Geochemical and petrologic characteristics of Cikepuh ophiolite, Sukabumi District, W Java’. Ultramafic rocks in Cikepuh River at Cibenda Village, Ciemas Subdistrict, SW Java, part of ophiolite complex. In outcrop mainly as blocks up to dozen meters in base of flaky clays, i.e. in melange, thrust over continental I metamorphic and sedimentary rocks. Petrology characteristic of Mid Oceanic Ridge. Also radiolarian chert and basalt in area. Ophiolite rocks within tholeiite series, sourced from upper mantle with low Neubium (Nb; 0.07 and 6.11 ppm)

Yuningsih, E.T. (2011)- Compositional variations of Au-Ag Telluride minerals of Arinem deposit, West Java. J. Sumber Daya Geologi 21, 3, p. 151-161.

(online at: <http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/142/139>)

(Epithermal gold-silver veins in Arinem area S of Papandayan volcano in SW Java contain Te bearing minerals (hessite (Ag Te), petzite (Ag Au Te), stutzite (Ag Te), tetradymite (Bi Te S), altaite (Pb Te))

Yuningsih, E.T. (2016)- Host rock and mineralized ores geochemistry of Arinem vein, Arinem deposit, West Java- Indonesia. Bull. Scientific Contr. (UNPAD) 14, 2, p. 205-222.

(online at: <http://jurnal.unpad.ac.id/bsc/article/view/9813/pdf>)

Yuningsih, E.T. & H. Matsueda (2014)- Genesis and origin of Te-bearing gold-silver-base metal mineralization of the Arinem deposit in western Java, Indonesia. J. Mineralogical Petrological Sci. 109, p. 49-61.

(online at: https://www.jstage.jst.go.jp/article/jmps/109/2/109_130118a/_pdf)

(Arinem epithermal gold-silver-base metal deposit near SW Java coast S of Bandung hosted by Arinem vein system which cuts Late Oligocene- M Miocene volcanic rocks. M Miocene quartz diorite-andesitic intrusions most likely source of metals. Three main stages of ore mineralization in quartz-illite-calcite veining)

Yuningsih, E.T. & H. Matsueda & M.F. Rosana (2014)- Epithermal gold-silver deposits in Western Java, Indonesia: gold-silver selenide-telluride mineralization. Indonesian J. Geoscience 1, 2, p. 71-81.

(online at: <http://ijog.bgl.esdm.go.id/index.php/IJOG/article/view/180/177>)

(Gold-silver ores of W Java reflect major Mio-Pliocene metallogenic event. Two types of mineralization: W-most W Java (Pongkor, Cibaliung, Cikidang, Cirotan, etc. dominated by silver-arsenic-antimony sulfosalt, E part of W Java (Arinem, Cineam) dominated by silver-gold tellurides)

Yuningsih, E.T. & H. Matsueda & M.F. Rosana (2016)- Diagnostic genesis features of Au-Ag selenide-telluride mineralization of Western Java deposits. Indonesian J. Geoscience 3, 1, p. 71-81.

(online at: <https://ijog.geologi.esdm.go.id/index.php/IJOG/article/view/246/206>)

(Ore mineralogy of westernmost part of W Java (Pongkor, Cibaliung, Cikidang, Cikotok and Cirotan) characterized by dominance of silver-arsenic-antimony sulfosalt with silver selenides and rarely tellurides over argentite, whereas E part of W Java (Arinem and Cineam) deposits dominated by silver-gold tellurides)

Yuningsih, E., H. Matsueda, E.P. Setyaraharja & M.F. Rosana (2012)- The Arinem Te-Bearing gold-silver-base metal deposit, West Java, Indonesia. Resource Geology 62, p. 140-158.

(Arinem area, SW Java, Late Miocene (8.8–9.4 Ma) gold-silver-base metal vein system. Arinem vein hosted by Latest Oligocene-M Miocene Jampang Fm (23-11.6 Ma) andesitic volcanics and overlain unconformably by Pliocene-Pleistocene andesitic-basaltic volcanics)

Yuwono, F.S. & Akmaluddin (2015)- Biostratigrafi nanofosil gampingan Formasi Kepek jalur Sungai Rambutan, Kec. Paliyan, Kab. Gunungkidul, Daerah Istimewa Yogyakarta. Pros. Seminar Nasional Kebumihan 8, Jurusan Teknik Geologi, Universitas Gadjah Mada, Yogyakarta, p. 391-399.

(online at: <https://repository.ugm.ac.id/135459/1/...>)

('Calcareous nannofossil biostratigraphy of the Kepek Formation in the Sungai Rambutan section, Kec. Paliyan, Gunungkidul, Yogyakarta Special Area'. Kepek Fm 55m thick and youngest formation of Java Southern Mountains stratigraphy. First appearances of Discoaster asymmetricus and Pseudoemiliana lacunosa allow subdivision into 3 biozones: Sphenolithus neoabies (NN 13), Discoaster asymmetricus (NN 14) and Pseudoemiliana lacunosa (NN 15), of E Pliocene age (~5.1- 3.8 Ma). Equivalent to N19 planktonic foram zone)

Yuwono, N.T. (1992)- Fasies batugamping terumbu Formasi Paciran, Rembang, Tuban, Jawa Timur. Proc. 21st Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 2, p. 487-506.

('Reefal limestone facies of the Paciran Formation, Rembang, Tuban, East Java'. Plio-Pleistocene (and latest Miocene?) carbonate platform, NE Java, locally equivalent/interfingering with Mundu-Lidah Fms)

Yuwono, N.T. & Suratman (1990)- Aspek stratigrafi dan petrografi endapan turbidit (studi kasus: Formasi Kerek dan Anggota Banyak daerah Kedungjati, Jawa Tengah. Proc.19th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 1, p. 149-174.

('Stratigraphic and petrographic aspects of turbidite deposits (case study: Kerek Formation and Banyak Members in the Kedungjati area, Central Java'. M-LMiocene submarine fan deposits with tuffaceous sandstones SE of Semarang. Kerek Fm ~1300m thick claystones tuffaceous sandstone planktonic foram zones N13-N16, overlain by Late Miocene Banyak Fm >720m thick debris flow sandstones with slumped beds in upper fan setting, zones N17-N18. Sands lithic graywackes with >25% lithics, mainly andesitic volcanics)

Yuwono, Y.S. (1987)- Contribution a l'etude du volcanisme potassique de l'Indonesie. Exemples du sud-ouest de Sulawesi et du volcan Muria (Java): Ph.D. Thesis, Universite de Bretagne Occidentale, vol. 1, p. 1-285 and vol. 2, p. 1-158. *(Unpublished)*.

('Contribution to the study of potassic volcanism of Indonesia; examples from SW Sulawesi and Muria volcano (Java)')

- Yuwono, Y.S. (1997)- The occurrence of submarine arc-volcanism in the accretionary complex of the Luk Ulo Area, Central Java. *Buletin Geologi (ITB)* 27, 1, p. 15-25.
(*Eocene tholeiitic island arc volcanics at Karangsembung area*)
- Zacchello, M. (1984)- The Eocene mollusc fauna from Nanggulan (Java) and its palaeogeographic bearing. *Memorie Scienze Geol., Padova*, 36, p. 377-390.
- Zacchello, M. (2001)- The Eocene stratigraphic sequence of Nanggulan and the levels reported by K. Martin. *Memorie Scienze Geol., Padova*, 53, p. 49-53.
(*M Eocene Nanggulan Fm of C Java ~300m thick and subdivided into ten levels. Lowest level NG1 with lignite, without marine fauna, overlain by deeping-upward facies clastic succession. With listings of molluscs species and comparison to the 21-level stratigraphy of Oppenoorth & Gerth (1929)*)
- Zainudin, A. & D.H. Amijaya (2016)- Hubungan kekerabatan minyak bumi pada antiklin Gabus di daerah Grobogan dan antiklin Kawengan di daerah Bojonegoro, Cekungan Jawa Timur Utara berdasarkan data biomarker. In: R. Hidayat et al. (eds.) *Proc. 9th Seminar Nasional Kebumihan*, Dept. Teknik Geologi, Gadjah Mada University, Yogyakarta, p. 139-148.
(*online at: <https://repository.ugm.ac.id/273483/>*)
(*'The relationship of oils from the Gabus anticline in Grobogan and Kawengan anticline in the Bojonegoro area, NE Java Basin based on biomarker data'. Oils from Gabus (Ledok Fm) and Kawengan (Wonocolo Fm and Ngryong Fm) anticlines are related. API Gravity 24-30 °API, viscosity 2034-71 mm²/ s. Pr /Ph ratio 5.48-11.54, suggesting non-marine rocks with terrestrial Type III kerogen (high land plants. Some biodegradation)*)
- Zamparini, M. (2001)- Some molluscs and foraminifers from the Eocene-Oligocene of Nanggulan (Java, Indonesia). *Memorie Scienze Geol., Padova*, 53, p. 54-56.
- Zeiza, A., F. Hakiki, F. Musgrove, I. Kerscher, I. Maura & S. Wertanen (2016)- Effects of pervasive hydrothermal dissolution on the giant Banyu Urip Field. *Proc. 40th Ann. Conv. Indon. Petroleum Assoc. (IPA)*, Jakarta, IPA16-G-585, 12p.
(*Development drilling campaign in Banyu Urip field, Cepu Block, E Java confirmed most predictions of carbonate reservoir, except well-test derived average permeabilities and productivity higher than predicted. Overlying deep water sand units nearly perfectly pressure connected and of high quality. More fracture swarms in tight drowning cap facies than in higher porosity Platform Interior Dissolution occurred millions of years after carbonates deposition and drowning as result of hydrothermal fluids*)
- Zeiza, A., N. Stephens & P. Glenton (2017)- A novel approach to the Banyu Urip 3D geologic model update. *Proc. 41st Ann. Conv. Indon. Petroleum Assoc. (IPA)*, Jakarta, IPA17-546-G, 13p.
(*Updated geologic model of Oligo-Miocene carbonate and clastic reservoirs of Banyu Urip oil-gas field, Cepu Block, E Java. 46 wells drilled. Permeability from logs higher than core-based (matrix) permeability. Best quality reservoir in platform-interior zones (av. porosity 26%). Drowning-cap dominated by deeper water facies with av. porosity ~15%. Margin zones cemented, recrystallized and rel. tight (av. porosity 9%)*)
- Zeiza, A.D., H. Tanjung, K.P. Laya & W.A. Ramadhan (2007)- Carbonate mound deposit of Gunung Bodas, Bogor as part of analogue model for prospective mud mound hydrocarbon reservoirs in Miocene carbonates. *Proc. 31st Ann. Conv. Indon. Petroleum Assoc. (IPA)*, Jakarta, IPA07-SG-001, 6p.
(*Gunung Bodas limestone hill in Bogor zone in Limestone member of M Miocene Bojongmanik Fm. Three major carbonate facies: massive coral-algal reef, back reef and mound facies*)
- Zeiza, A., S. Van Simaey, F. Musgrove, R. Sekti & F. Hakiki (2012)- The impact of differential subsidence rates in shallow water carbonate reservoir quality: an example from the East Java Basin, Indonesia. *Proc. 36th Ann. Conv. Indon. Petroleum Assoc. (IPA)*, Jakarta, IPA12-G-026, p. 1-13.
(*Carbonate reservoir quality in Cepu fields better in Miocene than in Oligocene. Diagenetic leaching controls reservoir quality. Reservoir quality correlated to subsidence rates: high rates in U Oligocene and U Burdigalian meant less time for fresh water lens to leach carbonates and enhance reservoir quality*)

Zhang, Z., C. Wu, X. Yang, C. Zheng & J. Yao (2015)- The trinity pattern of Au deposits with porphyry, quartz-sulfide vein and structurally-controlled alteration rocks in Ciemas, West Java, Indonesia. *Ore Geology Reviews* 64, p. 152-171.

(Ciemas ore deposit in SW Java associated with E Miocene andesite, dacite and quartz diorite. Host rocks zircon ages ~17.1- 17.5 Ma. Au deposition primarily during late magmatic activity and belongs to metallogenic system from porphyry to epithermal type)

Zheng, C., Z. Zhang, C. Wu & J. Yao (2014)- Sulfur isotope composition of Ciemas gold deposit in West Java, Indonesia. *Acta Geologica Sinica (English Ed.)* 88, Suppl. 2, p. 852-853. *(Abstract)*

(Ciemas Miocene high sulphidation epithermal deposit in Sukabumi province, W Java. Sulfur isotopes uniform and small positive $\delta^{34}\text{S}$ values, suggesting magmatic origin mixture of mantle-type and slab-derived sedimentary components)

Zheng, C., Z. Zhang, C. Wu & J. Yao (2017)- Genesis of the Ciemas gold deposit and relationship with epithermal deposits in West Java, Indonesia: constraints from fluid inclusions and stable isotopes. *Acta Geologica Sinica (English Ed.)* 91, 3, p. 1025-1040.

(Two volcanic belts in West Java: (1) late Miocene- Pliocene belt, generating Pliocene-Pleistocene epithermal deposits; (2) late Eocene- E Miocene belt generating Miocene epithermal deposits. Data from Ciemas gold deposit E of Ciletuh Bay (hosted in 'Old Andesites') indicate mixing of magmatic fluid with meteoric water. Miocene epithermal ore deposits in S part of West Java more affected by magmatic fluids and higher degree of sulfidation than those of Pliocene-Pleistocene)

Ziegler, K.G.J. (1918)- Kort bericht over het voorkomen van een granietgesteente in het stroomgebied van de Tji Hara, District Tji Langkahan, Afdeeling Lebak, Residentie Bantam. *Jaarboek Mijnwezen Nederlandsch Oost-Indie* 45 (1916), Verhandelingen 2, p. 48-54.

(Brief report on the occurrence of granitic rock on Java, along Cihara River, S Banten, SW Java. Interpreted as Neogene intrusive into Eocene sediments)

Ziegler, K.G.J. (1920)- Verslag over de uitkomsten van mijnbouw-geologische onderzoekingen in Zuid Bantam. *Jaarboek Mijnwezen Nederlandsch Oost-Indie* 47 (1918), Verhandelingen 1, p. 40-140.

(Report on the results of mining geological investigations in South Bantam'. Mainly on Eocene coal fields Bojongmanik, Bayah, Cimandiri. With descriptions of minor oil seeps)

Zulfakriza, Z., E. Saygin, P.R. Cummins, S.Widiyantoro, A.D. Nugraha, B.G. Luhr & T. Bodin (2014)- Upper crustal structure of Central Java, Indonesia, from transdimensional seismic ambient noise tomography. *Geophysical J. Int.* 197, 1, p. 630-635.

(online at: http://seismo.berkeley.edu/~thomas/Publi/GJI_Java2.pdf)

(Ambient Noise Tomography collected during Merapi Amphibious Experiment in C Java in 2004. Tomographic images show shallow structures not evident in previous studies. Strong negative velocity under volcanic arc and Kendeng basin, surrounded by relatively high group velocities that may represent crustal blocks accreted to Sundaland core in Late Cretaceous)

Zulkarnain, I., E.T. Sumarnadi & R. Handoyo (1995)- Karakterisasi batuan serpentinit Karangsembung, Jawa Tengah sebagai bahan baku refraktori. In: Y. Kumoro et al. (eds.) *Proc. Seminar Sehari Geoteknologi dalam industrialisasi, Hasil-hasil Penelitian Puslitbang Geoteknologi LIPI*, p. 218-228.

(Characterization of serpentinite rock of Karangsembung, Central Java, as refractory raw materials')

Zwierzycki, J. (1935)- Geologische beschrijving der petroleumterreinen van Java. *Indonesia Geol. Survey Bandung, Open File Report E35-13*, p. 1-46. *(Unpublished)*

(Geological description of the oil fields of Java'. Rel. detailed descriptions of BPM oil fields on NE Java, including information never published elsewhere)

III.2. Java Sea (incl. Sunda-Asri Basins, offshore NW Java basin)

Adhyaksawan, R. (2002)- Seismic facies and growth history of Miocene carbonate platforms, Wonocolo Formation, North Madura Area, East Java Basin, Indonesia. M.S. Thesis, Texas A&M University, College Station, p. 1-136. (*Unpublished*)

Adhyaksawan, R. (2003)- Seismic facies and growth history of Miocene carbonate platforms, Wonocolo Formation, North Madura area, East Java Basins, Indonesia. Proc. 29th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 163-184.

(Miocene Wonocolo Fm in Java Sea N of Madura area numerous isolated carbonate platforms over ~3000 km² area. Five growth phases. Platforms in W larger than E and record history of platform initiation, backstepping, progradation, coalescence into composite platforms, and termination. Eastern platforms: 1) smaller, 2) more widely spaced, 3) steeper platform margins, 4) largely aggradational stratal geometries, 5) slightly thicker than W platforms, and 6) tops at greater burial depths than W platforms. Most differences attributed to faster subsidence rates in E from 12-6 Ma, probably related to differential loading by volcanic arc)

Ageng, C., Hairunnisa, D. Hidayat, D. Nugroho & N.I. Basuki (2014)- Facies analysis, rock type, and property distribution in upper interval of Baturaja Formation, Krisna Field, Sunda Basin. Proc. 38th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA14-G-055, 19p.

(E Miocene Baruraja Fm carbonates in Krisna field five lithofacies. Reservoir formerly interpreted as reef complex, but lithofacies and seismic facies indicate two facies associations: skeletal mound and slope to basin)

Albab, A. & N.C.D. Aryanto (2017)- Seismic facies of Pleistocene-Holocene channel-fill deposits in Bawean Island and adjacent waters, Southeast Java Sea. Bull. Marine Geol. 32, 1, p. 31-39.

(online at: <http://ejournal.mgi.esdm.go.id/index.php/bomg/article/view/373/287>)

(Sparker seismic profiles in SE Java Sea around Bawean show widespread Pleistocene incised lowstand paleo-channels, with late Pleistocene-Holocene (partial) fill. Older paleo-channels buried by up to 50m sediments. Width of main paleo-channels ~4 km. Two channel types: U-shaped channels in W part and V-shaped channels in E. Internal structure of incised-channels consist of chaotic reflectors at bottom, overlain by parallel-subparallel and almost reflection-free, homogenous sediments)

Aldrich, J.B., G.P. Rinehart, S. Ridwan & M.A. Schuepbach (1995)- Paleogene basin architecture of the Sunda and Asri Basins and associated non-marine sequence stratigraphy. In: C.A. Caughey et al. (eds.) Proc. Int. Symp. on Sequence Stratigraphy in SE Asia, Jakarta, Indon. Petroleum Assoc. (IPA), Jakarta, p. 261-287.

(Nearly symmetric, fault bounded extension in Sunda and Asri basins early history, followed by shift to more asymmetric rift. Early Sunda Basin fill consists of Banuwati Fm and Zelda Mb of Talang Akar Fm. Banuwati Fm of Sunda Basin records overall transgressive event and culminates in widespread deposition of Banuwati Shale which is main source rock in Sunda Basin. Well log sequence stratigraphy and core study of non-marine Banuwati Fm in Sunda Basin identified alluvial fan, fluvial and shallow lacustrine facies)

Ardila, L.E. (1983)- The Krisna High: its geologic setting and related hydrocarbon accumulations. Proc. Offshore SE Asia Conf. 6, Singapore 1983, SE Asia Petroleum Expl. Soc. (SEAPEX), p. 10-23.

(Krisna Field 1976 discovery on W flank Sunda basin, Java Sea. Mainly stratigraphic trap. Old basement High fringed by E Miocene Baturaja reefal buildup)

Ardila, L.E. & I. Kuswinda (1982)- The Rama Field: an oil accumulation in Miocene carbonates, West Java Sea. Proc. ASCOPE/CCOP Workshop., Surabaya 1982, Techn. Paper TP/2, p. 341-382.

Arifin, L. & I.W. Luga & P. Raharjo (2009)- Zona sesar di perairan Kalimantan Selatan (LP 1611). J. Geologi Kelautan 7, 1, p. 11-21.

(online at: <http://ejournal.mgi.esdm.go.id/index.php/jgk/article/view/166/156>)

(Fault zones in the waters S of Kalimantan'. Shallow seismic data indicate young NE-SW fault structures in Java Sea NE of Bawean, now probably inactive. Directions coincide with Muria-Meratus Tectonic Zone)

- Arisandy, M., B. Abrar & W. Bahri (2015)- Limestone diagenesis reservoir quality of CD Carbonate Formation East Java Basin. Proc. 39th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA15-G-038, 13p.
(Oligocene Ngimbang Fm ("CD") carbonates in 'Block P' E Java Sea, W of N Madura High, N of BD Ridge. Common larger foram wackestones, some coal floatstone, Most porosity is secondary. Two main diagenetic phases: (1) E-M Oligocene platform aggradation phase (keep up) with multiple times of exposure and dissolution by meteoric water; (2) Late Oligocene transgression (drowning) phase without exposure)
- Armon, J., W.E. Harmony, S. Smith, B. Thomas, R. Himawan, B. Harman et al. (1995)- Complementary role of seismic and well data in identifying upper Talang Akar stratigraphic sequences- Widuri field area, Asri basin. In: C.A. Caughey et al. (eds.) Proc. Int. Symposium on Sequence stratigraphy in SE Asia, Indon. Petroleum Assoc. (IPA), Jakarta, p. 289-309.
(Four parasequences in uppermost Talang Akar Fm in Widuri field, off SE Sumatra).
- Asjhari, I. (2000)- Fast track exploration, development, production, and facilities to maximise return in the Poleng Field, Offshore Madura, Indonesia. Proc. 29th Ann. Conv. Indon. Assoc. Geol. (IAGI), 1, p. 71-84.
- Atkins, D. (2005)- Integrating geology and petrophysics into seismic interpretation for reservoir definition and improved field development: a case study from the Banuwati Field. Proc. 30th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 283-296.
(Study of gas-bearing Baturaja Fm carbonate buildup at Banuwati field, Sunda basin)
- Atkinson, C.D., G.C. Gaynor & C.L. Vavra (1993)- Sedimentological and reservoir characteristics of the upper Cibulakan sandstones (main interval) in cores from the B-Field, offshore northwest Java. In: C.D. Atkinson et al. (eds.) Clastic rocks and reservoirs of Indonesia: a core workshop, Indon. Petroleum Assoc. (IPA), p. 59-90.
(M Miocene Upper Cibulakan Fm reservoirs ~75% of hydrocarbons discovered in ARCO NW Java PSC. B-Field produced 150 MMBO from B28/29 "Main" interval (N13-N14; E Tortonian). B28 interval is interbedded sandstones, shales and thin limestones. Ten depositional facies, reflecting series of deltaic to nearshore sub-environments, mostly mouth-bar, channel and channel fringe settings. Sandstone distribution influenced by syn-depositional structuring: thickest pay on flanks of field and thin dramatically over crest of structure. Highest oil rates from wells in elongate, channel sandstone bodies off main crest of structure)
- Atkinson, C., M. Renolds, A. Clarke & S. Sampurno (2004)- Why look in deepwater when elephants prefer the shallows? The Biliton Basin revisited. In: R.A. Noble et al. (eds.) Proc. Deepwater and Frontier Exploration in Asia and Australasia Symposium, Jakarta, Indon. Petroleum Assoc. (IPA), p. 225-249.
(Tertiary Biliton basin, W Java Sea, one of the country's last remaining unexplored frontiers. Typical Eocene-Oligocene rift basin on SE margin of Sunda craton, NW of Karimundjava Arch. NE-SW trending, two depocenters with depth to metamorphic basement >4000m. M Miocene erosion-uplift episode)
- Atkinson, C.D. & S.W. Sinclair (1992)- Early Tertiary rift evolution and its relationship to hydrocarbon source, reservoirs and seals in the offshore northwest Java Basins, Indonesia. AAPG 1992 Int. Conf., Sydney, American Assoc. Petrol. Geol. (AAPG) Bull. 76, p. 1088.
(Abstract only. Offshore NW Java basins originated by Late Eocene- E Oligocene rifting of S margin of Sunda Platform. N-S half-grabens fragment low-grade schist and igneous terrane. Most grabens show hanging-wall blocks dipping E. Oligocene largely nonmarine rift-fill deposits overlain by U Oligocene- Lower Miocene post-rift paralic- marine succession. In syn-rift phase block rotation and truncation episode noted. Half-grabens excellent hydrocarbon generation and accumulation systems)
- Aveliansyah, P. Ponco, W. Triono & U.A. Saefullah (2016)- Pre-Talang Akar Formation: new hopes for hydrocarbon exploration in the Offshore North West Java Basin. Proc. 40th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA16-146-G, 14p.
(Offshore NW Java Basin with mature conventional plays of Parigi, Main, Massive, Baturaja and Talang Akar Fms. Pre-Talang Akar Fm rel. underexplored. KL Field produced 11 BCF gas from Late Eocene carbonate (33-37 Ma date from Sr isotopes). Jatibarang volcanism 3 phases: ~58 Ma, ~50 Ma and ~35 Ma. Cretaceous basement, incl. granites and schists-argillites)

Aveliansyah, Rinaldo, P. Ponco & U.A. Saefullah (2017)- Stratigraphic play concept potential in offshore North West Java Basin. Case study: Talang Akar Formation in BZZ area. Proc. Joint Conv. HAGI-IAGI-IAFMI-IATMI (JCM 2017), Malang, 4p.

(Deeper play potential in stratigraphic traps in early rift sediments onlapping against basement highs in Talang Akar Fm, Arjuna basin, offshore NW Java)

Aziz, S., S. Hardjoprawiro & S.A. Mangga (1993)- Geological map of the Bawean and Masalembo Quadrangle, Java, 1610-1, 1710-1, 1710-4, scale 1:100,000. Geol. Res. Dev. Center, Bandung.

(Bawean Island in Java Sea widespread Pleistocene Balibak Fm volcanics, underlain by E Miocene Gelam Fm limestones and Late Miocene- Pliocene Kepong Sst. Masalembo and Keramian islands Quaternary volcanics only)

Basden, W.A., J.V.C. Howes & S. Wibisana (1999)- Integrated evaluation of a paleo gas-water contact and residual gas zone in the Sirasun Field, East Java, East Indonesia. In: C.A. Caughey & J.V.C. Howes (eds.) Proc. Conf. Gas habitats of SE Asia and Australasia, Jakarta 1998, Indon. Petroleum Assoc. (IPA), p. 153-168.

(Strong seismic DHI beneath Sirasun gas field, E Java Sea N of Bali, cutting across lithologic boundaries and coinciding with base of residual gas zone 10m below current free water level)

Basden, W.A., H.W. Posamentier & R.A. Noble (1999)- Structural history of the Terang and Sirasun Fields and the impact upon timing of charge and reservoir performance, Kangean PSC, East Java Sea, Indonesia. Proc. 27th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 269-286.

(Terang-Sirasun- Batur structure offshore N Bali (E of Madura) with late charge of 0.9- 1.5 TCF biogenic gas. Reservoirs Late Miocene and Plio-Pleistocene sands and globigerinid limestones. Structuring Pleistocene (1.5 Ma) and recent inversion of Cretaceous-Oligocene extensional faults after (E?-) M Miocene early inversion)

Berger, P. & R.E. Crumb (1990)- An integrated approach for the evaluation of shaly-sands reservoirs, North West Java. In: 8th Offshore South East Asia Conf., Singapore 1990, SE Asia Petroleum Expl. Soc. (SEAPEX) Proc. 9, p. 133-142.

(On log analysis procedures in shaly sands in Miocene Main/ Massive Formations, Arjuna basin)

Bhatti, M.A., M. Iqbal & M.R. Khan (2008)- Multiple phases of tectonic inversion, East Java Sea Basin Indonesia, and potential analogues in Pakistan. Pakistan J. Hydrocarbon Research 18, p. 65-77.

(E Java Sea Basin two phases of extension, followed by tectonic inversion)

Bianchi, N. & H. Harsian (2016)- The passive thermal contribution of a dormant pre-Cenozoic giant of the East Java Sea: implications for exploration of the Kangean area. Proc. Indon. Petroleum Assoc. (IPA) 2016 Technical Symposium, Jakarta, IPA 4-TS-16, 13p.

(Large E-W trending pre-Cenozoic faulted synform of 200x50 km in Kangean area below base Cenozoic unconformity nucleated Paleogene extensional features, inverted in late Neogene to form Central High. Three thermal domains, controlled by burial depth of basement: in N and S, where basement near base Cenozoic unconformity, heat flows of 70-80 mW/m². In C domain, where basement is deeper, heatflows <70 mW/m², in axis of synform-60 mW/m². Presence of pre-Cenozoic basin thus has negative impact on maturation of Eocene Ngimbang Fm source rocks)

Bianchi, N., H. Harsian, F. Febianto, R. Hariutama & D. Juliana (2018)- On the provenance of the Sepanjang oils: evidence from 3D petroleum system modeling. Proc. 42nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA18-23-G, 15p.

(Petroleum system of Kangean area, E Java Sea, controlled by heat flow distribution, overpressure occurrence, and Late Neogene erosion. Charging of Sepanjang Field from late Neogene depocenter that formed in W-C part of Southern Basin as result of uplift and erosion of Central High. Depocenter activated E-ward oil expulsion ring of Paleogene Ngimbang source rock, already overmature to W. Oil remains contained in Ngimbang reservoir complex, thanks to thick overpressured overburden and absence of vertical conduits)

Bianchi, N., H. Harsian, D. Juliana, R. Hariutama & Heri (2016)- CSI (Cenozoic Systems Investigation) Kangean - an alternative hydrocarbon charging model for the Pagerungan Field. Proc. 40th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA16-49-G, 15p.

(Basin modeling in Kangean area, E Java Sea. N Platform is immature, and Pagerungan Field gas originated from high maturity pod of Paleogene Ngimbang mudstones to S, corresponding with Central High, a Paleogene extensional structure, inverted in Late Neogene. Coaly organo-facies not activated)

Bishop, M.G. (2000)- Petroleum systems of the Northwest Java province, Java and offshore Southeast Sumatra. U.S. Geol. Survey (USGS) Open File report 99-50-R, p. 1-34.

(online at: <http://pubs.usgs.gov/of/1999/ofr-99-0050/OF99-50R/index.html>)

(Petroleum assessment NW Java basins)

Brandsen, P.J.E. & S.J. Matthews (1992)- Structural and stratigraphic evolution of the East Java Sea, Indonesia. Proc. 21st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 417-453.

(Key E Java sea paper, describing Neogene inversion of Paleogene extensional basins. Widespread uplift/inversion in Middle Miocene (~N11/N12). Oldest sediments overmature Upper Cretaceous, overlying Lower Cretaceous? accretionary complex)

Budiarso, H. (1996)- Distribusi gas CO₂ dan upaya mengurangi resiko eksplorasi pencairan hidrokarbon di Cekungan Jawa Barat Utara. Proc. 25th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 2, p. 447-458.

(On CO₂ gas distribution in NW Java basin)

Bukhari, T., J.G. Kaldi, F. Yaman, H.P. Kakung & D.O. Williams (1992)- Parigi carbonate buildups, Northwest Java Sea. In: C.T. Siemers et al. (eds.) Carbonate rocks and reservoirs of Indonesia: a core workshop, Indon. Petroleum Assoc. (IPA), Jakarta, p. 6-1 to 6-10.

(Parigi Limestone Late Miocene zones N17/NN11, forming N-S trending buildups up to 1100' thick in NW Java basin onshore and offshore. Eight carbonate lithofacies, up to four transgressive marine episodes. Porosity mainly primary interparticle, with local enhancement by dissolution)

Burbury, J.E. (1977)- Seismic expression of carbonate buildups, NW Java Basin. Proc. 6th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 239-268.

(Offshore NW Java Basin with carbonates at four stratigraphic levels. Widespread carbonate deposition in Oligocene-lower Miocene and late M Miocene time intervals, more localized deposition during two intervals in lower to middle Miocene. Carbonate build-ups developed in each of these times. Size, shape and disposition of build-ups, except those developed during late middle Miocene, related to tectonic framework, depositional history and local structural features of the basin)

Burollet, P.F., R. Boichard, B. Lambert & J.M. Villain (1986)- The Paternoster carbonate platform. Proc. 15th Ann. Conv. Indon. Petroleum Assoc. 15, 1, p. 155-169.

(Recent sediment samples from E Java Sea all m-c grained carbonate sand from coral, red algae, molluscs and foraminifera. In some sheltered lows abundant Halimeda calcareous algae, representing 80% of sediment. Corals source of bioclasts on or near reef islands, elsewhere sand mainly forams)

Bushnell, D.C. & M.D. Temansja (1986)- A model for hydrocarbon accumulation in Sunda basin, West Java Sea. Proc. 15th Ann. Conv. Indon. Petroleum Assoc., p. 47-75.

Butterworth, P.J. & C.D. Atkinson (1993)- Syn-rift deposits of the Northwest Java Basin: fluvial sandstone reservoir and lacustrine source rocks. Indon. Petroleum Association (IPA), Core Workshop, Clastic Rocks and Reservoirs of Indonesia, Jakarta, p. 211-229.

Butterworth, P.J., R. Purantoro & J.G. Kaldi (1995)- Sequence stratigraphic interpretations based on conventional core data: an example from the Miocene upper Cibulakan Formation, offshore Northwest Java. In:

- C.A. Caughey et al. (eds.) Proc. Int. Symp. Sequence Stratigraphy in SE Asia, Indon. Petroleum Assoc., p. 311-325.
- C&C Reservoirs (1996)- Bima Field, Sunda Basin, Indonesia. Reservoir evaluation report, 20p.
(Part of series of unpublished multi-client oilfield summaries)
- C&C Reservoirs (1996)- Krisna Field, Sunda Basin, Indonesia. Reservoir evaluation report, 27p.
- C&C Reservoirs (1996)- Rama Field, Sunda Basin, Indonesia. Reservoir evaluation report, 16p.
- C&C Reservoirs (1998)- Ardjuna-B Field, NW Java Basin, Indonesia. Reservoir evaluation report, 26p.
- C&C Reservoirs (2001)- Pagerungan Field, East Java Basin, Indonesia. Reservoir evaluation report, 27p.
(Part of series of unpublished multi-client oilfield summaries. East Java Sea gas field discovered in 1985, producing since 1994, with recoverable reserves of 1.8 TCF Gas. Trap M-L Miocene W-E trending elongate inversion-related anticline, not filled to spill. Reservoir ~300 ft thick M-U Eocene Ngimbang Clastics Fm, two fluvial sandstone reservoirs separated by a 7' shale seal unit (Lower Coal/Shale Member)
- C&C Reservoirs (2002)- Cinta Field, Sunda Basin, Indonesia. Reservoir evaluation report, 24p.
- C&C Reservoirs (2002)- Widuri Field, Sunda Basin, Indonesia. Reservoir evaluation report, 40p.
- Cahyono, A.A. & A. Felder (2010)- Well placement optimization for a thin oil rim development in the Ujung Pangkah Field, East Java, Indonesia. Proc. 34th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA10-E-079, 7p.
(Java Sea Ujung Pangkah field E Miocene Kujung-I carbonate reservoir with 60-90' oil column and >250' gas cap. Trap combination rim shelf morphology and young Madura inversion. Lower part of reservoir highly porous reefal limestone, upper part lower porosity red-algal dominated reef)
- Carter, D.C. (2003)- 3-D seismic geomorphology: insights into fluvial reservoir deposition and performance, Widuri Field, Java Sea. American Assoc. Petrol. Geol. (AAPG) Bull. 87, 6, p. 909-934.
(Seismic images of 4 reservoir intervals in Widuri Field show meandering fluvial depositional patterns)
- Carter, D.C., J. Armon, W.E. Harmony, R.S. Himawan, P. Lukito, I. Syarkawi & P.C. Tonkin (1998)- Channel and sandstone body geometry from 3-D seismic and well control in Widuri field, offshore SE Sumatra, Indonesia. Proc. 26th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 155-173.
- Carter, D.C., W.E. Harmony, L. Harvidya, G. Juniarto, S. Lestari & A. Purba (2001)- Seismic interpretation methodology for fluvial sandstone reservoirs in Widuri field, offshore SE Sumatra, Indonesia. Proc. 28th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 153-183.
- Carter, D.C. & M. Hutabarat (1994)- The geometry and seismic character of Mid-Late Miocene carbonate sequences, SS Area, Offshore Northwest Java. Proc. 23rd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 323-338.
(M Miocene Paprigi and Pre-Parigi ~N-S trending linear buildups)
- Carter, D.J., D. Mandhiri, R.K. Park, I. Asjhari, S. Basyuni, S. Birdus et al. (2005)- Interpretation methods in the exploration of Oligocene-Miocene carbonate reservoirs, offshore northwest Madura, Indonesia. Proc. 30th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 179-214.
(Kodeco 2000-2005 oil- gas discoveries in Oligocene- E Miocene Kujung Fm carbonate in Kujung I reefal buildups and Kujung II-III platform carbonates. Kujung I discoveries KE-23B, KE-40, KE-24 and KE-30 in 2001-2001 followed by discovery of Kujung III interval in KE-40 in 2002. Seven further Kujung I discoveries in 2002- 2004. S Poleng largest discovery and doubled size of Poleng field, 30 years after discovery)

Cornelis, W. (1924)- Overblijfselen van rivierbeddingen in de Java-zee. *Natuurkundig Tijdschrift Nederlandsch-Indie* 84, p. 115-157.

(Remnants of river courses in the Java Sea)

Crumb, R.E. (1989)- Petrophysical properties of the Bima Batu Raja carbonate reservoir, offshore N.W. Java. *Proc. 18th Ann. Conv. Indon. Petroleum Assoc.* 2, p. 161-208

(Bima Batu Raja carbonate buildup reservoir undercompacted mudstone, wackestone and packstone with porosity up to 40%. Laboratory cut-offs (used to determine net-pay) unusually high at 26% porosity and 10 md permeability because rock believed to contain non-interconnected porosity)

Cucci, M.A. & M.H. Clark (1993)- Sequence stratigraphy of a Miocene carbonate buildup, Java Sea. In R.G. Loucks & J.F. Sarg (eds.) *Carbonate sequence stratigraphy, recent developments and applications*, American Assoc. Petrol. Geol. (AAPG), Mem. 57, p. 291-303.

(Late Eocene Miocene Gunung Putih carbonate complex in E Java Sea WSW-ENE trending asymmetric buildup, with aggradational N side inferred to lie on paleowindward side. Late Oligocene erosional event, Late Miocene drowning of reef)

Cucci, M.A. & M.H. Clark (1996)- Carbonate systems tracts of an asymmetric Miocene buildup near Kangean Island, E. Java Sea. In: C.A. Caughey, D.C. Carter et al. (eds.) *Proc. Int. Symp. Sequence stratigraphy in Southeast Asia*, Jakarta 1995, Indon. Petroleum Assoc. (IPA), p. 231-251.

