

INDEX

- Abyssal-hill fault blocks, 91
Abyssal hills, 56
Abyssal tholeiites, 141
Active plate margins, ore deposit, 789
formation along
Age of sediments recovered, DSDP Atlantic sites, 887, 890-893 Figure 2
DSDP Black Sea Sites, 887, 895 Figure 6
DSDP Caribbean Sites, 887, 894 Figure 5
DSDP Gulf of Mexico Sites, 887, 894 Figure 5
DSDP Mediterranean Sites, 887, 895 Figure 6
DSDP Pacific Sites, 881, 884-886 Table 1
Alkali basalts, chemistry of, 31
Amphispyris roggenthени, new radiolarian species, 437, 450 Figures 1, 3, and 4, 452, Figures 4 and 6
Anomaly 2, 268
Ash source, acidic, 314
Asymmetric fault, 268
Atlantis II depression, 315
Axial low-velocity zone, 28
Axial magma chambers, 89, 141, 143, 416, 618, 631, 716, 766, 802, 833
Axial magmatism, Galapagos Rift, 839
Axial shield volcano, 89
Basal sediment age, Hole 419, 113
Basal sediments, origin of, 381
Basalts, alteration of, 64, 775
altered hydrated iron oxides, 775
chemical analyses of, 725, 738, 780-781 Table 4
chemical composition of, 825 Table 4
clay mineral composition of, 777
crystal morphologies in, 605
geochemistry of, 671
glossy rinds, 114
Hole 332A, degree of alteration, 596
incompatible elements, 643
magnetic properties of, 148 Table 25
mid-ocean ridge, 708
modal analyses, 823 Table 2, 855 Table 3
natural remanent magnetization intensities, 84
nomenclature and classification of, 684
normative composition, 684
olivine bearing, 824 Table 3
ore minerals in, 789
petrology of, 671
Galapagos Spreading Center, 737, 751
physical properties of, 142, 145
picritic, 71
pillows, 599
rare earth element (REE) abundances in, 63, 359, 646 Table 7
rock magnetism of, 865
secondary minerals in, 807
sheet flows, 599, 621
stable inclinations of, 84
undercooling, definition of, 607
velocity-density systematics for, 853
weathering, 773
Basaltic glasses, 688
chemical analyses of, 706
Basalts, alkali and transitional, 63
Bauer Deep, 245
iron-nontronite facies from, 417, 418
Biostratigraphy, conventions used, 16
Birnessite, 384, 408
Block faulted East Pacific Rise crust, 144
Block faulting, 138
Bottom currents, 60, 140
Bronzites, 74
Brunhes/Matuyama Boundary, 493
Brunhes normal epoch, 134, 258, 268, 457
Calcite compensation depth (CCD), 105, 109, 140, 509
Calcite compensation surface (CCS), 497, 498
California Current, 425
Carnegie Ridge, 315, 317, 517
Chlorite, 310
Chociti Event, 493
Chromian spinel, mineralogy of, 801
Clay minerals, electron microscope studies of, 347
X-ray diffractograms, 309 Figure 2
Clinopyroxene, composition of, 764 Table 5
mineralogy of, 734, 761
Clipperton Formation, 105, 109, 396
Cocos Ridge, 315, 317
Coiba Ridge, 316, 517
Cold bottom currents, corrosive capabilities of, 108
Copper deposits, 802
Cores, labeling conventions of, 13
Costa Rica Rift, 139, 844
Crystal fractionation, 141, 143, 764, 835
Curie temperature, variation with age of rock, 873, 875 Table 4
Cyclic sedimentation, 105
Deep-tow observations, East Pacific Rise, 43
Deuteric minerals, 809
Diatoms, taxonomic notes, 457
zonation, 460
Dictyocha aculeata subaculeata, new silicoflagellate subspecies, 552, 556, Figures 8-17
Diktytaxitic textures, 807
Doleritic basalt, 119, 136
Dolomite, 325
DOMES area, average Mn nodule composition, 403
