

# Index

- Abeche, Chad..... 110  
 Abu Gubeiha, Sudan.... 271  
*Acacia mangum* ..... 46  
 Accra, Ghana ..... 154  
 Acid soils ..... 13  
 Addis Ababa, Ethiopia. 141  
 Aden, Gulf of ..... 254  
 Aflao, Ghana..... 152  
 Agadez, Niger..... 223  
 Agalega, Mauritius ..... 202  
 Agroforestry..... 45  
 Agrogeology, definition... 6  
 Agrominerals, definition.. 4  
 Alkaline soils ..... 27  
 Aloub Djouana, Burkina  
   Faso .....90, 92  
 Al-Ubayyid, Sudan .. *See* El  
   Obeid, Sudan  
 Alvikite..... 302  
 Amala area, Kenya..... 165  
 Ambato-Boeni, Madagascar  
   ..... 178  
 Ambatondrazaka,  
   Madagascar..... 180  
 Ambo town, Ethiopia... 141  
 Amboania, Madagascar 180  
 Amboarana, Madagascar  
   ..... 179  
 Amboni, Tanzania..... 287  
 Ambrizete, Angola..... 75  
 AMCOR ..... 264  
 Analcime.....36, 166, 284  
 Anchau, Nigeria..... 230  
 Andoraharo, Madagascar  
   ..... 179  
 Andrano, Madagascar.. 179  
 Andulo, Angola ..... 76  
 Aneker ..... *See* In-Akker  
 Angola .....12, 16, 70–78  
 Anhydrite.27, 76, 134, 142,  
   195, 210, 288  
 Anjania, Madagascar .. 178  
 Anjouan, Comoros..... 114  
 Anky River, Madagascar  
   ..... 180  
 Ankilahila, Madagascar 178  
 Anobabo, Ghana ..... 153  
 Antanifotsky, Madagascar  
   ..... 178  
 Antonibe Peninsula,  
   Madagascar..... 178  
 Anyaboni, Ghana ..... 153  
 Aragonite ..... 25  
 Arenites ..... 243  
 Argillites221, 223, 302, 318  
 Arly, Burkina Faso....90, 91  
 Arnhem, Namibia ..... 216  
 Arogott, Mali ..... 195  
 Arsenic..... 49  
 Arusha, Tanzania ..... 284  
 Asbestos.....228, 276, 324  
 Aschia-Tinamou, Niger 223  
 Ash  
   fly 26, 266  
   soda.... 86, 110, 162, 228  
   wood ..... 26  
 Ashanti, Ghana ..... 153  
*Aspergillus niger*.....21, 30  
 Asselar, Mali..... 192  
 Atakpame, Togo ..... 298  
 Atbarah, Sudan ..... 272  
 Athi River, Kenya..... 164  
 Attapulgitite *See* Palygorskite  
 Aveta, Togo ..... 298  
 Awash Valley, Ethiopia 142  
 Azurite..... 32  
  
**Baards Quarry, South  
 Africa..... 261**  
 Baddeleyite .....259, 302  
 Bafoulabe, Mali ..... 195  
 Baidoa, Somalia..... 254  
 Bailundo, Angola..... 76  
 Baiyuda Desert, Sudan. 272  
 Bakouma, Central African  
   Republic..... 106  
 Balaka, Malawi ..... 187  
 Bambuta, Liberia ..... 174  
 Bandolier Kop, South  
   Africa..... 261  
 Bangui, Central African  
   Republic.....106, 107  
 Baradanga Hill, Zimbabwe  
   ..... 327  
 Barh el Gazal, Chad.... 111  
 Barite76, 91, 153, 192, 208,  
   228  
 Barium..... 163, 284  
 Barren Islands, Madagascar  
   ..... 179  
 Bas Congo, DRC ..... 116  
 Bas Tchivoula, Congo.. 122  
 Bashungwi, Zimbabwe 327  
 Bassanite..... 195  
 Bassar, Togo .....294, 298  
 Bat guano.....49, 165, 174,  
   179, 208, 216, 287, 327  
 Bauxite. 100, 156, 158, 178,  
   228, 252  
 Beira-Mutare, Mozambique  
   ..... 209  
 Bekily, Madagascar .... 178  
 Benguela, Angola ..... 76  
 Benin .....79–83  
 Bentonite.....211, 265  
 Berbera, Somalia...254, 255  
 Betioky, Madagascar ... 180  
 Betroka, Madagascar ... 178  
 Bikilal, Ethiopia..... 139  
 Bingo, DRC ..... 117  
 Biogenic PR.. 198, 284. *See*  
   also Guano  
 Bioko, Equatorial Guinea  
   ..... 132  
 Biological solubilization,  
   PR ..... 314  
 Biosuper.....*See*  
   Superphosphates  
 Biotite .....29, 37, 47, 101,  
   117, 185, 188, 206, 307,  
   315, 329  
 Bir Eit, Sudan ..... 273  
 Bir Moghrein, Mauritania  
   ..... 198  
 Bird guano ... 134, 179, 186,  
   202, 216, 248, 254, 262,  
   287  
 Black Mountains, Ethiopia  
   .....140  
 Blantyre, Malawi .....187  
 Bloemhof, South Africa264  
 Blue Nile valley, Ethiopia  
   .....141  
 Boa Vista, Cape Verde..104  
 Boadzulu Island, Malawi  
   .....186  
 Bobo Dioulasso, Burkina  
   Faso ..... 93  
 Bofal, Mauritania.....198  
 Bojanamane, Botswana.. 87  
 Bole, Ghana .....153  
 Boma, DRC .....116  
 Bomi Hill, Liberia.....174  
 Bonga, Angola ..... 76  
 Bongue River, Cameroon  
   .....100, 101  
 Bontebok Limeworks Ltd.  