Darmawan, F.H., I.W. Ardana, C.S. Lee & A.K. Wijaya (2016)- Unravel the Oligocene-Miocene depositional architectures in the North Madura Platform using seismic stratal volume. *Proc. 40th Ann. Conv. Indon. Petroleum Assoc. (IPA)*, Jakarta, IPA16-629-G, 12p.

(Oligocene-Miocene seismic horizon interpretations N of Madura Island. Showing small patch reefs in Kujung2 carbonate, meandering channel at end of Tuban stage, channel and delta lobe in Ngrayong Sst. etc.)

Darmawan, F.H., S. Shahar, T. Kurniawan, M.J.B. Hoesni, A.B. Abu Bakar, M. Mazied, M.A.B. Ismail, G. Kaeng & A.H. Wong Abdullah (2018)- North Madura platform charging and entrapment modeling study: an effort to understand hydrocarbon filling history in Bukit Tua field. *Proc. 42nd Ann. Conv. Indon. Petroleum Assoc. (IPA)*, Jakarta, IPA18-50-G, 15p.

(Presence of oil and gas fields in N Madura Platform attributed to long distance migration from Central Deep and Madura Basin kitchen areas. In Bukit Tua and Jenggolo Field complex, oils initially trapped in lowest part of N Madura Platform (Ngimbang Fm, CD Carbonate). As charging of oil continued, top seal breached and oil filled overlying Kujung II clastics and carbonates. Later gas generation was able to breach Kujung II)

De Oliveira Martins, W. & R. Fainstein (2001)- Tectonics and stratigraphy of East Java Sea North of Madura Island, Indonesia. In: 7th Int. Congress Brazilian Geoph. Soc. (Salvador 2001), p. 1018-1021.

(Extended Abstract. E Java Sea basin M Eocene- E Miocene extension led to development of NE-SW trending tilted horst blocks and grabens. M Miocene and younger inversion structures. Late Miocene wrench-associated structures, E Pleistocene compressional phase. Central Depression is inverted half-graben. Pre-Ngimbang Megasequence mud-dominated with some siltstone-sandstone and rare late Cretaceous marine microfossils)

Dinkelman, M.G., J.W. Granath, P.A. Emmet & D.E. Bird (2008)- Deep crustal structure of East Java Sea back-arc region from long-cable 2D seismic reflection data integrated with potential fields data. *Proc. 32nd Ann. Conv. Indon. Petroleum Assoc. (IPA)*, Jakarta, IPA08-G-153, 6p.

(JavaSpan deep seismic imaging overview)

Dorobek S.L. & R. Adhyaksawan (2003)- Conditions conducive to coalescence of isolated platforms in the Miocene Wonocolo Formation, North Madura area, East Java Basin, Indonesia. *AAPG Ann. Conv., Salt Lake City 2003. (Abstract only)*

(M-U Miocene (~12-6 Ma) Wonocolo Fm offshore N Madura numerous isolated carbonate platforms, with up to five growth phases. In W part of area individual platforms larger in plan view than age-equivalent platforms to E and show initial development of several closely spaced isolated platforms that coalesce at middle of growth)

history into larger composite platforms. Leeward (E) margins of W-most platforms greatest amounts of progradation and filling of interplatform troughs. Smaller platforms in E part of study area steeper sided, farther apart, and largely aggradational geometries, possibly due to faster subsidence rates in E)

Dorojatun, A., A. Kusnin, M. Hutabarat, R.K. Suchecki & S.G. Pemberton (1996)- Geological reservoir heterogeneity of Talang Akar depositional system in the Jatibarang Sub-Basin, Offshore NW Java, Indonesia. Proc. 25th Ann. Conv. Indon. Petroleum Assoc. 2, p. 357-373.

(Talang Akar reservoirs in Jatibarang sub-basin along N border fault heterogeneous, coarse-grained sandstones to sandy mudstones deposited in fluvial-delta setting. Deposits historically regarded as alluvial-fan facies including highly anisotropic braided-stream fill and debris flows. Sedimentology and ichnology used to re-interpret these deposits as coarse-grained fluvial-deltaic to marginal marine with deposition along N border fault related to changes of base level or relative sea level that includes tectonic movements)

Easley, D., F. Yustiana & A. Hidayat (2011)- Seismic lineament analysis of a fractured limestone reservoir in the Ujung Pangkah Field. Proc. 35th Ann. Conv. Indon. Petrol Assoc. (IPA), Jakarta, IPA11-G-105, p. 367-375.

(Ujung Pangkah field in E Java Sea mainly fractured limestone reservoir of E Miocene age that has undergone several stages of deformation. Paleogene extensional faulting may have lasted through Kujung Fm deposition. Late Early Miocene NNE-SSW compression seen from seismic isochrons, with field developing northerly tilt as well as inversion of older normal faults. N of Ujung Pangkah Fld also E-W trending left lateral strike-slip movement)

Ebanks, W.J. & C.B.P. Cook (1993)- Sedimentology and reservoir properties of Eocene Ngimbang clastics sandstones in cores of the Pagerungan-5 Well Pagerungan Field, East Java Sea. In: C.D. Atkinson et al. (eds.) Clastic rocks and reservoirs of Indonesia, IPA Core Workshop Notes, Indon. Petroleum Assoc. (IPA), p. 9-36.

(Sedimentological descriptions of Eocene gas-bearing fluvial clastics of Pagerungan field, E Java Sea)

Emery, K.O., E. Uchupi, J. Sunderland, H.L. Uktolseja & E.M. Young (1972)- Geological structure and some water characteristics of the Java Sea and adjacent continental shelf. United Nations ECAFE, CCOP Techn. Bull. 6, p. 197-223.

(Report on 1971 Woods Hole marine geological- geophysical survey of Java Sea and part of Sunda Shelf. Identified NE trending basement ridges, etc.)

Emmet, P.A. (1996)- Cenozoic inversion structures in a back-arc setting, Western Flores Sea, Indonesia. Ph.D. Thesis Rice University, Houston, p. 1-277.

(online at: <http://scholarship.rice.edu/handle/1911/16969>)

(Geophysical-geological study of marginal basin in W Flores Sea. Underlying crust transitional between Sunda craton continental crust to W and Banda back-arc oceanic crust to E. Half-grabens began to form in M Eocene by extensional reactivation of thrusts in penneplained Cretaceous accretionary prism basement complex. Extension and regional subsidence continued until E Miocene, when compression began to invert extensional faults of half-grabens as thrusts. Inversion most dramatic during Late Miocene and Pliocene and continues today. Paleogene orthogonal extension, oriented N-S. Neogene depositional sequences determined from seismic stratal patterns and biostratigraphy data compare generally favorably to Haq et al. (1987) global cycle chart)

Emmet, P.A. & A.W. Bally (1996)- Evolution of Cenozoic inversion structures, East Java Sea, Indonesia. AAPG Ann. Conv., San Diego May 1996. (Abstract only).

(Study of deep water (>200m) subbasin in E Java Sea. Pelitic basement deformed in Cretaceous accretionary prism and uplifted/ penneplained in E Tertiary. ENE- trending half-grabens formed in Sunda back-arc in M Eocene- E Oligocene. Basin-bounding faults listric and inferred to sole into sub-horizontal detachment at <10 km. Extensional structures controlled by pre-existing thrusts and shaly bedding planes in basement. Eocene rifting in few deep basins. Oligocene rifting more broadly distributed in shallower basins. Inversion began in E Miocene as basin-bounding faults reactivated and graben-fill sediments displaced towards adjacent horst blocks. Most inversions trend ENE and grew in bathyal water depth. Inversion progressed through Miocene and culminated in development of regional basement-involved inversion high (E extension of Kangean high), uplifted and truncated in latest Miocene. Despite regional compression which continues today at deep

structural level, small-displacement domino-style normal faults ubiquitous at shallow structural level and apparently form on flanks of growing inversions by gravity sliding)

Emmet, P.A. & P.R. Vail (1996)- Cenozoic inversion structures, East Java Sea, Indonesia: can tectonic and eustatic influences on stratal architecture be distinguished? AAPG Ann. Conv., San Diego 1996.

(Abstract only. Extensional half-grabens in Sunda back-arc filled by M Eocene non-marine siliciclastics, including lacustrine coals, transgressed by Late Eocene shallow-water carbonates on margins of rift basins with shale dominant in basin axes. Late Oligocene- E Miocene regional sag with aggradation of shallow water carbonates on basin margins, deep-water carbonate mudstone and shale in basin axes. Onset of compression in E Miocene reflected by increase in subsidence and sedimentation rates. Paleogene extensional basins progressively inverted as thick wedges of Miocene and younger calcareous mudstone accumulated on flanks. In Miocene N margin of basin strongly progradational reflecting tectonic stability and dominant eustatic influence, S margin back-stepped due to higher tectonic subsidence related to inversion process. In deep basin, horizons defining growth phases of inversion structures correlate with eustatically-controlled unconformities on basin margins)

Emmet, P.A., J.W. Granath & M.G. Dinkelman (2009)- Pre-Tertiary sedimentary keels provide insights into tectonic assembly of basement terranes and present-day petroleum systems of the East Java Sea. Proc. 33rd Ann. Conv. Indon. Petroleum Assoc., IPA09-G-046, 11p.

(E Java Sea deep seismic imaged up to 5 km of pre-M Eocene beds below angular unconformity, locally preserved in faulted synclines 20-50 km wide. These 'synformal keels' lie below known inversion structures, indicating Eocene extensional basins and Miocene inversions nucleated on pre-existing structures. E-W orientation of better imaged keels may represent fabric of source terrane, presumably Australian margin.)

Fahmi, B., A. Filza A., Y. Irsyadie A., J.A. Pribadi & D. Rakasiwi (2018)- Identification of biogenic gas potential using integrated seismic data, wireline log and geochemistry data; a study case: Muriah sub-basin, Bawean Arc, offshore Northern East Java. Proc. 42nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA18-73-G, 18p.

Fainstein, R. (1987)- Exploration of the North Seribu Area, Northwest Java Sea. Proc. 16th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 191-214.

Fainstein, R. & V.R. Checka (1988)- Seismic exploration of the Thousand Islands area, Java Sea. In: Proc. 58th Ann. Int. Mtg Soc. Expl. Geophysicists (SEG), Anaheim, S8.7, p. 877-881.

Fainstein, R. & H. Pramono (1986)- Structure and stratigraphy of AVS Field, Java Sea. Proc. 15th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 19-45.

(AVS Field multiple Oligocene Talang Akar Fm channel sand reservoirs. Two facies (1) fluvial/upper deltaic and (2) transitional/lower deltaic. Oil is on structural roll-overs confined laterally by growth faults of Thousand Islands Fault System. No communication between multiple reservoir zones. Twenty oil-bearing reservoirs. Recoverable reserves >20 MBO)

Faisal, R., Bintoro W. & Munji S. (2005)- Deep reservoir challenge in Asri Basin, South East Sumatra. Proc. Joint Conv. 30th HAGI, 34th IAGI, 14th PERHAPI, Surabaya 2005, p.

(Deeper play in Asri basin tested in 1995 Hariet-2 well, penetrating Eo-Oligocene oil sandstone below 310' thick Banuwati Shale lacustrine source rock. Penetrated ~320' of Banuwati Clastics member that overlies granitic basement, with average porosity of 13.6%, permeability 10.8 mD. Sandstone heavily compacted, but widespread secondary moldic porosity)

Fisher, D.A. & L Suffendy (1999)- Dim spots and non-bright AVO associated with gas in the South Arjuna Basin, offshore NW Java. In: C.A. Caughey & J.V.C. Howes (eds.) Proc. Conf. Gas habitats of SE Asia and Australasia, Jakarta 1998, Indon. Petroleum Assoc. (IPA), p. 169-178.

Fletcher, G.L. & K.W. Bay (1975)- Geochemical evaluation, NW Java Basin. Proc. 4th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 211-240.

(Early ARCO source rock paper, suggesting main source rocks are in U Cibulakan and Talang Akar Fms)

Forrest, J.K., A.Y. Sukmana, W. Suhana & I. Asjhari (2005)- Reservoir simulation challenges for modeling an oil rim with large gas cap in the Poleng Field, Kujung-I oil reservoir, East Java Basin, West Madura Block, Indonesia. In: SPE Asia Pacific Oil and Gas Conf., Jakarta 2005, SPE 93137, p. 1-16.

(On reservoir simulation model for Poleng field ~30km off N coast of Madura, producing oil from 1975-1978 the again since 1998, from Miocene Kujung Fm carbonates. Original oil-in-place 98.5 MMB Oil and 292 BCF gas. Thin oil column below large gas cap (see also Welker-Haddock et al. 2001))

Gordon, T.L. (1985)- Talang Akar coals- Ardjuna subbasin oil source. Proc. 14th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 2, p. 91-120.

(One of first papers to propose coals as oil source rocks in fields off NW Java)

Granath, J.W., J.M. Christ, P.A. Emmet & M.G. Dinkelman (2010)- Pre-Tertiary of the East Java Sea revisited: a stronger link to Australia. Proc. 34th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA10-G-007, 13p.

(Seismic lines over Pre-Tertiary in E Java Sea area suggests history of rift-fill, cratonic sedimentation and inversion similar to Goulburn Graben of Arafura Shelf. Suggest departure of E Java Terrane from Australian margin in Late Jurassic and suturing to SE Sundaland in mid-Cretaceous. N part of EJT (affected by Eocene Makassar Straits extension) probably related to E Indonesian islands and Tasman orogenic belt, while south correlates to Australian craton)

Granath, J.W., J.M. Christ, P.A. Emmet & M.G. Dinkelman (2011)- Pre-Tertiary sedimentary section and structure as reflected in the JavaSPAN crustal-scale PSDM seismic survey, and its implications regarding the basement terranes in the East Java Sea. In: R. Hall et al. (eds.) The SE Asian gateway: history and tectonics of Australia-Asia collision, Geol. Soc. London, Spec. Publ. 355, p. 53-74.

(New regional seismic survey in Java Sea and Makassar Strait suggests E Java Sea underlain by continental basement with prolonged multiphase history of deposition punctuated by extensional and compressional events. E Java Terrane is major part of SE Sundaland between Meratus suture, Java arc and W Sulawesi orogenic belt, but is poorly constrained in N under N Makassar Basin and in Kalimantan. Precambrian-Permo-Triassic sedimentary section (age assumed) up to 8.5 km thick on basement in number of fault blocks, unconformably overlain by thin Cretaceous- E Paleogene overlap assemblage, unconformably overlain by M Eocene- Neogene clastics and carbonates representing Paleogene extension, sag, and Neogene inversion. E Java Terrane rifted from NW Australia in Jurassic and accreted onto magmatic arc of SE Kalimantan in Cretaceous)

Granath, J.W., P.A. Emmet & M.G. Dinkelman (2009)- Crustal architecture of the East Java Sea-Makassar Strait region from long-offset crustal-scale 2D seismic reflection imaging. Proc. 33rd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA09-G-047, 14p.

(East Java Sea-Makassar Straits, Banda Sea, Flores (oceanic) basin deep seismic lines)

Graetzer, M.K. (1980)- Upper Eocene-Lower Miocene planktonic foraminiferal biostratigraphy of wells JS 25-1 and JS 52-1, Offshore Eastern Java, Indonesia. M.Sc. Thesis University of Oklahoma, p. 1-112. *(Unpublished)*

Gresko, M.J. & P. Lowry (1996)- Seismic expression and channel morphology of a Recent incised-valley complex, offshore Northwest Java. In: C.A. Caughey et al. (eds.) Proc. Int. Symp. Sequence Stratigraphy in S.E. Asia. Jakarta 1995, Indon. Petroleum Assoc. (IPA), p. 21-33.

(Identification of incised-valley complex on 3D seismic. Located within large erosional valley, 20-30km wide, >300 km long and >100m relief, likely formed during repetitive sea-level lowstands in Pleistocene. It focused drainage from fluvial systems in NW Java, SE Sumatra, and possibly S Borneo into area of present-day Java Sea. From there fluvial systems drained into Indian Ocean through Sunda Straits)

Gresko, M., C. Suria & S. Sinclair (1995)- Basin evolution of the Ardjuna rift system and its implications for hydrocarbon exploration, Offshore Northwest Java, Indonesia. Proc. 24th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 148-161.

(Ardjuna Basin on S edge of Sunda craton, originated during Eocene- Oligocene rifting event. Large sag basin over three precursor rift halfgrabens, with varying amounts of primary hydrocarbon source rocks and reservoir facies, the Oligocene Talang Akar Fm)

Guntoro, A. (1999)- Tectonic and structural setting of the East Java-Flores Seas; an indication of a new subduction reversal polarity in eastern Indonesia. In: B. Ratanasthien & S.L. Rieb (eds.) Proc. Int. Symp. Shallow Tethys 5, Chiang Mai, p. 389-402.

(E-W oriented Tertiary sedimentary basins of E Java-Flores two major zones with back-arc thrusting, Wetar N of Wetar-Alor and Flores thrust N of Flores-Sumbawa. Hamilton (1979) proposed back-arc thrusts indicate subduction polarity reversal. Large negative free-air anomalies over accreted wedge 30 km S of deepest part of the Flores Sea suggest underthrusting plate is pulled down, as in subduction zones. Crustal loading between Flores and Flores thrust cannot completely explain deflection of Flores Basin lithosphere if bent as elastic plate. Underthrusting plate may extend to negative gravity anomalies of Flores Island, or gravitational instability is pulling it down into asthenosphere. Effect of subduction polarity influenced by type of basement)

Hadiyanto, N., D.E. Sartika, F. Deliani & O. Takano (2010)- Integrated 3-D Static reservoir modeling of Upper Pliocene Paciran carbonate in the Sirasun gas field, Kangean Block, East Java Basin. Proc. 34th Ann. Conv. Indon. Petroleum Geol. (IPA), Jakarta, IPA10-G-072, 12p.

(E Java Sea Sirasun Field 1993 discovery with >200' gas column Upper Pliocene Mundu Fm globigerinid foraminiferal grainstones (called 'ramp-type platform facies'). Gas biogenic, >99% methane)

Hafsari, S.W. & S.U. Choiriah (2002)- Characteristics of the lithofacies and depositional environment of the Eocene Ngimbang carbonate buildup, Wk-3 Well, Kangean PSC East Java Sea, Indonesia. Proc. 31st Ann. Conv. Indon. Assoc. Geol. (IAGI), Surabaya, 1, p. 29-41.

(350' of core in Eocene Ngimbang carbonate in well 'Ray 3' (=West Kangean 3?) immediately W of Kangean island, E Java Sea. Shallow platform lagoonal facies rich in miliolids overlain by rapidly deepening upward through Late Eocene transitional facies of Nummulites-rich packstone facies to deep marine platform facies, also with nummulitids. morozovellid planktonic foraminifera and platy corals)

Hafsari, S.W. & S.U. Choiriah (2003)- Diagenesis and fracture development of the Eocene Ngimbang carbonate RD-3 well, RD PSC, East Java Sea, Indonesia. Proc. 32nd IAGI and 28nd HAGI Ann. Conv., p. 1-6.

(Eocene Ngimbang Carbonate buildup in core from RD 3 well, W of Kangean Island, affected by deep marine platform diagenesis and shallow marine platform diagenesis. Shallow marine platform affected by marine diagenesis, meteoric subaerial exposure and burial diagenesis. After burial to 12,000' Ngimbang carbonate formation uplifted by inversion to 7000', important for development of fracture porosity. Low average matrix porosity (1.8%) and permeability (0.1 md). Upper sequence did not develop fracture porosity because of high detrital clay content and has poor reservoir potential)

Harmony, B., L. Harvidya, S.L. Supardi, F. Alkatiri, P. Mesdag, R. Van Eykenhof et al. (2003)- Time-elapse simultaneous AVO inversion of the Widuri field, offshore southeast Sumatra. Proc. 29th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 1-13.

Harris, M. (2001)- East Java- the Kujung Formation revisited. SEAPEX Press 4, 6, p. 16-25.

(Brief review of Kujung Fm Oligocene-Miocene carbonate play and recent hydrocarbon discoveries)

Harsian, H. (2018)- Exploration challenge in Southern Basin area of East Java basin- an aftermath of South Saubi drilling campaign. Proc. 42nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA18-91-G, 15p.

(South Saubi well S of Kangean island in E Java Sea surprisingly drilled >3500' of Miocene? volcanics/ volcanoclastics, just below top of Kujung Limestone. Exact age of volcanics unknown)

Hartanto, S., B. Sapiie, I. Gunawan & B. Wibowo (2018)- Analisis sekatan dan karakteristik sesar pada Formasi Kujung Reef di Kompleks Lapangan KE, Cekungan Jawa Timur: implikasi terhadap migrasi hidrokarbon. *Bulletin of Geology (ITB)* 2, 1, p. 134-148.

(online at: <https://buletingeologi.com/index.php/buletin-geologi/issue/view/4/Paper-1%20vol.%202%20no.%201>)

(*'Seal analysis and fault characteristics in the Kujung Reef Formation at the KE Field Complex, East Java basin: implications for hydrocarbon migration'. Geologic modeling and fault seal analysis of Kujung Reef formation at JS-1 ridge, E Java Sea*)

Henk, B. (1992)- Tectono-stratigraphy of a Late Eocene rift system within the Kangean PSC Block-East Java Sea, Indonesia. *AAPG Int. Conf., Sydney 1992, Search and Discovery Art.* 91015. (*Brief Abstract only*).

(*Late Eocene extension led to formation of E-W trending rift system in Kangean Block, with series of sediment filled, facing and non-facing half-grabens. Late Miocene structural inversion overprinted earlier extensional fabric. Asymmetric half-graben axes sites for Ngimbang Clastics source and reservoir facies and deepwater Ngimbang Carbonate facies. High basement blocks on margins sites for thin clastic deposits and thick shallow water carbonate buildups. Ngimbang Shale blanketed entire carbonate system*)

Hughes, T.M., J.A. Simo, A.S. Ruf & F. Whitaker (2008)- Forward sediment modeling of carbonate platform growth and demise, East Java basin: example North Madura. *Proc. 32nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA08-G-117, 10p.*

Hutapea, E., Nusatriyo & C.H. Wu (1988)- The K-39 reservoir characterization for simulation, Ardjuna basin, offshore, Northwest Java. *Proc. 17th Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, p. 99-117.*

(*K-39 sandstone reservoir main producing interval in U Cibulakan Fm of K field, offshore NW Java. E-M Miocene NE-SW trending shelf sand bar complex. Av. thickness 84' gross, 51' net, porosity 27%, perm. 152mD*)

Ichimaru, Y. & H. Inoue (2015)- Exploration and development of Kangean block, East Java, Indonesia. *J. Japanese Assoc. Petroleum Technologists* 80, 1, p. 19-26.

(online at: https://www.jstage.jst.go.jp/article/japt/80/1/80_19/_pdf/-char/en)

(*In Japanese, with English summary. Review of prospectivity of Kangean PSC block in E Java Sea. Two petroleum systems: (1) thermogenic oil-gas with pre-Ngimbang and Ngimbang Fm source rocks; (2) biogenic dry gas in shallow horizons. Terang-Sirasun gas field started production in 2012. S Saubi prospect large reef buildup of Kujung Lst, similar to Banyu Urip oilfield in NE Java (but mainly volcanics; Harsian 2018)*)

Ichimaru, Y., H. Nishita, T. Honda & H. Sutanto (2010)- The dynamic of hydrocarbon migration and accumulation around Kangean Island, East Java, Indonesia. *Proc. Ann. Mtg. Japanese Assoc. Petroleum Technology, 2010. (in Japanese) (Abstract only).*

Ilahude, D. & M.S. Situmorang (1994)- Seismic reflection study on paleodrainage pattern of the Sunda River, off Southeast Kalimantan around Masalembo waters, Jawa Sea. *J. Geologi Sumberdaya Mineral* 4, 29, p. 2-10.

(*Study of Pleistocene paleochannels in area near Masalembo, when Java Sea was exposed land area. Three channel types (horizons), mostly flowing from N to S, probably extensions of SE Kalimantan drainage, and merging with W to E oriented channel ('South Sunda River') in S of study area*)

Indah, M.S., M. Natsir, D. Kadar & J. Setyowiyoto (2017)- Reconstruction chronostratigraphy in carbonate reservoirs surrounding wrench fault zone of RMKS, Sakala subbasin, East Java Basin, Indonesia. In: *79th EAGE Conf. Exhib., Paris 2017, p. (Abstract)*

Indrasatwika, V., D. Hidayat & Hairunnisa (2017)- The Krisna sand: new potential within the Air Benakat Formation in the Krisna Field, Sunda Basin, Southeast Sumatra. *Proc. 41st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA17-124-G, 14p.*

(*Main producer in Krisna field is Baturaja Fm carbonate reservoir. Also production from some wells from poor-quality 200' thick Krisna Sand of M Miocene Air Benakat Fm (270 MBO cumulative production (?))*)

Isworo, H, U.A. Saefulah & T. Prasetyo (1999)- Depositional model of the MB Field Mid-Main carbonate reservoir Offshore Northwest Java, Indonesia. Proc. 27th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 1-7.

(MB field MMC build-up, EUR ~34 MBO, is N-S elongated patch reef complex, formed during several build-up development stages. Several transgressive-regressive cycles in overall transgressive succession. Karst breccia facies also recognized. Result of study is retrograding carbonate build-up model)

Johansen, K.B. (2003)- Depositional geometries and hydrocarbon potential within Kujung carbonates along the North Madura Platform, as revealed by 3D and 2D seismic data. Proc. Ann. Conv. Indon. Petroleum Assoc. (IPA), 2003, Jakarta, 1, p. 137-162.

(Numerous prospects along N Madura Platform in Kujung I and II/III carbonates. Structures in Kujung II/III large, low relief inversion anticlines, similar to Bukit Tua and Jenggolo fields. Kujung II/III carbonates different facies in stable carbonate platform area. Central part of N Madura Platform Kujung I buildups up to 150-250m high, 10s of km² in size, separated by lagoonal facies. Kujung I and II/III carbonates extensively karsted; probably several phases of exposure. Kujung I play combined stratigraphic/ structural. Build-ups encased in mostly non-permeable sequences, but 'thief-beds' potential risk. Source rock in up to 6 km deep kitchen in SE, with 3-4 km potentially mature source rocks, mixed lacustrine, deltaic and marginal marine sediments (Ngimbang- Kujung Fms). Most traps 10-50 km from mature source, so carrier beds in Ngimbang or Kujung Fm critical. Long distance migration main risk, but proven by discoveries along N Madura Platform)

Johansen, K.B. (2005)- New insight into the petroleum system in the East Java- South Makassar Area. Proc. 2005 SE Asia Petroleum Expl. Soc. (SEAPEX) Conf., Singapore, 17p.

(Back-arc extension in Paleocene-Eocene formed basins around SE part Eurasian Plate. Three trends (1) S Makassar-Central Deep area, main faults NE-SW; (2) Sakala-Lombok Ridge, faults mainly E-W; (3) offshore SW Sulawesi overall NW-SE fault trends. Important inversion phase, particularly along Madura/Kangean wrench zone, initiated in E Miocene. Older extensional faults reactivated and some Eocene basins inverted. S Makassar Basin little affected by inversion. Inversion several phases through M/U Miocene- Present. Large number of leads: Ngimbang carbonate and clastic plays over Lombok Sub Basin; Eocene clastics and potential Late Oligocene carbonate plays in S Makassar, etc. Viable source rock main challenge in area.)

Kaldi, J.G. & C.D. Atkinson (1993)- Seal potential of the Talang Akar Formation, BZZ area, offshore NW Java, Indonesia. Proc. 22nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 373-393.

(Seal potential comprises 1) seal capacity, 2) seal geometry and 3) seal integrity. In BZZ area best seal delta front shales: high seal capacity, thick, laterally continuous and very ductile. Potential is moderate in upper TAF transgressive carbonates: high seal capacity and continuous, but brittle and prone to fracturing. Delta plain shales and pro-delta shales poor seals due to limited seal capacity (delta plain) or too thin (pro-delta shales))

Kaldi, J.G. & C.D. Atkinson (1997)- Evaluating seal potential: example from the Talang Akar Formation, Offshore Northwest Java, Indonesia. In: R.C. Surdam (ed.) Seals, traps and the petroleum system, American Assoc. Petrol. Geol. (AAPG), Mem. 67, p. 85-101.

(Seal potential of various lithologies in U Oligocene Talang Akar Fm in offshore NW Java basin determined by (1) seal capacity (amount of hydrocarbon column height a lithology can support); (2) seal geometry (structural position, thickness and areal extent of seal); and (3) seal integrity. Best seal potential in delta-front shales (high seal capacity, thick, laterally continuous and very ductile))

Kaldi, J.G., D.S. MacGregor & G.P. O'Donnell (1997)- Seal capacity in dynamic petroleum systems: example from Pagerungan gas field, East Java Sea, Indonesia. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Int. Conf. Petroleum System of South East Asia and Australasia, Indon. Petroleum Assoc. (IPA), Jakarta, p. 829-836.

(Seal capacity measurements suggest Ngimbang Shale top seal over Pagerungan Field, E Java Sea, supports maximum gas column of 213 m, but actual gas column is 328 m)

Kaldi, J.G., G.W. O'Brien & T. Kivior (1999)- Seal capacity and hydrocarbon accumulation history in dynamic petroleum systems: the East Java Basin, Indonesia and the Timor Sea region, Australia. Australian Petrol. Prod. Expl. Assoc. (APPEA) J. 39, 1, p. 73-86.

(Seals in E Java Basin dynamic rather than absolute barriers to fluid flow. Data from largest gas field, Pagerungan, suggest dynamically filling and leaking capillary trap, which may have been volumetrically larger in past. Timor Sea Neogene tectonism caused extensional faulting and basin formation. Faulting caused breaching of traps, whereas subsidence in new depocentres was drive for renewed hydrocarbon expulsion and migration, principally gas. In traps with high seal capacities, this charge of gas flushed preexisting oil accumulations. In other cases, breached traps refilled with gas over periods as short as perhaps 2-3 My)

Kamila, B., I. Muhsinah & E. Hartanto (2018)- Explore new insights in mature basin using play based exploration and common risk segment map: a case study of Sunda Basin, Indonesia. Proc. 42nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA18-103-G, 13p.

(Play evaluation of E Miocene Baturaja Lst Formation in Sunda Basin)

Keijzer, F.G. (1940)- A contribution to the geology of Bawean. Proc. Kon. Nederl. Akademie Wetenschappen, Amsterdam, 43, 5, p. 619-629.

(online at: www.dwc.knaw.nl/DL/publications/PU00017446.pdf)

(Bawean island, Java sea, petrographic descriptions of rocks collected by Schmutzer in 1912: volcanic rocks (leucite-bearing; rel. young ?), E-M Miocene/Tf1-2 limestones with Miogypsina and quartz-sandstones. Some uncertainty whether the Bawean volcanics pre-date or postdate Miocene limestones)

Kenyon, C.S. (1977)- Distribution and morphology of Early Miocene reefs, East Java Sea. Proc. 6th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 2, p. 215-238.

(Classic paper on E Java Sea, N of Madura Island. Widespread, thick E Miocene limestone and shale sequence (Kujung Unit I), with reefs as exploration targets. Main E Miocene physiographic elements (a) deep water, E-W trending open marine clastic basin in S (E Java-Madura Basin), (b) extensive, E-W positive area of shallow water carbonate deposition to N (E Java-Madura Shelf), with high energy bank along S margin, (c) Central Depression with open marine, fine clastics- limestones with bioherms (Poleng Field); (d) NE-SW trending JS-I Ridge NW of C Depression, with shoal water carbonates. E Bawean Trough to W of JS-I Ridge. Kujung Unit I depositional trends influenced by pre-E Miocene NE-SW structural grain along Asian continental margin)

Kohar, A. (1985)- Seismic expression of Late Eocene carbonate build-up features in the JS-25 and P. Sepanjang trend, Kangean Block. Proc. 14th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 437-447.

(Over 20 carbonate build-ups at top Late Eocene carbonate shelf sequence. Features grew over basement highs, spreading E-W across Sepanjang island- JS25 area in Kangean block off N Bali. JS25-1 well penetrated >1000' of recrystallized Late Eocene limestone. Secondary porosity and fracturing produced good reservoirs)

Kovacs, P.P. (1982)- Rama reservoir model study. In: Offshore South East Asia 82 Conference, Singapore, p. 1-20.

Landa, J.L., R.N. Horne, M.M. Kamal & C.D. Jenkins (2000)- Reservoir characterization constrained to well-test data: a field example. Soc. Petrol. Engineers (SPE) Reservoir Evaluation and Engineering 3, 4, p. 325-334.

(also in Proc. SPE Ann. Techn. Conf, Denver 2000, Paper 35611, p. 177-192)

(Reservoir description for Pagerungan gas field, E Java Sea. Discovered in 1985, producing since 1994 from fluvial M-U Eocene Ngimbang Clastics Fm)

Lelono, E.B. (2007)- Palynological investigation of the Oligocene sediment in East Java Sea. Lemigas Scientific Contr. 30, 1, p. 7-17.

(Palynology study of interval 3700-5400' in unspecified 'Wells 1 and 2' from E Java Sea, NE of Madura Island. Occurrence of pollen Meyeripollis naharkotensis and spore Cicatricosisporites dorogensis suggests Oligocene age, confirmed by foraminifera of Letter stages Tc-Te4 and nannozones NP21-NP25. Appearance of Dacrydium and Casuarina may indicate earlier arrival of Australian immigrants here compared other parts of Indonesia)

Lelono, E.B. & R.J. Morley (2011)- Oligocene palynological succession from the East Java Sea. In: R. Hall, M.A. Cottam & M.E.J. Wilson (eds.) The SE Asian gateway: history and tectonics of Australia-Asia collision, Geol. Soc. London, Spec. Publ. 355, p. 333-345.

(Palynomorph assemblages from independently dated marine Oligocene succession from E Java Sea wells here named X and Y. Early Oligocene with common rain forest elements, suggesting everwet, rainforest climate. Early part of Late Oligocene much reduced rain forest elements with grass pollen, indicating more seasonal climate. In latest Late Oligocene rainforest elements return in abundance, suggesting superwet climate. Palynological succession similar to Sunda Basin, W Java Sea)

Lelono, E.B. & R.J. Morley (2011)- Oligocene palynological succession from the East Java Sea. Lemigas Scientific Contr. 34, 2, p. 95-104.

(online at: [www.lemigas.esdm.go.id/id/pdf/scientific_contribution/...](http://www.lemigas.esdm.go.id/id/pdf/scientific_contribution/))

(same paper as above)

Liu, X., Deng H.; Wang H., Wang S., Cui Yi & Di Y. (2009)- Sequence and depositional characteristics in syn-rift stage, Sunda Basin, Indonesia. Acta Sediment. Sinica, Beijing, 27, 2, p. 280-288.

(Five sequences in syn-rift section of Sunda basin. Depositional systems include fan delta, braided channel delta, fluvial, delta, nearshore subaqueous fans and beach)

Longley, I., C. Kenyon, A. Livsey & J. Goodall (2017)- Play mapping in the East Java Basin, Indonesia: a methodology for future exploration. In: 79th EAGE Conf. Exhib., Paris 2017, WS10, p.

Magee, T., C. Buchan & J. Prosser (2010)- The Kujung Formation in Kurnia-1: a viable fractured reservoir play in the South Madura Block. Proc. 34th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA10-G-005, 22p.

(Kurnia-1 well near S coast Madura island drilled rel tight (basinal?) Kujung Fm limestones, but reservoir potential enhanced by fractures)

Manur, H. & R. Barraclough (1994)- Structural control on hydrocarbon habitat in the Bawean area, East Java Sea. Proc. 23rd Ann. Conv. Indon. Petroleum Assoc. 1, p. 129-144.

(Bawean area two phases, Paleogene rift and Neogene reactivation. Eocene-Oligocene doming and faulting followed by subsidence and tectonic quiescence until E Miocene. NE-SW trending grabens formed in M Eocene and filled with alluvial clastics, lateritic clays and lacustrine shales (source rocks). Basement onlap began in Late Eocene- E Oligocene with transgressive marine sandstones and limestones including reefs. Paleogene fault zones reactivated in Neogene. Wrench faulting, basin inversion or renewed subsidence from Late Miocene to Recent. Late Miocene structures generally dry, postdate main hydrocarbon generation. Pre-Late Miocene structures more attractive targets)

Matthews, S.J. & P.J.E. Bransden (1995)- Late Cretaceous and Cenozoic tectono-stratigraphic development of the East Java Sea Basin, Indonesia. Marine Petroleum Geol. 12, p. 499-510.

(E Java Sea Basin metamorphic basement, overlain by up to 3 km marine Upper Cretaceous sediments. Contraction and peneplanation of Cretaceous sediments and basement before middle E Eocene produced regional unconformity. E Eocene extension reactivated Cretaceous thrusts. E Eocene- E Oligocene normal faulting pulses, affecting progressively larger area with time. Paleogene fault-controlled sub-basins with fluvial, coastal plain and shelf clastic and carbonate sediments, recording overall transgression. E Oligocene regional subsidence; sediments dominated by deep marine clastics. Regional intra-Oligocene unconformity overlain by Oligocene- lowermost Miocene deep water calcareous mudrocks and limestones, locally onlapping Eocene rocks. Continuous regional subsidence during inversion history, resulting in gradual reversal of depocentre location. Paleogene depocentres became Neogene highs, Paleogene platforms Neogene depocentres. Tertiary structural evolution mainly dip-slip fault movement during extensional and contractional phases. Geometries similar to positive flower structures evolved by reverse reactivation of geometrically complex extensional fault system)

Maulin, H.B., C. Armandita, M.M. Mukti, D. Mandhiri, D. Rubyanto & S. Romi (2012)- Structural reactivation and its implication on exploration play: case study of JS-1 Ridge. Proc. 36th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA12-G-072, p. 1-13.

(JS-1 Ridge in West Madura Offshore area at least three tectonic regimes: Eocene NE-trending extension-rifting, Neogene wrenching and Late Neogene compressional thrust folding. JS-1 Ridge is basement high on basement that probably is Australia-derived microcontinent 'Argoland', accreted to Sundaland in Paleocene. M-Late Miocene uplift in E part of basin, associated with E-W trending, down-to-S normal faults. Further uplift/ N-S compression in Late Miocene-E Pliocene. Most intense deformation in Late Pliocene- E Pleistocene. Main play E-M Miocene Kujung Fm carbonates)

Maulin, H.B., A. Nugraha, C. Sutisna, A. Prasetya, I. Harun, D. Rubyanto & B. Wibowo (2016)- JS-1 Ridge: exploration in ancient melange basement high. Proc. GEOSEA XIV and 45th Ann. Conv. Indon. Assoc. Geologists (IAGI) (GIC 2016), Bandung, p. 98-103.

