# **TESTING FORUM AND TIPS**

# ASTM Announces Program for Symposium on Dynamic Geotechnical Testing II

The program has been announced for the Symposium on Dynamic Geotechnical Testing II, which will be held 27-28 January 1994 at the San Francisco Hilton. The symposium is being sponsored by Committee D18 on Soil and Rock, Committee D35 on Geosynthetics, and Committee D04 on Road and Paving Materials. The program is as follows:

Thursday, January 27, 1994

SESSION I: FIELD METHODS

Session Chairman: R. J. Ebelhar, Symposium Chairman

8:30 a.m.

Welcoming Comments—R. J. Ebelhar, Symposium Chairman

8:40 a.m

**Topic Overview Paper:** Title to be Announced—R. G. Campanella, University of British Columbia, Vancouver, British Columbia, Canada

9:20 a.m.

Repeated Measurements of In Situ Soil Stiffness with Permanently Embedded Geophones (Continuous Measurement of In Situ Soil Stiffness with Embedded Geophones)—K. H. Stokoe, II and N. J. Lee, The University of Texas, Austin, Texas; and M. P. Rits, United States Air Force Academy, Colorado

9:40 a.m.

SASW Measurements at Sites Overlaid by Water—S. S. Wright, K. H. Stokoe II, and J. M. Roesset, University of Texas, Austin, Texas, USA

10:00 a.m. BREAK/POSTER SESSION

Crosshole SH-Wave Measurements in Rock and Soil—C. J. Roblee, CALTRANS, Sacramento, California, USA; K. H. Stokoe II, M. D. Fuhriman, and P. P. Nelson, University of Texas, Austin, Texas, USA

Low Strain Dynamic Characteristics of Soils with the Downhole Seismic Piezocone Penetrometer—R. G. Campanella, University of British Columbia, Vancouver, British Columbia, Canada

Automation of SASW Method—S. Nazarian, D. Yuan, and M. R. Baker, University of Texas at El Paso, El Paso, Texas, USA

10:30 a.m.

Tomographic Inversion Using Artificial Neural Networks (Site Characterization Using SeismicGeotomography)—G. J. Rix, Georgia Institute of Technology, Atlanta, Georgia, USA

10:50 a.m.

Insitu Electrical Method for Evaluation of Stress Ratio Required to Cause Liquefaction and Dynamic Modulus—K. Arulmoli, The Earth Technology Corporation, Irvine, California, USA; and K. Arulanandan, University of California, Davis, California, USA

11:10 a.m

Feasibility of a Tool for Insitu Determination of Material Properties of Clays over a Wide Strain Range—C. J. Roblee and K. A. Jackura, CALTRANS, Sacramento, California, USA; X. S. Li, I. M. Idriss, G. Wang and L. R. Herrmann, University of California at Davis, Davis, California, USA; C. K. Chan, University of California at Berkeley, Berkeley, California, USA

11:30 a.m. POSTER SESSION

12:00 Noon LUNCH (on your own)

#### SESSION II: LABORATORY METHODS

Session Chairman: V. P. Drnevich, Symposium Co-Chairman 1:30 p.m.

**Opening Comments**—V. P. Drnevich, Symposium Co-Chairman 1:40 p.m.

Topic Overview Paper—Laboratory Measurement of Dynamic Soil Properties—R. D. Woods, University of Michigan, Ann Arbor, Michigan, USA

2:20 p.m.

Frequency Effects on Damping/Modulus of Cohesive Soil—D. Z. Zavoral, Golder Associates, Burnaby, British Columbia, Canada, and R. G. Campanella, University of British Columbia, Vancouver, British Columbia, Canada

2:40 p.m.

Effect of Instrumentation on Resilient Modulus of Sands—L. N. Mohammad, A. J. Puppala, and P. Alavilli, Louisiana State University, Baton Rouge, Louisiana, USA

3:00 p.m. BREAK/POSTER SESSION

Resonant Column Testing at Pressures up to 3.5 MPA—K. O. Hardin, University of Texas at San Antonio, San Antonio, Texas, USA; and V. P. Drnevich, Symposium Co-Chairman

Test Comparisons of Laboratory and Field Measurements of Resilient Modulus of Non-Granular Materials—R. F. Pezo, University of Texas at El Paso, El Paso, Texas, USA; and W. R. Hudson, University of Texas at Austin, Austin, Texas, USA

Cyclic Undrained Triaxial Behavior of Sand by a Cooperative Test Program in Japan—S. Miiura, Muroran Institute of Technology, Muroran, Japan; S. Toki, Hokkaido University, Sapporo, Japan; and F. Tatsuoka, University of Tokyo, Tokyo, Japan

Strain Rate Effects on Shear Modulus and Damping of Normally Consolidated Clay—S. Shibuya, T. Mitachi, F. Fukuda, and T. Degoshi, Hokkaido University, Sapporo, Japan

3:30 p.m

A Laboratory Correction Method for Liquefaction Testing of Coarse Gravelly Soils—P. G. Nicholson, University of Hawaii at Manoa, Honolulu, Hawaii, and R. B. Seed, University of California at Berkeley, Berkeley, California, USA

# **TESTING FORUM AND TIPS**

3:50 p.m.

Towards Standardization of Torsional Shear Testing—J. D. Frost, Georgia Institute of Technology, Atlanta, Georgia, USA; and V. P. Drnevich, Symposium Co-Chairman

4:10 p.m.

Importance of Measuring Local Strains in Cyclic Triaxial Tests on Granular Materials—F. Tatsuoka, University of Tokyo, Tokyo, Japan; S. Teachavorasinskun, Taisei Corporation, Ltd., Tokyo, Japan; J. Dong, Tokyu Construction Co., Ltd., Tokyo, Japan; Y. Kohata and T. Sato, University of Tokyo, Tokyo, Japan

4:30 p.m. POSTER SESSION

5:00 p.m. SYMPOSIUM ADJOURNS FOR THE DAY

5:30 p.m. RECEPTION (CASH BAR)

#### Friday, January 28, 1993

#### SESSION III: CENTRIFUGE METHODS

Session Chairman: Bruce L. Kutter, Symposium Co-Chairman 8:30 a m.