   .....264  
 Borax ..... 32  
 Bornite..... 32  
 Boron ..... 31  
 Boru, Ethiopia.....142  
 Botswana .....85–88  
 Bourem, Mali.....194  
 Brazil .....22, 27  
 Breccia...91, 163, 166, 260,  
   271, 316  
 BRGM ..... 81, 122, 221  
 British Plaster Board....188  
 British Sulphur Corporation  
   ..... 96  
 Bubale, Uganda .....306  
 Bududa, Uganda .....306  
 Buhera District, Zimbabwe  
   .....326, 329  
 Buhmannsdrifmyn Ltd.264  
 Bujumbura, Burundi .96, 97  
 Bukanda, Zambia.....317  
 Bukiribo, Uganda.....306  
 Bukusu, Uganda....304, 307  
 Bulhoek, South Africa ..263  
 Bundibugyo District,  
   Uganda.....307  
 Bunyanguru, Uganda ....308  
 Bur region, Somalia.....255  
 Bur-da Rebschi, Somalia  
   .....254  
 Burkina Faso..... 18, 20, 24,  
   89–94  
 Burundi.....23, 95–98  
 Bushmanland, South Africa  
   .....264  
 Busiga, Burundi ..... 97  
 Busumbu, Uganda....19, 23,  
   24, 44, 304–5  
 Butiriku, Uganda ..306, 308  
 Buurhakaba, Somalia....254  
 Buyongwe, Burundi ..... 97  
 Buzi area, Mozambique 209  
 Bwanje Valley, Malawi 187  
  
 Cabinda ..... 12, 72–75, 116,  
   122  
 Cabo Ledo, Angola.....76  
 Cacao.....42  
 Cadmium49, 158, 198, 294,  
   296, 297  
 Calabar, Nigeria.....230  
 Calcination... 19, 25, 26, 97,  
   164, 187, 242, 272, 298,  
   307, 328  
 Calcite. 13, 16, 25, 304, 307  
 Calcretes ..... 86, 110, 164,  
   230, 263, 276  
   definition.....25  
 Cambota, Angola .....73  
 Canata, Angola .....76  
 Canxixe, Mozambique..209  
 Cape Agulhas, South Africa  
   .....261  
 Cape Recife, South Africa  
   .....261  
 Cape Town, South Africa  
   .....262  
 Cape Verde .....103–4  
 Capuia, Angola .....76  
 Capunda, Angola .....76  
 Cargados, Mauritius.....202  
 Camallite ..... 123, 140  
 Cassiterite .....96, 234  
 Cation exchange capacity  
   ..... *See* CEC  
 Cave Hill, Uganda .....307  
 CEC .....14  
 Cement .....184  
 Central African Republic  
   .....105–8  
 Chabazite.....36  
 Chad .....109–11  
 Chakanga, Zambia .....316  
 Chalcocite .....32  
 Chalcopyrite .....32  
 Chalcosiderite .....316  
 Chali Hills, Tanzania ....286  
 Chamoto, Tanzania.....286  
 Champion Mineral  
   Resources, Inc.....158  
 Changalumi, Malawi.....187  
 Chasweta, Zambia.317, 318  
 Chemserv Perlite Ltd. .266  
 Chemvuri River, Zimbabwe  
   ..... *See* 327  
 Chenkumbi Hills, Malawi  
   .....187  
 Cheringoma area,  
   Mozambique .....208  
 Chibueté, Angola .....73  
 Chikwakwa, Malawi .....187  
 Chilanga, Zambia..317, 318  
 Chilembwe, Zambia.....18,  
   313, 315  
 Chilwa Island, Malawi.185,  
   187  
 Chinhoyi, Zimbabwe ....328  
 Chipata, Zambia.....317  
 Chire, Mozambique .....209  
 Chishanya, Zimbabwe .325,  
   327, 328

- Chitomborgwizi, Zimbabwe ..... 327
- Chivovo, Angola ..... 73
- Chlorine ..... 31
- Chromite ..... 178, 270
- Chromium ..... 30, 258, 324
- Chuzi, Malawi ..... 187
- Chyului Hills, Kenya ... 165
- Cibitoke, Burundi ..... 96, 97
- Cie des Tourbières du Sénégal ..... 245
- Circle Cement ..... 328
- Clinomix ..... 266
- Clinoptilolite...36, 142, 166, 265
- Coal ..... 86, 178, 184, 206, 220, 228, 258, 264, 276, 324, 325
- Coal pyrite ..... 27
- Cobalt ..... 31, 38, 116, 202, 302, 312
- COFAN ..... 73
- Coir dust ..... 22
- Colemanite ..... 31, 32
- Colleen Bawn, Zimbabwe ..... 328
- Collophanite ..... 178, 179
- Colombo-tantalite ..... 96
- Comba, Congo ..... 123
- Comoros ..... 113–14
- Composting ..... 22
- Cone Negrose, Mozambique ..... 208
- Congo ..... 12, 16
- Congo River ..... 117
- Congo, Democratic Republic of ..... See DRC
- Congo, Republic of ..... 121–24
- Constable Hill, South Africa ..... 262
- Copper ..... 31, 38, 86, 116, 134, 214, 272, 302, 312, 316, 318
- Coprolites ..... 122, 153, 193, 198, 221
- Coral ..... 25, 202, 248
- Coral limestone ..... 164, 179, 202, 209, 287
- Côte D'Ivoire ..... 125–27
- Cotonou, Benin ..... 82
- Crandallite ..... 10, 19, 126, 242, 271, 272, 302, 305
- Crop fallow rotation ..... 5
- Crops, PR solubility ..... 14
- Crystallography ..... 11
- CSPT ..... 241, 244
- Cyangugu, Rwanda ..... 234
- D**
- Daboya, Ghana ..... 153
- Dadjo, Benin ..... 82
- Dahlak archipelago, Eritrea ..... 134
- Dakar, Senegal ..... 241, 244
- Daletti, Ethiopia ..... 140
- Dallol ..... 134, 140
- Damergou, Niger ..... 224
- Danakil ..... 134
- Danakil Alps, Ethiopia ..... 141
- DAP ..... 11, 17, 27, 28, 240, 244
- Dar es Salaam, Tanzania ..... 287
- Darou Khoudoss, Senegal ..... 244
- Dassen Island, South Africa ..... 262
- DGSM ..... 304, 306
- Diamonds... 49, 72, 86, 106, 116, 152, 156, 170, 174, 214, 252, 258, 280
- Diamou, Mali ..... 195
- Diatomite ..... 111, 228
- Diavonaomy, Madagascar ..... 180
- Didessa, Ethiopia ..... 141
- Dinge, Angola ..... 73
- Dioula, Mali ..... 195
- Diopside ..... 178, 206
- Direct application, PR... 12, 16
- Dizangue, Cameroon ... 101
- Djibouti ..... 129–30
- DMGH ..... 80
- Doba, Chad ..... 110