(JS-1 Ridge in Java Sea is NE-trending horst-like structure, formed in Eocene or before, flanked by East Bawean Trough in W and Central Deep in E. Well basement penetrations in N part dominated by basic plutonic rocks (gabbro, basalt, and serpentinite in one well with ~81 Ma Ar/Ar age). Center of JS-1 Ridge composed of metamorphic rocks. In South diorite, volcano-clastics, to altered andesite (Ar/Ar age ~71 Ma). Southernmost area dominated by (meta-)volcanics, also possible Pretertiary sediments. JS1 rocks possibly represent E-M Cretaceous melange)

Maynard, K., M. Decker & W.A. Morgan (2005)- Thorough data acquisition during appraisal mitigates development risk of a thin karst reservoir, Bukit Tua reservoir, East Java, Indonesia. Petrol. Expl. Soc. Great Britain Carbonate Conf., Nov. 2005, p. (Abstract only)

(Early Oligocene carbonate reservoir model discrete thin karst zones <30' thick in offshore N Madura Platform wells. Increased permeability associated with karst confined to thin zones, leaving much of matrix with low permeability that is not expected to contribute to reserves. Karst zones exhibit varying degrees of porosity-permeability because of dissolution and probable fracture enhancement and flowed up to 4500 BOD at DST)

Maynard, K. & W.A. Morgan (2005)- Appraisal of a complex, platform carbonate, Bukit Tua discovery, Ketapang PSC, East Java Basin, Indonesia. Proc. 30th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 317-330.

(Bukit Tua 2001 N Madura platform, E Java Sea, oil and gas discovery in 300' section of E Oligocene Ngimbang Fm/ 'CD' platform carbonates on basement, and in overlying Kujung Fm. Many uncertainties remain regarding distribution of facies and porosity. Includes overview of regional setting)

Mazied, M. (2002)- Application of sequence stratigraphic concepts and depositional models for reservoir mapping: an example from the Upper Cibulakan Formation in the L and LL Fields, Offshore Northwest Java. Proc. 28th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 597-607.

(late E and M Miocene Massive and Main sand reservoirs, some interpreted as NNE trending tidal ridges)

McCaffrey, R. & J. Nabelek (1987)- Earthquakes, gravity and the origin of the Bali Basin: an example of a nascent continental fold-and-thrust belt. J. Geophysical Research 92, p. 441-460.

(Bali Basin is downwarped in Sunda Shelf crust, produced by thrusting along Flores backarc thrust zone)

McChesney, D., A. Rusmanto, M.G. Smith & S. Mursid (1992)- The Krisna lower Batu Raja waterflood: an updated case history. Proc. 21st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 21, 2, p. 403-430.

Miller, N.R. & J.G. Kaldi (1990)- Strontium isotope chronostratigraphy and diagenesis of the Batu Raja Limestone, offshore Northwest Java, Indonesia. American Assoc. Petrol. Geol. (AAPG) Bull. 74, 5, p. 728-729. (Abstract only)

(Sr isotope chronostratigraphy from 7 Bima field wells indicates Batu Raja limestone deposition started in Late Oligocene (26-27 Ma) and ceased in E Miocene (21-22 Ma). Eustatic sea level drop at ~21 Ma exposed Batu Raja carbonate platform to meteoric diagenesis and formed reservoir facies. Sr ratios of most Bima samples follow normal Tertiary trend. Zones significantly affected by early meteoric diagenesis have anomalously low

ratios. Also, lower $^{87}\text{Sr}/^{86}\text{Sr}$ values in altered samples near Seribu fault. Migration of low $^{87}\text{Sr}/^{86}\text{Sr}$ early Tertiary marine formation waters up fault and into porous horizons likely mechanism for rock alteration)

Molina, J. (1985)- Petroleum geochemistry of the Sunda Basin. Proc. 14th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 2, p. 143-179.

(Shale source rocks in Oligocene Talang Akar and E Miocene Batu Raja Fms. rich in amorphous and herbaceous kerogen, with 1-6% TOC in Talang Akar Fm. Upper Talang Akar coaly, with good source potential. Overlying Batu Raja Fm TOC up to 3.0%, also dominated by woody-coaly organic matter. Eight oil families identified, indicating generation from terrestrial and aquatic kerogen types. Oil-source correlations suggest oils from center or W margin of Sunda Basin mostly from middle Talang Akar, along E margin mostly from lower Talang Akar. Oil generation from lower Talang Akar started in M-L Miocene)

Moulton, D.E., B.S. Wilton & G.G. Ramos (1998)- Optimizing drilling strategies in a tectonic belt, Pagerungan Field, north of Bali. In: Proc. IADC/SPE Drilling Conference, Dallas, IADC/SPE Paper 39357, p. 559-572.

Mudjiono, R. & G.K. Pireno (2002)- Exploration of the North Madura platform, offshore, East Java, Indonesia. Proc. 28th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 707-722.

(N Madura High E-W trending Ngimbang (M Eocene- E Oligocene) and Kujung (Late Oligocene- E Miocene) shelf edge carbonates. New Bukit Tua and Jenggolo oil-gas discoveries targeted layered Kujung platform carbonates on N Madura Platform, 10- 20 km from fringing reefs. Porosity may be from repeated exposure on crest of old Madura Platform. Migration pathways via permeable Kujung I carbonates, near-basement carrier beds and Ngimbang and Kujung II/III carbonates. Fringing reefs viable play, as indicated by discoveries in Ketapang PSC (Bukit Panjang 2000; Payang 2001), nearby W Madura blocks (KE-23B, KE-13, KE-24, KE-30) and Pangkah (Ujung Pangkah 1998; Sidayu 2000). With good basement and paleogeography maps)

Murtani, A.S., D.W. Dwiperkasa, P. Patria & J. Xu (2015)- Seismic lineament analysis of a fractured limestone reservoir in the Ujung Pangkah Field. Proc. 35th Ann. Conv. Indon. Petrol Assoc. (IPA), Jakarta, IPA15-G-055, 12p.

(Oligocene- E Miocene Kujung Fm carbonate reservoir in Ujung Pangkah oil field (SW part of JS-I Ridge, E Java Sea) with three dominant fracture orientations: NE-SW, NW-SE and E-W)

Natasia, N., M. K. Alfadli & I. Syafri (2017)- Eocene- Late Miocene tectonostratigraphy of Bima Field in Northwest Java Basin. J. Geol. Sciences Applied Geology (UNPAD) 2, 3, p. 109-118.

(online at: <http://jurnal.unpad.ac.id/gstag/article/view/15619/7346>)

Nayoan, G.A.S. (1975)- Geology of the Karimunjawa Islands. Geologi Indonesia (IAGI) 2, 2, p. 13-20.

(Karimunjawa Islands in Java Sea N of Semarang up to >500m elevation. Two formations: Karimunjawa Fm Pre-Tertiary, unfossiliferous, steeply dipping, low-metamorphic sandstones, conglomerate, phyllite, possibly isoclinally folded, unconformably overlain by horizontal, ?Holocene basalts. Older formation correlated with Upper Triassic flysch by Van Bemmelen (1949), and probably southernmost Sundaland. Structural grain NW-SE, steeply dipping, mainly to SW (so unlikely to be part of Cretaceous accretionary terrane?; JTvG). Karimunjawa Arch surrounded by onlapping Tertiary sediments, probably always exposed during Tertiary)

Nedom, H.A. & H.J. Ramsey (1972)- Exploration and development of a new petroleum province, Java Sea, Indonesia. Proc. First Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 111-137.

Noble, R.A. & F.H. Henk (1996)- Source characteristics of Terang-Sirasun bacterial gas field. Proc. 25th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1p. *(Abstract only)*

(Terang-Sirasun gas field 100 km N of Bali in E Java Sea. ~1 TCF in Plio-Pleistocene Paciran Fm sandstone and foraminiferal limestones. Gas >99% methane, of microbial origin in anoxic marine setting)

Noble, R.A. & F.H. Henk (1998)- Hydrocarbon charge of a bacterial gas field by prolonged methanogenesis: an example from the East Java Sea, Indonesia. Organic Geochem. 29, 1-3, p. 301-314.

(Terang-Sirasun 1982 field N of Bali >99.5% biogenic methane in Late Miocene-Pliocene Paciran Mb sandstone and globigerinid limestone, sealed by Quaternary Lidah Fm shales)

Nugraha, H.D., I.W.A. Darma & F.H. Darmawan (2016)- Ngimbang clastics play in the East Java Basin: new insight and concepts for North Madura Platform. Proc. 40th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA16-98-G, 13p.

(Ngimbang clastics syn-rift succession in several NE-SW trending Paleogene half-grabens in E Java Basin. Consists of thick (~90m), but laterally-restricted fluvio-deltaic deposits, and thinner (~60m) but more extensive glauconitic shallow marine sandstones. Pagerungan Field produced 1.5 TCF gas from this play. Play fairway analysis with emphasis on reservoir distribution on N Madura Platform. Underlying basement NE-SW trending fold-thrust belt(s) (steeply dipping reflectors to NW on 3D seismic?))

Nugroho, A., A. Ginanjar, S. Radiansyah & P. Syuhada (2017)- Integrated G & G evaluation to unveil new shallow gas opportunities in Cisubuh Formation, APN Field, ONWJ PSC, Indonesia. Proc. Joint Conv. HAGI-IAGI-IAFMI-IATMI (JCM 2017), Malang, 5p.

(Shallow gas in Pliocene Cisubuh Fm sandstones in offshore NW Java basin formerly viewed as shallow drilling hazards, now potential targets (e.g. over ANP, Lima fields). Biogenic gas)

Pangesty, N.J., Aveliansyah, H. Nugroho & D Utomo H. (2017)- Hydrocarbon potential mapping for fractured basement reservoir plays in the offshore North-West Java Block. Proc. 41st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA17-670-SG, 19p.

(Hydrocarbon indications in Pretertiary basement of offshore NW Java Basin mainly in metamorphic rocks (schist, gneiss, marble, quartzite))

Pepper, A.S. & S.J. Matthews (2000)- Structural and petroleum systems modelling of the Eocene Ngimbang-sourced petroleum systems of the eastern East Java Sea. Part 2: Petroleum systems model. AAPG Int. Conf. Exhib., Bali, Indonesia, 1p. *(Abstract only)*

(Thermal modeling of hydrocarbon source potential of coals and carbargillites in Eocene Ngimbang clastics of E Java Sea suggests large areas of basin are at maximum burial and thermal stress today. Due to high oil expulsion temperature (140° C at 5° C/Ma) and relatively limited post-rift deposition areas of effective kitchen severely limited)

Phillips, T.L., R.A. Noble & F.F. Sinartio (1991)- Origin of hydrocarbons, Kangean Block Northern platform, offshore northeast Java Sea. Proc. 20th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 637-662.

(Oil in JS 53 and gas in Pagerungan from Eocene and older source rocks in E-W trending kitchen between fields. Late Eocene Ngimbang Fm coals and carbonaceous shales correlated to oil at JS 53 and condensate at Pagerungan. Paleocene-M Eocene Pre-Ngimbang Fm probable gas source at Pagerungan. Cretaceous sediments overmature and non-generative. Seismic shows E-W trending syncline in Cretaceous and Pre-Ngimbang N of Pagerungan, with N limb subcropping beneath JS 53 and Igangan-1. S limb subcrops beneath Pagerungan. Ngimbang and Pre-Ngimbang at maximum burial today in syncline. Hydrocarbon generation triggered by sedimentation associated with Late Miocene N-S compressional event)

Pireno, G.E. (2004)- Deep-water petroleum systems of the Southern Basin, North Lombok, Indonesia. In: R.A. Noble et al. (eds.) Proc. Deepwater and Frontier exploration in Asia and Australasia Symposium, Indon. Petroleum Assoc. (IPA), Jakarta, p. 321-332.

(Southern basin is Early Tertiary NE-SW and E-W half-graben, with sedimentation starting with M Eocene lacustrine sediments. Marine incursion started in mid Late Eocene. Inversion events in Late Eocene, mid-Oligocene and Plio-Pleistocene. L46-1 well tested oil in Eocene non-marine sandstone)

Poggiagliolmi, E., V.R. Checka, R.C. Roe & R. Purantoro (1988)- Reservoir petrophysics of Bima Field, N.W. Java Sea. Proc. 17th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 359-373.

(Mapping of porosity on petrophysically calibrated seismic data. Bima Field large field in Miocene Baturaja Fm carbonate buildup on flank of N-S trending basement high and underlying Talang Akar Fm sandstones)

Ponto, C.V., C.H. Wu, A. Pranoto & W.H. Stinson (1988)- Improved interpretation of the Talang Akar depositional environment as an aid to hydrocarbon exploration in the ARII Offshore Northwest Java contract area: Proc. 17th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 397-422.

(Oligocene Talang Akar Fm previous facies interpretation deltaic and marine. New interpretation determined four environments: continental, delta complex, shore zone and shelf. Delta complex and shore zone good source and reservoir potential. Four stages in Talang Akar Fm depositional history)

Ponto, C.V., C.H. Wu, A. Pranoto & W.H. Stinson (1989)- Controls on hydrocarbon accumulation in the Main, Massive sandstones of the Upper Cibulakan Formation, Offshore Northwest Java Basin. In: B. Situmorang (ed.) Proc. 6th Regional Conf. Geology Mineral Hydrocarbon Resources of Southeast Asia (GEOSEA VI), Jakarta 1987, IAGI, p. 345-361.

(M Miocene Upper Cibulakan E-M Miocene 'Massive' and 'Main' hydrocarbons controlled by depositional facies (deltaic and shelfal) and mature Oligocene source rock distribution. Four cycles of delta progradation from northern source)

Posamentier, H.W. (2001)- Lowstand alluvial bypass systems: incised vs. unincised. American Assoc. Petrol. Geol. (AAPG) Bull. 85, 10, p. 1771-1793.

(Miocene unincised and Pleistocene incised valleys imaged on 3D seismic on shelf offshore NW Java)

Posamentier, H.W. (2002)- Ancient shelf ridges- a potentially significant component of the transgressive systems tract: case study from offshore northwest Java. American Assoc. Petrol. Geol. (AAPG) Bull. 86, 1, p. 75-106.

(3-D seismic of Miocene off NW Java shows extensive shelf ridge deposits: linear bodies 0.3 - 2.0 km wide, >20 km long, and up to 17 m high. Features asymmetric, characteristically sharp-edged and thicker on one side. Shelf ridge deposits tend to be sand prone and overlie ravinement surfaces. Ridges oriented parallel with axes of broad paleoembayments associated with structural fabric of basin. Ridges formed as result of erosion and reworking of sand-prone deltaic and/or coastal-plain deposits by shelf tidal currents, immediately after shoreline transgression. These deposits migrated across ancient sea floor, represent important component of transgressive systems tract, and have significant exploration potential.)

Posamentier, H.W. & P. Laurin (2005)- Seismic geomorphology of Oligocene to Miocene carbonate buildups offshore Madura, Indonesia. Soc. Expl. Geoph. (SEG) 2005 Ann. Mtg., Houston 2005, 4p. *(extended abstract)*

(Buildups N of Madura range from small patch reefs to platforms with outliers, and tide influenced elongate large patch reefs in Kujung 2, Kujung 1, and Wonocolo Fms. Clastic low-angle clinoforms from NNW between deposition of Kujung 1 and Wonocolo Fms. Post Wonocolo basin subaerially exposed and veneered by fluvial systems. Small Kujung 2 patch-reef buildups <120- 500m wide. Across platform 100's of small circular buildups, with ~25-40m of relief. Larger Kujung 1 patch reefs coalesced to form NW-SE trending platform. Buildups within platform 600m- 2 km diameter and 200-300m thick. Smaller patch reefs 60-120m diameter at tops of buildups. Large build-ups off platform, up to 400m thick with diameters 1- 6.5 km. Anastomosing 200m deep and 650m wide channels normal to platform and terminate at buildup margin. Wonocolo buildups larger than Kujung buildups and have clinoform architecture: circular to elliptical, 4-10 km wide and up to 20 km long, separated by 1.2-2.5 km wide tidal channels)

Posamentier, H.W., P. Laurin, A. Warmath, M. Purnama & D. Drajat (2010)- Seismic stratigraphy and geomorphology of Oligocene to Miocene carbonate buildups offshore Madura, Indonesia. In: W.A. Morgan, A.D. George et al. (eds.) Cenozoic carbonate systems of Australasia, Soc. Sedimentary Geology (SEPM), Spec. Publ. 95, p. 175-194.

(Images of Miocene carbonate landscapes from 3D seismic off N Madura. Buildups range from small patch reefs to platforms with outliers. Tide-influenced elongate large patch reefs in Kujung 2 and K 1 and Wonocolo Fms. Clastics low-angle clinoforms from NNW. Top Wonocolo Fm subaerially exposed and site of densely spaced fluvial systems. Hundreds of small circular buildups of Kujung 2 range from 120-500m in diameter, and 25-40m of relief. Larger circular to elliptical patch reefs of Kujung 1 coalesced to form NW-SE trending platform. Buildups within platform 600m- 2 km wide and 200-300m thick. Smaller patch reefs at tops of buildups. Large buildups form off platform, up to 400m thick, 1-6.5 km wide. Anastomosing channels up to

200m deep and 650m wide, normal to platform. Woncolo buildups larger than Kujung (4-10 km wide, 20 km long), with internal clinoforms and separated from each other by tidal channels 1.2–2.5 km wide)

Posamentier, H.W., W. Suyenaga, D. Rufaida, R. Meyrick & S.G. Pemberton (1998)- Stratigraphic analysis of the Main Member of the upper Cibulakan Formation at E field, offshore northwest Java, Indonesia. Proc. 26th Ann. Conv. Indon. Petroleum Assoc., p. 129-153.

(Amplitudes in Upper Cibulakan Fm at E Field show E-W trending channel, likely deltaic. Biostratigraphic and sedimentologic data indicate open marine channel-fill. Main Member imaging reveals sand fields or patches, interpreted as sand waves migrating across transgressive surface of erosion)

Prasetya, A., S. Romi, A. Yumansa, R. Agustiana, M. Setiawan & I.M. Harun (2017)- An incised valley filled system on a Ngimbang Limestone sequence at JS-1 Ridge, offshore East Java Basin, Indonesia. Proc. 41st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA17-507-G, 19p.

(Seismic evidence of undrilled N-S oriented incised valley in mid-Oligocene at Top Lower Ngimbang Fm carbonate-dominated section on JS-1 Ridge in E Java Sea)

Prasetyo, H. (1992)- The Bali-Flores Basin: geological transition from extensional to subsequent compressional deformation. Proc. 21st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 455-478.

(Young back-arc thrusting N of Bali-Lombok-Flores, showing oceanic crust of Flores basin currently closing)

Prasetyo, H. & B. Dwiyanto (1986)- Single channel seismic reflection study of the eastern Sunda backarc basin, North central Flores, Indonesia. Bull. Marine Geol. Inst. Indonesia 2, 1, p. 3-11.

Prasetyo, H. & L. Sarmili (1994)- Structural and tectonic development of West-East Indonesian backarc transition zone; implications for hydrocarbon prospect. Bull. Marine Geol. Inst. Indonesia 9, 2, p. 23-60.

(W-E Indonesian Backarc Transition Zone (WEIBTZ) in E Sunda Arc System between Makassar Strait to N Bali and to E by NW-SE trending submarine ridge N of Flores. Tectonic phases: 1. Paleocene rifting; 2. M Miocene and younger basement-involved inversion to form 'Sunda Folds', related to collision of Buton micro-continent with Sulawesi arc. 3. Flexure of SE Sunda shield margin to S beneath volcanic ridge; 4. Neogene back arc fold-thrust zone, associated with Australian margin-Banda Arc collision and subduction of Roo Rise oceanic plateau in Sunda Trench S of Bali. Westward transition from well-defined accretionary wedge to fold structural styles indicates W-ward decrease in shortening. Back arc thrusting N of Lombok reflects initial stage of arc polarity reversal, in which oceanic crust of Flores Sea subducted S-ward beneath arc, while Bali Basin represents analog of initial stage of foreland fold-thrust belt. Back arc region of E Sunda arc currently closing)

Prasetyo, H., Y.R. Sumantri, B. Situmorang & S. Wirasantosa (1995)- The 'Doang Borderland System' in the Southeast Sunda Shield margin: implications for hydrocarbon prospect in the eastern Indonesia frontier region. In: Int. Seminar on the sea and its environments, Ujung Pandang 1995, p.

(Seismic, gravity, drill-holes, side-scan seafloor mapping and Airborne Laser Fluoresensor data used to determine geologic-tectonic development of "Doang Borderland System", a NE-SW and E-W series of ridges and deep basins in E Sunda Backarc. Basement consists of mixed oceanic, continental and Paleogene volcanic rocks, suggesting multiphase deformation. At least five geologic- tectonic episodes: (1) Some of Pre-Tertiary and economic basement show compressive regime (subduction/ collision); (2) Most of DBS Paleogene extensional regime; (3) extensional regime inverted to form 'Sunda Fold' structures; (4) Flexural downbowing to S of SE Sunda Shield margin (N basin margin) along N Sunda volcanic ridge; and (5) Backarc fold-thrusting since Neogene, associated with Australian margin- Sunda Arc collision and Roo Rise (oceanic plateau) subduction in Sunda Trench. Back arc portion of the DBS currently closing and will form suture zone in future)

Prasetyo, T. & Sugeng Herbudianto (1997)- First screening method use in low contrast low resistivity pay evaluation of the upper Cibulakan reservoirs in the L Field, offshore Northwest Java. Proc. 26th Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, p. 58-70.

(On evaluation of Miocene low resistivity pay horizons in L field, Arjuna basin, offshore NW Java)

Pratama, W.V., A. Ikhrandi, T. Nugroho, F. Fathurrahman, H. Utomo & R. Amami (2015)- Bawean island as a new geotourism destination in East Java basin. Proc. Joint Conv. HAGI-IAGI-IAFMI-IATMI, Balikpapan, JCB2015-110, 10p.

(Geotourism potential of Bawean Island on Bawean Arch, E Java Sea. With outcrops of Late Oligocene- E Miocene limestone, Late Miocene- Pliocene quartz sandstones and Pleistocene volcanics. Oil seep at in Mt. Lantung, Sangkapura district, S Bawean)

Primadani, G.S., I.M. Watkinson, H. Gunawan & D. Ralanarko (2018)- Tectonostratigraphy of the ASRI Basin, SE Sumatera, Indonesia: unlocking the hidden potential of Oligo-Miocene reservoirs and implications for hydrocarbon prospectivity. Proc. 42nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA18-19-G, 14p.

(Brief review of rel. well-known basin)

Prior, S.W. (1987)- Bima Field, Indonesia, a sleeping giant. In: M.K. Horn (ed.) Trans. 4th Circum Pacific Council for Energy and Mineral Resources Conf., Singapore 1986, p. 199-212.

(On large ARCO Bima oil field, offshore NW Java, with ~100 MBO of recoverable reserves. 2/3 of oil in partly stratigraphic trap of E Miocene Baturaja Limestone. Additional pay in deeper Talang Akar Fm sst. First drilled in 1974 by ZZZ-1 well, but at that time deemed non-commercial and heavy oil)

Priyono, R., J. Widjonarko, E. Sunardi & B. Adhiperdana (2007)- Petroleum potential of the East Java- Lombok basin, North and South Makassar Strait and offshore Kutei basin. Proc. 31st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, G-068, 12p.

(General paper promoting hydrocarbon potential)

Purantoro, R., P.J. Butterworth, J.G. Kaldi & C.D. Atkinson (1994)- A sequence stratigraphic model of the Upper Cibulakan sandstones (Main Interval), offshore Northwest Java Basin: insights from U-11 Well. Proc. 23rd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 289-306.

Radke, M., J. Rullkotter & S. P. Vriend (1994)- Distribution of naphthalenes in crude oils from the Java Sea: source and maturation effects. *Geochimica Cosmochimica Acta* 58, p. 3675-3689.

(C1-C3 naphthalenes and cadalene determined in 60 crude oil samples from Sunda, Arjuna and Jatibarang basins and in sample of Oligocene Talang Akar Fm resinite. Oils from Ardjuna and Jatibarang basins mainly derived from terrestrial sources. Transition to marine depositional environment in Sunda basin, indicated by decrease in C29 sterane relative abundance from 70 to 30%)

Rahardiawan R. & C. Purwanto (2014)- Struktur geologi Laut Flores, Nusa Tenggara Timur. *J. Geologi Kelautan* 12, 3, p. 153-163.

(online at: <http://ejournal.mgi.esdm.go.id/index.php/jgk/article/view/256/246>)

('Geological structures of the Flores Sea, East Nusa Tenggara'. Shallow seismic lines of Flores Sea between SE Sulawesi/Buton and Flores, with accretionary prisms, inactive volcanoes and active faults at seafloor)

Ralanarko, D., H. Gunawan, P. Nugroho, Sun Pengxiao & Su Chonghua (2015)- Uncertainty on stratigraphic heterogeneities within West Area and East Area of Widuri Field, offshore Ses Block, Indonesia: identifying 35-1 interval thin reservoir as an upside potential from fluvial channel system in Talangakar Formation, Asri Basin. Proc. Joint Conv. HAGI-IAGI-IAFMI-IATMI, Balikpapan, JCB2015-368, 6p.

(Reservoir sand distribution in fluvial 35-1 sand in Gita Mb of Talang Akar Fm in Widuri Field)

Ralanarko, D. & W. Senoaji (2012)- Shallow gas in ASRI Basin, Southeast Sumatra, Indonesia: drilling hazard or future potential? Proc. 37th Ann. Conv. Indon. Assoc. Geophys. (HAGI), Palembang, PITHAGI2012-065, 5p.

(Shallow gas in Air Benakat Fm sandstone reservoirs in Susana-01 around 1600- 1800' TVD and in other wells at ~1400'. Gas accumulations can be identified as bright spots on 3D seismic. Gas 99% methane and viewed as biogenic, based on gas isotope lightness and low C2-C7 content. Most probably generated from shale in M-L Miocene Air Benakat Fm)

Ralanarko, D., J. Sunarta, H. Gunawan, P. Nugroho, W. Wijadhy, C.H. Su & P.X. Sun (2016)- Development of low resistivity pay in Asri Basin, Southeast Sumatera Block, Indonesia. Proc. GEOSEA XIV and 45th Ann. Conv. Indon. Assoc. Geologists (IAGI) (GIC 2016), Bandung, p. 108-113.

(Low resistivity of basal rift sandstone reservoirs tied to alluvial fan sediments)

Ralanarko, D., A. Wijaya, R.L. Jauhari & W. Senoaji (2012)- Geochemistry analysis for reoptimizing a gas well to be developed case study: ASRI Basin, offshore Southeast Sumatra, Indonesia. Proc. 41st Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 2012-E-11, 6p.

(Asri Basin in W Java Sea with cumulative oil production of 549 MMBO. Talang Akar Fm main productive reservoir. Secondary target now is gas in Air Benakat Fm. Gas analysis: methane (98.9%), wetness 0.50%. Stable isotope data show gas unlikely to be biogenic gas without thermal hydrocarbons)

Ramadhan, G.C., Y.D. Setiawati, A. Ginanjar, P.K.D. Setiawan & P.I. Syuhada (2017)- Sub-facies coding of single sand ridge facies: a new approach to interpret detailed sand ridge reservoirs. Proc. Joint Conv. HAGI-IAGI-IAFMI-IATMI (JCM 2017), Malang, 7p.

(Discussion of EMiocene N-S trending shallow marine sand ridges in U Cibulakan 'Main' and 'Massive' intervals of K, E and U fields, offshore NW Java basin (see also Setiawati et al. 2017)

Ramsay, H.J. & H.A. Nedom (1973)- Exploration and development of a new petroleum province; Java Sea, Indonesia. J. Petroleum Technology 25, 4, p. 395-401.

(Early paper on first 10 oil-gas discoveries made in offshore NW Java basins since start of exploratory drilling in 1968)

Ratkolo, T. (1994)- Reservoir characteristics and petroleum potential of the mid main carbonate, Upper Cibulakan Group, Northwest Java Basin, Indonesia. Ph.D. Thesis University of Wollongong, p. 1-509.

(online at: <http://ro.uow.edu.au/theses/1402/>)

(M Miocene Mid Main Carbonate sequence in Seribu Shelf area of NW Java Basin comprises numerous N-S trending reef build-ups. Five coral-algal-foraminiferal limestone facies distinguished. Main diagenetic processes early diagenetic marine and vadose cementation, followed by later dissolution and cementation. The latter processes with greatest effect on porosity and permeability. Larger pores mainly secondary vugular or fracture porosity (23%, 19%). Coarser grainstone- packstone facies locally reduced porosity by cementation (e.g. 14% porosity and low permeability in Coral Limestone facies). Good quality reservoirs >10% recovery efficiency. Oil from Mid Main Carbonate reservoir characterized by presence of bicadinane resins, oleanane and high pristane/phytane ratio, indicating tropical land-plant precursor)

Reksalegora, S.W. (1993)- Reservoir distribution of the Upper Cibulakan Formation in the Seribu Shelf M-MM area, ARII ONWJ contract area: the search for additional reserves. Proc. 22nd Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 2, p. 832-846.

(Reservoir distribution maps of offshore NW Java Seribu Platform show clastic and carbonate reservoir distribution controlled by underlying basement, with NNW-SSE trends for sandstones and N-S trends for carbonates)

Reksalegora, S.W. (1999)- Biogenic structures of the B-28 zone "Main" interval, offshore Northwest Java. In: H. Darman & F.H. Sidi (eds.) Tectonics and sedimentation of Indonesia, FOSI-IAGI-ITB Regional Seminar to commemorate 50th anniversary of Van Bemmelen's Geology of Indonesia, Bandung 1999, p. 43-45.

(Brief discussion of bioturbation in M Miocene tide-dominated shoreface to offshore deposits of U Cibulakan Fm B-28 zone of B Field. Common sub-horizontal trace fossils Thalassinoides, Planolites, Chondrites, etc.)

Reksalegora, S.W., Y. Kusumanegara & P. Lowry (1996)- A depositional model for the oMainö interval, Upper Cibulakan Formation: its implications for reservoir distribution and prediction, ARII ONWJ. Proc. 25th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 163-173.

(Two sandbody types in "Main" interval: (1): sharp-based, bioturbated, glauconitic sandstone, with Glossifungites surface and siderite mudclasts, N-S orientation, 1-2 km wide, 5-8 km long. Sandbodies of same age and similar facies in W Java outcrops pinch out over 500m. Lower bounding contact discordant with

underlying interbedded sandstone and mudstone. Sandbody formed in response to sea-level lowstand. (2): middle to lower shoreface "cleaning upward", burrowed sandstone with sharp upper-contact. Lower contact burrowed, siltstones and mudstones. Laterally extensive and correlative over inter-field distances (10's of km).

Reynolds, J.R. (1995)- Northeast Java Basin. In: C. Caughey et al. (eds.) Seismic Atlas of Indonesian Oil and Gas Fields, Vol. 2: Java, Kalimantan, Natuna and Irian Jaya, Indon. Petroleum Assoc. (IPA), Jakarta, p. JAV11-JAV13.

(NE Java basin rel. stable northern platform (Java Sea) and series of deep basins to S (onshore), separated by 30-40 km wide, E-W trending Rembang inversion zone, which includes Madura Island. NE-SW trending Bawean Arch dominant positive feature offshore, which remained emergent from Eocene - E Miocene and was major source of clastic material to nearby depocenters. Smaller offshore highs, like JS-I-1 ridge, trend parallel to arch and separated by grabens and half-grabens with Eocene-Oligocene source rocks. With stratigraphic column and regional seismic line Trembul- Semanggi-Ledok- Kawengan fields)

Roberts, H.H., P. Aharon & C.V. Phipps (1988)- Morphology and sedimentology of *Halimeda* bioherms from the eastern Java Sea (Indonesia). Coral Reefs 6, 3-4, p. 161-172.

(Halimeda bioherms along W and S margins of Kalukalukuang Bank, E Java Sea. Numerous bioherms at N bank, with tops in 30-50m water depth. Fewer and thicker along deeper S margin. No reef-building corals below 15m. Upwelling of cold water and nutrient overloading from Pacific Throughflow water possible explanations for remarkable algal growth at expense of reef-building corals)

Roberts, H.H., C.V. Phipps & L. Effendi (1987)- *Halimeda* bioherms of the eastern Java Sea, Indonesia. Geology 15, p. 371-374.

(Bioherms composed mainly of Halimeda plates on Kalukalukuang Bank, 50-70 km E of central Sunda Shelf. Thickness up to 52m above Top Pleistocene surface. Presence and growth rate possibly related to upwelling of deep, nutrient rich S-moving Pacific Throughflow water from Makassar Strait)

Roberts, H.H., C.V. Phipps & L.L. Effendi (1987)- Morphology of large *Halimeda* bioherms, eastern Java Sea (Indonesia): a side-scan sonar study. Geo-Marine Letters 7, 1, p. 7-14.

(The most extensive, and thickest Halimeda bioherms reported from modern seas are along margins of Kalukalukuang Bank, E Java Sea. Features average 20-30m thick (max. 50m) and developed over large areas by coalescence of individual mounds. Morphologies range from small mounds (10-20m diameter) through haystack features (100m diameter) to broad swells. Upwelling of cold, nutritive water responsible for high Halimeda productivity and large bioherm development)

Roe, G.D. & L.J. Polito (1977)- Source rocks for oils in the Ardjuna sub-basin of the Northwest Java basin, Indonesia. In: Proc. Seminar Generation and maturation of hydrocarbons in sedimentary basins, Manila 1977. United Nations ESCAP CCOP Techn. Publ. 6, p. 180-194.

Roniwibowo, A. (2014)- Studi pendahuluan potensi gas biogenik- termogenik pada area tinggian Bawean, cekungan Muriah, Laut Jawa Timur Utara. Proc. 43rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, PIT IAGI 2014-115, 11p.

(Preliminary study on the potential for biogenic-thermogenic gas in the Bawean High area, Muriah basin, North East Java Sea'. Gas in Kujung Fm in Lengo-1 well mixture of hydrocarbon (67%) and non-hydrocarbon gas (CO₂ 13%, Nitrogen 20%). Carbon isotopes indicate gas is biogenic, or mixed biogenic- thermogenic. Main source of gas in Muriah basin. Several exploration wells with high CO₂ in Tuban Fm sandstones and Kujung Fm limestones. CO₂ in Lengo-1 gas derived from inorganic source, probably magmatic activity, in other wells derived from organic activity)

Roniwibowo, A. (2015)- Biogenic gas exploration in the Bawean High offshore North East Java Basin. Proc. 39th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA15-G-285, 14p.

(English version of Roniwibowo (2014). Active biogenic source in Muriah Trough, Bawean High and E Florence Basin, in coal beds and shale)

Roniwibowo, A. (2016)- Biogenic gas exploration in the Bawean High, offshore North East Java Basin, Part II. Proc. GEOSEA XIV and 45th Ann. Conv. Indon. Assoc. Geologists (IAGI) (GIC 2016), Bandung, p. 480-484. (*Follow-up of Roniwibowo 2014-2015 papers. Hydrocarbon gases in W part of Bawean High thermogenic (from SW part of Bawean High), mixed with 'secondary biogenic' (optimum development between ~1400'-~2750' ss). Late generation of CO₂ (>90% in Merak wells) probably from local volcanic/magmatic activity*)

Ruf, A.S., J.A. Simo & T.M. Hughes (2008)- Insights on Oligocene-Miocene carbonate mound morphology and evolution from 3D seismic data, East Java basin, Indonesia. Proc. 32nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA08-G-093, 10p. (*3D seismic interpretation of Oligocene-Miocene carbonate buildups of N Madura Platform. Same paper as below. Locally high CO₂ content in gases in region; mainly of inorganic (magmatic) origin*)

Ruf, A.S., J.A. Simo & T.M. Hughes (2008)- Quantitative characterization of Oligocene-Miocene carbonate mound morphology from 3D seismic data: applications to geologic modeling, East Java Basin, Indonesia. In: Proc. Int. Petroleum Techn. Conf. (IPTC), Kuala Lumpur 2008, IPTC 12511, p. 1-11. (*3D seismic interpretation of N Madura Platform shows growth history of Oligocene-Miocene carbonate buildups. Mound initiation with small (<100-500m), closely spaced, domal buildups, which become nuclei for intermediate mounds (2-3 km), which coalesce into amalgamated platforms (>5 km diameter)*)

Russell, K.L., C. Sutton & W.C. Meyers (1976)- Organic geochemistry as an aid to exploration in the East Java Sea. Proc. 5th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 2, p. 69-80. (*E Java Sea Poleng field oils probably sourced from Kujung Unit III (Early Oligocene) shales, the only unit with TOC >1.5% and sufficiently mature*)

Santoso, M.A., R. Hidayat & G. Mahar (2016)- Analisis sekatan sesar Abbher pada formasi Ngimbang, lapangan South Ridge, cekungan Jawa Timur bagian utara, Provinsi Jawa Timur. In: R. Hidayat et al. (eds.) Proc. 9th Seminar Nasional Kebumihan, Dept. Teknik Geologi, Gadjah Mada University, Yogyakarta, p. 182-191. (*online at: <https://repository.ugm.ac.id/273486/>*)

(*'Analysis of the Abbher fault in theNgimbang formation, South Ridge field, NE Java basin'. Pertamina Hulu South Ridge Field (not real name?) is oil-gas field at NW side of JS-1 Ridge, offshore W Madura Island in E. Java Sea. Cut by by NE-SW trending normal growth fault (syn-rift?; parallel to main E Bawean Trough border fault), which offsets Ngimbang Fm. Shale gouge ratios in 4 wells in Ngimbang Fm suggests sealing fault*)

Setianingpring, P. (2016)- Tektonostratigrafi area North Bali III, Cekungan Jawa Timur Utara. S2 Thesis Gadjah Mada University, p. 1-79. (*Unpublished*) (*'Tectonostratigraphy of the North Bali III area, NE Java basin'. Tectonostratigraphy study based on 43 seismic lines and 6 wells around the North Bali III Area, offshore NE Java basin. Four tectonostratigraphic units: Pre Tertiary pre-rift, Eocene rifting, Late Eocene-Oligocene post-rift and E Miocene and younger syn-inversion*)

Setianingpring, P., E.Y. Sulistiyowati, S. Husein & S.S. Surjono (2016)- Tektonostratigrafi area North Bali III, Cekungan Jawa Timur Utara. Publikasi Ilmiah Pendidikan dan Pelatihan Geologi 12, 2, p. 43-51. (*'Tectonostratigraphy of the North Bali III area, NE Java basin'. Geology of offshore block, N of Bali, E of Kangean. M Eocene rifting (Ngimbang clastics), Late Eocene post-rift (Ngimbang Shale), Oligocene post-rift (Kujung- Prupuh carbonates, M Miocene and younger inversions, etc.)*)

Setiawan, D., F.D. Marianto & D. Dwiperkasa (2017)- Compressional tectonic influence to the structural configuration and its contribution to the petroleum system on the northern platform of East Java Basin. Proc. 41st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA17-71-G, 14p. (*Evidence of compression in Late Oligocene- mid E Miocene of E Java Sea (E-W RMKS fault zone inversion?)*)

Setiawati, Y.D., G.C. Ramadhan, A. Ginanjar, P.K.D. Setiawan & P.I. Syuhada (2017)- Sand ridge facies architecture of the transgressive shelf system using sand width and thickness ratios: a case study of the Main

and Massive interval of Uniform Field, North West Java basin. Proc. 41st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA17-139-G, 14p.

