

American Society of Civil Engineers

Grouting for Ground Improvement: Innovative Concepts and Applications 2007

Geotechnical Special Publication No. 168

February 18-21, 2007
Denver, Colorado, USA

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571
www.proceedings.com

ISBN: 978-1-60423-779-5

Some format issues inherent in the e-media version may also appear in this print version.

Notices

Any statements expressed in these materials are those of the individual authors and do not necessarily represent the views of ASCE, which takes no responsibility for any statement made herein. No reference made in this publication to any specific method, product, process or service constitutes or implies an endorsement, recommendation, or warranty thereof by ASCE. The materials are for general information only and do not represent a standard of ASCE, nor are they intended as a reference in purchase specifications, contracts, regulations, statutes, or any other legal document.

ASCE makes no representation or warranty of any kind, whether express or implied, concerning the accuracy, completeness, suitability, or utility of any information, apparatus, product, or process discussed in this publication, and assumes no liability therefore. This information should not be used without first securing competent advice with respect to its suitability for any general or specific application. Anyone utilizing this information assumes all liability arising from such use, including but not limited to infringement of any patent or patents.

Copyright © 2007 by the American Society of Civil Engineers.

All Rights Reserved.

Manufactured in the United States of America.

American Society of Civil Engineers

ASCE International Headquarters

1801 Alexander Bell Drive

Reston, VA 20191-4400 USA

Call Toll-Free in the U.S.: 1-800-548-2723 (ASCE)

Call from anywhere in the world: 1-703-295-6300

Internet: <http://www.pubs.asce.org>

American Society of Civil Engineers

Grouting for Ground Improvement
Geotechnical Special Publication No. 168
2007

TABLE OF CONTENTS

Fluid-Soil Interaction Model for Jet Grouting	1
<i>Chu Ho</i>	
Effect of Injection Pressure on Permeability and Strength of Microfine Cement Grouted Sand	11
<i>Lois Schwarz</i>	
Impact of Grout Rheology on Gin	26
<i>Dawn Shuttle</i>	
Behavior of a Sodium Silicate Grouted Sand	36
<i>Cumaraswamy Vipulanandan</i>	
New Methods for Underpinning and Earth Retention	46
<i>George Burke</i>	
Managing the Design and Construction of Grouted Cut-offs in Emergency Conditions	58
<i>Donald Bruce</i>	
Permeation Grouting for the East Side Access Bellmouth Work Shaft, Queens, NY	69
<i>Paul Schmall</i>	
Vertical and Horizontal Groundwater Barriers using Jet Grout Panels and Columns	82
<i>George Burke</i>	
Jet Grouting with Molten Wax for In-situ Encapsulation of Radioactive Beryllium Waste	92
<i>Ernie Carter</i>	
Grouting Beneath a Main Output Transformer at the Pickering Nuclear Generating Station	103
<i>Anthony Fuller</i>	
Time-History Compaction Grouting Data Obtained Through Instrumentation	115
<i>Jeffrey Geraci</i>	
Evaluating In-Situ Jet Grout Column Diameters Utilizing Wave Analysis	127
<i>Hermann Blackert</i>	
Observational Monitoring Methods for Improved Grouting and Soil Improvement	138
<i>Francis Gularte</i>	
Proper Grout Rheology Assures Quality Work	148
<i>James Warner</i>	
Pregrouting of Tunnels in Rock: The Case for New Thinking	159
<i>Donald Bruce</i>	
Author Index	