- Dodoma region, Tanzania ..... 286
- Dofan area, Ethiopia ... 142
- Dolocrete, definition ..... 25
- Dolomite... 5, 13, 16, 25, 76, 82, 86, 93, 97, 110, 118, 123, 126, 134, 140, 147, 153, 164, 180, 186, 195, 199, 209, 216, 224, 230, 255, 263, 272, 286, 307, 317, 328
- Dombe Grande, Angola . 76
- Dondo, Angola ..... 75
- Dorowa Minerals Ltd... 326
- Dorowa, Zimbabwe . 20, 23, 184, 325, 326, 329
- Douala, Cameroon ..... 100
- Douentza, Mali ..... 195
- DRC ..... 33, 115–19
- Droogegron, South Africa ..... 264
- Du, Ghana ..... 153
- Dunite ..... 44, 165, 326
- Dura, Uganda ..... 306
- Durban, South Africa... 262
- Duyker Eiland, South Africa ..... 261
- E**
- East London, South Africa ..... 263
- Eastern Cape Province, South Africa ..... 264
- Ebocco, Côte D'Ivoire.. 126
- Eboinda, Côte D'Ivoire ..... 126
- EIGS ..... 138
- Ekiojanga, Kenya ..... 163
- El Jebel, Sudan ..... 273
- El Obeid, Sudan ..... 271
- El Wak, Kenya ..... 165
- Emtoto, Zimbabwe ..... 327
- Enege, Nigeria ..... 230
- Environmental concerns, mining ..... 49
- Equator Lime Ltd ..... 306
- Equatorial Guinea ... 131–32
- Er Rahad, Sudan ..... 272
- Erionite ..... 36, 288
- Eritrea ..... 133–35
- Ethiopia ..... 22, 31, 137–44
- Ethiopia-Canada Agrogeology project 142
- Eucalyptus* ..... 41, 47
- Evate, Mozambique ..... 206
- Ewekoru, Nigeria ..... 230
- Factors, PR effectiveness 11
- Fada, Chad ..... 110
- Farim, Guinea-Bissau . 158–59
- Fatima, Central African Republic ..... 107
- Feremu, Malawi ..... 188
- Ferrierite ..... 36
- Fertilizer & seed packets 24
- Fianarantsoa, Madagascar ..... 180
- Figuil, Cameroon ..... 101
- Fika, Nigeria ..... 231
- Fingoe, Mozambique ..... 208
- Fluorine ..... 30, 284
- Fluorite ..... 209
- Fly ash ..... 26, 266
- FMP ..... 19, 315
- Fo River, Ghana ..... 153
- Foley, Botswana ..... 87
- Forbes Reef ..... 276
- Forestry ..... 41
- Forsterite ..... 76, 206
- Fort Portal, Uganda ..... 306, 307
- Foskor Ltd. .... 259, 263
- Foskorite ..... 259, 263
- Francistown, Botswana . 86
- Fresco, Côte D'Ivoire ..... 126
- Fundu Nzobe, DRC ..... 116, 117
- Fused magnesuim phosphate ..... See FMP
- Fusion ..... 19
- G**
- G&W Mineral ..... 328
- Gabon ..... 145–48
- Gambia ..... 149–50
- Gandajika, DRC ..... 118
- Gangotery, Mali ..... 195
- Garba Tula, Kenya ..... 164
- Garissa, Kenya ..... 165
- Gemstones ..... 184, 206
- German Geological Group ..... 271
- GFSA ..... 260
- Ghana ..... 31, 32, 151–54
- Ghanzi, Botswana ..... 86
- Ghimbi, Ethiopia ..... 139
- Gihungwe, Burundi ..... 97
- Giofi, Burundi ..... 97
- Giraul, Angola ..... 77
- Glauconite ... 7, 29, 77, 127, 180, 208, 211, 261, 262, 263, 298
- definition ..... 29
- Glenover, South Africa 260, 263
- Glimmerite... 259, 263, 308
- Gliricidia sepium* ..... 46
- Gnaoulou, Togo ..... 298
- Goethite . 33, 221, 222, 261, 302, 303, 305
- Gojam, Ethiopia ..... 141
- Gokwe District, Zimbabwe ..... 327
- Gold ..... 49, 86, 90, 96, 100, 106, 116, 126, 134, 138, 152, 156, 162, 174, 192, 206, 214, 220, 228, 234, 240, 252, 258, 270, 280, 302, 324
- Gombe, Nigeria ..... 230
- Gorceixite ..... 163
- Goudin, South Africa... 263
- Goundam, Mali ..... 195
- Goure, Niger ..... 223
- Goz Beida, Chad ..... 110
- Grand Comore, Comoros ..... 114
- Graphite 178, 206, 271, 317
- Green manure ..... 24
- Greenhouses ..... 38
- Greensands ..... 29
- Greenstone... 106, 162, 324
- Groot Marico, South Africa ..... 264
- Guano ..... 7, 16, 162, 318
- bat 49, 165, 174, 179, 208, 216, 287, 327
- bird . 134, 179, 186, 202, 216, 248, 254, 262, 287
- roosting platforms ... 216
- Guinea ..... 155–56
- Guinea-Bissau ..... 157–60
- Gulf of Aden ..... 254
- Guyuk/Adamawa State, Nigeria ..... 231
- Guyuk/Gwalura, Nigeria ..... 231
- Gwanda, Zimbabwe ..... 328
- Gweru, Zimbabwe ..... 328
- Gypsum 5, 7, 13, 27, 28, 76, 87, 111, 134, 142, 154, 165, 180, 188, 195, 198, 199, 210, 216, 224, 231, 255, 264, 273, 288, 307
- H**
- Hahotie, Togo 11, 152, 297
- Hailab District, Sudan... 271
- Haitajwa, Tanzania ..... 287
- Halites ..... See Salt
- Harare, Zimbabwe ..... 328
- Hararghe, Ethiopia ..... 141
- Hausmannite ..... 33
- Heap leaching ..... 18, 314
- Heidelberg-Riversdale, South Africa ..... 265
- Hematite . 33, 260, 302, 305
- Heulandite ..... 36, 265
- Hilleke, Chad ..... 110
- Hima, Uganda ..... 306
- Hiqualime Ltd ..... 264
- Histoplasmosis* ..... 49, 327
- Hoedjes Bay, South Africa ..... 262
- Holle, Congo ..... 12
- Homa Bay, Kenya ..... 164
- Homa Buru Hill, Kenya 164
- Homa Lime Co. Ltd. .... 164
- Homa Ruri, Kenya ..... 164
- Hombori, Mali ..... 195

- Hurungwe District, Zimbabwe ..... 327
- Hwange, Zimbabwe ..... 327, 328
- Hydroxy-apatite ..... 10, 248, 284, 316
- ICRAF ..... 305
- ICRISAT ..... 223
- ICS ..... 244, 245
- IDC ..... 259, 263
- IDRC ..... 6, 37, 194, 326
- IFDC ..... 19, 37, 81, 123, 163, 192, 194, 284, 303, 326
- Ifo Junction, Nigeria ..... 229
- Igbeti, Nigeria ..... 230
