NEBRASKA

This rectangular Great Plains state rises 4,460’ east to west, from 840’ to 5,300’, yet so imperceptibly. The highest elevation, 5,424’, almost straddles the extreme southwestern corner of Kimball Co. where it overlooks both Colorado and Wyoming. The subsurface rock strata of the entire state are all undisturbed sedimentaries: sandstone, limestone, shale and clay, with the oldest formation lying in the southeastern corner where Pennsylvanian rocks crop out. These formations resulted from Tertiary erosional debris spreading out from the Rocky Mountains as they rose during the Laramide revolution of 100 million years ago that closed the Mesozoic era. Thus, as one travels westward across Nebraska they find successively younger formations appearing in cut banks, in draws and breaks along regional rivers, and outcroppings through the Quaternary gravel surfaces.

Greatly eroded sandhills fan out across the west and northwest counties, while the farthest west reaches rise to the high, arid sagebrush plains of eastern Wyoming, disclosing spectacular bedrock formations. Northwestern Nebraska contains most of the gem fields in the state, inasmuch as both the Black Hills of South Dakota and the scenic Badlands thrust long spurs into this part of the state. In this rough, uncurried region are found the famed Fairburn agates, brilliantly fluorescent chalcedonies and jaspers that rival the color of the rainbow.

The western Nebraska-South Dakota borderland from Sheridan Co. to the Wyoming line is good rock hunting country, especially along the southern slopes and ridges of the Pine Ridge Escarpment and along Whiteclay Creek near the Sioux Indian community of the same name in Sheridan Co. The extreme northwestern counties of Sioux and Dawes have many localities for fascinating things to hunt for such as: concretions, Barite and Celestite crystals, chalcedony rosettes, agates, jasper, fossil plants and vertebrate remains. The breaks of the White River north of Crawford in Dawes Co. and the rather extensive rock beds east of the Orella railroad sta. ranks among the finest collecting grounds in the Midwest for gemstone materials.

An extensive collecting region of agatized and opalized wood for high gem quality is the Sandhills country around Valentine in Cherry Co., extending along the Niobrara River eastward into Brown Co. The Sandhills Museum in town is well worth the rock hunter’s visit. Draws, cuts and breaks in the hills along the Minnechaduza Creek and the Niobrara, as well as all tributary canyons, creeks, and washes, reveal an abundance of gem quality
Nebraska

petrified wood, often occurring as huge stone logs lying on the surface of the ground. A great deal of agatized and opalized mastodon ivory in pastel colors weathers from the same regional formations.

Eastern Nebraska has few gemstone localities, but quarries, gravel pits and other excavations throughout the more settled counties will pay to investigate for geodes, chert nodules, fossils, Calcite crystals, Marcasite and Pyrite cubes. The area around the confluence of the Loup River with the Platte River in Platte Co. is well known for its agates, chalcedony, jasper and gem petrified wood.

BUFFALO COUNTY

KEARNEY, area gravel bars and pits along the Platte R., especially to the W of town—agate, chalcedony, jasper, petrified wood.

CASS COUNTY

WEEPING WATER, SE, on rd. to Nehawka, in the Snyderville Quarry—chalcedony, jasper, fossils.

CHERRY COUNTY

VALENTINE, in the Sandhills county along the Niobrara R. and Minnechaduza Cr.: ① regional cuts, draws, hillside surfaces—agatized and opalized wood, agate, jasper; ② in draws and washes and gravel beds of Spring Cr. and the Keya Paha R. —agatized and opalized wood, silicified mastodon tusks, arrowheads, flaked points (of gem agatized wood).

CHEYENNE, DEUEL, GARDEN & KEITH COUNTIES

AREA, between North and South Platte rivers and in all tributary branches and creeks: ① especially along Lodgepole Cr., ② all region S of Sidney to Ogalla, ③ along banks of the South Platte R., ④ south banks of the North Platte R., in regional sand pits, breaks, rd. cuts, etc. gem quality—agatized and opalized wood.

DAWES COUNTY

CHADRON, in N part of Co. and as far W as Crawford and Harrison—chalcedony (some blue).

CRAWFORD: ① N, in breaks of the White R. reached by numerous ranch rds., choice—Fairburn agates; ② all regional Federal grazing lands—Fairburn agates, jasper, petrified wood, etc.; ③ NW on Rte. 2 to the Orella RR Sta.: (a) N 1 mi., turn E on ranch rd. and NW 2 mi. to a lone butte, one of the best collecting area in the Midwest states—Fairburn agates, jasper, carnelian, chalcedony nodules (many fluorescent), opalized and agatized wood, silicified fern fossil etc.; (b) S from Orella ½ mi., turn W across RR tracks on ranch rd. for 3 mi. into steep breaks—Fairburn agates, jasper, petrified wood, etc.; ④ N 20 mi., all area of the Little Bad lands—vertebrate fossil remains; ⑤ Pine Ridge, area—Quartz concretions, agates, petrified wood, fossils, etc.
DAWES & SIOUX COUNTIES

AREA, the entire region embraced by these two adjoining NW Cos., in gravel cuts, cut banks, breaks, draws and washes, gullies, hill slopes, etc.—*chalcedony roses*, *Celestite* crystals, *fossils* (plant & animal), *concretions*, *agatized* and *opalized woods*, etc.

DAWSON COUNTY

GOTHENBURG, in sand pits—*petrified palm wood*.

DEUEL COUNTY

CHAPPELL, all regional surfaces, breaks, etc.—*Fairburn agates*, *jasper*, *chalcedony*, *opalized* and *agatized wood*.

DOUGLAS COUNTY

AREA, Platte R. gravels and all regional gravel pits—*agate* (banded, moss), *chalcedony*, *chert*, *flint*, *moss opal*, *agatized* and *opalized wood*.

OMAHA, W to the Platte R., then S and E to Plattsmouth in Cass Co., both sides of the Platte R. for about 75 mi., very many locations with abundant specimen in gravel pits and bars along the river—*agates* (banded, moss), gemmy *chert*, *jasper*, *petrified wood*.

WATERLOO, in Lyman-Ritchie gravel pit to SW—*agate*.

FURNAS COUNTY

BEAVER CITY, red and green material in the Niobrara chalk deposit—*chert*.
GAGE COUNTY

WYMORE (and Blue Springs): ① all regional gravel pits and quarries—Calcite, Quartz crystals; ② SE 3 mi., quarry on E bank of the Blue R.—geodes (lined with Quartz or rare blue Celestite); SW of Holmesville, quarry on the Blue R.—geodes, flint, fossils.

JEFFERSON COUNTY

FAIRBURY, regional gravel pits and stream gravels—agate, chalcedony, jasper, petrified wood.

STEELE CITY, area gravel pits, quarries, and stream gravels—agate, chalcedony, jasper, petrified wood.

MORRIL COUNTY

ANGORA, 2 mi. E of Angora Hill on ranch rd., abandoned mine dump—fluorescent moss opal nodules (in limestone coated with white Calcite), opal arrowheads.

BAYARD: ① area gravel pits, sandhills, stream gravels, etc.—agate, chalcedony, chert, flint, fossils; ② in gravel beds along the N side of the Platte R. all the way to lake Guernsey, WY—agate, petrified wood.

NANCE COUNTY

FULLERTON, in local gravel pits—agate, petrified wood.

NEMAHA COUNTY

AUBURN, gravel beds of the Little Nemaha R.—agate (common, moss), chalcedony, jasper, petrified wood (cycads).

OTOE COUNTY

PALMYRA, in gravel pits here and at Dunbar—moss agate.

PLATTE COUNTY

PLATTE CENTER, in gravels and pits surrounding the confluence of the Loup and Platte rivers—agate, chalcedony, jasper, silicified wood.

RED WILLOW COUNTY

McCOOK, in Republican R. basin as far E as Franklin—pastel jasper.

RICHARDSON COUNTY

HUMBOLDT, along Nemaha R.—agate.
SAUNDERS COUNTY
ASHLAND, in sand pits along Platte R. and downstream to Louisville and Laplatte—agate, petrified wood.

SCOTTS BLUFF COUNTY
SCOTTSBLUFF: ① N 8 mi., in rd. cut on Hwy. 87, gemmy—petrified wood (opal replacement, fluorescent); ② S, in Scottsbluff Badlands—concretions, fossils.

SHERIDAN COUNTY
HAT SPRINGS, area gravels, cut banks, breaks, etc.—agate, chalcedony, jasper, petrified wood.
WHITECLAY: ① area gravel bars, along Whiteclay Cr.—Fairburn agates, petrified wood; ② entire region W to the WY line (on both sides of the NB-SD border), all breaks, badlands, cut banks, erosional features—Fairburn agates, jasper, chalcedony, opalized and agatized wood., fossils.

SIOUX COUNTY
AREA, NE corner of Co., take W trending rd. 3 mi. S of Ardmore, SD, turn S and W for 9 mi. to area of Montrose on Hat Cr., area gravel beds, cut banks, etc.—agates, jasper, fossils, etc.
AGATE (20 mi. S of Harrison, the Agate Fossil Beds National Monument, area outside—agates, jasper, chalcedony, opalized and agatized wood., fossils, etc.
HARRISON, E about 18 mi. toward Crawford on US 20 (about halfway to the Dawes Co. line), in extensive sandy rd. cut—sand spikes.
ORELLA, N 5 mi. in Waldron Hills—agate.
This large semi-triangular state, lying entirely within the Great Basin of interior drainage, is cut off from the moisture of the Pacific Coast by California’s Sierra Nevada Range. Nevada’s watercourses are few and dust-dry. The state itself is extremely arid. It is characterized by scores of short high, greatly eroded Paleozoic mountain ranges that mostly trend north-south. Precambrian and Cambrian crystalline rocks dominate the state’s formations and contain extraordinary concentrations of most of the commercially Salable metallic and nonmetallic ore minerals.
The mining of ore minerals and gemstones in Nevada began during pre-American times, when primitive Uto-Aztecan Indians first dug for Turquoise, later followed by Mexican Indians and early Spaniards seeking Gold. Ever since the first California bound pioneers struggled across the state's barren wastes and threaded their way through arid valleys, alkali sinks and around the ragged ranges, Nevada has been dominated by its ores: Antimony, Arsenic, Copper, Gold, Iron, Lead, Magnesium, Mercury, Molybdenum, Silver, Tungsten and many others. Nevada's fame was guaranteed by such great strikes as Virginia City's Big Bonanza that enriched the Silver Kings; the 1900 discovery of the rich Silver veins at Tonopah; the lucky find of Gold at Goldfield in 1902 that made the city the richest gold camp on earth; and the enormous open-pit concentrations of Copper excavated from Ely and Ruby in White Pine Co. after 1868.

The enormously rich Silver mines of Virginia City and later Aurora (in present day Mineral Co., originally part of Esmeralda Co.) not only added hundreds of millions of dollars in raw wealth to the American economy of the 19th century but paid for much of the Union's expenses for the Civil War, as well as resurrecting San Francisco after the earthquake and fire of 1906. Goldfield's tremendous outpouring of Gold between 1902 and 1912 caused the world's financiers to fear for the Gold Standard, because the yellow metal was seemingly to become as common as Iron.

Although Nevada's focus is still basically on commercial ore minerals, there are almost numberless tapped and untapped sources for gems and gemstones: quartz family minerals, pegmatite crystals, Turquoise, agatized and opalized wood, and some of the world's most valued opal. In the following list of gem and mineral localities, commercial ore minerals are not generally named, only the metals constitutents. Few unusual, rare, or exotic ores are found; the collector who is at all familiar with metallic ores, especially of the base metals, will have little difficulty in recognizing the individual mineral species on the old mine dumps from the names of their principal metals. Thus when Copper is listed, one would expect to find such minerals as Azurite, Bornite, Chrysocolla, Malachite, and so on along with interesting gangue minerals, Marcasite, Pyrite, Quartz and the usual assortment of associated minerals.

CHURCHILL COUNTY

AREA: ① far E part of Co.: (a) Dry Lake area, on slopes of the Clan Alpine Mts., old camp of Alpine (Clan Alpine ≈ 79 mi. E of Fallon), veins and shear zones in Tertiary volcanics—Gold, Molybdenum and Silver minerals; (b) old camp of Bernice, veins in sedimentaries—Gold and Silver minerals; ② extreme N central part of Co., at Mineral Basin (≈ 25 mi. SE of Lovelock in Pershing Co.), area mines—Iron and Mercury minerals; ③ far NW part of Co., reached N from Fernley in Lyon Co.: (a) NE 15 mi., old camp of Leete, veins in rhyolite, dacite and andesite—Gold, Lead and Silver minerals; (b) NE 23 mi., old camp of Fireball—Gold.

DIXIE VALLEY (≈ 37 air mi. NE of Fallon reached via dirt rds. from Frenchman on US 50): ① NW to old camp of Buena Vista, mines in Triassic sedimentaries cut by granite intrusives—Iron minerals; ② old camp of White Cloud (Coppereid), replacement and contact metamorphic veins in Triassic sedimentaries cut by granite and diorite—Copper, Iron, Silver and Zinc minerals.

EASTGATE (on Rte. 2, 5 mi. E of US 50 and about 60 mi. E of Fallon): ① area mines with veins in broken Quartz and Talc—Gold, Lead and Silver minerals; ② NE, in Desatoya Mts., old camp of I.X.L. (Silver Hill), veins in granite and slate—Copper, Gold, Lead and Silver minerals; ③ SSW 18 mi. (via Rte. 23), the Gold Basin Dist., area mines with veins in Tertiary volcanics (quartz-latite predominating)—Gold.

FALLON: ① quarry 14 mi. out—wonderstone; ② E about 25 mi. on W slope of the Stillwater Range in Grimes Canyon, old camp of Copper Kettle with veins in diorite overlain by altered porphyry—Copper minerals; ③ E 30 mi., Mountain Wells (La Plata), area mines—Silver; ④ N 26 mi. on US 95, turn E on dirt rd. for 23 mi., then N to area of
Pershing Co. line, mining dist. E of Humboldt Lake on W flank of Humboldt Lake Range (extending into Pershing Co.), lodes in Jurassic shales—Antimony, Lead and Silver minerals.

FRENCHMAN (on US 50 about 34 mi. SE of Fallon; a considerable mining region 20 to 30 mi. S via Rte. 31 adjoining Mineral Co. and SE via Rte. 23 in Mineral and Nye counties): ① E 11 mi. and S on Rte. 33: (a) old camp of Fairview, veins in Mesozoic sediments—Copper, Gold, Lead and Silver minerals; (b) 7 mi. S of Fairview to old camp of South Fairview, veins in Tertiary volcanics—Gold, Silver; ② E, to Chalk Mt., area mines with vein replacements in Triassic limestones—Lead and Silver minerals; ③ E 6 mi. to N trending dirt rd. (to Dixie Valley): (a) NE 3 mi. to 5-way crossroads, take NE trending dirt rd. 11 mi. to old camp of Wonder (Hercules), veins in Tertiary volcanics and lake sediments—Copper, Gold, Silver and Zinc minerals; (b) NE 3 mi. to Crossroads, then N on improved dirt rd. for 12 to 20 mi., area of old mining camps around Table Mt. (Boyer, Cottonwood, Canyon, Bolivia), veins in Triassic sediment cut by diorite—Antimony, Cobalt, Copper, Gold, Lead and Silver minerals; ④ S about 20 mi. on Rte. 31 to Shad Run, veins in quartzite—Gold, Silver, Lead.

JESSUP (on US 95 Alt., 10 mi. NW Huxley RR Sta. (White Plains) and about 35 SW of Lovelock in Pershing Co.), area mines—Gold.

LAHONTAN: ① W end of Lahontan Dam, and ② along NE shore of the Lahontan Reservoir, area surfaces—agate, chalcedony, jasper, petrified wood.

SALT WELLS (15 mi. SE of Fallon), area deposits—Halite.

SAND SPRINGS (23 mi. SE of Fallon on US 50), area mines in Tertiary volcanics intruding Triassic and Jurassic sediments—Gold, Silver.

TOY (Browns), 2 mi. S of RR section house, mine with veins in contact metamorphic zone of sediments cut by granite—Tungsten.

WHITE PLAINS (Huxley Sta.), SW 8 mi., Desert (White Plains) Mine, rich ore—Gold in Hematite gangue.

CLARK COUNTY

AREA (old mining camps not shown on contemporary maps, but on Co. topo. map: ① Bullion dist., area mines—Azurite, Chrysocolla, Malachite; ② Dike, N 1 mi., veins in Paleozoic limestones—Lead minerals; ③ Sutor, W 2 mi., mines with veins in sandstones underlying Permian limestone and on fractures and joints as patches—Carnotite, Radium oxide; ④ White Basin, area deposit, fibrous—Ulexite.

ALUNITE (Railroad Pass, Vincent; about 19 mi. SE of Vas Vegas via US 93): ① area mines with veins and stringers in igneous rocks—Gold; ② SW to Black Mt., area mines—Iron and Manganese minerals.

BUNKERVILLE (5 mi. SW of Mesquite on side rd. S of US 91): ① the Copper King Dist. (Bunkerville, Great Eastern, key West mines), veins in Precambrian gneiss intruded by basic dikes—Cobalt, Copper, Gold, Nickel, Platinum, Silver and Tungsten minerals; ② S about 15 mi., mining dist. of St. Thomas, area mines—Copper, Silver; ③ S about 30 mi. on dirt rds., Gold Butte, area mines with replacement veins in Precambrian complex—Copper, Gold, Silver and Zinc minerals.

HENDERSON: ① S 1¾ mi. then 4½ mi. W to range of low hills, area surfaces—chalcedony, jasper, onyx; ② E past manganese plant a scant ¼ mi., then NE 6 mi., park and walk to hill on N—green jasper.

JEAN: ① NW 8 mi. on Rte. 53, the Yellow Pine Dist. (Goodsprings, Potosi), area mines with veins as replacements in Paleozoic sediments cut by dikes—Hydrozincite (fluorescent), Antimony, Cobalt, Copper, Gold, Lead, Nickel, Palladium, Platinum, Radium, Silver and Zinc minerals; ② SE 15 mi. to Sunset (Lyons), veins in granite—Gold.
LAS VEGAS: ① area gravels in Las Vegas Wash—Amethyst; ② SE 16 mi. via US 93 to Las Vegas Mining Dist., area mines with replacement veins in Tertiary volcanics—Manganese minerals; ③ NW 35 mi., old mining camp of Charleston, area mines—Lead, Silver and Zinc minerals.

NELSON (≈ 20 mi. NNE of Searchlight or 22 mi. S of Boulder City via US 95 and Rte. 60): ① E 7 mi. on Rte. 60 to Eldorado Canyon Camp, area gravel beds of the Black Canyon of the Colorado R.—Almandite garnet; ② the Eldorado and Colorado mines (in the Opal Hills), veins in Precambrian granite and gneiss cut by acidic intrusives—Copper, Gold, Lead and Silver minerals.

Eagle mining dist., area mines with veins in diorite, Tertiary volcanics, and lake sediments—Gold, Copper, Silver; ② SE 4 mi., in Red Canyon (Silver Lake camp), contact metamorphic veins in Triassic sediments cut by quartz monzonite—Gold, Lead and Silver minerals; ③ ESE about 18 mi., Mt. Siegel (elev. 9,450'), area placers—Gold, Platinum.

COBRE (NE corner of Co. 4 mi. SW of Loray, off Rte. 30), E, veins in quartzites and limestones (not a mining dist.)—Gold, Copper, Lead, Antimony, Platinum, Silver.
CONTACT (NE corner of Co. on US 93 S of ID line), area mines (Kit Carson, Porter, Salmon River), contact metamorphic replacement veins in sediments cut by granite—Azurite, Malachite and other Copper minerals, Gold and Silver.

CURRIE (SE part of Co. on US 95): ① SE 8 mi., old camp of Kinsley, contact metamorphic veins—Copper, Lead and Silver minerals; ② NE 25 mi., old camps of Delker and Dolly Varden (Mizpah, Granite mines), contact metamorphic veins—Copper, Gold, Lead and Silver minerals; ③ WSW 40 mi., Mud (Medicine) Springs, replacement veins in Permian limestones, shales and quartzites—Bull, Lead, Silver and Zinc minerals.

DEEP CREEK (68 mi. NNW of Elko on Rte. 11): ① old camp of Cornucopia, veins in Tertiary volcanics—Gold, Silver; ② area of Bull Run and Centennial Mts., old camp of Aura (Bull Run, Columbia mines), veins and placers in Paleozoic sediments cut by granodiorite—Gold, Lead, Platinum, Silver and Zinc minerals; ③ area of Lime Mt. (80 mi. N of Elko), contact metamorphic veins—Copper, Gold, Silver.

DELAWARE (in extreme NE corner of Co. reached via dirt rds. N 34 mi. from Montello): ① area mines—Gold, Lead, Platinum, Silver and Zinc minerals; ② Elk Mt. (= 90 mi. SSE of Twin Falls, ID), area contact metamorphic veins—Antimony, Copper, Gold and Silver minerals.

ELKO: ① NW 5 mi., old camp of Good Hope: (a) area veins in Tertiary volcanics—Gold, Silver; (b) W 10 mi., old camp of Burner in the Burner Hills, veins in andesite—Lead and Silver minerals; ② SSW 27 mi. (12 mi. SE of Palisade) via rough dirt rd., replacement contact metamorphic veins in Ordovician limestone—Copper, Gold, Lead, Silver and Zinc minerals; ③ SE 28 mi., old camp of Lee (on the Te-Moak Indian Res.), area mines—Copper minerals; ④ NW 28 mi. via poor dirt rds., old camp of Merrimac (Lone Mt.)—Copper, Gold, Lead and Silver minerals.

FERGUSON (far E part of Co. 20 mi. SSW of Eastline on US 50 Alt.), ① SW to old camp of White Horse on SW flank of Mt. Piggah, veins in quartz monzonite—Copper and Lead minerals; ② W to Ferguson Springs (Alleghany) on W side of the Toana Range, replacement veins in Paleozoic limestones—Copper and Lead minerals; ③ S about 20 mi. to old camp of Ferber (40 mi. S of Wendover, UT, and in extreme SE Dorner of Co.), contact metamorphic veins—Copper, Gold, Lead and Silver minerals.

HALLECK (20 mi. NE of Elko on I-80 and just S of Hwy. on Rte. 11), veins in fossiliferous limestone and shale—Lead and Zinc minerals.

JARBRIDGE (well known ghost town on dirt rd. halfway between Mountain City and Contact, and about 95 mi. S of Twin Falls, ID), area mines—Gold, Silver.

JENKINS (on rough rd. about 38 mi. SW of Tuscarora), area Rock Cr. mines—Lead and Silver minerals.

LORAY (13 mi. SW of Montello on Rte. 30), veins in crystalline limestone—Copper, Iron, Lead and Silver minerals.

MIDAS (W side of Co. on Rte. 18): ①10 mi. distant at the Rand Mine—common opal; ② SW, the Gold Circle and Summit mines, replacement veins in Tertiary volcanics—Gold, Mercury and Silver minerals; ③ SE about 30 mi. by rough rds., old camp of Ivanhoe, veins in rhyolite flow breccia—Mercury minerals.

MOUNTAIN CITY (N Central part of Co. on Rte. 51 and just S of the ID line): ① area mines—Azurite, Malachite; ② Cope and Van Dunse mines, veins and placers in Paleozoic sediments—Copper, Gold, Lead, Silver and Zinc minerals; ③ Edgemont (Centennial) mines, veins in Paleozoic sediments—Gold, Lead and Silver minerals; ④ SE, to Island Mt.: (a) Gold Creek Mine, veins and placers—Gold, Platinum, Silver; (b) 8 mi. N of Gold Cr., in the Alder dist., area mines—Gold.

ROWLAND (Gold Basin dist. about 20 air mi. NE of Mountain City and 112 air mi. NW of Jarbridge, on dirt rd. 6 mi. S of ID line), area mines—Copper, Gold.

RUBY VALLEY (on rough dirt rd. about 55 air mi. SW of Wells on W side of Franklin Lake), the Smith Cr. mines with lenses in Paleozoic limestones—Lead, Silver and Zinc minerals.

TUSCARORA (W central part of Co. on Rte. 18 about 42 mi. E of Midas): ① area mines with veins and placers in Tertiary volcanics—Gold, Lead, Platinum and Silver minerals; ② area gravels, surfaces and outcrops—Citrine, Rose Quartz, wonderstone; ③ NW 8 mi., to divide at head of Dry Cr., area mines and prospects—Gold, Silver.

WELLS: ① S and SW to Valley View (not a mining dist.), contact metamorphic replacement—Copper, Gold, Lead, Silver, Tungsten and Zinc minerals; ② SSE 15 mi. on poor dirt rd. to old camp of Tobar, N 4 mi., old camp of Lafayette—Lead and Silver minerals; ③ SSE about 40 mi. to Spruce Mt. (camp of Sprucemont on S side about 25 mi. S of Tobar), area mines with replacement veins in Paleozoic sediments—Copper, Gold, Lead, Manganese, and Silver minerals.

ESMERALDA COUNTY

ALKALI SPRINGS (11 mi. NW of Goldfield), area thermal deposits as surface salts—Calium and Magnesium carbonates, Halite, etc. (A truly desolate area with graded dirt rd. rounding Silver Peak Marsh en route to mining center of Silver Peak, all land surfaces below Bajadas rising to arid mts. coated with snow white salts.)

BLAIR JUNCTION: ① SW 4 to 8 mi. on dirt rd., Emigrant Peak (Emigrant Pass elev. 6,145’), area surfaces, draws, washes, etc.—silicified wood; ② N 8 mi., Castle Rock mines—Gold, Mercury and Silver minerals; ③ NE 9 to 11 mi., on E flank of Monte Cristo Range, area mines and regional float—Variscite; ④ E via rough dirt rds., to Lone Mt. (old camp of West Divide): (a) area replacement veins in Cambrian sediments—Copper, Gold, Lead, Silver and Zinc minerals; (b) old camp of Alpine, replacement veins in Paleozoic limestone—Gold; (c) S 13 mi. from US 95 by rough rd. to S flank of the Lone Mts. (Weepah)—Gold, Silver; ⑤ SW 25 mi., Windypah (Fesler), via dirt rd., area mines—Gold, Platinum, Silver.

COALDALE: ① NE 3 to 6 mi., in the Monte Cristo Range: (a) area mines—Variscite; (b) area draws, washes, surfaces—agate, chert, Hyalite opal with Powellite (fluorescent), jasper, Turquoise; (c) NE 4 mi. at Bonnie Blue Mine on W side of Canyon—Turquoise, Variscite; ② SSW 10 mi., on W side of Fish Lake, area land surfaces—Apache tears; ③ SW 13 mi. and 1 mi. E of Rte. 3A, the Sump Hole, area—opalized wood; ④ Rock Hill Siding (along abandoned right of way of the Tonopah and Goldfield RR, area mines—Variscite.

COLUMBUS, NW 1½ mi., area prospects and mines—Variscite.

DYER (23 mi. S of Coaldale on Rte. 3A): ① area lode mines—Gold, Lead, and Silver minerals; ② S and E about 15 mi. to old camp of Good Hope (7 mi. S of Piper Peak on W flank of the Silver Peak Range), veins in Ordovician slates—Silver; ③ E, in Fish Lake Valley, and, ④ along flank of the White Mts. near the CA line, regional mines and prospects—Cinnabar, opalite.

GOLDFIELD: ① city mine dumps (very many) replacement veins in Tertiary volcanic underlain by Cambrian sediments—Alum, Pyrite, Quartz crystals, Copper, Gold, Lead, Manganese, Silver and Zinc minerals; ② W 3 mi., past the city dump, an outcrop, massive—opalite; ③ W and SW 7 mi. by various jeep mine rds. crossing the Malapai, large regional surrounding and embracing Montezuma Mt.: (a) very many old mines and prospects with replacement veins in Cambrian sediments—Copper, Gold, Lead, and Silver minerals; (b) all regional surfaces—chalcedony, chert, jasper, Quartz crystals, obsidian, opalized wood; ④ E on various dirt rds. (many used by local stockmen) into the Ralston Desert of Nye Co., area land surfaces—chert; ⑤ S 14 mi., old vanished camp of Cuprite, replacement veins in Cambrian sediments—Copper, Gold, Lead, Mercury and Silver.
minerals; © SW 25 mi. (via dirt rd. that turns W from US 95 just S of Goldfield Summit 6 mi. S of town): (a) old camp of Hornsilver (Lime Point), veins in Cambrian limestones and shales—Copper, Gold, Lead, Silver and Zinc minerals; (b) Railroad Springs, lode mines—Copper, Gold, Silver.

GOLD POINT (14 mi. by dirt rd. SW of Stonewall and US 95), area mines—Copper, Gold, Silver.

LIDA (19 mi. W of US 95 from Stonewall via Rte. 3), veins and impregnations, placers in Cambrian sediments—Copper, Gold, Lead, Platinum and Silver minerals.

MILLERS (15 mi. W of Tonopah in Nye Co. and 1 mi. S of US 695), NW 11 mi. to Crow Springs: ① area mines with veins in Tertiary volcanics—Copper, Gold, Lead and Silver minerals; ② W another 2 mi. to old camp of Gilbert (Desert), lode mines—Copper, Gold, Lead and Silver minerals; ③ : (a) Myers & Bona Mine, 13 mi. NW on W slope of Monte Cristo Mt., (b) at Perry Mine, 11 mi. NW in foothills of Monte Cristo Mt.; and (c) Royal Blue Mine, 12 mi. NW on E edge of Plateau—Turquoise.

NIVLOC (8 mi. SW of Silver Peak), the Nivloc (Red Mt.) Mine—Gold, Lead and Silver minerals.

PALMETTO (11.7 mi. W of Lida, on Rte. 3, or 13.2 mi. E of jct. of CA Rte. 168 with NV Rte. at Oasis, CA): ① Palmetto Canyon, area surfaces—Citrine, Quartz crystals, agate, chert, jasper; ② N 5 mi., the Palmetto Mine, veins in Paleozoic sediments intruded by granite producing contact metamorphic replacement deposits—Gold, Lead, Silver; ③ Regional placers in Paleozoic sediments—Gold, Lead, Platinum, Silver; ④ S on rough rd. to Sylvania (Green Mt.) in the Sylvania Mts. (12 mi. E of Oasis, CA) and near the state line, veins in limestone—Lead and Silver minerals.

SILVER PEAK (Mineral Ridge, Red Mt.; 20 mi. S of Blair Junction): ① major area mines active until the 1950’s—Gold, Lead, Silver; ② area rock outcrops—Rose Quartz. This mining dist. was located with primarily silver ores found on Red Mt. the Silver Peak Marsh to the NE is a large sink encrusted with sodium-magnesium salts; hot saline springs bubble up on the NE fringe.

TOKOP (old Gold Mt., Oriental Wash; 15 mi. W of Bonnie Clair in Nye Co.): ① area mines and placers—Copper, Gold, Lead, Platinum and Silver minerals; ② area slopes of Gold Mt. (elev. 8,139')—Citrine, Quartz crystals.

TONOPAH: ① S 7 mi., Divide (Gold Mt.), veins in Tertiary volcanic—Gold, Lead, Silver; ② SW 12 mi., the Dolly Mine, veins in Tertiary volcanic—Gold, Lead, Silver; ③ S 14 mi., Klondyke and South Klondyke (about halfway to Goldfield and W of US 95), lode veins, placers—Copper, Gold, Platinum and Silver minerals.

WEEPAH (see Blair Junction).

EUREKA COUNTY

AREA: ① old abandoned mining camps not on maps: (a) Alpha, E 5 mi., sheeted zones and replacements in Devonian limestone—Lead and Silver minerals; (b) Mineral, SE 5 mi., Mineral Hill, replacement veins in Paleozoic sediments—Copper, Lead, Silver and Zinc minerals; (c) Mt. Hope Station, W 2 mi., area mines—Lead, Silver and Zinc minerals; ② Extreme N part of Co. (reached via dirt rds. from Carlin in Elko Co.): (a) NW 9 to 15 mi. the Maggie Creek Dist (Schroeder), area mines, especially the Copper King Mine, replacement veins—Faustite, Turquoise, Antimony, Copper, Gold, Lead and Silver and clay minerals; (b) NW 20 mi., veins and placers in the Tuscarora Mts.—Gold, Platinum.

BEOWAWE (W side of Co. on Rte. 21 about 6 mi. S of I-80), area mines and prospects—Cinnabar.

EUREKA: ① area, including Pinto, Prospect, Ruby Hill, Secret Canyon, Silverado and Spring Valley; replacement veins in Paleozoic sediments, granite, porphyry, rhyolite and basalt (according to the particular dist., and mine)—Arsenic, Copper, Gold, Lead, Silver and Zinc minerals; ② Ruby Hill dist., area mines—Azurite, Malachite, etc.; ③ NNE about
25 mi. via dirt Rte. 46, old camp of Diamond, veins in limestone—Lead and Silver minerals; ⊙ N 27 mi. on Rte. 51, then SW on dirt rd. to old camp of Roberts, veins in syenite and limestone—Lead, Silver and Zinc minerals; ⊚ SW about 25 air mi. to extreme SW corner of Co., old camp of Antelope—Copper, Lead and Silver minerals.

PALISADE (9 mi. SW of Carlin in Elko Co.): ⊙ W 6 mi. old camp of Safford (Barth, Palisade), veins in Tertiary volcanics—Copper, Gold, Lead and Silver minerals; ⊚ SSW 35 mi., Buckhorn (Mill Canyon), area mines—Gold, Lead and Silver minerals.
HUMBOLDT COUNTY

The whole western two-thirds of this county is virtually uninhabited desert, requiring safety precautions for visitors and their vehicles. Roads are generally rough dirt, and few are on standard maps. Nearly all roads end in a mining area or connect old abandoned mining camps in a crosshatch of ancient wagon freight tracks difficult for modern automobiles to traverse. Here the finest opals in the world are found, as well as most of the county’s supply of other gemstones.

AREA, the Virgin Valley, = 37 air mi. SW of Denio, at the end of a rd. that turns S from Rte. 8A a few miles E of the Summit Lake Indian Res. (also reached W via dirt rd. from Quinn River Crossing 26 mi. S of Denio on Rte. 140, or E 60 to 70 mi. from Cedarville, CA). This remote, waterless, arid region provides no supplies, sources for help, or accommodations. Collecting requires several days minimum time, and the collector must be prepared for extremely hot weather in summer, the only months in which travel or camping is feasible.

① W side of valley; with the exception of the Green Fire Mine, below, all opal locations are on the W side of the Virgin Valley: (a) many area prospect, pits, etc.; and (b) the Rainbow Ridge Mine—Opal (precious, black fire, common), opalized wood, Rhodonite. ② E side of Valley: (a) regional land surfaces—agate, chalcedony, chert, flint, jasper, opal, silicified lignite, opalized and petrified wood; (b) the Green Fire Mine, as irregular seams and masses—gem Opal (black, fire), common opal in various colors.

DENIO, W ≈ 25 air mi., the Warm Springs Dist. (Vicksburg, Ashdown, Pueblo mines), ores in a quartz gangue—Copper, Gold, Lead and Silver minerals.

GOLCONDA: ① ESE 3 mi., mines with bedded lenses in Tertiary sediments and volcanics—Copper, Gold, Iron, Lead, Manganese, Tungsten and Zinc minerals; ② E 5 mi., the Preble (Potosi) Mine—Gold, Silver; ③ S 15 mi. the Gold Run (Adelaide) Mine, replacement veins, contact metamorphic deposits, placers in Triassic sediments—Copper, Gold, Lead, Platinum and Silver minerals; ④ S 22 mi., the Black Diablo Mine (just over Pershing Co. line)—Copper, Gold, Lead and Silver minerals; ⑤ NE 20 mi. on Rte 18: (a) turn S 6 mi. on dirt rd., the Red House Mine—Gold, Silver, etc.; (b) turn N 10 mi. on dirt rd., the Getchell Mine—Copper, Gold, Silver, etc.

McDERMITT (≈ 73 mi. N of Winnemucca on US 95 and just S of the ID line): ① general area; inquire locally: (a) old camp of National, veins in Tertiary volcanics—Antimony, Gold and Silver minerals; (b) W, old Jackson Creek Dist., contact metamorphic veins—Copper, Lead and Silver minerals; (c) W, old camp of Disaster, veins and placers—Gold, Platinum; ② SW 11 mi., the Cordero Mine—Copper, Gold, Lead and Silver minerals; ③ 4 mi. W on Cordero mine rd., collect in gravel pit—purple sagenitic agate.

OROVADA (on US 95 about 43 mi. N of Winnemucca): ① N 11 mi., the Rebel Creek Dist. (New Goldfields, Willow Creek), veins and placers—Gold, Platinum, Silver; ② WNW ≈ 30 mi. and W of the Kings R. Valley by rough dirt rds., Agate Point, area surfaces—agate, chalcedony, chert, flint, jasper, etc.

PARADISE VALLEY (44 mi. NNE of Winnemucca via US 95 and Rte. 8B), the Mt. Rose and Spring City mines, veins, placers in Mesozoic metamorphic slates—Gold, Platinum, Silver.

SULPHUR (60 mi. W of Winnemucca on Rte. 49), N, in the Black Rock Desert, area surfaces—opalized and petrified wood; ② NW a short distance, the Red Butte Mine—Antimony, Copper and Mercury minerals; ③ The Black Rock Mine—Gold, Lead and Silver minerals; ④ S into Pershing Co. 12 mi., the Rabbithole Mine, veins in Tertiary rhyolite and water-laid tuffs—Mercury and Silver minerals; ⑤ Scossa Placeritas (10 to 15 mi. SW of Sulphur) and the Poker Brown Mine 25 mi. SE of Rabbithole—Gold, Lead, Silver and Zinc minerals.
WINNEMUCCA: ① SE 5 mi., the Sonoma Mt. (Harmony) Mine—Copper, Gold, Silver and Zinc minerals; ② WNW 5 mi., the Winnemucca (Barrett Springs) Mine, veins, placers in metamorphosed slates, diorite—Copper, Gold, Lead, Platinum and Silver minerals; ③ NW 10 mi., the Ten Mile Mine—Gold, Silver; ④ W on Rte. 49: (a) 17 mi. to Pronto, area mines; and (b) another 17 mi. to Jungo, area mines—Gold, Lead, Silver, etc.; ⑤ NNE 20 mi., the Willow Point Mine—Copper and Silver minerals; ⑥ W 25 mi., the New Central Mine—Gold, Lead and Silver minerals; ⑦ S 26 mi. (into Pershing Co.), old camp of Grandpap—Gold, Silver; ⑧ N 28 mi., the Shone Mine, in veins of granite—Gold, Silver; ⑨ NW 30 mi., old camp of Amos (Awakening, Slumbering Hills mines), veins, placers—Gold, Silver, Platinum.

LANDER COUNTY

AREA, general prospecting along any Co. rd. in washes, draws, and regional land surfaces in productive of some type of gemstone—chalcedony, jasper, opal, opalite, etc. Make local inquiry in regional rock shops along main highway.

AUSTIN (also under Nye Co. for access to localities in that adjacent Co.): ① NW 9 mi., the Skookum Mine, contact metamorphic veins—Gold, Silver; ② W 16 mi. on US 50, the NW 11 mi. by dirt rd., the New Pass Dist., veins in limestone—Gold; ③ NNW 20 mi. (7 mi. W of the silver Cr. Siding on the N.C. RR), the Ravenswood (Shoshone) Mine, veins in Cambrian shales—Copper, Gold, Lead and Silver minerals; ④ NE on Rte. 21, old camp of Spencer, veins in Paleozoic sediments—Antimony, Gold and Silver minerals; ⑤ S 10 mi., Big Creek mines, veins in sedimentaries—Copper, Gold, Molybdenum and Silver minerals; ⑥ S 24 mi. (via 2 mi. W on US 50, 8 mi. SW on Rte. 2, 5 mi. on dirt Rte. 21, turn S on rough rd.), the Kingston Dist. (Bunker Hill, Santa Fe, Summit, Victorine mines), veins in limestone—Gold, Silver; ⑦ SW 36 mi. via Rte. 2 to the Campbell Cr. Ranch, the Gold Basin Dist. (under Eastgate in Churchill Co.), old camp of Carroll on the Co. line, area mines—Gold, Silver, with traces of Copper and Lead minerals.

