Instituto do Petróleo e Geologia – Instituto Público
(IPG)

4th IPG International Geosciences Conference on

Timor-Leste Geological Data and Information for Economic Diversification and Development

Dili 23-26 October 2018

Note Taker's Document

Date: 25/10/18 Time: 10:55 Conference Day: 3

Venue: CCD Conference Speaker: **Frederico Carlos Maria dos Santos (IPG)**

Presentation Title/Topic: **GEOLOGY AND MINERAL RESOURCES IN CITRANA AREA, OECUSSE, TIMOR-LESTE**

Presentation Notes	Q&A
GEOLOGY AND MINERAL RESOURCES IN CITRANA AREA, OECUSSE, TIMOR-LESTE • Introduction - Study Area Location and Access: Located in Citrana area, Beneufe Village, Nitibe Administrative Post, Special Administrative Region of Oecusse-Ambeno.Access to the study area: Dili – Oecusse – Citrana (by car) ± 10 hours driving. Dili – Oecusse (by plane) ± 45 minutes, followed by 1,5 hour driving to Citrana. Dili – Oecusse (by ferry) ± 12 hours, followed by 1,5 hour driving to Citrana. • Objectives To describe rock formations and its stratigraphic position; To record the distribution of rock units and produce a semi-detailed geology map (1:50,000); To identify existing geological resources for future mineral prospection. • Previous Study/ Literature Review Gageonnet & Lemoine (1958) --- Scale 1:100,000	**N/A:**

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J. de Azeredo Leme and A.V. Pinto Coelho (1960) --- Scale 1:100,000 Suwitodirdjo and Tjokrosapoetro (1996) --- Scale 1:250,000 • Regional Geology: There are 3 Major Tectonic plate interactions Based on Harris, 2006 Pacific plate – westward moving Indo-Australian plate – northward moving SE Asian plate – SSE moving • Stratigraphy of the study area based on the Harris and Standley (2009) • Mineral Resources occurrences in Oecusse based on (UN-ESCAP, 2003), which consist of copper, gravel, gypsum, limestone, and bentonite • The Study Methodologies Preparation Phase →Observation and Data Collection Phase → Data Processing Phase → Final Report Composition • Geology of The Study Area Consists of: Evaporite Deposits, Maubisse Formation, Aitutu Formation, Babulu Formation, Lolotoe Complex, Diorite Units, Manamas Formation, Dacite Units, Suai Formation, and Alluvial Deposits. • The Results and Discussion based on the Petrographic Analysis of several samples in Lolotoe Complex consist dominantly with Olivine Orthopyroxenite and Harzburgite.For Diorite Units Sample, consists dominantly with Tonalite and Monzogranite and Granodiorite, for the Dacite unit samples, consist mostly of dacite. • In Remote Sensing Analysis it uses the Mirror Stereoscope Interpretation, Satellite Image Interpretation. • In the discussion part: - The geology of study area can be group into: Gondwana Megasequence, Banda Terrane and Syn-Orogenic	

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Megasequence. - The Mineral Resources observed in the study area, consists of: Diorite and basalt rocks for dimension stone, Ultrabasic rocks for decorative stone, Limestone for ornamental stone, Sand and gravel for construction aggregates, Sulphide mineralization in the diorite & mica schist - metallic mineral • In Conclusion: Nine rock formations were mapped: 1) Evaporite Deposit, 2) Maubisse Formation, 3) Aitutu Formation, 4) Babulu Formation, 5) Lolotoe Complex, 6) Diorite Unit, 7) Manamas Formation, 8) Dacite Unit, and 9) Suai Formation and 10) Alluvial Deposit; Petrographic analysis for ultrabasic came out Olivine Orthopyroxenite and Harzburgite; for diorite and granodiorite, the results indicate Tonalite and Monzogranite or Granodiorite rocks; Satellite image interpretation tells us that the alteration process might occurs in SE part of the study area. • There is also future works: Further detail investigation related the structure geology in the western part of Oecusse to reveal the deformation events in the region; Further detail investigation to the sulphide-bearing rocks for mineral purposes; Age analysis determination for Evaporite Deposit; Future geological campaigns need to be well-equipped with geochemistry, geochronology and biostratigraphy data are needed.	

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