

James C. Ratté

Colorado Scientific Society
Proceedings

INDEX TO
VOLUME 15
1946-1952



PUBLISHED BY THE SOCIETY
DENVER, COLORADO
1956

Colorado Scientific Society

B. F. LEONARD, *President*

DAVID J. VARNES, *Vice-President*

ROBERT C. PEARSON, *Secretary*

LYMAN C. HUFF, *Treasurer*

Mail exchanges to:

COLORADO SCIENTIFIC SOCIETY

Denver Public Library

Denver, Colorado

Address all communications to:

COLORADO SCIENTIFIC SOCIETY

Box 688

Denver 1, Colorado

Additional copies, 25c

PRINTED IN U. S. A.

PEERLESS PRINTING COMPANY

DENVER, COLORADO

CONTENTS OF VOLUME 15

	PAGE
No. 1—Fluorspar deposits of the Jamestown district, Boulder County, Colorado, by E. N. Goddard.....	5
No. 2—Preliminary report on the Kokomo mining district, Colorado, by A. H. Koschmann and F. G. Wells.....	51
Replacement deposits (Kokomo district), by A. H. Koschmann, F. G. Wells, and J. W. Odell.....	100
No. 3—Vanadium deposits near Placerville, San Miguel County, Colorado, by R. P. Fischer, J. C. Haff, and J. R. Rominger.....	117
Recent development on the Black Bear vein, San Miguel County, Colorado, by D. J. Varnes.....	137
No. 4—Stratigraphy of the Pando area, Eagle County, Colorado, by Ogden Tweto.....	149
No. 5—The Gunnison Forks sulfur deposit, Delta County, Colorado, by McClelland G. Dings.....	237
No. 6—Geology and fluorspar deposits of the St. Peters Dome district, Colorado, by Thomas A. Steven.....	259
No. 7—The Sunnyside, Ross Basin, and Bonita fault systems and their associated ore deposits, San Juan County, Colorado, by W. S. Burbank.....	285
No. 8—Sources of lightweight aggregates in Colorado, by Alfred L. Bush.....	305
No. 9—Clay deposits of the Denver-Golden area, Colorado, by Karl M. Waage.....	373
Index—by Priscilla C. Patton and Marion C. Snipes.....	391

ILLUSTRATIONS

PAGE

No. 1

<p>Plate 1. Geologic map of the central part of the Jamestown district, Boulder County, Colorado, showing distribution of the principal fluorspar deposits.....</p> <p>2. Geologic map of the principal fluorspar-producing area near Jamestown, Boulder County, Colorado.....</p> <p>3. Geologic map of the Blue Jay mine and vicinity.....</p> <p>4. Fluorspar ore from the Argo breccia zone, showing granite fragments (light gray) surrounded by fine-grained sugary fluorite (dark gray). Some clay minerals and quartz are mixed with the fluorite. (Scale in inches)</p> <p>5. Fluorspar ore from veins.</p> <p style="padding-left: 20px;">A. Specimen from Blue Jay vein showing breccia fragments of deep-violet fluorite (black) in matrix of fine-grained fluorite, clay minerals, carbonate, and quartz.</p> <p style="padding-left: 20px;">B. Specimen from Yellow Girl vein showing brecciated purple fluorite (light to dark gray, glassy) in a fine-grained matrix of fluorite, clay minerals, quartz, and carbonate</p> <p>6. Geologic maps and sections of the Argo mine.....</p> <p>7. Geologic maps and sections of the Brown Spar mine.....</p> <p>8. Geologic maps and sections of the Burlington mine.....</p> <p>9. Geologic maps and sections of the Chancellor mine.....</p> <p>10. Geologic maps and sections of the Emmett mine and the Afterthought tunnel</p> <p>11. Geologic map and sections of the Yellow Girl mine.....</p>	<p>11</p> <p>15</p> <p>15</p> <p>15</p> <p>16</p> <p>33</p> <p>35</p> <p>37</p> <p>39</p> <p>41</p> <p>47</p>
<p>Figure 1. Index map of Colorado showing the location of the Jamestown district</p> <p>2. Sketch showing lenticular body of stratified fragmental fluorspar material in granite breccia; east wall of cross-cut, 125 feet northwest of shaft, 280-foot level of Emmett mine</p>	<p>7</p> <p>23</p>

No. 2

<p>Plate 1. Geologic map and sections of the Kokomo mining district, Colorado. Southwestern part..... (in pocket)</p> <p>2. Geologic map of Kokomo mining district, Colorado. Northeastern part</p>	<p>(in pocket)</p> <p>(in pocket)</p>
--	---------------------------------------

No. 3

<p>Plate 1. Map of the Placerville area, San Miguel County, Colo.....</p> <p>2. Maps showing the geology and ore bodies of four vanadium mines near Placerville, Colorado.....</p>	<p>121</p> <p>130</p>
<p>Figure 1. Vertical sections across elongate ore bodies, showing different forms of rolls.....</p>	<p>126</p>
<p>Plate 1. Map of the Treasury tunnel and vicinity showing veins, faults, and underground workings, Ouray, Colorado.....</p> <p>2. Geologic map of Black Bear vein, Treasury tunnel, Ouray, Colorado</p>	<p>146</p> <p>146</p>

ILLUSTRATIONS (Continued)

		PAGE
No. 4	Figure 1. Index map of part of central Colorado.....	151
	2. Generalized geologic map of the Pando area.....	153
	3. Cross-section showing relation of the Peerless, Harding, and Chaffee formations.....	166
	4. Sections showing features of the Gilman sandstone mem- ber	182
No. 5	Figure 1. Index map of southwestern Colorado showing location of the Gunnison Forks sulfur deposit.....	238
	2. Geologic map of the Gunnison Forks sulfur deposit and vicinity	238
	3. Geologic map and cross section of the quarry, Gunnison Forks sulfur deposit.....	238
No. 6	Figure 1. Index map showing the location of the St. Peters Dome district, Colorado	260
	2. Geologic map of the St. Peters Dome district, El Paso County, Colorado	264
	3. Structural map of the St. Peters Dome district, El Paso County, Colorado	267
	4. Geologic map of the Mattie B. deposit.....	275
	5. Geologic map of the Duffields deposit.....	277
	6. Topographic map of the Timberline deposit.....	279
	7. Geologic map of the Timberline tunnel.....	281
	8. Geologic map of the surface workings near the northern end of the Timberline deposit.....	283
No. 7	Figure 1. Index map of southwestern Colorado, showing location and structural setting of the Eureka-Gladstone-Animas Forks area	290
	2. Outline structure map of the Eureka, Animas Forks, and Gladstone areas, San Juan County, Colorado.....	292
	3. Geologic cross-section from the South Fork of Cement Creek northeast to California Mountain.....	293
No. 8	Figure 1. Index map of Colorado and northern New Mexico show- ing areas covered by figures 2-6.....	between 308-309
	2. Map of a part of north-central Colorado, showing the lo- cation of deposits of lightweight aggregates...between 308-309	between 308-309
	3. Map of Eagle County, Colorado, and parts of adjacent counties showing the location of deposits of lightweight aggregates	between 308-309
	4. Map of Douglas County, Colorado, and parts of adjacent counties, showing the location of deposits of lightweight aggregates	between 308-309

