

## 我国环太平洋西海岸地区地下水封洞库选址区域稳定性研究

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## REGIONAL STABILITY OF UNDERGROUND WATER SEALED STORAGE CAVERNS AROUND WESTERN PACIFIC COASTAL AREA IN CHINA

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- 摘要
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**摘要** 区域稳定性分析对于地下水封洞库科学合理的选址具有重要意义。首先,根据地下水封洞库建库选址基本原则,在充分考虑我国主要大型码头与炼油厂分布的基础上,提出了我国环太平洋西海岸地区地下水封洞库区域稳定性研究区范围。其次,在分析地下水封洞库区域稳定性影响因素并考虑目前所掌握相关数据、资料的基础上,确定区域性断裂带、地震峰值加速度、地层岩性、大地热流值为区域稳定性评价的敏感因子,并根据对区域稳定性影响的大小对各敏感因子划分等级。最后,采用因子叠加法,并利用MAPGIS软件对研究区的稳定性进行了空间叠加分析,得到了研究区区域稳定性评价结果,为我国后期大型地下水封洞库规划选址提供了参考和支撑。

**关键词:** 工程地质 油气储备 地下洞库 区域稳定性 水密封

**Abstract:** Regional stability analysis has important significance for scientific and rational site selection of underground water sealed caverns. Firstly, this paper puts forward the range of regional stability study area of underground water sealed caverns, around western Pacific coastal area, according to the basic principles of underground water sealed caverns construction site selection and based on fully consideration of the distribution of large-scale Wharf and oil refinery in China. Secondly, the regional faults, formation lithology, peak acceleration of seismic and heat flow values are determined as sensitive factors of regional stability evaluation, based on the analysis of sensitive factors that influence the regional stability of underground water sealed caverns, and taking into account the available data. Then, the sensitive factors are divided into several grades according to the influence on regional stability. Finally, spatial overlay analysis to regional stability of study area is carried out. The results of study area regional stability are obtained, with the method of integrated index and using of MAPGIS. The analysis provides reference and support to location planning of latter large-scale underground water sealed caverns construction in China.

**Key words:** Engineering geology Oil and gas storage Underground caverns Regional stability Water sealed

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