

REVEGETATION OF A STEEP ROCKY SLOPE IN CHINA.

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Abstract

This presentation shows the rehabilitation by Hydro mulching of a steep, rocky slope at Yun Tai Shan Tourist Park, Henan Province, in the Peoples Republic of China. The goal that was set by our client was to provide a cost-effective solution to an extremely difficult revegetation problem.

Method

After careful evaluation during a preliminary site inspection in June 2003, we decided that the Hydro mulching process would be the best method for the application of selected local shrub and tree seed (which would be supplied by the client), as the alternatives were to manually broadcast the seed, which would have been difficult, due to its variable size and weight, or to plant tube stock, which would have been too time consuming and costly. The site had very poor access for machinery, with a vertical height of over 150 meters, and a slope length of 250 meters at an angle of approx 60 %, and little soil material suitable for plant roots.

Due to the extremely difficult nature of this site, with its excessive vertical height, we developed the concept of two portable diesel powered high pressure transfer pumps which would be placed at selected positions on the slope, and supplied by our Truck mounted Hydromulching Unit, which would be parked at the closest available area.

The Hydro mulching process we used was aqueous slurry of water, recycled paper mulch, and water absorbing polymers and plant starch binders. This was mixed onsite together with the selected seed and fertilizer, and pumped via temporary poly piping to the transfer pumps where it was sprayed on to the site through a flexible hose and nozzle. The accompanying photographs clearly indicate the site conditions and equipment layout.

Summary and discussion.

We performed this application successfully in July 2003 in extremely difficult conditions, as the weather was hot and humid. The temperature falls to well below zero in the winter months, with snow and ice covering the site. Some limited emergence was noted approx three months after our application, and we expect further emergence of seedlings in the spring of 2004. Our timing for the application was late, a factor governed by our client, and the seed supplied was not of local provenance, so we feel that to ensure success in future projects that further basic education to future clients on these points is required. The Hydro mulching process is still in its infancy in China, so to some extent, this project pioneered a practice that could apply to many other similar sites throughout the country.