ILLUSTRATIONS (Continued)

PAGE

- Figure 5. Map of a part of central Colorado, showing the location of deposits of lightweight aggregates.....between 308-309
6. Map of a part of south-central Colorado and north-central New Mexico, showing the location of deposits of lightweight aggregatesbetween 308-309

No. 9

- Figure 1. Generalized stratigraphic section of rocks exposed in the Denver-Golden area 375
2. Index map of the Denver-Golden area..... 377
3. Clay-bearing strata in and adjacent to the Dakota hogback in the Denver-Golden area..... 379

Colorado Scientific Society

PROCEEDINGS

INDEX TO VOLUME 15, 1946-1952*

By PRISCILLA C. PATTON and MARION C. SNIPES

U. S. GEOLOGICAL SURVEY
DENVER FEDERAL CENTER, DENVER, COLORADO

(All place names refer to localities in Colorado. Some of the features shown on the illustrations are indexed, but such indexing is not uniform.)

- Abe Lincoln Number 2 deposit (Chaffee Co.), vermiculite, 333
- Adularia (Jamestown dist.), 18, 22
- Afterthought tunnel (Jamestown dist.), 42
- Aggregate, lightweight
bibliography, 352-368
characteristics, 307-309
classification of, 308
compared with normal-weight aggregate, 306, 307, 309
defined, 306
properties of, 308
sources in Colorado, 305-368
by commodity, 314-348
by county, 311-313
by deposit, 348-352
- Aggregate, normal weight
compared with lightweight aggregate, 306, 307, 309
defined, 306
- Alamosa Creek deposit (Conejos Co.), see Capulin deposit
- Alice mine and vein (Jamestown dist.), 19, 21, 30
- Allanite
Kokomo dist., 78, 79, 80
Pikes Peak granite (St. Peters Dome dist.), 263
- Allen deposit, Phares and, (Custer Co.)
vermiculite, 337-338
- Alum
Gunnison Forks area, 253
near Doughty Springs (Delta Co.), 253
see also Potash alum, Pickeringite
- American Metals Company (Kokomo dist.), 55
- American Smelting & Refining Corporation (Leadville)
slag from, 346-347
- American tunnel of Gold King mine (Eureka dist.), 289, 303
- Ankerite (Jamestown dist.), 18, 34, 35, 36, 41
- Aplite dikes (St. Peters Dome dist.), 263, 264, 268, 270, 277
- Arapahoe formation, 386
Dawson arkose (Denver-Golden area), 378, (Castle Rock area), 386-387
- Arfvedsonite (Jamestown dist.), 18, 26
- Argentine
dike (San Miguel Co.), 138, 145, 146
fissure (San Miguel Co.), 145
vein (San Miguel Co.), 146
- Argentite
Kokomo dist., 107
San Miguel Co., 142
- Argo mine (Jamestown dist.), 19, 22-23, 31-33
- Arkansas smelter (Leadville), 51
Aurand, H. A., 8, 261-262
- Bald Mountain stock (Kokomo dist.), 75, 79-80
- Barite
Kokomo dist., 104
St. Peters Dome dist., 273, 274, 280, 282

*Publication authorized by the Director, U. S. Geological Survey.

- Basalt Mountain (Eagle Co.)
 perlite at, 331
 pumice at, 318
- Base metals (Eureka dist.), 295, 296, 301
- Bassem Park (Park Co.)
 pumice, 318
- Basset, C. F., 191
- Batholith (Jamestown dist.), 10
- Battle Mountain formation (Pando area), 189, 191, 201, 204
- Bear Creek mine (Placerville area), 121, 123, 125, 127, 132-133
- Behre, C. H., 90, 177
- Beidellite-montmorillonite group (Jamestown dist.), 18
- Belcher mine (Kokomo dist.), 94
- Belcher vein (Eureka dist.), 300
- Belden shale
 member of Battle Mountain formation, 189
 Pando area, 184, 187, 189, 191, 192-193, 205, 228
- Bell, W. C.
 fossil identification, 159
- Bentonite
 Black Mountain, 316
 Gunnison Forks area, 242
 near Kokomo dist., 73
- Benton shale (Denver-Golden area)
 clay, 378, 384, 387, 388
- Bilk Creek sandstone and marl member (Placerville area), 122
- Black Bear
 fracture (San Miguel Co.), 146
 mine (San Miguel Co.), 138, 142
 vein (San Miguel Co.)
 paragenesis and mineralogy, 141-144
 recent development, 137-146
- Black Mountain deposit (Park Co.)
 pumice, 316
- Blue Creek flats (Eagle Co.)
 pumice, 318
- Blue Jay Hill, veins on, (Jamestown dist.), 34
- Blue Jay mine and vein (Jamestown dist.), 14, 17, 19, 33-34
- "Blue" limestone (Pando area), 169, 177
- Bonanza vein (Eureka dist.), 300
- Bonita fault and fault system (Eureka dist.), 286, 292-293
 ore in, 294, 295, 296-300, 302, 303
- Bonita Peak fault and fault block (Eureka dist.), 293, 294, 295, 302
- Boston Cooney mine (Kokomo dist.), 106
- Boulder County, see Jamestown district
- Boulder Creek granite (Jamestown dist.), 10
- Boulder Fluorspar and Radium Co., 31, 33, 35, 40
- Boyd smelter (Boulder), 9
- Breccia reefs (Jamestown dist.), 10; see also Breccia zones
- Breccia zones (Jamestown dist.), 13-14, 21-27; 29-46 passim
- Breene mine (Kokomo dist.), 68, 101
- Brill, K. G., 73, 189, 190, 191, 192, 193, 201, 203, 204, 229
- Brown Spar mine (Jamestown dist.), 19, 24, 28, 35-36
- Burbank, W. S., 137, 145
- Burbank, W. S., *The Sunnyside, Ross Basin, and Bonita fault systems and their associated ore deposits, San Juan County, Colorado*, 285-304
- Burchard, E. F., 45
- Burlington mine (Jamestown dist.), 19, 22-23, 36-38
- Burns quartz latite, see Silverton volcanic series
- Bush, Alfred L., *Sources of light-weight aggregates in Colorado*, 305-368
- Butler, B. S., 58, 76
- Butler, G. M., 388
- Caldera, 138, 286, 289, 293
- Cambrian rocks
 Kokomo dist., 58-59
 Pando area, 158-165
 Quartzite (Routt Co.), 323
- Camp Bird vein (San Miguel Co.), 142
- Cannibal Plateau (Hinsdale Co.)
 pumice or scoria, 318
- Capulin (Alamosa Creek) deposit (Conejos Co.)
 pumice, 315-316
- Carbonaceous shale
 Dakota sandstone (Gunnison Forks area), 237, 241, 242, 245, 246
- Carpenter mine (Placerville area), 133-134
- Cashier vein (Eureka dist.), 300

