

CAO Yangtong, LIU Chenglin, JIAO Pengcheng and TANG Min, 2014. Spatial Distribution of Halite in Kuqa Basin from Paleogene to Neogene and Signification of Potash Survey. *Acta Geologica Sinica* (English Edition), 88(supp. 1): 203.

Spatial Distribution of Halite in Kuqa Basin from Paleogene to Neogene and Signification of Potash Survey

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Evaporites with gigantic thickness had been developed in Kuqa Basin from Paleocene to early Miocene, and the sediment thickness changed from tens to thousands of meters. By 3D mine software, spatial distribution model of halite were established from Paleocene to Miocene Jidike group with data on terrain points, drills, such as position, depth, and inclination, sediment thickness of halite of drills, and evaporites sedimentary cycles in Kuqa Basin. It is closely interrelated on salt body, terrain and structure of Kuqa Basin by spatial distribution model of evaporates, and consistency with terrain and salt body extruded by tectonic compression. In addition, sediment thickness of salt body thicken by tectonic compression is thicker than before, but it is little interrelated on navy sedimentary, so we can judge deposition centers of evaporites by spatial distribution model. Two deposition centers of evaporites which located on Xi'yanshuigou and Baicheng sag can be given in the west of Kuqa Basin from Paleocene to Eocene by section cut north to south on three-dimensional model, and the other two centers located on Kangcun and Yangxia areas in the east of Kuqa Basin. The deposition centers of evaporites are usually ancient salt lake concentration centers, so it is good area for potash exploration because of potassium enrichment in the little tectonic units.

Key words: Kuqa Basin, halite, spatial distribution model, signification of potash survey

Acknowledgements

We thank the national "Twelfth Five-Year" Technology Support Plan (2011BAB06B06) for funds for this paper.

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