Opening Comments—B. L. Kutter, Symposium Co-Chairman

Topic Overview Paper—Review of Progress in Dynamic Geotechnical Centrifuge Research—R. F. Scott, California Institute of Technology, Pasadena, California, USA

9:20 a.m.

Scaling Laws for Rate Dependent Shear and Consolidation of Clay—N. Sathialingam, Santa Ana, California, USA; and B. L. Kutter, Symposium Co-Chairman

9:40 a.m.

Complementary Shear Stresses in Dynamic Centrifuge Modelling—S. P. G. Madabhushi, A. N. Schofield, and X. Zeng, Cambridge University, Cambridge, UK

10:00 a.m. BREAK

10:30 a.m.

Simulated Backfill Blast Damage in Centrifuge Models—R. J. Mitchell, Queen's University, Kingston, Ontario, Canada, and G. N. Nnadi, Strata Engineering Corp., Kingston, Ontario, Canada

10:50 a.m.

Earthquake Centrifuge Modeling Using a Laminar Box (Dynamic Centrifuge Testing Using a Laminar Box)—P. A. Van Laak, V. M. Taboada, R. Dobry, and A. W. Elgamal, Rensselaer Polytechnic Institute, Troy, New York, USA

11:10 a.m.

Centrifuge Simulation of Rayleigh Waves in Soils Using a Drop-Ball Arrangement—P. M. Luong, Ecole Polytechnique, Palaiseau, France

11:30 a.m.

Interlaboratory Studies to Evaluate the Repeatability of Dynamic Centrifuge Model Tests—VELACS Committee

#### SESSION IV: PANEL DISCUSSION

11:50 a.m.

PANEL—SYMPOSIUM CO-CHAIRMEN AND TOPIC OVER-VIEW SPEAKERS

1:25 p.m.

Closing Remarks—R. Ebelhar, Symposium Co-Chairman

1:30 p.m. SYMPOSIUM ADJOURNS

# Additional Information for Authors

The Geotechnical Testing Journal (GTJ) is a quarterly publication sponsored by ASTM technical committee D-18 on Soil and Rock, with support from D-35 on Geosynthetics, D-4 on Road and Paving Materials, and D-34 on Waste Management. Each published paper and technical note has been peer-reviewed. Papers and technical notes are open to brief written comments in the Discussion section of the Journal, which also includes authors' written responses.

The Technical Editor may consider a paper submitted to the Journal as a Technical Note if: it gives a reasonably brief description of ongoing studies with or without providing interim, tentative data, and/or conclusions; it reports phenomena observed in the course of research requiring further study; it provides mathematical procedures for facilitating reduction and analysis of data; or it reports promising new materials prior to undertaking extensive research to determine their properties.

The decision as to whether a manuscript is published as a paper or a technical note resides with the Technical Editor.

The guidelines below describe our manuscript selection, peer review, revision, and publication processes. Following these guidelines will ensure expeditious handling of submitted material.

#### Submission

The name, mailing address, position, affiliation, and telephone and fax number of each author must be supplied in a cover letter. The submitting author is to provide the names, affiliations, addresses, and telephone numbers of five to six individuals who are qualified to review impartially the paper and the research leading to it, and who are not employed at the same institution or company as any of the authors. While these names may or may not be used for the review, we will add them to our pool of potential reviewers. Also, a statement is to be included that the paper has not been published and is not under consideration for publication elsewhere. All permissions for previously published material used in the paper must be submitted in writing at this time.

The submitting author must also affirm that all those listed as co-authors have agreed (a) to be listed and (b) to submit the manuscript to ASTM for publication.

Five copies of the manuscript with clear copies of each figure are required. Original art work and computer disks should accompany the revision.

#### **Manuscript Instructions\***

#### Word Processing Instructions

The hard-copy text can be produced on any letter-quality printer. Text is to be printed double-spaced with left and right margins of 1 in. (25.4 mm) using left justification. New paragraphs are to be indented five spaces, and end-of-line returns are not to be used

\*For complete manuscript instructions, which include a sample manuscript, call Barbara Stafford, Administrative Assistant, ASTM Journals, 215/299-5424 or FAX 215/299-5511.

The revised manuscript is to be sent on a 5¼ in. (133 mm) or 3½ in. (89 mm) disk preferably in WordPerfect 5.1, with the corresponding hard copies. ASTM can convert from other word-processing packages as well.

#### Abstract and Keywords

An abstract of 100-150 words and a list of 5-10 keywords that can be used to index the manuscript are required.

#### Trademarks

Commercialism is to be avoided by using generic terms whenever possible. Trademarks and trade names are to be capitalized if their use is unavoidable.

#### SI Units

Society policy requires the use of SI units in all publications (including figures and tables). If in.-lb. units must be used to describe materials and present test results, SI equivalents must follow in parentheses (See ASTM Standard for Metric Practice E380 for further information on SI units.)

#### **Figures**

Each figure is to be simple and uncluttered. All illustrations are to be placed together at the end of the manuscript with a separate sheet of figure captions. Consecutive Arabic (not Roman) numerals are required. The size of type in illustrations must be large enough to be legible after reduction. All lettering, lines, symbols, and other marks must be drawn in black India ink on white paper. Computer graphics must be produced by a laser printer. Photographs must be high-contrast black and white. SCALE MARKERS MUST BE SHOWN ON ALL PHOTOMICROGRAPHS AND ALL FIGURES THAT ARE REPRESENTATIONS OF EQUIPMENT OR SPECIMENS.

#### **Tables**

All tables are to be placed together at the end of the manuscript preceding the illustrations. Tables are to be numbered in Arabic and are cited in numerical order in the text. It is better to use several small simple tables than one large, complex table.

#### References

References shall be cited in the text by author's last name and date of publication. References shall be listed together at the end of the text in alphabetical order by author's last name. They must contain enough information to allow a reader to consult the cited material with reasonable effort.

