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Study of Site Selection on Large-scale Carbon Dioxide Geological Storage in Hechuan, Chongqing

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Based on “Carbon Dioxide Geological Storage Suitable Assessment”, the Western Hechuan is suitable for CO₂ geological storage. Though regional geological, hydrogeological, petroleum geological, geophysical and drilling data collection, as well as remote sensing interpretation and comprehensive geological analysis, selected the Hechuan North West region for CO₂ geological storage target. Through further comprehensive evaluation of the geological safety, technical indicators of the reservoir and cap, suitability and economic conditions, selected 3 target areas, Gaoshiba, Shayu, Tongzilin. Though comprehensive comparison from closer to the Shuanghuai power plant, away from the Huayingshan fault

more than 25km, Shayu is preferred for the next stage of detailed investigation. Shayu, with good caprock stability and crustal stability, geothermal geological and hydrogeological conditions is conducive to CO₂ geological storage. The Upper Triassic Xujiahe formation (T_{3x}) member II, IV, VI, Lower Triassic Jialingjiang formation (T_{1j}), Lower Triassic Feixianguan formation (T_{1f}) have suitable depth and thickness, porosity and permeability conditions are good, can be used as potential reservoirs, have good storage prospect which is 40.06 million ton.

Key words: CO₂ Geological Storage, Hechuan, Suitable Assessment, Potential Calculation

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