

SARI

Formasi Kabuh tersusun oleh konglomerat, batupasir, tuf, dan batulanau, merepresentasikan lingkungan pengendapan fluvial. Formasi ini memiliki arti penting dalam menyingkap keberadaan manusia purba di Sangiran karena ditemukan artefak di dalamnya. Penelitian ini bertujuan untuk mengetahui *provenance* dan mekanisme sedimentasi batuan pada Formasi Kabuh yang tersingkap di Desa Manyarejo, Kabupaten Sragen melalui analisis granulometri, morfologi butir, dan *provenance* dari ayakan batupasir, sayatan tipis batupasir, dan mineral berat terhadap sampel batupasir, serta analisis morfologi butir dan pengamatan petrografi terhadap sampel fragmen konglomerat non-artefak. Pengumpulan data melibatkan pengukuran singkapan stratigrafi dan pengambilan sampel batuan pada lapisan konglomerat, batupasir, dan tuf, yang berisi artefak manusia purba tersebut. Singkapan tersebut memiliki ketebalan sekitar 33 m, yang dapat dibagi menjadi 6 fasies: (1) Fasies Konglomerat Polimik Karbonatan-Lempung Hitam, (2) Fasies Perselingan Konglomerat Gradasi Normal-Batupasir Sedang dan Tuf, (3) Fasies Perulangan Batupasir Sedang dan Batulanau, (4) Fasies Perulangan Batupasir-Tuf Sisipan Konglomerat, (5) Fasies Batupasir Struktur Silang Siur, dan (6) Fasies Konglomerat Sisipan Batupasir. Fragmen konglomerat didominasi oleh butiran dengan karakteristik bentuk butir *equant*, derajat kebolaan *very equant*, dan derajat kebundaran *sub-rounded* hingga *rounded*. Dari analisis mineral berat terhadap 7 sampel batupasir ditemukan beberapa mineral berat, yaitu magnetit, muskovit, apatit, zirkon, ilmenit, piroksen, olivin, hornblende, dan rutil. Beberapa lapisan konglomerat di daerah penelitian yang memiliki karakteristik fragmen dominan *sub-rounded* mengandung artefak manusia purba berupa artefak batu dan litik. Dari analisis data yang dilakukan, diinterpretasikan bahwa batuan di daerah penelitian bersumber dari batuan beku dengan tatanan tektonik *transitional arc*, yang kemudian terendapkan pada lingkungan fluvial berupa sungai *meandering*. Beberapa fragmen konglomerat seperti kuarsa, batugamping silisifikasi, kalsedon, dan andesit diseleksi dan dipilih oleh manusia purba untuk dijadikan alat. Akibat suatu hal, alat-alat tersebut ditinggalkan dan tidak digunakan kembali, yang pada akhirnya menyebabkan alat-alat tersebut masuk ke sistem pengendapan fluvial hingga terendapkan di lokasi ditemukannya sekarang.

Kata kunci: Formasi Kabuh, fasies konglomerat, artefak, *provenance*

ABSTRACT

The Kabuh Formation, comprising conglomerate, sandstone, tuff, and claystone, represents a fluvial depositional setting environment. This formation holds particular significance as hominin artifacts have been discovered within it, shedding light on the hominin presence in Sangiran. This research aims to determine the provenance and sedimentation mechanisms of the Kabuh Formation outcrops in Manyarejo Village, Sragen Regency, through granulometric analysis, grain morphology, and provenance from sandstone sieves, thin sections of sandstone, and heavy minerals on sandstone samples, as well as analysis of grain morphology and petrographic observations of non-artifact conglomerate fragment samples. Data collection involved stratigraphic outcrop measurements and rock sampling in the conglomerate, sandstone, and tuff layers, which contained these hominin artifacts. The outcrop has an approximate thickness of 33 m, which can be divided into 6 facies: (1) Carbonaceous Conglomerate-Black Clay Facies, (2) Interbedded of Normal Graded Bedding Conglomerate-Medium Sandstone and Tuff Facies, (3) Interbedded of Medium Sandstone and Siltstone Facies, (4) Interbedded Sandstone-Tuff with Intercalated Conglomerate, (5) Sandstone with Cross-stratification Structure Facies, and (6) Conglomerate with Intercalated Sandstone Facies. Conglomerate fragments are dominated by grains with characteristics of an equant grain shape, a very equant degree of sphericity, and a sub-rounded to rounded degree of roundness. From the heavy mineral analysis of 7 sandstone samples, several heavy minerals were found, there are magnetite, muscovite, apatite, zircon, ilmenite, pyroxene, olivine, hornblende, and rutile. Some conglomerate layers, characterized by sub-rounded form, are where the stone and lithic artifacts were discovered. The field data interpretation leads us to conclude that the rocks in the research area originate from igneous rocks with a transitional arc tectonic setting, transported by the meandering river, and deposited. Conglomerate fragments such as quartz, silicified limestone, chalcedony and andesite were selected and chosen by hominin to be used as tools. Due to some reason, these tools were abandoned and not reused, which ultimately caused these tools to enter the fluvial deposition system until they were deposited at the location where they were found now.

Keywords: *Kabuh Formation, conglomerate facies, artifacts, provenance*