

Index

- Accurate prediction techniques, 75
AN-FO, 11, 12, 13
Anisotropy, 11
- Bedding, 11, 12, 13, 14, 15
Blair Dolomite, 57
Blasting agent, 11, 12, 13
Boudinage, 31–34
Brittle behavior during sliding, 61
- Cave, 11, 12, 14, 15
Chicago deep-tunnel scheme, 79
Coefficient of sliding friction, 57
- Detonation (explosive), 11, 12, 13, 14, 15
Dilithologic specimens, 57
Dolomite, 11, 12, 13, 14, 15
Downline, 15
Ductile behavior during sliding, 63
- Education, 3, 79
Engineering geology, 1
Equation of state, 21
Excavation, 17
Experimental models, 42–46
Explorations
 Ahead of tunneling machine, 9
 Drill holes, 7
 Geologic sections, 6
 Geophysical surveys, 7
 Joint, 7
 Office studies, 6
 Surface mapping, 6
 Surface reconnaissance, 6
Explosion excavation, 19
- Fault, 11, 12, 13, 15
Filled joint, 11, 12, 14, 15
Flattening experiments, 42–46
Fold, 11, 12, 13, 15
Fracture, extension in rock, 31–34
Fracture spacing in extension fractures
 Comparison of theory with nature, 48
 Computations, 46
- Critical stress, 50
 Dependence on thickness, 49–50
 In rock, 31–34
 Theory, 34–41
Friction, 56
- Geologist's role
 Alignment, 7
 Initial planning, 6
 Reports, 9
 Samples, 10
- Hydrologic environment, 24
- Incremental deformation, 34–37
Instability
 Criteria, 36
 Equilibrium equations, 35
 Interfacial, 36
 Internal, 35–36
 Surface, 36
- Joint, 11, 12, 13, 14, 15
- Limestone, 11, 12, 14, 15
- Multiple prime, 12
- Near real-time, 76
Necking, 28
Notching, 28
Nuclear excavation, 17
Nuclear excavation phenomena, 24
Nuclear explosions, 17
Nuclear explosives, 17
- Pre-stress, 35
Prill, 13
Probability distribution functions, 75
- Rapid excavation, 1, 21, 55
Rock classification, 2
Rock properties, 21
Rock quality, 1
- Scientific method, 70
Seismic wave, 22
Sensitivity analysis, 72
Slope stability, 24
Soils, 79
Solenhofen Limestone, 57
Stability, elastic
 Definition, 30
 In rod in tension, 29
Stable sliding, 56
Stick-slip, 56
Strain energy methods, 37–41
Strength, tensile, 28
Stratigraphy, 79
Structure, 79
- Technological forecasting, 72
Tennessee Sandstone, 57
Tensile tests
 In metal, 28
 In model, 42
 In rock, 31
Testing
 Borability, 7
 Indentation test, 8
 In situ, 8
 Laboratory tests, 9
 Mohs hardness, 8
 Schmidt hammer, 8
 Uniaxial compression test, 7
Time frame, 75
Triaxial experiments, 57
Total systems approach, 69, 70, 71
Tunnel machines
 Advantages, 5
 Hard rock, types of, 6
 Soft ground, 6
Tunneling, 1
- Unconformity, 11, 12, 14, 15
Uncontrolled sliding, 57
Underground mining, 1

