

老挝甘蒙省晚白垩世农波组下段孢粉分析及成钾时代

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中文摘要:老挝含盐地层农波组成盐及成钾时代的研究对于阐明整个呵叻盆地的演化规律和钾盐矿床成因有着重要意义。在农波组的年代学问题上,国内外学者还存在着很大的分歧。本文通过对老挝甘蒙省文泰矿区ZK012钻孔钾盐层上覆泥岩的孢粉分析,结果表明其孢粉组合Classopollis-Ephedripites-Exesipollenites,结合Callistopollenites、Normapolles、Cicatricosisporites、Clavatipollenites、Asteropollis等特征分子的发现,我们将该孢粉组合时代定为晚白垩世的土伦期-桑顿期;孢粉及沉积相所反映的气候环境为干旱炎热的热带-亚热带环境。同时,通过对同区域的ZK309钻孔对比分析,该钻与ZK012钻孔具有相似的沉积序列,钻孔底部出现的蒸发岩与砂岩的不整合面,标志着一次构造运动,呵叻湖盆边缘隆升封闭,使卤水在这种较大的圈闭构造内得以留存,并在持续干旱炎热的气候条件下沉积了巨厚的钾盐矿床。

中文关键词:老挝 钾盐 孢粉 不整合面

The Sporo-pollen Analyses and Ore-forming Age of Nong Bok Formation in Khammouane, Laos

Abstract:The study of salt-bearing strata in Laos has an important significance for clarifying evolution law and potash deposit genesis in the whole Khorat plateau and its sub-basin. There has existed controversy among researchers both in China and abroad concerning the age of salt-bearing strata. The authors analyzed sporopollen over the potassium salt layer of ZK012 in the Wentai mining area of Khammouane, Laos. According to the characteristics of sporopollen, the authors define it as Classopollis-Ephedripites-Exesipollenites assemblage. In combination with the discovery of the index fossils of Callistopollenites, Normapolles, Cicatricosisporites, Clavatipollenites, Asteropollis and Trisolissporites, the authors hold that the age of sporopollen assemblage in ZK012 drill hole is between Turonian and Santonian of Late Cretaceous, and the climate condition should be a hot, tropical and south subtropical environment. A comparative analysis of the sedimentary characteristics of ZK309 drill hole was also made, which has the same depositional sequence as ZK012. In addition, the unconformity between the evaporate and the underlying sandstone was found at the bottom of ZK309. On such a basis, the authors consider that the Yanshanian movement in early Late Cretaceous caused the rising of the earth crust and the tectonic deformation of this area. Ancient seawater was retained in the big trap structure of Khorat basin along with the regression, and evaporites were deposited under the condition of subsequent arid climate.


keywords:potash salt Laos sporopollen unconformity

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