## INDEX


Acoustic basement, 152, 189
  Site 242, 143, 145
  Site 243, 181
  Site 245, 203, 204
  Site 246, 239
  Site 247, 242
  Site 248, 263, 869
  Site 249, 289, 301
Acoustic impedance, method of measuring, 13
  Site 248, 267
  Site 249, 296
Active ridge sediments, Al/K Ratio in, 401
Africa, relationship of Madagascar to, 753
Agulhas Plateau, 664
Al/Fe ratios in ash layers, 401
Al/K ratio in active ridge sediments, 401
  in ash layers, 401
Al/Ti ratios in ash layers, 401
Albian-Vraconian, Site 249, 691
Alkalinity, methods of measuring, 363
Alveolinids, foraminifera, 268
Ammonia, methods of measuring, 363
Amsterdam Island, 187
Analcite, 524
Anomalies, magnetic, 187, 669, 672, 673, 675
Aptian-Albian foraminifera, 298
Arabian Sea, 664
Arabian Sea, spreading (half) rates, 664
Aragonite, 294
Aseismic ridge, 237, 287, 425, 743
Ash, 444
Ash layers, 443, 520
  mineralogy of, 396
  Al/Fe ratios in, 401
  Al/K ratios in, 401
  Al/Ti ratios in, 401
  $SiO_2/Al_2O_3$ ratio in, 401
  Sr/Ca ratios in, 401
Attapulgite, 517
Authigenic carbonate rhombs, 92, 145
Barremian, foraminifera, 298
Barremian, foraminifera, 298
Basal Fe/Mn deposits, 409
Basal iron-rich sediment, 395
Basal metalliferous sediments, characteristics of, 401
  Fe/Mn deposits, 409
  iron-rich sediment, 395
Basalt, 32, 358, 543, 555
  amygdules, 549
  basement, 555
  density, extrusive, 358
    intrusive, 358
  diabasic, 194, 556
  extrusive tholetitic, 680
  glassy, 196, 543
  K–Ar dating methods, 553
  Karroo lavas, 549
  low K tholetites, 675
  major element analyses, 543
  modal data, 543
  Mozambique ridge, 549
  paleomagnetic study of, 555, 556
  tholeites, 295, 556
  trace element data, 543
  vesicles, 549
  vesicular glassy, 295
Basaltic basement, 675, 749
Basaltic tuffs, 539
Basement, See: specific sites
Basis for age determination, foraminifera, 17
  nannofossils, 18
Bedding, cross, 443
  graded, 31, 443
Bedoulian foraminifera, 298
Benthonic foraminifera, See: Foraminifera, benthonic
Biogenic productivity, 197
Biogenic silica-rich facies, environment of deposition, 494
Biostratigraphic correlation, Neogene and Quaternary foraminifera, nannoplankton, 576
Biostratigraphy
  displaced material, 151
  Eocene, 151
  Holocene, 248
  late Eocene, 203
  Miocene, 248
  Miocene, 203
  Neocene, 151
  Pliocene, 248
  Quaternary, 248
  Site 241, 97
  Site 242, 147
  Site 245, 198
  Site 246, 244
  Site 248, 267
  Site 249, 296
Bioturbation, 146, 147, 196, 294
  burrow cast, 265
  burrow mottling, 194, 265, 523
Brown clay, environment of deposition, 495
Bryozoa, 245
Bulk density, method of measuring, 12
  relationship to thermal conductivity, 352
C-M Diagram, 447, 453
Calcarenite, 443
Calcareous nannoplankton, See: Nannoplankton, calcareous
Calcareous sandstone, 93 443
Calcium, methods of measuring, 363
Calcium carbonate compensation depths, See: Carbonate compensation depth
Campanian, foraminifera, 100
  foraminifera, 299
  sediments, 28
Campanian-Maestrichtian boundary, 299
*Campylosphaera eodela* Subzone, 637
Carbon and barbonate analyses, 13
Carbonate, dissolution of 573
Carbonate compensation depth, 95, 101, 197, 266, 297, 444, 454, 528, 539
Carbonate microfossils, dissolution of, 869
  recrystallization of, 193
Carbonate rhombs, 31

Carlsberg Ridge, 65, 87, 663
spreading (half) rate of, 664
Catinaster coalithus Zone (NN8), 296, 585
Central Indian Ocean, 664
Central Indian Ridge, 25, 65, 87, 520, 539, 663
spreading (half) rate of, 664
*Ceratolithis tricorniculatus* Zone, 148
*Ceratolithus primus* Subzone, 647
*Ceratolithus rugosus* Zone (NN13), 244
*Ceratolithus rugosus* Subzone, 641
*Ceratolithus tricorniculatis* Zone (nn12), 97, 296, 584
Chacos Fracture Zone, 536
Chain Ridge, 65, 87
Chalcedony, 196
Chalk, silicified, 193, 196
Channel deposits, 454
Chemical changes in interstitial waters
Site 239, 365
Site 241, 368
Site 242, 368
Site 245, 368
Site 248, 370
Site 249, 370
Chert, 193, 196, 496
*Chiasmolithus danicus* Zone, 34, 198, 589
*Chiphragmalithus alatus* Zone (NP15), 198, 199, 590
*Chiphragnalithus altus* Zone (NP15), 587
Chloride, methods of measuring, 363
Chlorite, 517
Classification of pelagic deposits, 482
Claystones, 295
Clinoptilolite, 193, 294, 295, 417, 427, 517, 524, 529
Coccoliths, See: Nannoplanton, calcareous
Collosphaerids, 657
Comoro Abyssal Plain, 141, 179
Comoro Islands, 533, 537
Compressional ware velocities, 358
Compressional wave velocity, method of measuring, 12
Condensed sequence
Site 240 hiatus, 739
Site 248 hiatus, 740
Condensed sequences, hiatuses, 687
Continental drift, 663
Contour, currents, 454
Convolute lamination, 443
Cores, handling of, 11
Cretaceous,
foraminifera, 35, 99, 298, 297
nannoplankton, 34, 98, 296, 589
Cretaceous sediments, 690, 727
*Cribrohantkonina inflata* Zone, 150
Cristobalite, 266, 294, 524, 528
spherulitic, 196