- Igneous PR ..... 8, 76, 96, 139, 146, 162, 184, 206, 215, 223, 241, 242, 244, 259, 272, 281, 302, 313, 326
- Ijolite ..... 260, 326
- Ikassa, Gabon ..... 146
- Ikutha, Kenya ..... 164
- Illite ..... 29, 91
- Illubabor, Ethiopia ..... 141
- Ilmenite ..... 139, 228, 302
- Ilorin, Nigeria ..... 230
- I-n-Akker ..... 221
- I-n-Aridal, Niger ..... 224
- India ..... 23, 28, 43
- Indian Ocean Fertilizers ..... 260, 297
- Inkomati River, Mozambique ..... 208
- Iodine ..... 30
- Ion exchange ..... 20
- Iron 31, 164, 174, 198, 202, 208, 276, 316
- Iron Duke Mine ..... 329
- Isiolo, Kenya ..... 164, 165
- Isoka, Zambia ..... 313, 317
- Isokite ..... 313
- Itigi, Tanzania ..... 288
- Itombe Creek, Angola ..... 73
- Ivory Coast ..... *See* Côte D'Ivoire
- Jebel Dumbeir, Sudan ..... 272
- Jebel Saghum, Sudan ..... 273
- Jigilin ..... 230
- Juan de Nova, France ..... 179
- Kabale, Uganda ..... 306
- Kadoma, Zimbabwe ..... 328
- Kaedi, Mauritania ..... 198
- Kaffa, Ethiopia ..... 141
- Kafue River, Zambia ..... 318
- Kahama, Tanzania ..... 288
- Kainanira, Uganda ..... 306
- Kainite ..... 140
- Kajiado, Kenya ..... 164, 165
- Kaku Valley, Uganda ..... 306
- Kalambaina, Nigeria ..... 230
- Kalemie, DRC ..... 118
- Kalkfield, Namibia ..... 215
- Kalsilite ..... 30
- Kaluwe, Zambia ..... 313, 314–15, 317, 318
- Kalyango, Uganda ..... 306, 307
- Kamanyola, Rwanda ..... 234
- Kampina, Cameroon ..... 100, 101
- Kangankunde, Malawi ..... 185
- Kankan-Konsankoro area, Guinea ..... 156
- Kanye, Botswana ..... 86
- Kanzi, DRC ..... 116, 117
- Kapiri-Mposhi, Zambia ..... 317
- KARI ..... 305
- Kariba, Rwanda ..... 234
- Karibib, Namibia ..... 216
- Karonga, Malawi ..... 187
- Kasai, DRC ..... 118
- Kasangu, Malawi ..... 187
- Kasese area, Uganda ..... 306
- Katete, Zimbabwe ..... 325, 327
- Katsina, Nigeria ..... 228
- Katwe, Uganda ..... 307, 308
- Kavirondo Gulf, Kenya ..... 164
- Kayes, Mali ..... 195
- Kedougou, Senegal ..... 245
- Kelem, Ethiopia ..... 139
- Kella, Ethiopia ..... 141
- Kenya ..... 23, 24, 31, 32, 40, 161–68
- Kernite ..... 32
- Keta, Ghana ..... 154
- Keur Mor Fall, Senegal ..... 241
- Kibuku, Uganda ..... 307
- Kibuye, Rwanda ..... 234
- Kichamba, Uganda ..... 308
- Kigarma, Uganda ..... 306
- Kigata, Uganda ..... 306
- Kigezi District, Uganda ..... 306
- Kigoma, Tanzania ..... 286
- Kilembe, Uganda ..... 302
- Kilimanjaro ..... 287
- Kimberley, South Africa ..... 264
- Kimberlite ..... 170, 266, 280, 288
- Kimpese, DRC ..... 118
- Kindia, Guinea ..... 156
- Kinyamungu, Kenya ..... 163
- Kinyiki, Kenya ..... 165
- Kisangani, DRC ..... 118
- Kisiizi, Uganda ..... 306
- Kisoro, Uganda ..... 306, 307
- Kisumu, Kenya ..... 164
- Kitui, Kenya ..... 164
- Kitumba, Uganda ..... 306
- Kitwe, Zambia ..... 317
- Klipfontein, South Africa ..... 262
- Klipvlei, South Africa ..... 262
- Kodjari, Burkina Faso ..... 20, 21, 24, 90–92
- Kola, Congo ..... 122
- Koru, Kenya ..... 164
- Kosti, Sudan ..... 273
- Kourouni, Guinea ..... 156
- Kpakpatan, Benin ..... 82
- Kpeme, Togo ..... 297
- Kpogame, Togo ..... 297
- Kpome, Benin ..... 80
- Kpong, Ghana ..... 153
- Kreeftebaai, South Africa ..... 262
- Kribi, Cameroon ..... 100
- Krugersdorp, South Africa ..... 266
- Kruidfontein, South Africa ..... 261, 263
- Kunene River, Namibia ..... 216
- Kurun, Sudan ..... 272
- KwaZulu-Natal, South Africa ..... 261, 264, 265
- Kwekwe District, Zimbabwe ..... 327
- Kyanite ..... 228
- Lac Tono, Benin ..... 82
- Lagbadjeck, Cameroon ..... 101
- Lake Alaotra ..... 178
- Lake Albert ..... 307
- Lake Bogoria ..... 166
- Lake Chilwa ..... 184
- Lake Edward ..... 118
- Lake George ..... 306, 308
- Lake Kivu ..... 118, 234
- Lake Kyekora ..... 307
- Lake Magadi ..... 19
- Lake Malawi ..... 186. *See also* Lake Nyassa
- Lake Massabi ..... 73
- Lake Natron ..... 288
- Lake Nyamwele ..... 288
- Lake Nyassa ..... 283
- Lake Rukwa ..... 287
- Lake Tanganyika ..... 96, 118, 281
- Lake Turkana ..... 139, 165
- Lake Victoria ..... 163
- Lam Lam, Senegal ..... 242
- Lambarene, Gabon ..... 147
- Landana, Angola ..... 73
- Langebaan area, South Africa ..... 261
- Langebaanweg, South Africa ..... 261
- Langeberg, South Africa ..... 261
- Langfos fertilizer ..... 262
- Lantham Island, Tanzania ..... 287
- Lastoursville, Gabon ..... 147
- Laumontite ..... 36
- Lebekene, Guinea ..... 156
- Lebombo Mountains ..... 211, 265
- Leo Dolomite Quarry ..... 264
- Lere, Chad ..... 110
- Lesotho ..... 169–71
- Lethakeng, Botswana ..... 86
- Leucena leucocephala* ..... 46, 47
- Leucite ..... 30, 308
- Liberia ..... 173–75
- Libreville, Gabon ..... 147
- Lichinga, Mozambique ..... 209
- Likasi, DRC ..... 118
- Lime ..... 184, 245, 264, 273, 286, 298, 306, 317, 328
- timing of application ..... 15
- Limekiln Hill, Uganda ..... 307
- Limestone ..... 5, 76, 82, 86, 93, 97, 104, 107, 110, 118, 123, 126, 134, 140, 147, 153, 164, 170, 180, 186, 195, 199, 209, 216, 224, 230, 234, 245, 255,
