

**GEOLOGI DAN ELEMEN ARSITEKTURAL
SATUAN BATUPASIR KABUH DI DESA PILANGSARI
DAN SEKITARNYA, KECAMATAN GESI,
KABUPATEN SRAGEN, PROVINSI JAWA TENGAH**

ABSTRAK

Matheus Vito Krisnanto

111.130.207

Secara geografis daerah penelitian terletak pada koordinat geografis: $7^{\circ} 20' 8''$ LS – $7^{\circ} 22' 50''$ LS dan $110^{\circ} 57' 17''$ BT – $111^{\circ} 0' 0''$ BT, atau koordinat UTM-WGS 84 zona 49S: Xmin-Xmax= 496500-501500, dan Ymin-Ymax= 9191000-9186000. Secara administratif daerah penelitian masuk ke dalam wilayah Kecamatan Gesi, Kabupaten Sragen, Provinsi Jawa Tengah.

Berdasarkan pengamatan data lapangan, dan analisa data studio dari aspek geomorfologi pada daerah penelitian, terdapat 7 satuan bentuk lahan antara lain satuan bentuk lahan perbukitan homoklin (S1), lereng homoklin (S2), lembah homoklin (S3), tubuh sungai (F1), gosong sungai (F2), bukit sisa (D1), dataran denudasi (D2). Sedangkan pola pengaliran yang berkembang pada daerah penelitian yaitu, dendritik (D), subdendritik (SD), paralel (P), dan subparalel (SP).

Stratigrafi daerah penelitian dapat dibagi menjadi enam satuan batuan dari tua ke muda yaitu satuan breksi Banyak, satuan napal Kalibeng, satuan batugamping Klitik, satuan batulempung Pucangan, dan satuan batupasir Kabuh serta endapan aluvial.

Struktur geologi yang berkembang pada daerah penelitian dimulai dengan Antiklin menunjam Tanggan dan sinklin Gesi berarah barat-timur, kemudian diikuti dengan sesar naik Tanggan, dan selanjutnya, sesar mendatar kanan Jatitengah berarah baratlaut-tenggara, sesar mendatar kiri Tanggan berarah timurlaut-baratdaya, dan kekar.

Potensi geologi pada daerah penelitian antara lain potensi negatif berupa gerakan massa, sedangkan untuk potensi positif berupa tambang sirtu dan batugamping, lahan pertanian, air terjun, waduk dan mata air.

Satuan batupasir Kabuh terendapkan pada lingkungan darat dan memiliki struktur sedimen khas berupa silangsiur, yang dapat memberikan informasi vector dari arah arus purba. Sehingga dapat memberikan gambaran untuk mengetahui bentuk sungai berkelok (*meander river*) pada daerah penelitian. Selain itu arah arus purba, dapat menjadi pelengkap dari penentuan elemen arsitektural berdasarkan asosiasi dari litofasies yang terdapat satuan batupasir Kabuh. Elemen arsitektural yang berkembang diantaranya *channel* (CH), *lateral accretion* (LA), *overbank fines* (OF), *crevasse-splay* (CS), dan *gravel bar* (GB).

Kata Kunci: Satuan batupasir Kabuh, arah arus purba, litofasies, dan elemen arsitektural

**GEOLOGY AND ARCHITECTURAL ELEMENTS OF
KABUH UNIT ROCK AT PILANGSARI VILLAGE
AND SURROUNDING VILLAGES, GESI DISTRICTS,
DISTRICT SRAGEN, MIDDLE JAVA PROVINCE JAWA**

ABSTRACT

Matheus Vito Krisnanto

111.130.207

Geographically, the study area lies in geographic coordinates: $7^{\circ} 20' 8''$ LS - $7^{\circ} 22' 50''$ LS and $110^{\circ} 57' 17''$ BT - $111^{\circ} 0' 0''$ BT, or UTM coordinates WGS 84 zone 49S: Xmin-Xmax = 496500 -501500, and Ymin-Ymax = 9191000-9186000. Administratively, the research area into the Gesi District, Sragen regency, Central Java Province.

Based on the data of observation from the field, and studio data analysis from the geomorphological aspects of the study area, there are 7 units of landforms, among other units of homocline hilly (S1), homocline sloping (S2), homocline slope ramps (S3), river body (F1), sandbars (F2), the remaining hill (D1), the denudation plateau (D2). While the drainage pattern that occur in the study area among others, dendritic (D), sub-dendritic (SD), parallel (P), and subparallel (SP).

Stratigraphy of the study area can be divided into six units of rock from old to young, among others: Banyak breccia units, Kalibeng marl units, Klitik limestone units, Pucangan carbonate-siltstone units, and sandstone Kabuh units and also alluvial sediment.

The geological structure that developed in the study area began with the west to east trending Tanggan plunging anticline and Gesi syncline, then followed by Tanggan reverse right slip fault, and furthermore, the Jatitengah normal right slip fault was directed northwest-southeast, the Tanggan normal left slip fault northeast-southwest, and fractures.

Geological potentials in the research area include negative potential in the form of mass movement, while for positive potential in the form of mines of rocks and sand and also limestone, agricultural land, waterfalls, reservoirs and springs.

The sandstone unit of Kabuh is deposited on the terrestrial environment and has a typical sedimentary structure in the form of trough crossbedding, which can provide vector information from the direction of ancient currents. So that it can provide an overview of the meander river in the study area. Besides that the direction of ancient currents, can be a complement to the determination of architectural elements based on the association of litofacies which contained the sandstone unit Kabuh. Developing architectural elements include channel (CH), lateral accretion (LA), overbank fines (OF), crevasse-splay (CS), and gravel bar (GB).

Keywords: Kabuh unit rock, paleocurrent, litofacies, and elemen architectural