Cross bedding, 94, 443
Crozet Basin, 187, 664, 673
Crozet Plateau, 664, 743
*Cruciellipsis cuvillieri* Zone, 647
*Cruciplacolithus tenuis* Zone, 34, 589
Cumulative curve, grain size analysis, 446
Curie temperature, 559
Current deposits, 94
Currents, contour, 454
Cyclic nature of Site 242 Oligocene sediments, 147
*Cyclococcolithina macintyrei* Subzone, 641
Davie Ridge, 151, 141, 147, 179, 352, 422, 680
environment of deposition, 494
Site 242, 139
Volcanogenic sediments, 520, 539
Deccan Trap basalts, 533
Density, extrusive, basalt, 358
intrusive, basalt, 358
Density current flows, 727
Devitrification, 193, 196, 528
Diabasic Basalt, 194, 556
Diagenesis, 449, 456, 524, 528
Diatoms, 444
*Dictyocha epiodon* Zone, 637
*Discoaster asymmetricas* Zone (NN14), 148, 583
*bardadiensis* Zone, 590
*berggrenii* Subzone, 647
*bifax* Subzone, 647
*binodosus* Zone (NP11), 198, 588
*brouweri* Zone (NN18), 97, 148, 267, 583
*Calcaris* Zone (NN10), 33, 97, 267, 296, 584, 590
*druggi* Zone (NN2), 585
*exilis* Zone (NN6), 585
*gemmeus* Zone (NP7), 198, 588
*hamatus* Zone, 33, 97, 148, 296, 584
*kugleri* Zone, 148, 296, 585
*lodoensis* Zone, 98, 198, 587
*multiradiatus* Zone (NP9), 73, 198, 588, 590
*neohammatus* Zone, 590, 647
*pentaradiatus* Zone, 97, 148, 583
*quinqueramus* Zone (NN11), 33, 73, 97, 296, 584
*saipanensis* Zone (NP17), nannoplankton, 198, 199, 590
*sublodoensis* Zone (NP14), 98, 198, 199, 587, 590
*surculus* Zone (NN16), 97, 148, 583
*tani nodifer* Zone (NP16), 199, 587
*exilis* Zone, 148
Displaced material, 151, 203
Displacement by turbidity currents, 100
Dissolution, 95, 102
Dissolution of,
calcium carbonate, 297, 573, 740
carbonate microfossils, 869
foraminifera, 37, 74, 75, 99, 100, 149, 151, 203, 268
nannoplankton, 199, 267
Dissolved silica, methods of measuring, 363
Dolomite, 94, 449
Dolomitic overgrowths, 95
Downhole instrument (DHI), 349
Drilling disturbances, 12
Early Cretaceous, 297, 689
Early early miocene, 575
Early Eocene,
benthonic foraminifera, 203
foraminifera, 201, 202
radiolaria, 657
Early Eocene-middle Miocene Radiolaria, 657
Early late Miocene foraminifera, 575
Early middle Miocene foraminifera, 575
Early Miocene
foraminifera, 246, 575
sediments, 575

Early Paleocene manganiferous sediments, 395
East Africa
  geology of, 438
  rifting of, 737
East African continental margin, 89
East African continental rise, 87, 89, 422, 432, 436, 437, 519
Eastern region, geology of Madagascar, 438
Echinoids, 246
Elastic moduli, 358
*Ellipsolithus macellus* Zone (NP4), 198, 589, 590
*Emiliana annula* Subzone, 641
*Emiliania huxleyi* Zone, 73, 97, 147, 244, 267, 579
Environment of deposition
  biogenic silica-rich facies, 494
  brown clay, 495
  foram sand, 494
  nanno ooze and chalk, 492
  pyritic facies, organic carbon-rich facies, 495
Eocene biostratigraphy, 151
  calcareous nannoplankton, 149
  foraminifera, 99, 101, 149, 150, 151, 199, 201, 202, 245, 246, 247
  nannoplankton, 198, 267
  paleoenvironment, 635
  sediments, 71
Eocene and Miocene, reworked fossils, 869
Eocene/Oligocene boundary, 590
Epeirogenic movements, Madagascar Ridge, 738
Equatorial water mass circulation, 497
*Ericsonia subdisticha* Zone (NP21), 149, 587
Explanatory Notes, 10
Extrusive basalt, density, 358
Extrusive tholetitic basalt, 680
*Fasciculithus tympaniformis* Zone (NP5), 34, 198, 588
Faulting, high-angle, 194
Ferromanganoan oxides, 194, 523
Fish debris, 193, 246, 444
Flexotir
  seismic reflection data, 25, 67
  Site 243, seismic reflection data, 181
  Site 249, seismic reflection data, 209
Fluxo-turbidites, 453
Flysch, 95, 443, 444, 447, 737
Foram sand, environment of deposition, 494
Foraminifera
  alveolinids, 268
  Aptian-Albian, 298
  assemblages, 203
  Barremian, 298
  basis for age determination, 17
  Beddoulian, 298
  benthonic assemblage, 151, 203, 443
  Campanian, 100, 299
  Campanian-Maestrichtian boundary, 299
  cool and warm water planktonic, 576
  corroded, 245
  Cretaceous, 35, 99, 297, 298
  *Cribrohantkonina inflata* Zone (P16), 150
  Danian, 199, 200
  displaced benthonic, 203
  displacement by turbidity currents, 100
  dissolution of, 37, 74, 75, 99, 100, 149, 151, 203, 268
  Early Cretaceous, 297
  Early early Miocene, 575
  Early Eocene, 201, 202, 203
  Early Eocene, benthonic, 203
  Early late Miocene, 575
  Early middle Miocene, 575
  Early Miocene, 246
  Early Miocene, Zone N4–N8, 575
  Eocene, 99, 101, 150, 151, 199, 201, 202, 245, 246, 247
  *Globigerina daubjergensis* Zone, 37
  *G. (M.) formosa* Zone (Zone P7), 247
  *G. (M.) palmerae* Zone (P8–P9), 247
  *Globontalia rex* Zone (P6), 74, 247
  *G. (M.) velascoensis* Zone (P5), 201
  *G. gortanii-G. centralis* Zone (Zone P17), 151
  *G. tapuriensis* Zone (Zone P17–P18), 151
  *Globigerinatheka semiinuoluta* Zone (Zone P15) 150
  *Globoquadrina altispira* Zone, 574
  Hauterivian, 298
