

COARSE GRAINS DISTRIBUTION OF THE NATURAL DEPOSITS IN ARID AREAS

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ABSTRACT

In arid areas, the physical weathering is considered the main effect on formation of soil layers. Arar's city is the main city of Northern Border Region (NBR) at the north part of Saudi Arabia (KSA). In general, many Wadis and Sha'ibs are surrounded Arar's city. According to the urban development of Arar's city, the knowledge about underlying soil properties is strongly required. Wadis and Sha'ibs deposit were formed as a result of the water flow and wind movement in the surrounding arid areas. The top deposits of Wadis and Sha'ibs are mature deposits. Sieve analysis tests were carried out on soil deposit samples of many deposit locations around Arar's city. The results show that the natural soil deposits are classified into silty sand (SM) as unified soil classification system (USCS). Also, the average contents of coarse and fine grains are 70% and 30% respectively. Comparing of coarse grains distribution of the studied areas, it was found that the average content of coarse and fine grains changes from 65% to 75% and from 35% to 25% respectively, while, the average content of gravel is ranged from 10% to 20%. The discussion of results indicated that the soil deposit in Wadis and Sha'ibs around Arar's city is suitable as a structure soil and it is not suitable as a cementing material product.

KEYWORDS: Arid Area, Coarse Grains, Grain Size Distribution, Northern Part of KSA, USCS, Sieve Analysis, Soil Deposit