- 263, 272, 276, 283, 286, 298, 306, 317, 328
- types ..... 25
- Liming materials ..... 25, 47. *See also* Limestone, Dolomite, Marble, Travertine, Calcretes
- Limonite ..... 33, 96, 221, 222, 260, 314
- Lindi, Tanzania ..... 288
- Lirangwe, Malawi ..... 187
- Lochinvar, Zambia ..... 318
- Lodosoit, Kenya ..... 165
- Lokassa, Benin ..... 80, 82
- Lokoja, Nigeria ..... 230
- Lolekek, Uganda ..... 307
- Lomagundi, Zimbabwe ..... 327
- Lome, Togo ..... 298
- Longonjo, Angola ..... 76
- Longonot, Kenya ..... 166
- Longoro, Ghana ..... 153
- Louboira, Mauritania ..... 198
- Loudima, Congo ..... 123
- Loutete, Congo ..... 123
- Luanda, Angola ..... 75
- Luapula Province, Zambia ..... 317
- Lubudi, DRC ..... 118
- Lucunga River, Angola ..... 75
- Luederitz, Namibia ..... 216
- Lueshe, DRC ..... 117
- Lukula, DRC ..... 118
- Lumumbashi, DRC ..... 118
- Lundazi, Zambia ..... 317
- Lunga Riamica, Angola ..... 75
- Lupunga, Tanzania ..... 283
- Lupongola, Angola ..... 76
- Lurio River, Mozambique ..... 209
- Lusaka, Zambia ..... 317, 318
- Lushoto District, Tanzania ..... 288
- Lyttleton, South Africa ..... 264
- Mabanga River, Cameroon ..... 101
- Mabounie, Gabon ..... 147
- Mabura-Vusa, Zimbabwe ..... 327
- Madagascar ..... 177–82
- Maevorano, Madagascar ..... 178
- Magnetite ..... 33, 206, 303, 305, 307
- Magoporo, Tanzania ..... 21
- Magude, Mozambique ..... 208
- Mahajanga, Madagascar ..... 178, 179, 180
- Mahalapye, Botswana ..... 86
- Mahazoma, Madagascar ..... 180
- Mahe, Seychelles ..... 248
- Maintirano, Madagascar ..... 179
- Mait Island, Somalia ..... 254
- Majunga, Madagascar ..... *See* Mahajanga, Madagascar
- Makindu, Kenya ..... 165
- Makonde District, Zimbabwe ..... 327
- Makurdi, Nigeria ..... 230
- Malachite ..... 32
- Malawi ..... 23, 31, 40, 183–90

- Malaysia ..... 42  
Mali ..... 11, 12, 13, 15, 16, 191–96  
Malindi, Kenya ..... 165  
Malula, Mozambique... 209  
Man, Côte D'Ivoire ..... 126  
Management factors of PR solubility ..... 15  
Manapwani, Tanzania.. 287  
Mandawa, Tanzania.....286, 288  
Mandingu, Congo ..... 123  
Manganese .....32, 146, 152, 202, 258  
Manganite ..... 33  
Mango Tando, Angola... 74  
Manhica, Mozambique 208  
Mansa, Zambia ..... 317  
Manure, green ..... 24  
Manzini, Swaziland ..... 276  
MAP ..... 11, 17, 27  
Maputo, Mozambique...206, 211  
Marble ..... 82, 86, 93, 134, 141, 164, 180, 187, 206, 245, 298  
definition ..... 25  
Marcasite ..... 27  
Marine Lime Ltd. .... 264  
Marl ..... 139, 140, 141, 295  
definition ..... 25  
Marovoay, Madagascar 178  
Marsabit, Kenya ..... 165  
Martite ..... 260  
Mashonaland, Zimbabwe ..... 329  
Mashyuzu, Rwanda..... 234  
Matam, Senegal ..... 16, 198, 242–43  
Matanda, Zambia ..... 317  
Matongo, Burundi.....23, 96  
Maun, Botswana ..... 86  
Mauritania.....197–99  
Mauritius.....201–3  
Mbabara Island, Rwanda ..... 234  
Mbale District, Uganda 307  
Mbalizi, Tanzania ..... 283  
Mbao, Senegal ..... 244  
Mbeya, Tanzania...283, 287  
M'Bour, Senegal ..... 244  
M'Boursou, Chad ..... 110  
Mburungwe, Zimbabwe327  
MCP ..... 18  
Mechanical activation, PR ..... 21  
Meerscham... *See* Sepiolite  
Mekele, Ethiopia..... 141  
Mekrou River, Benin ..... 81  
Menarandroy Velley, Madagascar ..... 180  
Mendi, Ethiopia ..... 140  
Mercury ..... 272  
Mersa Fatma, Eritrea... 134  
Metamorphic PR...206, 254  
MET-CHEM ..... 187  
Methane ..... 234  
Mfamosin, Nigeria..... 230  
Micronutrients ..... 30  
Mikumi area, Tanzania 286  
Mill tailings, as pyrite source ..... 28  
Millisite ..... 19, 242  
MINDECO ..... 314  
MINEX ..... 314  
Mining environmental concerns ..... 49  
small scale..... 48  
Minjingu Phosphate Company..... 285  
Minjingu, Tanzania..12, 16, 21, 23, 24, 186, 284–85  
Minna, Nigeria..... 230  
Mintom, Cameroon..... 101  
Mitridatite ..... 139  
Mkomazi, Tanzania ..... 288  
Mkushi, Zambia ..... 317  
Mkuze Game Reserve .. 265  
Mlindi, Malawi ..... 185, 188  
Moanda, Gabon ..... 147  
Mocamedes, Angola ..... *See* Namibe, Angola  
Modu Mode, Somalia .. 254  
Moheli, Comoros ..... 114  
Molybdenum.....32, 38  
Mombasa, Kenya ..... 165  
Monazite ..... 163, 327  
Mongo Matonde, Angola74  
Mongo Tando, Angola... 73  
Mono region, Benin ..... 82  
Monrovia, Liberia ..... 174  
Monte Muambe, Mozambique ..... 209  
Monte Muande, Mozambique ..... 208  
Monte Xiluvo, Mozambique ..... 209  
Montmorillonite ..... 243  
Monze, Zambia ..... 318  
Mordenite ..... 36, 142, 265  
Morocco..... 11  
Morogoro District, Tanzania..... 283  
Moroto, Uganda..... 307  
Mounana, Gabon..... 147  
Mount Elgon, Uganda.. 307  
Mozambique ..... 205–12  
MPR ..... 28  
Mrima Hill, Kenya..162–63  
Msagali, Tanzania..... 288  
Msasa, Zimbabwe.326, 329  
Msoro Mission, Zambia317  
Muchinga, Zambia..... 317  
Muguene, Mozambique 211  
Muhokya, Uganda..... 306  
Mulching.....4, 142  
Mumbwa North, Zambia ..... 313  
Munyati River..... 327  
Muramba, Burundi..... 97  