  Holocene, 149, 244
  large, 99
  Late Cretaceous, 36, 299
  late early Miocene, 575
  late Eocene, 202
  late late Miocene, 575
  late middle Miocene, 575
  late Miocene, Zones N16–N18, 575
  Maestrichtian, 100
  Middle Miocene, Zones N9–N8, 245
  Middle Eocene, 202
  Middle Miocene, Zones N9–N15, 575
  Miocene, 99, 149, 248, 297
  Miocene, Zones N10–12, 245
  Miocene (N18), 268
  Miogypsinid, 268, 869, 245, 248
  Neocomian, 298
  Neogene, 34, 74, 98, 149, 244, 297, 298, 575
  Oligocene, 98, 149, 150, 151, 246
  Paleocene, 99, 200, 203, 246, 247, 300
  Paleocene, benthonic, 203
  Paleogene, 35, 36, 74, 199, 246, 268, 297
  Pleistocene, 149
  Pliocene, 149, 576
  Pliocene, Zones N19–N21, 576
    Zones N22–N19, 245
  preservation of, 573
  Quaternary, 34, 74, 98, 149, 244, 245, 268, 297
  reworked, 101, 150, 297
  Santonian, 100
  Senomian, 100
  Senonian, 297, 299
  shallow water, 248, 268, 869
  Site 239, 34
  Site 240, 74
  Site 241, 98
  Site 242, 149
  Site 243, 184
  Site 244, 184
  Site 246, 244

Site 248, 268
Site 249, 297
solution of, 35
Subzone P6A, 201
Subzone, P66, 201
Turonian, 100
Valangian, 298
Vraconian, 298
Zonation scheme, 574
Zone N3, 99
Zone N4, 99
Zone N5–N16, 99, 149
Zone N13/N14, 268
Zone N18, 35
Zone N19, 99, 297
Zone N20, 99
Zone P1, 200
Zone P2, 200
Zone P3, 200, 203
Zone P4, 203
Zone P7, 75, 201, 202, 247
Zone P8, 202
Zone P9, 201, 202
Zone P21, 150
Zone P22, 150
Fracture zones, 663, 667, 669
*G. (M) rex* Zone (Zone P6), foraminifera, 247
*G. (M) palmerae* Zone (P8–P9), foraminifera, 247
*G. (M) velascoensis* Zone (P5), foraminifera, 201
*G. gortanii-G. centralis* Zone, 151
*G. tapuriensis* Zone, 151
Geochemical analysis, methods, 405
Geologic history, Western Indian Ocean, 633
Geology of
East Africa, 438
Madagascar
eastern region, 438
western region, 438
Mascarene Islands, 437
Seychelles, 438
Geothermal gradient, 352
*Gephyrocapsa oceanica* Zone, 97, 147, 267, 579, 641
Glass shards, 520
Glassy basalt, 196, 545
Glauconite, 92, 145, 243, 246, 247, 294, 425, 444, 524, 529, 738
Glauconitization, 431
*Globigerina daubjergensis* Zone, 37
*Globigerinatheka semiinuoluta* Zone, 150
*Globoquadrina altispira* Zone, 574
*Globorotalia rex* Zone, 74
Goethite, 427, 524
Gondwana, 540, 663, 691
Graded bedding, 31, 94, 422, 443, 444, 446, 449, 454
Grain flows, 453
Grain size analyses methods, 13, 417
Granite, Site 244, 184
GRAPE, physical properties, 11, 352
Green mud, 455
Greenschist facies, 531
Gulf of Aden, 743
Gypsum, 29, 266
Halmeic components
Fe-Mn oxides, 490
Fe-Mn pyrite, 490
zeolites, 490
Hauterivian, 690
Foraminifera, 298
Heat flow, 349, 352
Site 242, 144
Site 248, 263
Site 249, 289
Heavy and light mineral suites, 737
Heavy minerals, 436
Site 239, Mascarene Basin, 417, 436
Site 240, Somali Basin, 418, 437
Site 241, East African continental rise, 422, 437
Site 246, Madagascar Ridge, 423, 437
Site 248, Mozambique Basin, 437
*Helicopontosphaera ampliaperta* Zone, 148, 585
*Helicopontosphaera reticulata* Zone, 149, 587
*Helicopontosphaera sellii* Zone, 641
*Heliolithus kleinpelli* Zone, 198, 588
*Heliolithus riedeli* Zone, 198, 588, 590
Heloise and Van Cluse, offshore drill holes, 690
Hemihalmeic components, 491
Hempipelagic sediments, 95
interstitial water in, 371
Hiatus, condensed sequences, 687
Site 239, 740
Site 240, 739
Site 241, 739
Site 245, 740
Site 246, 740
Site 246, 243
Site 248, 740
Site 249, 736
Site 249, 740
Stratigraphic gaps, 687
High-angle faulting, 194
Holocene, biostratigraphy, 248
foraminifera, 149, 244
Hydrothermal exhalations, 196
Illite-mica, 517
Inclinometer measurements, 27, 144, 189, 263, 289
Indian Ocean, 5
Intersertal textures, 32
Interstitial water
hemipelagic sediments, 371
pelagic deep-sea sediments, 371
terrigenous hemipelagic sediments, 371
Interstitial water studies, methods of, 361, 363
Interval velocity
Site 248, 271
Site 249, 301
Intrusive basalt density, 358
Iron-manganese oxides, 193, 194
Iron-rich sediments, method of analyses for, 395
*Ismolithus recurvus* Zone, 198
Isothermal remanent magnetization, 559
*Isthmolithus recurvus* Zone, 149, 199
K-Ar dating methods, basalt, 553
Kaolinite, 517

Kaolinite+mica-montmorillonite+chlorite-palygorskite, ternary plot, 444, 456
Karroo, 87, 689
Karroo age volcanics, 531
Karroo basalts, 540, 549
Kenya, 537
Kerguelon-Heard plateau, 664, 743
*Lamellibranchia,* 246
Laminations, 294
Lamination, convolute, 443
Laminite, 443, 444, 449
Lamu, seisimic refraction at, 87
Large foraminifera, 99
Late Campanian-earliest Cenomanian, stratigraphic hiatus, 300
Late Cretaceous
  foraminifera, 36, 299
  Radiolaria, 657
  south to north transgression, 737
Late early Miocene foraminifera, 575
Late Eocene biostratigraphy, 203
  foraminifera, 202
Late Jurassic sediments, 689
Late late Miocene foraminifera, 575
Late middle Miocene foraminifera, 575
Late Miocene
