

INTISARI

Kalurahan Bawuran, Kapanewon Pleret dan Kalurahan Sitimulyo, Kapanewon Piyungan, Kabupaten Bantul, D.I.Y., merupakan salah satu daerah dengan potensi sumber daya batuan. Batuan seperti batupasir tufan dan tuf lapili sering ditambang dan dimanfaatkan sebagai bahan bangunan. Berkaitan dengan hal tersebut maka dilakukan penelitian untuk mengetahui kondisi geologi dan karakteristik batupasir tufan dan tuf lapili. Penelitian ini dilakukan dengan pemetaan geologi skala 1:25.000, analisis petrografi, dan uji sifat keteknikan batuan. Karakteristik petrografi dan keteknikan batuan diperlukan untuk memberi rekomendasi pemanfaatan batuan sesuai standar yang ditentukan.

Hasil penelitian menunjukkan daerah penelitian memiliki empat satuan geomorfologi yaitu, satuan perbukitan lereng curam, satuan perbukitan lereng agak curam, satuan perbukitan lereng landai, dan dataran aluvium. Satuan batuan penyusun dari tua ke muda dan perkiraan ketebalan dari pengukuran stratigrafi yaitu, satuan breksi andesit ketebalan lebih dari 30 m, satuan batupasir tufan kurang lebih 50 m, satuan tuf lapili lebih dari 30 m, dan satuan endapan aluvial yang diendapkan tidak selaras di atas ketiga satuan tersebut. Struktur geologi yang berkembang berupa sesar geser dekstral naik. Karakteristik petrografi batupasir tufan dan tuf lapili yaitu batuan vulkaniklastik dengan ukuran butir fragmen (0,125 – 64 mm) dan matriks (<0,125 mm), bentuk butir *sub angular – angular*, sortasi buruk, *matrix supported*, tingkat konsolidasi agak kompak, memiliki komposisi plagioklas, piroksen, kuarsa, litik, pumis, mineral opak, dan gelas vulkanik. Karakteristik sifat keteknikan batupasir tufan dan tuf lapili yaitu, densitas 1,205 – 1,489 gram/cm³ dikategorikan rendah, nilai kuat tekan 3,77 – 9,15 Mpa dikategorikan sangat lemah, nilai daya serap air 33,70% – 56,81%, dan kekekalan bentuk 30,92% - 60,04%. Berdasarkan SK SNI-04-1989-F, batupasir tufan dan tuf lapili dapat dimanfaatkan sebagai bahan baku bata tras kapur pejal dan berlubang mutu II dan III. Berdasarkan SNI 03-0349-1989, batupasir tufan dan tuf lapili dapat dimanfaatkan sebagai bahan baku bata beton pejal dan berlubang mutu III dan IV.

Kata Kunci : batupasir tufan, tuf lapili, Bawuran, karakteristik, bahan bangunan

Kalurahan Bawuran, Kapanewon Pleret dan Kalurahan Sitimulyo, Kapanewon Piyungan, Kabupaten Bantul, D.I.Y., are regions with potential rock resources. Rocks such as tuffaceous sandstone and lapilli tuff are frequently mined and used as building materials. In this context, research was conducted to determine the geological conditions and characteristics of tuffaceous sandstone and lapilli tuff. This research was conducted with 1:25,000 scale geological mapping, petrographic analysis, and testing of rock engineering properties. Petrographic and engineering characteristics of rocks are needed to provide recommendations for rock utilization according to specified standards.

The results showed that the study area has four geomorphological units, namely, steep slope hills unit, moderately steep slope hills unit, gentle slope hills unit, and alluvium plain. The sequence of rock units, arranged from oldest to youngest and the estimated thickness from stratigraphic measurements are: an andesite breccia unit with a thickness exceeding 30 m, a tuff sandstone unit approximately 50 m thick, a lapilli tuff unit with a thickness of more than 30 m, and alluvial sediment unit deposited unconformably above the three aforementioned units. The geological structure observed is characterized by an ascending dextral shear fault. Petrographic characteristics of tuffaceous sandstone and lapilli tuff reveal them to be volcanoclastic rocks with fragment grain size (0.125 - 64 mm) and matrix (<0.125 mm), sub angular - angular grain shape, poor sorting, matrix supported, rather compact consolidation level, having a composition of plagioclase, pyroxene, quartz, lithics, pumice, opaque minerals, and volcanic glass. The engineering properties of tuff sandstone and lapilli tuff, exhibit specific characteristics: a density of 1.205 - 1.489 grams/cm³, categorized as low, compressive strength value between 3.77 - 9.15 Mpa, categorized as very weak, water absorption rates ranging from 33.70% - 56.81%, and shape conservation percentages between 30.92% - 60.04%. According to SK SNI-04-1989-F, tuffaceous sandstone and lapilli tuff can be utilized as raw materials for quality II and III solid and hollow lime trash bricks. According to SNI 03-0349-1989, tuff sandstone and lapilli tuff can be utilized as raw material for solid and hollow concrete bricks of quality III and IV.

Keyword: tuffaceous sandstone, lapilli tuff, Bawuran, characteristics, building material