is enhanced, and the sand bar in the estuary area gradually evolves from an irregular point bar to an elongate sand bar, and the scale gradually becomes smaller.

(4) The formation and distribution of sand bars are affected by the tidal energy and the bottom shape. Under the tidal energy M_2: 2.5, S_2: 2.1 and the bottom slope of 0.003°, the tidal sand bar develops and has a typical distribution of tide-dominated estuary.

Conclusions: The depositional numerical simulation method has been successfully applied to Qiantang River to reveal the sand bar formation mechanism and spatial distribution, the factors of the slope of river bed and tide energy are analyzed and under medium tide energy and slope will give a beneficial sand bar deposit which will later be a potential reservoir.

Keywords: tide-dominated estuaries; depositional numerical simulation; tidal sandbar; dominant factors; Qiantang River estuary

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世界一流的有孔虫标本模型在中国地质科学院地质研究所装架展示

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世界一流的有孔虫标本模型在中国地质科学院地质所区域地质与编图研究室完成装架并长期展示。这架有孔虫标本模型(图 1,见第 139 页) 系由郑守仪院士亲自雕制并监督制作,一共有 120 个属种,每个种都是标准的环境指相种。

标准有孔虫是地层时代的定年器(世界性浮游有孔虫化石带)、古海洋的温度计、盐度计和深度计(浮游与底栖有孔虫),对它的鉴定必须准确无误。如果误定,对年代和环境信息的解译将会发生错误。因为有孔虫是小如灰尘的微体动物,一般小于 1.0 毫米,只能借助高倍实体显微镜才能看到其个体,要看到它的口孔、齿板、缝合线孔和壁孔等形状和特征就更难,而这些特征是鉴定属种的依据。如果能把有孔虫按标准放大雕塑出来就会使有孔虫的科研和教学跨上一个更高的台阶,这是几百年来古今中外有孔虫学家的梦想,这个梦想被郑守仪院士变成了现实。

除中国地质科学院地质所外,同样的有孔虫模型标本仅在大英博物馆、美国史密斯博物馆、青岛中国科学院海洋研究所收藏。这个世界一流的有孔虫标本模型在地质所装架成功与长期展示,将使中国地质调查局系统的有孔虫研究和教学水平达到世界前沿。

(照片见第 139 页/ The photos are on the page 139)

LIN Jingxing: World class foraminifera specimens models are on display in Institute of Geology, Chinese Academy of Geological Sciences

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