  sediments, 575
  Zones N16–N18, 575
Lebombo Monocline, 266
Leg 25 sites, regional setting, 687
Light mineral suites, 737
Light minerals, 432
Limestone, 31
Lithic tuffs, 524
Lithification, 92
  of pelagic sediments, 147
Lithologic break, 293
Lithologic summary
  Site 239, 725
  Site 240, 725
  Site 241, 725
  Site 242, 727
  Site 245, 727
  Site 246, 727
  Site 248, 727
  Site 249, 727
*Lithraphidites quadratus* Zone, 297
Low K-tholeiites, basalt, 675
Lower/middle Eocene boundary, nannoplankton, 590
Lussatite, 406
Madagascar, 25, 31, 65, 89, 141, 537
  comparison to, Site 249, 691, 692
  eastern region, geology of, 438
  paleopositions of, 139, 141, 177, 179, 684
  polycyclic uplift of, 680
  volcanism, 532
  western region, geology of, 438
Madagascar Basin, 395, 663, 664, 667, 677, 680
  Magnetic anomalies, 669
  Site 245, 663, 675
  Site 245, volcanogenic sediments, 520, 539
Madagascar Precambian Massif, 431
Madagascar Ridge, 177, 187, 237, 259, 287, 423, 425, 432, 524, 540, 664, 681, 743
  Epeirogenic movements, 738
  heavy minerals, Site 246, 437
  stratigraphic gaps, 682
  terrigenous minerals, Site 246, 436
  volcanogenic sediments, Site 246, 539
Maestrichtian foraminifera, 100
Maestrichtian-Campanian boundary, 297
Maestrichtian-Miocene stratigraphic hiatus, 692
Magnesium, methods of measuring, 363
Magnetic age of crust, Site 245, 677
Magnetic Anomalies, 25, 141, 187
  anomalies 22-19, 672
  anomalies 24-26, 672
  anomalies 26-23, 669
  anomalies 27-29, 669
  anomalies 27-25, 675
  anomalies 28-29, 673
  anomalies 28-30, 672
  anomalies 29-21, 669
  anomalies 32-33, 673
  anomalies 32-31, 675
  anomalies 33-31, 669
  anomaly 17, 692
  anomaly 22, 672
  anomaly 23, 672
  anomaly 24, 672
  anomaly 30, 669
  anomaly 32, 669
  anomaly 38, 669
  Madagascar Basin, 669
  Mascarene Basin, 669
  western Indian Ocean, 749
Magnetic lineations, 663
Magnetic time scale, 19, 675
Mahanoro Ridge, 667
Major element analyses, basalt, 543
Major results
  Site 239, 753
  Site 240, 754
  Site 241, 755
  Site 242, 755
  Site 243, Site 244, 756
  Site 245, 756
  Site 246, Site 247, 757
  Site 248, 757
  Site 249, 758
Majunga Basin, 692
Manganese, 402
Manganese
  methods of measuring, 363
  micronodules, 193
  nodules, 31, 193, 197, 455
Manganese oxides, 402
Manganese stratum, basal, 680
Manganiferous sediments, early Paleocene, 395
Marion Island, 187
*Markalius inversus* Zone, 589
*Marthasterites contortus* Zone, 198, 588, 590

*Marthasterites tribrachiatus* Zone, 73, 268, 588
Mascarene Abyssal Plain, 27
Mascarene Basin, 25, 187, 536, 663, 667, 675
  heavy minerals, 436
  magnetic anomalies, 669
  stratigraphic gaps, 682
  terrigenous minerals, 432
  volcanogenic sediment, 517
Mascarene Island group, 533
Mascarene Islands, 25, 187, 431, 743
  geology of, 437
Mascarene Plateau, 25, 65, 237, 287, 431
Massive sand, 443, 444, 446, 451, 727
  source area of, 727
Matrix, 449
Mechanical mixing of sediments, 573
Metallic components, 196
Micarb, 193
Micrite, 449
Microcontinents, 237, 287
Micronodules, Manganese, 193
Mid-oceanic Ridges, 743
Middle Cretaceous, 691
Midde Miocene, Zones N9-N8, 245
Middle Eocene foraminifera, 202
Middle Miocene
  sediments, 575
  Zones N9-N15, 575
Middle Miocene-Late Cretaceous unconformity, 295
Middle Miocene-Maestrichtian stratigraphic hiatus, 300
Mineralogy of
  ash layer, 396
  terrigenous sediments, 737
Miocene
  biostratigraphy, 203, 248
  foraminifera, 99, 149, 245, 248, 268, 297
  nannoplankton, 33, 148, 198, 244, 267, 296
Miocene/Oligocene boundary, 590
Miocene-Pliocene boundary, 641
Miocene-Recent, sedimentation rate, 203
Miogypsinid, 245, 248, 268, 869
Mixed-layer clay, 427
Montmorillonite, 294, 427, 517, 539
Movene basalts, 532, 540
Mozambique, 139, 664
  coastal areas, comparison to, Site 249, 690, 691
Mozambique Basin, 141, 353, 540, 664, 680
  heavy minerals, Site 248, 437
  seismic refraction profile of, 259
  terrigenous minerals, Site 248, 436
  volcanogenic sediments, Site 248, 539
Mozambique Channel, 139, 141, 177, 179, 259, 422, 520, 680
  stratigraphic gaps, 682
Mozambique coastal area
  comparison to Site 249, 692
  comparison to Site 242, 695
Mozambique Ridge, 177, 179, 187, 237, 259, 287, 289, 353, 423, 664, 737, 743
  basalt, 549
  Site 249, 287
  volcanogenic sediments
    Site 249, 539
Mudstone, silicified, 266
Nannoplankton
  basis for age determination, 18
  biostratigraphic correlation, Neogene and Quaternary foraminifera, 576
  *Campylosphaera eodela* Subzone, 637
  *Catinaster coalithus* Zone (NN8), 296, 584
    *primus* Subzone, 647
    *rugosus* (NN13), 244
    *rugosus* Subzone, 641
    *tricorniculatis* Zone (NN12), 97, 148, 296, 584
  *Chiasmolithus danicas* Zone (NP3), 34, 198, 589
  *Chiphragmalithus alatus* Zone (NP15), 198, 199, 587, 590
  Cretaceous, 34, 98, 296, 589