- Castle Rock area (Douglas Co.)
welded tuff, 344-345, 346
- Cathedral deposit (Saguache Co.)
perlite, 329-330
- Cather Springs deposit, see Timberline deposit
- Chaffee formation (Pando area), 168
- Dyer dolomite member, 169, 174-177, 180-181
"sand grain marker," 175, 176
section, 175-176
- Parting quartzite member, 156, 162, 163, 169-174
section, 171-173
- Chalcedony (Jamestown dist.), 18, 35
- Chalcopyrite
Jamestown dist., 20, 30, 32
Kokomo dist., 99
St. Peters Dome dist., 282
- Champion mine (Kokomo dist.), 67, 95, 101
- Chancellor mine and vein (Jamestown dist.), 19, 21, 38-40, 44, 45
- Cherokee age, see Des Moines age
- Chonolith (Kokomo dist.), 74-75, 110
- Chromium, 125, 128, 129
- Cinder, see Slag
- Cinder cone (Costilla Co.), 319
- Cinnamon fault (Eureka dist.), 291, 292
- Clark, Clark H., 9, 43, 45
- Clarke, F. W., 251, 252
- Clay
Benton shale, 384
bloating-type, 374, 375, 388
brick, tile, sewer pipe, 374, 376, 384-389
Dakota sandstone (Pueblo-Canon City area), 381, 389
Dawson arkose (Castle Rock area), 378, 384, 386-387
Fountain formation, 384, 387
Laramie formation, 374, 376, 384-386
lightweight aggregate, 309, 347-348
bibliography, 358-361
Lykins formation, 384, 387
Morrison formation, 384, 387
outlook, 389
production (Denver-Golden area), 374, 384-389
- Purgatoire formation, 384, 387-388
- refractory
bentonite-like (Denver-Golden area), 381
Glencairn shale member of the Purgatoire formation, 376, 380-383, 388
kaolinite, 383
reserves (Denver-Golden area), 383-384, 389; (Pueblo-Canon City area), 389
reserves, 386
- Clay deposits of the Denver-Golden area, Colorado, by Karl M. Waage, 373-390
- Clinker, 309
- Coal
Dakota sandstone (Gunnison Forks area), 242, 245
Laramie formation (Denver-Golden area), 385
- Cochetopa Dome deposit (Saguache Co.)
perlite, 316-317, 330-331
pumice, 316-317, 318
volcanic ash, 317
- Collapse structures (Pando area), 181-184
- Colonel Sellers mine (Kokomo dist.), 68, 101
- Colorado Fuel & Iron Corporation (Pueblo)
metallurgical fluorspar shipped to, 38
slag from, 346
- Colorado shaft (St. Peters Dome dist.), 264, 267
- Colorado, Sources of lightweight aggregates in, 305-368
- Colorado Vanadium Corporation, 120, 121, 133, 134
- Columbine mine (Kokomo dist.), 95
- Concrete, lightweight aggregate for, 306-308
- Conger Mesa (Routt Co.)
scoria, 322
- Consolation mine (Jamestown dist.), 40
- Copper
Eureka dist., 286, 296
Jamestown dist., 21, 33
Kokomo dist., 56
San Miguel Co., 145
- Crater deposit (Routt Co.)
scoria, 322

- "Crater Mountain" (Chaffee Co.)
 pumice, 318
 scoria, 325
- Crawford, R. D., 79
- Cripple Creek district, 266
 compared with St. Peters Dome
 dist., 274, 276
- Cripple Creek caldera, 276
- Cripple Creek granite
 related to Pikes Peak granite, 263
- Cross, Whitman, 81, 83, 261, 289,
 302, 376
- Cryolite pegmatite (St. Peters Dome
 dist.), 261, 262, 263, 265
- Dakota group, 378
- Dakota sandstone, 383
 Denver-Golden area, 380-381, 389
 Gunnison Forks area, 240-242,
 246, 247, 248, 254
 alums, 253
 bentonite, 242
 carbonaceous shale, 237, 241,
 242, 245, 246
 coal, 242, 245
 "fertilizer" rock, 237-238,
 243-247
 gas seeps, 247-248, 250, 252
 gold, 254
 pyrite concretions, 242, 245,
 254
 sulfur, 248-252
 Placerville area, 122
 Pueblo-Canon City area, 380-
 381, 389
- D and G tunnel (Kokomo dist.), 98,
 100
- Daughenbaugh shaft (Kokomo dist.),
 95
- Dawson arkose
 clay (Castle Rock area), 378, 384,
 386-387
 tuff, welded, 344-345
- Delaware mine (Kokomo dist.), 68,
 101
- Delphos mine (Kokomo dist.), 94
- Delta County, see Gunnison Forks
 sulfur deposit
- Denver County, see Denver-Golden
 area
- Denver formation, 378, 386
- Denver-Golden area
 clay deposits, 373-390
 stratigraphic section, 375
- Des Moines age
 Pennsylvanian (lower)
 Kokomo dist., 64, 66, 68, 69
- Pennsylvanian (middle)
 Cherokee age, 193, 205
 Pando area, 192, 199, 202, 205
- Devil Lake (Hinsdale Co.)
 scoria or pumice, 318, 326
- Devonian rocks (Pando area), 169-
 177
- Dikes
 Jamestown dist., 22, 41, 44
 St. Peters Dome dist., 263, 264,
 268, 270, 277
- Dings, McClelland G., *Gunnison
 Forks sulfur deposit, Delta County,
 Colorado*, 237-256
- Dolomite member, see Leadville
 dolomite
- Donner, H. F., 189, 323
- Dotsero Crater deposit (Eagle Co.)
 scoria, 321-322
- Doughty Springs (Delta Co.), 248,
 252, 253
- Duffields deposit (St. Peters Dome
 dist.), 270, 276, 277, 278, 280
- Dyer dolomite member, see Chaffee
 formation
- Eagle County, see Kokomo district;
 Pando area
- East mine (Kokomo dist.), 101
- Eldorado mine (Kokomo dist.), 101
- Eldridge, G. H., 188, 376
- Elk Mountain porphyry
 Kokomo dist., 74, 77-78
 Pando area, 230, 231, 232, 233
- Elk Ridge limestone (Kokomo dist.),
 62, 67
- Elk Ridge limestone member, see
 Minturn formation
- El Paso County, see St. Peters Dome
 district
- Emmett mine and vein (Jamestown
 dist.), 17-29 passim, 40-42, 44
- Emmons, S. F., 56-108 passim, 160,
 174, 186, 188, 201, 204, 229, 376
- Empire Zinc Company (Gilman),
 175
- Enargite (Jamestown dist.), 19
- En echelon structures (St. Peters
 Dome dist.), 271, 272, 276
- Entrada sandstone (Placerville area)
 vanadium-bearing, 121-125, 134
- Epithermal veins
 fluorspar (St. Peters Dome dist.),
 273-274
- Eureka district (San Juan Co.)
 fault systems and ore deposits,
 285-304