(U Field in Offshore NW Java Basin produces from E-M Miocene shelf sand ridge reservoirs of Main and Massive intervals of U Cibulakan Fm. Mainly N-S trending sand bodies)

Shofiyuddin & S. Sutiyono (2010)- Petrophysical assessment for early water production in the Ujung Pangkah Field, East Java, Indonesia. Proc. 34th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA10-G-030, 9p.

(Ujung Pangkah oil-gas field offshore E Java with complex E Miocene Kujung I (Prupuh FM) carbonate reservoir: E-W trending platform margin reef build-up with steep southern margin. Early water production suspected caused by mobile water through fractures and vuggy porosity)

Sihombing, E.H., P.K.D. Setiawan, L.J. Wood & P. Syuhada (2018)- Strike-slip rift-basin architecture in offshore area Jatibarang subbasin- new findings and future opportunities. Proc. 42nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA18-203-G, 26p.

(Study of Jatibarang sub-basin of NW Java, N of Cirebon. NW-SE trending border fault of Jatibarang sub-basin (OO-Brebes Fault) likely right-lateral transtensional fault and probably part of Pamanukan-Cilacap Fault Zone. Paleogeography maps of Oligocene Talang Akar Fm syn-rift intervals show alluvial fans and fan delta, sourced from N and E)

Sihombing, E.H., P.K.D. Setiawan, L.J. Wood & P. Syuhada (2018)- Sedimentological characteristics of lacustrine associated reservoir in transtensional rift basin: Lake Singkarak modern analogue application in Lower Talangakar Formation, Jatibarang subbasin, NW Java. Proc. 42nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA18-310-G, 29p.

(Fluvial- lacustrine Lake Singkarak deposits compared to Late Oligocene Talangakar Fm in Jatibarang basin)

Situmorang, M., Kuntoro, A. Farurachman, D. Ilahude & D.A. Siregar (1994)- Distribution and characteristics of Quaternary peat deposits in eastern Java Sea. Bull. Marine Geol. Inst. Indonesia 8, 4, p. 9-20.

(Non-marine and marine sediments on E Java Sea seafloor between Madura and Kalimantan include channel, swamp, volcanogenic, kaolinitic and marine deposits. Widespread swamp deposits with peat layers in E Java Sea, with peat layers up to 0.72m thick. One thick peat layer S of Masalembo 0.4m below sea floor in 30m water radiometrically dated as Early Holocene. This confirms Kalimantan and Java were connected during Quaternary, with Sunda River flowing in middle of area)

Situmorang, M., Kuntoro, A. Faturachman, D. Ilahude & D. Arifin (1994)- Preliminary results on the occurrence of peat deposits in eastern Java Sea. Proc. 30th Sess. Comm. Co-ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Bangkok, 2, p. 87-96.

(Similar to above. Peat layers on Java Sea floor suggest land areas between E Kalimantan and E Java-Madura during the Quaternary, with Sunda river flowing in middle of area)

Smart, S., D. Sturrock & A. Hidayat (2013)- Discrete fracture network modeling based on seismic data, logs, drilling losses, production, and outcrop data- Ujung Pangkah Field. AAPG Hedberg Conf., Fundamental controls on flow in carbonates, Saint-Cyr 2012, Search and Discovery Art. 120090, 4p. *(Extended-Abstract)*

(online at: www.searchanddiscovery.com/documents/2013/120090smart/ndx_smart.pdf)

(Ujung Pangkah Field is 1998 gas condensate field with oil rim just offshore NE Java. Reservoir Miocene Kujung Fm fractured carbonate with good- excellent matrix reservoir quality)

Smit-Sibinga, G.L. (1947)- The morphological history of the Java Sea. Tijdschrift Kon. Nederlands Aardrijkskundig Genootschap 64, p. 572-576.

Smith, S.W., L. Danahey, R. Himawan, W.E. Harmony, H.L. Gilmore, J.W. Armon, T.L. Bowman & W. Smith (1996)- An example of 3-D AVO for lithology discrimination in Widuri Field, Asri Basin, Indonesia. The Leading Edge 15, 4, p. 283-288.

(Oil producing Lower Miocene U Gita Mbr sandstones of U Talang Akar Fm in Widuri Field, Asri Basin, off SE Sumatra, correlate with bright seismic amplitudes on 3-D seismic data. Amplitude maps at Base Upper Gita horizon interpreted as NE-SW trending belt of meandering distributary or fluvial channels)

Sosa J.C., F.B. Palao, J.S.S. Toralde & H. Zaki (2010)- Underbalanced drilling challenges and benefits in a marginal high-pour-point oil reservoir in Sepanjang Island, Indonesia. In: Proc. SPE/ IADC Managed pressure drilling and underbalanced operations Conf., Kuala Lumpur 2010, 12p.

(Sepanjang field is marginal oil field on Sepanjang Island, E Java Sea, part of Kangean PSC, first discovered by ARCO in 1990. Oil from (Eocene) Ngimbang Carbonate reservoir mostly of heavy black oil with high pour point of 120°F, wax content 24.9%, specific gravity 0.8574 and API gravity 33. Reservoir is tight Ngimbang Fm carbonate at depth of ~4600'. Underbalanced drilling for new wells to improve reservoir productivity)

Sosrowidjojo, I.B. (2011)- Organic geochemistry: 1. Geographic location of crude oils based on biomarker compositions of the Sunda-Asri basins, Indonesia. Int. J. Physical Sci. 6, 31, p. 7291-7301.

(online at: www.academicjournals.org/article/article1380715460_Sosrowidjojo.pdf)

(Biomarker cluster analysis of 45 oil samples in Sunda-Asri basins shows 6 geographically separated groups)

Sudarmono, S. Herbudiyanto & T. Abdat (2003)- The state of the art finding new oil and gas reserves in an old and mature area, offshore Northwest Java Sea. Proc. 29th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 2, p. 1-17.

(Offshore NW Java basin mature area. Parigi carbonates neglected as targets because only gas. Success rate in Parigi <30%. Commonly thick Parigi buildups only thin gas columns at top, although one accumulation has >200' of column and holds >1 TCF gas. Example of U1 well. Oil and gas in channel-type sandstones of Talang Akar Fm. underdeveloped due to inability of seismic to image sandstones)

Sudiby, T., Atmawan T., Ronnie P. & Bernato V. (2002)- Reservoir characterization study to delineate dimension of "Channel 8", Talang Akar Formation, Cinta Field, Sunda Basin. Proc. 31st Ann. Conv. Indon. Assoc. Geol. (IAGI), Surabaya, 1, p. 193-223.

(E-W trending deltaic 'channel 8' sand in Late Oligocene upper Talang Akar Fm in Cinta field, offshore NW Java, is 800-1500m wide and 17-70' thick. Produced ~11 MBO)

Sukanto, B., B. Siboro, T.D. Lawrence & S.W. Sinclair (1995)- Talang Akar (Oligocene) source rock identification from wireline logs- applications in the deep Ardjuna Basin, Offshore Northwest Java. Proc. 24th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 185-200.

Sukanto, J., F. Nunuk, J.B. Aldrich, G.P. Rinehart & J. Mitchell (1998)- Petroleum systems of the Asri Basin, Java Sea, Indonesia. Proc. 26th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 291-312.

(Asri Basin off SE Sumatra PSC recoverable oil reserves of ~500MMBO from nine fields including major Widuri and Intan oil fields. Penetration of organic-rich, mature source rock by Harriet-2 well in 1995 helped define primary petroleum system. Good geochemical match between produced oils and E Oligocene Banuwati Fm lacustrine shales)

Sukaryadi, E.K.A. (2001)- Characteristics and sandbody geometry of the 34-1 reservoir, Widuri Field offshore Southeast Sumatra. Proc. 28th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 105-118.

(34-1 sandstone one of six productive reservoirs in Widuri field, Asri Basin, off SE Sumatra. The 34-1 thickness 10-53' and deposited in fluvio-deltaic setting. Incl. channel facies with E-W trend)

Suria, C. (1991)- Development strategy in the BZZ Field and the importance of detailed depositional model studies in the reservoir characterization of Talang Akar channel sandstones. Proc. 20th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 419-451.

Suria, C., C.D. Atkinson, S.W. Sinclair, M.J. Gresko & B. Mahaperdana (1994)- Application of integrated sequence stratigraphic techniques in non-marine/marginal marine sediments; an example from the Upper Talang

Akar Formation, Offshore Northwest Java. Proc. 23rd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 145-159.

Suria, C., P.J. Butterworth, M.J. Gresko, S.W. Sinclair & C.D. Atkinson (1995)- Sequence stratigraphic surfaces identified on conventional core data: Talang Akar Formation, Ardjuna Basin, offshore Northwest Java. In: C.A. Caughey et al. (eds.) Proc. Int. Symp. Sequence stratigraphy in SE Asia, Indon. Petroleum Assoc., Jakarta, p. 327. (*Abstract only*)

Susilohadi, S. & T.A. Soeprapto (2015)- Plio-Pleistocene seismic stratigraphy of the Java Sea between Bawean Island and East Java. *Berita Sedimentologi* 32, p. 5-16.
(*Marine geology/ seismic stratigraphy of SE part of submerged Sunda Shelf, N of E Java and Madura. Multiple Quaternary erosional features resulting from exposure during major sea level lows*)

Sutanto, H., N. Andani, J.T. Musu, E.A. Subroto, A. Bachtiar & A.H. Satyana (2016)- Mesozoic-aged oils in the Northeast Java Basin, Indonesia: evidence from triaromatic dinosteroid. Proc. 40th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA16-663-G, 17p.
(*High Triaromatic Dinosteroid Index in 3 oil samples from Sepanjang Island 1,3,4 wells, SE of Kangean, may correlate to Cretaceous age, as also supported by previously reported Oleanane Index <20%, which is common for samples from older sources than Cenozoic. 'Supports idea that Cretaceous source rocks were deposited in marine setting while Australia-derived microcontinent was drifting N-ward before it collided with SE margin of Sundaland in Cretaceous' (NB: If 'triaromatic dinosteroid' biomarker indicates Mesozoic and younger marine dinoflagellates and oleanane indicates (Upper) Cretaceous and younger angiosperm land plants, couldn't the low oleanane/ high dinosteroid signify marine Tertiary, not necessarily Cretaceous, source facies?; JTvG)*)

Sutanto, H. & J.T. Musu (2014)- Application of oleanane and sterane index for biostratigraphic age determination: examples from Kangean oils, Northeast Java Basin. *Lemigas Scientific Contr. Petrol. Sci. Techn.* 37, 1, p. 15-24.
(*NE Java Basin hydrocarbon source rock generally believed to be in Late Eocene- E Oligocene early synrift Ngimbang Fm. Occurrence of Alisporites sp. suggest presence of Cretaceous sediments, which may also be potential source rock. Crude oils from Paleogene Ngimbang Fm in Kangean oil field in offshore NE Java Basin classified as mixed oil, with organic matter from both marine and terrestrial sources, deposited under oxidizing and reducing conditions. Very low oleanane Index (<20%; marker for flowering plants) suggests oils originated from Cretaceous source rock*)

Sutanto, H. & J.T. Musu (2015)- Marine depositional environment determination using hydrogen isotopic composition of individual alkanes: case studies from Kangean oils, the Northeast Java basin. Proc. Joint Conv. HAGI-IAGI-IAFMI-IATMI, Balikpapan, JCB2015-207, 9p.
(*Geochemistry of oils from well in Kangean (Sepanjang) area, Java Sea and Kawengan, NE Java basin. Sepanjang 1, 3 oils may be from mixture of marine and terrestrial kerogens, low oleanane% suggests marine shale source. Kawengan oil clearly terrestrial oil from deltaic source rock*)

Sutanto, H., J.T. Musu, A.H. Satyana & A. Bachtiar (2015)- Mesozoic source rocks in Northeast Java Basin, Indonesia: evidence from biomarkers and new exploration opportunities. Proc. 39th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA15-G-090, 17p.
(*Similar to paper above: biomarkers in some oils from Eocene Ngimbang carbonates in Sepanjang Field, SE of Kangean in Java Sea, show stronger marine character and reducing conditions than typical Cenozoic 'Sundaland' oils and also show very low oleanane and sterane indexes, indicating source of oils may be Cretaceous in age. Presence of Lower Cretaceous Alisporites sp. in sediments analyzed, is another indication that there is Cretaceous source in area (proposed to be part of Australian-derived Paternoster-Kangean microcontinent, but Cretaceous marine sediments are also known all around the Sundaland margin; JTvG)*)

Sutisna, K., H. Samodra & A. Koswara (1993)- Geological map of the Kangean and Sapudi Quadrangle, Java, 1708-4, 1709-3, 1808-4, scale 1:100,000. Geol. Res. Dev. Center, Bandung.

(Kangean and Sapudi islands folded Oligocene-Pliocene sediments, mainly N-dipping. Oldest rocks Late Oligocene Cangkramaan Fm marls with planktonic forams. Upper part interfingers with Oligo-Miocene Tambayangan (= Kujung) orbitoid limestone. Overlain by E-M Miocene Jukong-Jukong Fm limestone, unconformably overlain by Late Miocene-Pliocene marine Brakas Fm limestone-sandstones)

Sutiyono, S. (2009)- Reservoir water saturation and permeability modeling in the Pangkah Field. Proc. 33rd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA09-G-022, p. 1-8.

(Ujung Pangkah Field is 1998 discovery in E Miocene platform margin carbonate reef build-up, offshore NE Java, in front of present day Solo river delta. Main producing Kujung-I Fm is complex carbonate reservoir. Paper is on initial petrophysical models to calculate water saturation and permeability)

Sutiyono, S. (2010)- Integrated petrophysics in Kujung carbonate reservoirs, East Java, Indonesia. Proc. 34th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA10-G-012, 7p.

(On log interpretation challenges in E Miocene carbonate buildup of Ujung Pangkah Field, Java Sea)

Sutiyono, E. (1998)- Cenozoic tectonic history of the Sunda-Asri basin, southeast Sumatra: new insights from apatite fission track thermochronology. J. Asian Earth Sci. 16, 5-6, p. 485-500.

(AFT analysis of Cenozoic rocks from wells Asri-1, NE Ria-1, Hariet-1 and Yani-2 in Sunda-Asri basin suggest basin continues subsiding, probably due to extension initiated in Late Eocene. Recent heating of rocks consistent with 800m of Plio-Pleistocene burial. Geothermal gradients relatively constant through Cenozoic)

Sutton, C. (1978)- Depositional environments and their relation to chemical composition of Java Sea crude oils. In: Seminar Generation and maturation of hydrocarbons in sedimentary basins, Manila 1977, United Nations ESCAP, CCOP Techn. Publ. 6, p. 163-179.

Syafrie, I, A. Sudradjat & E. Usman (2012)- Posisi tektonik Bawean-Muria dalam hubungan dengan hidrokarbon cekungan Cepu, Jawa Tengah. Proc. 41st Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 2012-GD-08, p.

(Tectonic position of Bawean- Muriah in relation to the Cepu hydrocarbon basin, Central Java'. Bawean Island volcanics different from Java arc. Composed of phonotepite, basalt andesite, trachite and phonolite, with significant amounts of leucite, with ages of 0.67- 0.26 Ma. Similar to Muria volcano (0.6 -0.4 Ma))

Syarif, M., Bintoro W. & Reno F. (2005)- Seisnofacies study in early fill to source rock depositional environment, Asri basin. Proc. Joint Conv. 30th HAGI, 34th IAGI, 14th PERHAPI, Surabaya 2005, JCS2005-S029, p. 98-111.

(Seismic facies maps of Eo-Oligocene early basin fill of Asri Basin, Java Sea, offshore SE Sumatra, incl. Banuwati lacustrine shale source rocks. Earliest fill alluvial-fluvial setting with N-S sediment transport direction, with local sediment sources from W and E flanks of rift basin)

Takano, O., A. Disiyona, A.P. Tata & B. Heruyono (2008)- Sequence stratigraphy and depositional model of the Ngimbang carbonate reservoir in Pagerungan Utara offshore, Kangean Block, East Java. Proc. 32nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA08-G-062, 11p.

(Eocene Ngimbang Carbonate isolated platform reservoir in Pagerungan Utara two depositional sequences. Sequence boundary is onlap surface. HST of lower sequence (L-M Ngimbang Carbonate), two shoal complexes with progradational and aggradational patterns at W to C part and E part of platform. During relative sea level lowstand topographic highs at center of shoal complexes might be exposed. Subsequent relative sea level rise resulted in TST carbonate deposition (U Ngimbang Carbonate) only on platform with upward fining/deepening facies succession, and finally covered by hemipelagic shales (Ngimbang Shale))

Talo, A.J. & A.G. Randall (1985)- Krisna Lower Batu Raja waterflood project. Proc. 14th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 169-194.

(NW Java basin oilfield development)

Temansja, A.D. & D.C. Bushnell (1986)- A model for hydrocarbon accumulation in Sunda Basin, West Java Sea. Proc. 15th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 47-75.

Tognini, P., A.J. Bromley & N. Khifni (2007)- An alternative view on the existence of an effective petroleum system in the Bali-Lombok area. SEAPEX Exploration Conf. 2007, Singapore, 29p. (*Abstract + Presentation*) (*Bali-Lombok area water depth 200-1000m and extension of E Java Basin. Gravity data suggest thick Tertiary depocentre; part of Paleocene and M Eocene rift system that developed between. Two stage rift model that progressed from E to W. Marine transgression progressed from SE to NW. By end M Eocene Bali-Lombok area fully marine. By Late Eocene deep marine environment while areas to N had just been transgressed. Potential lacustrine and paralic source rocks only in Paleocene- E Eocene. Geochemical evidence of migrated hydrocarbons in dry wells. Basin modeling shows Paleocene- E Eocene source rock reached peak oil by end Eocene, so only Late Eocene- earliest Oligocene structures reasonable chance of capturing hydrocarbons*)

Tonkin, P.C. (1995)- Determination of permeability in sandstone reservoirs affected by diagenetic kaolinite, Cinta Field, Southeast Sumatra. Proc. 24th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 2, p. 45-59. (*Sunda Basin Cinta Field produces from Late Oligocene Talang Akar Fm sandstones and overlying Baturaja Fm reefal carbonates. Sandstones frequently large amounts of pore-filling kaolinite, from breakdown of potassium feldspars from volcanic detritus*)

Tonkin, P.C. & R. Himawan (1999)- Basement lithology and its control on sedimentation, trap formation and hydrocarbon migration, Widuri-Intan oilfields, SE Sumatra. J. Petroleum Geol. 22, 2, p. 141-165. (*Widuri-Intan fields in NW Asri Basin produced ~310 MB Oil from Late Oligocene Talang Akar Fm fluvial-deltaic sandstones. Oil in structural and stratigraphic traps in sinuous-meandering channel sandstones. Reservoir sands interbedded with mudstone and coal and overlie Cretaceous basement rocks. Basement lithologies: (1) hornblende granodiorite; (2) metamorphic rocks (mainly mica schist); (3) plugs of metabasalt and related volcanic rocks; (4) dolomitic limestone. Basement topography influenced subsequent distribution of fluvial channels and sand pinch-outs. Faults controlled by basement lithology, especially at boundaries of intrusives. NW-SE shear zone offset basement between main Widuri and Intan fields. Lidya field reservoir pinch-out onto eroded areas of basement silicification along shear zone. Drape and compaction over eroded volcanic plugs enhanced structural-stratigraphic plays. Reservoir at Indri field underlain by dolomitic limestone and exhibits karst sinkhole and collapse structures*)

Tonkin, P.C., A. Temansji & R.K. Park (1992)- Reef complex lithofacies and reservoir, Rama Field, Sunda basin, Southeast Sumatra, Indonesia. In: C.T. Siemers et al. (eds.) Carbonate rocks and reservoir rocks of Indonesia: a core workshop. Indon. Petroleum Assoc. (IPA), Jakarta, p. 7.1-7.32. (*Five main lithofacies in Rama field E Miocene Baturaja Fm. Secondary porosity restricted to packstones of bioclastic debris from main reef. Rel. minor in-situ reef facies tightly cemented poor reservoir*)

Tyler, D.E. (1997)- New and significant fossil finds from Sangiran, Central Java. In: N. Jablonski (ed.) Changing face of East Asia during the Tertiary and Quaternary, Proc. Fourth Conf. Evolution of the East Asian Environment, p. 498-515.

Tyrrell, W.W. & R.G. Davis (1987)- Miocene carbonate shelf margin, Bali-Flores Sea, Indonesia. In: A. W. Bally (ed.) Atlas of seismic stratigraphy, American Assoc. Petrol. Geol. (AAPG), Studies in Geology 27, 3, p. 174-179. (*Amoco seismic line showing SW prograding Miocene carbonate shelf margin*)

Tyrrel, W.W., R.G. Davies & H.G. McDowell (1986)- Miocene carbonate shelf margin, Bali-Flores Sea. Proc. 15th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 123-140. (*Central Lombok Block (CLB) N of Lombok/ Sumbawa underlain by Cretaceous melange and/or oceanic crust. After E Tertiary block faulting and nonmarine basin-fill, area underwent rapid subsidence. Most of upper Paleogene and Neogene in deep water facies, except along E and N margins where shallow water carbonate banks were progressively drowned. Local reversal of trend in Miocene along N part of CLB where shelf margin carbonate complex prograded ~9 km to SW over deep water basinal deposits during Miocene-?E Pliocene. This*)

was followed by rapid subsidence causing 'drowning' of N shelf margin after which slope was overlapped and covered by deep water Plio-Pleistocene mudstone)

Usman, E. (2012)- Tektonik dan jalur volkanik busur belakang Bawean Muria sebagai pengontrol pembentukan Cekungan Pati dan potensi hidrokarbon. Indonesian J. Applied Sciences 2, 3, p. 111-118.

(online at: <http://download.portalgaruda.org/article.php?article=104220&val=1389>)

('Tectonics and position of Bawean-Muria back-arc volcanic arc as controlling the Pati Basin and hydrocarbon potential'. SW-NE trending Muria -Bawean back-arc magmatic belt part of Quaternary volcanic belt on SE border of granite belt of Java Sea. Volcanics in area of Gunung Muria calc-alkaline-shoshonite magmas. Meratus trend and Muria- Bawean back arc volcanic belt divides NE Java basin in Pati Basin in W and NE Java Basin in E)

Vear, A. & D.M. MacGregor (1996)- 2-D basin modeling of secondary petroleum migration in the Sakala Timur PSC, Indonesia. Proc. 25th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 421-435.

(E Java Sea Sakala Timur area basin modeling by BP. Reason for failure of ST-Alpha well was lack of suitable migration pathway from mature source kitchen to trap. Topseal capacity of silty Tertiary mudstones main risk)

Welker-Haddock, M., R. Park, I. Asjhari, J. Bradfield & B. Nguyen (2001)- The transformation of Poleng Field. Proc. 28th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 681-698.

(Poleng Miocene carbonate reef off Madura once abandoned field revived as economic venture after 3-D seismic survey, directional and horizontal wells, and led to new discovery at KE-23 Field)

Welker-Haddock, M.L. R.K. Park & M. Sudarmono (1996)- Prediction of carbonate sweet spots from 3-D seismic: a case history from Krisna Field. Proc. 25th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 353-365.

(Seismic response to variations in lithology is complex and non-unique. Most effective way to find carbonate reservoirs is to use seismic attributes in combination with conventional seismic interpretation such as structural mapping, isochron mapping to determine paleogeography and seismic morphology)

Wibowo, I.D., Sobani, L. Fransiska & M. Luciwaty (2018)- Successful story of proving-up a new play, an Eocene carbonate as a naturally fractured reservoir in offshore North West Java. Proc. 42nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA18-317-G, 14p.

(Gas tested from fractured Eocene pre-rift limestone in Kencanaloka Field, KLD Block, S Arjuna sub-basin, NW Java. (NB: Eocene limestones not known from NW Java, and no evidence for age reported here; HvG))

Wicaksono, P., J.W. Armon & S. Haryono (1992)- The implications of basin modelling for exploration- Sunda Basin case study, offshore southeast Sumatra. Proc. 21st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 379-415.

(Sunda Basin good match between oils and Banuwati Fm lacustrine shales Type I kerogens. Present day top 'oil window' 9,500'. Significant hydrocarbon generation began at end Talang Akar time in basin center and progressed outwards through time. Mature source rocks more limited areal extent than indicated in earlier work. Vertical migration crucial close to generation area, lateral migration dominates away from it beneath regional Gumai shale seal. Drainage areas identified. Boundaries of 'Banuwati generation- migration hydrocarbon system' delineate probable prospective areas)

Wicaksono, P., A.W.R. Wight, W.R. Lodwick, R.E. Netherwood, B. Budiarto & D. Hanggoro (1996)- Use of sequence stratigraphy in carbonate exploration: Sunda Basin, Java Sea, Indonesia. In: C.A. Caughey, D.C. Carter et al. (eds.) Proc. Int. Symp. Sequence Stratigraphy in SE Asia, Jakarta 1995, Indon. Petroleum Assoc. (IPA), p. 197-229.

(Lower Miocene Batu Raja Fm and Gumai Fm shallow marine limestones 250 MMBO, from seven fields. Several small discoveries in recent years, but accumulations not commercial due to unpredictable reservoir quality, limited areal extent, or low recovery factors. Sequence stratigraphic study of carbonates undertaken to produce a predictive model for porosity development)

Wicaksono, R.A., S.S. Angkasa, F.F. Azmalni, A.D. Kahfi & Alfardi A.P. (2009)- Deep hydrocarbon play in Banyumas sub-basin, Central Java: opportunities and risks. Proc. 38th Ann. Conv. Indon. Assoc. Geol. (IAGI), Semarang, PITIAGI2009-149, 9p.

Widiatmo, M.R., U. Mardiana, F. Mohamad & A. Ginanjar (2013)- 3D facies modelling of SS-44 mixed load channel reservoir, Karmila Field, Sunda Basin, South East Sumatera. Proc. 37th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA13-SG-070, p. 1-12.

(Karmila field in Sunda Basin produces from Talang Akar sands. SS-44 reservoir complex is mixed load channel facies with NW-SE orientation)

Widjonarko, R. (1990)- BD field- a case history. Proc. 19th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 161-182.

(BD field Mobil 1987 oil-gas discovery in W Madura Straits in E-W trending E Miocene reefal carbonate build-up (11,000'- 13,934'), with 29- 34% porosities in oil-gas zone and about 17% in water zone. Gas-oil column only 200')

Widjanarko, W. (1996)- Integrating nuclear magnetic resonance logging data with traditional downhole petrophysical data to optimize new development wells strategies in the Bravo Field offshore North West Java, Arco Indonesia PSC. Proc. 25th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 2, p. 205-213.

Wight, A. (1995)- Geologic summary of Java. In: C. Caughey et al. (eds.) Pertamina-IPA Seismic Atlas of Indonesian Oil & Gas Fields, II: Java, Kalimantan, Natuna, Irian Jaya, p. JAV1-JAV10.

(Overview of NW Java geology and hydrocarbons in Oligo-Miocene sandstone and carbonate reservoir horizons in offshore Sunda, Asri and Arjuna basins. Arjuna basin offshore extension of larger onshore basin, with similar stratigraphy and productive horizons, but more carbonate in younger Miocene because farther from Sunda shield clastic provenance. With regional W-E seismic line across Sunda- Arjuna basins)

Wight, A., H. Friestad, I. Anderson, P. Wicaksono & C.H. Reminton (1997)- Exploration history of the offshore Southeast Sumatra PSC, Java Sea, Indonesia. In: A.J. Fraser, S.J. Matthews & R.W. Murphy (eds.) Petroleum Geology of Southeast Asia, Geol. Soc., London, Spec. Publ. 126, p. 121-142.

(Offshore SE Sumatra PSC in Java Sea produced >800 MBOE. Crude low sulphur, waxy and sourced by Oligocene lacustrine shales. >200 exploration wells since 1970; 21 commercial fields. Reservoirs Oligocene-E Miocene with ~25% of reserves in carbonates and 75% in fluvial-alluvial clastics. Main basins (Sunda, Asri) retro-arc, N-S oriented, asymmetric half-grabens between stable Sunda Shield and active volcanic arc on Java)

Wight, A. & D. Hardian (1982)- Importance of diagenesis in carbonate exploration and production, Lower Batu Raja carbonates, Krisna Field, Java Sea. Proc. 11th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 211-235.

(High porosity in Lower Baturaja carbonate from secondary leaching in freshwater environment. Seven major carbonate facies recognized)

Wight, A., Sudarmono & Imron A. (1986)- Stratigraphic response to structural evolution in a tensional back-arc setting and its exploratory significance, Sunda Basin, West Java Sea. Proc.15th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 77-100.

(Structure influences character and distribution of non-marine Oligo-Miocene TalangAkar and Banuwati Fms sandstone reservoirs in Sunda Basin, W Java Sea. Best reservoirs fluvial sandstones: (1) early braided regime derived from W and (2) younger meandering system flowing primarily from NE down graben axis. Recoverable reserves ~300 MMBO in nine fields)

Wight, A.W.R., S. Syafar, A. Kartika, R. Syah, J. Burgos, A. Telaumbanua, C. Oglesby & B Setiawan (2000)- Classic clastics has high-tech 3D improved imaging of stratigraphic traps found with traditional techniques? Yvonne BøField, Sunda Basin, Java Sea. AAPG Int. Conf. Bali 2000, 7p. *(Extended Abstract)*

Wijaya, A.K. (2014)- Rock type identification and complexity of carbonate reservoir in Kitty Field, Sunda Basin, Southeast Sumatra. Proc. 38th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA14-G-216, 15p. *(On complex distribution of porosity and pore types in E Miocene Baturaja Fm carbonate reservoir in Kitty oil field, 1972 discovery in Sunda Basin. Most porosity secondary and much of this porosity is late)*

Wijaya, A.K., M. Mazied, G. Fauzi & R. Spayung (2018)- Re-consideration of hydrocarbon migration in North Madura Platform area; an implication to the new exploration potential. Proc. 42nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA18-314-G, 14p.

(N Madura Platform hydrocarbon producing area between two mature kitchens: Madura subbasin in S and Central Deep N and W. Hydrocarbon migration from Madura sub-Basin before inversion at ~7 Ma, but hydrocarbon migration from Central Deep in question, due to steep border fault and predicted poor reservoir quality of syn-rift deposits along fault. Oil geochemistry and basin modeling indicate N Madura Platform oils charged by both kitchens: mixed terrigenous-algal organofacies source from Ngimbang shale in Central Deep (expulsion since 22 Ma) and mainly terrigenous organofacies source in S part of platform)

Wijaya, A.K. & E. Yogapurana (2016)- The important role of burial diagenesis in reservoir quality development, case study from Oligo-Miocene carbonate, North Madura Platform. Proc. GEOSEA XIV and 45th Ann. Conv. Indon. Assoc. Geologists (IAGI) (GIC 2016), Bandung, p. 592-597.

(Most of secondary porosity in carbonates results from subaerial exposure and meteoric diagenesis, but Oligo-Miocene carbonate in N Madura Platform also evidence of late dissolution during burial diagenesis.)

Wijaya, A.K. & E. Yogapurana (2017)- The Oligo-Miocene carbonates evolution in North Madura Platform, the effect to the reservoir complexity distribution. Proc. Joint Conv. HAGI-IAGI-IAFMI-IATMI (JCM 2017), Malang, 4p.

(Oligo-Miocene carbonates (CD and Kujung formations) in N Madura Platform developed as rimmed carbonate platform complex. Four growth stages. Complex diagenetic history; most porosity is formed by dissolution of some grains, micrites and cements. Several undrilled patch reef complexes in study area)

Wijaya, A.K., E. Yogapurana, P. Monalia & H. Haryanto (2016)- The evolution of CD carbonate In North Madura Platform, an effort to understand reservoir complexity distribution. Proc. 40th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA16-649-G, 15p.

(Facies evolution of 70-200m thick Early Oligocene CD carbonates offshore North Madura. Developed as rimmed carbonate platform complex, with shelf margin reef developed basinward in S. Four stages)

Woodling, G.S., J.G. Kaldi, K.I. Oentarsih & R.C. Roe (1990)- Integrated reservoir simulation study of the Bima Field, Offshore N.W. Java. Proc. 19th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 2, p. 1-26.

(Bima field largest productive carbonate field offshore N.W. Java. Field startup was in 1987 with 7 platforms in N on primary production. Southern 2/3rd of field undeveloped. Multi-disciplinary reservoir study performed on Oligocene-Miocene U Batu Raja Limestone formation)

Woodling, G.S., J.G. Kaldi, R.C. Roe & K.I. Oentarsih (1991)- Multidisciplinary reservoir study of the Bima Field, Offshore NW Java, Indonesia: multidisciplinary studies. In: R.M. Sneider (eds.) The integration of geology, geophysics, petrophysics and petroleum engineering in reservoir delineation, description and management, American Assoc. Petrol. Geol. (AAPG), Spec. Publ. 26, p. 1-36.

(Bima Field with 700 MB OIP and 50 GCF gas in E Miocene Batu Raja limestone. Upper Batu Raja build-up thickest on highest parts of platform, with 'cleaning upward' cycles (muddy facies overlain by progressively more grain-rich sediments). Lower Miocene sea-level drop caused subaerial exposure of platform and leaching by meteoric fluids)

Xue, F., R.J. Broetz & E. Sirodj (2002)- Seismic evaluation of hydrocarbon prospectivity in offshore North Bali, Indonesia. Indonesia 2002 Acreage review, Petroleum Expl. Soc. Australia (PESA) News 56, 1p. *(Abstract)*

(Examples of 2D seismic section showing Oligocene carbonate platform and post- E Pliocene inversion of normal faults)

- Yaseen, F.F., W. Gardjito & M.E. McCauley (1993)- Development of Pagerungan gas field, Kangean Block PSC area. Proc. 22nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 2, p. 495-508.
(*Pagerungan 1985 gas discovery first gas development to provide fuel gas to power generation in E Java. No geology*)
- Yazid, Y., A.D. Haryanto & J. Hutabarat (2017)- Hubungan antara geokimia minyak bumi dan batuan induk di sub-cekungan Arjuna Tengah, Cekungan Jawa Barat Utara. Bull. Scientific Contr. (UNPAD) 15, 1, p. 69-86.
(*online at: <http://jurnal.unpad.ac.id/bsc/article/view/11739/pdf>*)
(*'The relationship between geochemistry of oils and source rocks in the Central Arjuna sub-basin, NW Java Basin'. Source rock in Talang Akar Fm in offshore wells YZD-1, YY-1 and DZN-1 with kerogen types II-III, from terrestrial and algal sources. Oil samples suggest deep and shallow lake depositional environments, with mixture of higher plants and algae. Burial history modeling suggests oil generation in basal Talang Akar Fm began in E Miocene, deltaic Talang Akar in M Miocene*)
- Young, R. & C.D. Atkinson (1993)- A review of Talang Akar Formation (Oligo-Miocene) reservoirs in the offshore areas of Southeast Sumatra and Northwest Java. In: C.D. Atkinson et al. (eds.) Clastic rocks and reservoirs of Indonesia, Indon. Petrol Assoc. Core Workshop, p. 177-210.
(*Talang Akar Fm succession of fluvio-lacustrine and fluvio-deltaic sediments up to 7000' thick. Productive reservoirs fluvial, distributary channel and marginal marine bar sandstones. Fluvial reservoirs tend to be thickest, most extensive and best reservoir quality. Talang Akar Fm diachronous lithostratigraphic rock unit in Late Oligocene- Early Miocene. Fluvio-deltaic sediments in upper part of succession retrogressively stacked in response to regional transgression which affected entire S margin of Sunda Shield*)
- Young, R., W.E. Harmony & T. Budiyo (1995)- The evolution of Oligo-Miocene fluvial sand-body geometries and the effect on hydrocarbon trapping, Widuri field, West Java Sea, In: A.G. Plint (ed.) Sedimentary facies analysis, Int. Assoc. Sedimentologists (IAS) Spec. Publ. 22, p. 355-380.
- Young, R., W.E. Harmony, J. Gunawan & B. Thomas (1991)- Widuri field, offshore southeast Sumatra: sandbody geometries and the reservoir model. Proc. 20th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 385-417.
(*Widuri 1988 discovery in Asri Basin 170' net oil pay in 6 reservoirs in upper Talang Akar Fm sandstones. Faulted anticline formed ~19 Ma (E Miocene), shortly after deposition of Talang Akar Fm. Trap combination structure-stratigraphy. Basal reservoir coarse fluvial sandstone, uppermost reservoir fine distributary channel sand in tide-dominated delta. Gradual change in river/channel type accompanied by change in reservoir quality and geometry from thick sheet sandstone at base to thin, 2000' wide, shoestring sand at top*)
- Zhong, D., X. Zhu & Q. Zhang (2006)- The sedimentary system and evolution of the Early Tertiary in the Sunda basin, Indonesia. Petrol. Sci., Beijing University, 3, 1, p. 1-11.
(*Sunda basin early Tertiary half-graben basin with alluvial, lacustrine, fluvial and swamp, subaqueous fan, shallow and deep lacustrine, turbidite fan, fan delta and delta deposit. Alluvial fan, subaqueous fan and fan deltas on steep slope adjacent to synrift boundary fault, and deltaic systems on gentle slope of basins. Zelda Mb of Talang Akar Fm previously interpreted as fluvial, now interpreted as subaqueous fan, fan delta, delta and lacustrine deposit system. Four stages of basin evolution: initial subsidence (Banuwati Fm), rapid subsidence (Lw Zelda Mb), steady subsidence (middle Zelda Mb) and uplift (Upper Zelda Mb and Gita Mb)*)
- Zhong, D., X. Zhu & Q. Zhang (2006)- Sedimentary characteristics and evolution of Asri Basin in Early Tertiary. Petrol. Sci., Beijing University, 3, 3, p. 1-11.
(*Asri basin half-graben with steep E side controlled by synrifting and gentle W slope, with Early Tertiary terrigenous clastics of Banuwati and Talang Akar Fm, in alluvial, fluvial and lacustrine facies. Four stages a.a. Sediment supply mainly from W and E, partly from N*)
- Zhu, X., S. Li, J. Ge, D. Zhong, Q. Zhang & D. Ge (2018)- Paleogene sequence framework and depositional systems in the Sunda and Asri Basins, Indonesia. Interpretation 6, 2, p. T377-T391.