BATTLE MOUNTAIN: ① area SW, the Reese R. Dist. (Amador, Austin, Yankee Blade mines), veins in Paleozoic sediments—Arsenic, Copper, Gold, Lead, Silver and Zinc minerals; ② W, in the Galena Range near the Humboldt Co. line, the Buffalo Valley mines (17 mi. S of Valmy in Humboldt Co.), replacement veins in limestone—Gold; ③ SW 8 to 20 mi., the Copper Basin Dist.: (a) Bannock, Copper Basin, Copper Canyon, Cottonwood Creek, Rocky Canyon, Galena mines; replacement veins and contact metamorphic—Antimony, Arsenic, Copper, Gold, Lead, Platinum, Silver and Zinc minerals; (b) the Blue Turquoise Mine—Turquoise; ④ SE 14 mi., the Lewis Dist. (Dean, Mud Springs, Pittsburg mines), veins in Paleozoic sediments—Gold, Silver; ⑤ SE 18 mi., the Hilltop Dist. (Kimberly, Mayesville mines), veins—Copper, Gold, Lead and Silver minerals; ⑥ SE 20 to 50 mi. (best reached from Beowawe in Eureka Co. via Rte. 21), the Bullion Dist.: (a) the Campbell, Lander, Cortez, Mt. Tenabo mines, replacement veins and placers in Paleozoic sediments—Arsenic, Copper, Gold, Lead, Platinum, Silver and Zinc minerals; (b) the Pedro Claim (off of Hwy. 8A); (c) the Fox Turquoise Mine; (d) Smith Mine; and (e) White Horse Mine—Turquoise; ⑦ SSW 30 mi., the McCoy and Horse Canyon mines, veins in diorite and limestone—Gold; ⑧ S 35 mi., the Hot Springs Dist., area mines and projects, especially at Blue Matrix Mine—Turquoise; ⑨ SSE 40 mi., Gold Acres (best reached via paved Rte. 21 SW 29 mi. from Beowawe in Eureka Co.) area mines—Copper, Gold, Silver minerals; ⑩ NE 30 mi., the Lynn Dist. area mines and prospects, especially No. 8 mine—Turquoise; ⑪ NE 45 mi., the Ivanhoe Dist. (over line in Elko Co.)—opalite and other minerals; ⑫ N across Southern Pacific RR tracks, continue 18 mi. to windmill, take E fork to bridge over Rock Cr., in creek beds—chalcedony, petrified wood; and ⑬ continue 7 mi. further, take left fork N for Cinnabar in chert in washes and at dumps of Silver Cloud mercury mine—Cinnabar.
LINCOLN COUNTY

AREA: ① Sugar Loaf Peak, area surfaces surrounding base and numerous prospecting pits—Turquoise; ② W edge of Co., old camp of Tem Piute in the Timpahute Mts., lode veins—Copper, Gold, Silver and Zinc minerals.

CALIENTE: ① W 16 mi. on US 93, turn onto SW trending dirt rd. for 6 mi., then branch left for 6 mi. to old camp of Delmar—Gold, Silver; ② S 43 mi. on dirt rd., old camp of Carp: (a) SE ¼ mi., the Viola Mine in the Mormon Mts.—Copper, Lead, Silver and Zinc minerals; (b) S 21 mi. by rough dirt rd., old camp of Rox or Vigo, then 24 mi. E into Mormon Mts., a mine—Manganese minerals; ③ NNW 8 mi. in the Chief Range, the Chief (Caliente) Mine, veins in Paleozoic sediments—Copper, Gold, Lead and Silver minerals; ④ WNW 30 mi., the Ferguson (Delmar) Mine, replacement veins in Paleozoic quartzite—Gold, Silver.

HIKO: ① the Pahranagat Mine, veins in Paleozoic sediments—Copper, Lead and Silver minerals; ② SW 18 mi. on Rte. 25, turn SW 24 mi. on rough dirt rd. to old camp of Groom, veins in limestones and shales—Lead and Silver minerals.

PANACA, E 8 mi. on paved Rte. 25: ① SW 10 mi. on dirt rd., old camp of Crestline; and ② 13 mi. farther S, old Acoma Dist., area mines—Copper, Gold, Lead and Silver minerals; prospecting the general surrounding land surfaces—chalcedony, chert, flint, etc.

PIOCHE: ① area mines, replacement veins in Paleozoic sediments—Copper, Gold, Lead, Manganese, Silver, Tungsten and Zinc minerals; ② NW 3 mi. on US 93, turn W on dirt rds.: (a) 4 mi. to old camp of Mendha, and (b) 11 mi. to Comet (Mill), area mines in replacement veins—Copper, Gold, Lead, Silver, Tungsten and Zinc minerals; ③ WNW 7 mi., the Highland Mine, replacement veins—Copper, Gold, Lead and Silver minerals; ④ NW 12 mi. on US 95, turn W on dirt rd. 10 mi.: (a) the Bristol (Jack Rabbit) Silver Mine, replacement veins—Copper (Azurite, Malachite, Chrysocolla), Gold, Lead, Manganese and Silver minerals; (b) the Silverhorn Mine, replacement veins in limestone—Nickel and Silver minerals; ⑤ E 15 mi., old camp of Ursine: (a) area mines—Gold, Lead, Silver; (b) S 2 mi. on dirt rd., the Eagle Valley Dist. (Fay, State Line mines), veins in Tertiary volcanics—Gold, Lead and Silver minerals; ⑥ W 16 mi., the Lone Mountain Mine, replacement veins—Lead and Silver minerals; ⑦ N 28 mi. on US 93, then NE 21 mi. on dirt rd., the Atlanta Dist.: (a) area land surfaces—chalcedony, chert, flint; (b) area mines (Silver Park, Silver Springs), veins in quartzites and limestones—Copper, Gold, Lead, Radium and Silver minerals; ⑧ N 52 mi. on US 93, turn W 11 mi. over Patterson pass (elev. 7,400'), the Patterson Dist. (Cave Valley, Geyser mines) at S end of the Shell Cr. Mts., replacement veins—Gold, Lead minerals; ⑨ W 75 mi., the Worthington (Freiberg) Mine, best reached via dirt rds. from Rte. 25 near the Nye Co. line, veins in rhyolite—Gold, Silver.

LYON COUNTY

DAYTON: ① S 10 mi., old camp of Como (Palmyra, Indian Springs) —Gold, Silver; ② NE 17 mi. (into Storey Co.), Red Mt. area mines, contact metamorphic veins—Iron minerals.

FERNLEY: ① S 5½ mi., area on w flank of hills—agate, chert, jasper; ② S 14 mi., the Talapoosa Mine, veins in Tertiary volcanics—Copper, Gold and Silver minerals.

FT. CHURCHILL (old adobe ruins military post, now a state historical monument), N a few mi., in basin on SE slope of Churchill butte, a mine—Tungsten minerals.

SILVER CITY (5 mi. S of Virginia City in Storey Co.), the Chinatown, Dayton, Devils Gate, Gold Canyon mines; veins, placers, in Tertiary volcanics—Gold, Iron, Platinum and Silver minerals.
SILVER SPRINGS (16 mi. S of Fernley), NW a few mi., old camp of Ramsey, veins—native Gold, Silver.

WELLINGTON, N along the Pine Nut Mts. (straddling the Co. line, not a mining dist.), lode mines, placers—Copper, Gold, Iron, Lead, Platinum and Silver minerals.

YERINGON: 1 area, W, in the Singatse Mts., mines—Chalcanthite (Bluestone); 2 NW 1½ mi., area mines and prospects—Turquoise; 3 W 2 mi., the Mason and Ludwig mines, contact metamorphic, placers—Copper, Gold, Lead, Platinum and Silver minerals; 4 the Ludwig Mine—Thulite; 5 WNW 8 mi., mines and prospects—Turquoise; 6 S 11 mi. on Rte. 3, turn SSE on dirt rd. for 14 mi.: (a) W 5 mi. on rough rd., the Pine Grove Mine; and (b) S 5 mi., the Rockland Mine—Gold, Platinum, Silver; 7 S 15.6 mi., Wilson Canyon (noted collecting area) —agate, chalcedony, chert, jasper, silicified wood, Turquoise; 8 S 30 mi., old camp of Washington—Copper, Gold, Silver.

MINERAL COUNTY

AREA: 1 extreme NE wedge of Co. immediately S of the Churchill Co. line and 16 mi. S of US 50 via Rte. 23, Broken Hills (with the Quartz Mt. mining dist. to S just over the Nye Co. line), area old mines—Gold, Lead, Silver, etc.; 2 old camp of Acme (Fitting), replacement veins in Tertiary volcanics and placers in Triassic sediments—Copper, Gold, Lead and Silver minerals.

BABBITT: 1 NE 5 mi. to Thorne: (a) area mines—Gold, Lead, Silver; (b) SE 5 mi., Ryan Canyon, area mines—Gold, Lead, Silver, Thulite; 2 N on US 95: (a) along the shores of Walker Lake, and (b) area land surfaces back of the lake—agate, chalcedony, fossils, petrified wood, Turquoise.

BASALT (extreme SE corner of Co. on US 95): 1 SW 5 mi., summit of Montgomery Pass (elev. 7,167), area of Queen Mt.—obsidian; 2 SW 10 mi., the Buena Vista Dist. (Basalt, Mt. Montgomery, Oneota mines), veins in Tertiary volcanics—Copper, Gold, Lead, Silver and Zinc minerals; 3 N 17 mi. on rte. 10 and E 8 mi. on rough rd., old camp of Candelaria (Belleville, Columbus), replacement veins: (a) area mines—Copper, Gold, Lead, Nickel and Silver minerals; (b) S 1 mi., in E foothills of the Candelaria Mts. and 1 mi. W of the Mt. Diablo Silver Mine, claims, pits, prospects, etc.—Variscite; (c) the Mt. Diablo Silver Mine—Lead and Silver minerals; (d) the Reik Mine—Turquoise.

HAWTHORNE: 1 Lucky Boy, Palmico mines, veins in Cambrian sediments—Copper, Gold, Lead, Silver and Tungsten minerals; 2 NW 10 to 15 mi.: (a) the Walker Lake Dist. (Buckley, Cat Creek mines), W of Walker Lake on the E slope of the Wassuk (Walker River) Range, veins in granite-diorite—Copper, Gold, Silver; (b) the West Walker Dist., on W slope of the Wassuk Range, area mines—Gold, Silver; 3 SE 16 mi., the Whiskey Flat Mine, veins in granite-limestone contact—Copper, Gold, Silver; 4 SE 18 mi., the Sulphide Mine—Gold, Tungsten minerals; 5 SW 30 mi. via rough rds., old and famed ghost town of Aurora (Cambridge, Esmeralda), usually reached 8 mi. E from Bodie (historic mining camp state monument), CA: (a) area draws, washes, steep hillsides in town—jasper, Quartz crystals; (b) many area mines, inside and outside of town, veins in Tertiary volcano—Gold, Silver.

LUNING: 1 area mines—Axinite (plum colored), Gold, Silver; 2 E, the Santa Fe Dist. (Luning, Kincaid mines), contact metamorphic veins—Antimony, Copper, Gold, Lead, Magnesium and Silver minerals; 3 S 13 mi. on US 95, then SE to Sodaville and E 18 mi. to Pilot Mt. mines, contact metamorphic veins and placers—Gold, Lead, Mercury, Platinum, Silver and Tungsten minerals; 4 Hwy. 23 N almost to bridge, take left fork 34 mi. to Rawhide, then 6 mi. farther to raveine—pink Thulite, Howardite, opalized wood.

MINA (10 mi. S of Luning on US 95): 1 area contiguous mines, including Gold Range—Copper, Gold, Lead, Magnesium, Silver and Tungsten minerals; 2 SW 8 mi. in E end of the Excelsior Mts., area—wonderstone, Turquoise, Variscite; 3 SW 26 mi. by
rough rds., the Marietta and Black Mt. mines, contact metamorphic veins—**Copper, Gold, Lead, Magnesium, Silver** and **Tungsten** minerals; ⑥ NW 15 mi., the Garfield Mine, veins in limestone—**Copper, Gold, Lead** and **Silver** minerals; ⑦ NW 20 mi., old camp of Marble, area mines—**Gold, Lead** and **Silver** minerals; ⑧ NE 23 mi. by rough rds., the Cedar Mt. Dist. (Simon, Bell, Omco mines), veins in Triassic limestones—**Gold, Lead, Silver** and **Zinc** minerals; ⑨ NE 30 mi. (over the Nye Co. line), the Athena Mine, veins in Tertiary eruptives and lake beds—**Gold, Silver**; ⑩ Nevada Turquoise Co. Mine—Turquoise; ⑪ 1 mi. S of Candelaria and on E side of hill in Candelaria Mts.—**Variscite**; ⑫ in dumps of Wilson Mine near Candelaria—**Copper** minerals.

**RAWHIDE** (24 mi. S of Frenchman in Churchill Co. via Rte. 31 and 5 mi. on dirt rd. S and W from Nevada Scheelite Mill): ① area, the Regent Mine—**Copper, Gold, Lead, Platinum, Silver** and **Tungsten** minerals; ② N 6 mi. and 2 mi. W on dirt rd., area close to Churchill Co. line—opalized wood; ③ SE 11 mi. on rough rd., Hot Spring, on E side of Alkali Flat (can also be reached via rough rd. 34 mi. N of Luning, or 23 mi. W from Gabbs in Nye Co.), area mines in volcanic tuffs—**Barite, Gold, Silver**; ④ SE, the King Mine, veins in Tertiary volcanics—**Gold, Lead** and **Silver** minerals; ⑤ S 18 mi., the Rand Mine—Turquoise; ⑥ SE 14 mi. on rough rd., Hot Springs (Sunnyside Mine), veins in Quartz and diorite—**Gold, Silver**.

**SCHURZ**: ① W 8 mi., the Granite Mt. Dist. (Mountain View, Reservation mines), veins in granite—**Copper, Gold, Lead** and **Silver** minerals; ② N 9 mi., the Benway Mine, veins in granite—**Gold, Silver**; ③ NE 12 mi., old camp of Holy Cross (Fallon, Terrell mines), veins and replacement in Tertiary volcanics—**Gold, Manganese** and **Silver** minerals; ④ E 28 mi., the Bovard Dist. (Copper Mt., Rand, Rawhide mines), replacement veins in Tertiary volcanics—**Copper, Gold, Lead, Manganese** and **Silver** minerals.

**NYE COUNTY**

**AREA**: ① NW corner of Co.: (a) 28 mi. SSW of Austin in Landers Co., old camp of Washington, veins in Paleozoic sediments—**Lead** and **Silver** minerals; (b) old Westgate dist. (42 to 54 mi. ESE of Fallon in Churchill Co.), veins in Jurassic limestone—**Gold, Lead** and **Silver** minerals; (c) 45 mi. S of Lander, old dist. of Millett (North Twin River), pockets in limestone and slate—**Copper, Gold, Lead** and **Silver** minerals; (d) 50 mi. S of Lander, the Twin River dist., veins in slate—**Silver**.

**BEATTY**: ① area mine dumps in and around town—**Cinnabar, opalite**; ② NW 4 mi., ghost town of Rhyolite: (a) area mines—**Copper, Gold, Silver**; (b) nearby old site of Pioneer, veins in Tertiary volcanics—**Copper, Gold, Lead, Mercury** and **Silver** minerals; (c) W 8 mi., old site of Bullfrog, area mines in Tertiary volcanics—**Azurite, Amethyst, Gold, Malachite**; ③ E 6 mi., old site of Fluorine (Bare Mt., Telluride mine) —**Gold, Mercury, Silver**; ④ S 8 mi. on US 95, site of ghost town of Carrara, area old mines—**Gold**; ⑤ NE 7 mi. to 31 mi., Yucca Mts., area surfaces—**geodes**, gemmy **nodules**; ⑥ NE old camp of Johnie (25 mi. NE of Death Valley and 14 mi. SSE of Amargosa in the NW end of the Spring Mts.), lodes, placers—**Gold, Lead, Platinum, Silver**; ⑦ WNW 22 mi., old camp of Grapevine, veins in rhyolite—**Gold**; ⑧ E 30 mi., old Wahmonie Mine—**Gold, Silver**.

**BONNIE CLAIR**: (old camp and mill on Rte. 72 into N end of Death Valley, 6 mi. W of Scotty's Jct. on US 95), area mines—**Copper, Gold, Silver** minerals.

**CLARK STATION**: (33 mi. E of Tonopah on US 6): ① the Clifford Mine, veins in Tertiary volcanics—**Gold, Silver**; ② the old Blake Camp (32 mi. ENE of Tonopah), the Golden Arrow Mine, contact metamorphic—**Gold, Silver**; ③ N 48 mi. on dirt rd. to Crockers Ranch (or old stop of Morey), then W in the Hot Creek Range, area mines with veins in sedimentaries—**Gold, Lead** and **Silver** minerals.

**CURRANT** (NE part of Co. at jct. of US 6 with Rte. 20): ① E, in the Grant Range, area mines with veins in limestone—**Copper, Gold, Lead**; ② S 30 mi., Troy Peal (elev. 300...
older camp of Troy at base (Irwin Canyon, Nyla mines), veins in sedimentary—Gold, Lead and Silver minerals.

**GABS:** ① E 3 mi., the Stokes Iron Mine—Iron minerals; ② E 16 mi. to dirt crossrds.: (a) E 4 mi., old camp of Grantsville, area mines—Copper, Gold, Silver. (A short distance NE lies the Ichthyosaur Paleontologic State Monument, where the fossil bones of Mesozoic dinosaurs are exposed.); (b) N 4 mi., turn E on old rd. to ghost camp of Berlin (Union Mine), and (c) N 7 mi. to old camp of Ione, veins in Tertiary volcanics and placer in Carboniferous sediments—Copper, Gold, Lead, Mercury and Silver minerals; (d) old camp of Bruner near Ione, the Phonolite Mine, veins in andesite and rhyolite—Gold, Silver; ③ N 3 mi., turn NE on dirt rd. from Rte. 23 to old camp of Downieville, area mines—Copper, Gold, Silver; ⑤ N 12 mi. on Rte. 23, turn right dirt rd. to old camp of Quartz Mt.: (a) area mines; and (b) nearby old camp of Westgate—Gold, Lead and Silver minerals; (c) NW 3 to 4 mi., old mining dist. of Broken Hills in Mineral Co. and straddling Co. line) —Gold, Lead and Silver minerals; (d) old camp of Lodi (Ellsworth, Mammoth, marble mines), veins in granite and limestone—Copper, Gold, Lead, Silver and Tungsten minerals; ⑤ SSE 10 mi., old camp of Golddyke, and ⑥ 8 mi. farther S, the Warrior Mine—Gold, Lead and Silver minerals; ⑤ SSE 14 mi., the Fairplay and Atwood mines (at or near Golddyke), veins in granite—Copper, Gold, Lead, Silver and Tungsten minerals.

**GOLDFIELD** (Esmeralda Co.), access to Ralston Desert to E in Nye Co. (Nearly all the region for 70 to 80 mi. E of US 95 and extending 70 to 80 air mi. S of Tonopah constitutes the highly restricted area of Nellis Air Force bombing range and the Atomic Energy Commission nuclear testing site. No travel is currently allowed on the region's rough dirt access rds., except by regional cattle ranchers.) ① NE = 12 mi., Cactus Peak area prospects and pits—Turquoise; ② E 24 mi., in NW end of the Cactus Range, old camp of Cactus Springs, replacement veins in Tertiary volcanics—Gold, Silver; ① SE 27 mi., Gold Crater Mine—Gold, Silver; ① E 35 mi., Swab Mt., on S side of the Cactus Range, area surfaces—jasper, petrified wood; ② ESE 30 mi., the Antelope Mine—Gold, Silver; ⑥ ESE 38 mi., old camp of Wilson, veins in Tertiary volcanics—Gold, Silver; ② ESE 40 mi., the Trappmans Mine, veins in granite—Gold, Silver; ② SE 46 mi., the Silverbow Mine—Gold, Silver; ⑥ E 54 mi., the Kawich (Gold Reed) dist., veins in monzonite porphyry, rhyolite—Gold, Mercury minerals.

**LATHROP WELLS,** E 26 mi. on US 95 and N on dirt rd., Mercury area mines—Cinnabar, opalite.

**POTTS** (44 mi., SE of Austin in Lander Co. and just S of the Nye Co. line): ① area old camps of Jackson (Gold Park), overlapping into Lander Co., veins in Paleozoic sediments, granite porphyry, and Tertiary volcanics—Copper, Gold, Lead and Silver minerals; ② SE on rough rd. into the Monitor Range, old camp of Danville, veins in limestone—Gold, Silver.

**SCOTTY'S JUNCTION** (35 mi. S of Goldfield on US 95 and entrances into N end of Death Valley): ① S 6 mi. and ¼ mi. E of US 95, area—arrowheads and cores of obsidian, obsidian float; ② ESE = 10 mi., old camp of Tolicha (20 mi. E of Bonnie Clair) and Monte Cristo Mine, veins in Tertiary rhyolite—Gold, Silver.


**SUNNYSDIE** (extreme E edge of Co. on Rte. 28, on E side of the Egan Range), area mines—Azurite, Malachite.

**TONOPAH:** ① area mines in town and on adjoining hills, replacement veins in Tertiary volcanics—Copper, Gold, Lead, Silver and Tungsten minerals; ② E a few mi., old camp of Ellendale, veins and stringers in Tertiary volcanics—Copper, Gold, Silver minerals; ③ E 10 to 12 mi., area—petrified algae, Jade; ④ E 20 mi., the Hannapah dist. (Silverzone, Volcano mines), veins in Tertiary volcanics—Gold, Mercury and Silver minerals; ⑤ N 10 to 15 mi. in the San Antionio Mts., area—Jade, petrified wood, wonderstone; ⑥ NW 20 to 25 mi., in the San Antionio Mts., old San Antone dist. (San
Antonio, Royston mines), veins in Tertiary volcanics—Copper, Gold, Lead and Silver minerals;  0 N 42 mi. via Rtes. 8A and 82, turn SW on Manhattan-Belmont dirt rd.: (a) old camp of Spanish Belt (Barcelona Mine), veins in granite and shale—Mercury and Silver minerals;  0 NW 42 mi. via Rte. 89: (a) Cloverdale dist. (Republic, Golden mines), lodes and placers—Copper, Gold, Lead, Platinum and Silver minerals;  0 N 52 mi. on Rte. 8A, turn E 3 mi. to ghost town of Round Mt., veins and placers—Gold, Lead, Platinum and Tungsten minerals;  0 N 4 mi. on Rte. 8A, turn E 7 mi. on Rte. 92, old semi-ghost town of Manhattan, replacement veins and placers in Paleozoic sediments—Arsenic, Gold, Platinum and Silver minerals;  0 N 5 mi. via Rtes. 8A and 82, old ghost town of Belmont: (a) the Philadelphia, Silver mines;  (b) N 12 to 15 mi. from Cloverdale on rough rd., old camp of Jett, mines in limestone and slate—Lead, Silver and Zinc minerals;  0 N 40 mi. on Rte. 8A, turn E 7 mi. on Rte. 92, old semi-ghost town of Manhattan, replacement veins and placers in Paleozoic sediments—Arsenic, Gold, Platinum and Silver minerals;  0 NNE 46 mi. via Rtes. 8A and 82, old ghost town of Belmont: (a) the Philadelphia, Silver mines;  (b) nearby old camp of Arrowhead, replacement veins—Gold, Silver;  0 E 9 mi., Carson R., area mines—Antimony, Copper, Gold, Lead, Manganese and Silver minerals;  0 SE 40 mi. on Rte. 25, the Willow Creek dist. at S end of Railroad Valley, replacement veins in Paleozoic sediments and Tertiary eruptives—Copper, Gold, Silver;  0 SE on Hwy. 25 for 58½ mi. to rd. to Tempiute, follow it to building by dry lake for a mi., then S on dirt rd. into mining camp in mountains—Thulite, Zoisite.

ORMSBY COUNTY

CARSON CITY:  0 W, in foothills of the Sierra Nevada, the Voltaire dist. (Washoe, Eagle Valley mines), veins in Triassic schists—Gold, Silver, Platinum, Arsenic, Copper minerals;  0 E 9 mi., Carson R., area mines—Arsenic, Copper, Gold, Mercury and Silver minerals.

DELAWARE, the Sullivan Mine in Brunswick Canyon in E part of Co., veins in andesite—Copper, Gold, Lead and Silver minerals.

PERSHING COUNTY

AREA (far E part of Co.):  0 the Iron Hat Mine (20 mi. SW by rough rd. from Valmy on US 40 in Lander Co.), veins in limestone—Copper, Lead and Silver minerals;  0 the Jersey Mine (43 mi. SW of Battle Mt. In Lander Co. by rough rd. via Alkali Flat, on flank of the Augusta Mts.), veins in Quartzite and porphyry—Lead, Mercury and Silver minerals;  0 the Kennedy Mine (55 mi. S of Winnemucca in Humboldt Co. via dirt rd., on E side of Granite Mt.), veins in Triassic sediments—Gold, Lead and Silver minerals.

BLACK DIABLO MINE (22 mi. S of Golconda in Humboldt Co.) —Copper, Gold, Lead and Silver minerals.

GOLDBANKS (36 mi. S of Winnemucca in Humboldt Co. via dirt rd.), replacement veins in quartz porphyry—Gold, Mercury, Silver, Copper and Lead minerals.

IMLAY (4 mi. W of Mill City, on I-80):  0 S 6 mi. and 4 mi. E of the Humboldt R., the Prince Royal, Humboldt and Eldorado mines, replacement veins in Jurassic sediments—Copper, Gold, Lead, Mercury and Silver minerals;  0 W 23 mi. on dirt rd to crossrds.,
then N 6 mi. on rough rd., the Haystack Mine (7 mi. S of Jungo in Humboldt Co.), veins in granite and quartzite—Gold; ③ W 29 mi. via dirt rds.: (a) the Rosebud Mine; and (b) another 4 mi., the Rabbit-hole Mine; with (c) other area mines such as the Scossa and Placeritas to the S and E—Antimony, Copper, Mercury, Gold, Lead and Silver minerals.

LOVELOCK: ① S a few mi., the Wild Horse Mine on E side of the Humboldt Range—Antimony, Arsenic, Copper, Lead and Silver minerals; ② S 7 mi. on Rte. 59, turn E on dirt rd., then S to lake—Antimony, Lead and Silver minerals; ③ SE a few mi., the Sacramento Mine on W flank of the Humboldt Range, placers, veins in Triassic sediments—Gold, Silver, Platinum; ④ SE 25 mi., the Mineral Basin (on the Churchill Co. line), area mines—Iron and Mercury minerals; ⑤ ESE 9 mi., the Muttleberry Mine—Copper, Lead and Silver minerals; ⑥ NE 10 mi., the Loring dist. (Loveland, Willard mines) in the Humboldt Range, contact metamorphic veins—Gold, Iron, Mercury, Silver and Tungsten minerals; ⑦ E 22 mi., Antelope Springs (Relief Mine), veins in Triassic limestone—Antimony, Gold, Mercury and Silver minerals; ⑧ NE 28 mi., the Spring Valley dist. (American Canyon, Fitting mines) on E flank of the Humboldt Range, veins and placers—Copper, Gold, Lead, Mercury, Platinum and Silver minerals; ⑨ W 10 mi., the Velvet Mine, veins in Tertiary eruptives—Gold; ⑩ NW 12 mi., then 8 mi. W on improved rd., the Eagle Pitcher Mine—Copper, Gold, Silver and Tungsten minerals; ⑪ SW 20 mi., then NW 20 mi. (from Huxley in Churchill Co.), contact metamorphic veins in the Juniper Range—Copper, Gold, Silver and Tungsten minerals; ⑫ NW 24 mi.: (a) the Vernon Mine; and (b) 2 mi. farther N, the Seven Troughs Mine, veins in Tertiary volcanics—Copper, Gold, Lead and Silver minerals; ⑬ N 36 mi. via Rte. 48 and dirt rd. that turns N to Placeritas and large mining dist.—Antimony, Copper, Gold, Lead, Mercury, Silver, petrified and opalized wood; ⑭ NW 45 mi. (and 10 to 15 mi. E of Gerlach in Washoe Co.), the Farrell (Stone House) Mine, veins and lenses in Tertiary rhyolite—Gold.

MILL CITY: ① N 7 mi., on SE slope of the Eugene Mts.: (a) Tungsten (largest tungsten mill in America), contact metamorphic veins—Copper, Silver and Tungsten minerals; (b) 5 mi. farther N, the Keystone Mine—Lead and Silver minerals; ② S 10 mi. on Rte. 50, the Star Creek Ranch dist.: (a) Santa Clara Mine, veins, lenses—Antimony and Silver minerals; (b) SW to Star peak (elev. 9,835'), area on E side—gemmy geodes and nodules; (c) S 6 mi., then 4 mi. W, the Unionville dist. (Buena Vista Mine) on E slope of the Humboldt Range, replacement veins in Triassic sediments—Antimony, Copper, Gold, Iron, Lead and Silver minerals; (d) 16 to 20 mi. to N end of the Humboldt Range at Black Knob, area mines with veins in Jurassic calcareous shale—Antimony; (e) S 30 to 35 mi., the Indian Mine in Indian Canyon on E flank of the Humboldt Range, veins, placers—Gold, Silver; ③ SE 10 mi., the Sierra dist. (Sunshine, Oro Fino mines), veins in limestone, placers—Copper, Gold, Lead, Platinum and Silver minerals; ④ E via various rough dirt rds.: (a) 8 mi. NE, the Dun Glen Mine; (b) 11 mi. E, the Straub Mine; and (c) 15 mi. SE, the Rockhill Mine—Copper, Gold, Lead and Silver minerals; ⑤ W 20 mi., the Antelope (Cedar) Mine in the Antelope Range, veins—Antimony, Arsenic, Copper, Gold, Lead, Mercury, Silver and Zinc minerals.

NIGHTINGALE (extreme SW corner of Co., ≃ 40 mi. WSW of Lovelock), on E flank of the Nightingale Range: ① contact metamorphic veins—Copper, Gold, Lead and Silver minerals; ② area—Garnets.

OREANA (14 mi. NE of Lovelock on I-80): ① W 5 mi., the Trinity dist. (Arabia, Oreana mines), veins in altered granodiorite—Antimony, Copper, Gold, Lead, Mercury, Silver and Tungsten; ② N 6 mi., Gypsy Queen Canyon, area—Dumortierite, Quartz; ③ NE 5 to 6 mi., mines in Wrights Canyon, contact metamorphic veins—Tungsten minerals; ④ E 9 mi., the Rochester-Lower Rochester dist.: (a) Nenzel Mine, veins, placers—Antimony, Copper, Gold, Lead, Platinum minerals; (b) W side of Lincoln Hill, area; and (c) in quartz in Bullion Canyon—Dumortierite (blue); ⑤ Echo (Rypeatch Mine), contact metamorphic veins—Copper, Gold, Lead, Silver and Tungsten.
ROCHESTER, at Lincoln Hill—Dumortierite (pink).
RYE PATCH DAM, W 5 mi.: (1) the Poker Brown Mine, and (2) W another 4 mi., the San Jacinto Mine, veins in slate and granite—Arsenic, Lead and Silver minerals.
TOULON SIDING (on the Southern Pacific RR), W 10 mi., the Copper Valley (Ragged Top) Mine, contact metamorphic veins in limestone—Copper, Tungsten minerals.

STOREY COUNTY

VIRGINIA CITY: (1) area, including Comstock, Gold Hill, Silver Star, Flowery, etc., main veins in diorite and Tertiary volcanics—Copper, Gold, Lead, Mercury and Silver minerals. (2) N, the Castle Peak (Red Mt.) Mine—Mercury.

WASHOE COUNTY

AREA: (1) W side of Mt. Davidson, the West Comstock (Jumbo) Mine (reached from Virginia City in Storey Co.), veins in diorite—Gold, Silver; (2) Renard, W 15 mi., the Sheephead Mine—Gold; (3) Sano, E the Cottonwood (Round Hole) Mine, veins in sedimentary rocks—Gold, Lead and Silver minerals; (4) Steamboat Springs, impregnations in Tertiary volcanics, mines and prospects—Mercury minerals; (5) far NE part of Co., High Rock Canyon (best reached from Cedarville, CA, 38 air mi. to the W by rough rds., via Vya): (a) around headwaters of the Little High Rock Cr., area and (b) surrounding the canyon crossing of the Lost Creek Canyon rd.—obsidian nodules.

GERLACH: (1) SW in the Smoke Creek Desert, area of Deep Hole, placers—Gold; (2) N 38 mi. on Rte. 34, old ghost town of Leadville: (a) area mines, veins in Tertiary volcanics—Gold, Lead, Silver and Zinc minerals; (b) N 1 mi., the Donnelly (Gerlach) Mine, veins in sedimentary rocks—Gold, Silver; (c) N 8 mi., area both sides of Rte. 34—agate, silicified wood.

RENO: (1) NE 4 mi., the Wedekind Mine, replacement veins—Gold, Lead, Silver and Zinc minerals; (2) NW 10 mi. on Hwy. 395, the Peavine dist. (Reno, Crystal Peak mines), (a) replacement veins, placers—Copper, Gold, Lead, Platinum, Silver and Tungsten minerals; (b) at Cold Springs Valley exit veer E onto tailing paved rd., after stop sign look slightly uphill to S of rd., mine dumps—Azurite, Brochantite, Chrysocolla (with scare Gold associated), platy Hematite in quartz, Malachite, Pseudomalachite, Schorl, rare brownish-green Spalheterite and anhedral Tetrahedrite; (3) N 34 mi. via Rte. 33 and dirt rd. on W side of Pyramid Lake, (a) Pyramid Mine, veins in Tertiary volcanics; and 3 mi. W of Pyramid lake along Pyramid way, Burrus mine—Azurite, Barium-pharmacosiderite, Brochantite, Chalcanthite, green Chalcophyllite, Conichalcite, Copper minerals, Cornwallite, blue fuzzy balls of Cyanotrichite, Enargite, Gold, Lead minerals, Olivenite, Parnauite, neon blue Richelsdorfit, Silver minerals, Strashimirite, and Tyrolite.

SPARKS, area draws, washes, fields and land surfaces—agate, Garnet, Idocrase, obsidian.

VYA (extreme NW part of Co., best reached 22 mi. E of Cedarville, CA), S 30 mi. on Rte. 34, area W side of rd.—common opal.

WADSWORTH, W 9 mi., the White Horse (Olinghouse) Mine, contact veins, placers—Gold, Platinum, Silver.

WASHOE CITY (17 mi. S of Reno on US 395), N 1 mi., the Galena Mine, veins in granite—Arsenic, Copper, Gold, Lead, Silver and Zinc minerals.
WHITE PINE COUNTY

AREA, far W part of Co., Bald Mt. (about 75 mi. S of Elko and N of Pancake Summit on US 50), lode mines, placers—Copper, Mercury, Platinum, Silver, Tungsten. This Co. is a very mineral rich county.

BAKER (4 mi. W of the Utah line and 5 mi. S of US 6 / 50): ① area mines—Copper, Gold, Lead, Silver minerals; ② SE, on E flank of the Snake Range, practically on the UT border, the Snake (Bonita) Mine, veins in granite—Silver and Tungsten minerals; ③ the Eagle dist. (Kern, Pleasant Valley, Regan, Tungstonia mines), veins in sedimentary rocks—Copper, Gold, Lead, Silver, Tungsten minerals.

CHERRY CREEK (45 mi. N of Ely on US 93, turn W 9 mi. on Rte. 35): ① area mines, veins in secondary enrichments—Copper, Gold, Lead, Manganese, Silver, Tungsten minerals; ② the Eagle Canyon Mine in the Egan Range; and ③ W 5 mi., the Gold Canyon Mine—Copper, Gold, Lead, Manganese, Silver, Tungsten minerals; ④ SE 18 to 36 mi. (area also reached NW from McGill) and 10 mi. E of old camp of Melvin, many old mines such as the Aurum (Muncy Cr.), Queen Springs, Ruby Hill, Schellbourne, Schell Cr., Siegel, Silver Canyon, Silver Mt.; contact metamorphic veins—Copper, Gold, Lead, Manganese and Silver minerals.

ELY: ① area mines, contact metamorphic veins—Copper, Gold, Lead, Manganese and Silver minerals; ② SE 10 mi., replacement veins in limestone—Manganese and Silver minerals; ③ S 19 mi., the Ward (Taylor) Mine on S side of Ward Peak (elev. 10,936’), contact metamorphic veins—Copper, Gold, Lead and Silver minerals. This is the site of the Ward Charcoal Ovens Historic State Monument. ④ SE 35 mi., on US 50, turn E 4 mi. on dirt rd.: (a) old camp of Osceola, veins and placers—Gold, Lead, Platinum, Silver, Tungsten minerals; (b) the nearby Sacramento (Sacramento Pass) Mine on W flank of the Snake Range, veins in limestone and slate—Gold, Silver and Tungsten minerals; ⑤ SE 45 mi., on SW flank of the Snake Range and S of the Lehman Caves National Monument, the old Tungsten dist. (Hub, Lincoln mines), veins in quartzite and argillite—Silver and Tungsten minerals; ⑥ ESE 49 mi., the Black Horse Mine—Gold, Silver; ⑦ W 36 mi. on US 50 to Little Antelope Summit (elev. 7,433’), area surfaces—wonderstone; ⑧ (a) take Hwy. 50 NW from Ely 5 mi., then right on gravel rd. 0.7 mi. along power line into canyon, go to summit on foot; and (b) Canyons N from Lane City for a mile in either direction, in garnet-bearing rhyolite—Garnet.


KIMBERLY (5 mi. NW of Ely on US 50 and 4 mi. W of Rte. 44), NW 1 mi., Robinson Canyon, area surfaces to the S—Garnets.
McGILL: ① NW 3 mi., the Duck Creek (Success) Mine, replacement veins in limestone and shale—Copper, Gold, Lead, Silver and Zinc minerals; ② S 3 mi. on US 93 to W trending dirt rd.: (a) NW 21 mi., old camp of Steptoe (Granite Mine), replacement veins in Paleozoic sediments—Gold, Lead, Silver minerals; (b) a SW a short distance, old camp of Hunter, replacement veins in dolomitic limestone—Copper, Lead, Silver minerals; (c) NW 28 mi., turn SE toward Magnusons Ranch, the Warm Springs Mine, quartz veins—Gold, Silver.

RUTH (8 mi. W of Ely), open pit operations—Copper.

SHOSHONE (48 mi. SE of Ely via 28 mi. on US 6 / 50, 3 mi. on US 93, and paved local rds., to the E and S), the Minerva and Lexington mines, veins in limestone—Silver and Tungsten minerals.

STRAWBERRY (29 mi. NE of Eureka Co. Via Newark Pass), on E slope of the Diamond Mts., the Newark Mine, veins in limestone—Copper, Gold, Lead and Silver minerals.
NEW HAMPSHIRE

New Hampshire, in the heart of New England, bears two appropriate names: the Granite State, because of its extensive bedrock exposures, and the Land of Peace and Beauty. During the Pleistocene epoch, the entire state was buried beneath a succession of glaciers estimated to have been more than two miles thick. In their original advances from the north, the great sheets of ice scraped the mountains, peneplained the upland regions, and rerouted water courses. In receding after 100,000 years or so, the last, or Wisconsin glaciation left precipitous streams, innumerable lakes, and the barren Precambrian granite over which only a relatively thin layer of soil has formed in the last 8,000 to 10,000 years.
New Hampshire

The residual White Mountains of the northern Appalachian chain stretch across the southern part of Coos Co. Many peaks rise more than 4,000 and 5,000 ft. above sea level, culminating in Mt. Washington. At 6,288 ft., this peak is the highest mountain in the New England states. Immediately to the north, the Presidential Range lifts five other rugged peaks to near 6,000 ft. heights, and cutting through the New Hampshire mountains are many sharp notches familiar to all travelers through the northern counties. South of the mountain and lake region, the generally level uplands are noted for isolated minor peaks of resistant rock, called monadnocks.

