



REVIEWER'S REPORT

Manuscript No.: IJAR-56246

Title:

PETROGRAPHY AND GEOCHEMICAL CHARACTERIZATION OF THE LAMÉ ALKALIN BASALTS (SOUTHWESTERN MAYO KEBBI) IN THE CAMEROON CHAD VOLCANIC LINE: IMPLICATIONS FOR TECTONIC EVOLUTION AND MANTLE SOURCE

Recommendation:

Accept as it is

Accept after minor revision...

Accept after major revision

Do not accept (*Reasons below*)

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

Reviewer Name: Dr. Sumathi

Detailed Reviewer's Report

- 1. The Cameroon chad volcanic line (CVL) is a 1,600–1,800 km long linear, Cenozoic-era chain of volcanic centers extending from Pagalu Island in the Gulf of Guinea northeast to Lake Chad. Active for roughly 40 million years, it lacks clear age progression, defying standard hotspot models, and is considered a "mantle hotline" or a reactivated Precambrian structural lineament.**
- 2. Fractional crystallization is a separation technique used to purify substances or differentiate magma by gradually cooling a mixture (or melt) to induce successive crystallization of components based on different solubilities or melting points. As crystals form, they are physically removed from the remaining liquid, which changes the composition of the remaining melt or solution.**
- 3. In geology, OIB and HIMU are terms used to classify types of volcanic rocks and their mantle sources, specifically within studies of oceanic volcanism and mantle geochemistry.**

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4. **OIB (Ocean Island Basalt):** Volcanic rocks erupted on the ocean floor, typically away from plate boundaries (e.g., Hawaii, Iceland, St. Helena). They are generally alkaline and enriched in trace elements compared to Mid-Ocean Ridge Basalts (MORB)
5. **HIMU** is often considered a "pure" or "extreme" end-member, whereas many other OIBs are interpreted as mixtures of HIMU, EM, and other mantle components (like FOZO or DMM).
6. Based on the provided search results, "implications for tectonic evolution" refers to how geological data (like metamorphism, magmatism, and sedimentation) and geodynamic modeling are used to reconstruct the history of Earth's crust, mantle, and surface, particularly regarding the transition from early, non-plate tectonic modes to modern plate tectonics.
7. Key words need to give more.
8. Result part is awesome with pictures.
9. Discussion part should be focused separately.
10. Summary points also be needed.
11. References should be in alphabetical order.
12. After those changes good to publish in your journal.