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Journal	Advanced Materials Research (Volumes 295 - 297)
Volume	Manufacturing Science and Technology
Edited by	Pengcheng Wang, Liqun Ai, Yungang Li, Xiaoming Sang and Jinglong Bu
Pages	1777-1781
DOI	10.4028/www.scientific.net/AMR.295-297.1777
Citation	Yi Qing Lv et al., 2011, Advanced Materials Research, 295-297, 1777
Online since	July, 2011
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Advanced Materials Research Vols. 295-297 (2011) pp 1777-1781
Online available since 2011/Jul/04 at www.scientific.net

doi:10.4028/www.scientific.net/AMR.295-297.1777

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

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Keywords: Huyu Valley; mud-rock flow; Analysis

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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 /km^2. 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 and1800m,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.