(Banuwati Fm, Zelda and Gita Members in Oligocene of Sunda and Asri Basins divided into six 3rd-order sequences. Sedimentary evolution consistent with tectonic evolution)

III.3. Java - Quaternary Volcanism

Abdurrachman, M. (2012)- Geology and petrology of Quaternary volcano and genetic relationship of volcanic rocks from the Triangular Volcanic Complex around Bandung Basin, West Java, Indonesia. Doct. Thesis, Akita University, p. 1-131.

Abdurrachman, M., E. Suparka, R. Chrysant, H. Handley, D.P. Adli & J.N. Indriyanto (2017)- Subducted components and lithospheric contributions to arc magmatism in Java: insight from the distribution of major and trace elements of Quaternary volcanic rocks. Proc. Joint HAGI-IAGI-IAFMI-IATMI Conv. (JCM 2017), Malang, p.

(Major and trace elements of Papandayan and Merapi volcanoes are significantly above other Java volcanoes of similar depth above Wadati-Benioff zone)

Abdurrachman, M. & M. Yamamoto (2011)- Geochemistry of Papandayan and Cikuray volcanoes: mapping the extent of Gondwana continental fragment beneath Java, Indonesia. American Geophys. Union (GSA), Fall Meeting 2011, Abstract V43C-2599, 1p. *(Poster presentation)*

(Geochemistry of contiguous volcanoes Papandayan (medium-K basaltic andesite (Early Stage), andesite (Middle Stage) and dacite (Late Stage); high 87Sr/86Sr) and Cikuray (low-K, low 87Sr/86Sr, etc.) suggests mixing of low-K Cikuray-type magma with Gondwanan continental fragment material (Pre-Cambrian-Devonian Australian granites) at Papandayan. Two volcanoes reflect change in underlying basement type in West Java: Sunda Land in N, Gondwana continent fragment in S. Papandayan volcano probably only Quaternary volcano underlain by Gondwana continental fragment)

Abdurrachman, M. & M. Yamamoto (2012)- Geochemical variation of Quaternary volcanic rocks in Papandayan area, West Java, Indonesia: a role of crustal component. In: Proc. 12th Reg. Congress Geology, Mineral and Energy Resources of Southeast Asia (GEOSEA 2012), Bangkok, J. Geol. Soc. Thailand, p. 40-57.

(Papandayan and adjacent Cikuray volcanoes S of Bandung, W Java. Rel. high K₂O and isotopic ratios of Papandayan magmas due to contamination from underlying Gondwana continental fragment)

Abdurrachman, M., M. Yamamoto, E. Suparka, Y.S. Yuwono & B. Sapiie (2012)- Sr-Nd isotopic study of Papandayan area, West Java: a window into the past magmatism and tectonic event. Proc. 41st Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 2012-GD-31, 7p.

(Sr-Nd isotopic ratios of young volcanics of Papandayan and nearby Cikuray (to E) volcanoes, located at Cretaceous suture zone. Papandayan volcano comprises medium-K series with high 87Sr/86Sr and low 143Nd/144Nd; Cikuray volcanics low-K series, with low 87Sr/86Sr and high 143Nd/144Nd ratios. Contrasting isotopic ratios explained by mixing of mantle wedge with Australian granites at Papandayan, perhaps of missing 'Argoland')

Akkersdijk, M.E. (1929)- Caldera of the Tengger-Mountain. Fourth Pacific Science Congress, Java 1929, Excursion Guide E 2, p. 1-12.

Alves, S., P. Schiano & C.J. Allegre (1999)- Rhenium-Osmium isotopic investigation of Java subduction zone lavas. Earth Planetary Sci. Letters 168, p. 65-77.

(Java arc lavas low in Osmium. Mixing between unradiogenic Os from peridotitic upper mantle and two different radiogenic Os components, reflecting two crustal contaminants or different proportions of subducted oceanic crust and sediments)

Andreastuti S.D. (1999)- Stratigraphy and geochemistry of Merapi Volcano, Central Java, Indonesia: implication for assessment of volcanic hazards. Ph.D. Thesis, University of Auckland, New Zealand, 910p.

(Study of tephra deposits on flanks of Merapi showed 20 formations, two of which products of Merbabu. Oldest unit Sumber (~3000 yrs) and youngest Pasarubur (~1800 AD?). Magma evolved from medium-K to high-K with time. Post-1800 AD eruptions mainly of open vent type, related to dome collapse events. Pre-1800 AD eruptions mainly controlled by deeper magmatic processes, with hornblende more abundant)

- Andreastuti, S.D. (2007)- The 2006 eruption of Merapi, petrography and geochemistry of the June 14, 2006 pyroclastic flows. Proc. Joint Conv. 32nd HAGI, 36th IAGI and 29th IATMI, Bali 2007, p. 662-668.
(*Pyroclastic flows generated during collapse of lava dome in 2006. Collapse of part of older dome added common older lithic blocks to pyroclastic flow deposits. SiO₂ content 55.5-55.9 wt %*)
- Andreastuti, S.D., B.V. Alloway & I.E.M. Smith (2000)- A detailed tephrostratigraphic framework at Merapi volcano, Central Java, Indonesia: implications for eruption predictions and hazard assessment. J. Volcanology Geothermal Res. 100, p. 51-67.
(*Merapi Volcano episodes of dome growth usually resulted in partial dome collapse events that generated pyroclastic flows. Eruptive record back to mid-Holocene, deduced from volcanoclastic fans of lower flanks, show most eruptions from 3000-250 years ago of different style from present period. Numerous coarse ash and lapilli beds interbedded with soil material, pyroclastic flow and surge deposits. In deeper parts of succession pyroclastic products from adjacent Merbabu Volcano, evidence of concurrent activity at both volcanoes*)
- Baak, J.A. (1949)- A comparative study on recent ashes of the Java volcanoes Smeru, Kelut, and Merapi. Mededelingen Algemeen Proefstation Landbouw, Buitenzorg (Bogor), 83, p. 1-60.
- Bardintzeff, J.M. (1984)- Merapi volcano (Java, Indonesia) and Merapi-type nuee ardente. Bull. Volcanologique 47, 3, p. 433-446.
- Belousov, A., M. Belousova, D. Krimer, F. Costa, O. Prambada & A. Zaennudin (2015)- Volcanoclastic stratigraphy of Gede Volcano, West Java, Indonesia: how it erupted and when. J. Volcanology Geothermal Res. 301, p. 238-252.
(*Holocene volcanoclastic deposits. Major part of volcanic edifice of Gede Volcano, 60 km S of Jakarta, formed in Pleistocene with high-silica basalts. After inactive period of >30,000 years volcanic activity resumed at Pleistocene- Holocene boundary, with explosive basaltic andesite to rhyodacites. Four major Holocene eruptive episodes ~10,000, 4000, 1200, and 1000 yr BP. Most of erupted products transported as pyroclastic flows. Voluminous lahars common between eruptions. Recent eruptive period of volcano started ~800 years ago with frequent, weak explosive Vulcanian-type eruptions and rare small extrusions of viscous lava*)
- Berlo, K., V.J. van Hinsberg, N. Vigouroux, J.E. Gagnon & A.E. Williams-Jones (2014)- Sulfide breakdown controls metal signature in volcanic gas at Kawah Ijen volcano, Indonesia. Chemical Geology 371, p. 115-127.
- Beauducel, F. (1998)- Structures et comportement mecanique du volcan Merapi (Java): une approche methodologique du champ de deformations. Doct. Thesis Universite de Paris 7, p. 1-243.
(*online at: www.ipgp.jussieu.fr/~beaudu/download/ecrit.pdf*)
(*'Structures and mechanical behaviour of the Merapi volcano (Java)'*)
- Berthommier, P.C., G. Camus, M. Condomines & P.M. Vincent (1990)- Le Merapi (centre Java): elements de chronologie d'un stratovolcan andesitique. Comptes Rendus Academie Sciences, Paris, 311, 1, p. 213-218.
(*'Merapi, central Java: elements of chronology of an andesitic stratovolcano'*)
- Blattmann, S. (1938)- Basaltisch-andesitische Gesteine des Salak-Gebirges in West Java. Neues Jahrbuch Mineral. Geol. Palaont., Beilage Band 73, Abhandl. A, 3, p. 352-374.
(*'Basaltic-andesitic rocks of the Salak mountains in West Java'*)
- Bogie, I., Y.I. Kusumah & M.C. Wisnandary (2008)- Overview of the Wayang Windu geothermal field, West Java, Indonesia. Geothermics 37, 3, p. 347-365.
(*Wayang Windu geothermal field 35 km S of Bandung, associated with Gambung, Wayang, Windu Pleistocene volcanic centers*)
- Bogie, I. & K.M. MacKenzie (1998)- The application of volcanic facies models to an andesitic stratovolcano hosted geothermal system at Wayang Windu, Java, Indonesia. Proc. 20th New Zealand Geothermal Workshop, p. 265-276.

- ('Volcanic facies model' of Wayang Windu geothermal project 40 km S of Bandung, W Java, at S slope of active Malabar volcano. Wayang Windu is one of three small Pleistocene (0.10- 0.49 Ma) eruptive centers)*
- Boomgaard, L. (1947)- Some data on the Muriah volcano (Java), and its leucite-bearing rocks. Proc. Kon. Nederl. Akademie Wetenschappen, Amsterdam, 50, 6, p. 649-652.
(online at: www.dwc.knaw.nl/DL/publications/PU00018361.pdf)
(Brief survey of Muriah volcano complex, NE Java. N slope built up mainly of breccias of leucite-bearing rock fragments with intercalated basaltic and leucite flows. Columnar leucite tephrite on E side of N slope)
- Boudon, G., G. Camus, A. Gourgaud & J. Lajoie (1993)- The 1984 nuee-ardente deposits of Merapi volcano, Central Java, Indonesia: stratigraphy, textural characteristics and transport mechanisms. Bull. Volcanology 55, p. 327-342.
- Bourdier, J.L., I. Pratomo, J.C. Thouret, G. Boudon & P.M. Vincent (1997)- Observations, stratigraphy and eruptive processes of the 1990 eruption of Kelut volcano, Indonesia. J. Volcanology Geothermal Res. 79, p. 181-203.
- Bourdier, J.L., J.C. Thouret, I. Pratomo, P.M. Vincent & G. Boudon (1997)- Menaces volcaniques au Kelut (Java, Indonesie): les enseignements de l'eruption de 1990. Comptes Rendus Academie Sciences, Paris, ser. IIA, 324, 12, p. 961-968.
('Volcanic hazards at Kelut volcano (Java island, Indonesia): lessons learned from the 1990 eruption')
- Bronto, S. (1982)- Geologi G. Galunggung. Proc. 11th Ann. Conv. Indon. Assoc. Geol. (IAGI), p. 7-18.
('Geology of Mount Galunggung'. W Java volcano)
- Bronto, S. (1989)- Volcanic geology of Galunggung, West Java, Indonesia. Ph.D. Thesis University of Canterbury, New Zealand, p. 1-490.
(online at: http://ir.canterbury.ac.nz/bitstream/10092/5667/1/bronto_thesis.pdf%E2%80%8E)
(Study of active Galunggung volcano, 100km SE of Bandung, W Java. Age of 'Old Galunggung' stratovolcano rocks mainly pyroclastic flows, pyroclastic fall and lahar deposits and lava flows, ~50ka- 10ka old. Younger formations erupted during caldera formation (4200 ±150 yrs BP) and in 1822, 1894, 1918, 1982-83)
- Bronto, S. (1990)- Galunggung 1982-83 high-Mg basalt: Quaternary Indonesian arc primary magma. Proc. 19th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 2, p. 126-143.
(1982-1983 eruption of Galunggung volcano, W Java, began with Peleean activity, followed by Vulcanian and Strombolian eruptions, ending with extrusion of lava. Lava composition more basic with time. Rel. 'primitive' high-Mg basalts probably derived from spinel peridotite source by 15% melting at ~45km depth)
- Bronto, S. (1990)- G. Krakatau. Berita Berkala Vulkanologi, Edisi Khusus No. 133. Direktorat Vulkanologi, Bandung, 5p.
- Bronto, S. (2006)- Fasies gunung api dan aplikasinya. J. Geologi Indonesia 2, 1, p. 59-71.
('Volcanic facies and its applications')
- Bronto, S. (2010)- Geologi gunung api purba. Geological Survey, Bandung, Spec. Publ., p. 1-154.
(Geology of ancient volcanoes')
- Bronto, S., P. Asmoro, G. Hartono & Sulistiyono (2012)- Evolution of Rajabasa volcano in Kalianda Area. J. Geologi Indonesia 7, 1, p.
(online at: www.bgl.esdm.go.id/publication/index.php/dir/article_detail/363)
(Quaternary Rajabasa volcano in Lampung, SE tip of Sumatra formed in 25 km wide Pre-Rajabasa Caldera)
- Bronto, S., E. Budiadi & H.G. Hartono (2004)- Permasalahan geologi gunungapi di Indonesia. Majalah Geologi Indonesia 19, 2, p. 91-105.

Brouwer, H.A. (1913)- Leucite-rocks of the Ringgit (East-Java) and their contact metamorphosis. Proc. Kon. Nederl. Akademie Wetenschappen, Amsterdam, 15, 2, p. 1238-1245.
(online at: www.digitallibrary.nl)

Brouwer, H.A. (1914)- Uber leucitreiche bis leucitfreie Gesteine von G. Beser. Centralblatt Mineral. Geol. Palaont. 1914, p. 1-7.
(online at: <https://babel.hathitrust.org/cgi/pt?id=uc1.b4291847;view=lup;seq=27>)
(*'On leucite-rich to leucite-free rocks from Gunung Beser'. Extinct volcanoN of Bondowoso in E Java, with transitions from leucite basalts to leucite-free rocks*)

Brouwer, H.A. (1915)- De vulkaan Raoeng (Oost Java) en zijne erupties. Jaarboek Mijnwezen Nederlandsch Oost-Indie 42 (1913), Verhandelingen, p. 51-87.
(*'The Raung volcano (East Java) and its eruptions'*)

Brouwer, H.A. (1920)- On the composition and the xenoliths of the lava dome of the Galunggung (West-Java). Proc. Kon. Nederl. Akademie Wetenschappen, Amsterdam, 23, 8, p. 1234-1240.
(online at: www.dwc.knaw.nl/DL/publications/PU00014780.pdf)
(*On earlier recrystallization products in 1918 lava dome of Galunggung volcano, W Java*)

Brouwer, H.A. (1928)- Alkaline rocks of the volcano Merapi. (Java) and the origin of these rocks. Proc. Kon. Nederl. Akademie Wetenschappen 31, 4-5, p. 492-498.
(online at: www.dwc.knaw.nl/DL/publications/PU00015607.pdf)
(*Nearly all Java volcanoes produced pyroxene andesites and basalts. Xenoliths in volcanic rocks of Merapi volcano include metamorphic limestones with wollastonite and diopside, sandstones and arkose*)

Brouwer, H.A. (1945)- The association of the alkali rocks and metamorphic limestone in a block ejected by the volcano Merapi. (Java). Proc. Kon. Nederl. Akademie Wetenschappen 47, p. 166-189.
(online at: www.dwc.knaw.nl/DL/publications/PU00018161.pdf)
(*Another description of large block of metamorphosed limestone from lahar derived from pyroxene-andesite flow in Kali Batang at SW slope of Merapi. Originally described as lenses of limestone in green 'schist', but is limestone transformed into wollastonite, gehlenite, leucite-bearing minerals, etc. No fossil evidence reported from limestone*)

Brun, A. (1909)- Quelques recherches sur le volcanisme aux volcans de Java, 4. Archives Sciences Phys.Naturelles, Geneve 27, p. 113-150.
(*'Some investigatios of the volcanism of volcanoes of Java. Old, brief descriptions of activity of Semeru, Bromo*)

Camus, G., M. Diament, M. Gloaguen, A. Provost & P. Vincent (1992)- Emplacement of a debris avalanche during the 1883 eruption of Krakatau (Sunda Straits, Indonesia). GeoJournal 28, 2, p. 123-128.

Camus, G., A. Gourgaud, P.C. Mossand-Berthommier & P.M.Vincent (2000)- Merapi (Central Java, Indonesia): an outline of the structural and magmatological evolution, with a special emphasis to the major pyroclastic events. J. Volcanology Geothermal Res. 100, p. 139-163.
(*Merapi Volcano history four periods: Ancient (40,000- 14,000 yrs BP), Middle, Recent (starting at 2200 yrs BP) and Modern Merapi (since eruption of 1786). Mount St. Helens-type edifice collapse during Middle Merapi stage between 6700- 2200 y BP. During Recent Merapi stage, violent magmatic to phreatomagmatic eruptions twice interrupted growth of volcano. Modern Merapi characterised by persistent growth of summit dome, y interrupted by collapses of dome to generate frequent Merapi-type nuees ardentes (blocks-and-ash flows and associated surges). Previous stages characterised by long lava flows, alternating with violent explosive phases. Merapi lavas calc-alkaline, with ~50-60% SiO₂. 90% of Merapi lavas high-K basaltic andesites*)

Camus, G., A. Gourgaud & P.M. Vincent (1987)- Petrologic evolution of Krakatau (Indonesia): implications for a future activity. J. Volcanology Geothermal Res. 33, p. 299-316.

(Krakatau Volcano in Sunda straits characterized by phases, each beginning with construction of cone and ending with destruction and formation of caldera. Two last (pre- and post-1883) cycles well known, but older ones not clearly defined. Lava evolution shows cyclicity tied structural evolution, from basalts to basic andesites, acid andesites to dacites. Destructive stages correspond to dacitic terms. Anak Krakatau from 1927-1979 characterized by basalts and basic andesites, 1981 eruption close to dacitic)

Camus, G. & P.M. Vincent (1987)- Discussion of a new hypothesis for the Krakatau volcanic eruption in 1883. *J. Volcanology Geothermal Res.* 19, p. 167-173.

(Discussion of Krakatau 1983 eruption, interpreted to be Mount St. Helens-type collapse event)

Carey, S., D. Morelli, H. Sigurdsson & S. Bronto (2001)- Tsunami deposits from major explosive eruptions: an example from the 1883 eruption of Krakatau. *Geology* 29, 4, p. 347-350.

(Inundation of coastal areas by tsunamis during 1883 eruption of Krakatau volcano led to deposition of pumice-enriched deposits, some with significant coral fragments and non-volcanic beach sediment. Source of pumice widespread pumice rafts on surface of Sunda Straits, formed by fallout and pyroclastic flow activity)

Carey, S., H. Sigurdsson, C. Mandeville & S. Bronto (1996)- Pyroclastic flows and surges over water: an example from the 1883 Krakatau eruption. *Bull. Volcanology* 57, p. 493-511.

(Pyroclastic deposits from 1883 eruption of Krakatau described from Sebesi, Sebuku, and Lagoendi islands and SE coast of Sumatra. Massive and poorly stratified units formed from pyroclastic flows and surges that traveled over sea for distances up to 80 km. Decreasing sorting grain size and thickness with increasing distance from Krakatau. Deposits correlated to major pyroclastic flow phase on 27 August)

Carey, S., H. Sigurdsson, C. Mandeville & S. Bronto (1996)- Volcanic hazards from pyroclastic flow discharge into the sea: examples from the 1883 eruption of Krakatau, Indonesia. In: *Volcanic hazards and disasters in human Antiquity*, Geol. Soc. America (GSA), Special Paper 345, p. 1-14

Carn, S.A. (1999)- Application of synthetic aperture radar (SAR) imagery to volcano mapping in the humid tropics; a case study in East Java, Indonesia. *Bull. Volcanology* 61, p. 92-105.

Carn, S.A. (2000)- The Lamongan volcanic field, East Java, Indonesia: physical volcanology, historic activity and hazards. *J. Volcanology Geothermal Res.* 95, p. 81-108.

(Lamongan volcanic field in SE Java 61 basaltic cinder or spatter cones, >29 prehistoric maars, and central compound complex comprising three main vents including historically active Lamongan volcano. Persistently active between 1799-1898)

Carn, S.A. & D.M. Pyle (2001)- Petrology and geochemistry of the Lamongan volcanic field, East Java, Indonesia: primitive Sunda Arc magmas in an extensional tectonic setting? *J. Petrology* 42. 9, p. 1643-1683.

(online at: <http://petrology.oxfordjournals.org/content/42/9/1643.full.pdf>)

(Lavas of Lamongan volcano (E Java) include medium-K basalts and basaltic andesites, along with high-K suite. The least evolved lavas lowest SiO₂ contents (43 wt % SiO₂) in Sunda arc volcanics. Extensional tectonics, possibly related to arc segmentation created conditions promoting rapid ascent of parental magmas, probably responsible for this and other features of complex)

Caron, M.H. (1916)- Het zwavelvoorkomen van de Kawah Idjen. *Verhandelingen Geologisch-Mijnbouwkundig Genootschap Nederland Kol.*, Geol. Serie 3 (Molengraaff issue), p. 57-63.

(online at: <https://ia601908.us.archive.org/30/items/verhandelingsenva3191geol/verhandelingsenva3191geol.pdf>)

(‘The sulfur occurrence of Kawah Idjen’. Horizontal beds of sulfur in E part of crater wall of Idjen (= Ijen) volcano, E Java, are crater lake deposits)

Carr, B.B., A.B. Clarke & L. Vanderkluysen (2016)- The 2006 lava dome eruption of Merapi Volcano (Indonesia): detailed analysis using MODIS TIR. *J. Volcanology Geothermal Res.* 311, 1, p. 60-71.

Caudron, C., D.K. Syahbana, T. Lecocq, V. Van Hinsberg, W. McCausland, A. Triantafyllou, T. Camelbeeck, A. Bernard & Surono (2015)- Kawah Ijen volcanic activity: a review. *Bull. Volcanology* 77, 16, p. 1-39.
(online at: <https://link.springer.com/content/pdf/10.1007%2Fs00445-014-0885-8.pdf>)
(*Historic activity since 1770 of Kawah Ijen (2386 m), a composite volcano within Pleistocene Ijen caldera, easternmost Java*)

Chadwick, J.P., V.R. Troll, C. Ginibre, D. Morgan, R. Gertisser, T.E. Waight & J.P. Davidson (2007)- Carbonate assimilation at Merapi Volcano, Java, Indonesia: insights from crystal isotope stratigraphy. *J. Petrology* 48, 9, p. 1793-1812.
(*Recent Merapi andesite lavas with abundant, complexly zoned, plagioclase phenocrysts. Sr isotopes require source or melt with elevated radiogenic Sr, rich in Ca and lower Mg and Fe. Abundant xenoliths, including metamorphosed volcanoclastic sediment and carbonate country rock. Mineralogy and geochemistry indicate magma-crust interaction at Merapi more significant than previously thought. Sr isotopes in plagioclase compared to Wonosari Lst from Parangtritis*)

Chadwick, J.P., V.R. Troll, T.E. Waight, F.M. van Der Zwan & L.M. Schwarzkopf (2013)- Petrology and geochemistry of igneous inclusions in recent Merapi deposits: a window into the sub-volcanic plumbing system. *Contrib. Mineralogy Petrology* 165, 2, p. 259-282.
(*Common igneous inclusions in basaltic-andesite lavas of Merapi, C Java, suggesting complex sub-volcanic magmatic system. Four main types: (1) highly crystalline basaltic-andesite inclusions, (2) co-magmatic enclaves, (3) plutonic crystalline inclusions and (4) amphibole megacrysts*)

Charbonnier, S.J. & R. Gertisser (2008)- Field observations and surface characteristics of pristine block-and-ash flow deposits from the 2006 eruption of Merapi Volcano, Java, Indonesia. *J. Volcanology Geothermal Res.* 177, 4, p. 971-982.
(*Internal architecture of 2006 block-and-ash flow at S flank of Merapi volcano, C. Java*)

Charbonnier, S.J. & R. Gertisser (2011)- Deposit architecture and dynamics of the 2006 block-and-ash flows of Merapi Volcano, Java, Indonesia. *Sedimentology* 58, 6, p. 1573-1612.
(*Internal architecture of 2006 block-and-ash flow at S flank of Merapi volcano, C. Java. Variations in distribution, surface morphology and lithology related to source materials involved during individual events and to effects of changing slope, channel morphology and local topographic features on flow dynamics*)

Claproth, R. (1988)- Petrography and geochemistry of volcanic rocks from Ungaran, Central Java, Indonesia. Ph.D. Thesis, University of Wollongong, p. 1-500.
(online at: <http://ro.uow.edu.au/theses/1398/>)
(*Ungaran volcano, C Java, forms part of second of three cycles of volcanism recognized on Java and was active between Late Pliocene- Late Pleistocene. Three stages of growth, interrupted episodes of cone collapse. Lavas are basalts, basaltic andesites and andesites. Most basalts are shoshonites, andesites are high-K calcalkaline. Shoshonitic rocks dominated early stages of activity. Low Mg-numbers indicate basalts crystallized from derivative melts, and do not represent mantle-derived magma*)

Claproth, R. (1989)- Magmatic affinities of volcanic rocks from Ungaran, Central Java. *Geologi Indonesia (IAGI)* 12, 1 (Katili volume), p. 511-562.
(*Lengthy paper on Late Pliocene- Late Pleistocene volcanic rocks of Ungaran volcano, C. Java. Early stages of Ungaran mainly shoshonitic rocks, later stages mostly high-K calc-alkaline andesites*)

Cool, H. (1910)- Krakatau in 1908. *Jaarboek Mijnwezen Nederlandsch Oost-Indie*, 37 (1908), p. 183-195.

Cool, H. (1910)- Verslag omtrent een onderzoek aan den Semeroe in verband met de ramp van Loemadjang. *Jaarboek Mijnwezen Nederlandsch Oost-Indie*, 38 (1909), p. 297-331.
(*Report of an investigation of the Semeru in connection with the disaster of Lumajang*)

Dahren, B., V.R. Troll, U.B. Andersson, J.P. Chadwick, M.F. Gardner, K. Jaxybulatov & I. Koulakov (2012)- Magma plumbing beneath Anak Krakatau volcano, Indonesia: evidence for multiple magma storage regions. *Contrib. Mineralogy Petrology* 163, 4, p. 631-651.

(Petrological studies identified shallow magma storage 2-8 km beneath Krakatau, while seismic evidence pointed towards deeper crustal storage zones at 9 and 22 km. Clinopyroxene in Anak Krakatau lavas crystallized at of 7–12 km depth, plagioclase at shallow crustal (3-7 km) and sub-Moho (23–28 km) levels. New seismic tomography shows separate upper crustal (<7 km) and lower-mid-crustal magma storage regions)

De Belizal, E. (2012)- Les corridors de lahars du volcan Merapi (Java, Indonesie): des espaces entre risque et ressource. Contribution a la geographie des risques au Merapi. Doct. Thesis Universite Pantheon-Sorbonne - Paris I, p. 1-495.

(online at: https://tel.archives-ouvertes.fr/file/index/docid/931862/filename/de-belizal_edouard--these.pdf)

('The lahar corridors of the Merapi volcano (Java, Indonesia): spaces between risk and resource. Contribution to the risk geography at Merapi')

Deegan, F.M., V.R. Troll, C. Freda, V. Misiti, J.P. Chadwick et al. (2010)- Magma- carbonate interaction processes and associated CO₂ release at Merapi Volcano, Indonesia: insights from experimental petrology. *J. Petrology* 51, 5, p. 1027-1051.

(online at: <http://petrology.oxfordjournals.org/content/51/5/1027.full.pdf>)

(Evidence for late-stage interaction between magmatic system and local limestone at Merapi volcano, C Java: calc-silicate xenoliths within Merapi basalts-andesites and feldspar phenocrysts frequently with crustally contaminated cores and zones)

Deegan, F.M., V.R. Troll, C. Freda, V. Misiti & J.P. Chadwick (2011)- Fast and furious: crustal CO₂ release at Merapi volcano, Indonesia. *Geology Today* 27, 2, p. 63-64.

(Experiments show that when magma interacts with carbonate-rich crustal rock, it rapidly liberates crustal CO₂, with potentially devastating repercussions for explosive volcanic behaviour)

De Hoog, J.C.M, P.R.D. Mason & M.J van Bergen (2001)- Sulfur and chalcophile elements in subduction zones: constraints from a laser ablation ICP-MS study of melt inclusions from Galunggung Volcano, Indonesia. *Geochimica Cosmochimica Acta* 65, p. 3147-3164.

Del Marmol, M.A. (1989)- The petrology and geochemistry of Merapi volcano, Central Java, Indonesia. Ph.D. Thesis, John Hopkins University, Baltimore, p. 1-384. *(Unpublished)*

Del Marmol, M.A. & B.D. Marsh (1988)- Merapi volcano, Central Java, Indonesia: petrology and geochemistry. *Chemical Geology* 70, 1-2, p. 86. *(Abstract only)*

(Merapi stratocone lavas are calc-alkaline hi-Al basalts and andesites ranging in SiO₂ from 49-56%)

Delmelle, P. & A. Bernard (1994)- Geochemistry, mineralogy, and chemical modeling of the acid crater lake of Kawah Ijen Volcano, Indonesia. *Geochimica Cosmochimica Acta* 58, 11, p. 2445-2460.

Delmelle, P., A. Bernard, Kusakabe, T. Fischer & B. Takano (2000)- Geochemistry of the magmatic-hydrothermal system of Kawah Ijen volcano, East Java, Indonesia. *J. Volcanology Geothermal Res.* 97, p. 31-53.

(Chemical and isotopic analyses of samples from Kawah Ijen crater lake and spring)

Dempsey, S.R. (2013)- Geochemistry of volcanic rocks from the Sunda Arc. Ph.D. Thesis Durham University, p. 1-279.

(online at: http://etheses.dur.ac.uk/6948/1/ScottDempsey_Thesis.pdf)

(Geochemistry and isotopic (Sr-Nd-Hf-Pb) examination of volcanoes from W Java (Papandayan, Patuha, Galunggung), C Java (Sumbing), E Java (Kelut) and Bali (Agung). Contamination in arc crust more extensive than previously recognised, particularly in W and C Java. Papandayan and Patuha significant enrichments in

isotope ratios above mantle values, indicating terrigenous crustal contamination. Magma compositions of Sumbing similar to Merapi and Merbabu, with strong evidence for assimilation of carbonate-rich lithologies)

De Neve, G.A. (1981)- Anak Krakatau, fifty years of geomorphological development and growth with the petrographically derived consequences. Proc. 10th Ann. Conv. Indon. Assoc. Geol. (IAGI), p. 7-40.

De Neve, G.A. (1981)- Historical notes on Krakatau's eruption of 1883, and activities in previous times. Nat. Inst. Oceanology (LON-LIPI), Publ. No. LON/COAST/III-14, Jakarta, p. 1-45.

De Neve, G.A. (1983)- Earlier eruptive activities of Krakatau in historic time and during the Quaternary. In: D. Sastrapradja et al. (eds.) Proc. Symp. 100 Years development of Krakatau and its surroundings, Jakarta, Lembaga Ilmu Pengetahuan Indonesia (LIPI), 1, p. 35-46.

De Neve, G.A. (1983)- Krakatau's earliest known activity: was it prehistoric ? Berita Geologi (Bandung) 15, p. 39-44.

De Neve, G.A. (1985)- Geovolcanology of the Krakatau Goup in the Sunda Strat region: review of a hundred years developments (1883-1983). In: D. Sastrapradja et al. (eds.) Proc. Symposium on 100 years development of Krakatau and its surroundings, Indonesian Inst. Science (LIPI), p. 20-34.

De Neve, G.A. (1992)- Krakatau Bibliography: a comprehensive bibliography of Krakatau volcano in the Sunda Straits and its adjacent regions (Indonesia). Volcanological Survey of Indonesia, Bandung, p. 1-645.
(Very extensive bibliography of Krakatau volcano and geology of adjacent regions)

Dirk, M.H.J. (2007)- Petrologi dan geokimia batuan gunung api di Gunung Mandalawangi dan sekitarnya. J. Sumber Daya Geologi 17, Spec. Issue (163), p. 11-22.
(Petrology and geochemistry of volcanic rocks of Gunung Mandalawangi and surroundings'. Quaternary volcanics of Mandalawangi volcano ESE of Bandung, W Java, basaltic andesite, andesite, dacite and high-K rhyolite of calc-alkaline affinity, as typically formed in island arc environment)

Dirk, M.H.J. (2007)- Petrologi batuan gunung api Kareumbi dan sekitarnya, Sumedang, Jawa Barat. J. Sumber Daya Geologi 17, Spec. Issue (163), p. 23-34.
(Petrology of volcanic rocks of Kareumbi and surroundings, Sumedang, West Java'. Quaternary volcanics of Kareumi, E of Bandung, mainly basaltic andesite, andesite and dacite of calc-alkaline affinity)

Douglas, E.A. (1912)- De uitbarsting van den Tangkoeban Prahoe in April 1910. Jaarboek Mijnwezen Nederlandsch Oost-Indie 39 (1910), p. 80-86.
(The eruption of the Tangkuban Perahu in April 1910)

Doyle, E.E., S.J. Cronin, S.E. Cole & J. Thouret (2010)- The coalescence and organization of lahars at Semeru volcano, Indonesia. Bull. Volcanology 72, 8, p. 961-970.

Dvorak, J., J. Matahelumual, A.T. Okamura, H. Said, T.J. Casadevall & D. Mulyadi (1990)- Recent uplift and hydrothermal activity at Tangkuban Parahu Volcano, West Java, Indonesia. Bull. Volcanology 53, p. 20-28.

Edwards, C.M.H., M. Menzies & M. Thirlwall (1991)- Evidence from Muriah, Indonesia, for the interplay of supra- subduction zone and intraplate processes in the genesis of potassic alkaline magmas. J. Petrology 32, 3, p. 555-592.
(High-K alkaline volcano Muriah in C Java has younger highly potassic series (HK) and an older potassic series (K). Proposed model for Muriah lavas three source components: (1) asthenosphere of mantle wedge of Sunda arc, which has Indian Ocean MORB characteristics; (2) metasomatic layer at base of lithosphere, which has enriched mantle characteristics; (3) subducted pelagic sediments. Calc-alkaline magma contaminated by arc crust before mixing. Magmas show transition from intraplate to subduction zone processes in their genesis)

Edwards, C.M.H., M.A. Menzies, M.F. Thirlwall, J.D. Morris, W.P. Leeman & R.S. Harmon (1994)- The transition to potassic alkaline volcanism in island arcs: the Ringgit-Beser complex, East Java, Indonesia. *J. Petrology* 35, 6, p. 1557-1595.

(Ringgit-Beser volcanic complex lavas of normal island arc calc-alkaline type and atypical potassic lavas, including high-Mg lavas. Incompatible trace element and Pb isotope data for calc-alkaline lavas indicate similar source to other calc-alkaline lavas in Java (Indian Ocean MORB mantle fluxed by fluids from subducted slab). Potassic lavas from enriched mantle sources within wedge not affected by recent subduction processes)

Erdmann, S., C. Martel, M. Pichavant, J.L. Bourdier, R. Champallier, J.C. Komorowski & N. Cholik (2016)- Constraints from phase equilibrium experiments on pre-eruptive storage conditions in mixed magma systems: a case study on crystal-rich basaltic andesites from Mount Merapi, Indonesia. *J. Petrology* 57, 3, p. 535-560.

(online at: <https://academic.oup.com/petrology/article/57/3/535/1752840>)

(Experiments on Merapi volcano basaltic andesites suggests pre-eruptive reservoir partially crystallizes at ~100-200 MPa (4.5- 9 km). Magmas are stored at ~925–950°C with melt H₂O content of ~3–4 wt %. Pre-eruptive recharge magmas T 950 -1000°C, and higher melt H₂O content of ~4-5 wt %)

Escher, B.G. (1919)- De Krakatau groep als vulkaan. *Handelingen Eerste Nederl. Indisch Natuurwetensch. Congres, Weltevreden*, p. 28-35.

Escher, B.G. (1925)- L'eboulement prehistorique de Tasikmalaja et le volcan Galounggoung (Java). *Leidsche Geol. Mededelingen* 1, p. 8-21.

(online at: www.repository.naturalis.nl/document/549247)

('The prehistoric collapse at Tasikmalaya and the Galounggoung volcano'. The area of ten thousand hills of Tasikmalaya is in front of large missing sector of Galounggoung volcano, and probably formed as gravity collapse of volcano)

Escher, B.G. (1927)- Vesuvius, the Tengger Mountains and the problem of calderas. *Leidsche Geol. Mededelingen* 2, p. 51-88.

(online at: www.repository.naturalis.nl/document/549675)

(Includes discussion of Bromo Caldera, Tengger Mountains of East Java)

Escher, B.G. (1928)- Krakatau in 1883 en in 1928. *Tijdschrift Kon. Nederlands Aardrijkskundig Genootschap* 45, 4, p. 715-743.

(On Krakatoa eruptions of 1883 and 1928)

Escher, B.G. (1933)- On the character of the Merapi eruption in Central Java. *Leidsche Geol. Mededelingen* 6, p. 51-58.

(online at: www.repository.naturalis.nl/document/549807)

(Mainly discussion of two paintings of 1865 Merapi eruption by Raden Saleh in 1865)

Fennema, R. (1886)- De vulkanen Semeroe en Lamongan. *Jaarboek Mijnwezen Nederlandsch Oost-Indie* 15 (1886), Wetenschappelijk Gedeelte, p. 5-130.

('The volcanoes Semeru and Lamongan', East Java)

Fennema, R. (1912)- De uitbarsting van den Tangkoeban Prahoe in Mei 1896. *Jaarboek Mijnwezen Nederlandsch Oost-Indie* 39 (1910), p. 74-79.

('The eruption of the Tangkuban Perahu in May 1896')

Fermin, P.G.H.A. (1951)- Beknopt verslag van een voorlopig geologisch onderzoek in 1942, op de hellingen van de Gunung Muriah, naar het voorkomen van leuciet-houdende gesteenten. *De Ingenieur in Indonesie*, IV, 3, 5, p. 23-30.

