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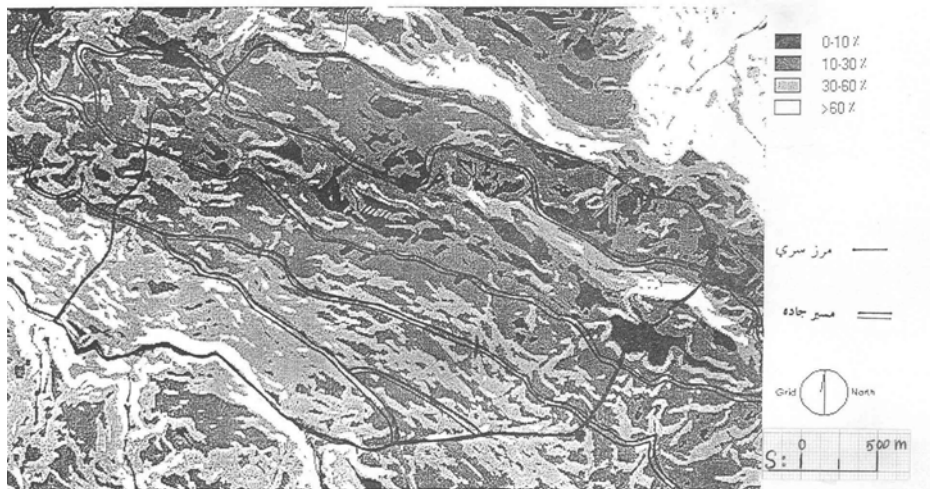
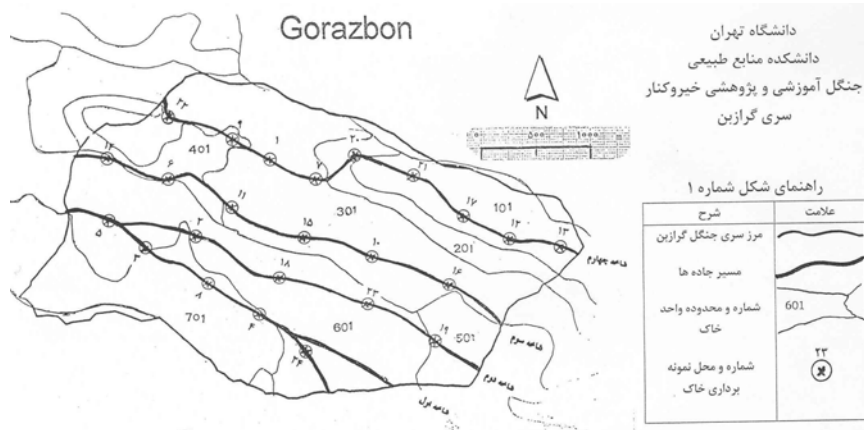
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Study of Mechanical Characteristics of the Forest Soil in Gorazboon district, Kheyrood Kenar Forest, to be Used in Road Construction and Harvesting Operations

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Abstract

To perform road construction operations and guarantee the stability of roads it is imperative to examine soil mechanical characteristics and determine the soil's technical specifications. In this study, the mechanical features of Gorazbon Forest section have been investigated. For sampling, pedology maps were used and different soil classes, slope classes and aspects were combined. One sample was provided from each section and the samples underwent mechanical soil tests for moisture content, soil texture, and Aterberg limits. Then, the samples were classified based on USCS method. Samples were categorized into two general CH and CL classes. The CH class was divided into two subclasses as CH_L (with liquid limit of 50-70), and CH_H (liquid limit above 70). In terms of plasticity, the samples were classified as plastic (PI=15-35) and highly plastic (PI> 35). These soils had high cohesion rates and considerable moisture. Drainage in plastic and highly plastic was low and very low, respectively. Their formability was also high. Liquid index of the samples were between 25-50, which means that this soil can be used as the construction material only in dry climate or when its moisture is low. It can also be used as subgrade material but the risk of sinking will do exist. Regarding this rang of liquidity index; the vehicles moving in these roads should be strictly limited to four-wheel drive and rubber-wheeled ones.

Keyword: Forest road construction, Soil mechanics, Forest roads, Soil classification, Caspian Forest

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