

Pile Load Testing In Sedimentary Rocks: Three Cases Of Design Optimization

Three cases are presented in which static load tests were carried out on foundation piles: two in Monterrey, where shale and limestone are present, and one in Cancun, where soft limestone rock is found. In all cases, the tests were conducted prior to the construction of the deep foundation.

After performing the tests, it was found that the load-bearing capacity determined through analytical models was significantly lower than the capacity measured in the load tests. A determining factor was the poor quality of the rock cores extracted during the geotechnical exploration. The results of the load tests had several consequences, among which the most notable were: the optimization of the pile design, as well as the design of the foundation slab, due to a significant increase in the reaction modules of the pile-soil system.