



李向东, 何幼斌, 郑昭昌, 刘娜, 王丹, 罗进雄, 李华. 宁夏香山群徐家圈组发现深水复合流沉积构造[J]. 地质学报, 2017, 41(1): 1-10.

宁夏香山群徐家圈组发现深水复合流沉积构造 [点此下载全文](#)

[李向东](#) [何幼斌](#) [郑昭昌](#) [刘娜](#) [王丹](#) [罗进雄](#) [李华](#)

长江大学地球科学学院, 长江大学地球科学学院, 宁夏地质矿产局, 长江大学地球科学学院, 长江大学地球科学学院  
学地球科学学院

基金项目: 国家自然科学基金项目(面上项目, 重点项目, 重大项目)

DOI:

摘要点击次数: 211

全文下载次数: 498

摘要:

宁夏香山群徐家圈组是由灰绿、黄绿色轻变质中-细粒砂岩、钙质砂岩及粉砂岩和页岩(板岩)组成的深的中层钙质粉砂岩中发现了复合流层理、准平行层理、不对称小型丘状交错层理;在下部灰绿色厚层-块状中-细型波痕,波痕的形态、波长与波高的分布规律均表现出复合流的沉积特征。本文根据水槽实验和现代海洋沉积物前人在研究地层中较浅海浊流(超重流)与波浪所形成的复合流沉积时给出的复合流沉积示意图,分别对徐家圈组3-D波痕的演化和②复合流痕、平行层理、准平行层理和小型丘状交错层理的叠置关系及其纹层所反映的流动进行了解释。结果表明,所发现的复合流层理、准平行层理、不对称小型丘状交错层理及小型波痕应为复合流沉积的事实,推测为深水高频内波与浊流形成的复合流沉积。这可能是地层中深水复合流沉积构造的首次发现,也是深水复合流沉积的首次发现。

关键词: [香山群](#) [复合流](#) [内波](#) [沉积构造](#)

Deep-water Sedimentary Structure of Combined-flow Origin from Xujiajuan Formation of Ningxia [Download Fulltext](#)

[Li Xiangdong](#) [He Youbin](#) [Zheng Zhaochang](#) [Liu Na](#) [Wang Dan](#) [Luo Jinxiong](#) [Li Hua](#)

School of Geosciences, Yangtze University, School of Geosciences, Yangtze University, Ningxia Bureau of Geology and Mineral Resources, School of Geoscience, Yangtze University, School of Geoscience, Yangtze University, School of Geoscience, Yangtze University, School of Geoscience, Yangtze University

Fund Project:

Abstract:

Deep-water deposits in Xujiajuan Formation of Xiangshan Group is made up of gray-green, yellowish sandstone, calcareous sandstone, siltstone and shale (slate) with slightly metamorphic. Composite lamination and quasi-planar lamination and asymmetric small-scale hummocky cross stratification are developed in calcareous siltstone interlayer in gray-green shale of the upper part, and the small-scale ripple sedimentary characteristics of combined-flow in both their shapes and distribution of wave length found on the top surface of gray-green medium to thick feldspar-quartz sandstone of the lower part. The interpretation of: (1) the evolution of small-scale 2-D ripple marks to 3-D ripple marks; and (2) the relationship between flow ripple lamination, quasi-planar lamination and small-scale hummocky cross stratification as well as the direction of flow and the turbidity current direction suggests that the combined-flow deposition cartoon was given by previous researchers from the ancient deposition produced by hyperpycnal flows and waves in relatively shallow water. The result shows that the composite lamination and quasi-planar lamination and asymmetric small-scale hummocky cross stratification exist in Xujiajuan Formation, and we interpret the combined-flow as an interaction of high frequency internal wave and turbidity current according to the deposition of internal wave. This perhaps is the first discovery of deep-water sedimentary structure with combined-flow origin as well as the combined-flow deposition produced by internal wave and turbidity current.

Keywords: [Xiangshan group](#) [combined-flow](#) [internal-wave](#) [sedimentary structure](#)