## THE UNIVERSITY OF WESTERN ONTARIO SCHOOL OF GRADUATE AND POSTDOCTORAL STUDIES

## **CERTIFICATE OF EXAMINATION**

| Supervisor  M. Shaper             | Examiners                             |
|-----------------------------------|---------------------------------------|
| Dr. M.Hesham El Naggar            | Dr. Tim Newson                        |
| Co-Supervisor  Dr. Hany El Naggar | Dr. Gordon Osinski  Dr. Dennis Becker |

The thesis by

## **Ahmed Mohamed Alnuaim**

entitled:

## Performance of Micropiled Raft (MPR) in Sand and Clay-Centrifuge and Numerical Studies

is accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy

Date 1 DEC 2014

Chair of the Thesis Examination Board

Phonerchaza