

## **Abstract**

Soil activity in engineering terms is applied to the ratio between the plasticity index and clay content and reflects the type of clay mineral dominant in the soil. It is related to the specific surface area/charge resulting due to presence of clay minerals with a net negative charge to neutralize which, water and exchangeable cations are attracted to the mineral surface. Here we report on the findings in which we sought to establish the capability of absorption feature mapping to determine soil activity. We used the widely accepted Atterberg limits tests to obtain the soil activity and spectral measurements to identify diagnostic parameters to identify clay mineral type. We then used correlations between the soil activity and the diagnostic parameters to obtain a simple empirical model to estimate soil activity from the spectral indicators.