Grouting 2017

Jet Grouting, Diaphragm Walls, and Deep Mixing

GSP 289

Papers from Sessions of
Grouting 2017:
Grouting, Deep Mixing,
and Diaphragm Walls

July 9–12, 2017
Honolulu, Hawaii

Edited by

Paolo Gazzarrini, P.Eng.; Thomas D. Richards Jr., P.E., D.GE;
Donald A. Bruce, Ph.D., C.Eng., D.GE;
Michael J. Byle, P.E., D.GE; Chadi S. El Mohtar, Ph.D.;
and Lawrence F. Johnsen, P.E., D.GE

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SPONSORED BY

International Conference Organization for Grouting (ICOG)

Geo-Institute of the American Society of Civil Engineers

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Preface

This is the third Geotechnical Special Publication of the proceedings of Grouting 2017, the Fifth International Conference on Grouting, Deep Mixing, and Diaphragm Walls held in Honolulu Hawaii, U.S.A. July 9-12, 2017. Grouting 2017 is the fifth in a series of international conferences that began in 1982 to advance the science and technology of grouting, and these proceedings represent a five-year update from the previous conference in 2012 New Orleans.

The three GSPs of these proceedings capture 1) advances in the technology of materials, instrumentation, control, and the basic science of grouting, deep mixing and diaphragm walls that will lead to new and deeper understanding, new applications, and directions for the future; 2) exciting new information on Grouting and Deep Mixing practices for monitoring and instrumentation technology that is becoming the new normal for these technologies throughout the world; and 3) new integration of multiple technologies for diaphragm wall construction and remediation.

GSP 289 concentrates on Jet Grouting, Deep Mixing Methods, and Diaphragm Walls with papers focusing on control, verification, and/or innovation. Very interesting case histories on dam cut-offs, excavation support, general soil improvement, and tunneling are included in this volume, highlighting the constant research being carried out in the grouting industry, including innovation and varying approaches for production and verification.

These proceedings have been produced thanks to international support of numerous organizations and individuals, including the: ASCE, Geo-Institute of ASCE, US DOT FHWA, Deep Foundations Institute, and International Conference Organization for Grouting (ICOG). This publication culminates two years of effort by the planning committee whose focus has been to continue the vision established in the initial conference chaired by Wallace Hayward Baker and to keep the proceedings of this conference as the definitive source of information on the cutting edge of grouting and related technologies. Many individuals are responsible for the content of this volume, all of whom served in the efforts to maintain the standard set by previous proceedings. Papers were reviewed in accordance with ASCE GSP standards. Accordingly, each paper was subjected to technical review by two or more independent peer reviewers. Publication requires concurrence by at least two peer reviewers.

The previous four conferences held in 1982, 1992, 2003, and 2012 were organized by the Grouting Committee of the ASCE/Geo-Institute and ICOG. ICOG is an independent organization that arose from the Grouting Committee of the Geo-Institute with the purpose of promoting the continuing growth of the understanding and use of geotechnical grouting. ICOG has worked closely with the Geo-Institute in the organization of this conference and preparation of these proceedings.

Acknowledgments

The success of The Fifth International Conference on Grouting depended on numerous individuals as well as the legacy of this series of international grouting conferences, all of which have been organized by the Geo-Institute of ASCE's Grouting Technical Committee. The first international conference in 1982 was the brainchild of Wally Baker.

Thanks are due to the authors, reviewers, program committee, technical advisory committee, session chairs, moderators, sponsors, exhibitors, attendees and the ASCE conference organizing committee, notably Helen Cook and Brad Keelor.

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