hydrothermal origin of metalliferous, components in sediments, 403
DOMES Site C, hydrothermal deposits, 418

- iron-nontronite facies, 419
 Drill site locations, Leg 54, 6 Figure 1
 Dynamic melting, 66
 East Pacific Ridge, basalt geochemistry, 635
 foraminifers from, 497
 East Pacific Rise (EPR), 5, 385, 395, 415, 487
 age of basement, 396
 basaltic glass composition, 705
 basalts, 257, 261, 695
 alteration of, 145, 405
 chemical analyses of, 638 Table 2
 geochemistry of, 121, 269, 701
 mineralogy of, 127
 modal analyses of, 128
 petrography of, 698
 basement from, 819
 ferrobasalts at, 115
 heat flow measurements, 396
 interstitial water data, 390
 iron-hydroxide facies, 418
 magma chamber, 91
 physiographic and structural features, 87
 sea-floor sulfide deposits, 416
 sediments from, 260
 carbonate fluctuations in, 400
 carbonate petrology of, 319
 geochemistry of, 319
 GRAPE data summary, 133
 lithologic variations of, 396
 normative analyses of, 402
 sonic velocities of, 132
 spreading rate, 396, 837, 865
 tholeiitic basalts from, 695
 Eastern Pacific and Mid-Atlantic Ridge basalts,
 composition differences between, 596
 Eolian source of clay, 401
 Epoch 5 Boundary, 493
 Equatorial eastern Pacific, regional and tectonic
 setting, 23
 Equatorial Pacific water mass, 487
 Equatorial west central fauna, 487
 FAMOUS area, clay-rich hydrothermal deposits from,
 408
 hydrothermal deposits from, 244, 323, 410, 411,
 417
 manganese oxides in, 346
 Fault block rotation, 258
 Fault block structures, 91, 268
 Fault blocks, 594
 Fe-Mn concretions, 242
 Fe-montmorillonite, 307
 chemical composition of, 310
 Ferrobasalts, 89, 143, 741, 746, 758, 762, 821, 835
 chemical composition of, 826 Table 5
 crystal growth in, 622 Figure 11
 definition of, 836
 model for evolution of, 843
 Ferromanganese concretions, 408
 Flow differentiation, 759
 Foraminifers, biostratigraphy of, 509
 Cariaco Basin, 514
 dissolution effects on, 400
 Galapagos Spreading Center, 509
 Leg 9, 509
 Leg 16, 509
 Pliocene/Quaternary boundary, 517
 systematics, 502, 517
 thanatocoenoses, 501
 Foraminifers-nannofossil ooze, rare-earth elements in,
 371
 Fractional crystallization, 65, 641
 model for, 766
 Fracture zones, 25
 volcanism in, 497
 Galapagos archipelago, 317
 Galapagos area, interstitial water data, 391
 Galapagos fracture zone, 329
 Galapagos geothermal field, 308, 744, 874
 Galapagos hydrothermal sediment, chemical, 410
 composition of
 Galapagos Island hot-spot, 846
 Galapagos Island volcanoes, 844
 Galapagos Islands, 315
 Galapagos Mounds, 410
 deep-tow surveys of, 406
 geothermal field, 405, 406, 833
 age of basement, 407
 heat flow in, 377, 407
 hydrothermal deposits, 266
 hydrothermal event, 432
 origin of, 7, 382, 406, 411
 sedimentation rates, 406
 sediments, chemical composition of, 379
 mineralogy and chemistry of, 408
 normative composition of, 379
 qualitative X-ray diffraction data, 378
 Galapagos Rift, 86, 395, 406, 415, 727
 axial hydrothermal vents, 416
 basalt from, 257
 chemical variation across, 683
 half-spreading rate, 839
 lava lakes in, 417
 temperatures of original hydrothermal fluids, 416
 Galapagos Sites, interstitial water data, 392 Table 4.
