



## **Characterization of “El Sillar” Site landslide using traditional techniques in Bolivia**

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For the transport of goods and agricultural products from the lowlands in the Bolivian east to the western cities and ports in the Pacific Ocean for export, it is necessary to cross the Andean mountain range by driving on roads built in unfavorable geological and geotechnical conditions. On the main national road between the cities of Cochabamba and Santa Cruz, there are several unstable places (sliding, creeping) that interrupt traffic during the rainy season for several day.

This paper is focused on the use landslide management derived products to analyze the area around the kilometer 137 of the mentioned Road, called “El Sillar”.

The regional geology of this area is characterized by Silurian and Devonian formations generally dark gray shales underlining normally to quaternary gravitational depositions of variable thickness. The climate of Sillar is classified as tropical humid and warm with an average annual precipitation variable up to 6.000 mm / year. In 2014, geotechnical monitoring of both the field (geological inspection, inclinometers, piezometers, perforations, geophysical surveys and topographic control) and laboratory was carried out. The results will be analyzed towards a global geotechnical characterization of the site and determined a fault plane at 15 meters with a slow to moderate movement speed compromising a land mass of approximately 500 000 m<sup>3</sup>.