

WORDT NIET UTGELEEND

**TECHNISCHE UNIVERSITEIT
Scheepshydraulica
Archief
Mekelweg 2, 2628 CD Delft
Tel: 015-786873/Fax: 781836**

BOSS '94

Seventh International
Conference on the
**BEHAVIOUR OF
OFFSHORE
STRUCTURES**

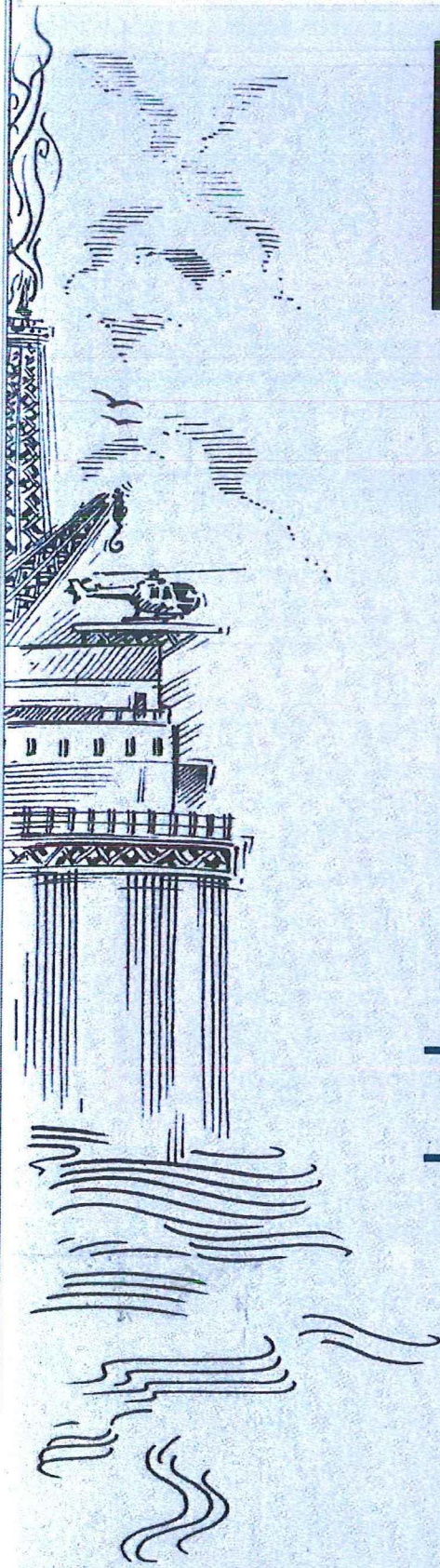
P1994-14

Volume 1

**Volume 1
Geotechnics**

Editor
C. Chryssostomidis

PERGAMON



**BOSS '94
BEHAVIOUR OF OFFSHORE STRUCTURES**

**VOLUME 1
GEOTECHNICS**

Pergamon Titles of Related Interest

CHRYSSOSTOMIDIS

BOSS '94 – Volume 2, Hydrodynamics and Cable Dynamics

BOSS '94 – Volume 3, Structures

TANIDA

Atlas of Visualization

JAPAN SOCIETY OF MECHANICAL ENGINEERS

Visualized Flow

YALIN

River Mechanics

TANAKA & CRUSE

Boundary Element Methods in Applied Mechanics

USCOLD (US Committee on Large Dams)

Development of Dam Engineering in the United States

WILLIAMS & ELDER

Fluid Mechanics for Oceanographers and Physicists

Related Journals

(free specimen copy gladly sent on request)

Applied Ocean Research

Coastal Engineering

Computers and Fluids

Computers and Structures

International Journal of Engineering Science

International Journal of Rock Mechanics and Mining Sciences

International Journal of Solids and Structures

Journal of Terramechanics

Minerals Engineering

Ocean Engineering

Marine Structures

Marine Geology

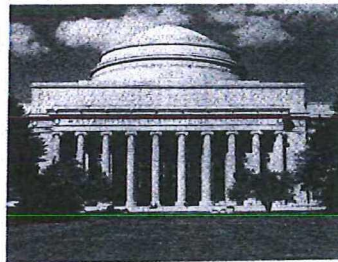
Tunnelling and Underground Space Technology

**BOSS '94
BEHAVIOUR OF OFFSHORE STRUCTURES**

**VOLUME 1
GEOTECHNICS**

Edited by

**C. Chrysostomidis
M. S. Triantafyllou
A. J. Whittle
M. S. Hoo Fatt**



Massachusetts Institute of Technology



PERGAMON

U.K. Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford, OX5 1GB,
England

U.S.A. Elsevier Science, Inc., 660 White Plains Road, Tarrytown, New York 10591-5153, U.S.A.

JAPAN Elsevier Science Japan, Tsunashima Building Annex, 3-20-12 Yushima, Bunkyo-ku, Tokyo
113, Japan

Copyright © 1994 Elsevier Science Ltd

All Rights Reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means: electronic, electrostatic, magnetic tape, mechanical, photocopying, recording or otherwise, without permission in writing from the publishers.

