Proceedings of the TC302 Symposium in Osaka 2011

International Symposium on Backwards Problem in Geotechnical Engineering and Monitoring of Geo-Construction

-Towards ISO on Construction Control in Geotechnical Engineering-

July 14 and 15, 2011
Green Hall
Kensetsu-Koryu-kan,
NIshi-ku, Osaka, Japan

Organized by
TC-302 Forensic Geotechnical Engineering, ISSMGE
Joint Committee on Forensic GeoEngineering, D.P.R.I., Kyoto University

Under the auspices of
ISO/TC182 Working Committee, Japanese Geotechnical Society
Kansai Branch, Japanese Geotechnical Society

Edited by

Yoshi Iwasaki

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https://sites.google.com/site/webtc302/

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Yoshi Iwasaki, Geo-Research Institute

Joint Committee
on Forensic GeoEngineering, Disaster Prevention Research Institute, Kyoto University
Chairman/ Yoshi iwasaki
e-mail: <yoshi-iw@geor.or.jp>

Printed by Yodogawa Ind. & Tec.Co.,Ltd., Osaka

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TC302 on Forensic Geotechnical Engineering

Host Member Society: India

Short name: Forensic (TC302) - Terms of Reference - to be approved

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(Updated 16 May 2011)(http://www.issmge.org/web/page.aspx?refid=687)

Preface

Executive Chair TC302 Osaka Symposium

Yoshi Iwasaki

When the TC302 (Technical Committee on Forensic Geotechnical Engineering, ISSMGE), was started by the chairmanship of Dr.V.V.S.RAO as a continuation activity of TC40 in 2009, I had been asked to organize an international meeting by the Chairman of TC302.

It was in October, 2010 when I was attending the Conference of IS-ShangHai 2010, I had a chance to make a discussion on Back Analysis with Prof. Malcolm Bolton. He had agreed to come to Japan and to present a keynote address on Back Analysis by Results of Centrifugal Model Test.

On March 11, 2011, Eastern Japan had suffered from the severe triple damages from Earthquake, Tsunami, and Explosion of Nuclear Power. Dr.RAO had called me to advise to postpone the meeting. I was wondering if I should postpone the symposium or not. It was Professor Bolton who was very positive to come to Japan as the scheduled plan that resulted in keeping the data as planned.

Most of the failures in construction industry were caused by geotechnical problems.

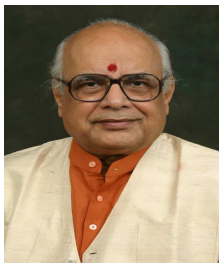
Several case studies are presented in this Symposium.

As already proposed by Terzaghi and Peck almost half a century ago, Observational Method (OM) is the only way to avoid the failures in geotechnical engineering for most cases. OM has been widely accepted and practiced in Japan and eligible to take lead the creation of standard of OM as one of standard of the ISO182 (Geotechnique). It is necessary to have at least five member counties of ISO to make a new proposal to be approved.

The Osaka Symposium is expected to throw a mile stone leading to the Standardization of Observational Method in Geotechnical Engineering to avoid critical failure and dispute in geoengineering construction.

International Society for Soil Mechanics and Geotechnical Engineering

Société Internationale de Mécanique des Sols et de la Géotechnique



Dr.RAO, V.V.S.
Chairman
TC302"Forensic Geotechnical Engineering"
ISSMGE
Internatinal Society of Soil Mechanics and Geotechnical Engineering

Dear Colleagues

Terzaghi and Peck introduced Observational Procedure in Geo-engineering construction to fill the gap between the knowledge of site conditions and the assumed design conditions.
Based upon the Observational Procedure, most projects have been successfully completed.
Recently in the past decades, however, some of the geotechnical construction sites were reported in failure even with instrumentation for monitoring the process of construction.
Forensic approach is a backwards problem where the final result is the given conditions and the process to the result is the question to be answered for.
The Symposium aims
1. to show the process of backwards problem from centrifugal experiments,
2. to identify the key factors in the failures including Nicoll Highway and Can Tho Bridge in Vietnam.
3. to overview the backwards problem of the field projects including failures,
4. to identify reasons why the instrumented geotechnical project resulted in failure,
5. to discuss the plausibility and applicability of total or effective methods to different types of the geotechnical engineering.
6. to overview the construction dispute and discuss the way to organize "Dispute Board" to avoid unnessesary difficulties when in failure.
6. to give recommendations to avoid geotechnical failure, and
7. to propose to take lead for creation of an ISO standard on “Construction Control of Geotechnical Engineering.”
We have arranged some special topics related with the East Japan Great Tusnami and Nuclear Disaster.
8. Special Key Note Lecture (I) Backwards Problem on Acient Tunami
9 Special Key Note Lecture (2) Chernobyl Disaster in Ukraine

I hope the TC302 Osaka Symposium shall be a fruitfull discussions and provide the direction to go in the future to provide much safer and reliable geotechnical enfgineering for realization of the sustainable infrastructures in the world.
Best wishes,

Dr.RAO, V.V.S.
Chairman

Contents

The Symposium was partially supported by “Joint Committee on Forensic GeoEngineering/Chair Yoshi Iwasaki, (京都大学防災研究所一般共同研究 “法地盤工学” に関する研究委員会:委員長　岩崎好規),” which was organized in April 2011 as one of the joint research projects under Disaster Prevention Research Institute, Kyoto University.