山东西南部南四湖流域环境地质综合调查

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提要：本文论述了水体污染、矿山环境地质灾害、地下水环境异常、南四湖淤积、地球化学环境与地方病等环境地质问题，探讨了煤炭开采对南四湖湖容演变的积极影响。湖体及主要入湖河流污染严重；流域内煤炭资源开发引起的矿山环境地质灾害比较严重，地面塌陷面积达112.395 km2；各种固体废弃物积存总量6412.68万t；矿井排水对矿区地下水资源造成严重破坏。地方病以地氟病和克山病为主。在对流域内环境地质问题综合分析的基础上，提出了对流域环境地质问题的治理措施。
关键词：环境地质问题；南四湖流域；矿山；地方病
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Comprehensive environmental-geological survey of the Nansi Lake drainage area, southwestern Shandong

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Abstract: There are various environmental-geological problems in the Nansi Lake drainage area. Problems including water pollution, geological disasters of mines, environmental abnormity of groundwater, siltation of Nansi Lake and endemic diseases are discussed. Coal mining has an active influence on the evolution of Nansi Lake. The lake and main rivers flowing into the lake have been highly polluted under the influence of anthropogenic activities. Environmental geological hazards caused by development of local coal resources are very serious in the drainage area. The surface collapse area in the drainage area is up to 112.395 km2. The amount of various solid waste totals to 64.1268 million tons, covering over 595.13 ha. Groundwater resources in the mine district have been destroyed badly due to a large amount of mine drainage. Endemic fluorosis and chronic keshan disease are the main endimic diseases due to the high concentration of fluorine in shallow-layer groundwater and lack in selenium in food and water respectively. On the basis of a comprehensive analysis of these environment-geological problems in the drainage area, measures for environmental control have been put forward in detail in the paper and various influencing factors should be considered in treating environment-geological problems in this area.
Key words: environmental-geological problem; Nansi Lake drainage area; mine; endemic diseases