- Eureka rhyolite, see Silverton volcanic series
- Fall Creek mine (Placerville area), 121, 126, 130-131
- Felicia Grace mine (Kokomo dist.), 67, 101
- "Fertilizer" rock
composition, 246-247
Gunnison Forks area, 243-247
production, 244
- Finlay, G. I., 261, 263, 265, 380
- Fischer, R. P., 119
- Fischer, R. P., Haff, J. C., and Rominger, J. F., *Vanadium deposits near Placerville, San Miguel County, Colorado*, 117-134
- Flattop peneplain (Jamestown dist.), 25-26
- Florissant lake beds, 276
- Fluorite, see Fluorspar
- Fluorspar
Jamestown dist. (Boulder Co.), 5-47
acid-grade fluorspar, 9, 20
analyses and grade, 19, 20, 27
metallurgical-grade fluorspar, 9, 20
St. Peters Dome dist. (El Paso Co.), 259-284
- Fluorspar deposits of the Jamestown district, Boulder County, Colorado*, by E. N. Goddard, 5-47
- Fossils (Gunnison Forks area)
plants, 242, 245
- Fossils (Kokomo dist.)
cephalopods, 68-69
Domatoceras, 69
Mooreoceras, 69
nautiloid, 69
orthoceroid, 68
Pseudorthoceras, 69
Chonetes, 66
fusulinids, 66
gastropods, 69
Marginifera, 66
Spirifer, 66
- Fossils (Pando area)
algal, 163, 198, 205, 207, 210, 213, 234
borings, 163, 165
brachiopods, 159, 193, 203, 212, 213
productid, 225
spiriferoid, 208
bryozoa, 212, 213, 225
cephalopods, 203, 205, 207
- Chaetetes, 198, 201, 214, 217, 220
corals, 217
crinoids, 201, 212, 213, 217
Dicellomus, 159
echinoids, 212, 213
fish scales, 226
fusulinids, 199, 202, 208, 211, 212, 213
gastropods, 203, 205, 210, 211, 212, 213
horn corals, 212
Mesolobus mesolobus, 203
ostracods, 193, 208, 226, 227
pelecypods, 193, 203, 217
plants, 210, 213, 214, 215, 223, 226
reefs, 198
stigmara, 214
trilobites, 159
- Fountain formation (Denver-Golden area)
clay, 378, 384, 387
- Fourney deposit (Jackson Co.)
vermiculite, 340-342
- Frazier mine (Placerville area), 132
- Free America mine (Kokomo dist.), 69, 109
- Fremont limestone, 168
- Friedhelm claim (Jamestown dist.), 38
- Front Range highland (Paleozoic), 155-156, 197
- Front Range mineral belt (Jamestown dist.), 9
- Galena
Jamestown dist., 19, 20, 32, 37
Kokomo dist., 105
St. Peters Dome dist., 273, 282
"Gapco Sulfur Base Soil Conditioner," 238
- Garnet
Jamestown dist., 18
Kokomo dist., 70
- Gas seeps
Dakota sandstone (Gunnison Forks area), 247-248, 250, 252
- Gazin, G. L., 276
- Gearksutite (Jamestown dist.), 18
- Gem Park deposit (Custer and Fremont Cos.)
vermiculite, 338
- General Agricultural Products Co., 237-238, 244, 247
- General Chemical Co., 9, 30, 36, 38, 39, 43, 45
- Genth, F. A., analyst, 123

