

REVIEWER'S REPORT

Manuscript No.: IJAR- 58273

Title: USE OF MOUNTAIN ROCK (SCLERACTINA) IN THE MOUNTAINOUS PAPUA PROVINCE AS A ROAD PAVEMENT MATERIAL.

Recommendation:

Accept

Rating	Excel.	Good	Fair	Poor
Originality	Yes			
Techn. Quality		Yes		
Clarity	Yes			
Significance		Yes		

Reviewer Name: Dr. Ashish Yadav

Detailed Reviewer's Report

Reviewer's Comment for Publication.

Acceptance Comments are mentioned below suitable for the paper titled "USE OF MOUNTAIN ROCK (SCLERACTINA) IN THE MOUNTAINOUS PAPUA PROVINCE AS A ROAD PAVEMENT MATERIAL"

Reviewer Comments: Accept

Reviewer Comments –

1. Introduction

The introduction effectively establishes the importance of identifying locally available construction materials for road infrastructure development in the mountainous regions of Papua Province. It clearly highlights the challenges associated with material availability and transportation costs while emphasizing the potential of Scleractinia mountain rock as an alternative aggregate source. The research objectives are well defined and aligned with current highway material specifications. The background provides sufficient motivation for conducting the study and demonstrates its practical significance.

2. Literature Review

The literature review adequately discusses previous studies related to aggregate materials, pavement foundation requirements, and the application of California Bearing Ratio (CBR) testing in evaluating pavement materials. Relevant Indonesian National Standards (SNI) and the 2025 General Highway Specifications are appropriately referenced to establish the technical framework of the research. The review successfully identifies the knowledge gap regarding the engineering properties of mountain rock (Scleractinia), thereby justifying the need for the present investigation.

REVIEWER'S REPORT

3. Solution Approach

The research methodology is systematic, comprehensive, and appropriate for the stated objectives. Sampling from five representative quarry locations provides sufficient geographical coverage for comparative analysis. Standard laboratory tests, including gradation analysis, Los Angeles abrasion, Standard Proctor compaction, and soaked CBR testing, are conducted according to established SNI procedures, ensuring the reliability and reproducibility of the results. The methodology enables an objective assessment of the suitability of the investigated materials for road pavement foundation applications.

4. Results and Discussion

The results are clearly presented and effectively compare the engineering characteristics of aggregates obtained from the five quarry sites. The discussion appropriately interprets variations in abrasion resistance and soaked CBR values, highlighting the superior performance of the IlluguaKobakma Quarry while identifying the limitations of materials from the Dombomi Quarry. The findings are logically linked with the applicable highway specifications and demonstrate that most of the investigated mountain rocks satisfy the required performance criteria for aggregate foundation layers. The discussion provides valuable engineering insights for material selection in mountainous regions.

5. Conclusion

The conclusion effectively summarizes the major findings and confirms that mountain rock (Scleractinia) from most of the investigated quarries is suitable for use as aggregate foundation material in road pavement construction. The study successfully demonstrates the engineering feasibility of utilizing locally available resources, thereby contributing to sustainable and cost-effective infrastructure development in Papua Province. The conclusions are well supported by experimental data and provide practical recommendations for future implementation. The manuscript makes a meaningful contribution to pavement materials research and is recommended for publication.