# 库车前陆盆地古近系蒸发岩岩石学、矿物学与成钾环境分析



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| 作者 | 单位 | E-mail |
|---|---|---|
| 邢万里 | 中国地质科学院；中国地质科学院矿产资源研究所 | rock198699@163.com |
| 刘成林 | 中国地质科学院矿产资源研究所 | |
| 王安建 | 中国地质科学院矿产资源研究所 | |
| 焦鹏程 | 中国地质科学院矿产资源研究所 | |
| 李国武 | 中国地质大学(北京) | |
| 赵宪福 | 中国地质大学(北京) | |
| 高超 | 中国地质大学(北京) | |

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中文摘要:库车盆地内古近系—新近系发育巨厚的蒸发岩沉积, 尤其是盆地的中部和西部盐层发育好, 厚度大, 局部盐层已暴露地表, 是找寻各种盐类矿床及钾盐的有利地区。DZK01孔是近年来在库车盆地实施的一口以找钾为目的的科研探井。本文主要通过对钻孔古近系蒸发岩岩芯样品进行岩石学及矿物学特征研究, 进而对盆地成钾环境进行分析。DZK01孔古近系蒸发岩以含泥砾石盐岩为主, 含泥砾石盐岩为构造成因, 是古盐湖高度浓缩的产物。盆地古近系蒸发岩以沉积石盐为主, 钻孔中含钾矿物为钾石膏, 钾石盐和光卤石, 同时含钾矿物的发现证明了库车盆地古盐湖可能达到钾盐析出阶段。通过样品分析可知, 库车盆地古近纪时期古盐湖沉积环境为封闭的浅湖沉积环境, 盐湖发育过程中有五次较大规模的淡化事件, 盐类物质得到很好的聚集, 具有良好的成钾环境。

中文关键词:库车盆地 岩石学 矿物学 成钾环境 钾盐

# Analysis of Petrology, Mineralogy and K-forming Environment of Paleogene Evaporites in Kuqa Foreland Basin: A Case Study of Drill Hole DZK01

**Abstract**:There are a lot of salty mineral resources in Paleogene-Neogene strata in Kuqa basin, especially in the central and western part. The Kuqa basin is one of the most favorable areas to find a variety of salty deposits. In recent years, Drill Hole DZK01 has been one of the scientific exploration drill holes in search for the resource of sylvite. The main purpose of this drill hole is to find out whether the Kuqa basin contains sylvite deposits or not. This paper mainly analyzed petrology, mineralogy, and potassium-forming environment of Paleogene evaporates in the basin. Salt rock containing mud conglomerates is the major lithology in Paleogene evaporates. Salt rock containing mud conglomerates is of tectonic origin and also a product of the highly concentrated saline lake. Halite is the major mineral in Paleogene strata in Kuqa basin. There are three major kinds of K-bearing minerals in Drill Hole DZK01, i.e., syngenite, sylvite and carnallite, which indicates that the ancient saline lake had reached the high concentration degree. An analysis of samples shows that the ancient saline lake in Kuqa basin was in a closed and shallow sedimentary environment. There were five large-scale desalination events in the development of the saline lake, and therefore the salts were accumulated well, and Kuqa basin had a good K-forming environment.

**keywords**:Kuqa basin petrology mineralogy potassium-forming environment sylvite