Murambinda, Zimbabwe ..... 326  
Murison Ranch, Zimbabwe ..... 327  
Mushao, Rwanda ..... 234  
Musley, Ethiopia..... 140  
Musuki River ..... 327  
Mwadui, Tanzania ..... 288  
Mwanza District, Malawi ..... 188  
Mwingi, Kenya ..... 164  
Mwumba North, Zambia ..... 316  
Mycorrhizae. 15, 22, 43, 47, 92  
Mzuzu, Malawi.....187  
NAC ..... 12  
Nacala, Mozambique...206, 209  
Nachendezwaya, Tanzania ..... 287  
Nafada/Bajoga, Nigeria 231  
Naivasha area, Kenya ...166  
Namapa, Mozambique..209  
Namekara, Uganda .....308  
Name1, Senegal .....156, 244  
Namibe, Angola.....75, 77  
Namibia .....213–17  
Nampula, Mozambique206, 208  
Nampundwe, Zambia...318  
Nanyuki, Kenya .....165  
Napak, Uganda .....307  
Narinda Bay, Madagascar .....180  
Narok, Kenya.....165  
Natrolite.....166  
Natural gas..... 72, 122, 126, 214, 228, 234, 240, 270, 280  
Nauli, Ghana .....153  
Nazret, Ethiopia .....142  
Ndende, Gabon .....147  
N'Diendouri, Senegal...243  
Ndola, Zambia .....317  
Ndorwa, Uganda.....306  
Nebo, South Africa .....264  
Nedeley, Chad .....111  
Nejo, Ethiopia.....140  
Nepheline.....30, 153, 188, 254, 260, 272, 326  
Ngol, Cameroon.....101  
Ngozi, Burundi ..... 97  
Ngualla, Tanzania.282, 287  
Nhenha Creek, Angola... 73  
Niamey, Niger ..... 221  
Niari Valley, Congo.....123  
Nickel ..... 30, 86, 126, 324  
Niger ..... 12, 18, 219–26  
Nigeria... 12, 16, 19, 31, 32, 227–32  
Ningi, Nigeria .....230  
Niobium. 76, 117, 147, 283, 313, 315  
Nitrates .....7, 165, 216  
Njorowa Gorge, Kenya.166  
Nkalagu, Nigeria.....230  
Nkhata Bay, Malawi .....187  
Nkwomba Hill, Zambia .18, 313–14, 317  
Nooitgedacht, South Africa .....263  
Northern Cape Province, South Africa.....264  
Nouakchott, Mauritania 199  
Nova Mambone, Mozambique .....210  
Nuba Mountains .....271  
Nurseries ..... 38  
Nutrient balance, depletion .....5  
Nutrient budgets .....45  
Nxwala Estate, South Africa.....265  
Nyakirangacha Valley, Kenya.....163  
Nyamazuwa, Zimbabwe329  
Nyamwele, Tanzania ....288  
Nyazura, Zimbabwe.....326  
Nyock River, Cameroon101  
Nzida, Côte D'Ivoire ..... 126  
Obsidian ..... 39, 211, 276  
Odzi, Zimbabwe .....327  
Ogaden region .....255  
Ogaden, Ethiopia .....142  
Oil.. 72, 100, 110, 122, 126, 132, 146, 158, 220, 228, 238, 240, 264, 270  
Oil palm.....42  
Okahandja District, Namibia .....215  
Okorusu, Namibia.....215  
Olivine... 19, 114, 202, 248, 259, 307, 308, 326  
Omo Valley, Ethiopia...142  
Omo, Ethiopia.....141  
Ondumakorume, Namibia .....215  
Onigbolo, Benin.....82  
Orange River .....261  
Organic solubilization, PR .....21  
Organic wastes.....43  
Orgun State, Nigeria .....229  
Orodara, Burkina Faso...93  
Osongombe, Namibia ...215  
Ososum, Nigeria .....228  
Otjisazu, Namibia .....215  
Otjiwarongo District, Namibia .....215  
OTP ..... 294, 297  
Ouali Diala, Senegal .....243  
Oxalic acid.....21, 22  
Oxisols.....7, 9, 14, 16, 44  
**P**  
**Packets, seed & fertilizer** 24  
**Pagala, Togo** .....298  
**Palabora, South Africa..** *See* Phalaborwa, South Africa  
**Pallo, Senegal** .....242  
**Palygorskite.** 221, 223, 241, 243, 295  
**Panda, Tanzania** 20, 21, 283  
**PAPR** ..... 18, 20, 223, 230, 285, 297, 304, 315  
**Parc West, Niger**.....18, 223  
**Pasture** .....44  
**Paternoster, South Africa** .....261  
**Peat**.. 23, 31, 39, 40, 82, 97, 235, 245  
**Pedra do Feitico, Angola** 75  
**Pegmatite** ..... 188, 316, 318  
**Pemba, Mozambique** ....209  
**Penicillium**.....21, 30  
**Perlite** . 4, 39, 130, 211, 266  
**Petauke, Zambia**..315, 316, 317

- Phalaborwa, South Africa ..... 259, 263, 265
- Phillipsite ..... 21, 36, 288
- Phlogopite .. 29, 34, 47, 179, 188, 206, 259, 263, 265, 272, 307, 317, 326, 329
- Phosal ..... 242
- Phoscorite ..... *See* Foskorite
- Phospal ..... 19
- Phospho-composting ..... 22
- Phosphosiderite ..... 174
- Pilansberg, South Africa ..... 261
- Pindirola, Tanzania ..... 288
- Pinus radiata* ..... 41
- Piscidic acid ..... 14
- Plantation crops ..... 41
- Platinum ..... 258
- PMC ..... 259, 265
- Pobe, Benin ..... 80, 82
- Pointe Noire, Congo ..... 122
- Pointe Sarene, Senegal ..... 244
- Polyphos ..... 19, 242
- Port Elizabeth, South Africa ..... 265
- Port Gentil ..... 146
- Port Sudan ..... 271, 273
- Portland Cement Company ..... 187
- Potash ..... 5, 7, 30, 123, 134, 138, 140, 195. *See also* Potassium
- Potassium ..... 5, 29, 34, 134, 188, 263, 307, 318
- Potgietersrus, South Africa ..... 264
- Powellite ..... 33
- PR  
   biogenic ... 198, 284. *See also* Guano  
   biological solubilization ..... 314  
   blending ..... 20  
   classification ..... 10  
   crystallography ..... 11  
   direct application ..... 12, 16  
   effectiveness ..... 11  
   from wastes ..... 22  
   grading system ..... 12  
   heap leaching ..... 18  
   igneous ..... 8, 76, 96, 139, 146, 162, 184, 206, 215, 223, 241, 242, 244, 259, 272, 281, 302, 313, 326  