  *Cruciellipsis cuvillieri* Zone, 34, 647
  *Cruciplacolithus tenuis* Zone (NP2), 589
  *Cyclococcolithina macintyrei* Subzone, 641
  *Discoaster*
    *asymmetricas* Zone (NN14), 148, 583
    *barbadiensis* Zone, 590
    *berggrenii* Subzone, 647
    *bifax* Subzone, 647
    *binodosus* Zone (NP11), 198, 588
    *brouweri* Zone (NN18), 97, 148, 267, 583
    *calcaris* Zone (NN10), 73, 97, 296, 584, 590
    *druggi* Zone (NN2), 585
    *exilis* Zone (NN6), 585, 148
    *gemmeus* Zone (NP7), 198, 588
    *hamatus* Zone (NN9), 33, 97, 148, 296, 584
    *kugleri* Zone (NN7), 148, 296, 585
    *lodoensis* Zone (NP13), 98, 198, 587
    *multiradiatus* Zone (NP9), 73, 198, 588, 590
    *neohamatus* Zone, 590, 647
    *pentaradiatus* Zone, (NN17), 97, 148, 503
    *quinqueramus* Zone (NN11), 23, 198, 588, 590
    *saipanensis* Zone (NP17), 198, 199, 590
    *sublodoensis* Zone (NP14), 98, 198, 199, 587, 590
    *surculus* Zone (NN16), 97, 148, 583
    *tani nodifer* Zone (NP16), 199, 587
  Dissolution of, 199, 267
  *Ellipsolithus macellus* Zone (NP4), 198, 589, 590
  *Emiliania annula* Subzone, 641
  *Emiliania huxley* Zone (NN21), 73, 97, 147, 244, 267, 579
  Eocene, 149, 198, 267
  Eocene/Oligocene boundary, 590
  *Ericsonia subdisticha* Zone (NP21), 149, 587
  *Fasciculithus tympaniformis* Zone (NP5), 34, 198, 588
  *Gephyrocapsa oceanica* Zone (NN20), 97, 147, 267, 579, 635, 641
  *Helicopontosphaera*
    *ampliaperta* Zone (NN4), 148, 585
    *reticulata* Zone (NP22), 149, 587
    *sellii* Zone, 641
    *kleinpelli* Zone (NP6), 198, 588
    *riedeli* Zone (NP8), 198, 588, 590
  *Ismolithus recurvus* Zone (NP19), 149, 198, 199
  *Lithraphidites quadratus* Zone, 297

Lower/middle Eocene boundary, 590
Maestrichtian-Campanian boundary, 297
*Markalius inversus* Zone (NP1), 589
*Marthasterites*
*contortus* Zone (NP10), 198, 588, 590
*tribrachiatus* Zone (NP12), 73, 268, 588
Miocene, 33, 148, 198, 244, 267, 296
Miocene/Oligocene boundary, 590
Miocene-Pliocene boundary, 641
Neogene, 73, 97, 148, 244, 267, 296
*Nephrolithus frequens* Zone, 297, 647
Oligocene, 149
Paleocene, 33, 73, 98, 148, 198, 203, 244, 268, 590
Paleocene/Eocene boundary, 590
Pleistocene/Pliocene, 33, 589
Pliocene, 244, 296
Pliocene/Miocene boundary, 590
Preservation of, 590
*Pseudoemiliania lacunosa* Zone (NN19), 97, 267, 579
Quaternary, 73, 97, 147, 244, 267, 296, 579
*Reticulofenestra*
*pseudoombilica* Zone (NN15), 97, 148, 267, 583
*umbilica* Zone, 590
*Sphenolithus*
*belemnos* Zone (NN3), 98, 148, 585
*ciperoensis* Zone (NPZ5), 33, 98, 148, 586
*distentus* Zone (NP24), 149, 587
*heteromorphus* Zone (NN5), 98, 148, 585
*pseudoradians* Zone (NP20), 34, 149, 587, 590
*predistentus* Zone, 149, 587
*Tani nodifer* Zone (NP16), 590
Tertiary, 583
*Tetralithus trifidus* Zone, 641, 647
*Triquetrorhabdulus*
*carinatus* Zone (NN1), 98, 585, 590
rugosus Subzone, 641
Upper Eocene, 590
Upper/middle Eocene boundary, 590
Zone NN10, 296
Zone NN11, 296
Natural remanent magnetization, 560
Nbadana beds, 591
Nearshore indicators, Site 246, 248
Needle-probe, 351
Negative event, 672
Neocomian, 689, 690
Neogene
biostratigraphy, 151
calcareous nannoplankton zonation, 97, 148
foraminifera, 34, 74, 98, 149, 244, 297, 575
nannoplankton, 73, 244, 267, 296
Neomorphic calcite, 449
Nepheloid layer, 458
*Nephrolithus frequens* Zone, 297, 647
Ninetyeast Ridge, 743
Nodules, manganese, 193, 197
Noncarbonate fraction of sediments, Site 248. 409
Noncarbonate sediments, Site 249, 409
Nontronites, 402
Northern Madagascar, Eocene, 694
Northwestern Mozambique Basin, 423
Oceanic ridges, 237, 287
Oligocene, 248
calcareous nannoplankton, 149
foraminifera, 98, 149, 150, 151, 246
sediments, cyclic nature of, 147
Operational summary, 5
Organic carbon, 294, 449
Organic carbon-rich facies, environment of deposition, pyritic facies, 495
Ostracods, 246
Otoliths, 245, 647
Overbank deposits, 454
Palagonite, 31, 491
Paleocene
benthonic, foraminifera, 203
foraminifera, 99, 200, 246, 247, 300
nannoplankton, 198, 203, 590
Paleocene/Eocene boundary, 590
Paleoenvironment, Eocene, 635
Paleogene
foraminifera, 35, 36, 74, 199, 246, 268, 297
nannoplankton, 33, 73, 98, 148, 244, 268
Paleomagnetic study of basalt, 555, 556
Paleoposition of Madagascar, 39, 141, 177, 179, 684
Palygorskite, 71, 293, 294, 409, 456, 517, 520, 523, 539
Pelagic deposits
classification of, 482
lithification of, 147
Site 239, 484
Site 240, 484
Site 242, 484
Site 246, 484
Pelecypod fragment, 243
pH, methods of measuring, 363
Phillipsite, 30, 427, 517, 524
*Phormocyrtis stiata striata* Zone, 657
Physical properties
GRAPE, 11
methods of, 12
Plate tectonics, 663
Pleistocene
biostratigraphy, 869
foraminifera, 149, 244
sediments, 28
Pleistocene/Pliocene nannoplankton, 33, 589
Pliocene, 151
biostratigraphy, 248
foraminifera, 149, 245, 576
nannoplankton, 244, 296
