A Big Earth Data Platform for Three Poles

**Lithology description of a 300m-thick Oligocene borehole strata in the Qujing area, Yunnan**

1、Description

The thick Cenozoic sediments deposited in Yunnan are ideal achieves used to explore the history of local deformation process affected by the collision of the Indian-Eurasian plate as well as the evolution of the Indian monsoon in the Cenozoic. However, due to the lack of precise age control, the early Neogene strata in Yunnan are poorly constrained. The Qujing Basin in the northern part of Yunnan Province preserves thick and continuous Cenozoic sediments, which can be divided into the Xiaotun Formation, the Caijiachong Formation and the Ciying Formation from bottom to top. Through the combination of the field outcrop profile and the borehole core, the research team obtained the stratified stratum of the Xiaotun Formation and the Caijiachong Formation with a total thickness of 251 m in the Qujing Basin. The U-Pb geochronology of the top volcanic tuff layer (35.49 ± 0.78 Ma), Caijiachong mammal fossil group (late Eocene) as well as magnetic stratigraphy collectively reveals that the age at the bottom of the Xiaotun Formation is 46.2 Ma, the top of the Caijiachong Formation should be < 36.2 Ma, and the epoch line of the two groups is 41.2 Ma. However, due to the weak influence of tectonic activities in the late Cenozoic and the small deformation of the formation, the terrain in the middle of the basin is relatively flat, resulting in the inability to obtain the top of the continuous Caijiachong Formation and the upper Ciying Formation samples. A total of 320.1 meter core covering the entire Ciying Formation and the Caijiachong Formation was obtained through the continuous drilling mission carried out in the center of the basin. Among them, the overall lithology of the core of the Ciying Formation (0-216.3 m) is dominated by gray mudstone and siltstone, and several layers of coal seams are intercalated; while the lower Caijiachong Formation (216.3-305.5 m) is grayish and grayish green mudstone. The lithology of the Xiaotun Formation (305.5-320.1 m) is mainly dominated by red mudstone.

2、Keywords

Theme：Geomagnetism  
Discipline：Solid earth  
Places：Qujing Basin  
Time：Oligocene

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.02MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：25.4 | - |
| west：103.9 | - | east：104.0 |
| - | south：25.3 | - |

5、Time frame:None--None

6、Reference method

References to data:

YAN Maodu. Lithology description of a 300m-thick Oligocene borehole strata in the Qujing area, Yunnan. A Big Earth Data Platform for Three Poles, doi:10.11888/Paleoenv.tpdc.2703002019

References to articles:

7、Supporting project information

Pan-Third Pole Environment Study for a Green Silk Road-A CAS Strategic Priority A Program

8、Data resource provider

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