 micropaleontology of, 249
 Galapagos Spreading Center (GSC), 5, 257, 258, 262,
 307, 339, 385, 391, 406, 410, 487, 501, 545, 737
 axial rift of, 596
 basalt from, 254, 752, 753
 geochemistry of, 755
 mineralogy of, 755
 dredge hauls from, 267
 magnetic parameters, 871 Table 26
 Gauss normal epoch, 134, 493
 Gauss/Gilbert boundary, 493
 Geophysical measurements, East Pacific Rise, 37
 Gilbert reversed epoch, 134, 138
 Gilsa event (Anomaly 2), 32
 Glaciation, Northern Hemisphere, 547
 Glass, basaltic, 108
 Graben, 48, 594
 Graben faults, 59, 803

- Graben-like features, 268
 Green hydrothermal mud, 259
 FAMOUS area, 247
 XRF analysis of, 247
 Greenschist facies, 418
 Guatemala Upland, 314
 Gulf of Aden, hydrothermal deposits, 410, 417
 Heat flow, Galapagos Mounds, 382
 Red Sea brine layer, 382
 Hole 419, East Pacific Rise, 81
 age of basalt sediments from, 310
 clay minerals from, 310
 physical properties of sediments, 126
 Hole 420, East Pacific Rise, 81
 age of basal sediments from, 310
 age of basement, 310
 clay minerals from, 310
 diatoms, 458–459 Table 2
 physical properties of basalt, 130
 Holes 420 and 420A, mineralogy, 794
 radiolarians, 430
 Hole 420A, East Pacific Rise, 82
 Hole 421, chemical analyses of basalt from, 675
 mineralogy, 794
 operations, 95
 physical properties of basalt, 130
 physical properties of sediments, 127
 Hole 422, OCP Ridge, 82
 age of basal sediments, 311
 basalt from, 676
 clay minerals from, 311
 mineralogy, 795
 operations, 97
 physical properties of basalts, 130
 physical properties of sediments, 127
 Hole 423, East Pacific Rise, 82
 age of basal sediments, 113, 311
 basalt, 676
 major-oxide analyses of, 255 Table 10
 petrology and geochemistry of, 267
 clay minerals from, 311
 operations, 99
 physical properties of sediments, 129
 Hole 424, Galapagos Rift, 233
 ferrobasalt chemistry, 253, 267
 hydrothermal deposits, 339
 major-element oxides, variation, 360, Figure 19
 downhole
 mineralogy, 795
 operations, 238
 rare-earth-element concentration, 371 Table 17
 sediments from, bulk chemical analyses of, 355
 Tables 1 and 2
 trace element concentrations, 357 Table 9
 seismic reflection profiles correlated with drilling, 265
 trace elements, variation of downhole, 362
 Figure 20
 Holes 424 and 424B, basalt petrology, 738, 740, 742
 Table 1
- Hole 424A, Galapagos Rift, 233
 hydrothermal deposits, 340, 342
 major-element oxide variations downhole, 364,
 Figure 21
 operations, 239
 rare-earth element concentrations, 371 Table 18
 sediments from, bulk chemical analysis of, 355
 Table 3, 356 Table 4
 trace element concentrations, 357 Table 10
 trace element variation downhole, 366 Figure 22
 Hole 424B, hydrothermal deposits, 340, 343
 major-element oxides, 368 Figure 23
 rare-earth-element concentrations, 371 Table 19
 sediments from, bulk chemical,
 analyses of, 356 Tables 5 and 6
 trace element concentration, 358 Table 11
 Holes 424 and 424B, age of basal sediments, 312
 clay minerals from, 312
 Holes 424B, Galapagos Rift, 233
 operations, 240
 Hole 424C, Galapagos Rift, 234
 hydrothermal deposits, 341, 343
 operations, 240
 sediments from, chemical analyses of, 357
 trace-element concentration, 358 Table 12
 Hole 425, Galapagos Rift, 234
 age of basal sediments, 251, 313
 age of basement, 258, 268
 basalts, alteration of, 257
 chemical analyses of, 258 Table 12, 682
 chilled margins in, 268
