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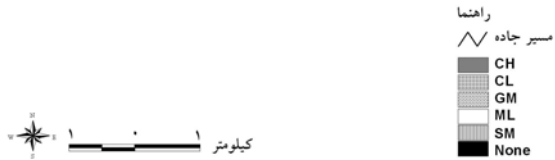
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Unified Soil Classification System

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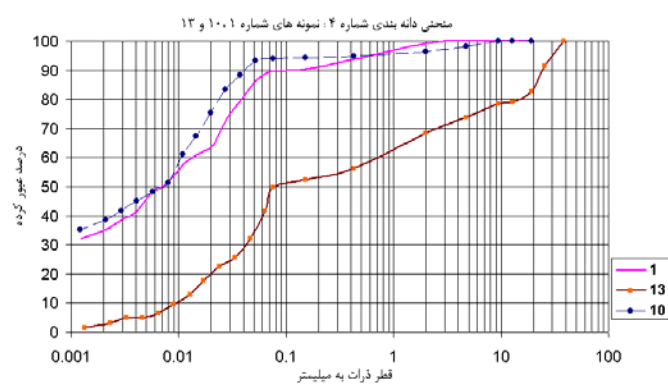
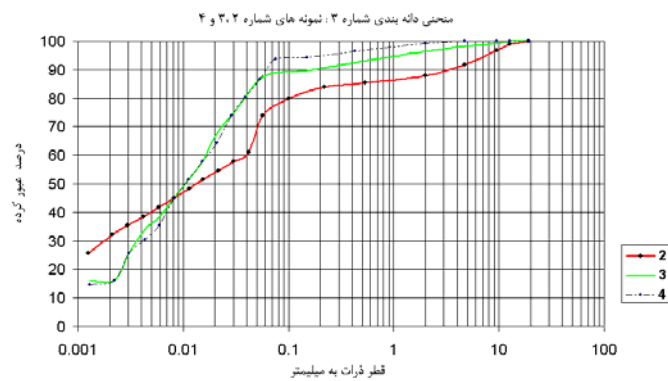
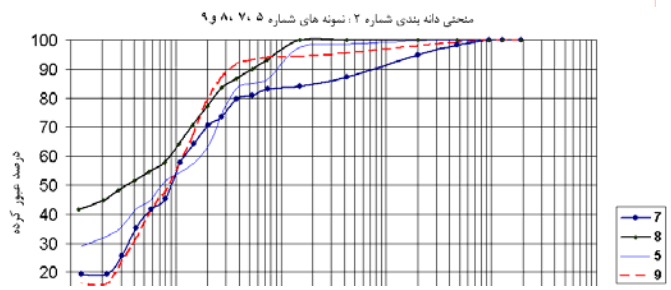
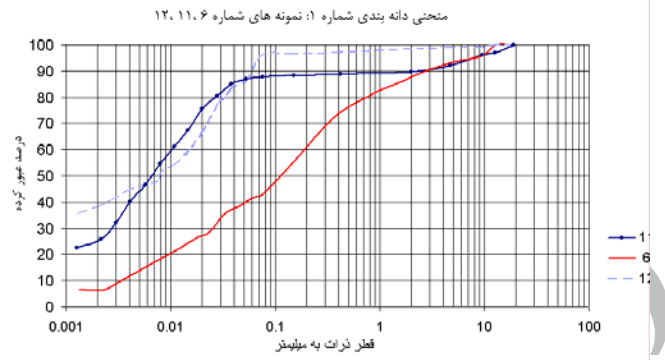
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Geotextiles

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Bioengineering



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Forest road soil mechanic properties in construction for practical uses

B. Majnounian^{*1}, A. Jamshidy Koohsari², G. Zahedi Amiri¹ and S. A. Hoseini³

¹ Associate Professor, Faculty of Natural Resources, University of Tehran, I. R. Iran

² M.Sc Graduate, Faculty of Natural Resources, University of Tehran, I. R. Iran

³ Associate Prof., Faculty of Natural Resources, University of Tehran, I. R. Iran

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Abstract

Regional forest management and executing the related plans are directly associated with quality and quantity of planning and forest road network construction to access all forest areas. Construction of forest road is the most important manipulation occurred in the nature by human. Most of damages by forest roads construction are directly related to soil properties forming bed road. The recognition of these properties has a critical role in choosing the ground as one of the materials. In study area more than 18 kilometers of roads have been planned that should be accomplished by the end of rotation. The objective of this study was to evaluate mechanical properties of soil in order to use them in road construction and maintenance stages. Therefore 24 soil samples were selected using land unit map. With regard to result of pretests 13 zones with similar properties were divided. According to soil zonation map, 13 samples were taken using GPS and experiments were carried out in geotechnic lab. Classification of the soils carried out using the above experiments according to USCS method. Results show only two samples of all samples (16%) are coarse soil (SM, GM) and the others (81%) are fine soil (CH, CL, ML). 61% of fine soil have clay fine soil. Hence, in the parts of the road which have Liquidity Index more than one soils have to be drained before road construction and the parts that soils have high Plasticity Index have to stabilize Bed road with lime or using Geotextile for that do. For decreasing costs of road construction and maintenance. Routes have to across from areas that are stable. Reaching to this aim needs to survey soil mechanic properties map.

Keywords: Forest road network, Soil mechanics, Bed road, Soil mechanic properties map, Soil zonation map

*Corresponding author: Tel: +98 261 2249312 , Fax: +98 261 2249312 , E-mail: bmajnoni@ut.ac.ir