Commercial mining for copper, gold, lead, silver and zinc, as well as feldspar, fluorspar and serpentine, at various times and places has contributed minor amounts to the state’s economic wealth. However, New Hampshire primarily interests the gem collector because of its pegmatite mines, quarries, and exposures which yield top quality gem crystals. These include Amethyst, Apatite, Aquamarine, Beryl, Garnet, rock crystal (clear, rutilated and rose), Staurolite, Topaz and Tourmaline, among others. Panning for gold is a regular summer hobby activity in the northern streams, especially around the headwaters of Indian River in the extreme northern part of Coos Co. Gold occurrences in northern New Hampshire from unknown sources seem to reflect similar occurrences in the Chaudière River watershed of southern Quebec, just across the international boundary between Canada and southwestern Maine, said to be the most important placer gold field east of the Rocky Mountains. An excellent reference with a nice location map of old mines and prospect can be acquired from the New Hampshire Department of Resources, titled The Geology of New Hampshire, Part III Mineral and Mines.

BELKNAP COUNTY

ALTON, area mines—Arsenopyrite and Pyrite.
GILMANTON, area fields, roadcuts, etc.—jasper.
NEW HAMPTON, the Storer prospect—Mica.

CARROLL COUNTY

BARTLETT, Iron Mt. prospect—Iron ore.
CHATHAM, the Chandler mine—Feldspar.
CONWAY: ① NW 2½ mi., the Lovejoy Gravel Pits, Hwy., 16 N ¼ mi., then Left on Passaconaway rd., cross bridge, go 0.3 mi., then Left to gravel road and N ¼ mi.—Microcline feldspar, Smoky Quartz crystals and Topaz; ② White Mountain Granite Quarry, at 700 ft. level on W side of Birch Hill—Amethyst; ③ 2 mi. N of North Conway, then E on Hurricane Mt. rd. 3½ mi., take trail from top ¼ mi. W follow old rd. to ledges in Hurricane Mt.—Amethyst and Smoky Quartz; The Hurricane Mt. prospect—Crocidolite, Adularia.
EATON CENTER, NE 2 mi., at Randall Lead Mine—Smoky Quartz.
JACKSON, area mines, especially the Jackson mine—Arsenopyrite, Bornite, Cassiterite and Wolframite.
MADISON, area mines (Burke, Banks, Hoyt, Madison) —Galena, Silver and Sphalerite.
NORTH CHATHAM (extreme NE corner of Co., on Rte. 113), W 3½ mi., at 2,900 ft. level on E side of South Baldface Mt., area pegmatites and in pockets where pegmatites meet talus slope—Mica (Biotite, Muscovite), Microcline feldspar, Phenakite, Topaz (brown, blue) and Smoky Quartz crystals.
NORTH CONWAY, take rd. W to Echo Lake, then jeep road W to Camp Albite, park and walk ¾ mile W to dig in Moat Mt. There is also collecting at South Moat and the Hogback E of Middle Moat (fee)—Topaz, Amazonite and Smoky Quartz.
OSSIPEE: ① (Co. seat and site of the Ossipee Summer Fish Hatchery), area mines—Chalcopyrite, Lead-Silver minerals; ② in ledge S of road at Passaconway Quarry near Albany—Smoky Quartz; ③ Pocket Mt. Prospect—Gold. REDSTONE (Conway Twp.), the Redstone Red Quarry, between Conway and North Conway E of Hwy. 302—Amethyst, Apatite, Quartz crystals (clear, smoky) and Topaz. SANDWICH, the White Diamond prospect—Gold. WAKEFIELD: ① Weeks Mine ½ mi. W of Province Lake—blue Beryl, Feldspar; ② Hamm Quarry—Apatite (fluorescent).

CHESHIRE COUNTY

ALSTEAD: ① Area old mines producing Beryl (Colony, Allen, Lyman, Fitzgibbon, Porter, Big, Tripp No. 1, Island, Blister, Burroughs Prospect, French, Beauregard, Osborne, Eames)—Beryl with either Mica, Feldspar or both.

CHESTERFIELD, N 2 to 4 mi. on Rte. 63, on W side of Spofford Lake and just W of the Hwy., area mines (Springer, Pierce)—Fluorite.

FITZWILLIAM, at Victoria White and Webb-Fitzwilliam granite quarries—rutilated Quartz.

GILSOM: ① area old mines producing Beryl (Nichols, Kirk No. 1 & 2, Isham, H. White, J. White) Beryl with either Mica, Feldspar or both; ② NNW 2¼ mi. on a connecting rd., the Island Mice Mine—Beryl, etc.; ③ NNW 3½ mi., Britton Mine, Pegmatite—Beryl, etc.; ④ N 5½ mi., the Wenham Mine, in pegmatite—rose Quartz.

HARRISVILLE, area old Newell Graphite mine—Graphite.

HINSDALE: ① area pegmatites—Tourmaline, etc.; ② 1 mi. SE near Ashuelot R. —pink Rhodonite.

KEENE: ① E 4½ mi., on S side of Horse Hill, Pegmatite outcrops—Aquamarine, Beryl, etc.; ② ENE 5 mi., Bassett Hill, area pegmatite outcrops, pits, etc.—Beryl; ③ Keene Granite Quarry, 3 mi. SE—Beryl, smoky and rose Quartz; ④ Will Wise Mine, Hwy. 9 W for 11 mi., pass Sherman Store, turn Right at sign saying “1st Methodist Church in New Hampshire” go ½, then Right on dirt rd. 1½ mi., then Left 3 mile, and a sharp Left onto mine road, park and walk up Bald Hill—Fluorite.

MARLBORO, mi. S at Webb Granite Quarry—Almandite garnet.

MARLOW, at Turner Mine—green Tourmaline.

NELSON, area old mines (Osgood, Lead)—Graphite.

RICHMOND, in Richmond Soapstone Quarry—Cordierite.

SURY, the old Surry Dam mine—Mica, Beryl.

WALPOLE: ① area pegmatites—Tourmaline; ② at Howe Lodge on W side of Dery Hill—Beryl, rose Quartz.

WESTMORELAND: ① area old Fluorite mines (Wise, Stoddard No. 13)—Fluorite; ② S 3 to 5 mi.—Fluorite; ③ Stoddard Mine—Amethyst and Quartz crystals; ④ at Park Hill—Staurolite; ⑤ the old Lincoln mine—Molybdenite.

WINCHESTER: ① area pegmatite exposures, pits, etc.—Tourmaline; ② near top of Stony Mt.—Rhodonite.

COOS COUNTY

AREA: ① in the topsoil of the regional mountain ridges surrounding the communities of Berlin, Dummer, Lancaster, Milan, Northumberland and Stratford—Amethyst and Quartz crystals; ② Indian Stream (extreme NW part of both Co. and State), headwater branches, numerous regional placers—Gold (colors, nuggets).
BERLIN: ① (a) at cave W of trail and (b) at 1,200 ft. level on S side of Jasper Mt.—jasper; ② the old Howard prospect—Copper; ③ the J. Gagne property—Feldspar, Mica.

DALTON, the old Dalton prospect—Gold.

GORHAM: ① area mines—Chalcopyrite; the old Mascot Mine—Lead.

MILAN: ① all area pegmatite exposures—Albite, Amethyst, Beryl, Chlorite, Feldspar, Fluorite, Knebelite, Limonite, Molybdenite, Muscovite, Pyrite, Smoky Quartz crystals, Sericite and Topaz; ② area mines—Bornite, Chalcocite (with Gold and Silver), Chalcopyrite, Galena, Pyrite and Sphalerite; ③ (a) Greens Ledge, area pegmatite exposures—Albite, Amethyst, Beryl, Chlorite, Feldspar, Fluorite, Knebelite, Limonite, Molybdenite, Muscovite, Pyrite, Smoky Quartz crystals, Sericite and Topaz.; (b) W and 3 mi. S at 1,700 ft. level of Greens Ledge—Amethyst and Topaz.
PERCY: ① NNW 1¾ mi., Victors Head area pegmatites—Albite, Amethyst, Beryl, Chlorite, Feldspar, Fluorite, Knebelite, Limonite, Molybdenite, Muscovite, Pyrite, Smoky Quartz crystals, Sericite and Topaz; ② on W slope of Hutchin Mt.—Amethyst.

SHELBURNE: ① area copper and zinc mines—Bornite and some Sphalerite; ② area lead-silver mines—Lead-Silver minerals and Pyrite.

STARK: ① all regional pegmatite exposures—Albite, Amethyst, Beryl, Chlorite, Feldspar, Fluorite, Knebelite, Limonite, Molybdenite, Muscovite, Pyrite, Smoky Quartz crystals, Sericite and Topaz; ② (a) N 5 to 6 mi., Percy Peak, pegmatites exposed on Diamond Ledge, and (b) Hutchins Mt., area pegmatites —Albite, Amethyst, Beryl, Chlorite, Feldspar, Fluorite, Knebelite, Limonite, Molybdenite, Muscovite, Pyrite, Smoky Quartz crystals, Sericite and Topaz.

STRATFORD, along rd. near Sugarloaf—Amethyst.

WEST MILFORD, the Milan Mine—Pyrite and Silver minerals.

GRAFTON COUNTY

AREA, in soils and gravels around shores of Mink Pond—Staurolites.

ALEXANDRIA, in mine dump at 2,000 ft. level on N side of Hutchins Hill—Beryl.

BATH, area mines (Lang, Stevens, Forsaith) —Chalcopyrite, Gold, Lead and Silver.

ENFIELD, at Shaker Hill Granite Quarry —Quartz crystals with Epidote inclusions.

FRANCONIA: ① area mines—Malachite and Essonite garnet; ② area ridges, hillsides and fields, in topsoil—Andradite garnets; ③ in Ammonoosuc R.—jasper.

GRAFTON CENTER: ① in dumps of mines 3 mi. SW on E side of Melvin Hill—Beryl (blue and golden); ② Kilton Mine, via Ruggles Mine Road, crossing Manfeltree Brook, keeping R and then ¾ mi. NE—Beryl (blue and golden); ③ NW 1½ mi., the Ruggles Mine (a noted producer), take direct road W from Grafton Center 1½ mi. to crossroads, then across brook and up hill ¾ mi. (fee)—Amethyst, Apatites, Autunite (fluorescent), Bertrandite, Beryl (blue, golden), Beta-uranophane, Calcite, Chrysoberyl, Clarkeite, Columbite, Compotite, Cymatolite, Kryolite, Dendrite, Feldspar, Garnet, Graftonite, Gummite, Kasolite, Lepidolite (yellow), Lepidomelane, Lithiophyllite, Marcasite, Micas, Molybdenite, Parsonite, Phosphanylite, Pyrite, Psilomelane, Purpurite, Pyrrhotite, Quartz (rose, smoky, white), Reddingite, Soddyite (yellow, fluorescent), Safflorite, Sillimanite, Staurolite, Torbernite, Topaz, black Turmaline, Uraninite, Uranum, Uranophane, Uranospinite, Vandendriesscheite, Vivianite, Voelkerenite, Zircon; ④ Sargent Mine, on N end of Horse Hill, by driving to top and taking ridge trail on foot—Beryl (blue and golden); ⑤ Alger Mine, take rd. S where Ruggles Mine Road leaves Grafton Road, go on a mi.—blue Beryl, rose and smoky Quartz.

HANOVER: ① area gravels, pits and surface—jasper, rutileated Quartz crystals; ② area mines—Malachite; ③ at Moose Mt.—rutileated Quartz.

HAVERHILL: ① area mines—Arsenopyrite; ② a nearby large deposit, mined—soapstone; ③ in Limonite at Black Mt.—Quartz crystals.

HEBRON, SW 2 mi. at mine dump on E side of Hobart Hill—Beryl and Lepidolite.

LAKESAFF, the old Allen prospect—Gold.

LEBANON, area mines—Arsenopyrite.

LINCOLN, on upper slopes of Mt. Nancy—Amethyst.

LISBON: ① area mines—Magnetite, Copper, Gold, Lead, Silver and Pyrite; ② area ridges, hillsides and fields, in topsoil—Staurolites.

LITTLETON: ① area mines (Gardner Mt., Gregory, Quint) —Chalcopyrite, Gold, Lead, Silver; ② the White Mountain Mine—Bornite, Chalcopyrite and Malachite. A mineralized belt containing many mines and prospects extends SW along Rte. 10 for 12 to 15
New Hampshire

mi., including Lyman, Lisbon and Bath, and yielding specimen listed as under area mines.  
① on hill ¾ mi. W of Garnet Hill—Staurolite.
LYMAN: ① many area mines—Arsenopyrite, Chalcopyrite, Gold, Lead, Silver; ② the Dodge Mine—native Gold. From the Dodge Mine some $70,000 in gold was taken between 1865 and 1875. A quartz mill was constructed in Lisbon to process the ore. The veins pinched out into unproductive slate at a depth of about 100 ft.
LYME, the old Aldrich Prospect—Scheelite.

NORTH GROTON: ① WSW ¾ mi., the Charles Davis Mine, (¾ mi. W of North Groton, the dirt rd. S from the Cheever Road leads to mine)—Aquamarine, Beryl, Brazilianite, Lazulite; ② SW 2 mi., the Palermo Mine and quarry, (SW 1 mi., then N less then a mi.)—Apatite, Beryl, green Quartz, Brazilianite, Lazulite (massive); ③ Rice Mine, mi. farther from North Groton than Palermo No. 1—Apatite, Beryl, green Quartz; ④ Diamond Ledge Mine, reached by a road a mi. W of North Groton leading from Cheever rd.—Apatite, Beryl, green Quartz; ⑤ the Fletcher Mine, take Rumney Road but turn off on a side road up Fletcher Mt. and go 1¼ mi.—Apatite, Beryl, green Quartz; ⑥ Valencia Mine, located on next hill NW of the Fletcher Mine—Beryl and Apatite.
ORANGE, at Keyes Mine, N 2½ mi. on dirt rd.—Beryl.
ORFORD: ① area mines—Copper minerals and Pyrite; ② on Strawberry and Blackberry Hills—Staurolite.
RUMNEY, at Belden Mine—Beryl.
SUGAR HILL: ① S 1½ mi., on S side of Ore Hill, area surfaces, in topsoil—Amethyst and rock crystal; ② summit of Ore Hill, in topsoil—Staurolites; ③ S 1½ mi. at Franconia Iron Mine—green Quartz.
TINKERVALE, NW, on Gardner’s Mt. (elev. 2,330’), area mines—Chalcopyrite, Gold, Lead, Pyrite and Silver.
WARREN: ① area mines, especially the Warren Mine—Chalcopyrite and Essonite garnet; ② SW 1½ mi. on SW side of Beech Hill—golden Beryl and Quartz crystals.
WENTWORTH, Currier Mine, take Hwy. 25 N past railroad tracks, then first dirt rd. Right ¾ mi., park ask permission at house, take road through fields to mine—Beryl.
WOODSTOCK, area mines—Sphalerite.

HILLSBOROUGH COUNTY
FRANCESTOWN, general area land surfaces, gravel pits, etc.—jasper.
MILFORD,  (a) in Bishop and Carlton Granite quarries 2 mi. NW;  (b) Connoli Granite Quarry 3½ mi. SW; and (c) Kittridge Granite Quarry 1½ mi. SW—rutilated Quartz.

MERRIMACK COUNTY
CONCORD, in Crowley Granite Quarry—Smoky Quartz.
DANBURY:  ① NW, on Co. line area about 3¼ mi. SE of Grafton (in Grafton Co.), on Severance Hill, area pegmatites—Beryl, etc.; ② Wild Meadow mine—Beryl.
PITTSFIELD, the Silverdale Mine—Chalcopyrite, Pyrite and Galena.
WARNER, near top of Mount Kearsarge—rose Quartz.
WILMOT:  ① N, a mine long worked for abrasives—Garnet; ② in mine dumps at Stuart Hill—Beryl.

ROCKINGHAM COUNTY
NEWMARKET, old Newmarket mine—Lead-Silver minerals.
RAYMOND:  ① take Old Manchester Road W, then Lane Road a total of 2 mi. to the (a) Chandler Feldspar Mine, (b) Smith Mine, (c) Welch Mine, and (d) Blake Mine—Feldspar Beryl, Garnet, rose Quartz and Spodumene; ② in boulders on ridge just N of Raymonf-Nottingham town line and W of rd.—Quartz crystals.

STRAFFORD COUNTY
CENTER STRAFFORD, Foss Mica Mine about mi. NW. Go 2.3 mi. on Hwy. 9, then mine road to Right to Parker Mt. Mine on Blue Hill—Eucryptite (fluorescent), blue Beryl and Apatite (fluorescent).
ROCHESTER, the old Bliven prospect—Pyrrhotite.

SULLIVAN COUNTY
ACWORTH, less than 2 mi. S at mine dump on W side of Beryl Mt.—Beryl and rose Quartz, Rutherfordine (fluorescent).
ALSTEAD & GILSUM:  ① (N of Gilsum along W side of rd. to Mill Hollow, a group of mines whose dumps have been productive): ① Beauregard Mine (fee); (b) Blister Mine; (c) Davis Mine, ¾ mi. N of Mica Mine School; (d) Island Mica Mine, 2½ mi. N of Gilsum, 400 yds. E of Hwy. 10 and W of school on knoll between swamp and pond; (e) Big Mine, N of school; (f) Golding-Keene Mine, NW of big Mine; and (g) S of Gilsum on E side of Hwy. 10 at the J. White mine—Beryl (golden, blue); ② Fitagibbon Mine—Apatite. CLAREMONT, area outcrops of Micaceous slates—Staurolites.
CROYDON, area mines—Chalcopyrite and cupferous Pyrites.
GRANTHAM, area Micaceous slate outcrops—Staurolites.
NEWPORT,  ① the G.F. Smith Mica Mine at Chandler’s Mill—Augelite, Beryl, Apatite and Lazulite; ② 3 mi. E at Youngs Hill (fee)—Apatite and Beryl.
SPRINGFIELD:  ① NE to Robinson Corner (straddles Co. line 2½ mi. SSW of Grafton, and best reached from there), near summit of Pillsbury Ridge, the Columbia and Reynolds mines—Aquamarine, Beryl, Amethyst, Smoky Quartz etc.; ② in soil at George Hill—Amethyst; ③ at S end of Melvin Hill in ledge on Joe Hill farm—Beryl and Spessartite garnet; ④ Player Mine at Pillsbury Ridge—green Beryl; ⑤ (a) Reynolds Mine near top of NE slope of Robinson Hill; and (b) Davenport Mine just below—blue Beryl, Garnet and Quartz crystals; ⑥ (a) Diamond Ledges on Long Mt., and (b) SE on Hwy. 4A for 1½ mi., then N to Globe Mine—Amethyst and smoky Quartz.
New Hampshire

SUNAPEE, at Perry Sunapee quarry—rutilated Quartz.
UNITY: ① area mines—Chalcopyrite and cupriferous Pyrites; ② S 6 to 7 mi., various localities around Acworth and Beryl Mt., pegmatite exposures, prospects, etc.—Beryl, Garnet and Quartz crystals.
NEW JERSEY

Known as the Garden State, New Jersey ranks among the world's three most noted gem and mineral producing regions. More than 200 mineral species have been named and described from a single locality and a great variety from hundreds of other places. Of these minerals, at least 40 were first identified in this state, and many of these have thus far never been found elsewhere.
New Jersey

In this 160 by 60 mile state sandwiched between the Hudson and the Delaware Rivers, the geology of New England merges with the geology of the Appalachian Highlands. The Northern one-third of the state lies within the mountain provinces, culminating in 1,803 ft. High Point on Kittatinny Ridge in High Point Park of northwest Sussex Co. The rock formations of this region are mainly folded and faulted limestones, sandstones, and shales of mid Paleozoic age, although three-fifths of New Jersey constitutes the Atlantic Coastal Plain, separated from the Highlands by the Triassic aged Piedmont.

New Jersey has always ranked high in its production of such industrial minerals as limestone, sandstone, serpentine and commercial clays. Iron mining began around 1710 and continues to this day from Limonite, Magnetite, and bog iron ores. The initial production of Zinc first opened the astonishing gemstone quarries at Franklin in Sussex Co. Although Zinc is no longer mined, the production of gems and gemstones through collector activities
continues at a great rate. Here, most of the 200 mineral species are concentrated in a geographically very small area, unmatched anywhere else on earth.

While the Franklin deposit may be considered a gem Mecca for mineral collectors, the state’s traprock quarries are of almost equal interest. Not only do the New Jersey quarries lead the world in the production of road ballast, but the gemstones found in cavities in the basalt or diabase lavas are a never-ending source of excitement to the discriminating collectors. The most gem abundant quarries occur in the Palisades of the Hudson River in Bergen Co., the Watchung Mountain basalts of Somerset Co., and the diabase intrusions exposed between the Delaware and Raritan rivers across the center of the state.

Quarries are not the only excavations that uncover traprock. Railroad tunnels, road cuts, and building excavations of every description also produce high quality gems. Perhaps the most famous collecting area is from Bergen Hill in Hudson Co., which is part of the Palisades basalt sill that extends from Bergen Point to Edgewater. Another high, narrow crescent of gem rich diabase parallels the Hudson River from above Haverstraw, NY to below Jersey City, NJ. Cavities in these lavas contain abundant banded agate and opal (common, fire), Amethyst, clear and smoky Quartz crystals, and clear, pastel lime-green Datolite. Such cavities may also contain gem Apatite and Malachite, needlelike Natrolite crystals, and such Zeolites and associated gemstones as Analcime, Apophyllite, Chabazite, Gmelinite, Heulandite, Laumontite, Mesolite, Pectolite and Scolecite. The railroad tunnels and cuts in Bergen Hill may be reached from the cities of Edgewater, Guttenburg, Weehawken, Union City, Hoboken, Jersey City and Bayonne.

Nearby in Snake (Laurel) Hill, just east of the Hackensack River off the New Jersey Turnpike two miles west of Jersey City, excavations in both Bergen and Snake Hills have produced some of the most spectacular minerals ever found, when zeolite species occur in the contrasting matrix of Calcite, Dolomite and Quartz, or other base minerals. These two hills continue to yield magnificent specimen of Albite, Epidote, Galena, Siderite (both rhombohedral crystals and Spherosiderite), and fine talc pseudomorphs after Pectolite.

Of all the localities to be found in America, New Jersey produces the most and finest Amber, mainly from counties where exposures of Cretaceous marl sand occur. The best collecting localities are in marl, clay, sand, and gravel pits scattered over the state. In addition, the copper deposits of the Watchung Mountains yield excellent gem Turquoise. In several counties Amethyst, agate, and jadelike serpentine occur along with a wide variety of gemstones rare in most of the rest of America and the world. For instance, Prehnite, one of the most beautiful and valued of lapidary gemstones, is practically a New Jersey state stone.

BERGEN COUNTY

AREA, every basalt and diabase outcrop exposed in rd. cuts, railroad tunnels, building excavations, or other across the entire state, including adjoining Passaic, Hudson, Morris, Somerset, Union, Essex, Hunterdon and Mercer counties to the Delaware R. and N to Trenton—agate, Amethyst (druses, geodes, crystals), carnelian, chalcedony, Datolite, Natrolite, and Opal (common, fire).

PARAMUS, at Green farm—Garnet.

BURLINGTON COUNTY

AREA, extreme NW corner of Co., at Crosswicks Cr. (4 mi. S of Trenton in Mercer Co.), area marl and sand pits—Amber.

BURLINGTON, HAINSEPORT, RIVERSIDE, RIVERTON, regional sand and gravel pits—Amber. (Amber occurs in the sands and gravels all the way SW through Salem Co. adjoining upper Delaware Bay, in greater quantity and quality than anywhere else in America.)

VINCENTOWN, area sand and gravel pits—Amber.
New Jersey

BURLINGTON, CAMDEN COUNTIES

AREA, all the W part of New Jersey along the Delaware R., especially between Trenton in SW Mercer Co. (30 mi. N of Philadelphia, PA) to Penns Grove (20 mi. S of Philadelphia, PA), in any sand or gravel pit in or near any community—jasper, striped clear agate and Amber.
CAPE MAY COUNTY
CAPE MAY, area ocean beach sands and gravels—Cape May Diamonds, water polished clear and opaque quartz crystals and chalcedony (pebbles in all colors from colorless to smoky, including apricotine).

ESSEX COUNTY
BELLEVILLE, BLOOMFIELD, area old mines—Malachite.
SUMMIT, in Houdaille Construction Materials Quarry—agate, Prehnite and Amethyst.

GLOUCESTER COUNTY
AUSTINVILLE, BRIDGEPORT, GIBBSTOWN, regional sand pits—Amber.
HARRISONVILLE (E of Rte. 45 and N of US 40), at Oldmans Cr., a marl pit—Amber (large sized chunks).
MULLICA HILL, area marl and sand pits—Amber, fossils.
SEWELL: ① sand and gravels of nearby tributary of Mantua Cr.—Amber; ② the Inversand Co. greensand marl pit—Amber.

HUDSON COUNTY
AREA: ① the Arlington Mine—Chalcopyrite; ② Bergen Hill (reached from Edgewater, Guttenberg, Weehawken, Union, Hoboken, Jersey City and Bayonne), all area RR cuts, tunnels, etc., between Edgewater and Bergen Point along the Hudson R., including regional quarries in the diabase substratum, and ③ Snake Hill, just off the New Jersey Turnpike E of the Hackensack R. 2 mi. E of Jersey City—agate (banded), Albite, Amethyst, Analcime, Apatite, Apophyllite, Calcite crystals, Chabazite, Datolite (lime green, gem), Dolomite crystals, Epidote, Galena, Gmelinite, Heulandite, Laumontite, Malachite, Mesolite, Natrolite crystals, Opal (common, fire), Pectolite, Quartz crystals, Scolecite, Siderite, Sphalerite, Sphelerite, Sphene and talc.
EAST BELLEVILLE, old mine—Malachite.
EDGEOATER, GUTTENBERG, BAYONNE, area RR and Rd. cuts—agate (banded), Albite, Amethyst, Analcime, Apatite, Apophyllite, Calcite crystals, Chabazite, Datolite (lime green, gem), Dolomite crystals, Epidote, Galena, Gmelinite, Heulandite, Laumontite, Malachite, Mesolite, Natrolite crystals, Opal (common, fire), Pectolite, Quartz crystals, Scolecite, Siderite, Sphalerite, Sphelerite, Sphene and talc.
HOBOKEN: ① area basalt exposures, in cavities—agate, Amethyst and Opal (common, fire); ② area serpentine outcrops—Magnesite, and serpentine; ③ Castle Point, area quarries in serpentine—Brucite, Dolomite crystals, Magnesite and Hydromagnesite.
JERSEY CITY: ① W 2 mi. at Snake Hill—agate (banded), Albite, Amethyst, Analcime, Apatite, Apophyllite, Calcite crystals, Chabazite, Datolite (lime-green, gem), Dolomite crystals, Epidote, Galena, Gmelinite, Heulandite, Laumontite, Malachite, Mesolite, Natrolite crystals, Opal (common, fire), Pectolite, Quartz crystals, Scolecite, Siderite, Sphalerite, Sphelerite, Sphene and talc; ② NW, the Schuyler Mine—Allanite (black prismatic crystals), agate (banded), Albite, Amethyst, Analcime, Apatite, Apophyllite, Calcite crystals, Chabazite, Chalcolite, Datolite (lime-green, gem), Dolomite crystals, Epidote, Galena, Gmelinite, Heulandite, Laumontite, Malachite, Mesolite, Natrolite crystals, Opal (common, fire), Pectolite, Quartz crystals, Scolecite, Siderite, Sphalerite, Sphelerite, Sphene and Talc.
MONTVILLE, area scattered deposits in limestone—serpentine.
PALISADES (not a town but basalt cliffs fronting the Hudson R. for more than 70 Mi.), in cavities and talus debris—agate (banded), Albite, Amethyst, Analcime, Apatite, Apophyllite, Calcite crystals, Chabazite, Datolite (lime green, gem). Dolomite crystals, Epidote, Galena, Gmelinite, Heulandite, Laumontite, Malachite, Mesolite, Natrolite crystals, Opal (common, fire), Pectolite, Quartz crystals, Scolecite, Siderite, Spherosiderite, Sphalerite, Sphe and Talc.
WEEHAWKEN, in cavities in area basalt exposures—Allophane and area minerals.

HUNTERDON COUNTY
BRYAN, area quarries—Spinel.
CLINTON, area old mines—Braunite.
FLEMINGTON, the Flemington Mine—Chalcopyrite.
LAMBERTVILLE (on the Delaware R. near the state boundary): ① area quarries—Axinite crystals (in regional traprock cavities), Tourmaline; ② S 1 mi., Goat Hill, in area veins—Pectolite and Stilpnomelane; ③ Barber and Irelands Quarry—Byssoelite (locally called mountain leather); ④ the Kingston Quarry—Actinolite crystals; ⑤ the Lambertville Quarry—Prehnite (as tiny micromount, perfect crystals) and Datolite; ⑥ W, in quarries along Delaware R.; ⑦ N 2½ mi., on Mt. Gilboa; ⑧ S 2½ mi., on Belle Mt., at Moore's Sta., all regional quarries—gem minerals typical of region.

MERCER COUNTY
HOPEWELL: ① area quarries near the Hunterdon Co. line, and ② at NE end of Pennington Mt.—gem minerals.
MOORE: ① the Mercer Co. Workhouse Quarry (a few mi. S of the Hunterdon Co. line), and ② a quarry on Rte. 29 between Moore and Lambertville in Hunterdon Co.—Analcime, Aurichalcite (in calcite veins as pale rosettes), Calcite crystals, Chalcopyrite, Epidote, Heulandite, Natrolite (delicate needles), Scolecite and Stibnite; ① a quarry on Pennington Mt. just E of Rte. 69, in diabase—Analcime, Aurichalcite (in calcite veins as pale rosettes), Calcite crystals, Chalcopyrite, Epidote, Heulandite, Natrolite (delicate needles), Scolecite and Stibnite.
PRINCETON: ① area quarries, and ② N 4 mi., the Rocky Hill Quarry—Albite, Chalcocite, Chrysocolla, Galena, Goethite, Malachite, Prehnite, Quartz gemstone (various), Stilpnomelane and Tourmaline.
TRENTON, N 9 mi. on Hwy. 29 in Delaware R. at Washington Crossing State Park—black jasper.

MIDDLESEX COUNTY
GRIGGTOWN, area mines—Chalcopyrite.
MILLTOWN, MATAWAN, PERTH, AMBOY, WOODBRIDGE, area gravel pits—varied assortment of gem minerals.
NEW BRUNSWICK: area mines—Chalcopyrite and Chalcocite; ② East Brunswick, area gravel pits—gem minerals.
SAYREVILLE: ① area sand and gravel pits—Marcasite (balls and rosettes), Pyrite crystals and petrified wood; ② pits between town and Middletown—Marcasite (nodules) and Pyrite.
MONMOUTH COUNTY

LONG BRANCH, area ocean beach gravels—Quartz crystals.
MANASQUAN, S, along the ocean beaches through Ocean, Atlantic, and Cape May counties (approx. 100 mi.), in beach gravels and cliff talus debris—Cape May Diamonds, water polished clear and opaque quartz crystals, fossils and petrified wood.
NEPTUNE CITY, in marl along Shark R.—Amber.

MORRIS COUNTY

DOVER: ① area, as vein fillings in Magnetite—isopyre opal; ② nearby: (a) at Ferromonte, large deposit—Apatite (mixed with Magnetite); (b) Golden Corner Mine, as large crystals—Apatite (in Pyrite); ③ the Dell and Fichtor mines—Menaccanite (Ilmenite); ④ on Mine Hill, the Alan Wood Iron Mine (near Summit)—aurentescent Feldspar (Sunstone, bright spangles); ⑤ W 2 mi., the Scrub Oaks Iron Mine (in the Dover magnetite district and the last active iron mine in NJ): (a) on dumps—Bornite, Calcite (fluorescent), Chalcopyrite, Chlorite, Garnet, Hematite, Magnetite, Pyrite (abundant crystals), Quartz crystals (smoky, bluish rutilated), Spinel, sunstone (with copper-colored inclusions), rare-earth minerals (Thorium, Uranium) and Tremolite; (b) pegmatite exposures at the mine—Allanite, Apatite, Calcite, Chevkinite, Doverite, Hornblende, Monazite, Muscovite, Pumpellyite, Rutile, Sphene, Xenotime and Zircon.
HIBERNIA, area mines—Apatite, Pyrite and Pyrrhotite.
HOPATCONG, area gravels and surfaces at Nolands Point, around lake Hopatcong, and Ironia—Garnets.
HURDTOWN, old regional mines, Old Copperas, Hibernia, Hurdtown—Apatite (as yellow crystals in Pyrrhotite, especially at Hurdtown Mine).
JEFFERSON and Mt. Olive twps., area quarries—gem crystals.
KENVILLE, PEQUANNOCK, RIVERDALE, STANHOPE, WHIPPANY, all regional quarries and pits—Prehnite, etc.
LAKE VALHALLA, W on Turkey Mt., old quarries—Diopside, marble and serpentine.
MILLINGTON, area quarries near the Passaic R. off Rte. 512—Prehnite, etc.
MONTVILLE: ① N, on W shore of Lake Valhalla (US 202 W to sign for Valhalla Lake, turn up hill to a Left turn between stone gate posts marked Valhalla Lake, continue on hardtop rd. N and around lake for a mi. to a brook, park and walk up a wagon rd. parallel with brook to a fork, take Left-hand trail for 130 paces, faint trail leads to Left ¼ mi. to top of the Mt. and to a large white boulder; the dump is a few feet beyond), an abandoned quarry—gem serpentine (yellow and green translucent), Diopside (fluorescent); ② other area quarries and pits—various gems and minerals.

MT. FREEDOM, area pits—Allanite, Amphiboles (green and gray crystals), Augite, Chalcopyrite, Chondrodite, Coccolite (pyroxene, as blue, green and white crystals).

MT. HOPE, area quarries—Apatite, Pyrite and Pyrrhotite, etc.

MT. PLEASANT, area quarries—Apatite, Pyrite and Pyrrhotite.

STERLING, in gravels of Sterling Brook—gem carnelian. (The nodules are best found by digging 2 ft. under the silt layer overlying bedrock gravels.)

TAYLORVILLE, the Rockaway Valley area mines—Magnetite.

WARREN (Twp.), Bedrock gravels of Carnelian Brook—agate (banded, moss), chalcedony (red, green, red-orange, botryoidal), jasper, petrified wood, Quartz crystals (Amethyst, cat’s eye citrine, clear and smoky), sard and sardonyx.

OCEAN & ATLANTIC COUNTIES

AREA, entire stretch of the Atlantic Ocean beaches from the NE Co. border to Cape May Co., in beach gravels, and weathering out of the cliffs—Cape May Diamonds (Quartz).

PASSAIC COUNTY

CLIFTON: ① W 3 mi. on US 46, the Great Notch Quarry; ② the Frascinco Bros. Quarry; ③ the two quarries of Houdaille Industries adjoining the Great Notch RR Sta.; and ④ a quarry immediately SW of the Station—agate, Albite, Amethyst, Apophyllite, Calcite (snowy crystals sprinkled with dark green Babingtonite), Chrysocolla (some not gemmy), Datolite, Epidote, Natrolite, Opal (Cachalong), Pectolite, Prehnite (green crystals and globular crusts in various quarries), Quartz crystals, Scolecite, Selenite, Thaumasite and Thomsonite.

HALEDON, NORTH HALEDON, area quarries—agate, Datolite crystals, dendritic Pyrolusite and Goethite.

HAWTHORNE, the Braen’s Quarry—agate (a prime locality for this gemstone), Datolite crystals, dendritic Pyrolusite and Goethite.

LITTLE FALLS, the Great Notch Corp. quarry—agate, Albite, Amethyst, Apophyllite, Calcite (snowy crystals sprinkled with dark green Babingtonite), Chrysocolla (some not gemmy), Datolite, Epidote, Natrolite, Opal (Cachalong), Pectolite, Prehnite (green crystals and globular crusts in various quarries), Quartz crystals, Scolecite, Selenite, Thaumasite and Thomsonite.

MONTCLAIR, the Upper Montclair Quarry (on the Co. line), on Edgecliff Rd.—agate (banded), Amethyst, Analcime, Babingtonite, Chabazite, chalcedony, Chrysocolla, Datolite, Goethite, Laumontite, Opal, Prehnite, Scolecite, Selenite and Stibnite.

PATERSON: ① area quarries, especially the gem renowned Prospect Park Quarry (at the end of Planten Ave.)—agate (banded), Amethyst, Anorthite (fluorescent), Apophyllite, Barite, Babingtonite, Byssolite, Calcite, Chabazite (fluorescent), chalcedony, Covellite, Cuprite, Datolite (fluorescent), Dolomite crystals, Galena, Goethite, Greenockite, Hematite, Heulandite (fluorescent), Leonhardite (fluorescent), Mesolite (on calcite), Opal (Cachalong), Prehnite, Quartz (pseudomorphs after
Glauberite, crystals to 3" long; other quartz family gemstones, Silver (native wire), Stevensite (fluorescent) and Thaumasite (tabular crystals, fluorescent); W 9 mi. on US 202, quarry at Pompton Lakes—agate (banded), Amethyst, Barite, Babingtonite, Byssolite, Calcite, Chabazite (fluorescent), chalcedony, Covellite, Cuprite, Datolite (fluorescent), Dolomite crystals, Fluorapophyllite (fluorescent), Galena, Goethite, Greenockite, Hematite, Leonhardite (fluorescent), Mesolite (on calcite), Opal (Cachalong), Prehnite, Quartz (pseudomorphs after Glauberite, crystals to 3" long; other quartz family gemstones), Silver (native wire), Stevensite (fluorescent) and Thaumasite (tabular crystals, fluorescent); SE, to Bergen Hill extension from Hudson Co., in all RR tunnels and cuts as fine, brilliant crystals—Analcime (fluorescent) with Datolite (fluorescent), Natrolite (fluorescent), and Stibnite.

RINGWOOD: gravel quarries on Rte. 511 near the Ringwood State park—many gemstones; the Ringwood Iron Mine—Calcite, Chalcopryrite, Crocidolite, Corundum, Epidote, Garnet, Hornblende, Limonite, Orthoclase, Pyrite, serpentine and Zircon; the Hope Mine—Garnet, Magnetite.

WAYNE, area gravel quarries along the Pompton R. (on the Morris Co. line)—wide variety of gemstones.

WEST PATERNON, in the New Street quarries: area quarries on both sides of New Street; the New Street Quarry itself; the Upper New Street Quarry; and Burger’s Quarry—agate (banded), Amethyst, Apophyllite, Barite, Babingtonite, Byssolite, Calcite, chalcedony, Covellite, Cuprite, Datolite, Dolomite crystals, Galena, Goethite, Greenockite, Hematite, Mesolite (on calcite), Opal (Cachalong), Prehnite (exceptional green), Quartz (pseudomorphs after Glauberite, crystals to 3" long; other quartz family gemstones), Silver (native wire), Stevensite, Thaumasite and Thomsonite.

SALEM COUNTY

AREA, all Co. gravel and sand pits and stream sands—Amber.

HARRISONVILLE, regional sand pits and river sands—Amber.

SOMERSET COUNTY

BARNARDSVILLE, the Somerset Crushed Stone Co. Quarry—agate, Quartz geodes, etc.

BELLE MEAD, the 3M Quarry—quartz family minerals.

BOUND BROOK, area quarries—agate, Prehnite and quartz gemstones.

CHIMNEY ROCK, area quarries—Bornite, Calcite (fluorescent), Chalcocite, native Copper and Silver, Cuprite, Malachite and Tourmaline.

KINGSTON, the Kingston Trap Rock Co. Quarry—agate, Prehnite and quartz gemstones.

MARTINSVILLE, the Dock Watch Quarry Co. quarry agate, Quartz family gemstones, etc.

PYSON STATION, area pits and quarries—Quartz geodes.

SOMERVILLE: area quarries—agate, Albite, Datolite, native Copper and Silver, Quartz crystals and serpentine; N 3 mi., old copper mine on First Watchung Mt.—gem Turquoise and Copper minerals; the American Copper Mine—Chalcocite, Chalcopryrite, Malachite and native Copper.
New Jersey

WATCHUNG, area quarries—carnelian, Citrine, jasper and sardonyx.

SUSSEX COUNTY

ANDOVER: ① area quarries—amphibole asbestos (blue) and Aragonite; ② the Old Iron Mine—Garnet, Hematite, Limonite and Magnetite; ③ the Sphur Hill Mine—Willemite (fluorescent).

BEEMERVILLE, area outcrops of dark nepheline syenite—Sodalite (fluorescent).