#### Copyright

ASTM requires that the submitting author shall return our "Paper Submittal Form" with the revised paper assigning

copyright to ASTM. For U.S. government employees whose manuscript has been prepared as part of their official duties, it is understood that copyright in the United States is not transferrable.

#### **Manuscript Review**

Each new manuscript is sent to the Technical Editor for consideration. If the Technical Editor finds that the manuscript fits the scope of the journal, will be of interest to the readership, and is well written, the paper is processed for peer review.

Three or more reviewers, selected by the Technical Editor, review each paper for technical content, originality, logical conclusions, sound data, reproducibility of results, and clarity of presentation; two or more reviewers provide reviews of each technical note. Their comments are compiled and evaluated. The reviewers' anonymous comments and any other comments from the Technical Editor or his designee are then returned to the author for revision.

The author must submit five copies of the revised manuscript with an annotated (highlighted) version of the paper indicating clearly where each revision has been made and identifying the reviewer's comment to which the revision is responding. Changes in the text including all MANDATORY reviewers' comments must be addressed explicitly on the "Authors' Response Form" provided during revision, as well as any explanation why a change was not made.

The Technical Editor will evaluate all revised manuscripts and make the final decision regarding publication in the Journal. The Editor may (1) accept the revised manuscript for publication, (2) require further revision or explanation, or (3) reject the revised

manuscript. A revised manuscript may be sent for re-evaluation to a reviewer who has found major flaws in the original manuscript.

#### **Editorial Review by ASTM**

Each accepted paper is edited by the ASTM staff for style, organization, and proper English usage. The edited manuscript is returned to the author before typesetting. The typeset page proof is also sent to the author and the Technical Editor for final review prior to printing.

If ASTM does not hear from the author by the time designated for return of the edited paper and/or page proof, ASTM will proceed with the publication process.

#### **Book Reviews**

ASTM receives books from other publishers requesting book reviews. The books are available to potential reviewers in exchange for publishable reviews. Book reviews are screened and edited by the Technical Editor and staff without peer review.

#### **Testing Forum and Tips**

Anyone having interesting testing tips should submit a brief description of such innovations to the Testing Forum. Such contributions are screened and edited by the Technical Editor and staff without peer review.

Howard J. Pincus, Ph.D., P.E., C.P.G Technical Editor

# Geotechnical Testing Journal Table of Contents, Volume 16 1993

### No. 1, March

A Hollow Cylinder Torsional Simple Shear Apparatus Capable of a Wide Range of Shear Strain Measurement—	
SAMUEL KOFI AMPADU AND FUMIO TATSUOKA	3
A New Traveling Sand Pluviator to Reconstitute Specimens of Well-Graded Silty Sands—DIEGO C. F. LO PRESTI,	
RICCARDO BERARDI, SERGIO PEDRONI, AND VIRGINIO CRIPPA	18
On the Measurement of Critical State Parameters of Dense Granular Soils—JIAN CHU AND SIK-CHEUNG R. LO	27
A Low-Compliance Bi-Directional Cyclic Simple Shear Apparatus—Ross w. BOULANGER, CLARENCE K. CHAN,	
H. BOLTON SEED, RAYMOND B. SEED, AND JORGE SOUSA	36
1 g Small-Scale Modelling of Saturated Cohesive Soils—Jonathan D. Bray, Raymond B. Seed, and H. Bolton seed	46
	54
G <sub>max</sub> -q <sub>c</sub> Relationships for Clays—PAUL W. MAYNE AND GLENN J. RIX	34
Filtration Opening Size of Geotextiles by Hydrodynamic Sieving—JACEK MLYNAREK, JEAN LAFLEUR, ANDRE ROLLIN,	61
AND GERARD LOMBARD	61
A New Model of Shear Strength of Simulated Rock Joints—c. HSEIN JUANG, DER-HER LEE, AND CHUNG-I CHANG	70
Rockfill Placement and Compaction Guidelines—ALLAN J. BREITENBACH	76
A Coupled Heat and Water Flow Apparatus—ABDEL MOHSEN O. MOHAMED, RAYMOND N. YONG,	
FRANK CAPOROUSCIO, STEVEN C. H. CHEUNG, AND BRUCE H. KJARTANSON	85
Modified Bromhead Ring Shear Apparatus—TIMOTHY D. STARK AND HISHAM T. EID	100
Technical Note: Compatibility of Compacted Soils with Municipal Waste Combustion Ash Leachates—JOSEPH O. SAI,	
DAVID C. ANDERSON, AND BRIAN P. SULLIVAN	108
Technical Note: Shear Strength Tests for Coarse Granular Backfill and Reinforced Soils—GUNTHER E. BAUER AND	
Y. ZHAO	115
Technical Note: Friction at the Cohesionless Soil-Structure Interface: Effect of Various Parameters According to a	
Classic Study and a New Approach—ABDELKRIM ABDERRAHIM AND JEAN P. TISOT	122
Technical Note: δ-t/δ Method for the Determination of Coefficient of Consolidation—ASURI SRIDHARAN AND	
KESHAVAMURTHY PRAKASH	131
Discussion on "Characteristics of a Bentonite Slurry as a Sealant" by Tuncer B. Edil and Ahmed S. H. Muhanna—	
DON J. DEGROOT AND ALAN J. LUTENEGGER	135
Closure—TUNCER B. EDIL AND AHMED S. H. MUHANNA	137
Testing Forum	138
Tesung Torum	130
No. 2 June	
No. 2, June	
P. Volus Massuraments for Granular Materials at High Confining Procesures APPRA A VAMANUPO AND POUL V. LADE	165
B-Value Measurements for Granular Materials at High Confining Pressures—JERRY A. YAMAMURO AND POUL V. LADE	105
Dynamic Centrifuge Testing of Soil-Nailed Excavations—MLADEN VUCETIC, MARK R. TUFENKJIAN, AND	172
MACAN DOROUDIAN	172
Some Factors Affecting In Situ Measurement Using the Cambridge Self-Boring Pressuremeter—R. CRAIG FINDLAY AND	100
JEAN BENOIT	188
The Simple Pile Load Test (SPLT)—MYUNG WHAN LEE, SE WHAN PAIK, WON JAE LEE, CHANG TOK YI,	100
DAE YOUNG KIM, AND SUNG JIN YOON	198
In-Plane Air Flow Through Needle-Punched, Nonwoven Geotextiles Under Normal Loading—J. RICHARD WEGGEL AND	
W. ALEX GONTAR	207
A Statistical Methodology to Analyze the Effect of Changes in Testing Technology on Measurement Results—	
MOSHE LIVNEH AND MOSHE BEN-AKIVA	216
A Study of Undrained Shear Strength Using Various Vanes—VINCENT SILVESTRI, MICHEL AUBERTIN, AND	
ROBERT P. CHAPUIS	228
Technical Note: Indirect Tension Tests on Rock—Analytical/Numerical Correction for Material Bimodularity—	
RUI CHEN AND BRIAN STIMPSON	238
Technical Note: Ultimate Bearing Capacity of Rectangular Foundations on Geogrid-Reinforced Sand—MAHER T. OMAR,	
BRAJA M. DAS, SHING-CHUNG YEN, VIJAY K. PURI, AND ECHOL E. COOK	246

