

Accepted Manuscript

Early Devonian back-arc extension in the eastern Central Asian Orogenic Belt: evidence from a bimodal volcanic sequence from Xilinhote, central Inner Mongolia (North China)

Wen Liao, Bei Xu, Yanyang Wang, Pan Zhao, Qunsheng Li

PII: S1367-9120(17)30122-0

DOI: <http://dx.doi.org/10.1016/j.jseas.2017.03.014>

Reference: JAES 3011

To appear in: *Journal of Asian Earth Sciences*

Received Date: 9 October 2016

Revised Date: 13 March 2017

Accepted Date: 16 March 2017



Please cite this article as: Liao, W., Xu, B., Wang, Y., Zhao, P., Li, Q., Early Devonian back-arc extension in the eastern Central Asian Orogenic Belt: evidence from a bimodal volcanic sequence from Xilinhote, central Inner Mongolia (North China), *Journal of Asian Earth Sciences* (2017), doi: <http://dx.doi.org/10.1016/j.jseas.2017.03.014>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

**Early Devonian back-arc extension in the eastern Central Asian Orogenic Belt:
evidence from a bimodal volcanic sequence from Xilinhote, central Inner
Mongolia (North China)**

Wen Liao^a, Bei Xu^{a*}, Yanyang Wang^a, Pan Zhao^a, Qunsheng Li^b

^a Key Laboratory of Orogenic Belts and Crustal Evolution, Ministry of Education,
Peking University, Beijing, 100871, China

^b Mining Sciences and Technology Institute Limited Company, Inner Mongolia,
010050, China

*Corresponding author E-mail address: bxu@pku.edu.cn

Abstract

The Early Devonian bimodal volcanic sequence is firstly recognized in the Xilinhote area, central Inner Mongolia (North China). Zircon U-Pb dating of rhyolitic sample gives crystallization age of 407 ± 2 Ma, which is interpreted as the extrusive age of this bimodal volcanic sequence. Basaltic samples belong to tholeiite series whereas rhyolitic samples are peraluminous. Basaltic rocks show typical N-MORB-like REE and trace elemental patterns, with depletion of LREEs and negligible anomalies of Eu ($\delta\text{Eu} = 0.83\text{-}1.00$). They have initial $^{87}\text{Sr}/^{86}\text{Sr}$ ratios ranging from 0.7077 to 0.7086, and positive $\epsilon\text{Nd}(t)$ values from +7.5 to +9.0. By contrast, rhyolitic rocks show enrichment in LREEs and LILEs but depletion in HFSEs, with negative Eu anomalies ($\delta\text{Eu} = 0.58\text{-}0.68$). They have negative $\epsilon\text{Nd}(t)$

Download English Version:

<https://daneshyari.com/en/article/5785969>

Download Persian Version:

<https://daneshyari.com/article/5785969>

[Daneshyari.com](https://daneshyari.com)