 correlation with sonic velocities, 268
 geochemistry of, 257
 hydrothermal alteration, 269
 magnesium variation in, 259
 magnetic properties of, 258, 262 Table 14
 modal analyses, 256 Table 11, 268
 petrography of, 756
 physical properties of, 261, 267 Table 20
 basement magnetic and physical properties, 268
 clay minerals, 313
 heat flow data, 268
 mineralogy, 797
 physical properties of sediments, 261
 radiolarians, 433
 secular variation, 259
 sedimentation rate, 251, 268
 seismic reflection profiles, 268
 Hole 426, East Pacific Rise axial block, 82
 Hole 427, Siqueiros fracture zone, 83
 basal sediment age of, 113
 chemical analyses, 681
 mineralogy, 798
 physical properties of basalt, 131
 physical properties of sediments, 129
 radiolarians, 434
 Hole 428, OCP Ridge, 83
 basalt sediment age, 113
 sedimentation rates, 113
 Hole 428A, 83

- Holes 428 and 428A basalt, chemical analyses of, 676
 mineralogy of, 798
 physical properties of, 131
- Holes 428 and 429A, physical properties of, 129
 sediments
- Hole 429, East Pacific Rise, 83
- Hole 429A, 83
 basalt, chemical analyses of, 679
 mineralogy, 799
 radiolarians, 434
- Horst-and-graben terrain, 58, 61
- Hydrothermal activity, 5, 59, 262
- Hydrothermal brines, 314
- Hydrothermal circulation, 7
- Hydrothermal clay formation, 314
- Hydrothermal convection cell, 240
- Hydrothermal deposits, 265, 401
 origin of, 415
 rare-earth elements in, 371
- Hydrothermal fields, 737
- Hydrothermal fluids, dispersal in water, column, 416
- Hydrothermal minerals, 809
- Hydrothermal mud, 242
- Hydrothermal plumes, 60
- Hydrothermal sediment, chemistry of, 245
- Hydrothermal solution, precipitates from, 236
- Hydrothermal vents, 60, 384, 812, 845
- Hygromagnaphile elements, 725
- Igneous rock classification, 19
- Igneous rock lithology and petrography, OCP, Ridge Sites, 118
- Igneous rock lithology, Site 424, 253
- Illite, 310
- Interstitial water, chemistry of, 387
 Hole 425, 248, 249 Table 6
- Iron hydroxide facies, 415
- Iron-manganese deposits, 804
- Iron-nontronite facies, 417
- Iron oxides, mineralogy of, 801
- Iron-rich clays, 109
- Island arc volcanism, 803
- Jaramillo Event (Anomaly 1), 32, 455, 457, 493, 545
- Juan de Fuca Ridge, basalt from, 257, 709
 spreading rates on, 846
- Kaolinite, 310
- K, Fe-smectite, 308, 314
- Lava, types of, 45
- Layer 2, magnetic structure of, 141
- Layer 2-Layer 3 velocity gradient transition, 87
- Leg 9, sediments from, 105
- Leg 54, background and objectives, 5
 basalt petrography, 692
 drilling difficulties in basement, 593
 glass, microprobe analyses, 642 Table 5
 sites, age of oldest sediment, 497 Table 2
- LIL element, 63
- Lithic nodules, carbonate petrology of, 326
- Lysocline, 501
- Magma chamber, 63, 87, 627
- Magma, cooling rates of, 613
 evolution of, 645
 genesis of, 642
 mixing of, 141, 615, 629, 658, 716, 719, 768, 846
- Magmatic upwelling, 789
- Magnesian basalts, 141
- Magnesian glass, 718
- Magnetic anomalies, correlation with, ferrobasalt in crust, 845
 PT-4 area, 32
- Manganese crust, 384
- Manganese in surface sediments, 379
- Manganese, mobilization of in sediments, 379
 variation of downhole, 379
- Mantle heterogeneity, 141, 716
- Marcasite, 811
- Matuyama Boundary, 258
- Matuyama Polarity Epoch, 134, 136, 137, 258, 259, 268, 457, 539
- Metalliferous sediment, 60, 245
 East Pacific Rise, 381
- Mid-Atlantic Ridge (MAR), 5
 basalts from, 257
 drilling on, 85
