The Classification and Engineering Properties of Soil in the City of Al-Medina, North of Basrah, Southern Iraq

Raid A. Mahmood1, Zainab M. Abdul-Wahhab, Muqdad T. Sedkhan1

1Geology Department, Science College, Basrah University, Basrah, Iraq.

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| **Article information** |  | ABSTRACT |
| Received: \*\*/\*\*/20\*\* Accepted: \*\*/\*\*/20\*\* Available online:\*\*/\*\*/20\*\* |  | This research aims to study the classification and engineering properties of soil at a selected location in the Al-Medina district, north of Basrah Governorate. Two boreholes were drilled to depths of 15 and 30m. The samples were taken to the laboratory to conduct the classification tests. The particle size analysis indicates that the percentages of clay range from 3-56%, silt from 4-60%, and sand from 2-92%. According to the USCS, 10 samples are lean clay, 6 samples are lean clay with sand, 4 samples are silty sand, and 3 samples are sandy lean clay. The plasticity index ranges from 10 to 23%, while the liquid limit is from 30 to 49%. According to the plasticity chart, 13 samples are inorganic low-plasticity clay, and 6 samples are inorganic low-plasticity silt. Soils have medium plasticity, except for two samples with high plasticity. 8 samples are highly compressible, and 11 are very highly compressible. 17 samples have high swelling potential, and two have very high swelling potential. Based on their bearing capacity, the N-values were utilized to divide the study area's soil into nine layers. In the research region, the groundwater level is 1.2 meters. |
| Keywords: North Basrah soils  Atterberg's limits  SPT N-values  Classification properties  swelling potential |  |
| **Correspondence**:Name Muqdad T. Sadkhan  muqdad.sadkhan@uobasrah.edu.iq |  |
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