   impurities ..... 13  
   ion exchange ..... 20  
   mechanical activation ..... 21  
   metamorphic ..... 206, 254  
   NAC ..... 12  
   offshore ..... 122  
   organic solubility ..... 21  
   partial acidulation ..... *See* PAPR  
   performance factors ..... 9  
   reactivity ..... 10  
   residual ..... 206, 304  
   sedimentary ..... 8, 16, 72, 80, 90, 106, 116, 122, 126, 138, 139, 146, 152, 158, 170, 174,
- 178, 192, 198, 208, 216, 221, 223, 228, 242, 248, 261, 271, 286, 296  
   sintering, calcination and fusion ..... 19  
   small deposits ..... 11  
   solubility ..... 11–15  
   specific surface area ..... 12  
   thermal treatments ..... 19  
   types ..... 9, 10
- Prang, Ghana ..... 153
- Praslin-La Digue, Seychelles ..... 248
- Pratley Perlite Mining Co Ltd. .... 266
- Pretoria, South Africa .. 264
- Pseudomonas cepacia* ..... 21
- Pumice ..... 4, 7, 37, 39, 130, 142, 166
- Puzzolana ..... 104, 114
- Pyramides, Tanzania ..... 286
- Pyrite ..... 7, 17, 23, 27, 264, 287, 318, 329
- Pyrochlore ..... 117, 147, 302, 303, 313, 315
- Pyrolysite ..... 33
- Pyroxene ..... 307
- Pyroxenite ..... 10, 178, 184, 185, 188, 189, 208, 215, 259, 260, 263, 307, 308, 329
- Quelimane, Mozambique ..... 208
- Quicklime 25, 86, 123, 180, 328
- Quindonacaxa, Angola... 75
- Rabak, Sudan ..... 273
- Radioactivity 170, 221, 272, 285, 286, 316
- Ralph M. Parsons Company ..... 140
- Rangwa, Kenya ..... 163
- Rare Earth Elements ..... *See* REE
- REE ..... 140, 284, 313, 316
- REE, light ..... 281
- Rengwe communal land, Zimbabwe ..... 327
- Residual PR ..... 206, 304
- Ressano Garcia, Mozambique ..... 211
- Rhenania phosphates ..... 19
- Rhizobia ..... 24, 26, 47
- Richards Bay, South Africa ..... 260, 265
- Rio Muni, Equatorial Guinea ..... 132
- Riversdale, South Africa ..... 264
- RMRDC ..... 228, 230
- Rock mulch ..... 4, 142
- Rodrigues, Mauritius ... 202
- Roka, Kenya ..... 165
- Rovuma Basin, Mozambique ..... 208
- Rubabo, Uganda ..... 306
- Rubber ..... 42
- RUDIS ..... 283
- Rufunsa, Zambia ..... 317
- Ruhanga, Burundi ..... 97
- Ruhengeri, Rwanda ..... 235
- Ruhuhu, Tanzania ..... 287
- Rukungiri District, Uganda ..... 306
- Rustenburg District, South Africa ..... 261
- Rutana, Burundi ..... 97
- Rutile ..... 252
- Rwanda ..... 27, 236
- Rwanda Brewery and Lemonade Company 234
- Rwonye, Uganda ..... 306
- Sadan-Abetifi, Ghana... 153
- Saldanha Bay, South Africa ..... 262, 263
- Salinquinhe, Guinea-Bissau ..... 158
- Salt 32, 104, 110, 134, 146, 178, 214, 228, 270
- Salt peter ..... 7
- SAMIN ..... 199
- Sandheuvvel, South Africa ..... 261
- Sandveld region, South Africa ..... 261
- Sangu-Ikola, Tanzania .281, 287
- Sanzo River, Angola ..... 73
- São Tomé and Príncipe ..... 237–38
- Sarh, Chad ..... 110
- Sassalemba, Angola ..... 75
- Save River, Mozambique ..... 210
- Schiel, South Africa ..... 260
- Scoria 4, 7, 37, 48, 114, 130, 142
- Sebikotane, Senegal ..... 244
- Sebkha N'Dremcha, Mauritania ..... 199
- Sedimentary PR ... 8, 16, 72, 80, 90, 106, 116, 122, 126, 138, 139, 146, 152, 158, 170, 174, 178, 192, 198, 208, 216, 221, 223, 228, 242, 248, 261, 271, 286, 296
- Seed & fertilizer packets 24
- Selebi-Pikwe, Botswana 86
- Selenite ..... 307
- Selous Game Reserve ... 283
- SEM ..... 10
- Senegal . 16, 19, 47, 239–46
- Senegal River ..... 198, 243
- Sengeri Hill, Tanzania .. 283
- Senna siamea* ..... 46
- Sepiolite ..... 254, 255
- Serenje, Zambia ..... 317
- Serule, Botswana ..... 87
- Sesbania sesban* ..... 45
- Seychelles ..... 247–49
- Shagamu, Nigeria ..... 230
- Shaka, Burundi ..... 97
- Shawa, Zimbabwe 325, 326, 328
- Shell Oil Company ..... 80
- Shingo, Tanzania ..... 288
- Shinyanga, Tanzania ... 287, 288
- Sidamo, Ethiopia ..... 141
- Sierra Leone ..... 31, 251–52
- Siguiri area, Guinea ..... 156
- Sika Kondji, Togo ..... 298
- Silicate rocks ..... 33
- Siloana Plain, Zambia... 318
- Sinda Batholith, Zambia 315
- Sintering ..... 19
- Sitampiky, Madagascar. 178
- Slag ..... 19, 26, 37, 38, 266  
   composition ..... 38
- Small PR deposits ..... 11
- Small scale mining ..... 48
- Smithsonite ..... 33
- Soalara, Madagascar .... 178, 180
- Soda ash.. 86, 110, 162, 228
- Soda nitre ..... 216
- Sodium ..... 30
- Soevite ..... 163, 184, 185, 263, 281, 302, 307, 327
- Soil Mining ..... 3
- Soils  
   acid ..... 7, 13, 16  
   alkaline ..... 27  
   factors influencing PR solubility ..... 13  
   oxisols ..... 7, 9, 14, 16  
   tropical ..... 7  
   ultisols ..... 7, 9, 14, 16
- Sokoto, Nigeria ..... 12, 16, 229–30
- Solubility, PR ..... 12
- Solwezi, Zambia ..... 317
- Somalia ..... 253–56
- SOMIKIVU ..... 117
- Songo Songo Island, Tanzania ..... 280
- Songwe River ..... 287
- Songwe Scarp, Tanzania ..... 283
- SOTOMA ..... 298
- Sougeta, Guinea ..... 156
- South Africa ..... 40, 47
- Specific surface area ..... 12
- Spitskop, South Africa. 260, 263
- Sri Lanka ..... 23, 40, 43, 263
- SSP ..... 17, 222, 240, 244, 297, 326