- Geology and fluorspar deposits of the St. Peters Dome district, Colorado*, by Thomas A. Steven, 259-284
- George Washington ore shoot, of Sunnyside mine (Eureka dist.), 300-301.
- Gilman sandstone member, see Leadville dolomite
- Glencairn shale member, see Purgatoire formation
- Goddard, E. N., 387
- Goddard, E. N., *Fluorspar deposits of the Jamestown district, Boulder County, Colorado*, 5-47
- Gold
- Eureka dist., 286, 295, 296, 298, 304
- in Dakota sandstone (Gunnison Forks deposit), 254
- in fluorspar veins
- Jamestown dist., 8, 20, 30, 33, 39, 43
- St. Peters Dome dist., 261-262, 273, 278
- Kokomo dist., 56, 107
- San Miguel Co., 142-145
- Golden-Denver area, see Denver-Golden area
- "Goldenite" mine (Custer and Fremont Cos.)
- vermiculite, 338
- Gold King mine and vein (Eureka dist.), 286, 289, 294, 296, 297, 298, 303
- American tunnel of, 289, 303
- Gold-silver ore (Eureka dist.), 301
- Goldstein, August, Jr., 332
- Gore fault, 155, 157, 186
- Gossan (Kokomo dist.), 108
- Graben (Eureka dist.), 292, 293
- Granodiorite (Jamestown dist.), 10, 12, 13, 38-39, 46
- Great Mogul mine (Eureka dist.), 299-300
- Greer lead smelter (Kokomo), 54
- Gude, A. J., 3d, 384
- Gunnison Forks sulfur deposit, Delta County, Colorado*, by McClelland G. Dings, 237-256
- Haff, J. C., see Fischer, Haff, and Rominger
- Half-Moon mine (Kokomo dist.), 95
- Handicap vein (San Miguel Co.), 139
- Harding quartzite (Pando area), 156, 162, 163, 166-169
- section, 167
- Harry M. Williamson and Son, 9, 31, 33, 35, 40
- Hayden, F. V., 378
- Haymon deposit (Park Co.)
- vermiculite, 343-344
- Headen, W. P., 248, 252, 253
- Hematite (Jamestown dist.), 10, 18, 41
- Henbest, L. G., fossil identification, 64, 66, 199, 202, 213
- Henderson, C. W., 53, 54, 55, 56
- Henson tuff, 288, 289
- Hermosa (?) formation (Pando area), 188
- Hess, F. L., 119
- Hillebrand, W. F., 123, 261
- analyst, 123
- Hoodoo claim (Jamestown dist.), 38
- Hoosier reef (Jamestown dist.), 12
- Hornsilver dolomite member, see Minturn formation
- Howe, Ernest, 289, 302
- Hughes Boss shafts and claim, on Duffields deposit (St. Peters Dome dist.), 264, 276, 278
- Idaho Springs formation (Jamestown dist.), 9
- Idarado Mining Company, 139
- Invincible mine (Jamestown dist.), 43, 46
- Iron (Eureka dist.), 299, 304
- Iron vein (San Miguel Co.), 142
- Jack 8 bed
- of Minturn formation (Pando area), 196, 197
- Jack No. 8 claim (Pando area), 196
- Jacque Mountain limestone
- Kokomo dist., 60, 62, 68-69
- of Maroon formation (Kokomo dist.), 60
- Pando area, 188, 192, 204-208
- Jamestown district (Boulder Co.),
- Fluorspar deposits, 5-47
- origin of deposits, 22-27
- production and reserves, 8-9, 27-29
- Jefferson County, see Denver-Golden area
- Johnson, J. H., 57, 85, 155, 168
- Juniata mine (Kokomo dist.), 95
- Jurassic rocks
- Entrada sandstone (Placerville area), 121

- Karst topography
 former, in Pando area, 184
- Kimberly mine (Kokomo dist.), 56, 68, 101
- Kokomo district (Summit, Eagle, and Lake Cos.)
 faults, 90-96
 high-temperature deposits, 97-100, 110
 mineral deposits, 96-112
 replacement deposits, 100-104, 111
 stratigraphic section, 62
 surficial alteration of ores, 106-109
 vein deposits, 104-106, 111
- Kokomo mining district, Colorado, Preliminary report, 51-112
- Kokomo syncline (Kokomo dist.), 89-90
- Koschmann, A. H., 157, 195, 201, 204, 229
- Koschmann, A. H., and Wells, F. G., *Preliminary report on the Kokomo mining district, Colorado*, 51-112
- Koschmann, A. H., Wells, F. G., and Odell, J. W., *Replacement deposits* (Kokomo dist.), 100-104
- Kramer Mines, Inc. (St. Peters Dome dist.), 276, 278
- Lake County, see Kokomo district
- Lamprophyre (St. Peters Dome dist.), 263, 265, 266, 270
- Landes, K. K., 262
- La Plata limestone, see Wanakah formation (Pony Express member)
- La Plata sandstone (Placerville area), 121
- Laramide structures (Kokomo dist.), 89-96
- Laramie formation
 clay for brick, tile, sewer pipe, 374-376, 384-386
 Denver-Golden area, 374-389 *passim*
- Larsen, E. S., 289
- Lead
 Eureka dist., 286, 296, 304
 Jamestown dist., 21, 33
 Kokomo dist., 56, 104
 St. Peters Dome dist., 278
- Lead Carbonate mine (Eureka dist.), 294, 296-297, 298
- Lead-silver ore (Jamestown dist.), 19, 30, 31, 33
- Leadville dolomite (Pando area), 150, 177-186, 192, 207
 dolomite member, 184-186
 hydrothermal alteration, 184
 section, 185-186
 Gilman sandstone member, 174, 177-184, 186
 sections, 179-180
- "Leadville" limestone (Pando area), 177
 see also Leadville dolomite
- Lee, W. T., 237
- Lehman mill (Jamestown dist.), 20, 43
- Leopard Creek, mineralized belt along, (Placerville area), 123, 125
- Leroy, L. W., 384
- Leyte open pit, on Duffields deposit (St. Peters Dome dist.), 264, 277, 278
- Lightweight aggregate, see Aggregate, lightweight
- Lillie G prospect (Kokomo dist.), 99
- Lime Cliffs group of limestones (Minturn area), 201
- Lincoln porphyry
 Kokomo dist., 76, 80-81
 Pando area, 232
- Little Chief fault (Kokomo dist.), 80, 94-95
- Locke, Augustus, 24
- Loess (Denver-Golden area), 389
 for bricks, 389
- Lovering, T. S., 25-26, 57, 85, 155, 177, 189, 387
- Lucky Strike mine (Kokomo dist.), 56, 68, 101, 108
- Lykins formation (Denver-Golden area)
 clay, 378, 384, 387
- Lytle member, see Purgatoire formation
- MacQuown, W. C., Jr., 326
- Magnesia alum
 in Dakota sandstone (Gunnison Forks area), 253
- Magnetite (Kokomo dist.), 70, 79, 83, 99
- Mancos shale (Gunnison Forks area), 242, 246
- Manitou limestone (Pando area), 168, 169
- Marcasite (Gunnison Forks area), 254
- Marjorie Lode deposit (Custer Co.) vermiculite, 333-335

