A Big Earth Data Platform for Three Poles

**Late Mesozoic granodiorite and polymetallic mineralization in southern Anhui: apatite geochemical database**

1、Description

The data is divided into excel table data and JPG analysis chart data. The table data include: Table 1 the characteristics of grouper samples in southern Anhui Province; Table 2 EPMA data of apatite in granodiorite from southern Anhui Province; Table 3 LA-ICP-MS data of apatite in granodiorite from southern Anhui  
The apatite studied in this study was separated from SAP granodiorite samples by heavy liquid method, and then selected by hand under binocular microscope. The selected apatite was mounted in epoxy resin, polished, and then examined by backscattered electron (BSE) image to select self shaped targets for electron probe microanalysis and laicp-ms analysis.  
The main elements of apatite were determined by jeol-jxa-8230m electron microprobe at the school of resources and environmental engineering, Hefei University of technology. The trace elements were determined by LA-ICP-MS at the Key Laboratory of Mineralogy and mineralization, Guangzhou Institute of geochemistry, Chinese Academy of Sciences.  
The analysis data include: (1) micrographs of granodiorite samples from southern Anhui Province, showing mineral composition（ a) LQ, (b) JD, (c) QY, and (d) PL granodiorites. Where: PL = plagioclase; KF = potash feldspar; QZ = quartz; Bi = biotite; HBL = amphibole; AP = apatite; ZrN = zircon (2) backscattered electron (BSE) image of euhedral apatite in granodiorite in southern Anhui Province (3) f (wt%) and Cl (wt%) correlation map of apatite samples in granodiorite in southern Anhui Province (4) normalized REE model of (a) apatite (solid symbol) and host rock (hollow symbol) chondrite and (b) apatite primitive mantle marker in granodiorite in southern Anhui Province (5) geochemical map of apatite samples of granodiorite in southern Anhui Province, showing the characteristics of rock classification and magma source area. (6) trace element discrimination map of apatite (solid symbol) and host rock (hollow symbol) in granodiorite in southern Anhui Province, distinguishing adakite from non adakite  
(7) Apatite in granodiorite from southern Anhui Province (a) δ CE and δ The changes of oxygen fugacity and temperature were reflected by EU value and (b) logfio2 and t diagram. Among them, MH: magnetite hematite buffer, FMQ: forsterite magnetite quartz buffer, IW: iron pyrite buffer (8) geochemical characteristics of apatite samples from granodiorite in southern Anhui Province to distinguish mineralization and non mineralization  
This database can be used to explore the relationship between polymetallic mineralization of Mesozoic magma and granodiorite in southern Anhui Province, and to judge the types of unmeneralized rocks and deposits by apatite.

2、Keywords

Theme：magma,Rocks/Minerals,Geochemistry,Geologic Hazard,Isotopic geochemistry,apatite  
Discipline：Solid earth  
Places：southern Anhui, Lower Yangtze River Belt  
Time：Cretaceous

3、Data details

1.Scale：None

2.Projection：

3.Filesize：3.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：30.5 | - |
| west：117.5 | - | east：118.5 |
| - | south：29.5 | - |

5、Time frame:None--None

6、Reference method

References to data:

XIE Jiancheng. Late Mesozoic granodiorite and polymetallic mineralization in southern Anhui: apatite geochemical database. A Big Earth Data Platform for Three Poles, doi:10.1016/j.sesci.2019.11.0062021

References to articles:

Lin, Q.A., Yu, W.A., Jx, A., & Wsbc, D. (2019). The late mesozoic granodiorite and polymetallic mineralization in southern anhui province, china: a perspective from apatite geochemistry. Solid Earth Sciences, 4(4), 178-189.

7、Supporting project information

The deep process and resource effect of major geological events in Yanshan period

8、Data resource provider

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