Technical Note: Simulation of Ground Loss in Centrifuge Model Tests—KEVIN J. L. STONE AND TUARN A. BROWN Technical Note: Time-Temperature Superposition in Mechanical Durability Testing of Polyethylene Geomembranes—	253
ARTHUR E. LORD, JR., Y. GRACE HSUAN, AND ROBERT M. KOERNER  Technical Note: Soft Oedometer—A New Testing Device and Its Application for the Calibration of Hypoplastic	259
Constitutive Laws—D. KOLYMBAS AND E. BAUER	263
Technical Note: Swelling Pressure Behavior Under Controlled Suction—SAYED A. HABIB AND DAIZO KARUBE	271
Technical Note: Evaluation of Fill Compaction—TARA S. SIKH	276
Testing Forum	279
No. 3, September	
The Multidirectional Direct Simple Shear Apparatus—DON J. DEGROOT, JOHN T. GERMAINE, AND CHARLES C. LADD Large-Scale Triaxial Compression Testing of Geocell-Reinforced Granular Soils—RICHARD J. BATHURST AND	283
RAJAGOPAL KARPURAPU	296
Effects of Strain Rate on Instability of Granular Soils—JERRY A. YAMAMURO AND POUL V. LADE	304
Mikasa's Direct Shear Apparatus, Test Procedures and Results—NAOTOSHI TAKADA	314
	323
Estimating Water Content of Soils from Electrical Resistivity—ROBERT J. KALINSKI AND WILLIAM E. KELLY	330
Behavior of Fiber-Reinforced Cemented Sand Under Static and Cyclic Loads—M. H. MAHER AND Y. C. HO	330
Preparation of Large-Size Cohesive Specimens for Calibration Chamber Testing—GEORGE Z. VOYIADJIS, PRADEEP U. KURUP, AND MEHMET T. TUMAY	339
Evaluation of the Drop Bar Test for Concrete and Rock Quality—WAYNE A. CHARLIE, C. ALLEN ROSS,	
MORRIS M. SKINNER, AND JOAN B. BURLEIGH	350
Some Experiments on Restrained Shrinkage of Clays Undergoing Drying—JOHN W. SIBLEY AND DAVID J. WILLIAMS	365
Preparation of Large-Size Laboratory Deposits of Cohesive Soil—Kevin J. McManus and Fred H. Kulhawy	372
	384
Axisymmetric Tension Testing of Geomembranes—SCOTT M. MERRY, JONATHAN D. BRAY, AND PHILIPPE L. BOURDEAU	393
Technical Note: Swell Potential Versus Overburden Pressure—TARA S. SIKH	393
Discussion on "A New Apparatus for the Evaluation of Electrokinetic Processes in Hazardous Waste Management" by	207
Albert T. Yeung, Salah M. Sadek, and James K. Mitchell—AKRAM N. ALSHAWABKEH AND YALCIN B. ACAR	397
Closure—Albert T. Yeung, Salah M. Sadek, and James K. Mitchell	398
Discussion on "Temperature Dependence of Soil-Water Potential" by Abdel-Mohsen O. Mohamed, Raymond N. Yong,	
and Steven C. H. Cheung—A. SRIDHARAN	400
Closure—ABDEL-MOHSEN O. MOHAMED, RAYMOND N. YONG, AND STEVEN C. H. CHEUNG	400
Testing Forum	402
No. 4, December	
Monotonic and Cyclic Loading Behavior of Two Sands at Small Strains—DIEGO C. F. LO PRESTI, ORONZO PALLARA,	
Monotonic and Cyclic Loading Behavior of Two Sands at Small Strains—DIEGO C. F. LO PRESTI, ORONZO PALLARA, RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO	409
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO	409 425
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX	
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN	425 432
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON	425
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO  An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX  Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN  Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON  Notched Constant Tensile Load (NCTL) Test for High-Density Polyethylene Geomembranes—YICK G. HSUAN,	425 432 442
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO  An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX  Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN  Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON  Notched Constant Tensile Load (NCTL) Test for High-Density Polyethylene Geomembranes—YICK G. HSUAN,  ROBERT M. KOERNER, AND ARTHUR E. LORD, JR.	425 432 442 450
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO  An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX  Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN  Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON  Notched Constant Tensile Load (NCTL) Test for High-Density Polyethylene Geomembranes—YICK G. HSUAN,  ROBERT M. KOERNER, AND ARTHUR E. LORD, JR.  Use of CPTu to Estimate Equivalent SPT N <sub>60</sub> —MICHAEL G. JEFFERIES AND MICHAEL P. DAVIES	425 432 442 450 458
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO  An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX  Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN  Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON  Notched Constant Tensile Load (NCTL) Test for High-Density Polyethylene Geomembranes—YICK G. HSUAN,  ROBERT M. KOERNER, AND ARTHUR E. LORD, JR.  Use of CPTu to Estimate Equivalent SPT N <sub>60</sub> —MICHAEL G. JEFFERIES AND MICHAEL P. DAVIES  Determination of Swell Potential of Al-Qatif Clay—SAHEL N. ABDULJAUWAD AND GHAZI J. AL-SULAIMANI	425 432 442 450 458 469
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO  An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX  Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN  Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON  Notched Constant Tensile Load (NCTL) Test for High-Density Polyethylene Geomembranes—YICK G. HSUAN,  ROBERT M. KOERNER, AND ARTHUR E. LORD, JR.  Use of CPTu to Estimate Equivalent SPT N <sub>60</sub> —MICHAEL G. JEFFERIES AND MICHAEL P. DAVIES  Determination of Swell Potential of Al-Qatif Clay—SAHEL N. ABDULJAUWAD AND GHAZI J. AL-SULAIMANI  A New Approach to Measuring Dilatancy in Saturated Sands—RICHARD G. CAMPANELLA AND MATT J. KOKAN	425 432 442 450 458