('Brief report on a preliminary investigation in 1942 on leucite-bearing rocks on the slopes of Gunung Muriah'. Investigation into potassium-rich volcanics of the large, extinct double volcano Muriah in NE Java. Average 4.35% K₂O)

Francis, P. W. (1985)- The origin of the 1883 Krakatau tsunamis. *J. Volcanology Geothermal Research* 25, 3-4, p. 349-363.

(Three hypotheses proposed to explain causes of 1883 Krakatau tsunami: (1) collapse of N part of Krakatau island (Verbeek, 1884); (2) submarine explosion (Yokoyama, 1981), and (3) emplacement of pyroclastic flows (Latter, 1981). Most likely mechanism Mt. St. Helens-like scenario, close to hypothesis of Verbeek, in which collapse of part of original volcanic edifice propagated major explosion)

Fukashi, M. & F. Imamura (2011)- Tsunami generation by a rapid entrance of pyroclastic flow into the sea during the 1883 Krakatau eruption, Indonesia. *J. Geophysical Research, Solid Earth*, 116, 9, B09205, p. 1-24.

Gardner, M.F., V.R. Troll, J.A. Gamble, R. Gertisser, G.L. Hart, R.M. Ellam, C. Harris & J.A. Wolff (2012)- Crustal differentiation processes at Krakatau Volcano, Indonesia. *J. Petrology* 54, p. 149-182.

(online at: <http://petrology.oxfordjournals.org/content/early/2012/10/31/petrology.egs066.full.pdf+html>)

(Anak Krakatau is basaltic andesite cone that has grown following caldera-forming 1883 eruption of Krakatau. Since 1950s has been growing at rate of ~8 cm/ week. Anak Krakatau magmas have genetic relationship with 1883 eruption products. With granitic- dioritic and metasedimentary (with cordierite) xenoliths Low levels of assimilation of quartzo-feldspathic sediment recorded)

Genereau, K., S.J. Cronin & G. Lube (2015)- Effects of volatile behaviour on dome collapse and resultant pyroclastic surge dynamics: Gunung Merapi 2010 eruption. *Geol. Soc., London, Spec. Publ.* 410, p. 199-218.

Gerbe, M.C., A. Gourgaud, O. Sigmarsson, R. Harmon, J.L. Joron & A. Provost (1992)- Mineralogical and geochemical evolution of the 1982-1983 Galunggung eruption (Indonesia). *Bull. Volcanology* 54, 4, p. 284-298.

(Pyroclastic deposition of 1982-1983 eruption of Galunggung, W Java, lasted 9 months, with diversity of eruptive style, and progressive evolution from andesite (58 wt.% SiO₂) to high-Mg basalt (47 wt.% SiO₂). Galunggung basalts most primitive basalts known from W Java, with phenocrysts of olivine, diopside, etc.)

Gertisser, R., S.J. Charbonnier, V.R. Troll, J. Keller, K. Preece, J.P. Chadwick, J. Barclay & R.A. Herd (2011)- Merapi (Java, Indonesia): anatomy of a killer volcano. *Geology Today* 27, 2, p. 57-62.

(Merapi is Indonesia's most dangerous volcano. Over past two centuries volcanic activity dominated by prolonged periods of basaltic andesite lava dome growth and intermittent dome failures to produce pyroclastic flows every few years. Explosive eruptions, such as in 2010, more common in pre-historic time. Calc-silicate xenoliths brought up by Merapi magmas indicate assimilation of carbonate rocks from sub-volcanic basement)

Gertisser, R., S.J. Charbonnier, J. Keller & X. Quidelleur (2012)- The geological evolution of Merapi volcano, Central Java, Indonesia. *Bull. Volcanology* 74, 5, p. 1213-1233.

(Eight main volcano stratigraphic units distinguished in Merapi volcano of C Java, linked to three main evolutionary stages: Proto-Merapi, Old Merapi and New Merapi. Construction of Merapi complex began after 170 ka. Proto-Merapi volcanic edifices Gunung Bibi (109±60 ka) in NE and Gunung Turgo and Gunung Plawangan (~138, 135 ka) in S. Old Merapi started to grow at ~30 ka as stratovolcano of basaltic andesite lavas and pyroclastic rocks and was destroyed by flank failure after 4.8±1.5 ka. Shift from medium-K to high-K character of volcanics at ~1900 years BP)

Gertisser, R. & J. Keller (2003)- Temporal variations in magma composition at Merapi Volcano (Central Java, Indonesia): magmatic cycles during the past 2000 years of explosive activity. *J. Volcanology Geothermal Res.* 123, p. 1-23.

(Merapi Volcano in C Java frequently active in M-Late Holocene time, producing basalts and basaltic andesites of medium-K composition in earlier stages of activity and high-K magmas from ~1900 BP to present. Periods of high eruption rates alternate with shorter time spans of reduced eruptive frequency since first appearance of high-K volcanic rocks. Cyclic variations result from interplay of several magmatic processes)

Gertisser, R. & J. Keller (2003)- Trace element and Sr, Nd, Pb and O isotope variations in medium-K and high-K volcanic rocks from Merapi volcano, Central Java, Indonesia: evidence for the involvement of subducted sediments in Sunda Arc magma genesis. *J. Petrology* 44, 3, p. 457-489.

(online at: <http://petrology.oxfordjournals.org/content/44/3/457.full.pdf+html>)

(Merapi Holocene basalts-andesites medium-K affinity, high-K over past 1900 yrs, largely reflecting variable contributions from subducted sediment to mantle wedge which was similar to MORB-source mantle before subduction-related modification)

Giachetti, T., R. Paris, K. Kelfoun & B. Ontowirjo (2012)- Tsunami hazard related to a flank collapse of Anak Krakatau Volcano, Sunda Strait, Indonesia. In: J.P. Terry & J. Goff, *Natural hazards in the Asia-Pacific region*, Geol. Soc., London, Spec. Publ. 361, p. 79-90.

(Anak Krakatau volcano is built on steep NE wall of 1883 Krakatau eruption caldera, and is active on SW side, which makes edifice quite unstable. Hypothetical 0.280 km³ flank collapse directed SW-wards would trigger initial wave 43m in height that would reach islands of Sertung, Panjang and Rakata in <1 min, with amplitudes from 15-30m. Waves would propagate across Sunda Strait, at 80-110/ hour. Tsunami would reach cities on Java W coast Merak, Anyer, Carita.) 35-45 min after onset of collapse, with amplitude from 1.5-3.4m)

Gourgaud, A., J.C. Thouret & J.L. Bourdier (2000)- Stratigraphy and textural characteristics of the 1982-83 tephra of Galunggung volcano (Indonesia): implications for volcanic hazards. *J. Volcanology Geothermal Res.* 104, p. 169-186.

(Galunggung volcano in W Java 9-month-long eruption in 1982-83 with phreatomagmatic phase with ash columns 20 km high. Magma composition evolved from andesite to primitive magnesian basalt and progressive increase of ratio of xenoliths versus juvenile magma before increase of explosivity)

Hammer, J.E., K.V. Cashman & B. Voight (2000)- Magmatic processes revealed by textural and compositional trends in Merapi dome lavas. *J. Volcanology Geothermal Res.* 100, p. 165-192.

Handley, H. (2006)- Geochemical and Sr-Nd-Hf-O isotopic constraints on volcanic petrogenesis at the Sunda arc, Indonesia. Ph.D. Thesis Durham University, p. 1-289.

(online at: core.kmi.open.ac.uk/download/pdf/6116169)

(Geochem work on Salak, Gede, Ijen volcanoes shows progressive E-ward increase in Sr isotope ratio of volcanic rocks across W and C Java, broadly correlating with inferred lithospheric thickness (W Java thicker crust and more terrigenous signal of subducted sediment; E Java thin crust/ pelagic sediment). C- E Java transition may represent SE boundary of Sundaland (pre-Tertiary arc basement).

Handley, H.K., J. Blichert-Toft, R. Gertisser, C.G. Macpherson, S.P. Turner, A. Zaennudin & M. Abdurrachman (2014)- Insights from Pb and O isotopes into along-arc variations in subduction inputs and crustal assimilation for volcanic rocks in Java, Sunda arc, Indonesia. *Geochimica Cosmochimica Acta* 139, p. 205-226.

(New Pb isotope data for volcanoes across Java (Gede, Salak, Galunggung, Merbabu, Merapi, Ijen). Negative correlation between Pb isotopes and SiO₂, combined with mantle-like $\delta^{18}O$ values in Gede explained by assimilation of-primitive arc rocks and/or ophiolitic crust known to outcrop in West Java. Peak in $\delta^{18}O$ whole-rock and mineral values in C Java volcanic rocks (Merbabu and Merapi) combined with along-arc trends in Sr isotope ratios suggest different or additional crustal assimilant of C Java volcanic rock, likely carbonate material. Strong E-to-W Java variations in Ba concentration attributed subducted source input)

Handley, H.K., J.P. Davidson, C.G. Macpherson & J.A. Stimpac (2008)- Untangling differentiation in arc lavas: constraints from unusual minor and trace element variations at Salak Volcano, Indonesia. *Chemical Geology* 255, p. 360-376.

(Volcanic rocks from Salak Volcano, W Java show different minor and trace element geochemistry between central vent group lavas and rocks erupted at side vents)

Handley, H.K., C.G. Macpherson, J.P. Davidson and R. Gertisser (2006)- Along-arc heterogeneity in crustal architecture and subduction input at the Sunda arc in Java, Indonesia. *Geochimica Cosmochimica Acta* 70, 18, Suppl. 1 (Goldschmidt Conf. Abstracts), p. A227.

(Sunda Arc lavas across Java. Sr ratios increase from Krakatau in W to Merapi in C Java, but lower further E. Correlation between Sr ratio and volcano summit elevation indicates relation to lithospheric thickness. Other isotope ratios for W Java volcanics consistent with incorporation of subducted sediment dominated by terrigenous component. E Java volcanics greater involvement of subducted pelagic sediment and stronger slab-fluid imprint. Along-arc variation reflects decreasing thickness of turbidite deposits on down-going Indian Ocean lithosphere from Sumatra to Java)

Handley, H.K., C.G. Macpherson, J.P. Davidson, K. Berlo & D. Lowry (2007)- Constraining fluid and sediment contributions to subduction-related magmatism in Indonesia: Ijen Volcanic Complex. *J. Petrology* 48, 6, p. 1155-1183.

(Ijen Volcanic Complex in E Java on thickened oceanic crust. Caldera complex 20 km wide with 22 post-caldera eruptive centers. 'Old Idjen' volcanics unconformable on Miocene limestone. Lavas geochemistry suggest least contaminated mantle wedge source analysed in region. Indian-type mid-ocean ridge basalt (I-MORB) -like fertile mantle wedge first infiltrated by minor fluid from altered oceanic crust, prior to addition of <1% subducted Indian Ocean sediment (pelagic ooze and Mn-nodules))

Handley, H.K., C.G. Macpherson & J.P. Davidson (2010)- Geochemical and Sr-O isotopic constraints on magmatic differentiation at Gede Volcanic Complex, West Java, Indonesia. *Contrib. Mineralogy Petrology* 159, p. 85-98.

Handley, H.K., M. Reagan, R. Gertisser, K. Preece, K. Berlo, L.E. McGee, J. Barclay & R. Herd (2018)- Timescales of magma ascent and degassing and the role of crustal assimilation at Merapi volcano (2006-2010), Indonesia: constraints from uranium-series and radiogenic isotopic compositions. *Geochimica Cosmochimica Acta* 222, p. 34-52.

(Isotopic data sets from 2006 and 2010 eruptions at Merapi volcano, C Java, indicate relatively rapid ascent of more undegassed magma responsible for more explosive behaviour in 2010)

Handley, H.K., S. Turner, C.G. Macpherson, R. Gertisser & J.P. Davidson (2011)- Hf-Nd isotope and trace element constraints on subduction inputs at island arcs: limitations of Hf anomalies as sediment input indicators. *Earth Planetary Sci. Letters* 304, p. 212-223.

(New Nd-Hf isotope and trace element data for Javanese volcanoes, Hf anomaly variation may be controlled by fractionation of clinopyroxene or amphibole and does not represent magnitude or type of subduction input in some arcs)

Handini, E., T. Hasenaka, A. Harijoko & Y. Mori (2017)- Variation of slab component in ancient and modern Merapi products: a detailed look into slab derived fluid fluctuation over the living span of one of the most active volcanoes in Sunda Arc. *J. Applied Geology (UGM)* 2, 1, p. 1-14.

(online at: <https://jurnal.ugm.ac.id/jag/article/view/30253/18263>)

(Holocene eruptions of Merapi medium-K calc alkaline before 1900 years ago and high-K after that. Change attributed to increasing sediment input as volcano matures. Ancient Merapi sample higher input of slab derived fluid (1.5 % of sediment derived fluid) than 2006 eruption of Modern Merapi, opposite of suggested trend)

Harijoko, A., R. Uruma, Wibowo, E. Haryo, L.D. Setijadji, A. Imai, K. Yonezu & K. Watanabe (2016)- Geochronology and magmatic evolution of the Dieng volcanic complex, central Java, Indonesia and their relationships to geothermal resources. *J. Volcanology Geothermal Res.* 310, p. 209-224.

(Dieng volcanic complex three volcanic episodes: pre-caldera (>1 Ma), second (0.3-0.4 Ma) and youngest (after 0.27 M). Each episode distinct differentiation trends, indicating multiple shallow magma chambers)

Harmon, R.S. & M.C. Gerber (1992)- The 1982-83 eruption at Galunggung Volcano, Java (Indonesia): oxygen isotope geochemistry of a chemically zoned magma chamber. *J. Petrology* 33, 3, p. 585-609.

(Mt Galunggung in SW Java erupted four times in last two centuries. During most recent event in 1982-1983 305 million m³ of medium-K, calc-alkaline magma s erupted. Composition changed gradually during eruption from initial plagioclase (An60-75) and two-pyroxene andesites with ~58% SiO₂ to final plagioclase (An85-90), diopside, and olivine (Fo85-90) bearing primitive magnesium basalts with ~47% SiO₂. Eruption progressively tapped and drained magma chamber chemically stratified through extensive crystal fractionation)

Hartmann, M.A. (1938)- Die Vulkangruppe im Sudwesten des Salak-Vulkans in West Java. *Natuurkundig Tijdschrift Nederlandsch-Indie* 98, 4, p. 215-249.

(online at: <http://62.41.28.253/cgi-bin/...>)

(‘The group of volcanoes SW of the Salak volcano in W Java’. Descriptions of 4 Recent volcanoes SW of Salak, from NE to SW: Perbakti, Endoet-Wajang, Kiaraberes and Gagak)

Hartono, U. (1994)- The petrology and geochemistry of the Wilis and Lawu volcanics, East Java, Indonesia. Ph.D. Thesis University of Tasmania, Australia, p. 1-441.

(online at: http://eprints.utas.edu.au/15767/2/1Hartono_whole_thesis.pdf)

Hartono, U. (1994)- Magma source characteristics in the Wilis Volcano, Eastern Sunda Arc: trace element and Sr and Nd Isotope constraints. *Proc. 23rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta*, 1, p. 250-270.

(Wilis Volcanic Complex in E Java medium-K arc volcanics, varying from basalts to andesites to dacites. Underlying mantle wedge with MORB characteristics. High Ba may be from sediments of subducting plate)

Hartono, U. (1994)- The olivine, pyroxene and amphibole chemistry from the Wilis volcano complex, East Java: implications for temperatures and pressures of the magma. *J. Geologi Sumberdaya Mineral* 4, 37, p. 7-19.

(Pyroxenes from Wilis basalt and andesite crystallized at T of 1150°C and 947°C respectively. Amphiboles from Wilis volcano dacite crystallized at pressure of ~5 kb)

Hartono, U. (1994)- Radiogenic and stable isotope data from the Wilis volcanic complex, East Java. *J. Geologi Sumberdaya Mineral* 4, 39, p. 8-15.

(Sr, Nd and O-isotope analyses of Quaternary volcanics of Wilis volcano, SE Java)

Hartono, U. (1995)- Oxygen isotope variations from the Wilis volcanic complex, East Java: evidence for assimilation and fractional crystallization. *J. Geologi Sumberdaya Mineral* 5, 43, p. 2-7.

(On 18O oxygen isotopes in Quaternary volcanics of Wilis Complex, E Java)

Hartono, U. (1995)- The major trace and rare earth elements geochemistry of the Lawu volcano, Central Java. *J. Geologi Sumberdaya Mineral* 5, 50, p. 12-29.

(Rocks from extinct Quaternary Lawu volcano typical calc-alkalic subduction volcanics (mainly andesites, minor dacites). Higher K₂O and other incompatible elements in Young Lawu rocks may indicate crustal contamination)

Hartono, U. (1995)- Petrography and mineral chemistry of the Lawu volcano, Central Java. *J. Geologi Sumberdaya Mineral* 6, 52, p. 12-32.

(Quaternary lavas of Lawu volcano, C Java, mainly basaltic andesite to dacite. Mineralogical differences between 'Old Lawu' and Young Lawu': Young Lawu with olivine phenocrysts)

Hartono, U. (1996)- Stratigraphic geochemical trends of the Wilis volcanic complex, Eastern Sunda arc: implication for magma evolution. *Bull. Geol. Res. Dev. Centre, Bandung*, 19, p. 97-133.

(Wilis volcano, SE Java, five episodes of basaltic-andesitic volcanism, showing evolution from initial poorly evolved basalts to more evolved andesitic magmas to finally dacitic magmatism)

Hartono, U. (1996)- Sr, Nd and O Isotope constraints on the petrogenesis of the island arc Wilis volcanics. *Proc. 25th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung*, p. 233-249.

- Hartono, U. (1997)- Petrogenesis of basaltic magmas from the Wilis volcano, Eastern Sunda Arc. Bull. Geol. Res. Dev. Centre, Bandung, 21, p. 39-62.
(*Wilis extinct Quaternary volcano at border C-E Java with basalts high in Al₂O₃, low MgO, enriched in K-group elements (Ba, Rb, K), etc. Probably fractionation product from primary magma resulting from melting of MORB-like mantle wedge above subducting slab. May have begun to crystallize at depth of ~30 km. Ba and Sr concentrations in Wilis basalts significantly higher than in average Java tholeiite and island arc tholeiite, possibly indicating involvement of young subducted terrigenous sediments*)
- Hartono, U. (1997)- Basaltic andesites resulted from the reaction between hydrous basaltic magmas and anhydrous ferromagnesian minerals: evidence from the Lawu volcano, Central Java. J. Geologi Sumberdaya Mineral 7, 69, p. 2-10.
(*Lawu volcano two parts, Old Lawu and Young Lawu. Both dominated by basaltic andesites and andesites, but Young Lawu contains olivine. Crystallization of amphibole of Old Lawu at ~18km depth*)
- Hartono, U. (1999)- Fractional crystallization and the origin of compositional gap between basaltic andesite and silicic rocks in the Wilis magmatism. J. Geologi Sumberdaya Mineral 9, 90, p. 2-8.
- Hartono, U. & A. Achdan (1993)- Possible sediment involvement in the Wilis magmatism: a preliminary study. J. Geologi Sumberdaya Mineral 3, 27, p. 2-7.
(*Basalts from extinct Quaternary Wilis volcano, Central-East Java have high Ba/Sr and Ba/La ratios and Sr and Nd isotope ratios that suggest contribution to magma source from subducted slab sediments (1% of sediment added to Indian Ocean MORRB source will give observed Sr and Nd anomalies)*)
- Hartung, M.A. (1938)- Die Vulkangruppe im Sudwesten des Salak-vulkans in West-Java. Natuurkundig Tijdschrift Nederlandsch-Indie 98, 4, p. 215-249.
(*online at: <http://colonial.library.leiden.edu/>)*
(*'The volcano group in the SW of the Salak volcano in W Java'. Descriptions of Recent volcanoes Perbakti, Endut, Kiaraberes, Gagak*)
- Heim, A. (1916)- Auf dem Vulkan Smeru auf Java. Neujahrsblatt Naturforsch. Gesellschaft Zurich 1916, 118, 15p.
(*'On the Semeru volcano on Java'. Early report on ascent of Semeru in E Java*)
- Hidayati, S., A. Basuki, Kristianto & I. Mulyana (2009)- Emergence of lava dome from the crater lake of Kelud Volcano, East Java. J. Geologi Indonesia 4, 4, p. 229-238.
(*online at: www.bgl.esdm.go.id/publication/index.php/dir/article_download/255*)
(*On volcanic activity of Kelud Volcano, E Java in 2007, with creation of lava dome in crater*)
- Hirschi, H. (1925)- Die Radioaktivitat des Shoshonits von Bromo (Java) und Shonkinits vom Pik von Maros (Celebes). Verhandelingen Geologisch-Mijnbouwkundig Genootschap Nederland Kol., Geol. Serie 8 (Verbeek volume), p. 213-218.
(*'The radioactivity of the shoshonite of Bromo (Java) and the shonkinite of Maros Peak (SW Sulawesi)'. Found relatively low content of radioactive materials*)
- Innocenti, S. (2006)- Lavas and tephros of Merapi Volcano, Java, Indonesia: insights from textural analyses and geochemistry. M.Sc. Thesis, Pennsylvania State University, p. 1-210. (*Unpublished*)
(*online at: <https://etda.libraries.psu.edu/paper/7396/>*)
(*Merapi volcano activity produces lava flows and viscous lava domes and explosive events. Evidence in support of multiple distinct plumbing systems. Varying proportions of subducted sediment and subducted crustal fluids can explain repeated shifts between medium- and high-K affinity (also displayed by other volcanoes in Java). Formation of viscous plug responsible for shift between effusive and explosive eruptions*)

Innocenti, S., S. Andreastuti, T. Furman, M.A. del Marmol & B. Voight (2013)- The pre-eruption conditions for explosive eruptions at Merapi volcano as revealed by crystal texture and mineralogy. *J. Volcanology Geothermal Res.* 261, p. 69-86.

(Merapi tephra and lavas resided for similar lengths of time in mid-crustal reservoir, before ascending to surface and erupt explosively (tephra), or stagnate in shallow magma chamber before extrusion (lava))

Innocenti, S., M.A. del Marmol, B. Voight, S. Andreastuti, T. Furman (2013)- Textural and mineral chemistry constraints on evolution of Merapi Volcano, Indonesia. *J. Volcanology Geothermal Res.* 261, p. 20-37.

(Textures of Merapi lavas, from Proto-Merapi through modern activity, suggests distinct histories for basalts and basaltic andesites, presumably associated with different rheological behaviors and storage/transport systems)

Jaxybulatov, K., I. Koulakov, M. Ibs-von Seht, K. Klinge, C. Reichert, B. Dahren & V.R. Troll (2011)- Evidence for high fluid/melt content beneath Krakatau volcano (Indonesia) from local earthquake tomography. *J. Volcanology Geothermal Res.* 206, p. 96-105.

(online at: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.727.4142&rep=rep1&type=pdf>)

(Tomographic inversion for P and S velocities from 2005-2006 microseismic network shows zone of high Vp/Vs ratio beneath Krakatau complex, a probable indicator of partially molten or high fluid content material, with composition corresponding to deeper layers. Anomaly appears to be separated in two parts at depth of 5-6 km)

Jeffery, A.J., R. Gertisser, V.R.Troll, E.M.Jolis, B. Dahren, C. Harris et al. (2013)- The pre-eruptive magma plumbing system of the 2007-2008 dome-forming eruption of Kelut volcano, East Java, Indonesia. *Contrib. Mineralogy Petrology* 166, p. 275-308

(Kelut 2007-2008 lava dome provides evidence for complex magma system that comprises deep crustal, mid-crustal storage and upper crustal storage zones)

Jhonny, B. Priadi & R. Mulyana (2006)- Continental characters on volcanism of Lamongan volcano, East Java. *Proc. 35th Ann. Conv. Indon Geol. Assoc. (IAGI), Pekanbaru*, p.

Jousset, P., A. Budi-Santoso, A.D. Jolly, M. Boichu, Surono, S. Dwiyono et al. (2013)- Signs of magma ascent in LP and VLP seismic events and link to degassing: an example from the 2010 explosive eruption at Merapi volcano, Indonesia. *J. Volcanology Geothermal Res.* 261, p. 171-192.

Jousset, P., S. Dwipa, F. Beauducel, T. Duquesnoye M. Diament (2000)- Temporal gravity at Merapi during the 1993-1995 crisis: an insight into the dynamical behaviour of volcanoes. *J. Volcanology Geothermal Res.* 100, p. 289-320.

(During 1993-1995 activity of Merapi volcano, C Java, little deformation (<5 cm), but significant gravity changes, explained mostly by growth of lava dome)

Jousset, P., J. Palister & Surono (2013)- The 2010 eruption of Merapi volcano. *J. Volcanology Geothermal Res.* 261, p. 1-6.

(October-November 2010 eruption of Merapi volcano in C Java was the largest eruption in >100 years at volcano known for smaller eruptions occurring on average every 4-6 years)

Junghuhn, F.W. (1843)- Bijdragen tot de geschiedenis der vulkanen in den Indischen Archipel, Eerste afdeeling Java. I. Goenoeng Salak, II Goenoeng Pangerango, III. Goenoeng Gede. *Tijdschrift voor Nederlands Indie* 1843, 1, p. 97-133.

(Contributions to the history of volcanoes in the Indies Archipelago, First part Java, I. Gunung Salak, II. Gunung Pangerango, III. Gunung Gede'. Early descriptions of Java volcanoes)

Junghuhn, F.W. (1843)- Bijdragen tot de geschiedenis der vulkanen in den Indischen Archipel, Eerste afdeeling Java. IV. Tangkoembang Prauw, V. Patoeha, VI. Malabar, VII. Waijang, VIII-IX. Goenoeng Goentoer, X. Kawa Manok, XI. Papandaijang. *Tijdschrift voor Nederlands Indie* 1843, p. 185-227.

('Contributions to the history of volcanoes in the Indies Archipelago, First part Java, IV, Tangkuban Perahu, V Patuha, VI Malabar, VII Waijang, VIII-IX Gunung Guntur, X Kawa Manok, XI Papandayang'. First of many continuations of above)

Junghuhn, F.W. (1843)- Bijdragen tot de geschiedenis der vulkanen in den Indischen Archipel, Eerste afdeeling Java, XII. Telaga Bodas, XIII, Galoeng Goeng. Tijdschrift voor Nederlands Indie 1843, p. 257-280.
('Contributions to the history of volcanoes in the Indies, etc. XII Telaga Bodas, XIII Galunggung')

Junghuhn, F.W. (1843)- Bijdragen tot de geschiedenis der vulkanen in den Indischen Archipel, Eerste afdeeling Java, XIV. Tjerimai. Tijdschrift voor Nederlands Indie 1843, p. 614-626.
('Contributions to the history of volcanoes in the Indies, etc. XIV Ciremai')

Junghuhn, F.W. (1843)- Bijdragen tot de geschiedenis der vulkanen in den Indischen Archipel, Eerste afdeeling Java, XV. Slamet. Tijdschrift voor Nederlands Indie 1843, p. 745-763.
('Contributions to the history of volcanoes in the Indies, etc. XV Slamet')

Junghuhn, F.W. (1844)- Bijdragen tot de geschiedenis der vulkanen in den Indischen Archipel, Eerste afdeeling Java, XVI Radja Djampangang, XVII. Het gebergte Dieng. Indisch Magazijn 1844, 4-6, p. 41-83 and p. 163-176.
('Contributions to the history of volcanoes in the Indies, etc., XVI Raja Jampangang, XVII The Dieng Plateau')

Junghuhn, F.W. (1844)- Bijdragen tot de geschiedenis der vulkanen in den Indischen Archipel, Eerste afdeeling Java, XVIII. Goenoeng Sindoro. Indisch Magazijn 1844, 4-6, p. 287-315.
('Contributions to the history of volcanoes in the Indies, etc., XVIII Gunung Sindoro')

Junghuhn, F.W. (1844)- Bijdragen tot de geschiedenis der vulkanen in den Indischen Archipel, Eerste afdeeling Java, XIX. Goenoeng Soembing. Indisch Magazijn 1844, 7-9, p. 64-94.
('Final part of 'Contributions to the history of volcanoes in the Indies Archipelago, First part Java, XIX Gunung Sumbing'. Series not completed as originally intended')

Kartadinata, M.N., M. Okuno, T. Nakamura & T. Kobayashi (2002)- Eruptive history of Tangkuban Perahu Volcano, West Java, Indonesia: a preliminary report. J. Geography (Chigaku Zasshi) 111, 3, p. 404-409.
(online at: www.journalarchive.jst.go.jp/.)
(Tangkuban Perahu volcano, N of Bandung, tephra group divided into two subgroups, Old Tangkuban Perahu (oldest radiometric date ~40,750 years) and Young Tangkuban Perahu (started at ~10,000 BP))

Katili, J.A. & A. Sudradjat (1984)- Galunggung the 1982-1983 eruption. Volcanological Survey Indonesia, p. 1-102.

Kavalieris, I. (1994)- High Au, Ag, Mo, Pb, V and W content of fumarolic deposits at Merapi Volcano, Central Java, Indonesia. J. Geochemical Exploration 50, p. 479-491.
(Blue and red-green sublimates incrustations deposited in 1991 around high T (800°C) fumaroles at Merapi volcano. Blue sublimates comprise thin coating of Mo oxide on cristobalite-alunogen-anbydrite. They contain up to 3% Mo, 1.64% Pb and many other metallic elements. Related to ascent of new magma and degassing at depths of 2 km or less below the summit of volcano. High T fumarolic activity may form 'false' anomalies of key elements such as Au, unrelated to hydrothermal fluids with potential for commercial mineralization)

Keil, K.F.G. (1933)- Über das Vorkommen von leucitreichem Basalt am Gunung Ringgit (Java). Centralblatt Mineralogie Geologie Palaont. 1933, A, p. 245-249.
('On the occurrence of leucite-rich basalt at the Ringgit volcano, Java'. Ringgit is an extinct volcano center E of Arjuno - Welirang complex, East Java. Young basalts with leucite crystals up to 3 cm in size and locally up to 50% of rock)

- Kemmerling, G.L.L. (1921)- De geologie en geomorphologie van den Idjen. Kon. Natuurkundige Vereniging, Kolff, Batavia, p. 1-162.
(*The geology and geomorphology of the Idjen'. On Ijen highlands and volcanic complex, easternmost Java*)
- Kemmerling, G.L.L. (1923)- De G. Semeroe, de G. Brama en de G. Lamongan in het begin van 1920. Vulkanologische Mededeelingen, Dienst Mijnbouw Nederlandsch-Indie, Weltevreden, 4, p. 1-40.
(*The Semeru, Brama and Lamongan volcanoes in early 1920*)
- Kohno, Y., L.D. Setijadji, P. Zoltan, H. Agung, P. Utami, A. Imai & K. Watanabe (2006)- Geochronology and petrogenetic aspects of Quaternary across arc magmatism on Merapi-Merbabu-Telomoyo-Ungaran volcanoes, Central Java, Indonesia. In: Proc. 3rd Symp. Earth resources and geological engineering education, Yogyakarta 2006, p. 194-201.
(online at: <http://geothermal.ft.ugm.ac.id/wp-content/uploads/2012/12/Geochronology-and-Petrogenetic-Aspects-2006-Lucas-et-al.pdf>)
(*Document progressive N to S younging along Merapi- Merbabu- Telomoyo- Ungaran line of Quaternary volcanoes. Merapi in S currently active, with oldest flows dated as ~0.67 Ma. Ungaran in back-arc in N with Pleistocene K-Ar ages (0.22- 0.52 Ma and older ages (1.4± 0.5 Ma) from hornblende phenocrysts). Merapi lavas evolve from medium-K to high-K affinity during lifetime of magmatism*)
- Koulakov, I., G. Maksotova, K. Jaxybulatov, E. Kasatkina, N.M. Shapiro, B.G. Luehr, S. El Khrepy & N. Al-Arifi (2016)- Structure of magma reservoirs beneath Merapi and surrounding volcanic centers of Central Java modeled from ambient noise tomography. *Geochem. Geophys. Geosystems* 17, 10, p. 4195-4211.
(online at: <http://gfzpublic.gfz-potsdam.de/pubman/item/escidoc:1975923:7/component/escidoc:1978904/1975923.pdf>)
(*3D S-wave velocity model of upper crust down to 20 km under C Java from seismic ambient noise from >100 seismic stations. Large low-velocity anomaly under S flank of Merapi, with two layers: (1) upper ~1 km cover of volcanoclastic deposits and (2) anomaly at ~4–8 km (possible magma reservoir). Under Merapi summit, low-velocity anomaly at ~8 km, possibly active magma reservoir that feeds eruptive activity of Merapi*)
- Kupper, H. (1984)- Die Stellung des Vulkans Krakatao im Malayischen Archipel, Indonesien. *Mitteilungen Osterreichischen Mineral. Gesellschaft* 129, p. 65-68.
(*The position of the Krakatau volcano in the Malay Archipelago'*)
- Lavigne, F. (1998)- Les lahars du volcan Merapi, Java central, Indonesie: declenchement, budget sedimentaire, dynamique et zonage des risques associes. Ph.D. Thesis Universite Blaise Pascal, Clermont-Ferrand, p. 1-539.
(*The lahars of Merapi Volcano, Central Java, Indonesia: triggering, sediment budget, dynamics and zoning of associated risks'*)
- Lavigne, F. & J.C. Thouret (2002)- Sediment transportation and deposition by rain-triggered lahars at Merapi Volcano, Central Java, Indonesia. *Geomorphology* 49, p. 45-69.
- Lavigne, F., J.C. Thouret, D.S. Hadmoko & C.B. Sukatja (2007)- Lahars in Java: initiations, dynamics, hazard assessment and deposition process. *Forum Geografi* 21, 1, p. 17-32.
(online at: <http://journals.ums.ac.id/index.php/fg/article/view/1822/1274>)
(*Lahar term for rapidly flowing, high-concentration, poorly sorted sediment-laden mixtures of rock debris and water from a volcano. Resulting deposits poorly sorted, massive, made up of clasts (mainly volcanics) in mud-poor matrix Lahars may be direct result of eruptive activity or not temporally related to eruptions. Etc.*)
- Lavigne, F., J.C. Thouret, B. Voight, H. Suwa & A. Sumaryono (2000)- Lahars at Merapi volcano, Central Java: an overview. *J. Volcanology Geothermal Res.* 100, p. 423-456.
(*Merapi volcano in C Java, is one of most active volcanoes in world. At least 23 of 61 reported eruptions since mid-1500s produced lahar deposits. Combined lahar deposits ~286 km² on flanks and surrounding areas. Lahars commonly triggered by rainfalls of ~40mm in 2 hrs. Average velocities 5-7 m/s at 1000m*)

- Leterrier, J., Y.S. Yuwono, R. Soeria-Atmadja & R.C. Maury (1990)- Potassic volcanism in Central Java and South Sulawesi, Indonesia. *J. Southeast Asian Earth Sci.* 4, 3, p. 171-187.
(Neogene- Quaternary K-rich volcanics from back-arc of C Java and S Sulawesi 3 series: (1) silica-saturated or oversaturated potassic (SK); (2) weakly silica-saturated alkaline potassic (Muria 1, Genuk in Java; Baturape Fm, Cindako Fm, Camba 2a Fm and part of Lompobatang stratovolcano, S Sulawesi); and (3) silica-undersaturated ultrapotassic, usually leucite-bearing (Muria 2, Bawean in Java; Camba 2b Fm, Sopeng I Fm in Sulawesi). Rocks compatible with subduction-related environment, but in S Sulawesi emplacement post-dates latest known subduction. In C Java do not fit with model of increasing K₂O with depth of Benioff plane, and location of UK series is independent from latter (Quaternary UK Series on Bawean away from 600 km isobath). Prefer genetic model for K-rich volcanic series by melting of mantle sources enriched in incompatible elements during previous subduction events, and possibly involving contribution of subcontinental mantle (C Java))
- Maaskant, A. (1940)- Onderzoek van de plagioklasen uit de Krakatau-asch van 1883. *Geologie en Mijnbouw*, n.s., 2, 8, p. 160-167.
(online at: <https://drive.google.com/file/d/130ljYQyZNXfIr0vcVFUzMS95psrIH6bW/view>)
('Investigation of plagioclase from the Krakatau ash of 1883'. Krakatau 1883 ash 91% glass and 9% crystals. Two groups of (zoned) plagioclase crystals, one with core average An of 45%, one with average 75%)
- Maeno, F. & F. Imamura (2011)- Tsunami generation by a rapid entrance of pyroclastic flow into the sea during the 1883 Krakatau eruption, Indonesia. *J. Geophysical Research, Solid Earth*, 116, B9, B09205, p. 1-24.
(online at: <http://onlinelibrary.wiley.com/doi/10.1029/2011JB008253/epdf>)
(Pyroclastic flow with volume of >5 km³ rapidly entering sea at 10 million m³/second(?) most plausible mechanism of 1883 Krakatau tsunami)
- Maeno, F., S. Nakada, M. Yoshimoto, T. Shimano, N. Hokanishi, A. Zaennudin & M. Iguchi (2017)- A sequence of a plinian eruption preceded by dome destruction at Kelud volcano, Indonesia, on February 13, 2014, revealed from tephra fallout and pyroclastic density current deposits. *J. Volcanology Geothermal Res.*, p. (in press)
(Reconstruction of 2014 Kelud eruption sequence. Plinian phase preceded by destruction of earlier lava dome)
- Mandeville, C.W., S.H.S. Carey & J. King (1994)- Paleomagnetic evidence for high temperature emplacement of the 1883 subaqueous pyroclastic flows from Krakatau volcano, Indonesia. *J. Geophysical Research* 99, B5, p. 9487-9504.
(1883 eruption of Krakatau volcano in Indonesia discharged > 6.5 km³ (dense rock equivalent) of pyroclastic material into Sunda Straits within 15km of volcano. Paleomagnetic evidence for high-emplacment T from pumice clasts from core of submarine pyroclastic deposits, showing mean inclination of -24°, indicating cooling of clasts from >350°C after deposition)
- Mandeville, C.W., S. Carey & H. Sigurdsson (1996)- Magma mixing, fractional crystallization and volatile degassing during the 1883 eruption of Krakatau volcano, Indonesia. *J. Volcanology Geothermal Res.* 74, p. 243-274.
(Krakatau eruption of 1883 produced ~12.5 km³ of magma, 90% rhyodacite, 4% mafic dacite, 1% andesite and ~5% lithic material. Magma chamber compositionally and thermally zoned with upper part rhyodacite at T of 880-890 °C, overlying more mafic dacite at 890-913°C, and andesite at 980-1000°C)
- Mandeville, C.W., S. Carey & H. Sigurdsson (1996)- Sedimentology of the Krakatau 1883 submarine pyroclastic deposits. *Bull. Volcanology* 57, 7, p. 512-529.
(Majority of tephra generated during 1883 eruption of Krakatau deposited in sea within 15 km of caldera. Thickest accumulation of tephra from eruption on submarine slopes W of Sertung (80m). Two submarine pyroclastic facies (1) massive, poorly sorted pumice and lithic lapilli-to-block sized fragments in silty-sandy ash matrix (indistinguishable from 1883 subaerial pyroclastic flow deposits; result of sinking of components of pyroclastic flows over water), (2) less common well-sorted, planar-laminated to low-angle cross-bedded, vitric-enriched silty ash, likely deposited from low-concentration pyroclastic density currents generated by shear between submarine flows and seawater)

Marini, J.C. (2004)- Hafnium dans les zones de subduction: bilan isotopique des flux entrant et sortant. Doct. Sci. Thesis, Université Joseph Fourier, Grenoble, p. 1-135.

