

The Role of Analytical Geomechanics in Foundation Engineering

by Harry G. Poulos, Univ of Sydney, Sydney, Australia,
Tim S. Hull, Univ of Sydney, Sydney, Australia,

Document Type: Proceeding Paper

Part of: [Foundation Engineering: Current Principles and Practices](#)

Abstract:

The role of modern geotechnical analysis in foundation design is reviewed, and analysis methods are classified into three categories, depending on their level of sophistication. The benefits of using a soundly-based theory to better understand foundation behavior are emphasized, with particular reference to the case of a laterally loaded pile. Two case histories are then studied in detail, in order to examine the sensitivity of performance predictions to the method of analysis used, the soil and pile parameters selected, and the idealization of the soil profile adopted. It is shown that the choice of the method of analysis is less significant than the selection of the strength and deformation parameters of the soil and their distribution with depth.

Subject Headings: [Foundation design](#) | [Geomechanics](#) | [Foundations](#) | [Parameters \(statistics\)](#) | [Soil deformation](#) | [Soil strength](#) | [Load tests](#) | [Lateral loads](#)

Services: [Buy this book](#)/[Buy this article](#)

[Return to search](#)

Copyright © 1996 - 2019, American Society of Civil Engineers

[Contact Us](#) | [Terms](#) | [Help](#) | [Privacy](#)

Job descriptionThe Reservoir Geomechanics Engineer is a key technical contributor working in the areas of Geomechanics with an intermediate to advanced understanding of Geophysics, Petrophysics or Geology. They are typically an expert in either - rock mechanics, geology, geophysics, with a working knowledge of reservoir engineering or reservoir simulation. In addition, they have a basic working knowledge of drilling engineering and completion design. The Reservoir Geomechanics Engineer uses th. © Copyright 2015 NrgEdge Pte Ltd - All Rights Reserved. Jobs. Reservoir Geomechanics Engineer. Reservoir Geomechanics Engineer. Schlumberger. Apply Job. The role of modern geotechnical analysis in foundation design is reviewed, and analysis methods are classified into three categories, depending on their level of sophistication. The benefits of using a soundly-based theory to better understand foundation behavior are emphasized, with particular reference to the case of a laterally loaded pile. Two case histories are then studied in detail, in order to examine the sensitivity of performance predictions to the method of analysis used, the soil and pile parameters selected, and the idealization of the soil profile adopted. It is shown that the ch