- Mineral paragenesis, 74
- Montmorillonite, 308
 potassic iron, 84
- Mounds Hydrothermal Field, 238, 325, 755
- Multichannel reflection profile, 94
- Nannofossils, Pliocene/Pleistocene boundary, 535
 stratigraphy of, 535
 zonation, 537 Figure 2
 comparison with magnetic age, 537 Table 1
- Nazca Plate, 5, 493
 basalt from, 257
 sediments from, 381
- Nephrosprysis renilla lana*, new radiolarian subspecies, 438, 448 Figure 1
- Nesosemantis hofferti*, new radiolarian species, 438, 444 Figures 1-3
- Nontronite, 307, 312, 381, 407, 408, 413
 chemical composition of, 311
 origin of, 382, 383, 384, 385
- “Normal” mid-ocean ridge basalt, 764
- North Atlantic transects, 84
- North Equatorial Countercurrent, 487, 498
- Nunivak Positive Event, 102, 135
- Ocean-bottom seismometer survey, 87
- Ocean-floor lavas, volatile contents of, 659
- Ocean layered crustal structure, 87
- Ocean ridge basalt, average composition of, 686, 687
 Table 7
- Oceanites, chromium spinel in, 611
 defined, 608
 olivine in, 608, 628
 plagioclase spherulites in, 608
- OCP Moat, 92
- OCP Ridge, 137, 391

- OCP Ridge basalt, geochemistry of, 121, 640–641
Table 3
- OCP Ridge volcanism, 138, 710, 721
- Off-rise seamounts and ridges, basalt from, 84
- Olduvai Normal Event, 136, 137, 258, 259, 455, 457, 493
- Olivine in basalt, experimental data on, 607
- Olivine mineralogy, 760
- Olivine tholeiites, 141
- Opal phytoliths, defined, 575
- Opaque oxides, mineralogy of, 744
- Operations, Leg 54, 8
- Ophiolites, 416, 844
- Ore minerals, occurrences of, 790–792 Table 1
- Pacific Transect area, drilling difficulties in, 85
sediment isopach chart, 93
- Pacific Transect-4 survey area, bathymetry of, 88
Figure 2
- Pahoehoe, 48, 60
- Paleomagnetic measurements, methods of, 10, 865
- Paleomagnetism, 865
- Paleoceanography, foraminifers, 498
- Panama Basin, chlorite in, 316
detrital kaolinite, 316
sedimentation history of, 315
smectite in, 316
- Panama Gulf, illite in, 316
- Partition coefficients, ferrobasalts, 91
- Peru Current, 425, 545
- Phenocrysts, 652
crystallization history of, 658
electron microprobe analyses, 654
- Philippine Sea fracture zone, basalt geochemistry, 701
basalt modal composition, 697 Table 1
basalt petrography, 698
- Physical properties, methods of measuring, 11
- Phytoliths, 113
- Picrites, 794
- Picritic basalts, 31
chemical analyses of, 74
olivine in, 72
orthopyroxene in, 74
petrology and mineralogy of, 72
plagioclase in, 73
spinels in, 73
- Pillow basalts, zones of crystallization in, 607, 611
- Pillow flow progradation, 56
- Pillow walls, 45
- Pillowed cones, 48
- Pillows, morphology of, 48
- Plagioclase, composition of, 760 Table 3
mineralogy of, 743, 745 Table 3, 758
- Plate-boundary volcanism, 61
- Plate fabric, 26
- Ponded basalts, 810
- Ponded lavas, 594
- Pseudocubus warreni*, new radiolarian species, 437, 444 Figures 5 and 6
- PT-4 area, sediment accumulation rate, 28
basalts from, 267
- Pyrite
- Quebrada fracture zone, 91
- Radiolarians, biozonation of, 427
East Pacific Rise, 431–432 Table 3
- Galapagos Spreading Center, 433
- Holes 419 and 419A, 430
Hole 420, 427
Hole 421, 432
Hole 422, 432
Hole 423, 432
Site 424, 427
Site 427, 425
species list, 435
- Rare-earth elements in sediments, 371
- Red Sea, hydrothermal deposits in, 413
- Ridge-centered hot spot, 61
- Rift zone sediments, 307
- Rise-crest magma chamber, 89
- Rise tholeiite suite, magmatic processes of, 711