EDISON, the Ogden Mine Group mines—Bustamite, Calcite, Cleiophane (colorless Sphalerite), Cyprine, Franklinite, Friedelite (translucent, dark carnelian colored, resembles chalcedony, found as stringers in calcite), Hodgkinsonite, Magnetite, Molybdenite, Rhodonite, Willemite and Zincite.

FRANKLIN: ① area mines (See Franklin-Ogdensburg-Sterling Hill district for mineral listing); ② turn off Rte 23 at corner of Franklin Ave. to the Buckwheat Mine dumps on the Wallkill R. (fee)—approximately 200 gems and minerals (some 30 fluorescent), including Friedelite, Cleiophane, Hodgkinsonite, Willemite (rarest of the fine area gems as transparent orange and yellow crystals) and Zincite, etc.; ③ the Taylor Mine dumps, as purple octahedral and crystal masses in limestone—Fluorite; ④ N, the old Parker Mine dumps (now built over but investigation of area openings, excavations sometimes possible.) many fluorescent minerals—Axinite, Apatite, Azurite, calcium Larsenite, Cerussite, Corundum, Franklinite, Galena, Hardystonite, Hydrozincite, Malachite, Margarosanite, Pectolite, Smithsonite and Wollastonite; ⑥ numerous mine dumps along Cork Hill and Taylor rds., and ⑤ the Noble and Passaic pits (mammoth size, opened in the 1879's)—Apatite, Azurite, Cerussite, Corundum, Franklinite, Galena and fluorescent minerals; ⑦ such regional mines as: (a) the Ogden Mine, as rose colored crystals—Fluorite; (b) the Franklin and Williams Mine—Apatite; (c) Stanhope and Ahles mines—Magnetite and Molybdenite; (d) the Trotter shaft—Amazonite, Garnets (Almandite, Spessartite, Melanite); (e) the Williams Mine, abundant—Zircons (in Magnetite); ⑧ S on Rte. 517 to Ogdensburg: (a) all regional limestone exposures, in contact zone with the enclosing country rock, facet quality—Corundum; (b) various mines and dumps of the new Jersey Zinc Co.—Bustamite, Calcite, Cleiophane (colorless Sphalerite), Cyprine, Franklinite, Friedelite (translucent, dark carnelian colored,
resembles chalcedony, found as stringers in calcite), **Hodgkinsonite, Magnetite, Molybdenite, Rhodonite** (zinc), **Willemite and Zinicate**.

THE FRANKLIN-OGDENSBURG-STERLING HILL district produces both gem quality minerals and material not useful to the lapidary. Ⓔ area mines : (a) primary ore minerals—**Franklinite, Tephrone**, **Willemite** (bright green fluorescent), **Zinicate** (fluorescent); (b) Skarn minerals—yellow **Andradite** garnet, **Biottite, Bustamite** (pink fluorescent), **Calcite** (red fluorescent), **Cummingtonite, Diopside** (shy blue fluorescent), **Franklinite, Fowlerite, Gahnite, Glaucochroite, Esperite** (bright yellow fluorescent), **Hastingsite, Hyalophane, Jeffersonite, Magnetite, Manganosite, Pargasite** (weak yellow fluorescent), **Roeperrite, Schefferite, Tephrone, Vesuvianite**,** Willemite** (bright green fluorescent), **Wollastonite** (orange fluorescent), **Xonolithe** (weak white fluorescent), **Zinc Schefferite, Zinicate**; (c) pegmatite contact minerals—**Apatite, Arsenopyrite, Barite** (yellow fluorescent), **Barylite** (violet-blue fluorescent), **Barysite, Beryl, Beryllium Vesuvianite, Bornite, Cahnite, Schefferite, Zincite** (weak white fluorescent), **Calcium Larsenite, Chalcocite, Chalcopyryte, Chloanthite, Clinohedrite** (orange fluorescent), **Copper, Corundum Cuspidine, Datolite, Fluorite** (blue fluorescent), **Franklinite, Galena, Glaucochroite, Guerinite** (weak white fluorescent), **Hodgkinsonite** (red fluorescent), **Johnbaumite** (dark orange fluorescent), **Kentrolite, Larsenite, Lead, Loellingite, Leucophoenite, Manganaxinite** (red fluorescent), **Margarite** (weak blue-white fluorescent), **Margarosanite** (bright sky blue fluorescent), **Meta-ankoleite** (green fluorescent), **Metalodrive** (green fluorescent), **Minehillsite** (violet-blue fluorescent), **Nasonite** (weak yellow fluorescent), **Nicolite, Peptolite** (orange fluorescent), **Phlogopite** (yellow fluorescent), **Picropharmacolite** (weak white fluorescent), **Prehnite, Pyrite, Roeblingite** (red-orange fluorescent), **Silver, Sphalerite** (fluorescent), **Sussexite, Svbate** (peach fluorescent), **Tephrone, Tilestone** (pale yellow fluorescent), **Turneaureite** (orange fluorescent), **Uvite** (yellow fluorescent), **Willemite** (bright green fluorescent), **Zircon** (bright orange-yellow fluorescent); (d) Hydrothermal vein minerals—**Aragonite** (yellowish white fluorescent), **Albite, Allactite, Anhydrite, Apophyllite, Arsenopyrite, Arsenosiderite, Barite** (yellow fluorescent), **Bementite, Calciothomsonite, Calcite** (red fluorescent), **Celestite** (white fluorescent), **Chalcophanite, Charlesite** (weak blue fluorescent), **Chlorite, Chlorophoenicite, Crocidolite, Dolomite, Dypingite** (lt. blue fluorescent), **Fluorobite, Fowlerite, Friedelite, Gageite, Galena, Ganophyllite, Goethite, Greenockite, Hedyphane** (weak yellow fluorescent), **Hematite, Hetaerolite, Heulandite, Hodgkinsonite** (weak red fluorescent), **Holdenite, Leucophoenicite, Loseyite, Manganbrucite, Manganite, Marcasite, Mcgovernite, Millerite, Mooreite, Powellite** (yellow fluorescent), **Pyrite, Pyrochlore, Quartz, Rhodochrosite, Schallerite, Scheelite** (yellow fluorescent), **Siderite, Smithsonite** (white fluorescent), **Sphalerite** (fluorescent), **Stilbite, Sussexite, Talc, Tennantite, Tremolite** (bluish or yellowish white fluorescent), **Willemite** (bright green fluorescent), **Zinicate**; (e) Surface oxidation minerals—**Anglesite, Aurichalcite, Azurite, Calamine, Cerussite** (yellow fluorescent), **Chalcophanite, Cuprite, Desalesite, Desclowitze, Gypsum, Halloysite, Hematite, Hemimorphite** (uneven green fluorescent), **Hydrohetaerolite, Hydrozincite** (sky blue.
A Location Guide for Rock Hounds in the United States

Paragenetic Table of the Minerals of the Franklin Area (USGS PP 180)

<table>
<thead>
<tr>
<th>PRIMARY ORE MINERALS</th>
<th>PEGMATITE CONTACT MINERALS</th>
<th>HYDROTHERMAL VEIN MINERALS</th>
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fluorescent), Limonite, Malachite, Neotocite, Psilomelane, Quartz, Smithsonite (white fluorescent), Uranospinite, Znucalite (green fluorescent).

FRANKLIN FURNACE, area zinc mines—many minerals of which Fluorite, Franklineite, Magnetite, Tephroite, Willemite and Zincite are the most abundant.

MCAFEE, SIMPSON, CEDAR HILL, area mines—Hematite.

MINE HILL, area quarries, mines—Axinite.

NEWTON: ① area limestone quarries—Corundum (blue, pink) and Ruby; ② S 4 mi., the Andover Group mines—Magnetite.

OGDENSBURG, across from Wallkill River Valley at Sterling Hill—approximately 200 gems and minerals (some 30 fluorescent), including Amphibole, Apatite, Augite (pyroxene), Calamine, (Hemimorphite), Chalcophanite, Chalcopyrite, Cleiophane, Fowlerite (Rhodonite), Franklineite, (crystals to 8” on a side), Friedelite, Gahnite, Hodgkinsonite, Tephroite, Willemite (as transparent orange and yellow crystals) and Zincite, etc.

ROSEVILLE, area mines—blue amphibole asbestos.

SPARTA: ① area quarries (in limestone)—Chondrodite, Corundum (blue, pink) and Ruby, Diopside, Edenite, Magnesio-hornblende, Meionite, Microcline, Norbergite, Pargasite, Phlogopite, Tremolite (all fluorescent); ② SE 3½ mi., the Ford Mine—Magnetite; ③ Limecrest Quarry—Albite, Corundum (both fluorescent).

SPARTA JUCTION, area limestone quarries—Actinolite, Barite, Biotite, Fluorite, Pyrite, Quartz crystals, Rhodonite, Rutile, Sphene, Spinel and Tourmaline.

UNION COUNTY

MOUNTAINSIDE, area quarries in the Watchung Mt. traprock the underlies the region E and NE of the First and Second Watchung Mts.—agate (banded, neutral, pastel), Albite, Apophyllite (green crystals), Bornite, chalcedony (vari-colored), Chrysocolla (only specimen material), Datolite, Galena, Hematite, Opal (common, fire), Orthoclase (pink crystals), Pumylyte (dark green crusts).

PLAINFIELD: ① area quarries—agate, Albite, Apophyllite, Bornite, chalcedony, Chrysocolla, Datolite, Galena, Hematite, Opal, Orthoclase, Pumylyte; ② the Wilson’s Quarry—Albite (pink), Datolite, Malachite, native Silver and Zeolites (Analcime, Gmelinite, Natrolite).

SCOTCH PLAINS, area quarries—agate, Albite, Apophyllite, Bornite, chalcedony, Chrysocolla, Datolite, Galena, Hematite, Opal, Orthoclase, Pumylyte.

SUMMIT, area traprock quarries—agate, Albite, Apophyllite, Bornite, chalcedony, Chrysocolla, Datolite, Galena, Hematite, Opal, Orthoclase, Pectolite and Pumylyte.

WARREN COUNTY

AREA: ① the Cummings Iron Mine—Garnet, Hematite and Magnetite; ② the Taylor Mine—Algerite (altered scapolite).

HARMONY: ① the Franklin and Marble Hill Quarry—Actinolite; ② the Marble Mt. Mine—Hematite.

OXFORD, the Oxford Furnace Mine—Magnetite.

PHILLIPSBURG, area quarries—serpentine and soapstone.
NEW MEXICO

Often called the land of Enchantment, New Mexico straddles the Continental Divide and has a mean elevation of 5,500’ above sea level. The state, which is roughly bisected by the Rio Grande, exposes an array of Paleozoic rock formations in its usually isolated and remote semiarid mountains and plateaus. Topographically, New Mexico is noted for its spacious grasslands, wide sweeping deserts, broken mesas, volcanic necks, and densely pine forested mountains marked by high, barren peaks.
New Mexico

Not only does New Mexico contain a very considerable wealth in **Copper, Gold, Iron, Lead, Manganese, Molybdenum** (one of the largest Molybdenum mines in America) and **Zinc**, but empty reaches are especially enchanting to the gem and mineral collector because vast areas are public domain and therefore open to collecting. Much of the grazing land is leased to ranchers and farmers, and there are many mining claims. Courtesy requires permission to collect, almost always hospitably given.

The US Geological Survey reports that from 1848 through 1965 New Mexico produced 2,267,000 ounces of **Gold**. Also, many rich **Silver** and **Lead-Silver** discoveries were made in rapid succession in the 1870’s. The major Gold districts are Elizabethtown-Baldy, Mogollon and Lordsburg.

Both native **Silver** and **Turquoise** were mined rather extensively by pre-historic Indians, and many Turquoise deposits are active today. Potash is mined from one of the world’s largest deposits, but the enormous coal beds remain almost untouched because of the long hauling distance to any substantial manufacturing center. Few roads penetrate the back-country, and those that do are mostly rough dirt roads used by stock ranchers, miners and Indians. Therefore caution is urged for all adventurous rock collectors bent on exploring the hinterlands. They are blistering hot in summer and bitterly cold in winter and always deficient in water.

**BERNALILLO COUNTY**

AREA, W SIDE OF Co. but E of the Continental Divide, the Rio Puerco Valley, all area gravels, surfaces, draws, washes, etc.—**agate, chalcedony, jasper, opalized** and **agatized wood**.

ALBUQUERQUE:  ① WNW, on N side of the new freeway, in area sand dunes—**agatized wood**;  ② W 11 mi. on US 66 to Tepee Service Sta., turn S ½ mi. on dirt rd. (making only right turns for ¼ mi.): (a) in banks of arroyos leading toward the river and on all adjacent ridges—**agatized wood, agate, jasper**; (b) along E side of range of low hills all the way to the Isleta Indian Res., in sandy arroyos and erosional breaks in the grazing lands—**agatized wood**.

ISLETA PUEBLO (on E side of the Rio Grange across from Isleta), E into the Isleta Indian Res., all area surfaces, draws, washes, etc.—**opal, opalized** and **agatized wood**.

TIJERAS, the Tijeras Canyon in the Sandia Mts., area mines—**Fluorite**.

**CATRON COUNTY**

AREA, SE corner of Co., the Taylor Cr. Dist. (extending into Sierra Co.), area mines and deposits—**Fluorite**, colorless **Topaz**. (see following page)

APACHE CREEK, NW 5 mi. on Rte. 32 to national Forest boundary, park on N side, on left across Apache Cr., N to S the Lee Russell and Kerr canyons, hike 4 mi. up Lee Russell (take drinking water):  ① along way, area surfaces—**agate**;  ② into Turkey Flat and Elk Horn Park—gem **agate**.
HORSE SPRINGS, S, in the widespread Plains of San Augustine, in exposures of volcanic tuffs—moss agate, jasper.

LUNA: ① W 2 mi. on US 180, surface of ridge N of hwy.—Amethyst crystal geodes; ② W 4.3 mi. on US 180 to the San Francisco R. bridge, area N side of hwy.—gem banded agate; ③ S on US 180 to W trending logging rd. into the San Francisco Mts., area along both sides of rd.—agate; ④ SE 10 mi. on US 180, on N side of hwy.—agate, Amethyst, Quartz crystal (clusters); ⑤ many other regional localities—agate, chalcedony, jasper, Quartz crystals, etc.

MOGOLLON (Dist.), area mines and surfaces—agate, chalcedony, jasper, Fluorite.

QUEMADO: ① area (many localities) —agate, chalcedony, jasper, agatized wood; ② N about 12 mi. on Rte. 117 to E trending dirt side rd., then E on this rd. ¼ mi., broad area of diggings—agatized wood; ③ N to end of pavement, turn NE on old rd. to Horse Camp, area draws, washes, surfaces, etc.—agatized wood.

CHAVES COUNTY

LAKEARTHUR, E 16 mi., along Eddy Co. line, area—Aragonite crystals.

ROSWELL, E to the Pecos R., entire area on both sides of the river: ① 80 mi. N to Fort Sumner in De Baca Co. , and ② S 70 mi. to Carlsbad in Eddy Co., in river bed gravels and regional benchland gravels—Quartz crystals (clear black, clear red, red, white, etc.)

COLFAX COUNTY

AREA, Moreno and Ute creeks—Chalcopryite, Gold, Pyrite, Pyrrhotite, etc.

EAGLE NEST, take US 64 to Mexican Gulch, which is first side canyon from Palisades and on right side of Cimarron Canyon—Agate, Apatite.

POINT OF ROCKS, a number of rare minerals—Searlesite, Villiaumite (both fluorescent).

RATON, the Sugarite Mine in the area coal fields—Amber.
DE BACA COUNTY

FORT SUMNER: ① S, along both sides of the Pecos R. all the way to Carlsbad in Eddy Co. (about 150 mi.), in river gravels and benchland surfaces—Pecos diamonds (Quartz crystals - clear, rose, red, smoky); ② W about 28 mi. along US 60 (about halfway to Vaugh in Guadalupe Co.), in bench terrace, and gravel beds of all tributaries to the Pecos R. —Pecos diamonds.
Dona Ana Co. Area Barite Prospects

DONA ANA COUNTY

AREA: ① many Co. deposits and Fluorspar mines (check topographic maps) —Fluorite; ② Black Mt., placer sands of Texas Cr.—Gold.

HATCH, NE on dirt rd. into the Caballo Mts.: ① regional mt. Breaks, draws, washes, etc., especially along the Sierra Co. line—agate, chalcedony, jasp-agate, jasper. Quartz crystals; ② many area old mines (dumps good collecting localities) —Goethite, Fluorite, Quartz crystals; ③ S of cattle pens (passed en route to mining area), area washes, loose in soil—Quartz crystals.

KILBOURNE HOLE (extinct volcano), best reached W on Rte. 273 out of El Paso, TX, WNW on turnoff from Rte. 273 (1 mi. N of jct. With Rte. 260), cross RR after 5 mi. to Strauss, then NW 5 mi. to Vevay, turn W about 13 mi. to N - S crossrd., then N to Hunts Hole and the volcano (about 5 mi., all very sandy desert, so be prepared): ① in sands around rim of volcano, and ② in crater bottom, weathered out of basalts—Augite, Peridot crystals (gemmy, to 1” dia.).

LAS CRUCES: ① S, along both sides of US 80, and ② W 5 mi. on side rd. to Mesilla, all area—obsidian.

ORGAN (Dist.): ① area mines—Brochantite, Cerargyrite, Cerussite, Chalcopyrite, Molybdenite; ② the Quicksilver Mine, on dumps—Chrysocolla, onyx, rock crystal (with Chlorite inclusions).

EDDY COUNTY

ARTESIA, E on US 82, cross Pecos R., then E ½ mi., turn S on ranch rd. to range of low hills near the river, all area draws, washes, surfaces, etc.—Pecos diamonds.

WHITE CITY (entrance to Carlsbad Caverns National Park), area limestones—onyx (outside park boundaries).
New Mexico

GRANT COUNTY

AREA:  ① Bullards Peak dist., area mines—Pyrargyrite;  ② many regional mines (Black Hawk, Chloride Flat, Kimball, Lone Mt., Steepplerock, Pyramid, etc.—Argentite.

CENTRAL (Dist.) 40% of all fluorspar mined in the state comes from this county:  ① Burro Mt.:  (a) area mines—Azurite, Chalcosite, Chalcopyrite, Cerargyrite, Chrysocolla, Fluorite, Galena, Malachite, Pyrite, onyx;  (b) Cap Rock Mt., and  (c) Mimbres Mt., W slopes—agate, chalcedony, chert, Chrysocolla, jasp-agate, jasper, Fluorite, rock crystal;  ② Sylvanite Dist., the Wood Mine—Pyrolusite (with Hematite and Limonite) coatings on Quartz.


FIERRO-HANOVER, JUNIPER, MEERSCHAUM dists., area surfaces—chert (various colors).

FORT BAYARD, area surfaces—opal (common, fire).

GEORGETOWN, the Commercial Mine—Argentite, Desclozite.

GRANITE GAP, the Hanover Mines—Argentite, Cerussite, Cuprite, Sphalerite, etc.

HACHITA (Dist.):  ① area mines—Cerussite, Silver, Stilbite, Wolframite;  ② the American Mine—Cerussite, Silver, Stilbite, Wolframite;  ③ W 2 blocks, then S on ranch rd. 1.6 mi., passing cemetery to an E trending dirt rd. (dim, very rough), then S about 4½ mi. to the old Apache Mine, dump No. 2—Calcite (stained green), Chrysocolla, Malachite, Turquoise;  ④ SW on Rte. 81 into Hidalgo Co., the Little Hachita Mts., many area mines and dumps—moonstone.

MULE CREEK (far NW corner of Co.):  ① area surfaces along the AR state boundary fence, high gem quality—Apache tears;  ② S, in the old Carlisle mining dist.—Amethyst.

PINOS ALTOS, E, into the Black Mts.:  ① the Great Republic Mine, and  ② all W side slopes, draws, etc.—Albite, Amethyst, Biotite, Sanidine, Sphene;  ③ N 28 mi. on Rte. 15:  (a) Sapillo Cr., area gravels, and  (b) Alum Peak, area surfaces—banded agate geodes, carnelian.

REDROCK, NE 6 mi., in Ricolite Gulch, area—ricolite (gemmy banded serpentine).

SANTA RITE (Dist.), area mine dumps—Copper minerals, Cuprite, Molybdenite.

SILVER CITY:  ① Gold Hill, large mine dumps—Argentite, Pyrargyrite, native Silver, Sphalerite;  ② SW 10 mi. (1½ mi. N of Tyrone):  (a) the Azure Mine (especially the Elizabeth Pocket);  (b) in all regional pre-historic Indian excavations;  (c) SE ½ mi., the Parker Mine; and  (d) many other area mine dumps—Halloysite, Quartz crystals, Turquoise;  ③ W 12 mi., and 24 mi. N, area pits and prospects—meerschaum;  ④ N 15 mi., on both sides of the Gila R., large deposit—alum.

SYLVANIA (Dist.), the Golden Eagle and Hand car mines—Tetradymite (containing Gold).
A Location Guide for Rock Hounds in the United States

Fluorspar mines in Grant County

1. Aguilar (Rock Canyon) prospect
2. American prospect
3. Ash Spring Canyon prospect
4. Big Spring prospect
5. Big Trail prospect
6. Block Willow prospect
7. Blue Berry prospect
8. Bluebird mine
9. Blue Eagle prospect
10. Blue Star prospect
11. Burro Chief mine
12. California Gulch
13. Cedar Hill prospect
14. Clover Leaf (Blockmark) prospect
15. Clum mine
16. Continental (Valley Spar) prospect
17. Cottonwood Canyon prospect
18. Double Strike prospect
19. Fairview prospect
20. Foster mine
21. Grandview prospect
22. Great Eagle mine
23. Green Spar mine
24. Gold Spar prospect
25. Harper prospect
26. Mines prospect
27. Hope prospect
28. Hummingbird mine
29. Jackpot prospect
30. J.A.P. Ranch prospect
31. Knight Peak prospect
32. Last Chance prospect
33. Leto Lynn prospect
34. Linda Vista prospects
35. Long Lost Brother prospect
36. Mohawk mine
37. Moneymaker prospect
38. Powell prospect
39. Purple Heart mine
40. Rainbow prospect
41. Reed prospect
42. San Cristobal prospect
43. Seventy-four Mountain prospect
44. Shrine mine
45. Spar Hill prospect
46. Thanksgiving prospect
47. Unnamed prospect
48. Victory prospect
49. Watson Mountain prospect
50. White Eagle mine
51. Windmill prospect
GUADALUPE COUNTY
SANTA ROSA, are coal mines, on dumps—jet.

HIDALGO COUNTY

AREA, NE corner of Co. (best reached from Hachita in Grant Co.): 1) Playas Dry lake, and 2) Hatchet Mt., area surfaces—agate, moss opal; 3) area fluorite mines and prospect—Fluorite. (see map of Fluorite mines and prospects to left).

LORDSBURG: 1) area mines (Pinos Altos, Santa Rita, Steeple Rock, Sylvanite, etc.)—Bornite, Cerussite, Chalcopyrite, Gold; 2) S 2 mi. to rd. fork: (a) W fork to ghost town of Shakespeare (the town too mean to live); (b) SE, around cemetery about 1 mi., turn W to base of chain of low mts., many area pits and dumps—Azurite, Bornite, Galena, Linarite, etc.; (c) S through Pyramid Mts., some 85 old mines (the Atwood, Manner, Silver & Gold, etc.)—Copper, Gold and Silver minerals; 3) Pyramid and Peloncillo Mts. (SW corner of Co.), area—agate, chalcedony, jasp-agate, jasper; 4) N on US 70 to jct. With Rte. 464, then N on Rte. 464 for 21 mi. to Redrock in Grant Co., E from post office to first rd. N, cross the Gila R. 3.3 mi. (keep right at all forks) to Ricolite Canyon—ricolite (gemmy banded serpentine).

LINCOLN COUNTY

ANCHOR area draws, washes, land surfaces—jasper.

HIDALGO (Dist.), area mines and prospects—Fluorite.

JICARILLA, NOGAL, WHITE OAKS: 1) area mines—Gold, Huebnerite; 2) area deposits—onyx.

LUNA COUNTY

AREA, the Jackson Tunnel—Smithsonite (fluorescent).

COLUMBUS: 1) W 4 mi., area—onyx; 2) NW 12 mi., the Tres Hermanas Mts., area mines—Dumortierite, Hydrozincite, Pyrolusite, Quartz crystals, Smithsonite, Willemite (fluorescent).
DEMING: 1 area: (a) all draws, washes, surfaces for miles around—agate, chalcedony, chert, jasper, etc.; (b) regional fluor spar mines—Calcite (fluorescent),
Fluorite; ② NE 5.1 mi. on Rte 26 to N trending ranch rd., then 5 to 6 mi. on dirt rd. toward Masacre Peak (elev. 5,600'), center of rich rock hunting area about 15 by 25 mi., scattered over entire area but excluding some hills—carnelian, deep red jasper; ③ S 8 mi. on Rte. 11, then W and S by turns for 16 mi. to famed Big Diggins, the Westmoreland claims (open to gemstone collectors on a fee basis, as deposits are bulldozed out commercially): (a) the Big Diggins—agate (high grade, vein type, bordered with sagenite, clear with red and black banding, to 50 lbs. Chunks); (b) several other nearby claims—agate; ④ E 7 mi. on I-10, the S 5 mi. to noted Spanish Stirrup Guest Ranch: (a) all surrounding ranch lands—agate, geodes crystal lines; (b) low saddle of the Little Florida Mts.—agate (sagenitic), blue chalcedony, jasper. The nearby Rockhound State Park is equipped with picnic and camping facilities geared to the gem and mineral collector. ⑤ SW 27 mi., area ranch lands open for a fee—agate; ⑥ SW 38 mi., toward Hermanas (20 mi. S from Big Diggins), the W via fence gate and crooked rough rd., several well known area nodule beds—agate nodules, agate geodes (containing brown to clear Quartz crystals), Amethyst, opal.

FREMONT, area mines—Azurite, Bismuth, Chalcopyrite, Galena, Malchite.
NUTT, SW to Cooks peak (elev. 8,408'): ① area mines—Anglesite, Cerussite, Galena, Plumbojarosite; ② area on and surrounding the peak embracing ≈ 20 sq. mi., mostly flats and low hills covered with gemstone float—agate, carnelian, chalcedony, jasp-agate, jasper, Fluorite, etc.
VICTORIA (Dist.), area mines—Anglesite, Cerussite, Galena, Plumbojarosite.

McKINLEY COUNTY
AREA, E slopes of Furry Mt.—Garnets.
BUELL PARK, (garnet area extending into three states, Garnet Ridge lies close to the UT border and a few mi. W of Mexican Water, Apache Co., AZ), 10 mi. W of Mexican Water, in San Juan Co., UT, the Moses Rock field—Pyrope garnet, Peridot.

McGAFFEY, E, in the Zuni Mts. (extending SE into Valencia Co.), area surfaces—agate, chalcedony, jasper, petrified wood.
SAN MATEO, NE, at Willow Springs, area—agate, jasper, petrified wood.
THOREAU, SE 12 mi.: ① area coal mines—Amber (Wheelerite); ② in coal seams S of Devil’s Pass and regional outcrops—Amber.
OTERO COUNTY

OROGRANDE, N ½ mi. on US 54, turn W on ranch rd. around the Jarila Mts.: ① low range of hills immediately W of the turn-off from US 54 (SW of the Jarila Mts.), area—Garnets; ② N to the Jarila mining dist., park car at old mine dumps and prospect to W and S: (a) area mines—Chalcopyrite, Chalcocite, Chrysocolla, Galena, Gypsum, Jarosite, Limonite, Malachite, Turquoise; (b) contact zone between exposed area beds of limestone and Quartz monzonite—Orthoclase feldspar crystals (often rose colored, to 2” long, twinning).

TULAROSA, S 1½ mi. to Bent, area—Mexican onyx.

RIO ARRIBA COUNTY

AREA, outcrops of the Globe pegmatite—Fluorite (fluorescent).

ABIQUIU (Dist.): ① area mines—Copper minerals; ② area basalt outcrops—Labradorite; ③ E on US 84 to jct. With Rte. 96, turn N 3.8 mi. to Carson national Forest marker, turn W opposite the marker to gate in fence with arroyo on S and steep climb to ancient pueblo ruins on mesa top, many mines in the arroyo—Fluorite.

COYOTE, area mines—Azurite, Malachite.

DIXON, E 6½ mi. (into Taos Co.): ① N to old Calcite Mine—Calcite; ② S 0.6 mi. to rd. jct., then W and S to the Harding Mine—blue Apatite (fluorescent), Bitylite (fluorescent), Eucryptite (fluorescent), purple Lepidolite, rose Muscovite, Quartz crystals, Spodumene (fluorescent), green Tourmaline.

GHOST RANCH MUSEUM (and recreation park, on US 84 on N side of a lake): ① area—agate; ② W 2.1 mi. on Rte. 96 (S side of lake), area of a low saddle in the hills, abundant—agate; ③ W 6 mi. from US 84 toward Youngsville on Rte. 96, to schoolhouse ruins, then S about 3 mi., all area benchlands to Pedernal Peak—agate, chalcedony, chert, jasper.

HERMOSA, area prospects—Chalcopyrite.

HOPEWELL, area mines—Chalcopyrite (minor ore), Gold.

LA MADERA, E 1½ mi. (across a bridge) on Rte. 519 to an abandoned mine between survey posts 7500 and 7600: ① on mine dumps—book Mica; ② area hillsides above mine—Calcite crystals, Limonite crystals on Calcite, crystal lined geodes; ③ N another 0.9 mi., canyon area—geodes lined with crystal; ④ N another 13 mi., turn E toward a dry wash, area on both sides—Calcite crystals, crystal lined geodes.

LAS TABLAS, SW 1½ mi. and ¼ mi. SE of Persimmon Peak, the Canary Bird Mine—Tourmaline.

PETACA (13 mi. N of Ojo Caliente on Rte. 519): ① area prospect—Amazonite, Fluorite, Mica; ② 3½ mi. SW of South Petaca, above Alamos Canyon, the Sunnyside Mine (W of the Globe rd.), in pegmatite—Aquamarine, Beryl; ③ W on mt. Rd. toward Vallecitos: (a) W 1 mi. on S side of rough rd., a mine dump—pink Feldspar, pink book Mica, Quartz; (b) W another 3 mi., all area along route—pink Feldspar, Mica; (c) all area mine dumps (easily reached) —Feldspar, Mica, black Columbite, green Beryl, green Amazonite, Pitchblende; ④ from Cerro Pedernal to W side of San Pedro Mt., especially ½ mi. SE of La Madera—Dumortierite, Specularite, Pedernal chert (gem quality).

YOUNGSVILLE, area around store, abundant—gem agate.

SANDOVAL COUNTY

AREA: ① SE part of Co., the Jemex Mts. (from Rte. 44 on W to US 85 on E, 60 mi. across), along Rte. 22 SW of Los Alamos (beginning with San Ysidro on Rte. 4 NE, around mts. To Santo Domingo Pueblo): (a) very many collecting localities, so prospect anywhere—agate nodules, Apache tears, jasper, obsidian; (b) La Jara Canyon, in first small tributary
New Mexico
canyon to left of entrance, area surfaces—gem jasper; ② Nacimieto Mts., regional draws, washes, etc.—agate, Azurite, chalcedony, Chrysocolla, Malachite.
CABEZON, the regional Rio Puerco coal fields, area mine dumps—Wheelerite.
COCHITI: ① area mines—Gold; ② area of Upper Percha Cr.—common opal.
COOPER MINERAL HILL, TECOLOTE, area mines—Copper minerals.
CUBA: ① area mines—Copper minerals; ② SE about 10 mi. to cattle guard (logging area), turn N ¼ into old mining dist. (Blue Bird, Eureka, etc., mines), on all old dumps—Copper minerals, gemmy Chrysocolla conglomerate.
JEMEZ (Dist.): ① area lava outcrops, in cavities—moonstone; ② area small scale mines—Sulfur; ③ the Sulfur Dist., at Battleship Rock, area surfaces—obsidian, opalized wood (in volcanic tuffs); ④ the Rio Puerco Valley, area both sides—agate, chalcedony, jasper, quartzite, silicified wood.
NACIMENTO (Dist.), area mines—Chalcocite (principal ore of the red beds), Chrysocolla.
PLACITAS (Dist.): ① area mines—Copper minerals; ② area limestone outcrops, in caves—cave onyx.

SAN JAUN COUNTY
AREA: ① regional coal mines (Durango, CO, to Gallup in McKinley Co.), on dumps—jet; ② W part of Co., region bounded by the San Jaun R. and its Chaco R. tributary, numerous exposures of the Ojo Alamo Formation (as shown on area geological maps)—chert, Garnet, jasper, quartzite, petrified wood.
BLANCO TRADING PORT (on Rte. 44, 28 mi. S of Bloomfield), S on Rte. 57 to the Chaco Canyon National Monument, along both sides of rd. entire distance—chalcedony.
FARMINGTON, S 27 mi. to the Bisti Trading Port, broad area of strange geological formations—agatized Dinosaur bones, gemmy carbonized wood, silicified mudballs.

SAN JAUN-MCKINLEY COUNTIES
NAVAJO INDIAN RESERVATION, numerous locations (inquire at trading port)—Pyrope garnet (Arizona rubies).

SAN MIGUL COUNTY
LAS VEGAS, N, general area—petrified wood.
PECOS, N along the Pecos R. canyon on old rd. 14 mi. to the Terrero Store, turn E around store (1 mi. uphill), long mine dump extending to Willow Cr. (campground)—Actinolite, Garnets, Lepidolite, Mica, Bornite, Pyrite, Tourmaline.
ROCIADA, TECOLOTE, area mines—Chalcocite, Copper minerals, and Molybdenite.

SAN FE COUNTY
AREA: ① regional Copper mines (located on topographic maps)—Bornite, Chalcopyrite, Galena, Malchite, Pyrite, etc.; ② the New Ortiz Gold mine—Gold, Scheelite (fluorescent).
CERRILLOS: ① area prospects—some Chalcopyrite; ② park car E of Tongue Wash and power line: (a) N, a sandy mt., area—carbonized fossil wood; (b) big wash on S, all contributing arroyos—red jasper; (c) numerous adjoining localities in general vicinity—agate, chalcedony, chert, jasper, etc.; ③ NNE 6 mi. on Rte. 14 (30 mi. SSW of Santa Fe):
(a) Turquoise Hill (3 mi. from Mt. Chalchihuitl in the Cerrillos Hills), and (b) area slopes and 
draws on Mt. Chalchihuitl—agate, chalcedony, petrified wood, Turquoise.
GOLDEN, SE, the San Pedro Mts.: ① area placer mines—Gold; ② area hard rock 
mines—Chalcopryite, some Chalcocite.

SIERRA COUNTY

AREA: ① Mud Springs Mt., NE flanks—agate, opalized and silicified wood, 
petrified palm; ② extreme NW corner of Co., on W side of the Continental Divide, the 
Taylor Cr. Dist.—Fluorite; ③ in contact metamorphic at Iron Mt.—Calcite, Scheelite, 
Willemite (all fluorescent).

CABALLO, E, in the Caballo Mts., area mines—Azurite, Chalcocite, 
Chalcopryite, Fluorite, Malachite.
CHLORIDE, the Apache and Phillipsburg mines—Chalcopryite, Cerussite, 
Bornite (containing Silver), etc.

CUTTER, area opposite the Aleman Ranch—gem jasper.
DERRY, area washes, draws, etc.—chert (colorful).
ENGLE: ① area—agate, chert; ② along both sides of rd. to Elephant Butte— 
agate, chert, chalcedony, jasper; ③ E to the San Andreas Mts., W side of Mockingbird 
Gap, area—dendritic jasper.
**New Mexico**

HILLSBORO (Fremont): 1 area mines and prospects—Cerussite (rich in Silver), Gold, Willemite (fluorescent); 2 W, toward Kingston, a high cliff just before reaching an iron bridge across Percha Cr., in talus—flowering rhyolite.

KINGSTON (Dist.): 1 area mines—Proustite (in Silver ore), Pyrargyrite; 2 the Comstock Mine—massive Rhodonite; 3 on W side of town turn N on old mine rd., cross cr. And on for about 1 mi. to a gate, park car, small mt. On the E, area—Quartz crystals (unusual clusters, double terminated); 4 E 9 mi. on Rte. 20, cross Percha Cr. On iron bridge, in talus—flowering rhyolite.

LAKE VALLEY (Dist.): 1 area washes, draws, etc.—chert (colorful); 2 area mines and dumps—Dolomite, (massive, pinkish), Magnetite, Psilomelane, Pyrolusite crystals; 3 the Apache, Bella, Grande mines—Iodyrite (with Vanadinite), Manganite, Cerussite (rich in Silver), native Silver, Embolite, Endlichite; 4 both sides of loop rd. NW of the old town—agate, Calcite crystals, jasper.

TIERRA BLANCA (Dist.), area mines—Bromyrite, Gold, Silver.

TRUTH OR CONSEQUENCES: 1 N, on W side of the Fra Cristobal Mts., area—agate, jasper; 2 E 13 mi., Hot Springs (in the Jornada Valley), area—agate, chalcedony, elixirite, jasper, petrified wood; 3 Ne 38 mi. to abandoned Ft. Craig, take canal rd. S 1½ mi. to mile port 1370, park car, cross old river bed to hills on E, in all sandy outcrops, excellent black—opalized wood; 4 E on Rte. 52 to Engle, the S on ranch rd. paralleling the RR for 13 mi. to a ranch, turn W through ranch, cross RR tracks into low hills (a spur of the Caballo Mts.) for 2 mi., all along both sides of rd.—carnelian agate.

**SOCORRO COUTNY**

AREA: 1 Area Barite mines (see above map); 2 SE corner of Co.: (a) the Sierra Oscura Mts., regional prospects and mines—abundant Chrysocolla, some Chalcocite; (b) the Joita Hills, and (c) regional washes, draws, surfaces, etc.—agate, chalcedony, jasper.
Quartz crystals, quartzite (colorful), petrified wood; ① the Mogollon Mts., area mines—Bornite, Chalcocite, Chalcopyrite, native Silver.

BINGHAM, E ½ mi. on US 380, then S several mi. to the famed Blanchard Mine (claims) in the Sierra Oscura Mts. (fee) —Atacamite, Azurite, Barite (fluorescent), Brochantite, Celestite, Cerussite (fluorescent), Cyanotrichite, Dolomite crystals, Fluorite (fluorescent), Galena, Limonite, Linarite, Malachite, Murdochite, Otavite (fluorescent), Plattnerite, Quartz crystals, Spangolite.

COONEY (Mogollon; dist includes Mill Canyon, Silver Mt., and Rosedale), area mines—Bornite, Chalcocite, Chalcopyrite, Gold.

HANSONBURG (San Andreas, San Lorenzo): ① area mines—Copper minerals; ② Grandview Canyon, area mines—Fluorite.

LAVA (straddles Sierra-Socorro Co. line at end of rd. N from Engle in Sierra Co.): ① the Fra Cristobal Range, N end and NE side of Elephant Butte Reservoir; and ② S of the E end of Bernado Bridge over the Rio Grande, area—opalized wood.

MAGDALENA: ① area mines—Anglesite, Cerussite, Chalcophanite, Cuprite, Galena, Hydrozincite, Smithsonite, Sphalerite; ② SE 3 mi. to ghost town of Kelly, on all old mine dumps—gem quality Smithsonite (blue green), Zinc minerals in Quartz, fossils; ③ W, at Silver Hill, on WSW side—Garnets; ④ N 16 mi. on gravel rd. to jct. (Riley, 4 mi.), turn W on dim ranch rd. for 5 mi., area surfaces—agatized Picture Wood, petrified cycad and palm; ⑤ at the Kelly Mine—Calcite crystal (fluorescent).

SOCORRO: ① NW 4 mi., and ② on E side of Strawberry peak, area—Satin Spar.

TAOS COUNTY

AREA, outcrops of the Harding Pegmatite—Apatite, Bityite, Eucryptite (all fluorescent).

GLENWOODY, area gravels—Staurolite.

MOLYBDENUM, area mines—Molybdenum minerals.

PICURIS: ① area mines—Chalcocite, Chrysocolla, Cuprite; ② area gravels, slopes, washes, etc.—Staurolite.