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO  An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX  Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN  Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON  Notched Constant Tensile Load (NCTL) Test for High-Density Polyethylene Geomembranes—YICK G. HSUAN,  ROBERT M. KOERNER, AND ARTHUR E. LORD, JR.  Use of CPTu to Estimate Equivalent SPT N <sub>60</sub> —MICHAEL G. JEFFERIES AND MICHAEL P. DAVIES  Determination of Swell Potential of Al-Qatif Clay—SAHEL N. ABDULJAUWAD AND GHAZI J. AL-SULAIMANI  A New Approach to Measuring Dilatancy in Saturated Sands—RICHARD G. CAMPANELLA AND MATT J. KOKAN  Consolidation, Pre- and Post-Peak Shearing Responses from Internally Instrumented Biaxial Compression Device—	425 432 442 450 458 469 485
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO  An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX  Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN  Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON  Notched Constant Tensile Load (NCTL) Test for High-Density Polyethylene Geomembranes—YICK G. HSUAN,  ROBERT M. KOERNER, AND ARTHUR E. LORD, JR.  Use of CPTu to Estimate Equivalent SPT N <sub>60</sub> —MICHAEL G. JEFFERIES AND MICHAEL P. DAVIES  Determination of Swell Potential of Al-Qatif Clay—SAHEL N. ABDULJAUWAD AND GHAZI J. AL-SULAIMANI  A New Approach to Measuring Dilatancy in Saturated Sands—RICHARD G. CAMPANELLA AND MATT J. KOKAN  Consolidation, Pre- and Post-Peak Shearing Responses from Internally Instrumented Biaxial Compression Device—  RICHARD J. FINNO AND YONGHEUN RHEE	425 432 442 450 458 469 485
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO  An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX  Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN  Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON  Notched Constant Tensile Load (NCTL) Test for High-Density Polyethylene Geomembranes—YICK G. HSUAN,  ROBERT M. KOERNER, AND ARTHUR E. LORD, JR.  Use of CPTu to Estimate Equivalent SPT N <sub>60</sub> —MICHAEL G. JEFFERIES AND MICHAEL P. DAVIES  Determination of Swell Potential of Al-Qatif Clay—SAHEL N. ABDULJAUWAD AND GHAZI J. AL-SULAIMANI  A New Approach to Measuring Dilatancy in Saturated Sands—RICHARD G. CAMPANELLA AND MATT J. KOKAN  Consolidation, Pre- and Post-Peak Shearing Responses from Internally Instrumented Biaxial Compression Device—  RICHARD J. FINNO AND YONGHEUN RHEE  Geotechnical Tomography: The Effects of Diffraction—BRENT D. POTTS AND CARLOS SANTMARINA	425 432 442 450 458 469 485
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO  An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX  Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN  Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON  Notched Constant Tensile Load (NCTL) Test for High-Density Polyethylene Geomembranes—YICK G. HSUAN,  ROBERT M. KOERNER, AND ARTHUR E. LORD, JR.  Use of CPTu to Estimate Equivalent SPT N <sub>60</sub> —MICHAEL G. JEFFERIES AND MICHAEL P. DAVIES  Determination of Swell Potential of Al-Qatif Clay—SAHEL N. ABDULJAUWAD AND GHAZI J. AL-SULAIMANI  A New Approach to Measuring Dilatancy in Saturated Sands—RICHARD G. CAMPANELLA AND MATT J. KOKAN  Consolidation, Pre- and Post-Peak Shearing Responses from Internally Instrumented Biaxial Compression Device—  RICHARD J. FINNO AND YONGHEUN RHEE	425 432 442 450 458 469 485
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO  An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX  Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN  Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON  Notched Constant Tensile Load (NCTL) Test for High-Density Polyethylene Geomembranes—YICK G. HSUAN,  ROBERT M. KOERNER, AND ARTHUR E. LORD, JR.  Use of CPTu to Estimate Equivalent SPT N <sub>60</sub> —MICHAEL G. JEFFERIES AND MICHAEL P. DAVIES  Determination of Swell Potential of Al-Qatif Clay—SAHEL N. ABDULJAUWAD AND GHAZI J. AL-SULAIMANI  A New Approach to Measuring Dilatancy in Saturated Sands—RICHARD G. CAMPANELLA AND MATT J. KOKAN  Consolidation, Pre- and Post-Peak Shearing Responses from Internally Instrumented Biaxial Compression Device—  RICHARD J. FINNO AND YONGHEUN RHEE  Geotechnical Tomography: The Effects of Diffraction—BRENT D. POTTS AND CARLOS SANTMARINA	425 432 442 450 458 469 485
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO  An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX  Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN  Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON  Notched Constant Tensile Load (NCTL) Test for High-Density Polyethylene Geomembranes—YICK G. HSUAN,  ROBERT M. KOERNER, AND ARTHUR E. LORD, JR.  Use of CPTu to Estimate Equivalent SPT N <sub>60</sub> —MICHAEL G. JEFFERIES AND MICHAEL P. DAVIES  Determination of Swell Potential of Al-Qatif Clay—SAHEL N. ABDULJAUWAD AND GHAZI J. AL-SULAIMANI  A New Approach to Measuring Dilatancy in Saturated Sands—RICHARD G. CAMPANELLA AND MATT J. KOKAN  Consolidation, Pre- and Post-Peak Shearing Responses from Internally Instrumented Biaxial Compression Device—  RICHARD J. FINNO AND YONGHEUN RHEE  Geotechnical Tomography: The Effects of Diffraction—BRENT D. POTTS AND CARLOS SANTMARINA  Determination of Cation Exchange Capacity of Clayey Soils by the Methylene Blue Test—ERDAL COKCA AND  ALTAY BIRAND	425 432 442 450 458 469 485 496 510