- Rock fracturing, 56
- Rock magnetic measurements, 870
- San Juan River, chlorite from, 317
- Seamounts, 26, 58
volcanic origin of, 59
- Sea water, hydrothermal circulation of, 627
- Secondary metal enrichment, sediments, 329
- Sediment classification, 15
- Sediment lithology, Hole 425, 247
- Sediment, magnetic properties of, 146
- Sediment mounds, composition and origin of sediment, 377
- Sediment, X-ray diffraction studies, 323
- Sedimentary structure symbols, 18, Figure 10
- Sedimentation rate, Site 82, 113
Hole 419, 113
Hole 420, 113
- Sediments, biozonation used for, 111 Table 10
chemical composition of, 899
clay mineralogy of, 307
elemental analyses of using XRF, 321
from East Pacific Rise, 137
hydrothermal components in, 140
magnetic properties of, 134
major-element chemistry of, 329
methods of chemical analysis, 319
redistribution and sorting of, 108
slumping of, 84
trace metal analyses by atomic absorption, 321
water contents of, 135 Table 18
X-ray diffraction analyses, 307, 325
- Sheet flow lavas, 139
- Shield volcano, 48, 594, 837, 838
- Silicoflagellates, *Mesocena quadrangula*, new species, 545
- Peru Current assemblages, 250
- Quaternary, 545 Figure 3, 549 Figure 5, 550
Figure 6, 551 Figures 7 and 8
- Silicate mineralogy, Leg 54 basalts, 651
- Sill, basaltic, 84
- Siqueiros fracture zone, 5, 329, 395
basalt from, 84
geochemistry of, 121, 635, 642 Table 4, 717

- basaltic glass, composition of, 705
 geology and geophysics of, 23
 igneous rock lithology and petrography, 120
 transitional basalts, 719
- Siqueiros region, morphology of, 23
 seamounts in, 91
- Siqueiros region rocks, petrology of, 31
- Siqueiros sites, micropaleontology of, 110
- Siqueiros transform fault, 43, 61
- Site 397, opal phytoliths, 575
- Site 419, basalts, magnetic properties of, 134
 foraminifers, 512
 interstitial water, 388
 nannofossils, 537
 opal phytoliths, 577, Table 1
 operations, 94
 sedimentation rate, 84
 silicoflagellates, 547
- Site 420, basalt, chemical analyses of, 675
 chemistry of sediments, 400
 foraminifers, 512
 interstitial water, 388
 major-element chemistry, 335
 nannofossils, 538
 opal phytoliths, 577 Table 1
 operations, 94
 physical properties of sediments, 126
 sedimentation rate, 335
 silicoflagellates, 547
- Sites 420 and 421, basalts, magnetic properties of, 134
- Site 421, foraminifers, 513
 nannofossils, 538
- Site 422 basalt, magnetic properties of, 136
 foraminifers, 513
 nannofossils, 539
 olivine in basalt, 119
 opal phytoliths, 578 Table 2
 silicoflagellates, 547
- Site 423, age of basement, 104
 basalt, magnetic properties of, 135
 ferrobasalts, 141
 foraminifers, 513
 nannofossils, 539
 physical properties of basalt, 131
- Sites 419–423, background and objectives, 84
 diatoms, 112
 foraminifers, 110
 nannofossils, 112
 principal results, 83
 radiolarians, 112
 sediment lithology, 104
 silicoflagellate, 112
 summary and conclusion, 138
- Site 424, acoustic stratigraphy, 263
 age of basement, 258, 268, 329, 737
 basal sediment age, 251
 basalt, 254
 alteration of, 415
 chemical analyses, 682
 geochemistry of, 254
 magnetic properties of, 257, 261 Table 13
- modal analyses, 253 Table 9
 petrography, 756
 basement magnetic and physical properties, 268
 correlation of lithology, biostratigraphy, and acoustics, 263
 foraminifers, 511
 geochemistry of hydrothermal deposits, 347
 geochemistry of sediments, 322
