

**The Characteristic and Reserve Calculation of Peridotite Rock
As A Material of Construction In Area of Silent Valley (Lembah Sunyi),
Angkasapura Village, District of North Jayapura,
City of Jayapura, Province of Papua**

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Abstract

Geological Mapping was conducted in area of Silent Valley (Lembah Sunyi), Angkasapura Village, District of North Jayapura, City of Jayapura, Province of Papua. Geomorphology of research area was divided into 2 units, namely the sharply cut hills structural unit and very sharply cut hills structural unit. Distributed pattern working was a distributed pattern of sub denritic.

The area of research had the units of rock group, those were ultramaphic group which was consisting of peridotite rock, serpentinite rock, and laterite land with solid and fault structure estimated. This research was conducted by using analysis of petrography, geomagnetic and tehniqne on the sample of peridotite rock in area of Silent Valley (Lembah Sunyi).

The Result of Petrography analysis indicated that the rock in area of research was Peridotite (*Clasification of Williams, 1982*) and Harzburgite (*Clasification of Yardley, MacKenzie, Guilford 1990*). Peridotite rock had a width of area was 223.154 m² from the area width of research area and from the analysis result of geomagnetic in the research area, there were number of peridotite rocks with the volume of 72.056.414 m and their reserve volume were 249.799.462 ton in the depth of 10-260 m sea level (dpi).

Based on the result of technique analysis conducted in the laboratory of Civil Technique of UGM, peridotite rock in research area had a strong value of everage pressure was 2446,898 kg/cm², resistance value of everage worn-out was 0,0351 mm/minute and the value of water uptake was 0,0543%. In outline, peridotite rocks in research area had a very good technique characteristic, to be used as the cover of floor/footpath, ornamental stone/adhere stone based on standart of qualification published by DPU and it fulfilled standart of SII (Indonesia Industry Standart) also as a material of light, medium, and heavy constructions.