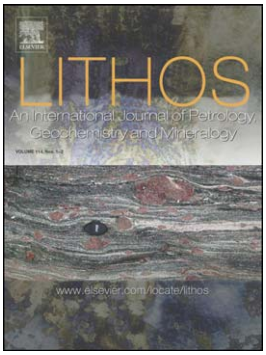

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Melesse Alemayehu, Hong-Fu Zhang, Sonja Aulbach

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Persistence of fertile and hydrous lithospheric mantle beneath the northwestern Ethiopian plateau: Evidence from modal, trace element and Sr-Nd-Hf isotopic compositions of amphibole-bearing mantle xenoliths

Melesse Alemayehu[a,b,*], Hong-Fu Zhang[a,c], Sonja Aulbach[d]

[a]*State Key Laboratory of Lithospheric Evolution, Institute of Geology and Geophysics, Chinese Academy of Sciences, P.O. Box 9825, Beijing 100029, China*

[b]*School of Applied Science, Department of Earth Science, Adama Science and Technology University, P.O.Box 1888, Adama, Ethiopia*

[c]*State Key Laboratory of Continental Dynamics, Department of Geology, Northwest University, Xi'an 710069, China*

[d]*Johann Wolfgang Goethe-Universität, Institut für Geowissenschaften,60438 Frankfurt am Main, Germany*

ABSTRACT

We present new trace element compositions of amphiboles, Sr–Nd–Hf isotope compositions of clinopyroxenes and mineral modes for spinel peridotite xenoliths that were entrained in a Miocene alkali basalt (Gundeweyn, northwestern Ethiopian plateau), in order to understand the geochemical evolution and variation occurring within the continental lithospheric mantle (CLM) in close proximity to the East African Rift system, and its dynamic implications. With the exception of a single amphibole-bearing sample that is depleted in LREE ($La/Yb_N = 0.45 \times Cl$), amphiboles in lherzolites and in one harzburgite show variable degrees of LREE enrichment

*Corresponding authors. Tel.: 86-010-82998514; P.O. Box 9825, Beijing 100029, China,

E-mail address: melesse555@yahoo.com (Melesse A.); hfzhang@mail.igcas.ac.cn (Hong-Fu Zhang)