PILAR: ① area mine dumps between mts. and US 64—gem quality Lepidolite and Sericite; ② both sides of rd. to Velarde—Garnets, Staurolites; ③ in pegmatite just S of Pilar on E bank of Rio Grande—Thulite.

RED RIVER, area mines—Fluorite, Gold. (Wheeler peak, Elev. 13,161'; to the S)

TRESPIEDRAS, W on Rte. 519 (see La Madera in Rio Arriba Co. and reverse order of localities).

TWING, area mines—Copper minerals.
TORRANCE COUNTY

ESTANCIA, the area surrounding the Estancia Lake—Epsomite, Glauberite. 
MANZANO, TORREON, TAJIQUE (adjoining towns on Rte. 14 N of Mountain Air), W, in the Monzano Mts., area schistose outcrops—Staurolites.

UNION COUNTY

AREA, extreme NE corner of Co.: ① the Tri-State Marker (NM, CO & OK): (a) area, extending into OK to Kenton, Cimarron Co.—petrified wood; (b) a hill near the marker, area surfaces—rose colored agate; ② Ute Cr., deposit—alum.

VALENCIA COUNTY

AREA: ① regional coal mine dumps and seam exposures—jet; ② NW part of Co., in the Zuni Mts.: (a) area mines of the Copper Hiss Dist. in the Red Beds—Azurite, Chalcocite, Malachite; (b) regional slopes, draws, washes, etc.—agate, chalcedony, jasper, petrified wood.

BELEN, N to Los Lunas, area surfaces, draws, washes, etc.—gem agate.

GRANTS, the Grants Uranium Dist., very many mines and exposures of radioactive rocks—Andersonite (fluorescent), Autunite, Boyleite, Carnotite, Ilsenmannite, Liebigite, Meta-Autunite, Metatyuyamunite, Montroseite, Pascoite, Schröckingerite (fluorescent, at Homestake Claims), Thenardite, Thermonatrite, Todorokite, Tyuyamunite, Uranopilite, Zellerite, Zippeite. Associated with these radioactive minerals (many fluorescent) are often Barite, Calcite, Coffinite, Jordisite, Marcasite, Pyrite, gray Selenite and Gypsum. This large area of radioactivity extends from Gallup in McKinley Co. on the west to the western edge of the Rio Grande trough on the east ≈ 110 mi. long by 20 mi. wide. The principle mining areas revolve around ⑤ Gallup, ② Church Rock, ③ Smith Lake, ④ Ambrosia Lake—also Andersonite (fluorescent), ⑤ Grants, ⑥ Pagouote or Jackpile—also Becquerelite (fluorescent). These area are grouped into three major mining dists.: Gallup, Grants, and Laguna. It was Paddy Martinez who
first discovery of **Tyuyamunite** in a Todilto Limestone outcrop in Sec. 19, T. 13 N, R. 10 W at the base of Hatstack Butte in 1950.

LAGUNA, area surfaces—**agate, jasper**.

LOS LUNAS, W 6 mi. on Rte. 6, then S on dirt rd. to Dalies (water tank and cattle pen) on the RR, continue S into low hills (taking right forks en route), area of arroyos and breaks leading to the Rio Puerco, abundant—**agate** (red, banded), *Apache tears, agatized wood, obsidian.*
NEW YORK

Called the Empire State, New York is irregularly shaped, not only from a geographical standpoint but in its varied rock formations. The eastern part of the state is dominated by the great valley of the Hudson River and Lake Champlain, while the rolling hills of the northern (Upstate) New York rise from the Mohawk River to the rugged Adirondack Mountains. Here in 1892, the state legislature established a wilderness preserve, the Adirondack Park, larger than any other national or state park in America. Its 8,895 sq. miles makes it greater in area than the state of Massachusetts. Western New York is a rolling, hilly region extending to Lakes Erie and Ontario, cupping many sapphire blue lakes in the folds and wrinkles of a thoroughly glaciated terrain. Most of the southern counties belong to the Allegheny Plateau that culminates in the Catskill Mountains.

Pleistocene glaciers covered all parts of New York State. Geologists think that at least 1,000 ft. of ice once lay over the top of what is now New York City and Long Island and that 2,500 ft. of ice buried the Catskills. The outer (Ronkonkoma) and inner (Harbor Hill) moraines on Long Island are notable examples of glacial termination, while Central Park in New York City exposes many glaciated boulders still clearly showing the scratch marks (striations) made on them thousands of years ago by the moving ice sheets.

More noted for their fossil content than for commercial minerals, gems, and gemstones, the state’s rock formations represent almost every class of deep seated igneous rocks and nearly all the important sedimentary groups from the earliest Cambrian to the most recent periods. The state depends primarily on the importation of raw materials to supply its great industries, but does have some mineral resources, such as Iron, Lead, Oil, Natural Gas, Salt, Gypsum, Cement and Limestone.
CAYUGA COUNTY

AUBURN, sparingly in area (inquire locally), old pits—Fluorite.

CLINTON COUNTY

AREA, the Palmer Hiss Mine and Finch ore bed, abundant—Fluorite.
ARNOLD HILL (just NW of Clintonville), area mines and workable ore bodies—Magnetite.
CLINTONVILLE, on Harkness rd. across first RR tracks, just before reaching second tracks turn left up steep hill to Arnold mine, in dump—jasper, Martite.
KEESEVILLE, at Buttermilk Falls—serpentine.
LYON MOUNTAIN, area mines—Aegirine, Albite, Apatite, Augite, Biotite, Byssolite, Calcite, Chlorite, Epidote, Hematite, Ilmenite, Magnetite, Molybdenite, Orthoclase, Perhithe, Pyrite, Quartz, Stilbite, Wernerite, and Zircon.

COLUMBIA COUNTY

ANCRAM, area mines—Barite, Galena and Sphalerite.

DUTCHESS COUNTY

AREA, NE corner of Co., various old mines—Galena.

ERIE COUNTY

BUFFALO: ① E 2½ mi., the Fogelsanger Quarry—Calcite, Favosites and other fossil coral; ② Eighteen Mile Cr., area deposits—Pyrite.

ESSEX COUNTY

AREA, the Opalescent R., gravel beds, bars—Labradorite.
BURTON HILL, area mines—Fluorite and Magnetite.
CASCADE (Lakes), area gravels, outcrops—Labradorite.
CROWN POINT: ① area outcrops and gravels—sunstone; ② SW 7½ mi., old mine—Feldspar, Graphite and Mica.
INDIAN LAKE, SE on Rte. 28 to within 5 mi. of North River in Warren Co., the Crehore Mine—Garnet (crystals to 8" dia.) and Hornblende.
IRONVILLE, area mines—Hematite and Magnetite.
KEESEVILLE: ① area quarries—Labradorite; ② area mines on Mt. Bigelow—Garnet (commericial abrasive).
LEAD HILL, area mines—Graphite.
LEWIS, area mines—Arsenopyrite and Rhodonite.
MINEVILLE: ① area high grade iron mines, abundant minerals—Apatite, Fluorite, Hematite, Magnetite and Pyrite; ② at Fisher Hill Mine—sunstone.
NEWCOMB, E 1 mi., Lake Harris, area outcrops—Albite, Amphiboles (various), Apatite, Diopside (fluorescent), graphite, Muscovite, Phlogopite (fluorescent), Pyrite, Pyroxene, Smoky Quartz crystals, Scapolite, brown Tourmaline and Tremolite.
NORTH CREEK, S 4 mi., on Oven Mt., old mines—Garnets.
OLMSTEADVILLE, W 1 mi. on Rte to Minerva, area—Idocrase, gem Microcline crystals and Scapolite.
PORT HENRY, NW 6 mi.—Rose Quartz.
PORT KENT, along shore to S—Labradorite.
TAHAWUS, area iron mines—Hematite, Magnetite and Titanium.

FRANKLIN COUNTY
DAUNE, large area bed, mined—Pyrite.
MALONE, take rd. SE to Owl's Head Village, trail up Mt. to iron mine, in dump—sunstone.
SARANAC LAKE, take Hwy. 3 N for 4 mi. to Leib's rock shop, drive up hill and park, take trail to moonstone mine (fee)—moonstone.

HAMILTON COUNTY
WELLS, in anorthosite boulders to N along Hwy. 8 in E branch of Sacandaga R.—Labradorite.
HERKIMER COUNTY

FAIRFIELD, area quarries—Barite.
MIDDLEVILLE, area sandstone exposures—Herkimer Diamonds (usually water clear quartz, perfectly terminated), found principally: ① on N side of rd. to Newport along a NW belt; ② E 1 mi. toward the N side of the Fairfield hwy. (Rte 29); and ③ from town 3 mi. S, most prolific on top of hill between town and Herkimer; ④ the Ace of Diamonds collecting area is within the village limits on Hwy. 28, and a mile S on Hwy. 28 is the Atty area known as the Herkimer Diamond Grounds.

JEFFERSON COUNTY

ALEXANDER BAY, area mines—Galena.
PHILADELPHIA, area serpentine outcrops—Hematite, Pyrite and Siderite.
PILLAR POINT, area quarries—Barite crystals.
THERESA, Muscalonge Lake: ① area quarries—Fluorite; ② NE shore of lake mines—Fluorite.

LEWIS COUNTY

LOWVILLE, area mines—Fluorite.
MARTINSBURG, area lead mines—Galena.
NATURAL BRIDGE, NE 3 mi., a quarry—serpentine and Talc.
LIVINGSTON COUNTY
GENESCO, 3 mi. N in banks and bed gravels of a Cr.—**silicified coral**.

MADISON COUNTY
CAZENOVIA & CHITTENANGO FALLS, area quarries—**Celestite** (fluorescent).

MONROE COUNTY
ROCHESTER: ① regional quarries—**Fluorite**; ② in limestone along E bank of Genesee R. near Norton St. and past Ave. E—**agate**.

MONTGOMERY COUNTY
FONDA, several collecting sites near Fonda: ① take Exit 28 from the NY State Freeway at Fultonville, cross bridge to Fonda, continue to creek and beyond it, take first rd. right, Hickory Hill rd., go right to Martin rd. to Stone Arabia rd. at left, cross England rd. and the Diamond Acres mine is at left (fee); ② S of Fonda at Exit 28, take Hwy. 55 SW to Sprakers (fee); ③ 1 mi. E of Sprakers on the S side of Hwy. 55 on the crest of a hill known as Little Nose—**Quartz** (*Herkimer Diamonds*).
ST. JOHNSVILLE, at Crystal Grove campsite take Division St., go 4½ mi. to Crystal Grove, take right fork to Lassallsville and to picnic grove (fee)—**Quartz** (*Herkimer Diamonds*).

NIAGARA COUNTY
LOCKPORT, area limestone quarries—**Fluorite**.

ONONDAGA COUNTY
FAYETTEVILLE, area quarries—**Fluorite**.
MANLIUS, area quarries—**Fluorite**.
SYRACUSE, area peridotite outcrops—**peridotite**.
A Location Guide for Rock Hounds in the United States

ONTARIO COUNTY

CANADICE, on E side of Canadice Lake and 2 mi. W of Honeoye Lake—Labradorite.

ORANGE COUNTY

AMITY, area limestone outcrops—Corundum (blue, white) and Fluorite.
BLOOMING GROVE, along the Hudson R., area—bloodstone and jasper.
CRAIGSVILLE, on Hwy. 94—bloodstone.
EDENVILLE: ☀ area mines, and ☼ between town and Mt. Adam, mines—Arsenopyrite, Leucopyrite and Scorodite.
MONROE, near Lake Mombasha, pegmatite outcrop—Phlogopite Mica (greenish).
OTISVILLE, the Phoenix Mine—Galena and Sphalerite.

OTSEGO COUNTY

TODDSVILLE, area gravel pits, stream beds—Sapphire.
PUTNAM COUNTY

BREWSTER, NW 6 mi., the Tilly Foster Iron Mine—Actinolite, Albite, Ankerite, Antigorite, Apatite, Apophyllite, Arsenopyrite, Augite, Autunite, Barite, Biotite, Bronzite, Brucite1 (fluorescent), Byssolite, Calcite1, Chalcopyrite, Chondrodite2, Chondrodite2, Chrysocolla, Chrysotile, Chinochlore2, Clinohumite, Coccolite, Crocidolite, Datolite, Diaggale, Diopside1, Dipyre, Dolomite1, Enstatite1, Fluorite, Garnet (Grossularite, Uvarovite), Gypsum, Hematite, Heulandite, Hisingerite, Hornblende, Humite, Hydromagnesite, Hydrotalcite, Ilmenite, Laumontite, Limonite, Magnesite, Magnetite2, Malachite, Marcasite, Microcline1, Molybdenite, Muscovite, Natrolite, Ophiolite, Olivine, Opal, Pargasite, Phlogopite, Prochlorite, Pyrite, Pyrolusite, Pyrite, Pyrrhotite, Quartz (milky1, rose, smoky), Riebeckite, Scapolite, serpentine1, Siderite, Sphene2, Spinel, Talc, Thomsonite, Tourmaline, Tremolite and Zircon (1 Common, 2 Very Common).

COLD SPRINGS, just E, a mine—Chrysotile asbestos.

KENT CLIFFS, in the Highlands near Pine Pond, a mine—Arsenopyrite, asbestos, Leucopyrite (Iron di-arsenide) and Pyrite.

WEST POINT, S 3½ mi., on bank of the Hudson R., a quarry—Chrysotile asbestos.

RICHMOND COUNTY (Boro on New York City)

TOMPKINSVILLE, area quarries—Asbestos.

TOTENVILLE, SW tip of Staten Island, the Androvette Clay Pits (near Kreischerville on the shore of Arthur Kill)—Artinite (fluorescent), serpentine.

SARATOGA COUNTY

BATCHELLERVILLE: ① area quarries, in pegmatites—Feldspar and Muscovite Mica; ② N 12½ mi., at Overlook area—Rose Quartz.

SARATOGA SPRINGS: ① intersection of Rte. 9 with the Twp. rd., W ½ mi., pegmatite outcrop—Chrysoberyl; ② in Maple Ave. (Gailor) quarry on W side of Hwy. 9 on N edge of city—Quartz crystals.

SCHOHARIE COUNTY

AREA, numerous exposures of sedimentary rocks—Silicified coral.

SCHOHARIE: ① area exposures of the Brayann shales and the Roundout Waterline—Barite crystals, Celestite (as nodular aggregates of delicate crystals); ② town courthouse, vicinity exposures of water limestones—Barite crystals (associated with Strontianite); ③ N 2 mi., on face of Terrace Hill (within sight of rd. to Schoharie Jct.), an old mine—Strontianite

ST. LAWRENCE COUNTY

BALMAT: ① at Gouverneur Talc Mine—**Anthophyllite, Apatite, Talc, Tremolite** (all fluorescent); ② Arnold Open Pit mine—**Anthophyllite, Tremolite** (both fluorescent); ③ in the Zinc mine—**Anhydrite, Anthophyllite, Sphalerite, Tremolite** (all fluorescent); ④ Balmat No. 4 mine—**Anthophyllite, Forsterite, Tremolite, Turneaureite** (all fluorescent).

BRASHER IRON WORKS, area mines—**Iron minerals**.

CANTON, the High Falls Mine—**Pyrrhotite**.

DEKALB: ① area quarries—**Barite and Fluorite**; ② in old marble quarries and to S at Richville and also 5 mi. SE at former Mitchell farm in talc—**moonstone, Diopside, Tourmaline** (fluorescent).

EDWARDS: ① area mines, and ② area quarries—**Barite, Galena, Gypsum** (fluorescent), **Sphalerite and Fluorite**; ③ in pockets in St. Joe Minerals Corp. Mine—**Hauynite, Scapolite and Spinel** (both fluorescent).

FOWLER: ① area quarries—**Barite and Fluorite**; ② area Sedimentary exposures, stream beds and banks—**geodes** containing **Barite and Hematite**; ③ NW on Rte. 58, the Loomis Talc Mine—**Talc and Tremolite**.

FULLERVILLE IRON WORKS, area mines—**Iron minerals and Pyrite**.
Gouverneur:  ① area quarries, especially Rylestone Quarry—Barite, Calcite (fluorescent), and Fluorite;  ② area mines—Garnet (abrasive); ③ N 3 mi., as a body of rock—Garnets (crystals to ¼” dia.); ④ various outcrops along the Oswegatchie R. —serpentinite; ⑤ area old quarries—brown Tourmaline, red and brown Apatite.

Hailsboro, area limestone quarries—Apatite.

Hammond, area quarries—Barite and Fluorite.

Hermon, area mines—Pyrite.

Macomb, area mines—Barite (gangue), Fluorite and Galena.

Oswegatchie, area pegmatite mines, pits—Muscovite Mica.

Pierrepont:  ① area pegmatite exposures—Tourmaline; ② at Powers Tourmaline Diggings ½ mi. W on Hwy. 68 (fee); ③ at West Pierrepont—Apatite, black Tourmaline.

Pyrites, area mines—Pyrite.

Richville:  ① area of the Reese Farm, in pegmatites—Pyroxene, Tourmaline (white Dravite) and Tremolite; ② N 5 mi. and 3 mi. NE, various area outcrops of pegmatites—Achroite, Diopside, Dravite.

Rossie, area mines—Barite (gangue) and Galena.

Sullivan County

Summitville, area mines—Sphalerite.

Sullivan & Ulster Counties

Area, the Shawangunk Mts., many regional mines—Sphalerite.

Ulster County

Ellenville, area mines—Sphalerite.

Napanoch, area mines—Siderite.

Warren County

Brant Lake (Horicon), NE to Brant Lake:  ① S shore, in rd. cut through pegmatite—Apatite, Calcite, Diopside, Graphite, Muscovite, Pyrite, Rutile, Tourmaline; ② N shore, a deposit—asbestos.

Graphite, area mines—Graphite.

Johnsburg, in asbestos mine to SW at Garnet Lake—serpentinite.

North Creek:  ① WSW 4 mi., mines around Gore Mt.; ② W, mines on Ruby Mt.; ③ S, mines on Oven Mt.; ④ Hwy. 28 N 4 mi., turn at Barton Mines sign, go 5 mi. up Gore Mt. to shop—Almandite garnet.
A Location Guide for Rock Hounds in the United States

NORTH RIVER, W, into extreme NW corner of Co., the Thirteenth Lake, SW 6½ mi. from S end of lake, at Humphrey Mt., area mines—Almandite garnet.

WEVERTOWN, area quarry—Garnet.

WASHINGTON COUNTY

DRESDEN STATION, area South Bay mines—Graphite.

WESTCHESTER COUNTY

BEDFORD (Twp): ① area quarries—Allanite, Almandite, Apatite, Autunite, Beryl (Aquamarine, Golden, Yellow), Clevelandite, Columbite, Cyrtolite zircon, Graphite, Gummite, Hyalite opal, Ilmenite, Kryolite, Limonite, Magnetite, Menaccanite, Muscovite, Pyrite, Pyrolusite, Quartz (all types), Rutile, Sphene, Torbernite, Tourmaline (green, black), and Uranophane; ② SE ¼ mi., the Kinkel Quarry: (a) this quarry; (b) ½ mi. W, the Baylis Quarry; (c) 1½ mi. SE, along the Mianus R. in North Castle, the Hobby Quarry—golden Beryl, Citrine, Quartz crystals (rose with asterism, smoky); ③ Hwy. 22 S, turn off on rd. to Greenwich, Ct., take first dirt rd. N and follow around old quarry to dump and mill ruins—asteriated Rose Quartz.

PEEKSILL: ① area—sunstone; ② SE, an area of igneous rocks known as the Cortlandt series (7 mi. E to W by 5 mi. N to S), regional deposits and mines—emery, Spinel, Thomsonite.

PLEASANTVILLE, area mines—Muscovite Mica.

RYE, area serpentinite bosses (constituting about 15 sq. mi.)—asbestos (Amphibole, Chrysotile).
NORTH CAROLINA

With more than 300 species of gems, gemstones and minerals, this remarkable state is geared for rock collecting as few other states are. Blessed with extraordinary scenic beauty, North Carolina has a gem history equaled nowhere else in North America and innumerable tales of discoveries of Amethyst, Aquamarine, Bronzite, Diamond (first found abundantly in the Gold placers in the middle 1850's), Golden Beryl, Rubies, Sapphires, and Topaz. Moreover, North Carolina has the only true Emerald mines in America, discovered about 1875. To these gems can be added the clear emerald green Spodumene crystals called Hiddenite after William Hidden, supervisor of one of the larger Emerald mines. This new gem was discovered and identified late in the nineteenth century, along with a second new gem, Rhodolite garnet, a rose pink crystal found in Cowee Creek near Franklin, Macon Co., about the same time.

Mining history really began in North Carolina in 1799, when a twelve-year-old boy unearthed a 17 lbs. Gold nugget on his father's plantation in Cabarrus Co. Young Reed sold his nugget to a local jeweler for the unheard of price of $3.50. Eventually, millions of dollars in gold began coming from other parts of the state as intensive prospecting for Gold and Silver got under way. It was in the placer gravels that incidental discoveries of many species of gem crystals, especially Diamonds, were made.

Gold was subsequently found throughout a multi-state region east of the Appalachian Mountains, about 700 miles long by 150 miles wide. North Carolina became the principal producer, inasmuch as the noble metal was found to occur almost universally wherever the rocks were not covered by drift, both free and in association with Chalcoprite, Iron and Pyrite. In order of decreasing production, the other states in this region are South Carolina, Georgia, Virginia and Alabama. In North Carolina, certainly, the seasonal Gold panner will find literally hundreds of profitable stream gravel bars in which to wield pick, shovel and pan.

The sharply defined provinces of North Carolina constitute part of the Atlantic seaboard between the Atlantic Ocean and the Appalachian Mountains. From the tidewater swamps of the coast, the land rises to an elevation of 500' along the western edge of the upper Coastal Plain before beginning the rolling hill country of the Piedmont, with its many swift, gem rich Fall Line streams descending eastward. On the west, the land juts abruptly into the Blue Ridge, 3,000’ to 4,000’ high, then dips sharply to the broad Carolina Highlands.
backed up against the Great Smoky Mts. Here, in Yancey Co., Mt. Mitchell, at 6,684' is the highest peak in America east of the South Dakota Black Hills. The Mountain and Piedmont regions expose rocks from Precambrian to Carboniferous ages, enormously folded, faulted, broken and crushed by diastrophic forces. The older rocks were repeatedly intruded by granites and diorites, and the entire region is blanketed with metamorphic schists, gneisses, quartzites and slates. The igneous rocks produce a great abundance of commercial minerals, and this state leads the Nation in its production of **Feldspar, Kaolin, Mica and Pyrophyllite**. It stands high in production of asbestos, crushed and dimension stone, granite, marble, **Olivine** and **Vermiculite**. The mining of **Copper** and **Tungsten** is also a major contributor to the state's economy. At least 50 species of minerals are mined today, not counting the scores of gem crystals most sought after by rock collectors, while another 20 or so have economic potential.

Gems and gemstones occur in almost every county, but most abundantly in Alexander, Mitchell, Yancey, Macon and Cleveland counties. Easy access to the main gem producing districts is from the 470 mi. long Blue Ridge Parkway that follows the spectacular crest of the Appalachian Mts. Not only do many old mines allow gem collecting on a fee basis, but throughout the Mountain and Piedmont regions sparkling streams yield up a never-ending supply of alluvial **Gold, Diamonds, Rubies** and **Sapphires**. The state's pegmatites, mined mainly for **Feldspar, Mica** and **Quartz** are rich in the usually associated gems: **Amethyst, Aquamarine, Golden Beryl, Corundum, Garnet, moonstone, Quartz, Spodumene** and **Topaz**. Granite outcrops provide an abundance of the state stone **Unakite**, named after the Unaka Mts., as well as the unusual **leopardite**. Petrified wood is found in the alluvial gravels of many counties, particularly Anson, Cumberland, Moore, Montgomery and Wayne. Public and private campgrounds, many with trailer hook-ups abound throughout the gem producing regions. Many fee gem mines offer camping facilities.

**ALAMANCE COUNTY**

AREA: ① general countywide surfaces, as float—**serpentine**; ② area mines: (a) Dixon's Mine (on both sides of the Haw R.), placers; (b) the Holt Mine; (c) the Anthony Mine; (d) Newlin's Mine—**Gold**; ③ Buck Hill, area, massive and opaque—**Quartz**.

**BURLINGTON:** ① area fields, streams, cuts, etc.—**Quartz** crystals, red gemmy **quartzite, serpentine**; ② the Superior Stone Quarry—**Copper** and **Iron** minerals; ③ on a farm ½ mi. from quarry, loose in soil—**Limonite** (pseudomorph after Siderite), **Quartz** crystals.

**ALEXANDER COUNTY**

AREA, Poplar Springs, area—**Rutile** crystals (geniculate, acicular in Limonite and Quartz), **Spodumene**.

**ELLENDALE, All Healing Springs (W part of Co. N of Rte. 90):** ① near Lambert Cr., pegmatite—**Beryl** (golden, green, yellow); ② near Little R. Church, pegmatite—**Beryl** (pale green, yellow).
TAYLORSVILLE: ① area: (a) in loose soils surrounding town—Emeralds; (b) in the Mertie Pegmatite—Quartz crystals (champagne color, clear, smoky, amber); (c) many are old mines and dumps—Aquamarine, Beryl, Quartz and Rutile crystals; (d) the old Ellis Mine (¼ mi. N of the old Hiddenite School, near a creek)—Emeralds, blue Beryl, Rose Quartz, Rutile; (e) just S of town, in rd. cuts, massive—Smoky Quartz; (f) The Rist Mine and Museum, take Hwy. 1001 N from Hwy. 90, then right on Hwy. 1498 then left on Hwy. 1508 and follow signs to mine on old American Gems, Inc. digging (pay fee at office)—Emerald (crystals and in matrix), Quartz, Hiddenite, etc.; ② E ¼ mi., old mine—Aquamarine, Calcite, Chalcopyrite, Dolomite, crystals, Emeralds, Hiddenite, Monazite, Muscovite, Quartz, Rutile crystals, black Tourmaline; ③ E 1½ mi., on ridge between Davis Cr. And the Little Yadkin R., pegmatite exposures—Aquamarine, Beryl, Quartz, Rutile crystals; ④ W ¼ mi., mine—Aquamarine, Calcite, Chalcopyrite, Dolomite, crystals, Emeralds, Hiddenite, Monazite, Muscovite, Quartz, Rutile crystals, black Tourmaline; ⑤ SW 1 mi., old Beryl prospect on the Charles Payne farm—Beryl, Mica, etc.; ⑥ SW 2 mi., the Gwaltney prospects—Garnet, Feldspar, Quartz crystals, Beryl, Tourmaline; ⑦ SW 3½ mi., the Dagenhart Mine—Beryl, Feldspar, Garnet, Quartz crystals, massive Smoky Quartz, Tourmaline; ⑧ S 6 mi., the Hammer prospects—rutilated Quartz crystals; ⑨ N 1 mi.: (a) the Warren Farm (near Salem Church and 300 yds. From Rte. 90); (b) NW 1,000’, the Osborne-Lackey farm—Albite, Amphibole, Ankerite, Apatite, Aquamarine, Arsenopyrite, Beryl, Calcite, Chlorite, Chloride, Feldspar, Hiddenite, Muscovite, Pyrite, Quartz and Rutile crystals, black Tourmaline, Siderite, Spodumene; ⑩ NE 1.2 mi., the old Revis Farm—Quartz (rose, rutilated); ⑪ NE 2 mi. on rd. to Smith’s Store, as area float, and at the lackey farm on the same rd.—rutilated Quartz crystals; ⑫ N 3.2 mi., pegmatite dikes along the south Yadkin R.—Quartz (smoky, rutilated).

STONY POINT: ① area—Chlorite, Goethite, Monazite (fine crystals), Quartz crystals (rutilated and with Byssolite inclusions), Spodumene (fine transparent green crystals); ② the Hiddenite Mine: (a) mine dumps—Emeralds, Smoky Quartz crystals, Rutile crystals, black Tourmaline; (b) just S of the mine, pegmatite outcrop—rutilated Quartz crystals (with inclusions of Goethite, Diorite, Tourmaline, Byssolite).

TAYLORSVILLE: ① area: (a) mine dumps—Beryl, Columbite, Quartz crystals, (rose, smoky), Rutile crystals, Scordodite, Tourmaline; (b) N several mi., in the Brushy Mts. (on the Wilkes Co. line), area mines—asbestos, Chalcopyrite, Graphite, tabular Quartz crystals; ② SE, at headwaters of the South Yadkin R. (¼ mi. SE of Hiddenite), the O.F. Patterson Mica Mine—gem Beryl, Muscovite; ③ SE 2 mi., near Paynes Store on the Kever farm (exposed pegmatites extend ½ mi. NE to the Payne place), several types of Quartz crystals; ④ SW 5 mi., the Blankenship prospect—Muscovite, asteriated Quartz, moonstone.

WHITE PLAINS: ① area mines—Beryl, Columbite, Quartz crystals, (rose, smoky), Rutile crystals, Scordodite, Tourmaline; ② Liberty church, near Millholland’s Mill—Rutile crystals.
ALLEGHANY COUNTY

AREA, Bullhead Mt., area mines—Garnet, gem Kyanite, Magnetite.
DOUGHTON PARK, N 2½ mi., area of Air Bellows Gap in sandstone schists—fine Iron Garnets.
GLADE VALLEY, the Monroe Holloway farm—showy Magnetite crystals, Talc.
ENNICE, several outcrops along the New R., showy—Magnetite crystals.
ROARING GAP, area mine—auriferous Chalcopyrite, Bornite.
SPARTA, NE 3 mi. on Rte. 18, turn W 1 mi. on unmarked rd., the Crouse Manganese Mine (S of Bald Knob) —Alleganyite, Galaxite, Garnet (massive Spessartite), Rhodonite, Tephroite.
STRATFORD, W near Elk Cr., the Peach Bottom Mine dumps—Chalcopyrite, Cuprite, Galena, Malachite, Molybdenite, Pyrite, native Silver, Sphalerite (red).
TWIN OAKS, NE, and 1½ mi. S of the state line (7 mi. SE of Independence, VA), below Bald Knob, mine—Spessartite garnet, Pyroline, Rhodonite.

ANSON COUNTY

WADWSBORO: ① the Jesse Cox Mine—Gold; ② SE 2 mi., the Hamilton (Bailey) Mine, in quartz veins—Gold; ③ S 2 mi., a vein—Gold; ④ SW 2 mi., in small patch of crystalline rocks on S side of the Triassic sandstone belt—Gold.

ANSON-UNION COUNTIES

AREA, stream gravels—placer Gold.
ANSONVILLE, FAIRVIEW, regional stream gravels and mines—Calcite, Garnet, Galena, Gold, Pyrite, Siderite, Rutile, Sphalerite.
PEE DEE, in gravels of the Pee Dee R. and its tributaries, as float—agatized wood, chalcedony, jasper, etc.

ASHE COUNTY

AREA: ① Helton Cr., near mouth—Magnetite; ② Horse Cr., area—Epidote, Manganese Garnet, Magnetite; ③ S part of Co.: (a) near headwaters of the New R., the Copper Knob (Gap Creek) Mine—Bornite, Chalcocite, Chalcopyrite, Chrysocolla, Gold, Epidote, Hematite, Malachite, native Silver; (b) S Fork, near mouth—Chalcopyrite, Chrysolite, Magnetite.
BEAVER CREEK: ① SW 1½ mi., the South Hardin Mica Mine—Aquamarine, Golden Beryl (crystals to 8” long), Muscovite.
CHESTNUT HILL (Twp.): ① area—rock crystal; ② area farms on Chestnut Mt. along Long Shoal Cr., weathering out of decomposed granite outcrops—rock crystal (very large sized finds).
CRUMPLER, E ½ mi., on N Fork of the New R., in outcrops of Biotite-muscovite gneiss—Staurolites.
ELK (Crossroads), NW 2 mi., the Walnut Knob Mine (¾ mi. S of Black Mt.)—Aquamarine.
JEFFERSON: ① S, at Blue Ridge, pegmatites—Muscovite, black Tourmaline; ② E 3 mi., at Mulatto Mts., area mines—Chalcopyrite; ③ 2 to 6 mi. distant, mines—Chalcopyrite, Pyrite.
ORE KNOB, N on Rte. 88, the Ore Knob Mine—Apophyllite, Arsenopyrite, Calcite, Chalcocite, Chalcopyrite, native Copper, Cuprite, Epidote, Malachite, Pyrite, Stilbite, Thomsonite.
PINEY CREEK: ① area granite exposures, fields, cuts, etc.—rock crystal (some with inclusions of Chlorite, Manganese or Rutile); ② N Fork, area stream gravels—rock crystal.

WEST JEFFERSON: ① area old Mica mines—Aquamarine, Beryl; ② SW 1.2 mi., the Duncan Mica Mine—Beryl, Muscovite.

AVERY COUNTY
CRANBERRY: ① area RR cut banks, and ② SW 1 mi. on dumps of the Cranberry Iron Mine—gem Epidote, Garnets, Hematite, gem Kyanite, Unakite. (see Mitchell Co. mine location map)

ELK PARK, ½ mi. up Roaring Cr. From hwy., the Bill Burleson farm, (fee)—gem moonstone.

PLUMTREE: ① area pits, rd. cuts, gravels—gem Feldspar crystals, Melanite garnets; ② NE 0.8 mi., the Plumtree Mine—moonstone, Oligoclase crystals; ③ NE 1 mi. and about ½ mi. off US 19E, the Meadows Mine—moonstone, Oligoclase crystals; ④ N, on Lick Log Cr., the old Elk Mine—Garnets; ⑤ 2 mi. E at dumps of Elk Mica Mine and Slippery Elm mine on Plumtree Cr.—Garnets; ⑥ SE 2 mi., the Johnson Mine—Garnets.

SPEAR, W 2½ mi. and just off US 19E, the Birch Mine—Epidote, soda Feldspar crystals.

BUNCOMBE COUNTY
AREA: ① Cane Cr., in gravels—Calcite, Gold, Hematite, Limonite; ② Ivy R., area—Chrysolite, Genthite, hornstone, Talc, Tremolite, asbestos; ③ Reams Cr., as large crystals—Garnets; ④ Pisgah Mt., area—Chrysoprase.
A Location Guide for Rock Hounds in the United States

ASHEVILLE, E and S along the Blue Ridge Parkway: ① Potato Gap; ② NE of the Craggy Gardens picnic area—Almandite garnets; ③ Balsam Gap, ¼ mi. N of the Parkway, the Balsam Gap Mine—Albite, Allanite, green Beryl, Columbite, Corundum, black Garnet, Margarodite, Biotite and Muscovite mica, Sapphires (opaque, muted).

BALSAM GAP, S on Hwy. 276 to Balsam Gap, the 1½ mi. SE, also at Lookout Mt.—Kyanite.

BLACK MT.: ① Black Mt. Sta., mine near the Blue Ridge Parkway—Aquamarine, gem Kyanite; ② just N (and 1.4 mi. SE of Balsam Gap); ③ Lookout Mt., area—Kyanite crystals; ④ NE 2 mi., the J.C. Dude Ranch—Corundum, Sapphires.

CANTON, AT Pressley Corundum Mine, take Main St. to Newfound St., turn left across I-40, left again at first rd. past church, and left again on first gravel rd. Pay fee at second house on left, mine is at end of next rd. on left (see map) —Corundum.

DEMOCRAT (N central part of Co.):
① area mines—Nickel minerals; ② W on Rte. 197 for ½ mi., turn N 0.2 mi. on secondary rd., the Goldsmith Mine (see map next page) —chalcedony, Feldspar crystals, gem Garnets, moonstone, Olivine crystals, Vermiculite.

SWANNANOA GAP: ① area pegmatite outcrops—Corundum (in Kyanite), Damourite; ② S, at Ridgecrest—gem Corundum; ③ SW 2 mi., old mine—Limonite.

BURKE COUNTY

AREA: ① in the Gold placers of the Co. (many) also occur—Anatase, Brookite, Chromite, Corundum, Epidote, Fibrolite, Hematite, Limonite, Magnetite, Menacanite, Monazite, Palladium, Pyrrole garnet, Rutile crystals, Tourmaline (black, green), Wolframite, Xenotime, Zircon; ② SW corner of Co., near Bee Bridge: (a) Brindlefont Cr., numerous area mines and prospect; (b) gravels of Hall and Silver creek—Corundum, Diamonds, Pyrrole garnets, Rutile crystals, Tourmaline; ③ Brown Mt., mine—Albite, Fluorite, Gold, some Platinum; ④ Linville Mt., mines—Actinolite, Itacolumite, Graphite, Menacanite, Pyrophyllite; ⑤ High Peak, N 0.3 mi., area—Garnets; ⑥ Scott’s Hill, area mines—Cerargyrite, Gold, Psilomelane, Pyrite, native Silver, Zircon; ⑦ South Mt., area mines—Garnets, Graphite, Quartz crystals; ⑧ Sugar
Mt., area mines—*asbestos, Beryl, Gold, Magnetite, Quartz* (doubly terminated), *Rutile; Tremont Mt., area mines—*chrysoptrase.*

BRIDG WATER, area mines—*Garnet, Gold, Manganese* minerals.

BRINDLE TOWN, area mines—*Actinolite, Anatase, asbestos, Beryl, Brookite, Chromite, Columbite, Corundum, Epidote, Fergusnite, Fibrolite, Gold, Graphite, Hematite, Kyanite, Limonite, Magnetite, Menacanite, Monazite, Montanite, Pyrope garnet, Rutile, Samarskite, Smoky Quartz, Talc, Tellurium, Tetradyomite, Tourmaline, Tremolite, Xenotime, Zircon.*

BURKE CHAPEL (SE part of Co.): ① S ½ mi. on gravel rd., turn right on dirt rd. for ½ mi. area S of rd. extending N about 0.3 mi. to N side of rd.—*Quartz* crystals (clear, smoky, rutilated); ② go 4 mi. on unnumbered rd. to Rte. 18, then right for 4 mi.: (a) area on N side of rd—*Quartz* crystals; (b) N 0.3 mi., in mica schist outcrop—*Garnets.*

GLEN ALPINE, W, in pegmatite dike exposure—*pegmatite gems.*

MORGANTON: ① area: (a) Burkmont Mt., area pegmatites—gem *Beryl;* (b) Buzzard Roost Knob, and (c) Walker's Knob—gem *Beryl;* (d) South Mts., area pegmatites and Mica mines—*Aquamarine, Beryl, Feldspar* and *Quartz* crystals; ② E 4 mi., and 1 mi. S of US 70m the Grill prospect—*Quartz* crystals; ③ S 4 to 6 mi., area mines—*Actinolite, Chlorite, Chrysolite, Breunnerite, Garnet, Hematite, Magnetite, serpentine, Tremolite, asbestos;* ④ S 8 mi., and ½ mi. E of Walker, the Walker prospect—*Aquamarine, Beryl* (golden, green); ⑤ SE 8 mi., area gravels along Laurel Cr.—*Pyrope* garnets; ⑥ SW 9 mi., pegmatite outcrops—*Aquamarine, Beryl;* ⑦ N 4 mi., an old mine—*Corundum* (altered into *Damourite*), *Galena, Quartz* crystals; ⑧ N 13 mi., on Kingy Branch (tributary of Upper Cr.), the Brown Mt. Mine, in quartz veins—*Gold;* ⑨ 5 mi. S on Hwy. 18 to Tweedy house on E side of rd., pay fee and collect—*Pyrope* garnets.

MORGANTON SPRINGS, area mines—*Titanite.*

RAMSEY, NE 1.6 mi., at Shoup's Ford, many old area mines and prospects—*Corundum, Beryl, Diamond, Garnet, gem Kyanite, Sillimanite, Tourmaline.*

BURKE, McDOWELL & RUTHERFORD COUNTIES

AREA, the Blue Ridge region in which the South Mountain Belt, comprising the South Mt. Range, forms one of the most prominent eastern outliers of the Appalachian Mt. system, constitutes the most important *Gold* bearing belt in NC. The auriferous region embraces from 250 to 300 sq. mi., and panning for *Gold* can be successfully done in practically all streams.