sediments, 576
Pliocene/Miocene boundary, nannoplankton, 590
Pliocene-Miocene sedimentation rate, 869
Porphyritic, basalt, 196, 266, 556
Positive event, 673
Potassium, methods of measuring, 363
Preservation of
foraminifera, 573
nannoplankton, 590
Prince Edward Island, 187
*Pseudoemiliania lacunosa* Zone, 97, 267, 579
*Pseudoeunotia doliolus* Zone, Silicoflagellates, 637

Pteropods, 245
Pyrite, 31, 92, 145, 242, 265, 293, 427, 444, 449, 456, 528
  aggregate, 245
Pyritic facies, 495
Pyroclastic flow, 529
Quaternary
  biostratigraphy, 151, 248
  calcareous nannoplankton zonation, 97, 147
  foraminifera, 34, 74, 98, 149, 244, 245, 268, 297, 576
  nannoplankton, 73, 244, 267, 296, 579
  Radiolaria, 657
  rate of sedimentation, 869
  sediments, 71
Quaternary sediments, Site 249;300
Radiolaria, 299, 444, 657
  early Eocene, 657
  early Eocene-middle Miocene, 657
  Late Cretaceous, 657
  *Phormocyrtis striata striata* Zone, 657
  Quaternary, 657
  Site 239, 657
  Site 240, 657
  Site 248, 657
  Site 248, 859
  Site 249, 657
Radiometric dating, Rb/Sr methods, 532
Rajmahal Trap Basalts, 533
Rate of sedimentation, Quaternary, 869
Rb/Sr methods, radiometric dating, 532
Recrystallization of carbonate microfossils, 193
Redox Reactions, 409
Reefoid conditions, 248
Reflection profiles and lithologies
  Site 242, correlation of, 152
  Site 245, correlation of, 203
  Site 248, correlation of, 869
  Site 249, correlation of, 300
  Site 239, correlation of, 37
  Site 240, correlation of, 75
  Site 241, correlation of, 102
Regional setting, Leg 25 sites, 687
*Reticulofenestra pseudombilica* Zone, 97, 148, 267, 583
*Reticulofenestra umbilica* Zone, 590, 590
Rhodochrosite, 405, 444, 528
Rifting of East Africa, 737
Rip-up clasts, 94
Salinity, methods of measuring, 363
Santonian foraminifera, 100
Sea-floor spreading, 663
Western Indian Ocean, 746
Sea-water alteration, basalt, 543
Sediment classification and nomenclative rules, 13
Sediment porosity, method of measuring, 12
Sediment squeezing, temperature, effect of, 364
Sediment temperature
  Site 242, 349
  Site 248, 350
  Site 249, 350
Sedimentary deposits, southwestern Indian Ocean, 725
Sedimentary structures, terrigenous muds, 456
Sedimentation rate, 18, 738
  Miocene, 151, 300
  Miocene-Recent, 203
  Pliocene-Miocene, 869
  Site 239, 37
  Site 240, 75
  Site 241, 102, 107, 576
  Site 242, 151, 152
  Site 245, 203
  Site 246, 248
  Site 248, 407
  Site 249, 297, 300, 408
Sediments
  Campanion, 28
  early Miocene, 575
  Eocene, 71
  interstitial water in, 371
  Late Jurassic, 689
  late Miocene, 575
  mechanical mixing of, 573
  middle Miocene, 575
  Pleistocene, 28
  Pliocene, 576
  Quaternary, 71
  Site 243, Site 244, 484
  Site 248, 484
Seisimic refraction at Lamu, 87
Seismic profiling system, 10
Seismic reflection data
  Flexotir, 25, 67, 181
  Site 241, 87
  Site 243, 181
  Sites 246 and 247, 239
  Site 249, 289
Seismic refraction profile of Mozambique Basin, 259
Senomian foraminifera, 100, 297, 299
Seychelles, geology of, 438
Seychelles Bank, 65, 87, 743
Seychelles Islands, 65, 87, 451
Shallow water
  assemblage, 245
  benthonic foraminifera, 248, 268
  environment, 245, 246
  environment, foraminifera, 869
  indicators, 431
Shearwave velocities, 357
Sheba Ridge, 664
Silica, methods of measuring dissolved, 363
Siliceous components in pelagic sediments, 489
Silicified
  chalk, 193, 196
  mudstone, 266
Silicoflagellates
  *Dictyocha epiodon* Zone, 637
  *Pseudoeunotia doliolus* Zone, 637
  *Tribrachiatus orthosytlus* Zone, 637
$SiO_2/Al_2O_3$ ratio in ash layers, 401
Site 239
  basalt, 543
  basement, 27, 675
  bulk density, 32
  carbonate compensation depth, 32, 37
  chemical changes in interstitial waters, 365
  composition of, silt-size component, 417

correlation of reflection profiles and lithology, 37
foraminifera, 34
grain size analysis, 417
heavy mineral studies, 417
inclinometer measurements, 27
lithology, 28, 725
major results, 753
Mascarene Basin, 663
heavy minerals, 436
terrigenous minerals, 432
volcanogenic sediment, 517
nannoplankton, 33, 635
objectives, 9, 27
pelagic deposits, 484
Radiolaria, 657
sedimentation rate, 37
sonic velocity, 33
summary and conclusions, 38
Site 240, 25
basalt, 72, 543
bulk density, 72
carbonate compensation depth, 72
correlation of reflection profiles and lithology, 75
foraminifera, 74
grain size analysis, 417
grain size nomenclature, 417
heavy minerals, 418
lithology, 70, 725
major results, 754
massive sands, 727
nannoplankton, 73, 637
objectives, 9, 67
pelagic deposits, 484
physical properties, 72
Radiolaria, 657
sedimentation rate, 75
sonic velocity, 73
summary and conclusions, 76
survey data, 67
Site 241
biostratigraphy, 97, 102
bulk density, 95
calcareous nannoplankton, 97
chemical changes in interstitial waters, 368
correlation of reflection profiles and lithology, 102
