

SARI

Pasir kuarsa memiliki peranan cukup besar dalam bidang industri, baik sebagai bahan baku utama maupun tambahan. Untuk mendukung bidang tersebut maka perlu dilakukan penelitian-penelitian baru tentang karakteristik pasir kuarsa. Daerah Lebu, Kabupaten Karimun mempunyai potensi endapan pasir kuarsa. Penelitian tentang kondisi geologi dan karakteristik pasir kuarsa di daerah tersebut perlu dilakukan supaya dapat memberikan rekomendasi pemanfaatannya yang sesuai berdasarkan karakteristiknya. Penelitian ini menggunakan metode lapangan, petrografi dan geokimia. Daerah penelitian secara administratif berada di Desa Lebu, Kecamatan Belat, Kabupaten Karimun, Provinsi Kepulauan Riau dengan koordinat UTM 48N 334379 E – 336385 E, 87429 N – 87431 N. Berdasarkan zona fisiografi Van Bemmelen (1949) daerah penelitian termasuk pada Zona Paparan (*shelf*) Sunda dan secara stratigrafi tergolong Formasi Papan. Pasir kuarsa di Desa Lebu secara petrografi didominasi oleh mineral kuarsa dengan persentase sekitar 66-74%. SiO_2 merupakan oksida terbanyak dengan persentase 71-93% diikuti oleh oksida yang lain seperti Al_2O_3 , Fe_2O_3 , TiO_2 dan lain-lain. Analisis komposisi pasir kuarsa dan plotting pada diagram Dickinson dkk. (1983) menunjukkan *provenancenya* berasal dari *recycled orogen* dengan kemungkinan besar batuan asalnya berasal dari pre-Tersier intrusi granit dan hornfels yang berada di daerah penelitian didukung dengan jenis kuarsanya berupa kuarsa beku plutonik, keberadaan kuarsa polikristalin dan kemiripan kuarsanya dengan kuarsa granit di daerah penelitian. Berdasarkan persentase oksida mayornya, maka pasir kuarsa tidak dapat di rekomendasikan untuk pemanfaatan secara langsung dalam industri diperlukan pemurnian lebih lanjut untuk meningkatkan kadar silikanya.

Kata kunci: *Recycled orogen*, *Provenance*, Pasir Kuarsa, Granit, Pemanfaatan.

ABSTRACT

Quartz sand has a significant role in the industrial sector, both as a main and additional raw material. To support this field, it is necessary to conduct new studies on the characteristics of quartz sand. The Lebu area, Karimun Regency has the potential for quartz sand deposits. Research on the geological conditions and characteristics of quartz sand in the area needs to be carried out to provide recommendations for its use based on its characteristics. This study uses field methods, petrography, and geochemistry. The research area is administratively located in Lebu Village, Belat District, Karimun Regency, Riau Archipelago Province with coordinates UTM 48N 334379 E – 336385 E, 87429 N – 87431 N. Based on Van Bemmelen's physiographic zone (1949) the study area is included in the Sunda Shelf Zone and stratigraphically classified as Papan Formation. Quartz sand in Lebu Village is petrographically dominated by quartz minerals with a percentage of around 66-74%. SiO_2 is the most abundant oxide with a percentage of 71-93% followed by other oxides such as Al_2O_3 , Fe_2O_3 , TiO_2 and others. Analysis of the composition of quartz sand and plotting on the diagrams of Dickinson et al. (1983) shows that the provenance comes from recycled orogen with a high probability that the original rock originates from pre-Tertiary granite intrusions and hornfels in the study area supported by the type of quartz in the form of plutonic frozen quartz, the presence of polycrystalline quartz and its monocrystalline quartz similarity with granite quartz in the study area. Based on the percentage of major oxides, quartz sand cannot be recommended for direct use in industry, further purification is needed to increase its silica content.

Kata kunci: *Recycled orogen, Provenance, Quartz sand, Granite, Utilization.*