

SARI

Secara administratif, daerah penelitian terletak di Distrik Windesi, Kabupaten Teluk Wondama Provinsi Papua Barat, secara astronomis terletak pada koordinat $134^{\circ}11'00'' - 134^{\circ}18'00''$ BT dan $2^{\circ}24'00'' - 2^{\circ}31'00''$ LS.

Daerah Windesi dibagi menjadi dua satuan geomorfologi yaitu : Satuan Geomorfologi Bergelombang Kuat – Perbukitan Denudasional (D2) dan Satuan Geomorfologi Perbukitan – Tersayat Kuat Denudasional (D3). Secara stratigrafi terdiri dari 4 satuan batuan, dari yang tua ke muda yaitu : Satuan Batuan *Slate*, Paleozoikum? Mesozoikum? (PzMu), Satuan Batulempung Piniya (Kp), Satuan Batupasir Ekmai (Kue), dan Satuan Batugamping Imskin Kti). Struktur geologi yang berkembang pada daerah penelitian mengacu pada regional berupa struktur lapisan, perlipatan, dan sesar.

Grafit merupakan salah satu variasi mineral bentukan dari unsur karbon, sangat penting dalam dunia industri karena memiliki banyak penggunaan mencakup beberapa teknologi yang baru dan berkembang seperti *Lithium-ion batteries, nuclear, wind and solar power, fuell cells, semi-conductors, or even graphene*. Kebutuhan grafit dalam bidang industri di Indonesia masih harus didatangkan dari luar negeri. Bertitik tolak dari kepentingan tersebut dan perhitungan ekonomis lainnya, serta keigintahuan penulis akan keterdapatn grafit yang ada di daerah Windesi. Berdasarkan pengamatan lapangan dan analisis petrografi diketahui bahwa sayatan tipis batuan metamorf yang ada pada daerah penelitian, memiliki tekstur foliasi (*stage cleavage*), dengan komposisi mineral tersusun atas: mineral kuarsa, muscovit, grafit, dan mineral lempung. Untuk analisis SEM/EDS dapat disimpulkan bahwa grafit pada daerah windesi merupakan grafit tipe amorf, memiliki kandungan unsur karbon sebesar 18,41 - 19,91%.

Kata kunci : Geologi, kegunaan, tipe, dan kadar grafit.

ABSTRAC

Administratively, the research area is located in Windesi District, Wondama Bay Regency of West Papua Province, astronomically located at coordinates 134°11'00" – 134°18'00" BT dan 2°24'00" – 2°31'00" LS.

The area of Windesi is divided into two geomorphological units : StrongCorrugated Geomorphology – Denudational Denes (D2) and Geomorphology Units – Strong Denudasional (D3). The stratigraphy consists of 4 units of rock, from the old to the young are : Slate Rock Unit, Piniya Claystone, Ekmai Sandstone, and Imskin Limestone Unit. Geological structure that developed in the research area in the form of layer structure folding and fault.

Graphite is one of the mineral variations formed from carbon elements, very important in the industrial world because it has many uses including several new and emerging technologies such as Lithium-ion batteries, nuclear, wind and solar power, full cells, semi-conductors, or even graphene. The needs of graphite in the field of industry in Indonesia still have to be imported from abroad. Starting from these interest and other economic calculations, as well as the writer's authorship will be the availability of graphite in the Windesi region. Based on field observations and petrographic analysis it is known that the thin incision of metamorphic rocks present in the study area has a foliate texture (stage cleavage), with mineral compositions composed of : quartz minerals, muscovite, graphite, and clay minerals. For SEM/EDS analysis it can be concluded that graphite in the Windesi region is amorphous type graphite, has carbon content of 19,91%

Key word : Geology, usability, type, and graphite content.