

## Subject Index

### A

Acid permeants, 111  
 Adsorption, 586  
 Aluminum hydroxides, 422  
 Aluminosilicates, 111  
 ASTM standards, 335  
 Attapulgite, 284

### B

Backfill materials, 79  
 Bailer test, 255  
 Barrier cap, 505  
 Beam flexural strength, 266  
 Bentonite, 284, 407, 439, 521  
     cement-bentonite, 79  
     sand-bentonite, 111  
 Block specimen, 3  
     collection, 227  
 Borehole sealant, 439  
 Borehole test, 184  
 Bouwer and Rice method, 95  
 Brooks and Corey, 169  
 Buffering intensity, 586

### C

Cadmium release, 505  
 Cation exchange capacity, 586  
 Cement, 505  
 Cement-bentonite, 79  
 Champlain sea clay, 586  
 Chlorobenzenes, 422  
 Claymax, 422  
 Clays, 266, 461, 546  
     Champlain sea, 586  
     compacted, 184, 227, 318, 335  
     liners, 3, 184, 353  
     organically modified, 422  
     particles, 111  
     varved, 300  
 Compacted liners, 3  
 Compaction, 266, 318  
 Compressibility, 482  
 Compressive strength, 266

Concrete, plastic, 79  
 Consolidation tests, 300  
 Constant gradient, 521  
 Constant head technique, 375  
 Cooper, Bredehoeft, and  
     Papadopoulos method, 95  
 Coupling, electro-kinetic, 569  
 Crust method, 169  
 Cutoff walls, 79, 284

### D

Deformation moduli, 266  
 Desiccation, 284, 318  
 Dilatometer, 300  
 Dispersion coefficient,  
     hydrodynamic, 353  
 Dissipation tests, 300  
 Distortion, 266  
 Durability, 505

### E

Electro-kinetic coupling, 569  
 Electro-osmosis, 569  
 Evapotranspiration, 546

### F

Falling head technique, 375  
 Flexure, 266  
 Flocculation, 111  
 Flow, coupled, 569  
 Flow model, double porosity,  
     255  
 Flow pumps, 482, 521  
 Flow rate, 390  
 Flow, unsaturated, 375  
 Fluid pressure, 390  
 Fly ash, 521  
 Freeze-thaw, 227, 461, 505

**G**

Glacial tills, 255  
 slug tests, 95  
 Gold mine tailings, 559  
 Granular materials, 30  
 Grout, 439

**H**

HELP (Hydrologic Evaluation of Landfill Performance) model, 546  
 Humic acid, 422  
 Hvorslev method, 95

**I**

Immersion, 284  
 Infiltration, early-time, 375  
 Infiltrometer  
   double-ring, 184, 559  
   sealed double-ring, 3  
   testing, 335

**K**

Kaolinite, 318, 461, 482

**L**

Leachate, 30, 353  
 Leaching, 505  
   column, 586  
 Lead, 422  
 Leakage analysis, 390  
 Liners, 335, 439, 461, 559  
   clay, 3, 111, 184, 353, 422  
   soil, 3, 375, 390

**M**

Matric potential, 482  
 Metals  
   cadmium, 505  
   heavy, 586  
 Micaceous soil, 586  
 Mine tailings, 559  
 Models  
   HELP, 546  
   probabilistic, 3  
 Montmorillonite, 422

**N**

Nguyen and Pinder method, 95

**O**

Organic chemicals, 111, 422, 353  
 volatile, 353  
 Ottawa sand, 407  
 Outflow method, one-step, 169

**P**

Paper mill sludge, 546  
 Partition coefficient, 353  
 Permeability, 111, 184, 461, 482  
   constant-gradient tests, 521  
   flexible wall constant head, 559  
   low, 95  
   slow, 375  
   testing, triaxial, 407  
   water, 505  
 Permeameters  
   flexible-wall, 30, 111, 255, 390, 521  
   rigid-wall, 30, 111  
   test, 255  
 Piezocone, 300  
 Piezometers, 255, 300  
 Plastic concrete, 79  
 Plasticity, 266  
 Polymers, 407  
 Pore pressure, 300  
 Porosity, effective, 353  
 Precipitation, 586  
 Pressure plate method, 169  
 Proctor method, 461  
 Profile method, instantaneous, 169  
 Pumping test, 255

**R**

Residual materials, 505  
 Retardation factor, 353  
 Rock, slug tests, 95  
 Runoff, 546

**S**

Sand-bentonite, 111, 407, 521  
 Sand, coarse-grained, 95  
 Sand, silty, 482  
 Sand, slug tests, 95  
 Saturated soils, 30  
 SDRI, 559  
 Sealants, borehole, 439  
 Sealed double-ring infiltrometers (SDRIs), 3  
 Sedimentation, 284  
 Seepage, 169, 546  
 Shale, 461, 559  
 Shrinkage, 111  
 Sludge, 505  
   paper mill, 546  
 Slug tests, 95, 300  
 Slurry, 407  
   borehole, 439  
   cutoff, 284  
   wall, 79  
 Sodium bentonite, 407  
 Soil-bentonite, 79  
 Solidification, 505  
 Sorption, 422  
 Specimen size, representative, 3  
 Standards, 335  
 Steel residue, 505  
 Streaming potential, 569  
 Stress state, 227  
 Suction, 335  
 Swelling, 335  
   test, 111

**T**

Tailings, gold mine, 559  
 Tensile strength, 266  
 Till  
   fine-grained, 255  
   glacial, 255  
   slug tests, 95  
 Triaxial systems, 482

**U**

Unsaturated soils, 169

**V**

Vadose zone, 169  
 Volatile organic compounds, 353  
 Volume change, 390, 407  
 Volume control, 482  
 Volumetric strain, 318

**W**

Walls, vertical cutoff, 79  
 Water content, 318