CABARRUS COUNTY

AREA: (with overlap into S Rowan Co.): ① very many old mines, going back to pre-Civil War times (on regional topographic maps) —*Azurite, Gold, Malachite, Quartz* crystals, *Scheelite, Sphalerite,* etc.; ② specifically: (a) Cosby's Mine—*Cuproscheelite, Siderite, Stilpnomelane, Wolframite;* (b) Cullin's Mine—*Azurite, Cuprite* (cubes), *Malachite, Scheelite, Tetradyomite;* (c) Flowe's Mine—*Barite, Scheelite, Tungstate* of lime (rhombic crystals), *Wolframite;* (d) McMakin's Mine—*Argentite, Barite, Galena, Goslarite, Magnetite, Proustite, Pyromorphite, Pyroslusite, Rhodochrosite, native Silver, Sphalerite,* *Tetrahedrite* (var. Freibergite); (e) Union Copper Mine—*Copper* minerals, native *Copper.*

CONCORD: ① area: (a) mines—*agate, Bornite, Chalcopyrite, Gold, Hyalite* opal, *Goethite* (acicular crystals in Quartz), *Malachite, Magnetite, Quartz* crystals (rose, rutilated), *Tourmaline;* (b) regional fields and stream gravels between town and Harrisburg—*agate, carnelian, chalcedony,* common *opal;* ② SE, the Firness Mine—*Barite, Epidote, Malachite, Scheelite;* ③ SE 7 mi.: (a) the Phoenix Mine—*Gold;*
A Location Guide for Rock Hounds in the United States

(b) S 1 mi., the Tucker (California) Mine, and (c) nearby other mines and prospects—Gold; ① SE 10 mi., the Rocky River Mine—Chalcopyrite, Galena, Gold, Pyrite, Sphalerite; ② SE 11 mi., the Allen Furr Mine (23 mi. E of Charlotte)—Gold, Pyrite, Sphalerite; ③ S 13 mi., the Pioneer Mills group of mines (not worked since the Civil War)—Barnhardtite, Chalcocite, Chalcopyrite, some Gold, Molybdenite, Molybdite; ④ SE 12 mi., the Allen Furr Mine (23 mi. E of Charlotte)—Gold, Pyrite, Sphalerite; ⑤ SE 11 mi., the Rocky River Mine—Chalcopyrite, Galena, Gold, Pyrite, Sphalerite; ⑥ SE 10 mi., the Tucker (California) Mine—Gold, Galena.

Georgeville: ① E 1½ mi., the Barnhardt Mine—Gold; ② NE 3 mi., the Faggart Mine—Gold.

Mount Pleasant: ① SW 5 mi., the Harkey Mine, veins in diorite—Chalcopyrite, Gold, Marcasite, Pyrite; ② SW 8 mi., the Snyder Mine—Gold.

Tucker, N 3 mi., the Quaker City Mine—Gold.

Caldwell County

Area: ① S part of Co., a broad band of Mica schist runs NE to SW in all regional outcrops—Sillimanite (best in nodular form); ② Davis Mts., W slope near the river, the Baker Mine—Anglesite, Chrysotile asbestos, Cerussite, Galena, Marmolite, Pyromorphite, serpentine; ③ Grandmother’s Mt., area placers—Gold, Pyrite, Quartz.

Collettsville: ① N 1.7 mi., in rd. cuts near Rte. 90—massive Epidote, Pyrite cubes; ② S, the Hercules Mine (12 mi. N of Morganton in Burke Co.)—Gold.

Dudley Shoals: ① SW ½ mi., the Teague Farm (via Cedar Valley rd. W 1 mi., turn S for ½ mi., on country rd.)—Sillimanite nodules; ② N 3 mi., the Travis prospect—Quartz crystals.

Hartland, NW 1½ mi., adjoining mines (Miller, Scott Hill)—Gold.

Hartwell, pegmatite exposures inside town limits—Beryl, Garnets.

Lenoir: ① SE 3 mi., on Hibreton Mt. (4½ mi. W of US 321), area—gemmy Feldspar; ② NW 4 mi., on NE slope of Bee Mts., the Bee Mt. Mine, in garnetiferous Mica gneiss with pegmatite intrusions—Gold; ③ E 7½ mi. on low ridge 1.3 mi. N of Rte. 90 in the Oak Hill dist.: (a) area old Mica mines—Garnets, Sillimanite, massive Quartz; (b) 2 mi. E of Oak Hill Sta. On Rte. 90, the land farm—Quartz crystals; ④ E 9 mi. (2 mi. N of Rte. 90), the Reid prospect—Feldspar and Quartz crystals, etc.

Yadkin Valley, area 2 mi. NW of Rte. 268 and 5 mi. E of US 321, the Broyhill Mica deposit—Beryl, Garnets.

Caswell County

Area, the Carolina Igneous Belt (comprising Caswell Co. and parts of Person, Alamance, Guilford, Randolph, Davidson, Davies, Rowan, Cabarrus and Mecklenburg counties, and the E fringes of Lincoln and Gaston counties), the second most important Gold bearing section of NC, varying from 15 to 30 mi. wide, very many old mines—Gold.

Blanch, area old Mica mines—Allanite, Mica.

Leasburg, W 3 mi., area prospects—Chlorite, Epidote, Tourmaline (fibrous).

Milton: ① area old Mica mines—Allanite, Mica; ② SW 3 ½ mi., the Slaughter prospect—Allanite.

Semora, area old Mica mines—Allanite, Mica.

Yarboro, area mine dumps—Albite, Garnets, Quartz crystals.
CATAWBA COUNTY

AREA: ① extreme SW corner of Co.: (a) E of Rte. 18 and about 1 mi. E of Burke Co. line, between two tributaries of Jacob Cr., the Beessie Hudson Mine—Almandite garnets, gem Beryl; (b) the Tallent prospect (5 mi. NE of Toluca in Lincoln Co.)—Quartz crystals, Sillimanite; ② Hooper's Quarry—Calcite, Gold, Graphite, Pyrite.

CATAWBA, 4½ mi. slightly S of E, the S huford Mine (and Quarry) on the Southern RR, in numerous auriferous Quartz seams—Gold, with Calcite, Magnetite, Rose Quartz.

CONOVER: ① area N and W, old Mica mines: (a) 1 mi. from town, the Bowman Mine (extending 7 mi. to the Hefner Mine)—Apatite, Beryl, Feldspar crystals, Garnets, Mica, Staurolites; (b) 2½ mi. N of Wray's Gin on Rte. 10 and 2.6 mi. NE of Co. line, the Abernathy Water Mine—Quartz crystals with inclusions; ② NW 4½ mi., the Drum Mine—Apatite, yellow Beryl, Garnets, Mica; ③ N 7 mi. on Rte. 16, turn E on dirt rd. for 0.9 mi., area on E side—Corundum.

DRUMS CROSSROADS, SE 2.3 mi., exposure—Steatite.

HICKORY: ① area mines—Amethyst, Chalcopyrite, Garnets, Graphite, Hematite, Limonite, Magnetite, Muscovite, Pyrite, Pyrrhotite, Pyrolusite, Quartz crystals; ② NE 5 mi., near the Catawba R. dam, the Sigmon Mine—Apatite (green crystals).

MAIDEN: ① many area mines and prospect—Gold; ② E 6 air mi. (or Rte. 16 E for 7 mi., then S for ¾ mi. on Co. rd.), pegmatite dike—pegmatite minerals.

NEWTON: ① many area mines and prospects—Gold; ② E 2 mi. (and N of Rte. 10), at McIn Cr., deposit—Steatite.

SOUTH CREEK, area 1 mi. NE of Rte. 16—Steatite.

CHATHAM COUNTY

AREA, Battle's Dam, area mines—Garnets, Hematite, Manganese minerals (such as psilomelane), Rose Quartz.

BENNETT: ① area old Copper mines and prospects—chalcedony, jasper, Rose Quartz along with Copper minerals; ② SE 4½ mi.: (a) the Phillips prospect (via Rte. 22 for 2.6 mi. SE, turn E 2 mi. to crossrds., prospect on the N); and (b) the adjoining Bear Creek prospect—Azurite, Bornite, Calcite, Chalcopyrite, Cerussite, Chrysocolla, Cuprite, Galena, Pseudomalachite, Malachite, Pyrite.

PITTSBORO, N 1½ mi. on Rte. 87, in area rd. cuts—Limonite (pseudomorphs after Pyrite).

SILK HOPE, NW to Co. line area (3.3 mi. SE of Snow Camp in Alamance Co.), an old Pyrophyllite mine—gemmy chert, Quartz crystals (with Pyrite inclusions).

CHEROKEE COUNTY

AREA: ① Hanging Dog Cr., area gravels—Staurolites, Tourmaline; ② in stream gravels where Peachtree Rd. crosses Valley R.—Chloritoid (dark green mica), Ottrelite, metamorphic minerals; ③ Little Snowbird Mts.: (a) area at headwaters of Vengeance Cr.—Calcite, Garnet, Quartz crystals, Staurolites; (b) area of Vengeance Cr. to Valleytown, a distance of 12 to 15 mi. along the lower slope of the mts., many diggings in the drift—Gold, Staurolites; ④ very many countywide exposures of schists in the mountain regions—metamorphic gems and minerals, Chloritoid, Ottrelite.

ANDREWS, MARBLE, area 2 mi. from Palmer Museum, on the Bettis Bros. farm—Staurolites.
A Location Guide for Rock Hounds in the United States

MARBLE: ① area cr. beds, dike exposures, gravel pits—Sillimanite (cat’s eye), Staurolites; ② SE 1 mi.: (a) Valley R. gravels—placer Gold; (b) between Parson’s and Brunt branches—Almandite garnets; ③ N 1.3 mi., in Hyatt Cr., Fishermare Branch and Allmon Cr.—Almandite garnets, Staurolites; ④ NW, in the Snowbird Mts., the Parker Mine—Garnets, Gold, Staurolites.

MURPHY: ① area mines—Cerussite, Dravite (brown tourmaline), Galena, Gold, Lead, Pyrolusite, Sillimanite, Silver, Talc, Tremolite asbestos; ② the No. 6 Mine—Calcite, argentiferous Galena, Gold, Tremolite asbestos; ③ N 1½ mi., the Hitchcock Mine—Dravite, Sillimanite, Steatite, Tremolite; ④ SW ½ mi., area along US 64—Limonite cubes; ⑤ SW 4.2 mi., the Metals and Minerals Mine—Dravite, Sillimanite, Steatite, Tremolite; ⑥ at Voiles Cabins off Rte. 290 on Haiwasee Dam rd.—Smoky Quartz.

UNAKA: ① area gravels, pits, etc.—Staurolites; ② E ½ mi. on rd. toward Murphy, gravels of Beaverdam Cr.—agate, Epidote, pink Feldspar, placer Gold, jasper, petrified wood, Smoky Quartz crystals, Staurolites.

CLAY COUNTY

AREA: ① East central part of Co. N of US 64, Buck Cr.: (a) area mines in peridotite-dunite—pink Corundum, Smaragdite (green amphibole), Anorthite, Olivine crystals, Spinel, Zoisite; (b) the Cullakanee Mine (6 mi. N of the GA state line and 20 mi. SW of Franklin in Macon Co., via US 64)—Borizonite, Corundum, opal, Peridot; (c) the Maney Cut—pink Corundum, Smaragdite; (d) S side of US 64, area boulders—Unakite; (e) the Buck Creek Dude Ranch, SW 0.3 mi., the Herbert Mine (on Little Buck Cr.)—Corundum; (f) the Buck Creek Campground, area—serpentine; ② the Cat Eye Cut (600 ft. W of Chestnut Knob)—cat’s eye Corundum (asteriated); ③ Chestnut Knob, area—Corundum (white star); ④ Park Gap (near Chunky Gal Mt.): (a) area—Garnets; (b) on NE slope of the mt., area—Staurolites; ⑤ Red Corundum Knob, area—Actinolite, pink Corundum, gem Kyanite, Olivine crystals, Ruby, serpentine.

BRASSTOWN: ① area prospects and mines—Gold; ② W ½ mi., on N side of US 64, area Garnets; ③ E 1 mi., on Tusquitee Cr. (near Hayesville), area—Staurolites; ④ in rd. cuts along Greasy Cr.—Staurolites; ⑤ in bank along gravel rd. and nearby pastures and in matrix on mountainside (see map above)—Staurolites; ⑥ Greasy Cr. gravels—Almandite garnets, Staurolites.

HAYESVILLE: ① Corundum Knob (½ mi. W of the Bureau of Mines Sta.), area—Corundum (two tones); ② E, on Penland Bald, area—Garnets; ③ E 12 mi., near US 64, area Amphibole exposures—Rubes, Sapphires, Smaragdite.

SHOOTING CREEK: ① area exposures and gravels—Hyalite opal geodes; ② N 1.8 mi. on US 64, near Muskrat rd., in outcrop of Mica schist—pink Corundum; ③ W, near
Spring Hollow, area—Rutile crystals; ① W, at Elf: (a) area—Corundum (red, in nodules of green Amphibolite), opal, Quartz crystals, Smaragdite; (b) as float around lake Chatuge—Corundum (deep to gray blue, pink), Smaragdite; (c) area near Myers Chapel—Corundum.

CLEVELAND COUNTY

CASAR: ① area, NE via Rte. 10 into NE corner of Co.: (a) Carpenter’s Knob, 0.3 mi. NE of rd. following E side of the hill, on W bank of a farm rd. trending NW, area—Corundum (black, blue gray) enclosed in Sillimanite; (b) 1.6 mi. W of Toluca, Lincoln Co., on SE flowing tributary of Knob Cr., the A.F. Hoyle Mine—Apatite, Autunite, Garnet, Zeolite minerals; (c) area around St. Peters Church, numerous old mines—gem crystals; (d) S, on mining area centered at Carpenter Grove Church—gem crystals; ② S, on farms reached after crossing Ward’s Cr. W of town and along W fork of the Broad R.—Quartz crystals (rutilated); ③ N, on N side of Old Sheep Knob (just N of a dirt rd.), area mines—Corundum; ④ W 2 mi., area—agate, Quartz crystals (rutilated); ⑤ SW 2½ mi., the Cooke Mine—Beryl; ⑥ SW 3½ mi., the Elliott Mine—Beryl.

FALLSTON: ① E 1 mi. and N 3.8 mi., the Norman Mine—Garnets, Tourmaline; ② E 1.3 mi., on S side of the main rd., the Fallston prospect—Smoky Quartz crystals; ③ SE 3 mi., the Mauney Carpenter Mine—Quartz crystals (clear, smoky).

GROVER, N 2½ mi. on US 29E, then N on Co. rd., pegmatite—Aquamarine.

HOLLYBUSH, W side of Broad R., pegmatite—yellow Beryl.

KINGS MOUNTAIN (major mineral dist.): ① area gravels—Diamonds; ② the Foote Mineral Co. Mine, more than 30 gems and minerals, including—Apatite, Beryl, Bikitaite, Brannockite (fluorescent), Calcite, Cassiterite, Childrenite, Eucryptite (fluorescent), Fairfieldite (as good crystals), moonstone, Purpurite, Rodochrosite, Roscherite, Spodumene (fluorescent), black Tourmaline, Viviandite; ③ 1 mi. NW of jct. of US 74 and US 29, the Bun Patterson Mine—Beryl; ④ the Mountain Mine—Alunogen, Arsenopyrite, Galena, Garnet, Gold, Graphite, Muscovite, Melanterite, Pyrite (abundant crystals), Tourmaline and Quartz.

LATTIMORE: ① S ¼ mi., the Jones Mine—milky Quartz crystals; ② SE 1 mi., the Hunt Mine, abundant—Quartz crystals; ③ W 1½ mi., the Joe Humphries Mine—Beryl, Feldspar crystals (penetrating massive quartz), Tourmaline; ④ the L. Yates Brooks farm, area—Anatase (blue crystals), Muscovite; ⑤ 1 mi. from the Yates farm (inquire), area—Anatase, Muscovite.

POLKVILLE: ① NE 0.9 mi., the Getty No. 1 Mine—Muscovite, Marcasite, Quartz crystals, Spar, Sillimanite; ② NW 3½ mi. and just W of Duncan’s Cr., dumps of the Lattimore Mine, abandoned—Beryl, Quartz crystals, black Tourmaline.

SHELBY: ① area mines (very many), all highly mineralized: (a) N to Union Church and Double Shoals; (b) W to Mooresboro and Lattimore—Anatase crystals, Actinolite, Beryl, Emerald, Magnetite, moonstone, Muscovite, Quartz, Tourmaline, etc.; (c) S along Rte. 18 all way to Blackburg, Cherokee Co., SC, in regional fields, streams, cat banks, etc.—gem crystals; ② S on Rtes. 18 & 150 at the forks, then W 1.8 mi. to a secondary rd., turn S ½ mi.: (a) area along the Broad R., in fields on both sides of rd., several localities—Quartz crystals; (b) Charon Church crossd., S 1 mi., area—Quartz crystals; (c) ¼ mi. due N of the Stice Dam, area—Corundum (bronze, gray), Quartz crystals; (d) 1.3 mi. due E of Earl, on tributary of Buffalo Cr., area—Aquamarine, Garnet; (e) 1½ mi. E of the Stice Dam, the Turner Mine—Aquamarine; (f) 1 mi. NE of the dam, the Old Plantation Mine—gem Beryl; ③ N, along Little Harris Cr. Near rd. to Double Shoals, numerous Mica mines: (a) 1 to 1½ mi. SW of Union Church, mines (especially the Spangler Mine)—Garnets, Quartz with green mica inclusions; (b) 1.1 mi. S of the church, the Weathers Mine—abundant Garnets; (c) 2½ mi. SE of Union Church, area—Garnets, Mica; (d) on N
side of Cr. By Double Shoals, the Bowen Mine—Garnets, Mica; (e) ½ mi. from the Bowen Mine, at edge of woods S of Little Harris Cr., the Harris Mine—Feldspar crystals, Garnets, Smoky Quartz crystals; (f) 1½ mi. SW of Double Shoals on S side of dirt rd., the Mary Gold Mine—Sillimanite (gem); (g) NW 2.7 mi., the Niagara Mine; (h) NW 3.3 mi., the McGinnis Mine; and (i) NW 4¾ mi., the Martin Mine—crystals of Feldspar, Pyrite, Quartz; (j) NW 2.7 mi., the Niagara Mine; (k) NW 3.3 mi., the McGinnis Mine; and (l) NW 4¾ mi., the Martin Mine—crystals of Feldspar, Pyrite, Quartz; (m) S 30° W 4¾ mi., near E bank of first Broad R. and ½ mi. NE of the dam, area—Aquamarine, Beryl, Emeralds, Mica, Smoky Quartz crystals, Tourmaline; (n) SW 4¾ mi., the Allen property (and Turner Mine), area 6' thick dike—Aquamarine, Emeralds, moonstone, rutilated Quartz crystals; (o) W 6.2 mi., near Cr. ¼ mi. S of US 74, the McSwain Mine—Garnets, Sillimanite; (p) SW 6.2 mi., the Mill Race Mine, in mica schist—Garnets.

CUMBERLAND COUNTY

AREA:

① Countywide stream gravels and alluvial deposits, gravel pits, excavations, rd. cuts, etc.—agate, chalcedony, chert, jasper, common opal, agatized wood; ② Cape Fear R. and tributaries, gravel beds—agate, chalcedony, chert, jasper, common opal, agatized wood.

DAVIDSON COUNTY

AREA, very many regional mines—Chalcopyrite, Gold, arsenic Pyrite, Tetradymite.

CID: ① area mines—Chalcopyrite, Gold, arsenic Pyrite, Tetradymite; ② W, the Emmons (Davidson) Mine (12 mi. SE of Lexington)—Calcite, Chlorite, Gold, Siderite, Silver.

LEXINGTON: ① area S and E, noted old Gold-Silver belt, many abandoned mines—Gold, Silver, Marcasite, Pyrite, etc.; ② E 6 mi., the Conrad Hill Mine—Chalcopyrite, Limonite, Malachite, Silver, specular Hematite; ③ W 10 mi. and 1 mi. W of Oaks Ferry on Yadkin R. on Hairston farm—orbicular granite.

LINWOOD, NW 5 mi. and 1 mi. S of Tyro, area—Amethyst.

SILVER HILL (5 mi. SE of Lexington, an old abandoned mining town): ① area mines—Anglesite, Argentite, Calamine, Calcite, Cerrusite (fine crystals, massive), Chalcanthite, Chalcocite, Chalcopyrite, Cuprite, argentiferous Galena, Goslarite, Malachite, Melanite, Pyromorphite, Silver, Sphalerite, Stolzite, Wavellite (green, brown, black, colorless, yellow), Zoisite; ② N ¼ mi., old mine—Argentite, Feldspar crystals, Malachite, Pyromorphite, Scheelite, Wavellite; ③ S 1 mi., on W side of Flat Swamp Cr. Valley, NW of the Silver Valley crossrds., the Silver Valley Mine—Chalcopyrite, Galena, Gold, Pyrite, Silver, Sphalerite; ④ W 5 mi., David Beck's Mine—Chalcopyrite, Gold, arsenic Pyrite, Tetradymite.

THOMASVILLE: ① SE 1½ mi., the Loftin Mine—Gold; ② SE 2 mi., the Lalor (Allen) Mine: (a) on old dumps—Copper Pyrites, Gold, Limonite, Hematite; (b) ½ mi. W of the Loftin Mine, the Eureka Mine—Gold.

DAVIE COUNTY

AREA, mines, including Butler, County Line, Isaac, Allen and several old mines on Callahan Mt.—Gold.

FARMINGTON, E 2 mi. to Rte. 801, turn N for 1½ mi., area pegmatite exposures—Autunite, Columbite.

OAKS FERRY, W 1 mi., near the Yadkin R. on the Hairston farm—orbicular granite.
DURHAM COUNTY

BETHESDA, W of US 70, area fields, cuts, gravels, etc. as float—silicified wood.

DURHAM: ① W, near jct. of US 75 and Rte. 98, area float—petrified wood; ② inquire in town rock shops for directions to a major quarry about 15 mi. distance—Calcite, Biotite, Kobellite (steel gray var. of Jamesonite), Siderite (gemmy olive green crystals).

WEAVER, gravels of the Eno R.—agatized wood.

FORSYTH COUNTY

KERNERSVILLE, area fields, rd. cuts, gravels, etc.—Chrysolite, Bronzite, Tourmaline.

WINSTON-SALEM: ① area quarries, pits, deposits, etc.; and ② S 4 mi., mines—Halloysite, Hematite, Magnetite, Manganese Garnet.

FRANKLIN COUNTY

AREA: ① N part of Co., many pegmatite outcrops—Beryl, Mica; ② the Portis Mine—Diamond, Gold.

CENTERVILLE: ① area: (a) the Taylor place on Rte. 561 W of the crossrd., outcrop—royal purple Amethyst; (b) old mine dumps near Rte. 58 on rd. to Inez—Gold; (c) near Sandy Cr., on S side of first rd. out of town leading NW from Rte. 561, the Van Alston prospect—Gold; ② NW several mi., near 58, many pegmatites—Beryl, Feldspar and Quartz crystals, Tourmaline, etc.

FRANKLINTON, W 4 mi., several pegmatite outcrops, some mined—gem minerals.

LOUISBURG: ① area gravels, fields, etc.—Amethyst; ② E 18 mi., old placers—Gold, Diamonds.

YOUNGSVILLE: ① NW 4 mi., the Mitchell Mine, and ② NW 5 mi., near rd. to Pokomoke, the Gully Mine, both in pegmatites—gems and minerals.

GASTON COUNTY

ALEXIS: ① (a) E 1½ mi.; and (b) E 2.4 mi., in area fields as float—gem Kyanite, Lazulite, Rutile crystals; ② Chubb’s (Clubb) Dist.: (a) many area mines—blue Corundum, Dumortierite, gem Lazulite, gem Kyanite, Lithiophyllite; (b) Chubb Mt. area—Corundum (red, blue), Damourite, Gold, Manganese Garnet, Hematite, Magnetite, Margarite, gem blue Kyanite crystals, Rutile crystals, Talc, Tourmaline; (c) at the Lowe farm on Chubb Mt. On Hwy. 27 between Lincolnton and Charlotte—Rutile crystals; (d) Crowder’s Mt.—Barite, Chalcopyrite, Corundum (red, blue), Damourite, emery, argenticferous Galena, Gold, Manganese Garnet, Hematite, Limonite, Magnetite, Margarite, Menaccanite, Monazite, gem blue Kyanite crystals, Rutile crystals, Pyrite, Talc, Topaz, Tourmaline.

BESSEMER CITY: ① S, in the Devil’s Workshop area—Goethite; ② E 2.3 mi., near Long Creek Church, a pegmatite dike exposure—Apatite, Beryl, Spodumene.

CHERRYVILLE, N of Rte. 277 and E along Little Beaverdam and Beaverdam creeks: ① at confluence, pegmatite exposure—Cassiterite; ② SE 3½ mi., the Big Bess Mine—gem Apatite, Beryl, Garnet, Feldspar, Marcasite, Pyrite, Quartz (blue), Rutile crystals, Sillimanite, Tourmaline, Zircon; ③ SE 4.3 mi., the Self Mine—Feldspar crystals, Smoky Quartz, Zircon; ④ SE 5 mi., on Rte. 274, the Huskins Mine—Beryl, Garnet, Tourmaline.

CRAMERTON, S in extreme corner of Co.: ① the Oliver Mine (12 i. SW of Charlotte, Mecklenburg Co.) on W side of the Catawba R.—Galena, abundant Gold, Pyrite; ② the
McLean or Rumfeldt Mine (15 to 16 mi. SW of Charlotte); the Duffie Mine (16 mi. SW of the same town); and the Rhodes Mine (18 mi. SW)—Gold.

CROWDERS, the King’s Mt. area, numerous mines—Altaite, Bismite, Calcite, Chalcopyrite, Galena, Gold, Magnetite, Nagyagite, Pyrrhotite, Sphalerite, Tetrahedrite.

DALLAS, NW 6 mi., the Long Creek Mine (3 veins)—Gold.

KING’S MT. STATION: S 1½ mi., the Catawba (King’s Mt.) Mine, in limestone—Gold; E side of King’s Mt. and 4 mi. E of the Catawba Mine, the Crowder’s Mt. (Caledonia) Mine—Gold.

GRANDVILLE COUNTY

AREA: N half (with overlap into Person Co. on W), very many regional Copper and Gold mines including: Royster (Blue Wing), Holloway, Mastodon, Buckeye, Pool, Gillis, Copper World and Yancy—Bornite, Chalocite, native Copper, Gold, Pyrite; area stream gravels—Topaz; area mine dumps, rock exposures, etc.—Andalusite, carnelian, Malachite; Reed’s Cr. gravels—agate, jasper, jasp-agate, Quartz crystals; Oak Hill, S, on Mountain Cr.—agate, jasper; Long Mt., area—agate, jasper.

BULLOCK: E and SE, area exposures, abundant—Pyrite; NE 1½ mi.: (a) outcrop of metabasalt porphyry—Clinozoisite, Epidote, Labradorite, Titanite; (b) ½ mi. farther N—Epidote, Hornblende, Quartz crystals; NW 6 mi. and ¾ mi. from state line, area—Limonite, Hematite, Quartz crystals.

BUTNER, area—agate, Amethyst, jasper.

CREEDMORE-GRANVILLE-OXFORD, a 15 mi. long stretch along US 15 and I-85, area both sides of highways—cryptocrystalline quartz gemstones.

POCOMOKE, N 2 mi., area—Lepidolite (with Rubellite).

STEM, 2 mi. distant on Bowling Mt., deposit—Pyrophyllite.

VIRGINIA: area to S, many old Copper mines—Copper minerals, native Copper and Silver, Epidote, Hematite, Malachite, pink Feldspar, Pyrite, Quartz; S 2 mi., and 1 mi. W, the Holloway Mine—Bornite, Chalocite, native Copper, Gold, Pyrite; the Blue Wing Church: (a) N, the Blue Wing Mine—Azurite, Calcite, Argentite, Chlorite, etc.; (b) across rd. from church, prospect pits—Malachite, specular Hematite.

WILTON, E 2 mi., a granite quarry—Calcite, Epidote, Feldspar, Molybdenite, Quartz.

GUILFORD COUNTY

BIGSONVILLE, area—Quartz crystals (green, with Actinolite and asbestos inclusions).

FRIENDSHIP: N, the Tuscarora Iron Mine—Limonite, Hematite, Magnetite, Corundum; NE, the mine on the McCarvisten farm—Iron minerals.

GIBSONVILLE, area—green Quartz with asbestos inclusions.

GREENSBORO: SW 5 mi., the Fisher Hill Mine; SE 6 mi., the Hodges Hill Mine; SSW 6 mi., the Mills Hill Mine—Chalcopyrite, Gold, Hematite, Magnetite, Menacanite, Pseudomalachite, Pyrite, Siderite; SW 6 mi., the Twin Mine—Gold; SW 8 mi., the Gardner Mine—Chrysocolla, Gold, Malachite; S 9 mi., the North Carolina (Fentress) Mine, old, with Gold vein traced for 3 mi. along the outcrop—Copper minerals, Gold.

JAMESTOWN: NE 2 to 3 mi., the Gardner Hill Mine—Chrysocolla, Gold, Malachite; 2¼ mi., on N side of Rte. 29, the North State (McCullough) Mine—Chalcotrichite, native Copper, Cupric Pyrites (fine crystals), Cuprite, Malachite, Gold, Siderite.
HALIFAX COUNTY

AREA, all exposures of Quaternary gravels throughout Co.—petrified wood. BRINKLEYVILLE, S, on property of the Boy Scouts of America, area—Chalcopyrite, Molybdenite, Pyrite, Sericite. GLENVIEW, W 1.7 mi., old mine—Gold. ROANOKE RAPIDS, the Gaston Ore Banks—Limonite, Hematite, Magnetite.

HAYWOOD COUNTY

AREA: ① several pegmatite mines in Co. are open on a fee basis; make inquiry at any rock shop—Tourmaline and other gems, etc.; ② Hall’s Mine—Chlorite, Chrysolite, Corundum, Talc, Tremolite.

CANTON, NW 4 mi., the Presley Mine—Albite, Amphibolite, Corundum (blue, gray, altered into Damourite and Albite), Damourite (large crystals and scales), Sapphire (clear, color-zoned, opaque, star).

HAZELWOOD, S 21° E 3.9 air mi., on SW slope of Roberson Ridge between two unnamed branches of Deep Gap Cr., the Big Ridge Mine—Ankerite, Apatite, Biotite, Garnets, Hedenbergite, Margarodite, Menaccanite, Muscovite, Pyrrhotite, Quartz crystals and Tourmaline.

WAYNESVILLE:
① AREA, Newfound Gap, pegmatite—Rubies; ② N 2 mi., old mine—Talc, Tremolite, asbestos; ③ S 2 mi., on Richland Cr., old mine—Damourite, Garnet, Limonite, Psilomelane; ④ SE 6 mi., on the Pigeon R., the J.H. Edmondson property at Retreat—Almandite garnets, Corundum, gem Kyanite; ⑤ an outstanding locality for Rose Quartz is Shinning Rock ledge, E on Hwy. 276 for 7 mi. to Bethel, S through Sunburst to US Forest Ranger Sta., get permit and key to gate and drive 10 mi. to Shinning Rock—Rose Quartz.

HENDERSON COUNTY

BAT CAVE: N on Rte. 9: ① 1 mi., in gneissic outcrops—moss Epidote; ② ½ mi. farther, in rd. cut—Unakite.
ETOWAH, on SE slope of Forge Mt., the Boylston Creek Mine (12 mi. W of Hendersonville)—Gold.

MILLS RIVER, W, along the Green R. on the S side of the Blue Ridge, area—granular Calcite, Xanthitane, Zircon.

TUXEDO: ① area pegmatite mines, in a zone running NE to SW for several mi. semi-parallel with the Green R.: (a) ½ mi. E of town the Freeman Mine; (b) 1.8 mi. SW of town, the Pace Mine; (c) ½ mi. E, the Jones Mine; and (d) 3 mi. SW of the Freeman Mine—Apatite, Epidote, Garnet, Octahedrite, Sphene, abundant Zircon; ② W shore of Lake Summit, at W end—agate.

IREDELL COUNTY

AREA, countywide scattered outcrops of Quartz—Quartz crystals, specular Hematite.

HARMONY-TURNERSBURG, along the South Yadkin R., area—Beryl, Corundum, Tourmaline, etc.

MOORESVILLE, WNW 4½ mi., area—agate, Amethyst, Quartz crystals.

NEW HOPE: ① area old Mica mines—Beryl, Garnet, Mica, Quartz crystals, Tourmaline, etc.; ② ⅔ mi. S of the Post office, the McClelland prospect—Beryl, Quartz crystals; ③ SW 2 mi., the Campbell prospect—Beryl, Quartz crystals.

STATESVILLE: ① area: (a) the Statesville Quarry—Oligoclase sunstone; (b) the Cook farm, ¼ mi. W, area; (c) and 1½ mi. S, area—agate, Amethyst, Quartz crystals; ② area fields just N of town—Amethyst; ③ N on US 21 and 1.6 mi. N of the Prison Camp—Corundum (pale blue); ④ W, at the Acme (Collins) Mine—Sapphires (in stream gravels behind a drive-in theater; old mine dumps have been built over); ⑤ S 3 mi., area—agate, Amethyst, Quartz crystals; ⑥ W 5 mi., near old city airport, area—Zircon (fluorescent), ⑦ S 12½ mi., area—agate, Amethyst, Quartz crystals; ⑧ SW 14 mi., at Snow Creek: (a) N, on the Campbell property—Beryl (golden, green), Quartz crystals, black Tourmaline; (b) Fox Mt., area—Rutile crystals; ⑨ NW 14 mi.: (a) on farms along Rte. 115; (b) S of Rhyne’s store—Citrine, Quartz crystals (smoky, clear); (c) ⅔ mi. N of Rhyne’s store, a massive outcrop—Rose Quartz.

JACKSON COUNTY

AREA: ① countywide Cr. Gravels, particularly along the S slope of the Blue Ridge, near Hogback, Chimney Top Mts. and Cashiers, placers—Gold; regional pegmatite outcrops—Golden Beryl; ③ confluence of Johns Cr. With Caney Fork, a ridge ¼ mi. SSE, outcrop—Golden Beryl; ④ E central border, near Pinhook Gap, the McCall Mine—Feldspar, Garnets, Mica, Quartz crystal, Tourmaline, Uranium minerals; ⑤ Hall Sta., area—Almandite garnets; ⑥ the Wolf Creek Mine—Chalcopyrite, Chalcopyrite, Chrysocolla, native Copper, Malachite; ⑦ ⅔ mi. NE of Whiteside Cove, the Grimshawe Mine—Golden Beryl; ⑧ SW of Toxaway Mt. and ¼ mi. NW of US 64, pegmatite outcrop—Beryl, Aquamarine, Garnets, black Tourmaline, etc.; ⑨ S of US 64 on Transylvania Co. line: (a) area mines, especially the Rice Mine—Aquamarine, Sapphire; (b) along S shore of Sapphire lake, the Sapphire Mining Co. Mine—Sapphires.

BALSAM, S 57° E 2 air mi., the Big Flint (grassy Ridge) Mine—Biotite, Garnets.

CASHIERS: ① E 4½ mi., between Fairfield Lake and a tributary of Horse-pasture R., in peridotite exposure spanned by US 64 and extending to Little Hagback Mt. on the N—Corundum; ② Sheepcliff Mt., the Sheepcliff Mine—Aquamarine, Golden Beryl, Feldspar, Garnets (various colors), Mica, Quartz crystals, radioactive minerals; ③ Whiteside Mt., area old mines—pegmatite gems.
CULLOWHEE: ① the Cullowhee Copper Mine—Chalcocite, Chalcopyrite, Malachite, Malacite; ② S 41° W 3½ air mi. and 2,000' NW of Presley Cr., on a steep E facing slope (elev. 3,000'), the Bowers Mine—rum Mica.

DILLSBORO, S 23° W 7½ air mi., the Eagle Cope Mine (above Savannah Cr. And US 23, about ½ mi. W of the Cowee sawmill)—Biotite, Garnets, Muscovite, Pyrite, Pyrrhotite.

HOGBACK, the Hogback Mine—Chromite, Chrysolite, Corundum, Damourite, Dudleyite, Margarite, Quartz crystals (drusy), Rutile in Corundum (rare), Tourmaline.

MONTVALE: ① area stream gravels—Rubies, Sapphires; ② the Grimshawe Mine—Aquamarine, gem Corundum.

SAPPHIRE: ① area stream gravels along border of Transylvania Co. line; ② SSW 2 mi., the Beryl Mines (½ mi. N of summit of Sassafras Mt.); and ③ the Sapphire and Whitewater mines—Golden Beryl, Corundum.

WEBSTER: ① near town, an outcrop—gem Olivine; ② area dunite outcrops—Bronzite (altered Enstatite), Websterite (Bronzite-diopside); ③ area mines—Actinolite, chaledony, Chromite, Chrysolite, Corundum, Deweylite, Enstatite, Genthite, Magnesite (crystalline, earthy), Marmorlite, Penninite, Pyrolusite, drusy Quartz crystals, serpentine, Talc, Tremolite, Wad; ④ SE, via Rtes. 107 & 116, area deposits—Actinolite, Bronzite, Chromite, Diopside, Garnierite, Genthite, Goethite (botryoidal), drusy Quartz crystals, serpentine, Steatite, Websterite; ⑤ large pegmatite dike exposed in W central part of Co.—Gems, pegmatite minerals.

WILLETS: ① area not far E of town and Sylvia—Rhodolite garnets; ② SE 1 mi., on Sugarloaf Mt., via US 19A and old rd., a mine—Garnets.
LINCOLN COUNTY

AREA: ① an extensive Tin-Spodumene mining belt shared with adjoining Co.: (a) regional old mines, and (b) regional stream gravels, as float—Cassiterite nodules (pegmatites are most exposed SE of Laboratory and E of US 321); ② Pumpkin Center, SE 1 mi., old mines dating back to the Civil and Revolutionary wars—Goethite, Hematite, Tin minerals.

COTTAGE HOME, are gravels—Diamond.

DENVER: ① S 1.3 mi., at the Forney farm—Amethyst, Quartz crystal; ② SW 1/4 mi. and 2 mi. NE of Iron Station, a farm—Amethyst.

FALLSTON: ① NE 2 1/4 mi. and extending for some distance, series of pegmatite outcrops (some mixed)—Gem crystals and minerals; ② NE 3 mi., the Biggerstaff place (¼ mi. N of residence), the Deadman Mine—Feldspar crystals, Garnets, Hornblende, Quartz crystals, Tourmaline; ③ NE 4 mi. (on way to Flay): (a) the Brown and Carbine mines; and (b) the Foster Mines—Beryl, Garnet, blue Quartz, green Feldspar.

FLAY (near Fallston): ① area mines—Apatite, Corundum, Mica, Sillimanite (schist), black Tourmaline; ② S, at the Baxter Mine (off Rte. 274, almost on the Gaston Co. line)—Smoky Quartz crystals; ③ S 2 mi. and ½ mi. W of Rte. 274, the Eaker Mine—gem Garnets.

IRON STATION: ① area all way to Denver, in NE part of Co., scattered localities—gem Amethysts; ② NE 1.7 mi., on the Lynch farm—Amethysts; ③ NE 2 mi., at the Randleman (Goodsen) farm, (fee)—museum quality Amethysts; ④ NE 4 mi., the Graham Mine—Chalcopyrite, Gold; ⑤ N on Hwy. 1314 to Hwy. 73, turn right, then right on Hwy. 1509, and right again on Hwy. 1417, pay fee and walk to digging area on Reel farm—Amethysts.

LINCOLNTON, near the Hope Mine—Gold.

MACPELAM CHURCH, E 2 mi., old mine—Manganese Garnets, Chalcopyrite, Pyrite.

MACOM COUNTY

AREA: ① Hanging Dog Cr., gravel beds, and ② Persimmon Cr.—Staurolites.

BURNINGTOWN (3 mi. N of Franklin), off Rte. 28 via Co. rd., in gravels of Burningtown Cr.—Sapphires (orchid, pink).

ELLJAY (3 mi. SE of Franklin), the Mincey Mine—Corundum (various kinds), Ruby, Sapphire (bronze, blue).