(online at: www.iaea.org/inis/collection/NCLCollectionStore/_Public/37/095/37095281.pdf)

('Hafnium in subduction zones: isotopic record of incoming and outgoing flows'. Includes chapters on Hafnium isotopes in N Luzon and Late Eocene- Pleistocene volcanic arc lavas from Java, which appear very radiogenic, possibly caused by contamination of oceanic pelagic sediments in magma sources)

Maury, R.C., R. Soeria-Atmadja, R. Bellon, J.L. Joron, Y.S. Yuwono & E. Suparka (1987)- Nouvelles données géologiques et chronologiques sur les deux associations magmatiques du volcan Muria (Java, Indonésie). Comptes Rendus Académie Sciences, Paris, 304 (II), 4, p. 175-180.

('New geological and chronological data on the two magmatic associations of Muria volcano'. Two lava types in Pleistocene Muria volcano: young (0.6- 0.4 Ma) ultrapotassic leucite-bearing lavas and underlying leucite-free rocks, less rich in K (1.1- 0.6 Ma))

Muller, M., A. Hordt, & F.M. Neubauer (2002)- Internal structure of Mount Merapi, Indonesia, derived from long-offset transient electromagnetic data. J. Geophysical Research 107, B9, p. 2187.

(Long-offset transient electromagnetic survey gave 2 resistivity profiles (10 km E-W and 15 km S-N) of Merapi volcano, C Java. Extensive conductive layer at depths of 1-2 km, probably caused by fluids)

Mulyadi, E. (1992)- Le complexe de Bromo-Tengger (Est Java, Indonésie): étude structurale et volcanologique. Doct. Thesis Université Blaise Pascal, Clermont Ferrand, p. 1-152. *(Unpublished)*

('The Bromo- Tengger complex (East Java): structural and volcanological study')

Mulyadi, E. (1993)- The sand-sea and other calderas formation in Bromo-Tengger complex, East Java. Proc. 22nd Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 1, p. 35-44.

(In Indonesian. Bromo-Tengger complex in E Java composite strato-volcano. Five eruption centers since ~1.4 Ma, each destroyed by caldera formation. Current Sand Sea caldera 10km across and formed during two big eruption series that produced Tosari and Ngadas pyroclastic deposits (between ~2750- 8000 years ago?). Post-caldera volcanic cones Bromo, Batur, etc.)

Mulyaningsih, S. (2002)- Volcano-stratigraphy of the South Plain of Merapi, Yogyakarta: implication of volcanic activities to the civilization performance in the 8-16th centuries. Proc. 31st Ann. Conv. Indon. Assoc. Geol. (IAGI), Surabaya, 2, p. 397-411.

(Four periods of major eruption disasters at S side of Merapi: 8th, 10th (1006, demise of 'Old Mataram?'), 13th and 16th (1587) centuries)

Mulyaningsih, S. & S. Bronto (2000)- Genesis of the ancient Borobudur Lake, Central Java, related to Merapi volcano activities. Proc. 29th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 4, p. 149-154.

(Borobudur temple 27 km W of Merapi volcano built in area surrounded by former lake, possibly formed by damming of Progo River by Merapi eruption deposits around 1710 BC. Lake deposits ~13m thick)

Mulyaningsih, S., S. Hidayat, B.A. Rumanto & G. Saban (2016)- Identifikasi karakteristik erupsi gunung api Merbabu berdasarkan stratigrafi dan mineralogi batuan gunung api. Pros. Seminar Nasional Aplikasi Sains & Teknologi (SNAST 2016), Yogyakarta, p. 85-97.

(online at: <http://journal.akprind.ac.id/index.php/snast/article/view/757/484>)

('Identification of eruption characteristics of Merbabu volcano based on the stratigraphy and mineralogy of volcanic rocks')

Nadeau, O. (2011)- The behaviour of base metals in arc-type magmatic-hydrothermal systems- insights from Merapi Volcano, Indonesia. Ph.D. Thesis McGill University, Montreal, p. 1-195.

Nadeau, O., J. Stix & A.E. Williams-Jones (2013)- The behavior of Cu, Zn and Pb during magmatic-hydrothermal activity at Merapi volcano, Indonesia. Chemical Geology 342, p. 167-179.

(Fe, Cu, Co and Ni at Merapi volcano transferred from mafic melt to immiscible sulfide melt, then to magmatic volatile phase which carried them to surface)

Nadeau, O., J. Stix & A.E. Williams-Jones (2016)- Links between arc volcanoes and porphyry-epithermal ore deposits. *Geology* 44, 1, p. 11-14.

(Formation of porphyry and epithermal ore deposits tied to volcanic cycles (partly based on observations of variations in vapors from Merapi volcano, C Java). Injections of mafic magma (commonly with explosive volcanic eruptions) are followed by decompression of magmatic hydrothermal system, inducing fluid phase separation, rapid cooling, and deposition of porphyry and epithermal ores at rel. shallow depths (<5km))

Nadeau, O., A.E. Williams-Jones & J. Stix (2013)- Magmatic-hydrothermal evolution and devolatilization beneath Merapi Volcano, Indonesia. *J. Volcanology Geothermal Res.* 261, p. 50-68.

Nasution, A., M.N. Kartadinata, T. Kobayashi, D. Siregar, E. Sutaningsih, R. Hadisantono & E. Kadarstia (2004)- Geology, age dating and geochemistry of the Tangkuban Parahu geothermal area, West Java, Indonesia. *J. Geothermal Res. Soc. Japan* 26, 3, p. 285-303.

(online at: https://www.jstage.jst.go.jp/article/grsj1979/26/3/26_3_285/_pdf)

(Three main episodes of volcanic activity in Mt. Sunda volcanic complex (Sunda, Burangrang and Tangkuban Parahu volcanoes): (1) Batunyusun Andesite (1.1 Ma), which unconformably overlies Neogene sediments; (2) Sunda Volcanics (0.56 and 0.18 Ma; Sunda Andesite and huge volume of pyroclastics covering area of 200 km² and with caldera-forming eruption between 0.205-0.18 Ma; (3) Tangkuban Parahu andesite and pyroclastics (62-22 ka). Younger craters at 9980-1440 yrs BP. No magmatic eruption since 1600)

Neumann van Padang, M. (1933)- De Krakatau voorheen en thans. *De Tropische Natuur* 22, 8, p. 137-150.

(online at: <http://natuurtijdschriften.nl/download?type=document;docid=511015>)

('Krakatau, then and now'. Popular review of development of Krakatau volcano, 50 years after 1883 eruption)

Neumann van Padang, M. (1936)- Over de verplaatsing van de kraters der vulkanen Slamet, Lamongan, Merapi en Semeroe. *De Ingenieur in Nederlandsch-Indie (IV)*, 3, 1, p. 1-6.

('On the shifting of the craters of the volcanoes Slamet, Lamongan, Merapi and Semeru'. Several of Java active volcano groups show shift of active craters from N to S (Ungaran-Merbabu- Merapi) or NE to SW (Slamet, Lamongan), probably following fault zones)

Neumann van Padang, M. (1937)- De uitbarsting van den Tjerimai in 1937. *De Ingenieur in Nederlandsch-Indie (IV)*, 4, 12, p. 211-227

('The eruption of the Ciremai volcano in 1937', W Java)

Neumann van Padang, M. (1939)- Uber die vielen tausend Hugel im westlichen Vorlande des Raoeng-Vulkans (Ostjava). *De Ingenieur in Nederlandsch-Indie (IV)*, 6, 4, p. 35-41.

('On the many thousand hills in the western foreland of the Raung Volcano (East Java)'. Numerous hills at W side of Raung volcano (E of Slamet) not small volcanic centers as suggested by Verbeek, but probably erosional remnants of large ancient landslide)

Newhall, C.G., S. Bronto, B. Alloway, N.G. Banks, I. Bahar, M.A. Del Marmol, R.D. Hadisantono, R.T. Holcomb et al. (2000)- 10,000 years of explosive eruptions of Merapi volcano, Central Java: archaeological and modern implications. *J. Volcanology Geothermal Res.* 100, p. 9-50.

(Stratigraphy and radiocarbon dating of pyroclastic deposits at Merapi Volcano, C Java, reveals ~10,000 years of explosive eruptions:(1) Construction of Old Merapi stratovolcano to height of present cone or slightly higher. Oldest age for explosive eruption 9630 yrs BP; (2) Collapse(s) of Old Merapi with impoundment of Kali Progo to form early Lake Borobudur at ~3400 yrs BP. Somma-forming collapse at ~1900 yrs BP. Current cone began to grow soon thereafter. (3) Explosive Merapi eruptions before and after Buddhist and Hindu temples construction in C Java between 732 and ~900 AD; (4) Partial collapse of New Merapi in 12th-14th century AD; (5) Lava-dome extrusion and dome-collapse pyroclastic flows dominant in 20th century)

- Nicholls, I.A. & D.J. Whitford (1983)- Potassium-rich volcanic rocks of the Muriah complex, Java, Indonesia: products of multiple magma sources? *J. Volcanology Geothermal Res.* 18, p. 337-359.
(Extinct Pleistocene Muriah volcano in N-C Java two groups of lavas: (1) 'Anhydrous Series' leucite basanite to tephritic phonolite and (2) 'Hydrous Series', tephrites and high-K andesites. Mafic A-series probably related to crustal doming-extension above dominant subduction regime. Hydrous Series magmas may be result of mixing between Anhydrous Series and high-K calc-alkaline basaltic- andesitic magmas related to subduction)
- Niermeyer, J.F. (1900)- De vulkaan Idjen in Besoeki. *Tijdschrift Kon. Nederlands Aardrijkskundig Genootschap* (2), 17, p. 735-763.
(online at: <https://babel.hathitrust.org/cgi/pt?id=mdp.39015077870965;view=1up;seq=771>)
(The Ijen volcano in Besoeki')
- Nomanbhoy, N. & K. Satake (1995)- Generation mechanism of tsunamis from the 1883 Krakatau eruption. *Geophysical Research Letters* 22, 4, p. 509-512.
(Three models previously proposed for large tsunami generated by 1883 eruption of Krakatau: (1) large-scale caldera collapse of N part of Krakatau Island; (2) emplacement of pyroclastic flow deposits; (3) submarine explosion. Modeling suggests all three models displace same volume of water (11.5 km³), but in different ways. Submarine explosion model of 1-5 min duration best explains generation of largest tsunami)
- Nossin, J.J., R.P.G.A. Voskuil & R.M.C. Dam (1996)- Geomorphologic development of the Sunda volcanic complex, West Java, Indonesia. *Int. Inst. Aerospace Survey and Earth Sciences (ITC) Journal* 1996, 2, p. 157-165.
(Sunda volcanic complex near Bandung characterized by one active volcano, Tangkuban Perahu, set in large caldera of former Sunda volcano. Another group of volcanoes to E (Bukittinggul-Manglayang complex) structurally related to Sunda complex. Sunda volcano blew up in probably two cataclysmic episodes and collapsed to leave caldera in which Tangkuban Perahu volcano arose)
- Oba, N., K. Tomita & M. Yamamoto (1992)- An interpretation of the 1883 cataclysmic eruption of Krakatau from geochemical studies on the partial melting of granite. *GeoJournal* 28, 2, p. 99-108.
(Pumice from 1883 Krakatau eruption very different from other volcanics of Krakatau group, which are tholeiitic. Fragments of granitic rock in pumice flow are similar to W Malayan granites, and must have been captured by magma from underlying complex. Sialic crustal materials may have plunged into depths and partially melted to produce magma of granitic composition and mixed with ascending basaltic magma from upper mantle to produce pumice of dacitic composition)
- Oba, N., K. Tomita, M. Yamamoto, S. Bronto, M. Istidjab, A. Sudradjat & T. Suhandi (1983)- Geochemical study of some volcanic products from Galunggung volcano, West Java. *Reports Fac. Science, Kagoshima University (Earth Sci. & Biol.)*, 16, p. 1-20.
(online at: http://ir.kagoshima-u.ac.jp/bitstream/10232/5937/1/AN00040884_1983_001.pdf)
(Volcanic products of 1982 Galunggung eruptions range in chemical composition from basaltic andesite to basalt. Silica-content of first stage (April 5-8 of 1982) ~55 wt %, later stages ~50%)
- Oba, N., K. Tomita, M. Yamamoto, M. Istidjab, M. Badruddin, M. Parlin, Sadjiman, A. Djuwandi, A. Sudradjat & T. Suhandi (1983)- Geochemical study of lava flows, ejecta and pyroclastic flows from the Krakatau group, Indonesia. *Reports Fac. Science Kagoshima University* 15, p. 21-41.
(online at: http://ir.kagoshima-u.ac.jp/bitstream/10232/5932/1/AN00040884_1982_002.pdf)
(Rocks and ejecta of Anak Krakatau almost same lithologic and geochemical characteristics of island arc basaltic andesites. New volcanic ash different, more basic in composition. Volcanic rocks from Rakata three types: augite-hypersthene andesite, augiteandesite and olivine basalt. Pyroclastic flow from 1883 eruption, characterized by a large amount of volcanic glass and high-contents of SiO₂, Na₂O and K₂O and low MgO, FeO and CaO; lithologically andesitic and geochemically dacitic. Granitic xenoliths of quartz monzonite in pyroclastic flow of Sertung)

Oba, N., K. Tomita, M. Yamamoto, M. Istidjab, A. Sudradjat & T. Suhanda (1986)- Geologic significance of granitic fragments found from pumice flow of 1883 eruption at the Krakatau Group, Indonesia. In: G.H. Teh & S. Paramanathan (eds.) Proc. 5th Reg. Congress Geology, Mineral and Energy Resources of SE Asia (GEOSEA V), Kuala Lumpur 1984, 1, Bull. Geol. Soc. Malaysia 19, p. 51-68.

(online at: <https://gsmpubl.files.wordpress.com/2014/09/bgsm1986005.pdf>)

(Pumice flow of 1883 Krakatau eruption at Rakata Kecil and Sertung differs from other volcanics of Krakatau Group which belong to Miyashiro's (1974) tholeiitic series. With lithic fragments of granitic rock (quartz monzonite- quartz monzodiorite; up to 30cm in size) similar in compositions to W Malay Peninsula granites. Granitic clasts presumably from underlying sialic crustal material at depth of Sunda Straits)

Paris, R., P. Wassmer, F. Lavigne, A. Belousov, M. Belousova, Y. Iskandarsyah, M. Benbakkar, B. Ontowirjo & N. Mazzoni (2014)- Coupling eruption and tsunami records: the Krakatau 1883 case study, Indonesia. Bull. Volcanologique 76, 814, p. 1-23.

(Five kinds of sedimentary and volcanic facies related to Krakatau 1883 identified along coasts of Java and Sumatra: (1, 2) bioclastic and pumiceous tsunami sands, deposited before and during Plinian phase (26-27 August); (3) rounded pumice lapilli reworked by tsunami; (4) pumiceous ash fall deposits and (5) pyroclastic surge deposits (only in Sumatra))

Pawellek, T. (2013)- Die grossen Caldera-Systeme Zentral-Indonesiens. Der Aufschluss 64, 4/5, p. 250-261.

(The large caldera systems of Central Indonesia'. Popular review of calderas of E Java (Tengger-Semeru, Ijen) and Bali (Batur))

Peters, S.T.M., V.R. Troll, F.A. Weis, L. Dallai, J.P. Chadwick & B. Schulz (2017)- Amphibole megacrysts as a probe into the deep plumbing system of Merapi volcano, Central Java, Indonesia. Contrib. Mineralogy Petrology 172, 16, p. 1-20.

(Metastable calcic amphibole megacrysts in basaltic andesites of Merapi volcano, C Java, crystallised at pressures of >500 MPa (mid- to lower crust))

Petroeschewsky, W.A. (1949)- Een eerste na-oorlogse verkenning van Lang Eiland en Anak Krakatau op 5 Juni 1949. Chronica Naturae 105, 10, p. 247-249.

(A first post-war reconnaissance of Pulau Panjang and Anak Krakatau on 5 June 1949'. Anak Krakatau little changed since 1941. Crater lake close to sea level. Max. height ~132m)

Philibosian, B. & M. Simons (2006)- A survey of volcanic deformation on Java using ALOS PALSAR interferometric time series. Geochem. Geophys. Geosystems 12, 11, p. 1-20.

(online at: <http://onlinelibrary.wiley.com/doi/10.1029/2011GC003775/epdf>)

(Satellite-based survey of volcanic deformation on Java during 2007-2008. Volcanoes experiencing small eruptions are typically fed by magma bodies too small to produce recognizable InSAR signal. Deformation event at Lamongan volcano likely linked to magmatic intrusion at several km depth. Second one at Slamet volcano at shallower depth that may have been related to subsequent eruption)

Prambada, O., Y. Arakawa, K. Ikehata, R. Furukawa, A. Takada, H.E. Wibowo, M. Nakagawa & M. N. Kartadinata (2016)- Eruptive history of Sundoro volcano, Central Java, Indonesia since 34 ka. Bull. Volcanology 78, 81, p. 1-19.

(Sundoro volcano 65 km NW of Yogyakarta, with 12 eruptive groups)

Prastitho, B. (1992)- New data on ages of the Muria Complex, Java. Proc. 21st Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 2, p. 507-516.

(Oldest rock dated from Muria volcano ~1.01 Ma. Lava flows in N part of Muria complex 0.95 and 0.90 Ma. Volcanic neck of recent summit 0.17 Ma. Old Muria dominated by andesite- trachyte; Young Muria mainly basalt, with composition change at ~0.65 Ma)

Pratama, A., S. Bijaksana, M. Abdurrachman & N.A. Santoso (2018)- Rock magnetic, petrography, and geochemistry studies of Lava at the Ijen Volcanic Complex (IVC), Banyuwangi, East Java, Indonesia. *Geosciences* 8, 183, p. 1-14.

(online at: <https://www.mdpi.com/2076-3263/8/5/183/pdf>)

(*Rock magnetic studies of basaltic- andesitic lavas from Ijen Volcanic Complex, East Java*)

Preece, K., R. Gertisser, J. Barclay, K. Berlo & R.A. Herd (2014)- Pre- and syn-eruptive degassing and crystallisation processes of the 2010 and 2006 eruptions of Merapi volcano, Indonesia. *Contrib. Mineralogy Petrology* 168, 1061, p. 1-25.

Preece, K., R. Gertisser, J. Barclay, S.J. Charbonnier, J.C. Komorowski & R.A. Herd (2016)- Transitions between explosive and effusive phases during the cataclysmic 2010 eruption of Merapi volcano, Java, Indonesia. *Bull. Volcanology* 78, 54, p. 1-16.

Priadi, B., I. Zulkarnain & H. Permana (2004)- Volcanism and submarine hydrothermal activities around Krakatau island in Sunda Strait, Indonesia. *Proc. 5th Int. Conf. Asian Marine Geology, Bangkok*, p.

Purbawinata, M. & E. Kadasetia (1991)- Petrologi dan geokimia Gunungapi Ciremai, Jawa Barat. *Proc. 20th Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta*, p. 38. (*Abstract only*)

(*Petrology and geochemistry of Ciremai volcano, West Java'. Active Ciremai volcano 90km E of Bandung, 190km above Wadati-Benioff zone, with three periods of volcanism. Calc-alkaline volcanics with SiO₂ 50-68 Wt%. Etc.*)

Purbawinata, M., A. Ratdomopurbo, A. Sinulingga, I.K. Sumarti & S. Suharno (1997)- Merapi volcano- a guide book. *Volcanol. Survey Indonesia, Bandung*, p. 1-64.

Purnomo, B.J. & T. Pichler (2014)- Geothermal systems on the island of Java, Indonesia. *J. Volcanology Geothermal Res.* 285, p. 47-59.

(*Two types of geothermal systems on Java, volcano-hosted and fault-hosted*)

Putriastuti, M., T. Yudistira, A.D. Nugraha, S. Widiatoro & J.P. Metaxian (2017)- Ambient noise tomography of Merapi complex, Central Java, Indonesia: a preliminary result. In: *Southeast Asian Conference on Geophysics, Bali 2016, IOP Conf. Series, Earth Environm. Science* 62, 012040, 6p.

(online at: <http://iopscience.iop.org/article/10.1088/1755-1315/62/1/012040/pdf>)

(*Ambient noise seismic velocity tomography around Mt. Merapi show pronounced NNW-SSE positive anomaly from under Mt. Merapi to Mt. Merbabu, interpreted as old basaltic lava. Negative anomalies in E and W flanks*)

Ramadhan, M., S. Widiatoro, A.D. Nugraha, A. Saepuloh, J.P. Metaxian, S. Kristyawan et al. (2017)- Seismic travel-time tomography beneath Merapi volcano and its surroundings: a preliminary result from DOMERAPI Project. In: *Southeast Asian Conference on Geophysics, Bali 2016, IOP Conf. Series, Earth Environm. Science* 62, 012039, 6p.

(online at: <http://iopscience.iop.org/article/10.1088/1755-1315/62/1/012039/pdf>)

(*New tomographic imaging shows higher resolution at shallow depths (<35 km) below Merapi volcano, C Java. Magma reservoirs detected at ~27km and 12km depth. Dipping low velocity material rises from ~100km depth*)

Ratdomopurbo, A., F. Beauducel, J. Subandriyo, I.G.M.A. Nandaka, C.G. Newhall, Suharna, D.S. Sayudi, H. Suparwaka & Sunarta (2013)- Overview of the 2006 eruption of Mt. Merapi. *J. Volcanology Geothermal Res.* 261, p. 87-97.

Ratdomopurbo, A. & G. Poupinet (2000)- An overview of the seismicity of Merapi volcano (Java, Indonesia), 1983-1994. *J. Volcanology Geothermal Res.* 100, 1, p. 193-214.

(*Seismicity of Merapi volcano during two main eruptive cycles, from 1984-1986 and 1992-1994*)

Reubi, O., I.A. Nicholls & V.S. Kamenetsky (2003)- Early mixing and mingling in the evolution of basaltic magmas: evidence from phenocryst assemblages, Slamet volcano, Java, Indonesia. *J. Volcanology Geothermal Res.* 119, p. 255-274.

Richard, J.J. (1935)- Enkele aantekeningen omtrent den Gg Raoeng op Java. *Leidsche Geol. Mededelingen* 7, p. 1-40.

(online at: www.repository.naturalis.nl/document/549799)

(*Some notes on the Raung volcano in E Java*)

Saibi, H., E. Aboud, A. Setyawan, S. Ehara & J. Nishijima (2012)- Gravity data analysis of Ungaran Volcano, Indonesia. *Arabian J. Geosciences* 5, 5, p. 1047-1054.

(*Hot springs around Ungaran volcano structurally controlled and from depths of 1-3 km*)

Santoso, N.A., S. Bijaksana, K. Kodama, D. Santoso & D. Dahrin (2017)- Multimethod approach to the study of Recent volcanic ashes from Tengger Volcanic Complex, Eastern Java, Indonesia. *Geosciences* 7, 3, 63, p. 1-12.

(online at: <http://www.mdpi.com/2076-3263/7/3/63>)

(*Comparison of ashes from 2010 eruption of Bromo with two older tuff layers from same caldera, Widodaren Tuff (1.8 ka) and Segarawedi Tuff (33 ka)*)

Sayudi, D.S., R. Mulyana & R. Sukhyar (1990)- Geokimia dan petrogenesa basalt kompleks Gunungapi Lamongan- Jawa Timur. *Proc. 19th Ann. Conv. Indon. Assoc. Geol. (IAGI)*, Bandung, 2, p. 220-246.

(*'Geochemistry and petrogenesis of the basalt complex of Lamongan volcano, E Java'. Multiple eruption centers, basaltic lavas*)

Scrivenor, J. B. (1929)- The mudstreams (ōlaharsö) of Gunong Keloet in Java. *Geol. Magazine* 66, 10, p. 433-434.

(*Brief report of observations on lahar deposits of Kelut volcano near Kediri in E Java, and its similarities to glacial deposits. Both are poorly sorted deposits with large blocks, but volcanic mudflows would be composed mostly or entirely of volcanic material*)

Self, S. (1982)- Krakatau revisited: the course of events and interpretation of the 1883 eruption. *GeoJournal* 28, 2, p. 109-121.

(*Review of Krakatau 1883 eruption cycle, starting with minor activity on 20 May, to climax on 27 August*)

Self, S. & M.R. Rampino (1981)- The 1883 eruption of Krakatau. *Nature* 294, 5843, p. 699-704.

(*Brief review of deposits of 1883 Krakatau eruption. Modest ignimbrite-forming event. Deposits mainly coarse, dacitic, non-welded ignimbrite. Large explosions produced pyroclastic flows that entered sea and produced tsunamis. Bulk volume of pyroclastic deposits (incl. co-ignimbrite ash) estimated as 18-21 km³)*)

Selles, A., B. Deffontaines, H. Hendrayana & S. Violette (2015)- The eastern flank of the Merapi volcano (Central Java, Indonesia): architecture and implications of volcanoclastic deposits. *J. Asian Earth Sci.* 108, p. 33-47.

(*Volcanoclastic facies architecture of E flank of Merapi, which was not impacted by major eruptions for nearly 2000 years*)

Sendjaja, Y.A. & J.I. Kimura (2010)- Geochemical variation in Tertiary-Quaternary lavas of the West Java arc, Indonesia: steady-state subduction over the past 10 million years. *J. Mineralogical Petrological Sci.* 105, 1, p. 20-28.

(online at: www.jstage.jst.go.jp/article/jmps/105/1/20/_pdf)

(*Geochemistry and Sr-Nd-Pb isotopes of Miocene-Quaternary basaltic-andesitic lavas from W Java arc. W Java arc existed in current configuration since at least 15 Ma. Two parallel volcanic ranges: southern (VF; volcanic front) and northern (RA rear arc). Partial melting in mantle source greater in VF. Fluid addition to mantle greater in VF. Across-arc geochemical variation between Tertiary and Quaternary lavas does not differ,*)

implying W Java arc has been in 'steady state' over past 10 My, with continuous subduction input from Indian Ocean sediments and continuous upwelling and replenishment of depleted mantle source from back arc)

Sendjaja, Y.A., J.I. Kimura & E. Sunardi (2009)- Across-arc geochemical variation of Quaternary lavas in West Java, Indonesia: mass-balance elucidation using arc basalt simulator model. *Island Arc* 18, 1, p. 201-224.
(W Java Arc segment of Sunda arc >10 Quaternary volcanic centers, above 120 to 200 km depth contours of Wadati-Benioff zone. Quaternary lavas range from basalt to dacite. Incompatible element abundances increase from volcanic front to rear-arc in response to change from low-K to high-K suites. Nd-Sr isotopes of basalts between mid-ocean ridge basalt (MORB) source mantle and Indian Ocean sediment compositions)

Setyawan, A., S. Ehara, Y. Fujimitsu, J. Nishijima, H. Saibi & E. Aboud (2009)- The gravity anomaly of Ungaran Volcano, Indonesia: analysis and interpretation. *J. Geothermal Res. Soc. Japan* 31, 2, p. 107-116.
(online at: www.jstage.jst.go.jp/article/grsj/31/2/31_2_107/_pdf)
(Positive Bouguer gravity anomaly over Old Ungaran volcano, which was active until >0.5 Ma, suggesting Ungaran formed in tectonic depression)

Sigurdsson, H., S. Carey, C. Mandeville & S. Bronto (1991)- Pyroclastic flows of the 1883 Krakatau eruption. *EOS Transactions American Geophys. Union (AGU)* 72, 36, p. 377-381.
(1990 marine geological investigation of Krakatau 1883 deposits show deposits mainly of pyroclastic flow origin (partially fluidized mixtures of particles and gases that travel up to 150 m/s, with internal temperatures up to 600°C). Density likely comparable to seawater. One well-known effect is generation of tsunamis)

Simkin, T. & R.S. Fiske (1983)- Krakatau 1883- the volcanic eruption and its effects. Smithsonian Inst. Press, Washington, DC, p. 1-464.
(Thorough and well-illustrated account of 1883 Krakatoa eruption and its effects)

Simkin, T. & R.S. Fiske (1984)- Krakatau 1883: a classic geophysical event. In: C.S. Gilmor (ed.) *History of Geophysics 1*, American Geophys. Union (AGU), p. 46-48.
(online at: www.agu.org/books/hg/v001/HG001p0046/HG001p0046.pdf)

Sisson, T.W. & S. Bronto (1998)- Evidence for pressure-release melting beneath magmatic arcs from basalt at Galunggung, Indonesia. *Nature* 391, 6670, p. 883-886.
(Volatile content of primitive magmas from 1982-1983 eruption of Galunggung volcano in W Java indicates magmas derived from pressure-release melting of hot mantle peridotite)

Sisson, T.W. & S. Bronto (1998)- Evidence for pressure-release melting beneath magmatic arcs from basalt at Galunggung, Indonesia. *Proc. 27th Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta*, 3 (Geodin., Magmat. Volkanologi), p. 78-83.
(Same as Sisson & Bronto 1998, above)

Siswamidjoyo, S., I. Suryo & I. Yokoyama (1995)- Magma eruption rates of Merapi volcano, Central Java, Indonesia during one century (1890-1992). *Bull. Volcanology* 57, 2, p. 111-116.
(Magma eruption rates of Merapi volcano rel. constant for last 100 years. Total lava discharged during this period >0.1 km³. Length of magma conduit <10 km)

Sitorus, K. (1990)- Volcanic stratigraphy and geochemistry of the Idjen caldera complex, East Java, Indonesia, Master Thesis, Victoria University, Wellington, New Zealand, p. 1-148. *(Unpublished)*

Sitorus, K. (1990)- Stratigrafi dan geokimia kaldera Idjen, Jawa Timur, Indonesia. *Proc. 19th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung*, 2, p. 247-291.
(‘Stratigraphy and geochemistry of the Idjen caldera, E Java’. Idjen (= Ijen) is Krakatau-type collapsed caldera with diameter 11-14 km. Pre-caldera stratovolcano stage at ~0.3 Ma, built on basement of Miocene limestones. Basaltic-andesitic lavas and pyroclastic flows, etc.)

Soeria-Atmadja, R., R.C. Maury, H. Bellon, Y.S. Yuwono & J. Cotton (1988)- Remarques sur la repartition du volcanisme potassique Quaternaire de Java (Indonesie). Comptes Rendus Academie Sciences, Paris 307, ser. 2, p. 635-641.

(Remarks on the distribution of Quaternary potassic volcanism of Java (Indonesia)'. Pleistocene K-rich volcanoes behind active Sunda arc, at ~200-600 km above Benioff zone in E Java- Java Sea (Beser, Ringgit, Lurus, Muriah, Lasem, Bawean). Positions controlled by major faults oblique to Sunda arc axis. Origin ascribed to melting of mantle enriched in incompatible elements during previous events, e.g. Oligo-Miocene subduction beneath Java)

Soeria-Atmadja, R., M.E. Suparka & Y.S. Yuwono (1991)- Quaternary calc-alkaline volcanism in Java with special reference to Dieng and Papandayan- Galunggung complex. Proc. Int. Conf. Volcanology and Geothermal Techn., 10p.

Soetoyo, H.R.D. (1992)- Geologic map of Tangkubanparahu volcano (Sunda Complex volcano), West Java. Volcanological Survey Indonesia, 1:50,000 scale.

Solikhin, A., J.C. Thouret, A. Gupta, A.J.L. Harris & Soo Chin Liew (2012)- Geology, tectonics, and the 2002-2003 eruption of the Semeru volcano, Indonesia: interpreted from high-spatial resolution satellite imagery. Geomorphology 138, 1, p. 364-379.

(Structural interpretation of satellite imagery shows four groups of faults orientated N40, N160, N75, and N105 to N140. Currently active Jonggring-Seloko vent of Semeru composite cone is buttressed against Mahameru edifice at head of large scar that may reflect failure plane at shallow depth and has potential for flank and summit collapse in future)

Spicak, A., V. Hanus & J. Vanek (2002)- Seismic activity around and under Krakatau volcano, Sunda Arc: constraints to the source region of island arc volcanics. Studia Geophysica et Geodaetica 46, p. 545-565.

Stehn, C.E. (1929)- The geology and volcanism of the Krakatau Group. Proc. 4th Pacific Science Congress, Batavia, Excursion A1, p. 1-55.

Stehn, C.E. (1929)- Keloet. Proc. 4th Pacific Science Congress (Batavia), Excursion E21, Vorkink, Bandung, p. 1-37.

(Guidebook to Kelut volcano, E Java)

Stehn, C.E., W.M. Docters van Leeuwen & K.W. Dammermann (1929)- Krakatau (Geologie, vulkanisme, flora en fauna). Proc. 4th Pacific Science Congress, Java 1929, Vorkink, Bandung, p. 1-118.

(Fieldtrip guide book on Krakatau volcano, in 3 parts: (1) The geology and volcanism of the Krakatau group (Stehn), (2) Krakatau's new flora (Docters van Leeuwen) and (3) Krakatau's new fauna (Dammerman))

Stimac, J., G. Nordquist, A. Suminar & L. Sirad-Azwar (2008)- An overview of the Awibengkok geothermal system, Indonesia. Geothermics 37, 3, p. 300-331.

(Awibengkok (Gunung Salak) geothermal system liquid-dominated, fracture-controlled reservoir, hosted mainly by andesitic-to-rhyodacitic rocks, floored by Miocene marine sedimentary rocks cut by igneous intrusions. Major volcanic peaks of area built from 860-180 ka, while ancestral andesitic cone that forms rim of Cianten Caldera to W active from ~1610 to 670 ka)

Stoehr, E. (1868)- Der Vulkan Tengger in Ost-Java, mit landschaftlicher Ansicht und einer Tafel geologischer Profile. Durkheim, p. 1-49.

(see also: Tijdschrift Nederlandsch-Indie 1869, 2, p. 258-290)

(The Tengger volcano in East Java')

Stoehr, E. (1878)- Die Provinz Banjuwangi mit der Vulkangruppe Idjen Raun in Ost-Java. Abhandlungen Senckenberg Naturforsch. Gesellschaft, Frankfurt, p. 1-120.

(online at: <https://ia800303.us.archive.org/30/items/mobot31753003649065/mobot31753003649065.pdf>)

('The Banyuwangi Province with the Ijen-Raun volcano group in East Java'. Early geographic- geologic description of easternmost part of Java, with focus on recent volcanoes)

Sucipta, I.G.B.E. (2006)- Product of Lamongan volcano (Java, Indonesia): indication of gradational magmatic changes from continental to subduction-related system. Proc. Ann. Conf. Indon. Assoc. Geol. (IAGI), p.

Sudradjat, A. (1975)- Batuan gunungapi dan struktur geologi di Jawa Timur dan Nusatenggara Barat. Geol. Indonesia (IAGI) 2, 3, p. 19-22.

('Volcanic rocks and structure of East Java and West Nusatenggara')

Sudradjat, A. (1981)- The morphological development of Krakatau Volcano, Sunda Strait, Indonesia. IAVCEI and Volcanological Survey of Indonesia, 18p.

Sudradjat, A. (1991)- A preliminary account of the 1990 eruption of the Kelut Volcano. Geol. Jahrbuch A 127, p. 447-462.

(On 1990 violent eruption of Kelud composite volcano in E Java, after being quiet for 33 years. About 120km² of SW slope of volcano covered with 10-40 cm of tephra)

Sudradjat, A., I. Syafri & E.T. Paripurno (2010)- The characteristics of lahar in Merapi volcano, Central Java, as the indicator of explosivity during Holocene. Proc. 39th Ann. Conv. Indon. Assoc. Geol. (IAGI), Lombok, 5p.

(Investigation of relationship between characteristics of Merapi volcano lahars and activity. Five lahar units and 5 groups of Merapi activities can be distinguished)

Sudradjat, A., I. Syafri & E.T. Paripurna (2011)- The characteristics of lahar in Merapi Volcano, Central Java as the indicator of the explosivity during Holocene. J. Geologi Indonesia 6, p. 69-74.

(online at: www.bgl.esdm.go.id/publication/index.php/dir/article_download/303)

(Same paper as Sudradjat et al. (2010))

Sudradjat, A. & R. Tilling (1984)- Volcanic hazards in Indonesia: the 1982-83 eruption of Galunggung. Episodes 7, 2, p. 13-19.

(online at: <http://52.172.159.94/index.php/epi/article/view/64418/50348>)

Sukarna, D. (2000)- Unsur langka dan kelompok platina basal Mg-tinggi Galunggung, Indonesia. Proc. 29th Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, 2, p. 23-36.

('The rare elements and platinum group of high-Mg basalts of Galunggung, Indonesia')

Sukhyar, R. (1989)- Geochemistry and petrogenesis of arc rocks from Dieng, Sundoro and Sumbing volcanic complexes, central Java, Indonesia. Ph.D. Thesis, Monash University, p. 1-319. *(Unpublished)*

Sukhyar, R. (1991)- Chemistry of arc rocks from Dieng, Sundoro and Sumbing volcanic complexes: crustal contamination versus chemical heterogeneity in mantle. Proc. 20th Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, p. 326-339.

(K₂O contents of Dieng biotite andesite generally higher than Sumbing and Sundoro andesites)

Sukhyar, R., N.S. Sumartadipura & W. Effendi (1986)- Geologic map of Dieng volcano complex, central Java. Volcanological Survey Indonesia, Bandung, p.

Sukhyar, R., N.S. Sumartadipura & R.D. Erfan (1992)- Geologic map of Sundoro volcano, central Java. Volcanological Survey Indonesia, Bandung, p.