dissolution at, 102
foraminifera, 98
graded beds, 422
grain size analysis, 422
heavy minerals, 422
Late Cretaceous, 693
lithology, 92, 725
major results, 755
nannoplankton, 637
objectives and, drilling results, 9
operations, 89
physical properties, 95
sedimentation rates, 102, 107, 576
seismic reflection data, 87
sonic velocity measurements, 95
summary and conclusions, 103
survey data, 89
thermal conductivity measurements, 97
Site 242, 143, 145
authigenic carbonate, 145
biostratigraphy, 147, 151
bulk density measurements, 147
chemical changes in interstitial waters, 368
correlation of reflection profiles and lithologies, 152
Davie Ridge, 139, 520
foraminifera, 149
glauconite, 145
grain size analysis, 422
heat-flow measurements, 144
inclinometer test, 144
late Eocene-Oligocene, 695
lithology, 145, 727
major results, 755
nannoplankton, 147, 641
objectives, 9, 139
Oligocene sediments, cyclic nature of, 147
operations, 143
pelagic deposits, 484
physical properties, 147
pyrite, 145
reworked material, 152
sediment temperature, 349
sedimentation rate
Quaternary, 151
Miocene, 151
upper Eocene-upper Oligocene, 152
sonic velocity measurements, 147
summary and conclusions, 152
survey data, 143
thermal conductivity measurements, 147
Site 243, 181
foraminifera, 184
grain size analysis, 422
lithology, 184
nannoplankton, 184, 647
objectives and drilling results, 9
seismic reflection data, 181
seismic reflection data, flexotir, 181
Site 244
foraminifera, 184
grain size analysis, 422
granite, 184
nannoplankton, 647
sediments, 484
Site 245
acoustic basement, 203, 204
basalt, 203, 546
dating methods, 553
basaltic basement, 675
biostratigraphy, 198, 203
bulk density measurements, 197
chemical changes in interstitial water, 368
correlation of reflection profiles and lithologies, 203
lithology, 192, 396, 727
magnetic age of crust, 677
major results, 756
nannoplankton, 198, 647

objectives, 9, 187
physical properties, 197
sedimentation rates, 203
sonic velocity measurements, 197
summary and conclusions, 204
survey data and operations, 189
thermal conductivity measurements, 197
Site 246
acoustic basement, 239
basement, 239
benthonic assemblage, 246
biostratigraphy, 244, 248
bulk density measurements, 243
correlation of reflection profiles and lithologies, 248
foraminifera, 244
glauconite, 425
grain size analysis, 423
heavy minerals, 423
lithology, 242, 727
nannoplankton, 244
nearshore indicators, 248
objectives, 9, 239
otoliths, 647
palentology, 427
pelagic deposits, 484
physical properties, 243
reworked fossils, 248
sedimentation rates, 248
sonic velocity measurements, 243
stratigraphic hiatus, 243, 248
stratigraphy, 425
thermal conductivity measurements, 243
Site 247
acoustic basement, 242
major results, 757
objectives and, drilling results, 9
Site 248
acoustic basement, 263, 869
acoustic impedance measurements, 267
background and objectives, 259
basalt, 546
basalt, K-Ar dating methods, 553
basement, 261, 263
biostratigraphy, 267, 869
bulk density measurements, 267
chemical changes in interstitial waters, 370
correlation of reflection profiles and lithologies, 869
foraminifera, 268
general geologic setting, 406
grain size analysis, 423
heat-flow measurements, 263
inclinometer tests, 263
interstitial water, 409
interval velocity, 271
lithology, 264, 727
major results, 757
nannoplankton, 267, 647
noncarbonate fraction of sediments, 409
objectives and drilling results, 9
physical properties, 267
radiolaria, 657, 869
reflectors, 869
sediment temperature, 350
sedimentation rates, 407
stratigraphic hiatus, 869
summary and conclusions, 271
survey data and operations, 261
thermal conductivity measurements, 267
Site 248
acoustic basement, 259
Site 249
acoustic basement, 289, 301
acoustic impedance, 296
background and objectives, 287
basalt, 295, 300, 549
basement, 301
biostratigraphy, 296, 300
bulk density measurements, 296
carbonate compensation depth, 300
carbonate sediments, 412
chemical changes in interstitial waters, 370
coastal area of South Africa, comparison to, 693
correlation of reflection profiles and lithologies, 300
Cretaceous sediments, 690, 727
eruptive rock, 689
Flexotir reflection data, 289
foraminifera, 297
general geologic setting, 407
geologic history, 737
grain size, 423
heat-flow measurements, 289
inclinometer tests, 289
interstitial water, 417
interval velocity, 301
lithology, 292, 727
major results, 758
Mozambique coastal area, comparison to, 691, 692
nannoplankton, 296, 647
Neocomian sequence, 300
noncarbonate sediments, 409
objectives and drilling results, 10
physical properties, 295
Pliocene sediments, 300
Quaternary sediments, 300
Radiolarians, 299, 657
reflectors, 301
sediment temperature, 350
sedimentation rate, 297, 300, 408
seismic reflection data, 289
sonic velocity measurements, 295, 301