- SSPT ..... 242, 244
- STAMICO ..... 288
- Stanger, South Africa... 262
- Steylerville-Jansenville, South Africa ..... 265
- Strengite ..... 10, 174
- Strontium ..... 284, 313
- Structural adjustment programs ..... 3
- Sua Pan, Botswana ..... 86
- Subinda, Angola ..... 75
- Sudan ..... 268–74
- Sugar cane ..... 43
- Sugar Loaf ... *See* Mwumba North
- Sugata Valley, Kenya ... 165
- Sukulu, Uganda .... 18, 20, 23, 184, 302–4
- Sukumavera, Tanzania.. 287

- Sulphur ..7, 27, 38, 76, 134, 142, 264, 287, 318, 329
- Sultan-Hamud area, Kenya ..... 166
- Superphosphates ..4, 11, 17, 24, 27, 240, 244, 262, 303, 305, 326. *See also* TSP, SSP
- Suswa Volcano, Kenya 165
- Swakopmund, Namibia 216
- Swaziland .....275–77
- Syenite . 153, 185, 188, 254, 259, 260, 270, 272, 313, 315, 316
- Sylvite.. 7, 29, 32, 123, 140, 195
- Tabligbo, Togo ..... 298
- Tabonam, Sudan ..... 273
- Tahoua, Niger .12, 18, 221–22
- Taiba, Senegal ..... 241
- Talc .....228, 276
- Tamaguilel, Mali..... 193
- Tanga, Tanzania.....285, 287
- Tanout, Niger..... 224
- Tantalite..... 234
- Tantalum..... 228
- Tanzania 12, 16, 18, 20, 21, 22, 23, 24, 31, 48, 279–92
- Tanzania-Canada  
Agrogeology Project .. 6, 283, 286, 288
- Taoudenni basin..... 91
- Taoudenni Basin ... 195, 199
- Tapoa, Niger ..... 223
- Tchibanga, Gabon..... 147
- Tchi-n-Salantine, Niger 224
- Tea ..... 43
- Telatai, Mali.....192, 193
- Tellis, Chad..... 111
- Tengwe, Zimbabwe ..... 328
- Termite mounds..... 26
- Tessalit, Mali ..... 194
- Tete, Mozambique 208, 209
- Texaco Oil Company ... 202
- Thies, Senegal.....19, 242
- Thiobacillus* .....24, 27
- Tiara, Burkina Faso..... 93
- Tigray, Ethiopia ..... 141
- Tilemsi, Mali 11, 12, 13, 15, 16, 194
- Tillite 72, 91, 106, 118, 153, 156, 192, 199, 240, 244, 262, 302, 312, 324
- Timbuktu, Mali ..... 195
- Tin .....30, 228
- Tin Akof, Burkina Faso . 93
- Titanium ..... 206
- Tithonia diversifolia*. 24, 45, 46
- Toffo, Benin..... 80
- Togo 11, 13, 18, 20, 21, 23, 47, 293–300
- Togo PR.....13, 20, 23
- Tokpli, Togo ..... 298
- Toliara, Madagascar.....179, 180
- Tono Lake, Benin .. *See* Lac Tono, Benin
- Toror, Uganda..... 308
- Tororo Cement Industries ..... 307
- Tororo, Uganda.....304, 307
- Tougue area, Guinea .... 156
- Travertine .....97, 101, 118, 164, 187, 234, 263, 287, 306
- definition..... 25
- Triad rock formation..... 91, 192, 199
- TSP .... 4, 11, 14, 17, 20, 27, 28, 93, 194, 240, 244, 283, 285, 297, 304, 305, 326
- Tufa ..... 174, 187
- definition..... 25
- Tuma Creek, Angola..... 73
- Tumas, Namibia..... 216
- Tundulu, Malawi....23, 185, 187
- Tunisia ..... 11
- Turquoise.....271, 316
- Twee river, South Africa 263
- Uganda... 18, 20, 23, 24, 40, 48, 301–10
- Ugandite ..... 308
- Ukwimi, Zambia ..... 317
- Ulco, South Africa..... 264
- Ulexite ..... 32
- Uliwa, Malawi .....187
- Uloa, South Africa .....262
- Ultisols..... 7, 9, 14, 16, 19
- Umfolosi River, South Africa.....262
- UNDP ..... 80, 107, 116, 146
- United Nations.....96, 304
- UNRFNRE .....80, 123
- Uranium... 18, 49, 106, 107, 146, 158, 170, 198, 214, 220, 271, 284
- Urea .... 20, 23, 24, 27, 28, 36, 96
- Uro, Sudan.....272
- Usanga Flats, Tanzania .286
- Vam Wyksvlei, South Africa.....264
- Vanadium .....30, 38, 258
- Vanrhynsdorp, South Africa.....265
- Variscite. 10, 126, 174, 271
- Varswater, South Africa 261
- Vermiculite..... 4, 40, 165, 188, 260, 265, 276, 302, 308, 326, 329
- Vilanculos, Mozambique .....208
- Vinasse ..... 22
- Virulundo, Angola ..... 76
- VOD .....265
- Vredenburg, South Africa .....264
- Vuangu, DRC .....116
- Wadi Kurmut, Sudan ....273
- Walvis Bay, Namibia....216
- Wara na Yeno, Gabon...146
- Wastes  
mineral..... 37
- organic ..... 43
- PR sources ..... 22
- Wavellite 19, 126, 242, 271
- Wazo Hill, Tanzania .....287
- Weenen area, South Africa .....262
- West Coast, South Africa .....265
- Western Cape Province, South Africa.....261
- Windhoek District, Namibia .....216
- Wolframite.....96, 234
- Wollega, Ethiopia 139, 140, 141
- Wood ash.....26
- Woodhouseite.....271
- Wurno, Nigeria .....231
- Xai-Xai, Mozambique ..206
- XFR .....10
- X-Ray diffraction. *See* XRD
- XRD .....10
- Yakoboue, Côte D'Ivoire .....126
- Yamoussoukro, Côte D'Ivoire .....126
- Yander, Nigeria .....230
- Yaounde, Cameroon .....101
- Yeji, Ghana.....153
- Yobe State, Nigeria.....231
- Zaire ..... *See* DRC
- Zaire River, Angola .....75
- Zambezi town, Zambia. 317
- Zambia 18, 31, 32, 48, 311–22
- Zanzibar Island .....287
- Zariga, Eritrea.....134
- Zeerust, South Africa....264
- Zemmour Noir, Mauritania .....198
- Zeolites ..... 4, 7, 20, 36, 48, 142, 166, 170, 211, 265, 288, 306, 308
- uses .....36
- Zhombe communal land, Zimbabwe .....327
- Zimbabwe .... 18, 20, 23, 32, 40, 48, 323–31
- Zimbabwe-Canada  
Agrogeology Project 326
- ZIMPHOS .....329
- Zinc .....32, 38
- Zinder, Niger .....223
- Zircon .....302
- Zizi, Tanzania .....283
- Zomba, Malawi.....187