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO  An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX  Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN  Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON  Notched Constant Tensile Load (NCTL) Test for High-Density Polyethylene Geomembranes—YICK G. HSUAN,  ROBERT M. KOERNER, AND ARTHUR E. LORD, JR.  Use of CPTu to Estimate Equivalent SPT N <sub>60</sub> —MICHAEL G. JEFFERIES AND MICHAEL P. DAVIES  Determination of Swell Potential of Al-Qatif Clay—SAHEL N. ABDULJAUWAD AND GHAZI J. AL-SULAIMANI  A New Approach to Measuring Dilatancy in Saturated Sands—RICHARD G. CAMPANELLA AND MATT J. KOKAN  Consolidation, Pre- and Post-Peak Shearing Responses from Internally Instrumented Biaxial Compression Device—  RICHARD J. FINNO AND YONGHEUN RHEE  Geotechnical Tomography: The Effects of Diffraction—BRENT D. POTTS AND CARLOS SANTMARINA  Determination of Cation Exchange Capacity of Clayey Soils by the Methylene Blue Test—ERDAL COKCA AND  ALTAY BIRAND  The Continuous Abrasion Index for the Assessment of Rock Abrasion—S. I. AL-AMEEN AND M. D. WALLER	425 432 442 450 458 469 485 496 510
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO  An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX  Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN  Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON  Notched Constant Tensile Load (NCTL) Test for High-Density Polyethylene Geomembranes—YICK G. HSUAN,  ROBERT M. KOERNER, AND ARTHUR E. LORD, JR.  Use of CPTu to Estimate Equivalent SPT N <sub>60</sub> —MICHAEL G. JEFFERIES AND MICHAEL P. DAVIES  Determination of Swell Potential of Al-Qatif Clay—SAHEL N. ABDULJAUWAD AND GHAZI J. AL-SULAIMANI  A New Approach to Measuring Dilatancy in Saturated Sands—RICHARD G. CAMPANELLA AND MATT J. KOKAN  Consolidation, Pre- and Post-Peak Shearing Responses from Internally Instrumented Biaxial Compression Device—  RICHARD J. FINNO AND YONGHEUN RHEE  Geotechnical Tomography: The Effects of Diffraction—BRENT D. POTTS AND CARLOS SANTMARINA  Determination of Cation Exchange Capacity of Clayey Soils by the Methylene Blue Test—ERDAL COKCA AND  ALTAY BIRAND  The Continuous Abrasion Index for the Assessment of Rock Abrasion—s. 1. AL-AMEEN AND M. D. WALLER  Technical Note: Bearing Capacity of Strip Foundation on Geogrid-Reinforced Clay—EUN C. SHIN, BRAJA M. DAS,	425 432 442 450 458 469 485 496 510
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO  An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX  Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN  Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON  Notched Constant Tensile Load (NCTL) Test for High-Density Polyethylene Geomembranes—YICK G. HSUAN,  ROBERT M. KOERNER, AND ARTHUR E. LORD, JR.  Use of CPTu to Estimate Equivalent SPT N <sub>60</sub> —MICHAEL G. JEFFERIES AND MICHAEL P. DAVIES  Determination of Swell Potential of Al-Qatif Clay—SAHEL N. ABDULJAUWAD AND GHAZI J. AL-SULAIMANI  A New Approach to Measuring Dilatancy in Saturated Sands—RICHARD G. CAMPANELLA AND MATT J. KOKAN  Consolidation, Pre- and Post-Peak Shearing Responses from Internally Instrumented Biaxial Compression Device—  RICHARD J. FINNO AND YONGHEUN RHEE  Geotechnical Tomography: The Effects of Diffraction—BRENT D. POTTS AND CARLOS SANTMARINA  Determination of Cation Exchange Capacity of Clayey Soils by the Methylene Blue Test—ERDAL COKCA AND  ALTAY BIRAND  The Continuous Abrasion Index for the Assessment of Rock Abrasion—S. I. AL-AMEEN AND M. D. WALLER  Technical Note: Bearing Capacity of Strip Foundation on Geogrid-Reinforced Clay—EUN C. SHIN, BRAJA M. DAS,  VIJAY K. PURI, SHING-CHUNG YEN, AND ECHOL E. COOK	425 432 442 450 458 469 485 496 510 518 525
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO  An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX  Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN  Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON  Notched Constant Tensile Load (NCTL) Test for High-Density Polyethylene Geomembranes—YICK G. HSUAN,  ROBERT M. KOERNER, AND ARTHUR E. LORD, JR.  Use of CPTu to Estimate Equivalent SPT N <sub>60</sub> —MICHAEL G. JEFFERIES AND MICHAEL P. DAVIES  Determination of Swell Potential of Al-Qatif Clay—SAHEL N. ABDULJAUWAD AND GHAZI J. AL-SULAIMANI  A New Approach to Measuring Dilatancy in Saturated Sands—RICHARD G. CAMPANELLA AND MATT J. KOKAN  Consolidation, Pre- and Post-Peak Shearing Responses from Internally Instrumented Biaxial Compression Device—  RICHARD J. FINNO AND YONGHEUN RHEE  Geotechnical Tomography: The Effects of Diffraction—BRENT D. POTTS AND CARLOS SANTMARINA  Determination of Cation Exchange Capacity of Clayey Soils by the Methylene Blue Test—ERDAL COKCA AND  ALTAY BIRAND  The Continuous Abrasion Index for the Assessment of Rock Abrasion—s. 1. AL-AMEEN AND M. D. WALLER  Technical Note: Bearing Capacity of Strip Foundation on Geogrid-Reinforced Clay—EUN C. SHIN, BRAJA M. DAS,  VIJAY K. PURI, SHING-CHUNG YEN, AND ECHOL E. COOK  Technical Note: Prediction of Expansion Degree for Natural Compacted Clays—ADNAN A. BASMA	425 432 442 450 458 469 485 496 510 518 525