- Maroon formation
 Kokomo dist., 60-61
 Pando area, 187, 188, 189, 190, 191, 192, 201, 229-235
 Jacque Mountain limestone member, 188, 192, 204-205 section, 230-235
- Mattie B. deposit (St. Peters Dome dist.), 264, 267, 275, 278
- Maxwell reef (Jamestown dist.), 10, 12
- McCoy formation, 188, 191
- McDonald, A. C., 244, 246, 247
- McDonald, Jesse R., 105
- Meek, F. B., 378
- Mesita deposit (Costilla Co.)
 scoria, 319-320
- Metals Reserve Company, 120, 133
- Miarolitic cavities (Jamestown dist.), 18
- Mica, vanadiferous, (Placerville area), 123, 124
- Michigan mine (Kokomo dist.), 55, 68, 101, 108
- Miller, A. K., fossil identification, 69, 205
- Mineralization stoping (Jamestown dist.), 24-27
- Minturn formation (Pando area), 187, 190, 191, 192, 193, 194-228
 Elk Ridge limestone member, 202-203, 209-211
 Hornsilver dolomite member, 199, 201, 216-217
 Jack 8 bed, 196, 197
 Jacque Mountain limestone member, 204-206, 207-208
 Resolution dolomite member, 199-201, 215-216
 Robinson limestone member, 201-202, 211-215 sections, 207-228
 Wearyman dolomite member, 198-199, 217
 White Quail limestone member, 203-204, 205, 207, 208-209 oolitic, 203
- Miocene rocks
 San Juan tuff (San Miguel Co.), 138, 145
- Miocene veins (St. Peters Dome dist.), 276
- Mississippian rocks (Pando area), 177-192
- Molas formation, 184, 187
 —type material (Pando area), 193
- Molybdenite (Kokomo dist.), 98, 99-100
- Montmorillonite-beidellite group (Jamestown dist.), 18
- Morning Star deposit (Gunnison Co.)
 perlite (dikes), 328-329
- Morrison formation
 Denver-Golden area
 clay, 378, 384, 387
 Gunnison Forks area, 240
 Placerville area, 122
- Mosquito fault
 Kokomo dist., 90-92
 Pando area, 155
- Mountain King vein (Eureka dist.), 300
- Mountain Queen vein (Eureka dist.), 300
- Mount Rosa granite, 265
- Mount Saunders deposit (Eagle Co.)
 scoria, 320-321
- Murata, K. J., analyst, 255
- Nathrop-Ruby Mountain deposit (Chaffee Co.)
 obsidian, 314, 327
 perlite, 314, 326-327
 pumice, 314-315
- Nations Treasure mine (Jamestown dist.), 43-44
- New York mine (Kokomo dist.), 67, 95, 101
- No Name vein (Eureka dist.), 301
- Nontronite (Jamestown dist.), 18
- North, V., analyst, 123
- Obsidian (lightweight aggregate), 310, 313, 329, 347
 bibliography, 355-356
 sources in Colorado, 313, 314, 329
- Odell, J. W., see Koschmann, Wells, and Odell
- Omega mine (Placerville area), 121, 123, 125, 127, 131-132
- Ordovician rocks (Pando area), 166, 169
- Pando area (Eagle Co.), Stratigraphy, 149-235
 stratigraphic section, 152
 see also Fossils (Pando area)
- Parkdale deposit (Fremont Co.)
 vermiculite, 338-339
- Parker, Charles O., analyst, 249, 251
- Parting quartzite member, see Chaffee formation

- Peerless formation (Pando area),
160-165, 166, 168, 169
section, 164, 165
- Peerless shale member, see Peerless formation
- Pegmatite
cryolite-bearing, 261, 262, 263, 265
Jamestown dist., 22
St. Peters Dome dist., 261-265 passim, 268, 269
- Peneplain, Flattop (Jamestown dist.), 25-26
- Pennsylvanian rocks
Kokomo dist., 59-73
Pando area, 186-235
- Pentada del Norte Peak (Rio Grande Co.)
scoria reported, 326
- Perlite (lightweight aggregate), 347
bibliography, 355-356
devitrified, 327
sources in Colorado, 311, 312, 313, 314, 326-331, 349-350
- Permian rocks
Kokomo dist., 59-73
Pando area, 186-192, 194-235
- Phares and Allen deposit (Custer Co.)
vermiculite, 337-338
- Phosphoria formation
State Bridge formation correlated with, 189
- Picayune volcanic group, see Silverton volcanic series
- Pickeringite
Dakota sandstone (Gunnison Forks area), 253
- Pikes Peak granite, 387
St. Peters Dome dist., 262-284 passim
faulting in, 269-270
jointing in, 266-270
- Pitchblende
associated with fluorspar (Jamestown dist.), 19, 34
- Pittsburg smelter (Kokomo dist.), 53
- Placerville area (San Miguel Co.),
Vanadium deposits, 117-134
- Pocahontas mine (Placerville area), 134
- Polvo Blanco deposit (Huerfano Co.)
pumicite, 331
- Pony Express limestone member, see Wanakah formation
- Poorman claim, mine, and vein (Jamestown dist.), 9, 45
- Porphyritic quartz monzonite (Kokomo dist.), 72, 75-76, 78
- Porphyry Mountain stock (Jamestown dist.), 11, 12, 13, 18, 21-26
relation to fluorspar deposits, 22
- Potash alum
Dakota sandstone (Gunnison Forks area), 253
- Potosi volcanic series (Eureka dist.), 288, 289
- Powderhorn deposits (Gunnison Co.)
Number 1
vermiculite, 339
Number 2
vermiculite, 339-340
- Pre-Cambrian rocks
Jamestown dist., 9-10, 12
Kokomo dist., 58
Routt Co., 323
St. Peters Dome dist., 262-284 passim
with vermiculite, 332-344 passim
- Preliminary report on the Kokomo mining district, Colorado*, by A. H. Koschmann and F. G. Wells, 51-112
- Primos Chemical Company, 119, 120, 121, 131, 132, 133
- Prosser's Rock deposit (Saguache Co.)
obsidian, 329
perlite, 329, 331
- Pumice (lightweight aggregate), 347
bibliography, 356-357
sources in Colorado, 311, 312, 313, 314-318, 348
- Pumicite, 310, 348
Huerfano Co., 331
Park Co., 316
- Purgatoire formation (Denver-Golden area), 374-389 passim
clay for brick, tile, sewer pipe, 378, 384-389
clay, refractory, 376, 380, 381-384
Glencairn shale member, 376, 381-383
Lytle sandstone member, 380
- Purington, C. W., 302
- Pyrite
Eureka dist., 298
Gunnison Forks area, 242, 245, 254
Jamestown dist., 19, 20, 30, 32, 37
Kokomo dist., 64, 100, 103
St. Peters Dome dist., 282