South African coastal area, comparison to, 691
stratigraphic hiatus, 300
summary and conclusions, 301
survey data and operations, 289
thermal conductivity measurements, 296
Sites 243 and 244
background and objectives, 177
major results, 756
Mozambique Channel, 177
summary and conclusions, 184
survey data and operations, 181

Sites 246 and 247
background and objectives, 237
Madagascar Ridge, 237
seismic reflection data, 239
summary and conclusions, 248
survey data and operations, 239
Slickenside-appearing surfaces, 194
Slump folds, 94, 448
Slump structures, 443
Smectite family, 529
Sole marks, 448
Solution of foraminifera, 35
Somali basin, 65, 87, 664, 679
heavy minerals, 437
volcanogenic sediments, 519, 537
stratigraphic gaps, 681
terrigenous minerals, Site 240, 436
Sonobuoy, 189
South African coastal area, comparison to Site 249, 691
Southeast Indian Ridge, 187, 664
Southern Madagascar Basin, 187, 422
Southwest Indian Ridge, 187, 422, 520, 664
Southwestern Indian Ocean, sedimentary deposits, 725
*Sphenolithus belemnos* Zone, 98, 148, 585
*Sphenolithus ciperonensis* Zone, nannoplankton zonation, 33, 98, 148, 586
*Sphenolithus distentus* Zone, calcareous nannoplankton, 149, 587
*Sphenolithus heteromorphus* Zonr, 98, 148, 585
*Sphenolithus predistentus* Zone, calcareous nannoplankton, 149, 587
*Sphenolithus pseudoradians* Zone, 34, 149, 587, 590
Spherulitic cristobolite, 196
Sponge spicules, 444
Spreading (half) rates
Arabian Sea, 664
Carlsberg Ridge, 664
central Indian Ocean, 664
central Indian Ridge, 664
southeast Indian Ridge, 664
southwest Indian Ridge, 664
Sr/Ca ratios in ash layers, 401
Stratigraphic hiatus, Site 246, 243
Stratigraphic gaps, 687
Madagascar Ridge, 682
Mascarene Basin, 682
Mozambique Channel and Mozambique Basin, 682
Somali Basin, 681
late Campanian-earliest Cenomanian, Site 249, 300
Maestrichtian-Miocene, 692
middle Miocene-Maestrichtian, Site 249, 300
Site 246, 248
Site 248, 869
Site 249, 300
Vraconian-middle Companian, 692
Stratigraphic terminology, 13
Strontion, methods of measuring, 363
Submarine erosion, 740
Sulfate, methods of measuring, 363
Survey and drilling data, 10
Synthetic magnetic anomaly profiles, 667, 672
*Tani Nodifer* Zone, 590
Tanzania, 537
Tanzania, Site 242, comparison to, 695
Tanzania and Kenya coastlines, 694
Temperature, effect of sediment squeezing, 364
Terrigenous components, 491
Terrigenous hemipelagic sediments, interstitial water in, 371
Terrigenous minerals
Site 239, Mascarene Basin, 432
Site 240, Somali Basin, 436
Site 241, East African continental rise, 436
Site 246, Madagascar Ridge, 436
Site 248, Mozambique Basin, 436
Terrigenous muds, 454
diagenesis, 456
texture and sedimentary structures, 456
Terrigenous sediments, mineralogy of, 737
Tertiary nannoplankton, 583
*Tetralithus trifidus* Zone, 641, 647
Texture and sedimentary structures, terrigenous muds, 456
Thermal conductivity, method of measuring, 13, 351
Thermal remanent magnetization, 559
Tholeiites, basalt, 295, 556, 680
Time scale (Heirtzler et al.), 672
Trace element, 266
Trace element data, basalt, 543
Traction carpet, 454
Transform faults, 663
*Tribrachiatus orthosytlus* Zone, 637
Tridymite, 266, 294, 528
*Triquetrohabdulus carinatus* Zone, 98, 585, 590
*Triquetrorhabdulus rugosus* Subzone, 641
Tuffs, lithic, 524
Turbidite transport, 31, 32, 99, 441, 443, 575, 680, 694
texture, 445
Turbidity currents, 184, 694
foraminifera, displacement by, 100
Turbidity flows, 184
Unconformity, 293
Unconformity, middle Miocene-Late Cretaceous, 295
Upper Cretaceous, Flysch, 737
Valangian, foraminifera, 298
Variolitic texture, 32
Vesicles basalt, 549
Vesicular glassy basalt, 295
Volcanic ash, 31, 266, 528
devitrified, 193
Volcanic glass, 30, 243, 294, 491, 524
devitrification of, 196
Volcanic sediments, 525, 540
Volcanic siltstones, 295
Volcaniclastic rocks, 525
Volcanics, Karroo age, 531
Volcanism, Madagascar, 532
Volcanogenic components, 491
Volcanogenic sediment, 515, 517, 529, 539
Volcanogenic sediments
Site 239, Mascarene Basin, 517
Site 240, Somali Basin, 519
Site 241, East Africa continental rise, 519
Site 242, Davie Ridge, 520, 539

Site 245, Madagascar Basin, 520
Site 246, Madagascar Ridge, 539
Site 248, Mozambique Basin, 539
Site 249, Mozambique Ridge, 529, 539
Somali Basin, Site 240,Site 241, 537
Vraconian foraminifera, 298
Vraconian-middle Companian stratigraphic hiatus, 692
Walter's Shoals, 425, 524
Water content, method of measuring, 12
Weathering, 358
West Somali Basin, 417, 431
Western boundary current, 500
Western Indian Ocean, 5, 743
geologic history, 633
magnetic anomalies, 749
sea-floor spreading, 746
Western Mascarene Basin, Site 239, 431
White chalk facies, 35
X-ray methods, 13
X-ray mineralogy, 456
Zambesi Canyon, 141, 177, 179, 184, 259, 422, 451, 727
Zambesi River submarine canyon, 184
Zambesi Valley, 532
Zeolite, 243, 490, 517