First edition 1994

Library of Congress Cataloging in Publication Data

A catalogue record for this book is available from the Library of Congress

British Library Cataloging in Publication Data

A catalogue record for this book is available from the British Library

ISBN 0 08 041913 5

ISBN 0 08 041916 X (3 volume set)

In order to make this volume available as economically and as rapidly as possible the author's typescript has been reproduced in its original form. This method unfortunately has its typographical limitations but it is hoped that they in no way distract the reader.

Printed and bound in Great Britain by Redwood Books, Trowbridge

TABLE OF CONTENTS

Geotechnics: Piles and Anchors for TLPs

<i>Geotechnical Considerations for Foundation Design of the Auger and Mars TLP's</i> E H Doyle, Shell Offshore Inc., USA	1
<i>Shaft Capacity of Driven Piles in Sand: A New Design Approach</i> B M Lehane, Trinity College, Ireland and R J Jardine, Imperial College London, UK	23
<i>Storm-Induced Cyclic Loading of Anchor Piles in Clay</i> G D Bouckovalas and A G Papadimitriou, National Technical University of Athens, Greece	37

Geotechnics: Skirt Piles and Caissons

<i>Soil-Structure Interaction Analysis of Embedded Caisson Anchor Under Tension Load</i> O E Hansteen and K Hoeg, Norwegian Geotechnical Institute, Norway	49
<i>Axial Capacity of Suction Piles in Sand</i> W C Jones, Black & Veatch, M G Iskander, R E Olson and A D Goldberg, University of Texas at Austin, USA	63
<i>Modeling the Behaviour of Skirt Piles</i> R Renzi and W Maggioni, ISMES, Italy	77
<i>Modelling Drainage Effects on Skirt Foundation</i> D I Guitine, Technical University of Saint-Petersburg, Russia and Norwegian Institute of Technology, Norway and L O Grande, Norwegian Institute of Technology, Norway	87

Geotechnics: Site Investigation

<i>Offshore Soil Investigation Techniques and Equipment for the Next Century</i> P T Power, Fugro Limited, UK and J M Geise, Fugro Engineers, The Netherlands	97
<i>The Use of VSP Techniques in Geotechnical Boreholes: First Tests in Offshore Monaco</i> J F Nauroy and J C Dubois, Institut Francais du Petrole, J Meunier and B Marsset, IFREMER, A Puech, GEODIA, J L Colliat, Elf Aquitaine Production, D Poulet, TOTAL, F Lapiere, BEICIP, France	111
<i>Multiple Removal in Very High Resolution Seismic Site Survey Data</i> G Lericolais, M Olagnon, R Krone and H Nouze, IFREMER, France	125
<i>The 1992 Hibernia GBS Site Selection and Investigation</i> J M Keaveny, Norwegian Geotechnical Institute, Norway and O Ugaz, Mobil Research and Development Corporation, USA	137

Geotechnics: New Methods of Analysis

A Computational Model for Fixity of Spud Cans on Stiff Clay
H P Jostad, F Nadim and K H Andersen, Norwegian Geotechnical Institute, Norway 151

A Method to Determine Conductor Setting Depth in Clay
K H Andersen and T Lunne, Norwegian Geotechnical Institute, Norway 173

Foundation of the Tordis Submudline Silo
T R Guttormsen and J A Wikdal, Saga Petroleum, Norway 189

Geotechnics: Calcareous Soils and Shallow Foundations

Cyclic Shear Behaviour of Crushable Carbonate Sand
M Hyodo, Yamaguchi University, Japan, A F L Hyde, University of Bradford, UK
and T Konami, Okasan Co., Ltd., Japan 205

*Punch-Through and Liquefaction Induced Failure of Shallow Foundations on
Calcareous Sediments*
I M S Finnie and M F Randolph, University of Western Australia, Australia 217

*Centrifuge Model Tests of a Gravity Platform on Very Dense Sand; I: Testing
Technique and Results*
M A Allard, Delft Geotechnics, The Netherlands, K H Andersen, Norwegian
Geotechnical Institute and J Hermstad, Norwegian Contractors, Norway 231

Centrifuge Model Tests of a Gravity Platform on Very Dense Sand; II: Interpretation
K H Andersen, Norwegian Geotechnical Institute, Norway, M A Allard, Delft
Geotechnics, The Netherlands, and J Hermstad, Norwegian Contractors, Norway 255

Geotechnics: Soil Properties

Microstructural Features of Some Indian Marine Clays
G Rajasekaran and K Murali, Indian Institute of Technology, B Dhanaseelan and S N
Sekar, Adhiparasakthi Engineering College, and R Srinivasaraghavan, Annamalai
University, India 283

*Evaluation of Engineering Properties and Liquefaction Resistance of a Silty Sand by
Its State Parameter*
Y -C Chen, National Taiwan Institute of Technology and C -T Chin, Moh and
Associates, Inc., Taiwan 295

Significance of Mud Rheology in Predicting Wave Dissipation
F Jiang, Moffatt & Nichol, Engineers, and A J Mehta, University of Florida, USA 305

Characterisation of Clayey Sands
D W Hight, Geotechnical Consulting Group, V N Georgiannou, Imperial College
London and C J Ford, Scott Wilson Kirkpatrick & Partners, UK 321

Keyword Index**Author Index**