 hydrothermal deposits, 332, 339
 mineralogy of, 343
 SEM studies of, 359
- interstitial water, 245, 248 Table 5, 392
 iron nontronites, 242
 lithology of sediments, 331
 major-oxide chemical analyses of sediments, 411 Table 4
- manganese oxide, 346
 mineralogy, 796
 nannofossils, 541
 nontronites, 403
 operations, 236
 physical properties, 264 Table 16
 of basalt, 260, 265 Table 18
 of sediments, 259
 radiolarians, 432
 sediment lithology, 242
 sedimentation rates, 251
 sediments, elemental ratios, 359
 seismic reflection profiles, 262
 silicoflagellates, 547
 sonic velocities of sediments, 264 Table 15
- Sites 424 and 425, background and objectives, 234
 diatoms, 250
 foraminifers, 249
 major-element chemistry of sediments, 329
 nannofossils, 249
 phytoliths, 251
 radiolarians, 249
 silicoflagellates, 250
 summary and conclusions, 262
- Site 425, age of basement, 329, 396, 738
 basalt, 741
 geochemistry, 255
 chemistry of sediments, 400
 foraminifers, 511
 heat flow measurements, 240, 396, 865
 hydrothermal deposits, 408
 interstitial water, 392
 lithology of sediments, 331
 nannofossils, 541
 opal phytoliths, 578, Table 2
 operations, 240
 Quaternary, 548
 radiolarians, 427
 sedimentation rate, 391, 396
 silicoflagellates, 545
- Site 426, operations, 101
- Site 427, biostratigraphic summary, 122–123 Figure 26
 ferrobasalts, 144
 foraminifers, 513
 nannofossils, 541

- opal phytoliths, 578 Table 2
 operations, 101
 sedimentation rate, 457
 sediments, 396
 silicoflagellates, 549
 titanomagnetites, 144
 Site 428, age of basal sediments, 311
 basalt, magnetic properties of, 137
 biostratigraphic summary, 124 Figure 27
 clay minerals, 311
 foraminifers, 514
 nannofossils, 541
 opal phytoliths, 578 Table 3
 operations, 101
 radiolarians, 434
 sedimentation rate, 84
 silicoflagellates, 549
 Site 429, age of basement, 104
 basalt, magnetic properties of, 135
 foraminifers, 514
 nannofossils, 542
 operations, 102
 physical properties of basalts, 131
 Site 426–429, background and objectives, 84
 foraminifers, 110
 interstitial water analysis, 110
 nannofossils, 112
 principal results, 83
 radiolarians, 112
 sediment lithology, 104
 silicoflagellates, 112
 summary and conclusions, 138
 Slumping, 140
 Smectites, 778
 South Equatorial Current, 487
Sphaerozoum crassus, new radiolarian species, 437,
 440 Figures 3–5
 Steady-state magma chambers, 836
 Step-faulting, 91
 Stratigraphic hiatus, upper Pleistocene, 500
 Sub-axial magma chamber, 718
 Sulfides, 120
 mineralogy of, 744, 801
 spherules of, 740
 vein deposits, 799
 Summit graben, 91, 837
 Swallowtail structures, 72
 TAG area, hydrothermal deposits, 410
 Tectonism, 59
 Tholeiitic basalts, composition of, 702, 703, Table 7
 Tholeiitic ferrobasalts, 619
 Tholeiitic magma evolution, 77
 Timor Trough, 517
 Titanomagnetites, 120
 mineralogy of, 746, 800
 Todorokite, 384, 408
 crusts of, 379
 X-ray diffraction studies, 346
 Trace elements, partitioning of, 715
 Trace metal compositions, 327
 Trachyandesites, 308
 Trailing plate edges, ore formation at, 802
 Transform fault, 719
 Transitional basalts, 719
 Troodos ophiolites, 845
 Undercooling, 627, 628
 Velocity data from basalts, effect of iron on, 861
 Vermiculites, 308
 Volcanic activity, 417
 Volcanic glass, 314
 Volcanism, 59, 719
 crestal rift zone, 45
 West Seamount, 59
 X-ray fluorescence (XRF), methods of, 9
 Young oceanic crust, geologic history of, 59