FRANKLIN (Gem Capital of the World): ① area mines, prospects and diggings—Amethyst, Bronzite, Epidote, Fibrolite, Rhodolite garnet, jasper, Kyanite, Menacanite, Quartz crystals (dendritic), Rhodochrosite, Ruby, Rutile crystals, Sapphires, Spahlerite, Staurolites, Wad; ② E 1 1/4 mi. at Corundum Hill in dunite and serpentine—industrial Corundum, Rubies, Sapphires (blue, green, orchid, pink, yellow; to large size), Bronzite, Chromite, Olivine crystals; ③ ESE 4 1/4 mi., on S slope of Higdon Mt. ½ mi. N of US 64, W of Crows Branch Cr. Jct. With the Cullasaja R. (part of Corundum Hill), area outcrops (in dunite) and mines—Actinolite, Anthophyllite, Cerolite, chaledon, Chromite, Chrysolite, Corundum, Culsageeite, Deweylile, Diaspore (rare), Enstatite, Genthite, Kerrite, Maconite, Margarite, Magnetite, Hyalite opal, Penninite, Prochorolite, drusy Quartz crystals, Ruby, Rutile (rare), Sapphire, serpentine, Spinel (crystals, granular), Tourmaline, Talc, Tremolite, Wilcoxite; ④ E 6 1/4 mi., the Mincey Mine (also under Ellijay)—Corundum (various kinds), Ruby, Sapphire (bronze, blue); ⑤ S, along the Tennessee R., area—Columbite, Damourite, Garnets, Kyanite, Staurolites; ⑥ NW 1 1/4 mi. (from center of town), the Allman Cove group of Mines—Biotite, Feldspar, Muscovite, Quartz;
N 6 mi., the Cowee Valley (take Rtes. 23-141 N 3 mi. from Franklin, turn NW on Rte. 28 about 4 mi. into signposted mining dist. And up Cawee Cr. Past the Cowee Baptist Church): (a) many area mines (fee) — Garnets, Rubies, Sapphires, etc.; (b) confluence of Calor Fork and Cowee Cr., area gravels—Corundum (pink, orange, violet, white), Corundum nodules (in Saprolite); (c) turn E to the famed Cowee Creek Ruby Tract (of mines) along the Calor Fork of Cowee Cr., (Dale, Demko, Carter, Cowee Valley, Gibson; in creek flume diggings Holebrook, Rockhound Haven Gem, Shuler, etc.; fee charges at all mines) — Corundum, Garnets, Rubies, Sapphires; (d) regional mine dumps also contain Beryl, Bronzite, Chromite, Corundum, Fibrolite, Gahnite (zinc spinel), Garnets, Gold, Hornblende, Ilmenite, Iolite (colorless), Kyanite, Monazite, Pleonaste (black spinel), Pyrite, Quartz crystals, Rubies, Rutile crystals, Sapphires, Staurolite (transparent), Tremolite and Zircon; ③ N 5 mi. on Hwy. 28, right to head of valley to Masom Mt.—Moonstone; ④ 10 mi. E at Sheep Knob Mt.—Aquamarine; ⑤ one of the most reliable locations for Rhodolite garnets, is a Mason Branch Mine known as the Ried Mine, Take Hwy. 28 NW from Franklin 5 mi. to Mason Branch sign pointing to mine, take rd. ¼ mi. to mine—Rhodolite garnets, Sapphires.

HIGHLANDS: ① in city limits, a pegmatite outcrop just N of US 64—Beryl; ② SW on US 64 (NW of town) and W 2 mi. to dry Falls, then take Co. rd. southerly along Turtle Pond Cr.: (a) in area gravels—Corundum, Almandite garnets, Quartz crystals, etc.; (b) an old mine in area—Beryl (common, golden), Feldspar, Muscovite, Quartz crystals, black Tourmaline; ③ 3 mi. out on US 64 turn onto gravel rd. ¾ mi. to Whiteside Mt., area—Almandite garnets; ④ SE 4½ mi., N of rd. just W of the Jackson Co. line, the Ammon
Mine—**Amethyst**; ☮ SW 5½ mi. on Rte. 106, to Little Scaly Mt.: (a) in area rock exposures, and (b) area mines—**asbestos**, gem **Corundum**, **Rutile** crystals, **serpentine**, **Vermiculite**; ☪ 6 mi. out on Rte. 106, the Waggoner Mine (on Abe’s Cr.) — **Amethyst**.

**OTTO** (9 mi. S of Franklin): ☮ E 0.6 mi.: (a) a mine on Tessentee Cr.—**Amethyst** (in Kaolinite weathered from pegmatite);  (b) area stream gravels—**Amethyst**, **Garnets**;  (c) near headwaters of Tessentee Cr., old mine—**Amethyst**, **Beryl**, **Corundum**;  ☪ mouth of Tessentee Cr.: (a) NE 2 mi., the Connally Mine;  and  (b) E 4 mi., area gravels—**Amethyst**, Quartz crystals.

**RAINBOW SPRINGS**, SW 9 mi. on Hwy. 64 to bridge where Buck Cr. Crosses hwy., turn right at bridge and go 1 mi. to another bridge, park and hike up mt. To outcrop—**Pyrope** garnet, **Ruby** in **Smaragdite**.

**WESTSMILL** (6 mi. N of Franklin via Rte. 28), S 1.6 mi. from the Wests Mill bridge to slopes of Mason Mt.: ☮ area stream gravels—**Corundum** pieces, **Garnets**, **Hornblende** and Quartz crystals; ☪ the Rhodolite Mine—Rhodolite garnets (abundant), **Gedrite**, **Hypersthene**, Biotite;  ☮ ½ mi. S of crest of Mason Mt., a quarry—Rhodolite garnets, **Gedrite**, **Hypersthene**, **Kyanite**, Biotite, Quartz crystals.

**MADISON COUNTY**

AREA: ☮ many rock exposures along Co. rds. and hwys.—**Unakite**; ☮ N part of Co., many localities—**Essonite** garnet, **Vesuvianite**; ☮ W part of Co., in mined deposits—**Ilmenite**, **Hematite**, **Magnetcite**, **Psilomelane**, **Pyrolusite**; ☮ Bear Cr., 2 mi. above mouth, area—**Calcite**, **Chlorite**, green **Coccolite**, **Epidote**, **Garnet** (large crystals), gem **Kyanite**, **Magnetcite**, **Staurolite**, Talc; ☮ gravel s of Reed’s Cr.—jasper; ☮ Lemon Gap, S ½ mi. on East Fork Cr., area—**Allanite**.

**BLUFF**: ☮ area outcrops—Unakite, jasper;  ☮ NE 1 mi., old mine—**Barite** crystals; ☮ SW 2 mi., Roaring Fork Cr.: (a) ½ mi. W of confluence with Meadow Fork, outcrop—Unakite;  (b) 1 mi. N of confluence with Sprng Cr. (which empties into French Broad R.) —Unakite.

**DEMOCRAT, N**, 1.7 mi. to first E trending rd. after passing the Pleasant Gap Methodist Church, then ¼ mi. to the Carter Mine (at head of Holcombe Branch) —**Beryl**, **Chromite**, **Chrysolite**, **Corundum** (pink, white), **Culsageeite**, hornstone, **Hyalite** opal (aqua color), **Menaccanite**, **Olivine** crystals, **Prochlorite**, **Quartz**, gem **serpentine**, **Spinel**, **Tremolite**.

**HOT SPRINGS**: ☮ area, a new discovery—orange fluorescent Barite crystals with Sphalerite; ☮ area gravels, float in field, rd. cuts, etc.: (a) along the French Broad R.,  (b) around Knapp’s store, and  (c) near Reed’s Cr.—gem jasper; ☮ just S and extending to Joe and E to big Lauel and Walnut creeks, the Max patch Mts., type locality, with many outcrops in a broad area along the Tennessee border—Unakite, jasper.

**MARSHALL**: ☮ area—**Bornite**, **Calcite**, **Chalcopyrite**, **Epidote**, **Fluorite**, **Galena**; ☮ gravel beds of Little Pine Cr.—**Rhodolite** garnets;  ☮ N 6 mi. on Redmon Dam rd, cross dam, turn right, go to forks, take left for to Lone Pine Mine (fee $2.00) —**Almandite** garnets.
REDMON: ① just N, above RR tracks—gem Almandite garnet; ② SW 2 mi., on Little Pine Cr., the Little Pine Garnet Mine—Almandite garnet; ③ SW, near headwaters of Paw Paw Cr., old mine—Barite.

WALNUT: ① area exposures, occasional—Staurolites (twinned crystals); ② Walnut Cr., near the French Broad R., area—green Coccolite in Calcite, Phlogopite mica.

McDOWELL COUNTY

AREA: ① stream gravels of Co.—Pyrope garnets, placer Gold; ② area Mica mines (many)—Garnets, Mica, etc.; ③ Glade Cr., North Muddy Cr., and South Muddy Cr.—Gold, Platinum, etc. ⑤ Hunt’s Mt., area—Gold; ⑤ Second Broad R., between Vein Mt. And Huntsville Mt., the Vein Mt. Mine—Chalcopyrite, Gold, Pyrite; ⑧ the old toll rd. to Mt. Mitchell, near Greybeard Mt. (almost on the Buncombe Co. line), pegmatite outcrop; and ④ many other pegmatite exposures in area—Almandite garnet, Autunite, Beryl, Columbite, Smoky Quartz crystals, Samarskite.

BRACKETTOWN, in valley of the headwaters of South Muddy Cr., the Marion Bullion Co. Mine—Chalcopyrite, Diamonds, Galena, Gold, Platinum, Pyrite, Sphalerite.

DYSARTSVILLE: ① numerous area old era Gold mines, placers—Gold; ② South Muddy Cr. Crossing of Rte. 26: (a) in cr. gravels—Diamond, Gold; (b) nearby placer mines—Corundum, Gold, Zircons; (c) a tributary 1.2 mi. SE of town, the Mills farm—Corundum; ③ SW 2 mi., on N side of paved rd. to US 221, as float in stream gravels—Corundum.

GRAPHITEVILLE, area exposures, extending into Buncombe Co.—graphite, gem Kyanite, Quartz crystals.

MARION: ① S, in pegmatite dike exposures—gem crystals; ② Lincolnville Mt.: (a) area—Quartz crystal; (b) ½ mi. S of North Cove School, on the Gregg and Lonon farms—Psilomelane, Pyrolusite; (c) near the North Cove along Honeycutt Cr. And Tom Cr. N of US 221, in Mica prospects on the Swofford property—Mica, Uranium minerals; ③ headwaters of North Fork of the Catawba R.—Pyrite, Sphalerite; ④ SW 6 mi., the Sugar Hill area, on the Charles Laney farm—Amethyst.

NEBO: ① RR and rd. cuts along Rte. 105—Quartz crystals; ② outcrops of Mica schist in the banks of Lake James, abundant—Garnets.

OLD FORT: ① W, in the Brevard Belt, area mines—Graphite; ③ W 4½ mi., along Mills Cr., area mica prospects—Beryl, Mica.

WOODLAWN: ① quarry near US 221—dogtooth Calcite; ② a few hundred yds. N, area—phantom Quartz crystals.

MECKLENBURG COUNTY

AREA, Clear Cr. Twp., on a high plateau from which flow McAlpine’s Cr. to the SW, Reedy Cr. to the NE, and Clear Cr. to the SE: ① the Surface Hill Mine—Chalcopyrite, Gold; ② old mine on Clear Cr.—Diamond, Gold.

Caldwell, area float—agate, carnelian, chalcedony.

Charlotte: ① building excavations in city—jasper, leopardite; ② S ½ mi. from town center, the St. Catherine (Charlotte) Mine, and ① S 1 mi., the Rudisil Mine—Copper Pyrites, Gold, Iron, massive Pyrite, Silver (traces); ③ W 2½ mi., the Clark Mine—Gold; ⑤ NW 5½ mi., the Capps Mine (between Rossel’s Ferry and Beattie’s Ford rds.)—Copper minerals, Gold; ⑥ W 9 mi., the Stephen Wilson Mine—Gold; ⑦ NW 11 mi., the Hopewell (Kerns) Mine, and other nearby mines and prospects—Copper minerals, Gold, Pyrite, etc.
MICHELL COUNTY

AREA: This is a generally rugged, mountainous county with so many gem mines that detailed topographic or quadrangle maps, or such rockhound maps as are put out by Baker’s Motel and Tainter’s New Service in Spruce Pine are required for pin-point accuracy in locating many of the prolific collecting locations. Nearly all such locations are old or active mines, privately owned, and requiring either permission to enter or a modest fee to collect. Almost all the mines listed here are in the Spruce Pine surroundings. ① countywide stream gravels and gravel pits—agate; ② Grassly Cr.: (a) area gravels—Aquamarine, Golden Beryl; (b) the prehistoric Indian Sink Hole Mine—blue Beryl; (c) the Meadows Mine—blue Beryl; ③ the Buchanan Mine—Albite feldspar, Allanite, asbestos, Beryl, Gummite, Manganese Garnet (black Andradite), Graphite, Muscovite, Kyanite, Phosphuranylite, Yttriummumite.

BAKERSVILLE: ① nearby Clarence Wilson farm, exposure of a Feldspar matrix—gem Epidote crystals; ② the Kona area, exposures—Epidote; ③ Medlock Mt., area—Feldspar crystals (included with Hematite or Goethite); ④ SE 1 mi. on white Oak rd., the Pannell Mine (reached by turning left out of town on Rte. 226)—Braznitzite, Corundum, Mica, Vermiculite; ⑤ SE 1.2 mi., the Pannell farm, exposures—Ruby, Sapphire; ⑥ S 2½ mi., a mine—Actinolite, Chromite, Chrysolite, Deweylite, Enstatite, Magnesite, Penninite, Quartz crystals, Rutile (in Corundum), Saponite, serpentine, Tale, Tremolite; ⑦ SE 4 mi. on Hwy. 226 in Quartz near top of Yellow Mt.—Kyanite; ⑧ E 3 mi., area—Albite, Epidote; ⑨ N 1 mi., at base of Meadow Mt., area moonstone, Oligoclase feldspar (transparent); ⑩ NE 1½ mi., Clarence E. Wilson property—Epidote (doubly terminated crystals); ⑪ N, on McKinney Cove rd., at Lick Ridge, area—chatoyant moonstone, Epidote (dark crystals), Sphene; ⑫ N on the Roan Mt. rd. (Rte. 261) to area of scenic Roan Mt. (elev. 6,267'): (a) turn W 0.3 mi. S of Carvers Gap, opposite sign Pete’s Crest Farm, a mine—Uranium minerals; (b) area outcrops on Roan Mt.—Unakite; (c) 12 mi. NW on Hwy. 261 at Roan Mt. Flower Garden—green Feldspar, Thulite; ⑬ NE 7 mi., on the Dillinger farm—gem Kyanite (bladed green crystals).

BANDANA: ① the Sink Hole Mine—Apatite, Beryl, Apatite Garnet, Kyanite, Thulite; ② S 3 mi., the Abernathy Mine—Apatite, Biotite, various fluorescent minerals.

CARVERS GAP: ① W 1½ mi., on N bank of the Roan Peak rd.—Unakite, massive green Epidote; ② S 3 mi., granite outcrops—Unakite.

CROSSNORE, N, at the Hanshaw Mine—Garnets.

FLAT ROCK: ① area—Chrysoberyl; ② from 4 mi. NW of Spruce Pine turn N at Lawson Jct. To Rag Branch, pegmatite mine—Hyalite opal (fluorescent), Thulite, Uranium minerals; ③ the major area mines—Albite Autunite, Epidote, Garnet, Gummite, Menaccanite, Muscovite, (pink, white), Phosphuranylite, Uraninite, Uranotile, Zircon, Zoisite (var. Thulite).

GILLESPIE GAP (on the Blue Ridge Parkway S of Spruce Pine), N 4 mi., turn E on Co. rd. 1117 (Carter Ridge rd.) for 1.2 mi., on N side of rd., the Wiseman Aquamarine Mine (no collecting on Sundays)—Aquamarine.
GLEN AYRE (NE of Spruce Pine): the Biddix place—moonstone; ② NE 2.4 mi. (¼ mi. E of Rte. 261), mine owned by Benton McKinney—Orthoclase feldspar (with sunstone sheen).

HAWK (4½ mi. ENE of Spruce Pine on Co. rd. 1211, about halfway between Rte. 226 and US 19E): ① N 1 mi., the Hawk Mine—Allanite, Apatite, Epidote, Oligoclase feldspar (water clear crystals), Pyrite, Thulite, black Tourmaline; ② E 1 mi., the Stagger Weed Mine—Feldspar and Milky Quartz; ③ the Sugar Tree Mine—Garnets (huge clear crystals); ④ S, at the Clarissa Mine—gem Garnets; ⑤ E 2.6 mi.: (a) old mine dumps—Corundum, Kyanite, Ruby, Sapphire, Tremolite; (b) the Dillinger farm—Ruby, Sapphire.

INGALLS, W on Co. rd. 1143 (area starting 3 mi. E of Spruce Pine leading from main hwy.), area fields, cuts, etc.—Actinolite crystals (in boulders), foliated Talc, Steatite.

KINGS MT., the Foote Mineral Co. Mine—Cassiterite, Spodumene.

LINVILLE FALLS, E 4 mi., at Wiseman View, area fields, cuts, etc.—Actinolite, Amazonite, Autunite, Garnet, Hylaitlte crystals.

LITTLE SWITZERLAND (on the Blue Ridge Parkway), NW via Co. rd. 110 and 1104 to the Crabtree Emerald Mine (map next page)—Apatite (fluorescent), Emerald, Emerald matrix.

MOUNT PLEASANT, NW 2½ mi. on rd. to Hughes, turn left on dirt rd. at Hughes, the Lieback Mica Mine—fine large red Garnets.

PENLAND: ① E 0.2 mi., in horseshoe bend of the North Toe R., the Deer Park Mine (map 5)—Autunite, Feldspar crystals, Garnet, Hylaitlte opal, Mica, Monazite crystals, Thulite, Torbernite, Uraninite; ② Penland Jct.: (a) in rd. cut on Rte. 226—gem Epidote; (b) N 1½ mi., Bear Cr. Gap (on Bear Cr. Rd. N of Rte. 226), area—gem Kyanite.

SPEAR, many area mines and dumps—Beryl, Garnets, Epidote crystals, Mica. Most mine rds. Require 4-wheel drive.

SPRUCE PINE. This small community in located on US 19E about 4 mi. N of the Blue Ridge Parkway, a center for a large Feldspar and Kaolin mining industry. Within a radius of 20 mi. are far too many gem and mineral mines to list other than a few of great interest. Many of the commercial mines are open to collectors on weekends only, or weekdays if no blasting is schedules. Because of the rugged terrain, it is advisable to hire a local guide with a 4-wheel drive vehicle. Mine owners usually charge a modest fee. The town itself has many rock shops through the center of town. ① Area mica and Feldspar mines (very many)—Actinolite, Amazonite, Autunite, Garnet, Hylaitlte opal, gem Kyanite, foliated Talc, Thulite, Tourmaline, etc.; ② the Grassy Creek Mine near town—Aquamarine; ③ E on US 19E to English Knob (0.4 mi. W of the Avery Co. line), mine on E side of hwy.—Autunite, Columbite, Cyrtolite, Gummite, Monazite, Pitchblende, Samarskite, Torbernite; ④ E on US 19E to jct. With Co. rd. 1143 (second rd. branching N), then: (a) N 1 mi., a mine—Actinolite, Talc; (b) N 1.3 mi., turn right on unmarked rd. (leading to city dump) 0.2 mi. to the Wiseman Uranium Mine (closed weekends - map 6) and 0.9 mi. to the Pink Mine (3 mi. from town; closed on weekends)—Apatite, Garnets, Uranium minerals; (c) N 5 mi., the Spread Eagle Mine—Feldspar, Garnets, Gummite and rare Uranium minerals. Five mi. out on Co. rd. 1143 is a 3-way fork (the right fork leading to Ingalls). The center fork has two mines on a trail to the right—Smoky Quartz crystals, radioactive minerals; the left fork leads to three mines (the most distant being 6 mi. from town)—Garnets, Hylaitlte opal, pegmatite minerals. ③ S on Rte. 226 leading toward the Blue Ridge Parkway, three major mines: (a) 1½ mi. from town, the Henry Mine—Steatite, foliated Talc; (b) ½ mi. ESE of Chalk Mt., the McHome Mine—Amazonite, Aquamarine, Golden Beryl, gem Spodumene; (c) 2½ mi. from town, the Wiseman Mine—Aquamarine (sea blue), Golden Beryl, Mica, Spar; ④ SE 2½ mi. (air) and SE of Brush Cr. (follow Rte. 226 to Little Switzerland 5 mi. S of Spruce Pine, turn right on Co. rd. 1100 to a church, take Co. rd. 1104 to the Crabtree Emerald Mine (elev. 5,000'), (fee)—Emerald, Garnets, Beryl (pale colors, yellow), Schorl;
The Spruce Pine - Little Switzerland Area

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<th>Location</th>
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<tr>
<td>Fanny Gouge Mine</td>
<td>Aquamarine, Garnet</td>
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<td>Crabtree Mine</td>
<td>Emerald, Golden Beryl</td>
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<td>No 28 Mine</td>
<td>Thulite</td>
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<td>McKinney Mine</td>
<td>Beryl, Thulite, Amazonite</td>
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<td>Slippery Elm Mine</td>
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<td>Grassy Creek Mine</td>
<td>Aquamarine, Moonstone</td>
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© W to jct., with Crabtree rd. (Co. rd. 1002): (a) S on Crabtree rd. to the McKinney Mine (map 4)—Amazonite, Autunite (staining feldspar), Beryl (massive opaque green or blue),
North Carolina

Bornite, Chalcoprite, Columbite, Covellite, Gummitte, Hylaitte opal (blue, translucent, brilliantly fluorescent), Malachite, Muscovite, (with brilliant Garnet inclusions), Samarskite, Sphalerite, sunstone, Torbernite, Uraninite; (b) W to next S trending rd., S to fork, turn W to the Old No. 20 Mine (5 mi. SW of Spruce Pine on W fork of Crabtree Cr.) —Beryl, Crystallite, Kryolite (amber), Feldspar, gem red Garnets, Gummitte (orange), Hylaitte opal, Muscovite (greenish), Thulite, Torbernite, Uraninite; (c) nearby Ray Olivine Mine—asbestos, Chlorite, Chromite, Olivine, serpentine, Talc; (d) W 2 mi. on US 19E, then SW 1 mi. on a mine rd., the Chalk Mt. Mine (a working mine with a sheer face of 200') —Autunite, Feldspar, Hylaitte opal, Muscovite, Quartz crystals, Thulite, Torbernite; (e) NW 1 mi. on Rte. 226 (toward Bakersville): (a) area rd. cuts—Byssolite, gem Epidote crystals, Stilbite, Zeolites; (b) 1½ mi. up Sullins Branch rd., the Sullins Mine—Autunite, Hylaitte opal, Torberntite; (g) NW 1.7 mi. on Rte. 226 to dirt rd. leading ½ mi. N, the Southern Branch Mine—Garnets, Hylaitte opal, pink Orthoclase crystals, Unakite; (h) NNE 1.8 mi., the Wiseman Tract (¼ mi. SW of English Knob) —Aquamarine, Golden Beryl; (i) NW 2 mi. on Rte. 226 and 1½ mi. NE of Minpro on a private rd., the Pine Mt. Mine—Autunite, Hylaitte opal, Torbernte; (j) N on Rte. 226 about 4 mi., turn NE onto first unmarked mine rd., park car and hike 2½ mi. uphill to the Chestnut Flats Mine—Garnets, Uranium minerals; (k) NW 5 mi., the Putnam Mine (and on dumps of adjoining Deer Flat and Pine Mt. mines) —pink Thulite; (l) NW 8 mi. on Rte. 226 and 2 mi. on the Slagle gravel rd., in the Snow Cr. Section, the R.B. Phillips Mine—Garnet, Mica.

MONTGOMERY COUNTY

AREA: (1) regional abandoned silica quarries—Quartz crystals (clear, smoky, some rutilated); (2) Beaver Dam Cr. Jct. With the Yadkin R., NE 2 mi., the Beaver Dam Mine—Gold, Pyrite; (3) regional mines, especially in the extreme NW corner of Co. (such as the Bright, Ophir, Dry Hollow, Island Cr., Deep Flat, Spanish Oak Gap, Pear Tree Hill, Tom's Cr., Harbin's, Bunnell Mt., Dutchman's Cr., Worth, etc.)—Gold; (4) Extreme N part of Co. along the Randolph Co. line, the Uwharrie Mts., numerous mined deposits—Anatase crystals (clear blue, bi-colored, in Quartz), Limonite.

CANDOR: (1) W 2½ mi., the Montgomery Mine—Gold; (2) W 3 mi., the Iola Mine—Gold, siliceous Pyrite.

ELDORADO: (1) area old mines—Azurite, Calcite, Gold, Hydrozincite (strongly fluorescent), Malachite, Pyrite, Silver, Smithsonite, Sphalerite; (2) SE 2 mi., on E side of the Uwharrie R., a mine—Gold; (3) NE 3 mi., the Riggon Hill Mine—Gold; (4) S 8 mi., the Moratock Mine—Copper minerals, Gold, Pyrite; (5) N 1½ mi.: (a) the Coggins (Appalachian) Mine, in argillaceous slates and schists—Gold; (b) E, at the Eldorado Mine—Gold, Silver, Pyrite, etc.; (6) N 3 mi., near the Randolph Co. line, the Russell Mine in silicified slate—Calcite, Gold.

STAR, W 3 mi., the Carter Mine—Gold.

TROY: (1) area stream gravels—petrified wood; (2) a nearby old mine—leopardite; (3) NE 14 mi., the Black Ankle Mine—Gold.

WADEVILLE: (1) W, to within e mi. of the jct. of Rtes. 24 and 27, the Sam Christian Mine—Gold nuggets; (2) area abandoned silica quarries—Quartz crystals (smoky, rutilated).

MOORE COUNTY

AREA: (1) mines such as the Bat Roost, Grampusville, and Schields—Gold; (2) gravels of Deep Cr.—petrified wood; (3) gravels of Shut-In Cr.—jasper (gemma, showy).
CARTHAGE: ① NW 8 mi., the Bell Mine—Gold; ② NW 11 mi., the Burns (Alfred) Mine—Gold: (a) ⅓ mi. N, the Cagle Mine, and (b) ¼ mi. W of the Cagle, at the Clegg Mine—Gold.

GLENDON: ① area Pyrophyllite mine—Fluorite, Hematite, Lazulite, Pyrite; ② NE 1.6 mi. (go 1 mi. E from town, turn E 1.3 mi. on old logging rd. and take right fork to an old Copper mine on the Haw Branch rd.)—Azurite, Calcite, Malachite.

ROBBINS, SW, at confluence of Cabin and Dry creeks, on the Moore farm—Amethyst, Quartz crystal.

NASH COUNTY

AREA: ① regional mines such as Conyer’s, Nick Arrington, Thomas, Kerney, Taylor, Mann, Davis, etc.—Gold; ② Portis Mine: (a) on dumps—Gold, Iron, Manganese minerals; (b) SE 1 mi., the Arrington Mine—Gold.

ARGO (NW corner of Co. and 5 mi. SE of Ransom’s bridge), the Mann-Arrington Mine, in chloritic and porphyritic schist—Gold.

NASH & FRANKLIN COUNTIES

AREA, the N portion of these two counties plus the S sections of Warren and Halifax counties, known as the Eastern Carolina Belt, comprises some 300 sq. mi. containing very many old mines—Gold.

ORANGE COUNTY

CHAPEL HILL: ① area woods, fields, creek gravels—moss agate, petrified wood; ② area mines—Chalcopyrite, Epidote, Hematite, Limonite, Magnetite, Pyrite, serpentine; ③ NW 12 mi., the Robeson Mine in Quartz—Gold.

HILLSBORO: ① area fields, stream gravels, rd. cuts, etc.—moss agate, sagenitic Quartz crystals (Chlorite inclusions); ② area mines—Barite, Chlorite, Epidote, Pyrite cubes, Pyrophyllite; ③ S, in abandoned Barite pit—Barite, Calcite, Celestite; ④ NE 5 mi. and just S of city, near RR crossing on Rte. 86, area—Andalusite crystals, Pyrophyllite rosettes; ⑤ at Piedmont Minerals Mine—Andalusite, Lazulite, Topaz.

PERSON COUNTY

REGION, extending SW, covering part or all of the counties of Durham, Orange, Alamance, Chatham, Randolph, Moore, Montgomery, Davidson, Stanley, Cabarrus, Anson and Union. Known as the Carolina Slate Belt, this region contains many once rich Gold mines in a zone from 15 to 50 mi. wide. The chief gangue minerals in these mines are: Bornite, Calcite, Chalcopyrite, Quartz, Rhodochrosite and Siderite.

ALLENSVILLE, NE ¼ mi., then N on secondary rd. 1 mi. to the old Durgy Copper Mine—Malachite.

LONGHURST, NW 2 mi. to Hager’s Mt., Quartz vein exposed between rd. and Marlowe Cr. to the W—gem Kyanite (with Pyrophyllite).

SURL: ① N 2.3 mi. on paved rd. to Mt. Tizah (S part of Co.), on W side of rd. across from a church, area fields, rd. cuts—Actinolite, Hematite, Limonite, Manganese minerals, Quartz (with Chlorite inclusions); ② 1 mi. E of Mt. Tizah along rd. to Moria, area fields and cuts—Pyrite crystals, Limonite (most cubes found ¼ mi. W of Mt. Tizah).
POLK COUNTY

AREA: ① the many regional Gold mines are in extensions of the South Mountain region and include noted old mines as the Double Branch, Red Springs, Splawn and Smith—some Chalcopyrite, Gold, Pyrite; ② regional stream gravels—Garnets, placer Gold, Rutile crystals, Staurolites, Zircons.

PEA RIDGE: ① area old mines, and ② S ½ mi., the North Star Mine—gem Feldspar and blue Quartz, Garnets, Tourmaline.

SALUDA, SE 5 mi., an old mine—Calcite, Epidote, brecciated jasper, Feldspar crystals, Pyrite, Quartz crystals.

RANDOLPH COUNTY

ASHEBORO: ① area granite outcrops—Unakite; ② W 6 mi. and N of US 64, abandoned road dept. quarry via secondary rds.—Epidote, Feldspar; ③ W to near Co. line, the Jones (Keystone) Mine (18 mi. E of S from Lexington, Davidson Co.) —Limonite pseudomorphs after Pyrite, Gold.

FARME: ① on S side of rd. between town and Denton, Davidson Co., at Copper Hill—Quartz crystals (with mossy green inclusions of Actinolite); ② the Hoover Hill Mine (17 mi. E of S from High Point, Guilford Co.) in quartz veins—Gold.

STALEY, W 4½ mi., the Bernhardt Pyrophyllite mines—Andalusite crystals, Barite crystals, pearly Diaspore, Fluellite (fluorescent), Lazulite (crystal, massive), Pyrophyllite (radiating green crystals, fluorescent), foliated green Ottrelite, Pyrite.

RICHMOND COUNTY

ELLBERLE, area creek gravels—petrified wood.

ROCKINGHAM COUNTY

PRICE: ① very many regional mine dumps—gems, minerals; ② W 1 mi., on state line, the Clifton Mine—Garnets, variegated Quartz; ③ SW 3¼ mi., on S side of the Price-Sandy Ridge rd., the Short Top Smith Mine, reached via VA Rte. 692 left of US 220, Rte. 691 (left of Rte. 692) to third graded Co. rd. (mine rd.), turn left ½ mi.—Allanite, Autunite, Tourmaline, Uranophane, Uraninite; ④ W and S, a broad region of rural rds. (requires topographic map): (a) SW 5 mi. (leave town on US 220, turn immediately left to reach VA Rte. 692, cross VA state line and immediately turn left on VA Rte. 691 to first ungraded rd., turn left 1 mi.), the Long Tom Smith Mine—Garnet, Quartz (clear, smoky); (b) 1 mi. farther along same rd., the Rosa Evans Mine, on steep slope—Spessartite garnet, Smoky Quartz crystals.

ROWAN COUNTY

GOLD HILL: ① area mines, numerous—Magnetite, Manganese Garnet; ② a nearby quarry—Amethyst, sunstone; ③ SW 1½ mi., the Mauney Mine—Gold; ④ E 3 mi., the New Discovery Mine—Gold; ⑤ E 3½ mi., the Dun’s Mt. Mine—Gold, Pyrite; ⑥ E 6 mi.: (a) the Reimer Mine, on the Yadkin R.—Gold; (b) 1½ mi. E of the Reimer, the Bullion Mine (little worked), in outcrops as traces—Gold; ⑦ SE 9 mi., the Gold Knob Mine—Gold; ⑧ SE 10 mi., the Dutch Creek Mine—Gold, Pyrite.

GRANITE QUARRY, area outcrops and exposures of granite—Smoky Quartz crystals.

MT. ULLA, area fields, gravel pits, etc.—Amethyst, Quartz crystals.
SALISBURY: ① area fields, gravels, rd, cuts—Amethysts; ② regional pegmatite outcrops—Tourmaline (bi-colored, pink and green, crystals area small); ③ E 3½ mi., the Dun’s Mt. Mine—Gold.

WOODLEAF, area quarry—pale green Prehnite crystals.

RUTHERFORD COUNTY

AREA: ① many old Gold mines, in quartz mostly—Gold, some Platinum; ② Sandy Level Church, area mine dumps—Gold, Platinum, Diamonds (rare); ③ the J.D. Twitty placer mine—Gold, Diamonds.

ELLENBORO: ① on outskirts of town, the Maurice Mine—Tourmaline; ② NE 3.2 mi., on W banks of Sandy Cr.: (a) the Dycus Mica Mine—Beryl, Rose Quartz; (b) farms of Martin and Toney, pegmatite outcrops—Beryl; ③ NE 5 mi., the D.G. McKinney Mica prospect—Beryl.

GILKEY, E, on W side of Blacksmith Shop rd. 1.4 mi. S of the Green Hill School, pegmatite outcrop—Corundum, Fuchsite mica.

HOLLIS, N, in area of Huckleberry Mt. and Lisenberry Mt., many old mines—Mica, Quartz crystals.

RUTHERFORDTON: ① area mines, such as the Ellwood and Leeds—Gold; ② NW 0.6 mi., in gravels of Hollands Cr.—Diamonds, Platinum nuggets, Quartz crystals (blue); ③ N on country rd. between Rtes. 221 and 64, a short distance S of the Oak Springs Baptist Church, a deposit—Corundum, Fuchsite, Sericite; ④ N 3¼ mi. on US 221, near Isinglass Hill outcrop—Unakite; ⑤ NE 4 mi., the Marville Mica prospect—Mica; ⑥ N 5 mi., on divide between Cathey’s Cr. and the Broad R., the Alta (Monarch, Idler) Mine, showing 13 parallel quartz veins—Gold; ⑦ W 3½ mi., the Wilkins Mine—Mica; ⑧ W 15 mi. on US 74, pegmatite outcrops—various gems and minerals.

SUNSHINE, W, on Duncan’s Cr. Rd., the McFarland farm (2 mi. E of rd. to Sunshine), a Mica prospect—Golden Beryl, Quartz crystals (blue, star).

THERMAL CITY: ① area gravels of Stony Cr.—Garnets; ② N 1 mi., the McDaniel Mine—Garnets; ③ W 2½ mi., the Flack Mine; and ④ W 7 mi., the Kay Mine—Garnets; ⑤ the Whitehouse area, on E side of Shingle Hollow rd., 1 mi. NW of the Welcome Home Church, an old prospect—Bornite, Chalcopyrite, Galena, Marcasite, Pyrite.

WESTMINSTER: ① N 4 mi., granite outcrops on Marlin’s Knob E of US 64—Garnets, Unakite; ② outcrops and gravel along Puzzle Cr. All the way to Ellenboro—Garnets.

STANLY COUNTY

ALBEMARLE: ① NW 2½ mi., the Haithcock and Hern mines, in quartz—Gold; ② E 4 mi., the Crawford (Ingram) Mine, placer—Gold; ③ NW 7 mi., the Parker Mine, Quartz veins in greenstone—Gold nuggets.

MISSENHEIMER, the Barringer Mine (4 mi. SE of Gold Hill, Rowan Co.)—Gold

NEW LONDON: ① W, in area stream gravels of Mountain Cr. (in Cabarrus Co.)—Golden Beryl, Diamonds, placer Gold; ② E 1 mi., the Crowell Mine, in silicified, sericitic and chloritic schist—Gold, Pyrite.

STOKES COUNTY

DANBURY: ① area stream gravels—agate, carnelian, chalcedony, jasper, Hyalite opal, Hematite, Amethyst, sardonyx; ② SW 3 mi., a deposit—Itacolumbite.

DAN RIVER, area quartz outcrop—Rose Quartz (cat’s eye, star).
FRANCISCO, SE 4 mi., on N bank of Big Cr. Near confluence with the Dan R. (take dirt rd. left from Rte. 89 midway to Danbury), the Hole Mine—Garnets, moonstone, Quartz (crystals (milky, smoky).

GAP, COFFEE GAP on Rte. 66 near Hanging Rock State Park, center of a gem and gemstone region: ① area in the Sauratown Mts., a well known Quartz outcrop—Lazulite (dark blue gem crystals, massive in quartz), Quartz crystals; ② 2 mi. SW of Gap, an excellent deposit—Itacolumbite.

SANDY RIDGE: ① W 1 mi. on Rte. 770, turn SW on Co. rd. 1½ mi. to dumps of the Hawkins Mine—Garnet, Pyrite, Quartz crystals; ② SW 4½ mi. (turn left off Rte. 704 1 mi. W of Oak Ridge onto unmarked rd. for 1½ mi.), the Moorefield Mine—Quartz and dark Tourmaline.

SURRY COUNTY

BURCH STATION, E 1½ mi. from Rte. 268 to the Clarence Greenwood farm—jasper, Quartz crystals.

DOBSON, N 10 mi., area mines—Actinolite, Breunnerite, Chlorite, Hausmannite, Magnesite, Magnetite, Manganese Garnet, Pyrolusite, serpentine, Steatite, Talc (green), Wad.

ELKIN, MT. AIRY: ① area outcrops—rock crystal (some with inclusions of Iron, Chlorite, Actinolite); ② Mt. Airy: (a) a nearby Feldspar quarry—Oligoclase crystals (clear); (b) NE, in large granite quarry—jasper, Quartz; ③ gravels of the Mitchell R.—yellow chalcedony, gemmy Hornblende crystals, Steatite; ④ W, on Pleasant Hill (Wilkes Co.), near Rte. 268—quartz gemstone.

PILOT MOUNTAIN: ① area—rutilated Quartz crystal; ② NE 1.3 mi., on the Phillips and Cos farms—rutilated Quartz crystal.

SWAIN COUNTY

BRYSON CITY: ① area: (a) region extending from town to the Deep Cr. Church, (b) extending to the Franklin Grove church, area—Allanite, Garnet, Magnetite, moonstone, Quartz crystals, Pyrite; ② a few hundred yds. From the Deep Cr. Church—Allanite, Feldspar, Garnet, Magnetite, Mica, moonstone, Quartz crystals, Pyrite; ③ N 1½ mi. and just N of the Deep Cr. Campground, in Graphite vein exposures—Kyanite, Staurolites; ④ 2½ mi. N of Proctor on Gold Mine Cr., mine—Copper minerals; ⑤ just N of Toot Hollow Branch, the Cox No. 1 Mine—Almandite garnets, Feldspar, Biotite, Pyrite.

TRANSYLVANIA COUNTY

AREA, at the end of the Blue Ridge Parkway: ① SE of the Parkway at Looking Glass Rock, just E of US 276: (a) above the Pink Beds Recreation Area—Smoky Quartz crystals; (b) vein extends about 1 mi. up the mt. along old rd.—Smoky Quartz crystals; ② E of the mt., area of Looking Glass Falls—Garnets; ③ in rd. cuts along US 276 about 23 mi. S of the falls, in pine grove N of the hwy., area—Almandite garnets.

CEDAR MOUNTAIN, on unnumbered rd. leading E from US 276, along the Carolina Power & Light Co. line between Cedar Mt. and Blue Ridge—Almandite garnets, Pyrite crystals.

FAIRFIELD VALLEY, along Georgetown Cr., as placers—Gold.

MONTVALE, area mines—Sapphires.