Sunardi, E. & J. Kimura (1998)- Temporal chemical variations in late Cenozoic volcanic rocks around the Bandung Basin, West Java, Indonesia. J. Min. Petrol. Econ. Geol., Tokyo, 93, 4, p. 103-128.

(online at: www.jstage.jst.go.jp/article/ganko/93/4/103/_pdf)

(Bandung Basin on axis of Sunda arc in W Java. Underlain by young basaltic-dacitic volcanics with ~4.1 Ma-Recent K-Ar ages. Trace elements suggest continuous cooling of mantle wedge, with resurgence of degree of melting between ~1.1- 0.6 Ma, same time as axial uplift in Sunda arc and may be due to kinematic change in subduction of Indian-Australian Plate beneath Sunda arc)

Sunardi, E. & R.P. Koesoemadinata (1999)- New K-Ar ages of the magmatic evolution of the Sunda-Tangkuban Perahu volcano complex formation, West Java, Indonesia. In: I. Busono & H. Alam (eds.) Developments in Indonesian tectonics and structural geology, Proc. 28th Ann. Conv. Indon. Assoc. Geol. (IAGI), Jakarta, 1, p. 63-72.

(New K-Ar whole rock ages between ~4 Ma-0.04 Ma of Sunda- Tangkuban Perahu volcano complex)

Suparka, E. (2012)- Petrologi dan geokimia model magmatisme Kenozoik Pulau Jawa. Inst. Techn. Bandung (ITB), p. 1-43.

(Petrology and geochemical model of Cenozoic magmatism on Java Island')

Suparka, E., C.I. Abdullah, P. Senjaya, J. Hutabarat, A.I. Kurniawan et al. (2011)- PGA analyses of incompatible B (Boron) trace element of the Quaternary volcanic rocks of the Sunda-Banda Arc: case study volcanic complex Banten area, West Java. Proc. Joint 36th HAGI and 40th IAGI Ann. Conv., Makassar, JCM2011-238, 9p.

(Samples of Quaternary volcanics from Banten area, SW Java, vary from basaltic, andesitic to dacitic composition. Boron content 7 ppm in basaltic rocks, 3 - 17 ppm in andesitic rocks, and ~7 ppm (for dacitic?))

Surono, P. Jousset, J. Pallister, M. Boichu, M.F. Buongiorno, A. Budisantoso, F. Costa et al. (2012)- The 2010 explosive eruption of Java's Merapi volcano- a ~100-year event. J. Volcanology Geothermal Res. 241-242, p. 121-135.

(Merapi volcano known for frequent small-moderate eruptions and pyroclastic flows produced by lava dome collapse. In 2010 largest and most explosive eruptions in more than century, fed by rapid ascent of magma from 5-30 km depths. Eruptive behavior related to seismicity along fault >40 km from volcano)

Suryo, I. & M.C.G. Clarke (1985)- The occurrence and mitigation of volcanic hazards in Indonesia as exemplified at the Mount Merapi, Mount Kelut and Mount Galunggung volcanoes. Quart. J. Engineering Geol. Hydrogeol. 18, 1, p. 79-98.

Sutawidjaja, I.G. (2006)- Pertumbuhan gunung api Anak Krakatau setelah letusan katastrofis 1883. J. Geologi Indonesia 1, 3, p. 143-153.

(online at: www.bgl.esdm.go.id/dmdocuments/jurnal20060303.pdf)

(Since appearance in 1929, Anak Krakatau Volcano has grown to 315 m high in 2005 (av. 4m/ year). Latest volume measurement in 2000 was 5.52 km³)

Sutawidjaja, I.G. & R. Sukhyar (2009)- The cinder cones of Mount Slamet, Central Java, Indonesia. Proc. 38th Ann. Conv. Indon. Assoc. Geol. (IAGI), Semarang, 21p.

(Mount Slamet volcanic field in C Java with 35 partly degraded cinder cones up to 185m high on E flank and E side of volcano. Most cinder cones lie on Tertiary sediments, along NW-trending fault system and on radial fractures. K-Ar age of scoria bomb 0.042 ± 0.02 Ma)

Taverne, N.J.M. (1926)- Vulkanstudieen op Java. Doct. Thesis Technische Hogeschool Delft, p. 1-132.

(Volcano studies on Java'. Descriptions of Java volcanoes, classified in three groups (1) volcano ruins (2 examples), monogenic volcanoes (9 examples) and polyconic volcanoes (7 examples))

Taverne, N.J.M. (1925)- Merkwaaardige uitbarstingen van den Papandajan. Verhandelingen Geologisch-Mijnbouwkundig Genootschap Nederland Kol., Geol. Serie 8, p. 481-519.

(Remarkable eruptions of the Papandayan')

Thornton, I.W.B (1997)- Krakatau: the destruction and reassembly of an island ecosystem. Harvard University Press, p. 1-346.

(Review of reassembly of a tropical forest ecosystem on Krakatau islands since 1883 eruption. Now covered in secondary forest with >200 species of plants, 70 species of vertebrates, and 1000's of invertebrate species)

Thouret, J.C., F. Lavigne, H. Suwa, B. Sukatja & B. Surono (2007)- Volcanic hazards at Mount Semeru, East Java (Indonesia), with emphasis on lahars. Bull. Volcanology 70, 2, p. 221-244.

Thouret, J.C., J.F. Oehler, A. Gupta, A. Solikhin & J. Procter (2014)- Erosion and aggradation on persistently active volcanoes- a case study from Semeru Volcano, Indonesia. Bull. Volcanology 76, 10, p. 1-26.

(Semeru volcano, E Java, is one of the most magmatically active volcanoes on Earth that also produces huge volumes of lahars. Patterns of aggradation (sediment supply pulses from episodic pyroclastic density currents and continuous supplies of tephra) and degradation via cycles of aggradation and degradation in river channels and rain-triggered (which remove much more material than fluvial transport)

Tjia, H.D. (1969)- Fracture pattern on Lamongan volcano, East Java. Bull. Volcanology 33, 2, p. 594-599.

(Aerial photographs show fractures up to 3 km long on slopes and in country surrounding Lamongan volcano in E Java, Indonesia. Also linear arrangements of maars and boccas. Fracture system is compatible with regional compression directed N15°- 195°E)

Umbgrove, J.H.F. (1928)- The first days of the new submarine volcano near Krakatoa. Leidsche Geol. Mededelingen 2, p. 325-328.

(Pictures of 'birth' of Anak Krakatoa in late December 1927, in caldera formed by 1883 eruption)

Van Der Zwan, F.M, J.P. Chadwick & V.R. Troll (2013)- Textural history of recent basaltic-andesites and plutonic inclusions from Merapi volcano. Contrib. Mineralogy Petrology 166, p. 43-63.

(On Recent Merapi basaltic andesites crystal size distribution, coarse plutonic inclusions, etc.)

Van Es, L.J.C. & N.J.M. Taverne (1924)- De Galoenggoeng en Telaga Bodas. Vulkanologische Mededeelingen (Dienst Mijnbouw Nederlandsch-Indie, Weltevreden), 6, p. 1-63.

(The Galunggung and Telaga Bodas'. Active volcanoes of West-Central Java)

Van Gerven, M. & H. Pichler (1995)- Some aspects of the volcanology and geochemistry of the Tengger caldera, Java, Indonesia: eruption of a K-rich tholeiitic series. J. Southeast Asian Earth Sci. 11, 2, p. 125-133.

(Tengger Caldera volcanics medium to high-K tholeiitic andesites and basaltic andesites)

Van Rummelen, F.F.F.E. & Raden R. Hardjoesastro (1952)- The mineralogical background of the ash distribution of the Gunung Kelud in connection with the geomorphology of Java (Indonesia). J. Scient.Res. 11, 8-9, p. 178-183.

(Distributions and composition of ash from 1901, 1919 and 1951 eruptions of of Kelud volcano, E Java)

Verbeek, R.D.M. (1885-1886)- Krakatau. Landsdrukkerij (Government Printing Office), Batavia, Vol. 1 (p. 1-104) and 2 (p. 105-567).

(In Dutch. French edition, without plates, online at:

<https://ia802607.us.archive.org/3/items/krakatau00verbgoog/krakatau00verbgoog.pdf>)

(Famous report on 1883 Krakatoa eruption and its effects. Part 2 Atlas with 43 maps, 25 plates)

Verbeek, R.D.M. (1925)- De vulkanische erupties in Oost-Java in het laatst der 16de eeuw. Verhandelingen Geologisch-Mijnbouwkundig Genootschap Nederland Kol., Geol. Serie 7, 3, p. 149-200.

(The volcanic eruptions in East Java at the end of the 16th century'. Observations from historic ship records, etc.)

Vigouroux-Caillibot, N. (2011)- Tracking the evolution of magmatic volatiles from the mantle to the atmosphere using integrative geochemical and geophysical methods. Ph.D. Thesis Simon Fraser University, Burnaby, p. 1-254.

(online at: www.sfu.ca/volcanology/pdfs/Vigouroux_PhD'11.pdf)

(Incl. work on volatiles from Kawah Ijen, E Java) and Tambora, Sumbawa)

Vigouroux, N., P.J. Wallace, G. Williams-Jones, K. Kelley, A.J. R. Kent & A.E. Williams-Jones (2012)- The sources of volatile and fluid-mobile elements in the Sunda arc: A melt inclusion study from Kawah Ijen and Tambora volcanoes, Indonesia. *Geochem. Geophys. Geosystems* 13, 9, Q09015, p. 1-22.

(online at: <http://onlinelibrary.wiley.com/doi/10.1029/2012GC004192/epdf>)

(Indonesian volcanoes variable concentrations of volatile and fluid-mobile elements. Kawah Ijen higher Altered Oceanic Crust-derived fluid fluxes (Sr/Nd and H₂O/Nd) than Galunggung and Tambora)

Voight, B, E.K. Constantine, S. Siswamidjyo & R. Torley (2000)- Historical eruptions of Merapi volcano, Central Java, Indonesia, 1768-1998. *J. Volcanology Geothermal Res.* 100, p. 69-138.

(Descriptive chronology of Merapi volcano, C Java. Major difference in eruption style between 20th and 19th centuries: in 20th century mainly growth of viscous lava domes and lava tongues, with occasional gravitational collapses of parts of oversteepened domes to produce nuees ardentes; in 1800s rel. large explosive eruptions with large "fountain-collapse" nuees ardentes)

Vukadinovic, D. (1995)- High-field-strength elements in Javanese arc basalts and chemical layering in the mantle wedge. *Mineralogy and Petrology* 55, 4, p. 293-308.

(Quaternary basalts from Java-Bali sector of Sunda Arc show increase in high-field-strength elements (Nb, Zr, Hf) and decrease in Zr/Nb and Hf/Nb with increase of depth to Benioff zone, consistent with progressively enriched mantle wedge with depth)

Vukadinovic, D. & I.A. Nicholls (1989)- The petrogenesis of island arc basalts from Gunung Slamet volcano, Indonesia: trace elements and 87Sr/ 86Sr constraints. *Geochimica Cosmochimica Acta* 53, 9, p. 2349-2363.

Vukadinovic, D. & I. Sutawidjaja (1995)- Geology, mineralogy and magma evolution of Gunung Slamet volcano, Java, Indonesia. *J. Southeast Asian Earth Sci.* 11, 2, p. 135-164.

(Slamet two large overlapping Quaternary stratocones. Basaltic andesites and andesites with rare basalts dominate in W (Slamet Tua), basalts and basaltic andesites compose East cone (Slamet Muda))

Wichmann, A. (1900)- Der ausbruch des Gunung Ringgit auf Java im Jahre 1593. *Zeitschrift Deutschen Geol. Gesellschaft, Berlin*, 52, 4, p. 640-660.

(online at: <https://www.biodiversitylibrary.org/item/148377#page/782/mode/1up>)

(The eruption of Mt. Ringgit on Java in the year 1593'. Historic records of significant volcanic activity above Panarukan, with possibly 10,000 people killed)

Willumsen, P. (1997)- Krakatau, events and geology, a practical guide to Krakatau and surroundings. *Indon. Petroleum Assoc. (IPA)*, Jakarta, 1-73.

(Brief introduction to Krakatau volcano, Sunda Straits, and its infamous eruption of 1883)

Wirakusumah, A.D. (1993)- Geology of and magma mixing process at Mt. Kelut, East Java. *Proc. 22nd Ann. Conv. Indon. Assoc. Geol. (IAGI)*, Bandung, 1, p. 25-34.

(Kelud volcano in E Java ten eruption craters in SW-NE graben, that moved clockwise from ~238 ka to 4 ka. Volcanics dominated by basaltic andesites)

Wirakusumah, A.D., H. Juwana & H. Loebis (1983)- The geological map of Merapi Volcano, Central Java. *Volcanological Survey of Indonesia*, Bandung. 1:50,000 scale map.

Yokoyama, I. (1981)- A geophysical interpretation of the 1883 Krakatau eruption. *J. Volcanology Geothermal Res.* 9, p. 359-378.

(Discussion of 1883 eruption of Krakatau from geophysical standpoint)

Yokoyama, I. (1987)- A scenario of the 1883 Krakatau tsunami. *J. Volcanology Geothermal Res.* 34, p. 123-132.

Yokoyama, I. (2014)- Krakatau caldera deposits: revisited and verification by geophysical means. *Annals of Geophysics* 57, 5, S0541, p. 1-11.
(online at: www.annalsofgeophysics.eu/index.php/annals/article/view/6404/6384)

Yokoyama, I. (2015)- Eruption products of the 1883 eruption of Krakatau and their final settlement. *Annals of Geophysics* 58, 2, S0220, p. 1-13.
(online at: www.annalsofgeophysics.eu/index.php/annals/article/view/6529/6509)
(Verbeek (1886) estimate of 12 km³ volume of Krakatau 1883 eruption ejecta revised to 19 km³, much more than volume of disrupted volcano edifice (8 km³). Does not support hypothesis that calderas formed by collapses of volcano edifices into magma reservoirs)

Yokoyama, I. & D. Hadikusumo (1969)- Volcanological survey of Indonesian volcanoes, Part 3. A gravity survey on the Krakatau Islands, Indonesia. *Bull. Earthquake Res. Inst. (Tokyo University)* 47, p. 991-1001.

Yuwono, Y.S., R. Soeria-Atmadja, M.E. Suparka & R.C. Maury (1991)- Mineralogical studies of two distinct volcanic rock series of the Muria products, Central Java. In: *Proc. Silver Jubilee Symposium Dynamics of subduction and its products*, Yogyakarta 1991, Indonesian Inst. Sciences (LIPI), p. 122-143.

Zelenov, K.K. (1969)- Aluminum and titanium in Kava Ijen volcano crater lake; Indonesia. *Int. Geology Review* 11, 1, p. 84-93.

Zen, M.T. (1969)- The state of Anak Krakatau in September 1968. *Bull. Nat. Inst. Geology and Mining (NIGM), Bandung* 2, 1, p. 15-23.

Zen, M.T. (1971)- Geothermal system of the Dieng-Batur volcanic complex. *Inst. Teknologi Bandung (ITB) J. Science* 6, 1, p. 23-38.
(Geothermal system of eastern Dieng volcanic complex, C Java, originated through intersection of two major fracture zones. Geothermal system is system of hot water and steam rather than dry steam only)

Zen, M.T., M. Alswar, S.H. Simatupang & G. Yuniart (1983)- Tektogenesis- gravitasi dan daur magmatik di sepanjang deretan vulkanik Ungaran-Merapi di Jawa Tengah. *Proc. 12th Ann. Conv. Indon. Assoc. Geol. (IAGI)*, Yogyakarta, p.
(Tektogenesis, gravity and magmatic cycles along the Ungaran-Merapi volcano row in Central Java')

Zen, M.T. & D. Hadikusumo (1964)- Recent changes in the Anak Krakatau volcano. *Bull. Volcanology* 27, p. 259-268.

Zen, M.T. & D. Hadikusumo (1965)- The future danger of Mt. Kelut (Eastern Java- Indonesia). *Bull. Volcanology* 28, 1, p. 275-282.

Zen, M.T. & A. Sudradjat (1983)- History of the Krakatau volcanic complex in Strait Sunda and the mitigation of its future hazards. *Bul. Jurusan Geologi ITB* 10, p.

Zirkel, F. (1875)- Leucitbasalt von Gunung Bantal Susum auf der Insel Bawean bei Java. *Neues Jahrbuch Mineral. Geol. Palaeont.* 1875, p. 175-176.
(Leucite basalt from the island Bawean near Java'. Brief letter on first discovery of first leucite-bearing basalts known outside Europe, from Gunung Bantal Susum on Bawean, Java Sea (leucite basalts also in Gunung Muriah, NE Java, and SW Sulawesi; JTvG))

Zulkarnain, I. (2003)- Petrographic evidence for magma mixing beneath the Krakatau volcano and its implication for eruption magnitude and its mechanism. *J. Riset Geologi Pertambangan (LIPI)* 14, 1, p. 1-11.

III.4. Madura- Madura Straits

Andrearto, W. & B. Syam (2010)- Carbonate reservoir prospect in Madura Island. Proc. 39th Conv. Indon. Assoc. Geol. (IAGI), Lombok, PIT-IAGI-2010-161, 5p.

(Seven wells drilled in Madura island show carbonates in Madura Island have good reservoir potential. Prupuh Fm carbonates (N4, latest Oligocene- earliest Miocene) in S part of island bioclastic carbonates deposited in shallow marine- open marine facies with porosity 5-10%. Carbonate deposition in N relatively shallow marine and porosity 10-20%)

Arifin, L. (2000)- Struktur patahan, lipatan dan akumulasi gas di perairan Sampang- Bluto dan sekitarnya, Madura, Jawa Timur. J. Geologi Sumberdaya Mineral 10, 103, p. 16-22.

(Shallow seismic reflection study at N Madura Straits. Several major anticlinal trends. Indications of biogenic gas accumulations)

Arifin, L. (2001)- Akumulasi gas dalam sedimen de perairan Ambunten- Madura. J. Geologi Sumberdaya Mineral 11, 118, p. 19-25.

(Gas accumulation in sediments in waters off Ambunten, Madura. Indicators of shallow biogenic gas on shallow seismic lines offshore N Madura)

Arifin, L.& D. Kusnida (2009)- Mud diapir di perairan selatan Pulau Madura. J. Geologi Kelautan 7, 3, p. 135-144.

(online at: <http://ejournal.mgi.esdm.go.id/index.php/jgk/article/view/178/168>)

(Mud diapirs in waters south of Madura Island'. Shallow seismic reflection lines show 10 mud diapirs and gas-bearing sediments in N Madura Straits, S of E Madura Island from Sampang to Kalianget)

Arifin, M.T. & A. Ferguson (2017)- Reservoir characterization using seismic attributes and inversion analysis of Globigerina Limestone reservoir, Madura Strait, Indonesia. Proc. 41st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA17-267-G, 16p.

(Hydrocarbons in latest Miocene- E Pliocene Mundu Fm bioclastic limestone reservoir of Madura Strait mainly formed of Globigerina planktonic foraminifera. Seismic inversion study shows W part of Mundis (=Maleo?) field more fractured, due to more fragile, cleaner facies. More porous reservoir in upper part of Mundu Fm. Two flat spots on seismic: lower at paleo oil-water contact, upper flat spot at present oil-water contact)

Arisandy, M. & W. Ardhana Darma (2016)- Our future is gas: the geology of the gas producer Mio-Pliocene Mundu Member Globigerina Limestone in East Java Basin. Proc. GEOSEA XIV and 45th Ann. Conv. Indon. Assoc. Geologists (IAGI) (GIC 2016), Bandung, p. 549-554.

(Pliocene Mundu Globigerina limestone one of main gas producers in E Java Basin. Reservoir winnowed planktonic foraminifera pelagic rains on crests of anticlines; with excellent porosity (28-47%). Gases in Oyong, Wunut and Kepodang fields mixed thermogenic (from Ngimbang Fm) and biogenic (from Plio- Pleistocene sequences. Paciran Fm claystone seal for Mundu reservoir, supporting gas column of >200m in nearby fields)

Arisandy, M., W. Darma, W. Nasifi, H. Haryanto, I.E. Amorita, W.N. Farida &, Y. Triyana (2017)- Future gas in East Java Basin? Control of paleo-terraces in reservoir facies distribution of Pliocene Mundu Member Globigerina Limestone. Proc. Joint HAGI-IAGI-IAFMI-IATMI Conv. (JCM 2017), Malang, 5p.

(Depositional model of Pliocene Globigerina grainstone reservoirs ('Mundu play'). Best reservoir quality on crests of highs/ terraces (28-47% porosity; maximum winnowing, less dilution with fine clastics))

Astjario, P. & L. Arifin (2007)- Struktur diapir bawah permukaan dasar laut di kawasan pesisir selatan Kabupaten Sampang- Pamekasan, Jawa Timur. J. Geologi Kelautan 5, 1, p. 25-36.

(online at: <http://ejournal.mgi.esdm.go.id/index.php/jgk/article/view/132/122>)

(Diapiric structures below the surface of the seabed in the southern coastal region of Sampang - Pamekasan Regency, East Java'. Shallow seismic profiles in N Madura Straits show Quaternary sediments undisturbed by folding/faulting, but Tertiary sediments off S coast of Pamekasan area tightly folded and with shale diapirs)

Aziz, S., Sutrisno, Y. Noya & K. Brata (1992)- Geology of the Tanjungbumi and Pamekasan Quadrangle, Java (1609-2, 1608-5), 1:100,000. Geol. Res. Dev. Centre (GRDC), Bandung.
(*Geologic map of Central Madura. Folded Miocene-Pliocene sediments*)

Banerjee, B.R. (1993)- Seismic signature as a porosity indicator in Early Miocene reefs in the Madura Strait via AVO inversion and modelling. Proc. 22nd Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, 1, p. 445-481.
(*High porosity carbonate acoustic impedance can be similar to, or lower than, that of overlying sediments, whereas acoustic impedance in low porosity carbonate usually much higher than in overlying rocks*)

Boehm, A. (1882)- Ueber einige Tertiäre Fossilien von der Insel Madura nordlich von Java. Denkschriften kaiserlichen Akademie Wissenschaften Wien, Mathem.-Naturwissenschaftl. Classe, 45, p. 359-372.
(*online at: <https://www.biodiversitylibrary.org/item/31607#page/487/mode/1up>*)
(*'On some Tertiary fossils from Madura island, North of Java'. Descriptions of shallow marine fossils collected by F. Schneider from N coast of Madura near Sapuluh. Mainly echinoderms (7 new species) and bivalves (Ostrea, Spondylus, etc.)(viewed as 'Stage m3= Late Miocene- Pliocene?' by Martin 1902)*)

Edwin, A., K. Han & W. Nusantara (2013)- A case study on using Mundu-Paciran nannofossil zones (MPNZ) to subdivide Mundu and Paciran sequences in the MDA Field, East Java Basin, Indonesia. Berita Sedimentologi 26, p. 26-32.

(*online at: www.iagi.or.id/fosi/files/2013/05/BS26-Java.pdf*)

(*Reservoirs in MDA gas field in E Madura Strait Late Pliocene planktonic foram grainstones-packstones, deposited as pelagic rains and redistributed by marine bottom currents across crest of Late Miocene inversion structure. Differentiating Mundu and Paciran Sequences (formation/ sequence names used onshore E Java) relies on biostratigraphy and chronostratigraphy, as lithologies are similar. Nannofossils used to define 8 local zones in NN11-NN18 (Late Miocene- Late Pliocene) interval. Best reservoir performance in latest Pliocene MPNZ-7 and MPNZ-6 zones*)

Endharto, Mac (2004)- The tidal flat-shelf depositional system of the Ngrayong Sandstone in the western part of the Madura Island. Proc. 33rd Ann. Conv. Indon. Assoc. Geol. (IAGI), Bandung, p. 17-41.
(*M Miocene Ngrayong sst in W Madura deposited in tidal flat system (similar to Endharto 2005)*)

Endharto, Mac (2005)- The tidal flat-shelf depositional system of the Ngrayong Sandstone in the western part of the Madura Island. J. Sumber Daya Geologi 15, 2 (149), p. 61-80.

(*Gunung Geger-Gujug Laut-Water Fall section suggests M Miocene Ngrayong Sst in W Madura formed in tidal sand flat, from supratidal-salt marsh to shallow subtidal environments. Tabular cross bedding in bioclastic lithic arenite, interpreted as sand flat in headward portion of macrotidal estuaries. Overlain by marine transgression of Bulu Limestone with Cycloclypeus, etc.. Paleocurrents from cross bedding from N to S or SW direction (200°- 190°).*)

Faturachman, A. & S. Marina (2007)- Jalur migrasi dan akumulasi gas biogenik berdasarkan profil seismik Pantul Dangkal dan korelasi Bor BH-2 di perairan Sumenep, Jawa Timur. J. Geologi Kelautan 5, 3, p. 143-157.
(*online at: <http://ejournal.mgi.esdm.go.id/index.php/jgk/article/view/142/132>*)

(*'Migration pathway and biogenic gas accumulation based on seismic profiles of shallow sandstones in Sumenep waters and correlation with BH-2 core hole, East Java'. SE Madura offshore . In BH-2 core ~30m of Holocene-Recent black clay rests on the Pleistocene Pamekasan Fm. Minor biogenic gas*)

Faturachman, A., R. Rahardiawan & A.H. Sianipar (2004)- Kandungan gas biogenik dan termogenik gas sedimen dasar laut di perairan Selat Madura (pengaruhnya terhadap sifat fisik dan keteknik). J. Geologi Kelautan 2, 2, p. 21-30.

(*online at: <http://ejournal.mgi.esdm.go.id/index.php/jgk/article/view/111/101>*)

(*'Biogenic and thermogenic gas content of marine sediments in Madura Straits waters (their effect on physical properties and engineering)'*)

Fitrianto, T., E.P. Putra, V. Rowi, Chen Ying Fu & Kian Han (2016)- *Globigerina* Limestone sedimentation mechanism in GLX structure Madura Strait area, an example of upwelling current and winnowing process. Proc. GEOSEA XIV and 45th Ann. Conv. Indon. Assoc. Geologists (IAGI) (GIC 2016), Bandung, p. 584-591. (*GLX structure in NW Madura Strait with 2 wells drilled. Reservoir rock Pliocene Mundu-Selorejo Globigerina Limestones. Two types of Globigerina Lst: (1) planktonic foram 'drifts', winnowed by bottom currents, and (2) planktonic foram 'turbidites'. Mundu sequence deep marine pelagic rock with <1% detrital clay, affected by bottom currents (upwelling?). Overlying Selorejo Fm with significant clay content, mainly reworked Mundu Fm*)

Flathe, H. & D. Pfeiffer (1963)- Outlines of the hydrogeology of the Isle of Madura (Indonesia). Int. Ass. of Scient. Hydrology, 64, Berkeley, p. 543-560. (*1961 hydrogeological inventory survey on Madura*)

Hageman, J. (1862)- Nadere inlichtingen omtrent de op het eiland Madura ontdekte ontvlambare gasbronnen. Natuurkundig Tijdschrift Nederlandsch-Indie 24, p. 487-488. (*'Additional information on the flammable gas seeps discovered on Madura'. Brief communication on existence of gas seeps on Madura. No maps or other specific information*)

Htwe, P., S.S. Surjono, D.H. Amijaya & K. Sasaki (2015)- Depositional model of Ngrayong Formation in Madura area, North East Java Basin, Indonesia. J. Southeast Asian Applied Geol. (UGM) 7, 2, p. 51-60. (*online at: <https://journal.ugm.ac.id/jag/article/view/26947/16594>*) (*early M Miocene Ngrayong Fm in outcrop sections in central anticlinal part of Madura Island. After deposition of Kujung Formation basin morphology developed nearly E-W trending shelf edge. Ngrayong Sst variety of coastal and shallow marine depositional environments*)

Iriska, D.M., N.C. Sharp & S. Kueh (2010)- The Mundu Formation: early production performance of an unconventional limestone reservoir, East Java Basin- Indonesia. Proc. 34th Ann. Conv. Indon. Petroleum Assoc., IPA10-G-174, 17p. (*Maleo and Oyong oil-gas fields in S Madura Straits Basin producing from E-M Pliocene Globigerina planktonic foram-rich limestone reservoir of U Mundu and lower Paciran sequences (~3-6 Ma). Typical porosities 36-55%, permeability 300-500 mD, but locally >1 Darcy*)

Kusumastuti, A., P. van Rensbergen & J.K. Warren (2002)- Seismic sequence analysis and reservoir potential of drowned Miocene carbonate platforms in the Madura Strait, East Java, Indonesia. American Assoc. Petrol. Geol. (AAPG) Bull. 86, p. 213-232. (*Seismic study of four Miocene carbonate buildups in Madura Straits (Porong, KE, KD, BD) on WSW-ENE trending Oligocene fault block. Porong buildup Late Oligocene- E Miocene bioherm, buried by Plio-Pleistocene sediments. N flank steeper, probably windward side*)

Latief, R. et al. (1990)- Guide Book Post Convention Field Trip, Madura Island. Indonesian Petroleum Association (IPA), Jakarta, p. (*Unpublished*)

Mansyur, M., L. G. Wooley & Nurhasan (2017)- Controlling factor in Pliocene carbonate reservoir quality as key to evaluate play chances: case study from Mundu carbonate from South Madura Strait- East Java Basin. AAPG Asia Pacific Region Technical Symposium, Bandung 2017, Search and Discovery Art. 11007, 7p. (*online at: www.searchanddiscovery.com/documents/2017/11007mansyur/ndx_mansyur.pdf and www.searchanddiscovery.com/documents/2017/11007mansyur/slides.pdf*) (*Pliocene Mundu carbonate reservoir of E Java Basin (Madura Straits) consist of >85% planktonic and deep marine benthic foraminifera bioclasts. Contains 3.5 TCF gas. Average porosities >40% (up to 60%), permeability 100- >4000 mD. Sr isotope age 5.1- 5.8 Ma, older than suggested in previous publications. Reservoir quality controlled by marine sorting processes and diagenesis shutdown*)

Mulhadiono, Harsono Pringgoprawiro & Sukendar Asikin (1986)- Tinjauan stratigrafi dalam tataan tektonik di Pulau Madura, Jawa Timur. Majalah Geologi Indonesia 11, 1, p. 1-8.

('Overview of stratigraphy in tectonic settings in Madura Island, East Java '. Revised nomenclature of Tertiary rocks on Madura. From lowest up: Ngimbang, Kujung (with Prupuh Mb in upper part), Tuban, Tawun (with Ngrayong and Rancan members), Pasean, Pasiran and Pamekasan Formations. Sedimentation and tectonics closely interrelated)

Nurhasan (2017)- Seismic DHI flat spot characteristic and statistic of the Pliocene *Globigerina* bioclastic limestones reservoir in Madura Strait area, East Java basin. Proc. Joint Conv. HAGI-IAGI-IAFMI-IATMI (JCM 2017), Malang, 5p.

(All anticlinal structures drilled in Madura Straits with bright seismic flat spot at level of Mundu Fm Globigerina Limestone reservoir are commercial gas discoveries)

Pakpahan, A.S.P., J. Jyalita & S.S. Surjono (2015)- Sedimentology and characteristics of Pliocene shallow marine carbonate as reservoir alternative based on outcrop analogue in Madura and Puteran Island, Northeast Java Basin. AAPG/SEG Int. Conf. Exhib., Melbourne, Search and Discovery Art. 51212, 16p.

(online at: www.searchanddiscovery.com/documents/2015/51212pakpahan/ndx_pakpahan.pdf)

(Outcrop study of lateral facies in Pliocene carbonates in Madura and Puteran Island. All facies shallow marine, unlike age-equivalent gas-bearing globigerinid limestone reservoirs in Madura Straits fields)

Praptisih (1986)- Lingkungan pengendapan anggota Ngrayong Formasi Tawun daerah Guluk Guluk, Sumenep, Madura. J. Riset Geologi Pertambangan (LIPI) 7, 2, p. 44-53.

('Depositional environment of the Ngrayong member of the Tawun Formation in the Guluk Guluk area, Sumenep, Madura'. M Miocene (zone N10-N13) Ngrayong Mb shallow marine sandstone, marl and bioclastic limestones with Cycloclypeus. Marl below sandstone with Globorotalia peripheroacuta, Orbulina)

Purnomo, A.I., N. Hadiyanto & Y. Arakawa (2010)- P wave-S wave sensitivity analysis of globigerinid carbonate in Sirasun gas field. Proc. HAGI-SEG Int. Geosc. Conf., Bali 2010, IGCE10-OP-042, 10p.

(Seismic imaging of Pliocene globigerinid packstones in Sirasun biogenic gas field, Madura Straits. Despite carbonate lithology, distinct flat spot present on seismic, indicating gas-water contact)

Putra, P.S. (2007)- Sekuen pengendapan sedimen Miosen Tengah kawasan Selat Madura. J. Riset Geologi Pertambangan (LIPI) 17, 1, p. 20-36.

('Seismic stratigraphy of Middle Miocene sediments in the Madura Straits area'. Seismic stratigraphy study of Middle Miocene in S part of Madura Straits)

Reksalegora, S.W., L.M. Hutasoit, A.H. Harsolumakso & A.M. Ramdhan (2017)- Stress determination in overpressure zone of East Java Basin. Proc. 41st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA17-213-G, 12p.

(Stress information from wells in Madura Straits (E extension of Kendeng zone) suggest horizontal/compressional stress is dominant and plays major role in generating overpressure. In S half of the study area fold and thrust stress regime, in N half likely strike slip stress regime).

Rutley, D.W. (2001)- Quantitative seismic reservoir characterisation: a model-based approach for the Sampang PSC, East Java, Indonesia. Exploration Geophysics 32, 4, p. 275-278.

(Modelling study of high amplitude seismic anomalies (gas prospects) in Madura Straits)

Situmorang, R.I., D.A. Agustianto & M. Suparman (1983)- Geology of the Waru-Sumenep Quadrangle, scale 1: 100,000. Geol. Res. Dev. Centre (GRDC), Bandung.

Supriyadi, B. (1992)- Peranan wrench fault pada akumulasi hidrokarbon di Pulau Madura. Proc. 21st Ann. Conv. Indon. Assoc. Geol. (IAGI), Yogyakarta, 1, p. 207-222.

('The role of wrench faults for hydrocarbon accumulation in Madura Island'. Madura Island >100 wells drilled since 1897 (most of them shallow). Deformed by reactivation of basement faults in early M Miocene, indicating start of wrench faulting. Later compression accelerated wrench faulting in Plio-Pleistocene. Hydrocarbons generated in Late Miocene in Ngimbang Fm, then migrated through wrench faults into younger horizons)

Surjaudaja, R., A.M. Ramdhan & I. Gunawan (2017)- Analisis mekanisme terjadinya tekanan-luap dan prediksi tekanan pori pada lapangan BD, Cekungan Jawa Timur. Bulletin of Geology (ITB) 1, 2, p. 85-93.

(online at: <http://buletingeologi.com/index.php/buletin-geologi/issue/view/3/Paper-2>)

(*'Analysis of mechanisms of overpressure and pore pressure prediction in the BD field, East Java basin'. Study of overpressure in Plio-Pleistocene deposits at BD field, Madura Straits. Main cause of overpressure is sediment loading, not smectite-illite transformation or hydrocarbon generation*)

Susilohadi (1998)- Quaternary sequence stratigraphy of Madura Strait, Indonesia. Proc. 33rd Sess. Coord. Comm. Coastal and Offshore Programmes E and SE Asia (CCOP), Shanghai 1996, 2, p. 362-383.

(*Madura Strait characterized by syndepositional folding forming W-E trending basin between Madura and Java volcanoes. Basin with rapid subsidence and >200m of Quaternary deposits. Deposition interplay between Quaternary coarse-grained volcanoclastics deposition in S, marine fossiliferous mudstone from exposed Madura in N, and Quaternary sea level changes. During major sea level fall, E Kendeng zone and Madura Strait subaerially exposed, as shown by widespread thin fluvial and alluvial fan deposits*)

Sutadiwiria, G. & H. Prasetyo (2006)- Uncertainty in geophysic-geology-reservoir modelling for Globigerinid sand carbonate in NE-Java Basin, Indonesia; case study: planning vs. actual of fields development at Madura Strait, Indonesia. In: Soc. Petrol. Engineers (SPE) Asia Pacific Oil & Gas Conference and Exhibition, Adelaide 2006, SPE 100957-MS, 6p. (*Extended Abstract*)

(*In NE Java Basin Pliocene Mundu Fm Globigerinid sands carbonate with oil and gas MDA, TSB, O and M fields. Problems in reserves assessment include reservoir compartmentalization (structural and stratigraphic) variations in depth of fluids contacts, low-resistivity case in clean-oil zones, etc.*)

Triyana, Y., G.I. Harris, W.A. Basden, E. Tadiar & N.C. Sharp (2007)- The Maleo Field: an example of the Pliocene *Globigerina* bioclastic limestone play in the East Java Basin, Indonesia. Proc. 31st Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, IPA07-G-115, p. 45-61

(*Maleo field 2002 discovery in Madura Straits. Gas column 49m in Pliocene Paciran and Mundu carbonates, consisting almost entirely of Globigerina. Structure partly filled 4-way closure. Gas ~99% methane, primarily biogenic. Lime mud matrix % primary control on reservoir quality. Porosity up to 60%. Globigerina carbonates deposition in ~150-250m deep water, possibly on detached platform. Some oil production from Globigerina reservoirs onshore. Maleo first offshore discovery of this reservoir type to be commercialized*)

Wahab, A. & A. Suseno (1990)- Madura, land of opportunity. Geologi Indonesia (J. Indon. Assoc. Geol. IAGI) 13, 2, p. 33-46.

Wijaya, P.H. & D. Noeradi (2010)- 3D properties modeling to support reservoir characteristics of W-ITB Field in Madura Strait area. Bull. Marine Geol. 25, 2, p. 77-87.

(online at: <http://ejournal.mgi.esdm.go.id/index.php/bomg/article/view/27/27>)

(*W-ITB gas field (not realname?) in W part of Santos Sampang PSC, NW Madura Straits, discovered in 2006. In W-ITB 1 well gas reservoirs in Selorejo and Mundu Fms, but in W- ITB 2 no gas reservoir in Mundu Fm*)

Yuniardi, Y. (2015)- Seismic and sequence analysis of Middle to Late Miocene deposits of Northeast Java Basin. Indonesian J. Geoscience 2, 2, p. 101-110.

(online at: <http://ijog.bgl.esdm.go.id/index.php/IJOG/article/view/219/195>)

(*Sequence stratigraphy and seismic facies of M-L Miocene interval in Madura Straits, which overlaps Top Early Miocene surface from N to S*)