



The identification of buried volcanic edifices: examples, methods, modelling and significance

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It makes the identification to the ancient volcanic edifices difficult for their deep buried depth, complex diagenesis environment and incomplete preservation due to deuteritic weathering and denudation. In this paper, the synthetic information such as rock cores, well loggings and seismic was used to identify the Carboniferous volcanic edifices located in Dixi area of Junggar basin in China, as a case study of complex buried volcanic edifices. A suit of methods for identifying the volcanic rocks base on well logging were presented. The seismic response characteristics of typical combined rocks were summarized. An identification process for buried volcanic edifice was summarized. Finally, the model of the volcanic edifices were made base on the structural rehabilitation. The methods used in this paper are available to the anatomy of volcanic edifices in other areas especially the adjacent areas. They also can be used as some basis for the exploration and development of the oil and gas in this area since the important industrial gas has been developed from these volcanic edifices.