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO  An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX  Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN  Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON  Notched Constant Tensile Load (NCTL) Test for High-Density Polyethylene Geomembranes—YICK G. HSUAN,  ROBERT M. KOERNER, AND ARTHUR E. LORD, JR.  Use of CPTu to Estimate Equivalent SPT N <sub>60</sub> —MICHAEL G. JEFFERIES AND MICHAEL P. DAVIES  Determination of Swell Potential of Al-Qatif Clay—SAHEL N. ABDULJAUWAD AND GHAZI J. AL-SULAIMANI  A New Approach to Measuring Dilatancy in Saturated Sands—RICHARD G. CAMPANELLA AND MATT J. KOKAN  Consolidation, Pre- and Post-Peak Shearing Responses from Internally Instrumented Biaxial Compression Device—  RICHARD J. FINNO AND YONGHEUN RHEE  Geotechnical Tomography: The Effects of Diffraction—Brent D. Potts and Carlos Santmarina  Determination of Cation Exchange Capacity of Clayey Soils by the Methylene Blue Test—Erdal Cokca and  ALTAY BIRAND  The Continuous Abrasion Index for the Assessment of Rock Abrasion—s. 1. Al-AMEEN AND M. D. WALLER  Technical Note: Bearing Capacity of Strip Foundation on Geogrid-Reinforced Clay—Eun C. Shin, Braja M. Das,  VIJAY K. PURI, SHING-CHUNG YEN, AND ECHOL E. COOK  Technical Note: Influence of Test Chamber Boundary Conditions on Sand Bed Response—Riadh H. Al-Douri,	425 432 442 450 458 469 485 496 510 518 525 534 542
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO  An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX  Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN  Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON  Notched Constant Tensile Load (NCTL) Test for High-Density Polyethylene Geomembranes—YICK G. HSUAN,  ROBERT M. KOERNER, AND ARTHUR E. LORD, JR.  Use of CPTu to Estimate Equivalent SPT N <sub>60</sub> —MICHAEL G. JEFFERIES AND MICHAEL P. DAVIES  Determination of Swell Potential of Al-Qatif Clay—SAHEL N. ABDULJAUWAD AND GHAZI J. AL-SULAIMANI  A New Approach to Measuring Dilatancy in Saturated Sands—RICHARD G. CAMPANELLA AND MATT J. KOKAN  Consolidation, Pre- and Post-Peak Shearing Responses from Internally Instrumented Biaxial Compression Device—  RICHARD J. FINNO AND YONGHEUN RHEE  Geotechnical Tomography: The Effects of Diffraction—Brent D. Potts and Carlos Santmarina  Determination of Cation Exchange Capacity of Clayey Soils by the Methylene Blue Test—Erdal Cokca and Altay Birand  The Continuous Abrasion Index for the Assessment of Rock Abrasion—s. 1. Al-Ameen and M. D. Waller  Technical Note: Bearing Capacity of Strip Foundation on Geogrid-Reinforced Clay—Eun C. Shin, Braja M. Das, Vijay K. Puri, Shing-Chung Yen, and echol E. Cook  Technical Note: Influence of Test Chamber Boundary Conditions on Sand Bed Response—Riadh H. Al-Douri, Tim S. Hull, and Harry G. Poulos	425 432 442 450 458 469 485 496 510 518 525
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO  An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX  Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN  Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON  Notched Constant Tensile Load (NCTL) Test for High-Density Polyethylene Geomembranes—YICK G. HSUAN,  ROBERT M. KOERNER, AND ARTHUR E. LORD, JR.  Use of CPTu to Estimate Equivalent SPT N <sub>60</sub> —MICHAEL G. JEFFERIES AND MICHAEL P. DAVIES  Determination of Swell Potential of Al-Qatif Clay—SAHEL N. ABDULJAUWAD AND GHAZI J. AL-SULAIMANI  A New Approach to Measuring Dilatancy in Saturated Sands—RICHARD G. CAMPANELLA AND MATT J. KOKAN  Consolidation, Pre- and Post-Peak Shearing Responses from Internally Instrumented Biaxial Compression Device—  RICHARD J. FINNO AND YONGHEUN RHEE  Geotechnical Tomography: The Effects of Diffraction—Brent D. Potts and Carlos Santmarina  Determination of Cation Exchange Capacity of Clayey Soils by the Methylene Blue Test—Erdal Cokca and Altay Birand  The Continuous Abrasion Index for the Assessment of Rock Abrasion—s. I. Al-Ameen and M. D. Waller  Technical Note: Bearing Capacity of Strip Foundation on Geogrid-Reinforced Clay—Eun C. Shin, Braja M. Das,  VIJAY K. Puri, Shing-Chung Yen, and Echol E. Cook  Technical Note: Prediction of Expansion Degree for Natural Compacted Clays—Adnan A. Basma  Technical Note: Influence of Test Chamber Boundary Conditions on Sand Bed Response—Riadh H. Al-Douri,  TIM S. HULL, AND HARRY G. POULOS  Discussion on "The Behavior at the Shrinkage Limit of Clay Undergoing Drying" by David J. Williams and	425 432 442 450 458 469 485 496 510 518 525 534 542
