

# **GEOLOGI DAN KAJIAN GEOLOGI TEKNIK DALAM PERBAIKAN PONDASI UNTUK KONSTRUKSI BENDUNGAN MILA, DESA RABABAKA, KECAMATAN WOJA, KABUPATEN DOMPU, NUSA TENGGARA BARAT**

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## **SARI**

Daerah telitian terletak di Desa Rababaka, Kecamatan Woja, Kabupaten Dompus, Nusa Tenggara Barat. Hasil penelitian ini mengetahui kondisi geologi dan geologi teknik pada daerah telitian. meliputi geomorfologi, stratigrafi, struktur geologi, karakteristik, sifat keteknikaan, dan evaluasi efektifitas perbaikan pondasi.

Daerah telitian dibagi menjadi lima satuan bentuk lahan, yaitu Satuan Perbukitan Sisa Vulkanik yang merupakan bentuk lahan yang dominan pada daerah telitian, Satuan Lembah Vulkanik, Satuan Tubuh Sungai, Satuan Dataran Limpah Banjir dan Satuan Antropogenik Bendungan.

Stratigrafi daerah telitian dapat dibagi menjadi empat satuan, yaitu: Satuan batulapili Mila, Satuan breksi-piroklastik Mila, Satuan intrusi-andesit Mila, dan Endapan Aluvial. Pada daerah telitian dapat ditemukan dua struktur geologi yaitu kekar gunting dan sesar mendatar kiri turun (*normal left slip fault*) dengan arah tegasan relatif Barat Laut – Tenggara.

Pondasi Bendungan Mila tersusun oleh litologi berupa intrusi-andesit dan batulapili dengan tingkat pelapukan segar – sedikit lapuk dan termasuk dalam kelas B – CL. Memiliki nilai RMR yang termasuk dalam kelas jelek – sedang. Hasil uji SPT pada daerah telitian menunjukkan nilai SPT  $N < 30 - N > 50$ . Rata – rata nilai Lu pada saat pengujian WPT adalah 7,7 Lu. Rata – rata nilai modulus deformasi ( $E_m$ ) adalah 7,82 Gpa.

Hasil evaluasi efektifitas grouting pada Pondasi Bendungan Mila termasuk dalam klasifikasi buruk – sangat baik. Pekerjaan grouting yang dilakukan dinilai Berhasil.

Kata kunci: Bendungan Mila, Geologi, Geologi Teknik, Perbaikan Pondasi, Grouting.

## **ABSTRACT**

The research area was located in Rababaka Village, Woja District, Dompus Regency, West Nusa Tenggara. The results of this study determined the geological and geological engineering conditions in the research area. It included geomorphology, stratigraphy, geological structure, characteristics, engineering properties, and evaluation of foundation repair effectiveness.

The research area was divided into five land forms, namely the Remaining Volcanic Hill Unit which was the dominant land form in the research area, the Volcanic Valley Unit, River Body Unit, Flood Overflow Unit and Dam Anthropogenic Unit.

The stratigraphy of the research area could be divided into four units, namely: Mila batulapili unit, Mila breccia-pyroclastic unit, Mila intrusion-andesite unit, and alluvial deposits. In the research area, two geological structures could be found, namely a scissor fracture and a left horizontal fault (*normal left slip fault*) with a relative stress direction of Northwest - Southeast.

The foundation of the Mila Dam was arranged by lithology in the form of andesite-andesite intrusions and boulders with fresh weathering levels - slightly weathered and included in class B - CL. It had a value of RMR which was included in the poor - medium class. The SPT test results in the research area showed the SPT N value  $< 30 - N > 50$ . The average value of Lu during the WPT test was 7.7 Lu. The mean deformation modulus ( $E_m$ ) was 7.82 Gpa.

The evaluation results of the effectiveness of grouting on the Mila Dam foundation were poor classification - very good. The grouting work carried out was considered successful.

Keywords: Mila Dam, Geology, Engineering Geology, Foundation Repair, Grouting.