- Pyroxene quartz latite, *see* Silverton volcanic series
- Pyrrhotite (Kokomo dist.), 103
- Quail group of mines (Kokomo dist.), 103
- Quail porphyry (Kokomo dist.), 80
- Quaintance Number 1 deposit (Jackson Co.)
vermiculite, 340-341
- Quartz monzonite (Kokomo dist.), 75, 79-80
- Quartz monzonite, porphyritic, (Kokomo dist.), 72, 75-76, 78
- Quartz monzonite porphyry, sodic granite-, (Jamestown dist.), 12-13, 18, 22
- Queen Anne vein (Eureka dist.), 300
- Queen of the West mine (Kokomo dist.), 93, 96, 104, 109, 111-112
- Quist Claim 72 deposit (Custer Co.)
vermiculite, 336, 337
- Radioactivity of fluorspar (Jamestown dist.), 19
- Radiographs of pitchblende (Jamestown dist.), 19
- Ransome, F. L., 289, 297
- Rare Metals Mining & Milling Company (Placerville area), 119, 120
- Recent development on the Black Bear vein, San Miguel County, Colorado*, by D. J. Varnes, 137-146
- Red vein (Eureka dist.), 297
- Replacement deposits* (Kokomo dist.), by A. H. Koschmann, F. G. Wells, and J. W. Odell, 100-104
- Resolution dolomite member, *see* Minturn formation
- Resort Claim deposits (Jackson Co.)
vermiculite, 340-341, 342
- Rhodochrosite (Kokomo dist.), 104
- Rhodonite
Eureka dist., 294, 297, 304
Kokomo dist., 104
- Rhyolite (Kokomo dist.), 70-71, 73, 81-83
- Rhyolitic plug (Eureka dist.), 299
- Rice, G. S., 26
- Richardson, G. B., 386, 387
- Riebeckite (St. Peters Dome dist.), 263, 265
- Riveira deposit (Rio Arriba Co.)
scoria, 323-324
- Robinson Consolidated Mining Company (Kokomo dist.), 53
- Robinson limestone
Kokomo dist., 60, 62, 65-67, 101, 102
of Maroon formation, 60, 188
Pando area, 201-202, 211-215
- Robinson mine (Kokomo dist.), 56, 67, 101, 102, 108
- Robinson syncline (Kokomo dist.), 88-89
- Rolls (Placerville area), 125-127
- Rominger, J. F., *see* Fischer, Haff, and Rominger
- Roscoelite (Placerville area), 123, 124
- Rosita Hills deposit (Custer Co.)
perlite, 327-328
- Ross Basin fault and fault system (Eureka dist.), 286, 291, 292, 293
ore in, 294-295; 298-304 *passim*
- Ross, C. S., analyst, 123
- Roth, R., 188
- Ruby Mountain deposit, *see* Nathrop-Ruby Mountain deposit
- St. Peters Dome district (El Paso Co.), Geology and fluorspar deposits, 259-284
rock descriptions, 262-266
structure, 266-270
vein deposition, 271-276
- San Antonio Mountain deposit (Rio Arriba Co.)
scoria, 324-325
- Sanidine (Kokomo dist.), 82, 83
- San Isabel deposit (Pueblo Co.)
vermiculite, 344
- San Juan County, *see* Eureka district; Sunnyside, Ross Basin, and Bonita fault systems
- San Juan tuff
Eureka dist., 288
San Miguel Co., 138, 145
- San Luis Hills
scoria reported, 325
- San Miguel County, *see* Placerville area; Black Bear vein
- Sawatch quartzite
Kokomo dist., 57, 58-59, 92
Pando area, 156, 158-161, 162, 171
Peerless shale member, *see* Peerless formation
Routt Co., 323
- Schaller, W. T., 144
- Scoria (lightweight aggregate)
bibliography, 356-357
sources in Colorado, 311, 312, 313, 317, 318-326, 348-349

- Seller's Creek area (Douglas Co.)
welded tuff, 345-346
- Selma mine (Kokomo dist.), 69
- Shale (lightweight aggregate), 347, 348
bibliography, 358-361
- Shale and clay (Denver - Golden area), 374, 388
- Sheeted zone (Kokomo dist.), 81-82, 93, 94
- "Shorty" Robison deposit (Custer Co.)
vermiculite, 333-335
- Siderite (Jamestown dist.), 46
- Silicate, vanadiferous, (Placerville area), 123
- Silver
Eureka dist., 286, 296
Jamestown dist., 20-21, 32, 33
Kokomo dist., 53, 56, 94, 104, 105, 106, 107, 108
St. Peters Dome dist., 261-262, 273, 278
San Miguel Co., 142, 143, 145
"Silverite" mine (Custer and Fremont Cos.)
vermiculite, 338
- Silver-lead ore (Jamestown dist.), 19, 30, 31, 33
- Silver Plume granite (Jamestown dist.), 10, 11, 12, 31, 40, 41
- Silverton volcanic series (Eureka dist.), 286, 288
Burns quartz latite, 288, 289, 291, 301, 302
veins in, 301
Eureka rhyolite, 288, 289, 291, 301, 302
Henson tuff, 288, 289
Picayune volcanic group, 288
pyroxene quartz latite, 288, 289, 296, 301
- Singewald, Q. D., 173
- Slag (lightweight aggregate)
bibliography, 361-363
blast-furnace, 313, 346-347, 352
cinder, 362-363
clinker (natural slag), 309
expanded, 361-362
- Slate (lightweight aggregate), 309
bibliography, 358-361
- Smuggler mine (Kokomo dist.), 94
- Snowbank mine (Kokomo dist.), 55, 101, 108
- Sodic granite-quartz monzonite porphyry (Jamestown dist.), 12-13, 18, 22
- Soil conditioner
"fertilizer" rock, 243-247
Gapco Sulfur Base Soil Conditioner, 238
- Sources of lightweight aggregates in Colorado, by Alfred L. Bush, 305-368
- Sparling Ranch deposit (Custer Co.)
vermiculite, 335-336
- Specularite (Kokomo dist.), 70, 99
- Sphalerite
Jamestown dist., 19, 41
Kokomo dist., 55
St. Peters Dome dist., 273, 282
- Spicer, H. C., analyst, 19
- Spinney Mountain deposit (Park Co.)
vermiculite, 342-343
- Standard reef (Jamestown dist.), 12
- State Bridge formation (Pando area), 187, 189, 191, 229
- Steven, Thomas A., *Geology and fluorspar deposits of the St. Peters Dome district, Colorado*, 259-284
- Stocks
Bald Mountain stock (Kokomo dist.), 75, 79-80, 110
Jamestown dist., 10, 12
Porphyry Mountain stock (Jamestown dist.), 12, 13, 18, 21-26
Tucker Mountain stock (Kokomo dist.), 75, 77, 110
- Stopping, mineralization, (Jamestown dist.), 24-27
- Stormking mine (Kokomo dist.), 98
- Stose, G. W., 380
- Stratigraphy of the Pando area, Eagle County, Colorado*, by Ogden Tweto, 149-235
- Sulfur deposit, Gunnison Forks, (Delta County), 237-256
- Sulfur Gulch (Gunnison Forks) sulfur deposit, 237-256
- Sulfur, native, (Gunnison Forks area)
analyses for, 249, 250, 251
"fertilizer" rock, 243-247
gas seeps, 247-248, 250, 252
origin, 251-252, 254
production (as fertilizer rock), 244
- Summit County, see Kokomo district