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO  An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX  Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN  Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON  Notched Constant Tensile Load (NCTL) Test for High-Density Polyethylene Geomembranes—YICK G. HSUAN,  ROBERT M. KOERNER, AND ARTHUR E. LORD, JR.  Use of CPTu to Estimate Equivalent SPT N <sub>60</sub> —MICHAEL G. JEFFERIES AND MICHAEL P. DAVIES  Determination of Swell Potential of Al-Qatif Clay—SAHEL N. ABDULJAUWAD AND GHAZI J. AL-SULAIMANI  A New Approach to Measuring Dilatancy in Saturated Sands—RICHARD G. CAMPANELLA AND MATT J. KOKAN  Consolidation, Pre- and Post-Peak Shearing Responses from Internally Instrumented Biaxial Compression Device—  RICHARD J. FINNO AND YONGHEUN RHEE  Geotechnical Tomography: The Effects of Diffraction—Brent D. Potts and Carlos Santmarina  Determination of Cation Exchange Capacity of Clayey Soils by the Methylene Blue Test—Erdal Cokca and Altay Birand  The Continuous Abrasion Index for the Assessment of Rock Abrasion—s. 1. Al-Ameen and M. D. Waller  Technical Note: Bearing Capacity of Strip Foundation on Geogrid-Reinforced Clay—Eun C. Shin, Braja M. Das, Vijay K. Puri, Shing-Chung Yen, and echol E. Cook  Technical Note: Influence of Test Chamber Boundary Conditions on Sand Bed Response—Riadh H. Al-Douri, Tim S. Hull, and Harry G. Poulos	425 432 442 450 458 469 485 496 510 518 525 534 542 550
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO  An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX  Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN  Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON  Notched Constant Tensile Load (NCTL) Test for High-Density Polyethylene Geomembranes—YICK G. HSUAN,  ROBERT M. KOERNER, AND ARTHUR E. LORD, JR.  Use of CPTu to Estimate Equivalent SPT N <sub>60</sub> —MICHAEL G. JEFFERIES AND MICHAEL P. DAVIES  Determination of Swell Potential of Al-Qatif Clay—SAHEL N. ABDULJAUWAD AND GHAZI J. AL-SULAIMANI  A New Approach to Measuring Dilatancy in Saturated Sands—RICHARD G. CAMPANELLA AND MATT J. KOKAN  Consolidation, Pre- and Post-Peak Shearing Responses from Internally Instrumented Biaxial Compression Device—  RICHARD J. FINNO AND YONGHEUN RHEE  Geotechnical Tomography: The Effects of Diffraction—Brent D. Potts and Carlos Santmarina  Determination of Cation Exchange Capacity of Clayey Soils by the Methylene Blue Test—Erdal Cokca and Altay Birand  The Continuous Abrasion Index for the Assessment of Rock Abrasion—s. I. Al-Ameen and M. D. Waller  Technical Note: Bearing Capacity of Strip Foundation on Geogrid-Reinforced Clay—Eun C. Shin, Braja M. Das,  VIJAY K. Puri, Shing-Chung Yen, and Echol E. Cook  Technical Note: Prediction of Expansion Degree for Natural Compacted Clays—Adnan A. Basma  Technical Note: Influence of Test Chamber Boundary Conditions on Sand Bed Response—Riadh H. Al-Douri,  TIM S. HULL, AND HARRY G. POULOS  Discussion on "The Behavior at the Shrinkage Limit of Clay Undergoing Drying" by David J. Williams and	425 432 442 450 458 469 485 496 510 518 525 534 542 550
RENATO LANCELLOTTA, MARCO ARMANDI, AND ROBERTO MANISCALCO  An Initial Study of Surface Wave Inversion Using Artificial Neural Networks—ROGER W. MEIER AND GLENN J. RIX  Drift of Flush-Mounted Pressure Cell Readings—GEORGE M. FILZ AND J. MICHAEL DUNCAN  Compactor Force and Energy Measurements—GEORGE M. FILZ AND THOMAS L. BRANDON  Notched Constant Tensile Load (NCTL) Test for High-Density Polyethylene Geomembranes—YICK G. HSUAN,  ROBERT M. KOERNER, AND ARTHUR E. LORD, JR.  Use of CPTu to Estimate Equivalent SPT N <sub>60</sub> —MICHAEL G. JEFFERIES AND MICHAEL P. DAVIES  Determination of Swell Potential of Al-Qatif Clay—SAHEL N. ABDULJAUWAD AND GHAZI J. AL-SULAIMANI  A New Approach to Measuring Dilatancy in Saturated Sands—RICHARD G. CAMPANELLA AND MATT J. KOKAN  Consolidation, Pre- and Post-Peak Shearing Responses from Internally Instrumented Biaxial Compression Device—  RICHARD J. FINNO AND YONGHEUN RHEE  Geotechnical Tomography: The Effects of Diffraction—BRENT D. POTTS AND CARLOS SANTMARINA  Determination of Cation Exchange Capacity of Clayey Soils by the Methylene Blue Test—ERDAL COKCA AND  ALTAY BIRAND  The Continuous Abrasion Index for the Assessment of Rock Abrasion—s. I. AL-AMEEN AND M. D. WALLER  Technical Note: Bearing Capacity of Strip Foundation on Geogrid-Reinforced Clay—EUN C. SHIN, BRAJA M. DAS,  VIJAY K. PURI, SHING-CHUNG YEN, AND ECHOL E. COOK  Technical Note: Prediction of Expansion Degree for Natural Compacted Clays—ADNAN A. BASMA  Technical Note: Influence of Test Chamber Boundary Conditions on Sand Bed Response—RIADH H. AL-DOURI,  TIM S. HULL, AND HARRY G. POULOS  Discussion on "The Behavior at the Shrinkage Limit of Clay Undergoing Drying" by David J. Williams and  John W. Sibley—F. A. M. MARINHO AND R. J. CHANDLER	425 432 442 450 458 469 485 496 510 518 525 534 542 550

# **MOVING?**

To insure uninterrupted service on your GTJ subscription, please notify us at least six weeks before you move.

- 1. Attach your address label from a recent issue in the space provided opposite. (If label is not available, be sure to give your old address, including Zip Code.)
- 2. Print your name, membership no., and address below. (Be sure to include Zip Code.)
- 3. Mail entire notice to: ASTM

Subscription Dept.—GTJ 1916 Race St. Philadelphia, PA 19103

Name \_\_\_\_\_\_ Membership No. \_\_\_\_\_\_

New Address \_\_\_\_\_ State \_\_\_\_ Zip Code \_\_\_\_\_\_

( please print or type the above information )