

206.118



# GROUND FAILURES UNDER SEISMIC CONDITIONS

Proceedings of sessions sponsored by the  
Geotechnical Engineering Division of the  
American Society of Civil Engineers  
in conjunction with the  
ASCE National Convention in  
Atlanta, Georgia, October 9-13, 1994

Geotechnical Special Publication No. 44

**Edited by Shamsheer Prakash and Panos Dakoulas**



Published by the  
American Society of Civil Engineers  
345 East 47th Street  
New York, New York 10017-2398

## CONTENTS

### GROUND FAILURES UNDER SEISMIC CONDITIONS: SILTY SOILS

Liquefaction of Silty Soils	
Y.P. Vaid .....	1
Influence of Fines Type and Content on Cyclic Strength	
Joseph Patrick Koester .....	17
Cyclic Behavior of Partially Saturated Collapsible Soils Subjected to Water Permeation	
Kenji Ishihara and Kenji Harada .....	34
Liquefaction of Silty Soils: Design and Analysis	
W.D. Liam Finn, R.H. Ledbetter and Guoxi Wu .....	51
Earthquake-Induced Settlements in Silty Sands for New England Seismicity	
Cetin Soydemir .....	77
Liquefaction of Artificially Filled Silty Sands	
Susumu Yasuda, Kazue Wakamatsu and Hideo Nagase .....	91
Liquefaction Characteristics of Silts	
Sukhmander Singh .....	105

### GROUND FAILURES UNDER SEISMIC CONDITIONS: GRAVELLY SOILS

Behavior of Gravelly Soils During Seismic Conditions—An Overview	
Mary Ellen Hynes .....	117
Dynamic Properties of Gravel Layers Investigated by In-Situ Freezing Sampling	
Takeji Kokusho and Yukihisa Tanaka .....	121
Dynamic Properties of Gravels Sampled by Ground Freezing	
Shigeru Goto, Shin'ya Nishio and Yoshiaki Yoshimi .....	141
Cyclic Behavior of Gravelly Soil	
Mark D. Evans and Shengping Zhou .....	158
Gravelly Soil Properties Evaluation by Large Scale In-Situ Cyclic Shear Tests	
Takaaki Konno, Munenori Hatanaka, Kenji Ishihara, Yukimi Ibe and Setsuo Iizuka .....	177
Becker Test Results From Gravel Liquefaction Sites	
Leslie F. Harder, Jr. ....	201
In-situ Measurements of Dynamic Soil Properties and Liquefaction Resistances of Gravelly Soils at Keenleyside Dam	
Ken K.Y. Lum and Li Yan .....	221
A Practical Perspective on Liquefaction of Gravels	
Julio E. Valera, Michael L. Traubenik, John A. Egan, and Jon Y. Kaneshiro .....	241
Subject Index .....	259
Author Index .....	261