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Analysis of characteristics of potential mud-rock flow in Huyu Valley

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Introduction

Huyu Valley which locats in Xishan coalfield is the main river connecting the downtown and Xishan coalfield. Because of its special geographical location and historical reasons, there are dozens of important industrial and mining enterprises, universities, cultural center (station) and numerous residents living quarter in the downstream areas of the river. Its population density is more than 5,000 /km2. It is an important technology culture industrial economic region.

As Rock in the basin had been weathered, geological hazards such as collapse, landslides developed, so both sides of the valley formed a thick layer of debris which constitute a loose broken mudslides material sources ,geological disaster harm level become more and more serious, the mine geological environment problem was increasing, which made originally fragile natural environmental conditions of Taiyuan worse.

Geological environmental conditions of study area

Topography Topography in study area is restricted by geological structure, new tectonic movement and lithology, according to its morphological characteristics and causes, It can be divided into two types:

Tectonic erosion in the Middle and Alp Regions: distributed in the western mountainous area, the altitude is between 1300 and 1800m, High mountains and steep, steep terrain, the valley aspect. The Relative altitude is bigger. The area is mainly very steep slope zone, the slope Angle is bigger than 35°, cutting acuteness, the maximum cutting depth can reach up to 500mb, The vallies were deeply cut into "V" word, slope reached up to 30-60°. The area had extremely heavy weathering and denudation, local area was covered by loess.

Tectonic erosion in the Low Mountain Areas: distributed in east-central area, the altitude is between 1000m and 1300m, the area is mainly steep slope zone, the slope Angle is between 20 ° and 35°, the slope surface is heavily erosed stronger, the maximum cutting depth can reach up to 300m, The area had extremely heavy weathering and denudation, local area was covered by loess.

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