- Summit smelter (Robinson), 54
- Sunnyside Basin, *see* Sunnyside fault system
- Sunnyside Extension vein (Eureka dist.), 301
- Sunnyside fault and fault system (Eureka dist.), 286, 291, 292, 293, 299
ore in, 294-295; 301-304 *passim*
- Sunnyside mine (Eureka dist.), 286, 289, 292, 294-295
George Washington ore shoot, 300-301
- Sunnyside, Ross Basin, and Bonita fault systems and their associated ore deposits, San Juan County, Colorado*, by W. S. Burbank, 285-304
- Sunnyside vein (Eureka dist.), 301
- Swandyke hornblende gneiss (Jamestown dist.), 9, 10
- Telluride conglomerate (Eureka dist.), 288
- Telluride, gold, (Jamestown dist.), 7
- Tennile fault (Kokomo dist.), 95-96
- Tennantite (Jamestown dist.), 19, 32
- Tertiary rocks
Black Mountain (Park Co.), 316
Jamestown dist., 10, 12
Placerville area, 121
St. Peters Dome dist., 263-284
passim
- Thermoluminescence of fluorite (Jamestown dist.), 17
- Timberline deposit (St. Peters Dome dist.), 264, 272, 273, 276, 278, 279, 280-282, 283
- Titanite (Kokomo dist.), 78, 79
- Toltec fault (Eureka dist.), 292, 293, 298-299
ore in, 294
- Topaz (Kokomo dist.), 83
- Treasury tunnel (San Miguel and Ouray Cos.), 138, 139, 142, 144, 145
- Tucker Mountain stock (Kokomo dist.), 75, 77
- Tuff
Eureka dist., 288
Kokomo dist., 70-71
San Miguel Co., 138, 145
- Tuff, welded (lightweight aggregate), 347
sources in Colorado, 312, 344-346, 352
- "Tung Ash" deposit (Chaffee Co.)
vermiculite, 333
- Turret deposit (Chaffee Co.)
vermiculite, 332-333
- Tweto, O. L., 177, 189
- Tweto, Ogden, *Stratigraphy of the Pando area, Eagle County, Colorado*, 149-235
- Upper Alice mine (Jamestown dist.), 31
- U. S. Vanadium Company, 119, 120, 121, 132
- Uranium, equivalent
in fluor spar (Jamestown dist.), 19
- Uthoff mine (Kokomo dist.), 55, 56, 68, 101
- Vanadium (Placerville area), 117-134
deposits, 122-128, 130-134
production, 119-120, 134
- Vanadium Corporation of America, 120, 121, 131, 132, 133
- Vanadium deposits near Placerville, San Miguel County, Colorado*, by R. P. Fischer, J. C. Haff, and J. F. Rominger, 117-134
- Vanderwilt, J. W., 58, 76, 188
- Van Tuyl, F. M., 25-26, 376, 385
- Varnes, D. J., *Recent development on the Black Bear vein, San Miguel County, Colorado*, 137-146
- Veins
Eureka dist., 286, 294-298, 300-304
Jamestown dist., 13-14; 17-47 *passim*
Kokomo dist., 97, 100, 104-106
St. Peters Dome dist., 270-284
- "Vermiculite King" deposit (Custer Co.)
vermiculite, 336-337
- Vermiculite (lightweight aggregate), 306, 347
bibliography, 357-358
sources in Colorado, 311, 312, 313, 331-344, 350-352
- Volcanic ash (lightweight aggregate), 310, 348
sources in Colorado, 313
- Volcanic
cone (Routt Co.), 322
neck (Eagle Co.), 320; (Rio Arriba Co.), 325
- rocks
Eureka dist., 288, 289, 291, 296, 301, 302.
Kokomo dist., 70-73

- San Miguel Co., 138, 145
vent (Eagle Co.), 321
- Volcano
Black Mountain (Park Co.), 316
deposit (Routt Co.), 322-323
- Voss Land deposit (Custer Co.)
vermiculite, 336-337
- Waage, K. M., 381
- Waage, Karl M., *Clay deposits of the Denver-Golden area, Colorado*, 373-390
- Wanakah formation
Bilk Creek sandstone and marl member, 122
Pony Express limestone member, 121, 128, 129
- Wano mill (Jamestown), 9, 21, 40
- Washington mine (Kokomo dist.), 68, 101
- Wearlyman dolomite member, see Minturn formation
- Weber formation (Kokomo dist.), 60-61
- Weber (?) formation (Pando area), 191, 192
grit, 186, 188
limestone, 188
shale, 186, 188, 189
- Weeks, H. J., 237, 240, 247
- Wells, F. G., 201, 204, 229
see also Koschmann and Wells; and Koschmann, Wells, and Odell
- Wheel of Fortune mine (Kokomo dist.), 65, 67, 101
- White Quail lead smelter (Kokomo dist.), 54
- White Quail limestone (Kokomo dist.), 56, 62, 67-68, 101, 102, 103
- White Quail limestone member, see Minturn formation
- White Quail mine (Kokomo dist.), 67, 68, 94, 96, 101, 103, 108
- Wilfley mill (Kokomo), 55
- Wilfley mine (Kokomo dist.), 56, 68, 94, 101
- Wilfley, Robert A., 55
- Wilfley, Robert D., 339
- Wilfley table, 55
- Williams, James Steele, fossil identification, 64, 66, 68, 69, 203, 205
- Willow Peak (Garfield Co.)
scoria, 326
- Wintergreen mine (Kokomo dist.), 69, 109
- Wyoming formation
Kokomo dist., 60-61
Pando area, 188, 189, 191, 229
- Yellow Girl mine and vein (Jamestown dist.), 18, 45-47
- Young deposit (Custer Co.)
vermiculite, 335
- "Zebra rock" (Pando area), 185
- Zinc
Eureka dist., 286, 299, 304
Kokomo dist., 55, 56, 104
St. Peters Dome dist., 278
San Miguel Co., 145
- Zircon
Kokomo dist., 78, 79, 83
St. Peters Dome dist., 263
- Zoisite (Kokomo dist.), 78