

Torque tests, which are performed immediately after a standard penetration test (SPT), have grown in popularity since its conception in Brazil during the early 1990s. Purdue University developed the first automated torqueing hardware in 2010. SPT, SPT-Torque and cone penetration test (CPT) field testing were performed in glacial till soil at four different sites in northern Indiana and one site in southern Indiana. Index tests were performed for the soil samples collected at each of these sites. Relationships between the torque ratio (the measured torque divided by the corrected SPT blow count) and unit side resistance versus normalized SPT blow count ( $N_{1,60}$ ) and normalized CPT cone resistance ( $q_{c,1}$ ) were explored for these soils. Reliable correlations based on the torque ratio were not achieved based on the data collected for the different soils tested. However, high coefficients of determination were obtained for the normalized equations developed for clayey soils and saturated non-plastic silt. Relatively low coefficients of determination were obtained for saturated and unsaturated sandy soils. The low coefficients of determination values are attributed to the small population dataset for sandy soils and the difficulty of adequately determining the degree of saturation for unsaturated non-plastic soil types due to the soil structure destruction with sampling. Overall, it was found that the relationships are strong for clay and saturated non-plastic silt and it is recommended that further data be collected to continue to strengthen all relationships, especially for sand and unsaturated non-plastic silt.