OAKLAND, N, on E side of Great Hogback Mt., area old mines in peridotite—Bronzite, gem Corundum.
ROSMAN: ① E, on the Tinsley farm N of the Girl Scout Camp, area—dogtooth Calcite; ② N off US 64: (a) 1 mi. toward Balsam Grove, the W on secondary rd. crossing North Fork, on S side of rd. W of the river, area—Quartz crystals; (b) 2.2 mi. SW of Balsam Grove, in pasture of the Hogsed farm (reached via rd. W from the main rd. 2 mi. S of Balsam Gap), as float—Quartz crystals.

WAYNESVILLE, SE, on US 276 to Bethel (first crossrd. Stop, up side rd. to recently opened cr. Bed min, fee), abundant—Sapphires.

UNION COUNTY

MONROE, W (including much of the W side of Co.): ① area mines, such as Lemmonds (Marion), New South, Crump, Fox Hill, Phifer, Black, Smart, Secrest, Moore Hill (group) 2 mi. S of Indian Trail—Calcite, Gold, Pyrite, etc.; ② N 14 mi., in extreme NW corner of Co., the Crowell Mine: (a) on dumps—Gold; (b) ¾ mi. SW, the Long Mine, and (c) 3 mi. SE of Long Mine at the Moore Mine—Calcite, Chalcopyrite, Galena, Pyrite, Siderite, Sphalerite.

POTTER'S STATION, N 1½ mi., the Bonnie Belle (Washington) Mine—Chalcopyrite, Gold, Pyrite.

WAXHAW, E 3 mi. (22 mi. S of Charlotte, Mecklenburg Co.), the Howie Mine—Gold, Pyrite.

VANCE COUNTY

BULLOCKSVILLE: ① area along Nutbush Cr., pegmatite outcrops—gem minerals; ② SW 1.7 mi., area—Quartz crystals (with inclusions of Sillimanite).

GRASSY CREEK: ① W 2 mi., the Yancey farm on Jonathan Cr., area—abundant Pyrite; ② NW 2 mi., area outcrops—quartz minerals; ③ SW 3 mi., area—Pyrite; ④ the Graystone Quarry—Hornblende crystals, gemmy pink pegmatite.

HENDERSON: ① NE, near the Kerr Reservoir on the state line, in phyllite gneiss exposures—Quartz and Rutile crystals, Sillimanite; ② NW 13 mi. (9 mi. E of Clarksville, VA), center of a mining region with major deposits S of the Kerr Reservoir in drainage of Island Cr. (tributary of the Roanoke R.): (a) area surfaces, gravels, etc.—agate, chalcedony, quartz, Tourmaline; (b) area mines—specular Hematite, Pyrite, Quartz crystals; ③ N 18 mi., in the Hamme Tungsten Dist. (NE part of Co., extending into VA), between Big Island and Little Island creeks, many area mine dumps—Apatite, Chalcopyrite, Fluorite, Galena, Hyalite opal, Huebnerite, Quartz crystals, Rhodochrosite, Scheelite, Sphalerite, Tetrahedrite.

KITTRELL, N, along US By-pass 1, in granite outcrops—Hyalite opal (highly fluorescent).

TOWNSVILLE: ① W, area as float—quartz; ② E of Marrow Chapel, as float—quartz; ③ around Townsville Lake—Quartz crystals; ④ SW 2 mi., at the Devil's Backbone, area—quartz gemstones.

WILLIAMSBORO, NW, as area float—quartz.

WAKE COUNTY

AREA: ① NW corner of Co., many regional deposits, mined—asbestos, Actinolite, Kyanite, serpentine, Steatite; ② Barton's Cr., area mines—Chlorite, Hematite pseudomorphs after Pyrite, Margarodite, Pyrite (large crystals), Tourmaline; ③ the Durham Quarry—Rosenhahnite (fluorescent).

PURCELL: ① area: (a) the Powell farm, between Newlight Cr. and Water Fork, area—Corundum; (b) Bayleaf, area contact zone exposures (take rd. W from village leading
to Rte. 50, 2 mi. to Barton’s Cr. crossing; or via the Neuse R. NE of village, or go to the jct. of Buckhorn and Newlight creeks) —carvable Steatite, Actinolite; ② S 2 mi., near Horse Cr., a pegmatite outcrop on the Thompson farm—Allanite (black), Beryl (green and yellow, opaque).

RALEIGH: ① E, in area of Wilder’s Grove: (a) E½ mi. on US 64, turn N on dirt rd. 1 mi., area near the Neuse R. to the E—Amethyst (large, color zoned); (b) W 2½ mi. near US 64, area—Amethysts; ③ N 1 mi. on paved rd. the jct. with a secondary rd., then E 0.7 mi. to entrance to a dim trail S of the rd., area—Amethysts; ④ N, turn off US 70 on N side of Crabtree Cr. bridge onto paved rd. 3½ mi. to Mine Cr., area exposures—gem Kyanite; ⑤ S 5 mi.: (a) area Mica mines in pegmatite—Feldspar crystals, Garnets; (b) ½ mi. E of US 15A, on the Coburn farm—Feldspar, Garnet, Mica, snowy Quartz; ⑥ NE 5 mi., area—Amethyst, Quartz crystals.

RALEIGH: ① E, in area of Wilder’s Grove: (a) E½ mi. on US 64, turn N on dirt rd. 1 mi., area near the Neuse R. to the E—Amethyst (large, color zoned); (b) W 2½ mi. near US 64, area—Amethysts; ③ N 1 mi. on paved rd. the jct. with a secondary rd., then E 0.7 mi. to entrance to a dim trail S of the rd., area—Amethysts; ④ N, turn off US 70 on N side of Crabtree Cr. bridge onto paved rd. 3½ mi. to Mine Cr., area exposures—gem Kyanite; ⑤ S 5 mi.: (a) area Mica mines in pegmatite—Feldspar crystals, Garnets; (b) ½ mi. E of US 15A, on the Coburn farm—Feldspar, Garnet, Mica, snowy Quartz; ⑥ NE 5 mi., area—Amethyst, Quartz crystals.

WAKE FOREST, W 3 mi. and 2 mi. S of Rte. 264, the Wakefield Mica Mine—Mica, massive Quartz (gray, pale blue).

WARREN COUNTY

INEZ: ① S 2 mi. to the Franklin Co. line, many area pegmatite exposures—gems, minerals; ② S 2½ mi., on E side of Rte. 58, pegmatite on the Fowler farm—Amethyst, Beryl, Lepidolite, Smoky Quartz crystals, Staurolites; ③ just E of the Fowler farm, on both sides of Rte. 58, the Harris deposits—Mica, Quartz crystals.

WATAUGA COUNTY

AREA, Rich Mt.: ① head of Cove Cr., area—Actinolite, Chromite, Chrysolite, Epidote, Quartz, Penninite, Tremolite; ② mouth of Squirrel Cr., area—Chrysotile asbestos.

BOONE: ① area stream gravels, especially Hardings Cr., placer—Gold; ② N 8 mi., at Elk Knob, area old mines—Azurite, Garnets, Epidote, Limonite, Malachite, Calcite, Cuprite, Pyrite, Pyrrhotite, etc. (mainly primary Copper minerals).

WILKES COUNTY

AREA: ① E part of Co., on Zeb Souther farm—Smoky Quartz crystals; ② Bending Rock Mt., area exposures—Itacolumbite; ③ headwaters of Honey Cr., area gravels—Amethyst, Quartz crystals (clear, smoky).

CHAMPION, area old Mica mines—Beryl, Garnet, Mica.

DEEP GAP, E 6 mi.: ① the Flint Knob Mine—Galena, some Gold, Pyrite, Silver; ② the Laurel Spur of Flint Knob, area—Calcite, Galena.

NORTH WILKESBORO, area old asbestos mine—gem serpentine.

TRAP HILL: ① area fields, cuts, gravels, etc.—agate (silvery, mossy), brecciated jasper, chaledony; ② the Trap Hill Mine—auriferous Chalcopyrite, Garnet, Galena, Magnetite, Pyrrhotite, Pyrite, Rutile crystals, Tourmaline; ③ E side of Bryan’s Knob, in quartz veins—Chalcopyrite, Pyrite, Pyrrhotite; ④ Bryan’s Gap on E face of the Blue Ridge, a bold outcrop of Quartz (has been traced for nearly 3 mi.)—Gold, Pyrite.

WILKESBORO, N 2 mi., area—Garnet, serpentine, Talc.
A Location Guide for Rock Hounds in America

YADKIN COUNTY

AREA: ① area pegmatite outcrops, many—Beryl, Garnet; ② area stream gravels—carnelian.

YADKINVILLE: ① E 6 mi., on SW side of a creek, at the Hauser Mine—Feldspar crystals and Smoky Quartz crystals; ② SE 8 mi., the Dixon Mine—Gold.

YANCEY COUNTY

AREA: ① ON Blue Rock rd., the Spider Mine—Thulite; ② the Guggenheim Mine—Albite, Apatite, Autunite, Halite, Manganese Garnet, Margarodite, Muscovite, Tourmaline; ③ the Hampton’s Mining Creek Mine—Actinolite, Bronzite, Chromite, Chrysolite, Deweylite, Epidote (fine green crystals), Enstatite, Magnesite, Penninite, serpentine, Talc, Tremolite; ④ the Young's Mine—asbestos, Bronzite, Chromite, Chrysolite, Enstatite, Manganese Garnet, Muscovite, Pyrite, serpentine, Talc, Tremolite; ⑤ the North Toe R., area gravels—Dithene (gem Kyanite crystals); ⑥ Yellow Mt., area outcrops—Dithene.

BOWDITCH, E 1.9 mi., the Gibbs Mine on W bank of the Smith Toe R.—Oligoclase crystals (transparent, greenish).

BURNSVILLE: ① many area mines—Garnets, Mica, Platinum, etc.; ② E ½ mi. to trail leading S of US 19, E ½ mi. to the Doe Hill Mine—Feldspar, Garnets, Mica, Pyrite; ③ SE 2½ mi., on Hurricane Mt.: the Ray Mica Mine (see map page 291)—Albite, Amazonite, Apatite, Aquamarine, Autunite, gem Beryl, Columbite, Emeralds, Eschynite, Fluorite, Fluorite pseudomorphs after Apatite, Garnets, gem Kyanite crystals, Monazite (rare), Muscovite, gem Oligoclase crystals, Rutile crystals, Smoky Quartz crystals, sunstone, Tourmaline (black, also greenish yellow), Yttrocerite, Zircon; (b) along the right fork of the rd. to the Shanty Mine—Apatite, Garnets, Hyalite opal; ④ Parrot’s Ford (3 mi. distant from town), area—Tantalite, Tourmaline; ⑤ SW 5 mi. on Rte. 197, the Ray Olivine Mine—Apatite, asbestos, Beryl, Chlorite, Chromite, Columbite, Garnets, Olivine crystals, serpentine; ⑥ W 6 mi. on rd. to Red Hill, on E side of rd. at Green Mt., area outcrops visible from rd.—Chromite, Olivine crystals; ⑦ N 6
North Carolina

mi., area—Labradorite, Platinum; ® NW 10 mi., on W side of Sampson Mt. via US 19 to Lewisburg, turn SW along Bald Mt. Cr. (with Sampson Mt. visible 5 mi. to the S): (a) the Hayes Mine—Corundum (blue, gray, beige, white, cat’s-eye); and (b) head of Bald Mt. Cr., the Cattail Branch Mine—gem Beryl, Garnets.

CELO: ® area: (a) Celo Ridge, area mine dumps—Sapphires; (b) Toe R. gravels—Corundum, Sapphires; (c) mine dumps about town—Feldspar, Garnet, gem Kyanite, Mica; ® NE 1½ mi., the Little Gibbs Mine, on the South Toe R.—gem Oligoclase crystals.

MICAVILLE: ① N 2 mi., the Presnell Mine—Apatite, Almandite garnets, Columbite, Mica; ② SE 2.7 mi.: (a) the Fanny Gorge Mine—Apatite, Columbite, Autunite, Garnets, Pitchblende, Thulite; (b) on S side at the Spec Mine—Aquamarine, Almandite garnets; ③ SE 3½ mi., the old Charles Mine—blue Apatite crystals, pink Thulite.

BERYLS

![Beryl Crystals]

- Burma
- Ceylon
- North Carolina
- Cowee Creek, Macon Co., N. C.
- Selankina
- Ilmen Mts.
- Twin on (1011), Transvaal
- Chester, Mass.
NORTH DAKOTA

This fertile state, geographic center of North America, is everywhere surfaced by Quaternary soils and sediments overlying rock formations of greatly varied ages. The eastern half, known as the Lowlands, once lay beneath the vanished waters of the great Pleistocene Lake Agassiz. Deeply buried beneath the lake sediments are rock formations of Mississippian, Jurassic and Cretaceous ages. The western counties exposed here and there much older formations, of Devonian age. West of the Red River Valley, abrupt escarpments rise 300’ to the glacial drift prairies of scattered lakes, occasional moraines, and extensive, rolling, grass covered hills. Along the Little Missouri River lie the strongly eroded scenic, and almost inaccessible spires and minarets of the famed Badlands, extraordinarily rich in fossils that reach back to the era of the dinosaurs.

The state’s mineral resources are limited almost exclusively to organic fuels and inorganic clays. Vast lignite beds, so close to the surface as to permit strip mining, cross the western counties, and North Dakota leads the nation in the production of this fuel. In close proximity to the lignite beds are large deposits of commercial clays in several varieties. Last, but not least, the discovery of oil in the Williston Basin some years ago has made petroleum production a prominent contributor to the state’s mineral economy.

From the standpoint of the gem and mineral collector, it can truthfully be said that North Dakota really needs intensive prospecting. From east to west and north to south, the alluvial gravels underlying the topsoil are rich in Quartz family gemstones. Prospecting alluvial gravels, quarries, excavations and stream beds everywhere should be productive of more agate, chalcedony, jasper, silicified wood and Quartz crystals than would appear in the small list of known localities mentioned here. The eastern counties reveal Lake Superior type agates, while the western counties yield Fairburn and Montana type moss agates. All gemstone occurrences are products of erosion from long-gone ranges of mountains and water distribution over the state’s characteristic of Tertiary epochs.
ADAMS COUNTY
HETTINGER, N. 10 to 12 mi., NE and E, along both sides of the entire course of the Cedar R.—**agatized wood**.

BILLINGS COUNTY
MEDORA, area buttes and badlands formations—**agate, chalcedony, silicified wood, concretions** (filled with yellow Calcite, Aragonite or Siderite).

BURLEIGH COUNTY
BISMARCK, area gravel pits and alluvial beds along the Missouri R.—**agate, chalcedony, silicified wood, jasper**.

GOLDEN VALLEY COUNTY
SENTINEL BUTTE, area Uranium mines and prospects, especially in T. 137 N, R. 100 W (Lutheran Church) and T. 139 N, R. 104 W (Sentinel Butte)—**Uranium** minerals.

GRANT COUNTY
CARSON, area breaks along the entire course of the Cannonball R.—**agate, chalcedony, silicified wood, jasper**.

HETTINGER COUNTY
MOTT, N 11 mi., along steep hillsides on both sides of the Cannonball R.—**agate, chalcedony, silicified wood, jasper, Selenite** crystals.

HETTINGER & STARK COUNTIES
AREA: ⊙ from Mott to Richardton, a broad area along both sides of Rte. 8—**agate, chalcedony, agatized wood, jasper, jasp-agate**; ⊙ from NW of Mott 150 mi. to Williston (Williams Co.), area breaks, rd. cuts, etc.—**Selenite** crystals.

KIDDER COUNTY
TAPPEN, E, in regional gravel pits—**agate, chalcedony, jasper**, etc., **fossils**.

McHENRY COUNTY
DENBIGH, regional gravels of the Mouse R. SW to Velva—quartz **gemstones**, **fossils**.

McKENZIE COUNTY
AREA, gravels of the Yellowstone, Missouri and Little Missouri rivers—**Montana moss agate, jasper, silicified wood**, etc.
Rivers & Lakes of North Dakota

EAST FAIRVIEW, in gravel bars near confluence of the Missouri and Yellowstone rivers—Montana moss agate, jasper, silicified wood, etc., especially around Cartright just to the E on Rte. 23/200.


SEARING, broad general surrounding region—petrified wood.

MERCER COUNTY

GOLDEN VALLEY, S, the Crowley Flint Quarry (a historic site)—gem flint.

HAZEN, area mines—Uranium minerals.

MORTON COUNTY

MANDAN: ① area hills, draws, washes, etc.—agate, chalcedony, chert, silicified teredo wood; ② area gravel pits.—worm-bored teredo wood (borings filled with Calcite or chalcedony).

MOUNTRAIL COUNTY

STANLEY, N and W around several highly saline lakes (White Lake, Cottonwood Lake), area mine dumps, as crystals—Glauberite, Halite, Thenardite.

PEMBINA COUNTY

CONCRETE (on the Tongue R.): ① area blue-gray limestone exposures—crystals, fossils; ② regional limestone quarries—Calcite, fossils; ③ deltas of the Pembina, Elk and Sheyenne rivers—fossils, quartz gemstones, petrified wood.
North Dakota

RAMSEY COUNTY

DESVILS LAKE: ① area gravel pits (in bed of the prehistoric Lake Agassiz) —gem agate, jasper, etc.; ② gravel bars of all regional (countywide) streams, especially the James and Sheyenne rivers—quartz gemstones, petrified wood.

RAMSOM COUNTY

LISBON, in gravel bars along the lower Sheyenne R.—quartz gemstones, teredo wood.

ROLETTE COUNTY

DUNSIETH, on edge of the Turtle Mts.: ① a large gravel pit—quartz gemstones; ② area slopes and draws of the mountains—Manganese minerals.

STARK COUNTY

DICKINSON: ① area land surfaces—agate, chalcedony; ② N 6 mi. on Rte. 22, a large gravel pit—agate, jasper, petrified wood.

WARD COUNTY

MINOT, S, in numerous area gravel pits, great variety—quartz gemstones, fossils.

WILLIAMS COUNTY

AREA, regional stream gravels—Montana moss agate.
OHIO

Only Paleozoic rock formations underlie Ohio's Pleistocene surface debris and Quaternary soils. For long ages Ohio lay beneath a shallow sea which received successively enormous quantities of Ordovician, Silurian, Devonian, Mississippian and Pennsylvanian sediments; the erosional products of some 200 million years. Few, if any Mesozoic rocks appear within the state, but every one of Ohio's 88 counties is surfaced with Pleistocene debris. The state was buried completely four times by Ice Age glaciers, leaving the land surface nearly level but with some fairly rugged low hills in the southeastern corner. There are few localities containing worthwhile gems or minerals, although excavations in the underlying black, Upper Devonian (New Albany) shales occasionally produces pieces of silicified wood.

Ohio ranks first in the nation in the production of limestone and dolomite, and second in the production of clays. Lesser production of iron, petroleum, natural gas and coal
from thick beds contributes to the mineral economy. But as far as the collector is concerned, Ohio is unique in but a single gemstone, an exceptionally high quality, colorful flint that is mostly a mixture of chert, translucent chalcedony, jasp-agate and common opal, rivaling in beauty the Arizona agatized wood. This gem flint occurs in the 8 mile long Flint Ridge, between Newark (Licking Co.) and Zanesville (Muskingum Co.), a region of rolling, wooded hills. Here, prehistoric Indians quarried the toolmaking material for arrowheads and other implements.

While occurrences are widespread throughout Ohio, the chief deposits of true flint (characterized by ease of working) include the highly colored Vanport flint of the Flint Ridge and the Upper Mercer flint exposed in Hocking, Perry, and Coshocton counties. Early American settlers also quarried a rough, porous flintstone from outcrops, especially around McArthur, Vinton Co., for making the burstones they needed for grinding grain in their water mills.

Other collectable minerals are rare, although quarries in the western counties, especially the Clay Center Quarry 12 miles southeast of Toledo but in Ottawa Co. between
Rtes. 51 and 579 yield good specimens of Celestite, Dolomite crystals, Fluorite (fluorescent), Galena, Marcasite, Pyrite, Selenite and Sphalerite. A few alluvial Diamonds have been found.

ASHTABULA COUNTY
CONNEAUT, area pits, quarries, rd. cuts, etc.—cone-in-cone Calcite.

CLERMONT COUNTY
MILFORD, area creek gravels and alluvial deposits, rare—Diamond.

CLINTON COUNTY
WILMINGTON, area of Todd’s Ford, a mineral deposit—Hematite.

COSHOCTON COUNTY
AREA, townships of Washington, Virginia, Bedford, Jackson, Jefferson, Bethlehem, Monroe and Clark; on regional knobs and ridges and just above areas of drainage in townships of Franklin, Keene, Mill Creek and Tuscarawas, as hard dark gray to black nodules—flint.

CUYAHOGA COUNTY
CHAGRIN FALLS (on Geauga Co. line), area quarries—oilstone.

DELAWARE COUNTY
DELAWARE, area Co. exposures of blue clay, as clusters and nodules—Pyrite (crystals sharply cubic).

FRANKLIN COUNTY
COLUMBUS, area countywide exposures of blue clay in rd. cuts, pits, quarries, excavations—Pyrite (clustered crystals sharply cubic).

HIGHLAND COUNTY
SINKING SPRING, area ore deposit (most important in Ohio)—Hematite.

HOCKING COUNTY
AREA exposures throughout Co. of the Upper Mercer horizon, commonly represented by black flint of excellent quality: ⚫ Benton Twp. Map, Sec. 24, along high ridges and knobs, as nodules—flint; ⚫ Green Twp., 2½ mi. SW of Kachelmacher and 1 mi. W of Freeland School—flint; (high quality); ⚫ Sec. 23, E center, in a hollow as scattered nodules—flint; ⚫ Washington Twp., SW part of Sec. 31 in a gully on the knob—flint.
HOLMES COUNTY

AREA, townships of Berlin, Hardy, Killbuck, Mechanic, Paint and Salt Creek (with occurrences in shale or sandstone); and conspicuous deposits in townships of Clark (limestone occurrences), Prairie and Walnut Creek—flint.

JACKSON COUNTY

AREA, townships of Bloomfield, Coal, Hamilton, Jefferson, Franklin, Lick, Madison and Milton, as nodules in the Vanport member—flint.

LAWRENCE COUNTY

AREA, townships of Decatur, Elizabeth, Perry, Symmes, Upper and Washington, as nodules in limestone exposures—flint.

LICKING & MUSKINGUM COUNTIES

AREA, from 3 mi. SE of Newark, Licking Co., to 12 mi. NW of Zanesville, Muskingum Co., 8 mi. long by ¼ mi. wide: ① Flint Ridge—agate, Amethyst, carnelian, chalcedony, chert (various colors), jasper-like flint, jasp-agate, jasper, Smoky Quartz crystals, clear Quartz. From Brownsville, Licking Co., take US 40 E 3 mi., turn N to Flint Ridge State Park, and area of 10 mi. radius of private lands—gem flint. ② Regional rd. cuts, banks, stream banks and beds—gem flint, translucent chalcedony, drusy quartz.

LUCAS COUNTY

SYLVANIA, SW, at jct. of Brint St. and Centennial rd., the Medusa Quarry (SW of 4 quarries), very many specimens—fossils (some replaced by Marcasite), hollow shells lined with Calcite crystals or Marcasite.

WHITEHOUSE, area quarries—Celestite, Gypsum.

MUSKINGUM COUNTY

AREA—agate, Amethyst, carnelian, chalcedony, chert (various colors), jasper-like flint, jasp-agate, jasper, Smoky Quartz crystals, clear Quartz.

ZANESVILLE, area mined deposits—Hematite.

OTTAWA COUNTY

CLAY CENTER, area limestone quarry, famed—Calcite, Celestite (fluorescent), Dolomite crystals, Fluorite (fluorescent), Pyrite, fossils.

GENOA, SE, in area quarries—Calcite, Celestite, Dolomite crystals, Fluorite, Marcasite, Pyrite, fossils.

GREEN (or Strontian) ISLAND, Put-in-Bay, Lake Eire, as fine crystals and large masses filling fissures in the waterline rock—Celestite.

PERRY COUNTY

AREA: ① countywide deposits, long worked, as nodules—flint; ② townships of Monday Creek, Salt Lick, Pike and Clayton, area—flint.
ROSS COUNTY
   CHILLICOTHE, W several mi., in a region exposures of blue clay, as large masses—
   Pyrite crystal clusters.

SANDUSKY COUNTY
   WOODVILLE, area quarries—Calcite, Celestite, Dolomite crystals, Fluorite, 
   Marcasite, Pyrite, Witherite (fluorescent), fossils.

SCIOTO COUNTY
   PORTSMOUTH, countywide regional quarries—Catlinite.

SENeca COUNTY
   MAPLE GROVE (N of Tiffin to Ft. Seneca on Rte. 53 and W 2 mi. on secondary line 
   rd., then N ¼ mi. to Maple Grove Quarry) —Calcite, Celestite, Dolomite crystals, 
   Fluorite, Marcasite, Pyrite, fossils, etc.

TUSCARAWAS COUNTY
   CANAL DOVEL, MIDVALE, NEW PHILADELPHIA, ROSWELL, WAINWRIGHT, 
   regional mines—Pyrite.

TUSCARAWAS, STARK, SUMMIT & PORTAGE COUNTIES
   AREA, from the NW part of Tuscarawas Co., in numerous townships along the valley 
   of the Tuscarawas R. from Bolivar to Zoar Station, as nodules in limestone outcrops—flint.

VINton COUNTY
   AREA: ① Swan Twp., on Upper Mercer horizon exposed along an old rd. in SE part 
   of Sec. 9—flint; ② townships of Richland (Sec. 1, central part along an abandoned rd.), 
   Wilkesville, Vinton, Clinton and Elk, in Vanport limestone exposures as nodules—flint.

WAYNE COUNTY
   AREA, Paint Twp., Sec. 24, near center, as black nodules—flint.

WOOD COUNTY
   BOWLING GREEN, W and S, at the Pugh Quarry—crystals of Barite (fluorescent), 
   Calcite, Celestite, Fluorite, Pyrite (all in cavities and veins).
   LIME CITY, area quarries—Celestite (fluorescent).
OKLAHOMA

The Sooner State occupies approximately 70,000 sq. mi. of nearly level land in the southern part of the Great Plains. The western Oklahoma Panhandle is part of the arid, short grass Great High Plains, broken by the Black Mesa in the northwest corner of Cimarron Co. and the Wichita Mts. in the southwest. Black Mesa, at 4,978’ elevation, is the highest point of the state. From the Panhandle the land slopes gently east and south to a minimum elevation of less than 350’ in the extreme southeastern corner of the state. There are elevated regions, ranging from 200’ to 1,200’ higher than the surrounding plains, in the Wichita, Kiamichi, Ouachita and Arbuckle mountains and in the westward extensions of the Missouri Ozarks.

Parts of Oklahoma are mineralogically important. Extensive coal beds occur around McAlester, Pittsburg Co., and the great mines of the extreme northeastern corner, known as the Tri-State Area, are famed for their production of Lead and Zinc along with similar production from the adjacent mines in Kansas and Missouri. While western Oklahoma produces a good deal of Gypsum, it is the immense petroleum deposits which have given the state much of its fame and wealth.

Barite occurs at many localities in maroon sediments of Lower Permian age, with the greatest concentrations south and east of the Wichita Mts. and in the central counties of Comanche, Kiowa, Stephens and Tillman, with locally abundant exposures in McClain and Garvin counties. In the Barite dists, the mineral occur in veins, nodules and Barite-clay carbonate concretions in shale or as sand-barite concretions in sandstone. The state stone of Oklahoma, if it can be called that, is the Barite Rose.

Southwestern Oklahoma, especially in Beckham and Tillman counties, produces alabaster, agatized and petrified wood, and other quartz family gemstones from regional gravel pits and stream beds. Along the Cimarron and North Canadian rivers, gravel bars carry agate, jasp-agate, jasper and petrified wood along with fossil bones and teeth of Pleistocene mammals.
ALFALFA COUNTY

JET, W 6 mi. on US 64, then N 3 mi. on dirt rd. to crossrds., then E 1¼ mi. to gate; collecting area on the Salt Plains National Wildlife Refuge are posted—Selenite crystals. Collecting on the refuge is permitted from 8 AM to 5 PM only on weekends and holidays between April and mid October; per person limits are 10 lbs. Plus one crystal cluster per day. Natural salt (halite) coating the plains, 7 mi. long by 3 mi. wide.

ATOKA COUNTY

AREA, Impsom Valley, W side, on branch of Tenmile Cr., in fissure veins in Stanley shale—Grahamite.
ATOKA, area quarries—novaculite.

BECKHAM COUNTY

AREA, Gypsum quarries—alabaster, Selenite, petrified wood.
ELK CITY, area quarries—alabaster, Selenite.

BLAINE COUNTY

AREA (extending SW into Custer Co.), regional quarries—Borate minerals (Priceite, Probertite, Ulexite).
SOUTHARD, area quarries—Borate minerals.
WATONGA, NE 6 mi., quarry—Borate minerals.
WINNVIEW, area scattered through clay shale exposures, as raw nuggets—native Copper.
Oklahoma

CADDYO COUNTRY
APACHE, SW 4 mi., quarry—Calcite rhombs (fluorescent).

CANADIAN COUNTY
EL RENO (W end of the Oklahoma City complex), in gravel bars along the North Canadian R.—agate, jasper, petrified wood.

CIMARRON COUNTY
KENTON: ① E 2 mi. on Rte. 18 to turnoff to Roberts Ranch and 2.3 mi. to ranch house, fee, collecting area—agatized algae, agatized cycad wood; ② N to Tri-State Marker (OK-CO-NM), on hill—rose agate; ③ E ½ mi., turn N across Cimarron R. 11.2 mi. into Colorado, turn E 2.3 mi. to the Layton Ranch (fee), in bed and sides of Carrizozo Cr. S from Colorado into Oklahoma—rose agate, agatized algae, agatized cycad wood.

COAL COUNTY
LEHIGH, HUNTON, area mines—Manganese minerals.

COTTON COUNTY
RANDLETT: ① E 3 mi., and ② E 6 mi., as small fissures in red shale—Malachite.

DEWEY COUNTY
SEILING, TALOGA, area—agate, Jadeite, jasp-agate, jasper, petrified wood, etc.

GARFIELD COUNTY
ENID, T. 24 N, R. 8 W (NE¼SE¼ Sec. 24), area—native Copper.

GARVIN COUNTY
PAULS VALLEY, area of Sec. 18, T. 4 N, R. 1 E, in red sandstone—Malachite.

GREER COUNTY
AREA, the Wichita Mts., regional mines—Amphiboles, Zircons.
MANGUM: ① area quarries—alabaster; ② N of town, general area—agatized wood.

HARPER COUNTY
BUFFALO, area—agate, chalcedony, chert, jasper.
ROSSTON, on twin buttes 1 mi. E of Hwy. 283 and 7 mi. N of jct. of Hwy. 283 with Hwy. 64—Aragonite.
A Location Guide for Rock Hounds in the United States

HUGHES COUNTY
WETUMKA, area of Sec. 30, T. 8 N, R. 9 E, as clear, transparent, coarsely crystalline masses—Barite.

JACKSON COUNTY
ALTUS, area draws, washes, cut banks, gravels—Smoky Quartz crystals.

JOHNSTON COUNTY
MILL CREEK: ① area mines—Manganese minerals; ② NE 6 mi., old Thompson Ranch near W line of NW¼ Sec. 15, T. 1 S, R. 5 E—Barite, Iron oxides.

KIOWA COUNTY
HOBART, in quarries near Altus Reservoir—Quartz crystals.

OTTAWA COUNTY
MIAMI-PICHER, regional Lead-Zinc dist. Mines as important contributors to the Tri-State Dist. Mineral production—Anglesite, Aragonite, Barite, Calamine, Calcite, Chalcopryrite, chert, Dolomite, Galena, Greenockite, Gypsum, Marcasite, Melaniterite, Quartz crystals, Pyrite, Smithsonite, Sphalerite.
The major producing mines occur within an area of 25 to 30 mi. revolving around the mining towns of Picher, Cardin, Century and Quapaw.
PEORIA, QUAPAW, area mines—Calamine, Cerussite, Galena.
SENeca, area mines—tripoli.

PUSHMATAHA COUNTY
ANTLERS: ① area draws, washes, gravels—green Quartz crystals; ② Impson Valley, McGee Creek and Moulton mines—Impsonite (bitumen).

WOODS COUNTY
ALVA: ① countywide regional fields, washes, stream beds, cut banks, etc., especially ② S of Alva—agate (banded, mossy), chalcedony, chert, jasper.
OREGON

The geologic character of Oregon was formed during Tertiary times when millions of years of volcanic activity during the Oligocene and Miocene epochs raised the Cascade Mts., and layered nearly the whole surface of the state with thick beds of volcanic ash and flows of basalt. The Cascade Range, with its numerous snow-covered volcanic cones, divides the 100 mi. wide strip of rainy western Oregon from the high arid plateau county of the eastern two-thirds of the state. Northeastern Oregon is part of the 225,000 sq. mi. basalt Columbia Plateau, one of the largest raw lava regions of the world.

Central and eastern Oregon embraces many thousand sq. mi. of some of the most prolific gemstone collecting land in America. Here almost every type of Quartz family gemstone can be found, along with such oddities of the mineral kingdom as geodes, nodules, fossils, and a great array of silicified woods. The fertile western region is also heavily endowed with gemstones, and nearly every creek and river gravel bar, regional gravel pit or other excavation and rd. cut reveals attractive minerals, gemstones, fossils and petrified wood.

A federal law passed in 1962 limits collecting of rocks from public lands to not more than 25 pounds plus one piece per person per day, not to exceed 250 lbs. per year. Petrified wood may not be sold or bartered to commercial collectors. A particularly informative and colorful Central Oregon Rockhound Guide is available free of charge, published by the Forest Service in cooperation with the Bureau of Land management, and the Prineville-Crook county chamber of Commerce.

The state rock of Oregon was officially designated as the thunder egg, one of the most distinctive and sought-after mineral oddities in the world. These spherical masses of
agate core in a volcanic matrix range in size from less than 1” to several ft. in dia., with most specimens being slightly larger than baseballs. The exterior surface is an uninteresting, drab rind of chocolate brown rhyolite or silicified volcanic tuff, nearly always knobby in appearance. This rind encloses a solid core of a peculiarly geometric, multisided mass of translucent chalcedony which may be banded agate in contrasting colors, deep red carnelian, jasp-agate, or chalcedony containing a small unfilled cavity lined with Quartz crystals. No two thundereggs are alike, and no matter how one is sawed or sliced, the interior presents a star shape in lovely contrasting colors against the dark brown, buff, or tan rind matrix. The most prized specimen contain carnelian or reveal exquisite and colorful designs ranging from five-pointed stars to miniature landscapes. Not a few thundereggs are actual doubles enclosed in an elongated rind. Such nodular gemstones are invariably associated with highly siliceous volcanic rocks and are found abundantly in rhyolite flows and welded tuffs in a broad zone north and west of US 26. The geology exposed in this area is mainly the Clarno formation of Eocene age and includes basic flows and andesite intrusives. The genesis of thundereggs is almost completely unknown.

Some of Oregon’s coastal beaches are considered by rock collectors as the finest areas in the world for agates (clear, ribbon), jasper, agatized wood, coral, bloodstone and fossils. Agate Beach near Newport in Lincoln Co. was well named. Other beaches well known to collectors are Otter Rock, Bob Creek, Ten Mile, Hecets Head, and beaches both north and south of Yaquina Bay. The best hunting is right after winter storms and after extreme high tides have churned up the sands.

Oregon also ranks 10th in the Gold producing states of America. The Gold panning hobbyist may still reap small seasonal fortunes in nuggets and colors from the streams of northeastern Oregon’s Blue Mts. and those descending the Siskiyou Mts. of far southwestern Oregon.
BAKER COUNTY

BAKER: ① area land surfaces, draws, washes, etc., many varieties—quartz family gemstones; ② area mining dists., including Baker, Buck Gulch, Virtue, etc., regional mines (lode and placer)—Gold, Pyrite, Pyrrhotite (bearing Gold), Tetrahedrite; ③ N 2 mi., a quarry—Gypsum, satin spar; ④ Shirttail Cr., area—agate, chalcedony, jasper, Oregon Jade (green plasma agate), agatized wood; ⑤ E, in volcanic rocks and in Powder R. gravels along the Richland Valley—chalcedony geodes (lined with drusy quartz crystals).

COPPERFIELD (NE part of Co.), the Copper Butte Dist. (including the Lower Snake R.), regional mines, especially the Copper Queen—Chalcocite, Malachite, Pyrite.

CORNUCOPIA (ghost town), the Bryan Mine and others—Gold, Pyrite, Sylvanite.

DURKEE, area washes, draws, slopes—quartz family gemstones.

GEISER, the Bonanza Dist. regional mines—Gold, Pyrite.

HOMESTEAD (extreme NE corner of Co.), the Iron Dike Dist. mines, as predominant metal—Silver minerals.

PLEASANT VALLEY. Area draws, washes, hillsides—garnets (resembling Rhodolite), opalized wood (banded black and white).

RICHLAND, area surfaces, draws, etc.—quartz family gemstones.

RYE VALLEY, area mines—Argentite, Arsenopyrite, Cinnabar, Galena, Pyrite, Pyrolusite, Specularite (in Argillite), Sphalerite, Tetrahedrite.

SPARTA (14 mi. NW of Richland), area mines—Arsenopyrite, Galena.

SUMPTER: ① area mining dists. Of Cable Cove, Elkhorn and Burnt River Divide (Sumpter), regional mines—Argentite, Arsenopyrite, Cinnabar, Galena, Pyrite, Pyrolusite, Specularite (in Argillite), Sphalerite, Tetrahedrite; ② Cracker Creek Dist.; and ③ N, in the Bourne Dist., area mines (several deep)—Gold, Pyrite.

WHITNEY (11 mi. SW of Sumpter): ① Greenhorn Dist.: (a) area gravels surfaces—Gold, agate, silicified wood; (b) Greenhorn Mts., area NW of the Owyhee Reservoir—agate.

BENTON, LANE, LINN, CLACKAMAS & MULTNOMAH COUNTIES

AREA, all low-water gravel bars of the Willamette R., and its tributaries—agate, jasper, bloodstone, petrified wood, etc.

CLATSOP COUNTY

ASTORIA, Pacific Ocean beaches in gravels as waterworn pebbles—bloodstone, jasper, some agate.

Pittsburg, MIST, JEWEL, ELSIE, NEHALEM (take E to W along the Nehalem R. from Columbia Co. NE of Vernonia), low-water stream gravels all way to ocean—agate, carnelian, jasper.

COLUMBIA COUNTY

GABLE, Columbia R. shores, in gravels—Thomsonite.

VERONIA: ① SW, in gravels of Clear Cr.—plume agate, carnelian, jasper; ② in gravel bars of Clear Cr. and town—agate, carnelian, chalcedony, jasper; ③ area logging RR cuts—Zeolite minerals, fossils.
A Location Guide for Rock Hounds in the United States

COOS COUNTY

AREA, ocean beach gravels, entire length of Co.—agate.
BANDON, just N, at Bullards Beach State park, in beach sands—Platinum.
COOS BAY, W to ocean beaches, both N and S of the bay entrance along entire coast of Co.—agate, petrified wood.
MYRTLE POINT, including the Eden and Randolph dists., regional stream placers—Gold.

CROOK COUNTY

AREA: ① W side of Co., especially in broad triangle between US 26 on N and US 20 on the S, all land surfaces, draws washes, etc.—agate, chalcedony, chert, jasper, petrified wood, quartzite; ② Howard area black-sand placers—Cinnabar, Gold; ③ McAllister Butte (near Ochoco Cr.), area—gem moss agate.
PAULINA, SW 5½ air mi., in T. 17 S, R. 22 E: ② Sec. 8 & 29, the South Fork, area—agatized limb casts.
POWELL BUTTE, area draws, washes, breaks, slopes, etc.—plume agate.
PRINEVILLE. Most of the following localities have been abstracted from Central Oregon Rockhound Guide, published in 1971 by the US Forest Service. This broad region ranks among the finest gemstone collecting areas in America for moss agate (all sizes and colors), Quartz crystal geodes, massive botryoidal agate, and thundereggs. Many of the listed localities comprise free collecting claims owned by the Prineville chamber of Commerce; many others are on private land and require permission.
① Area, Viewpoint, several excellent locations on private lands, fee charged—thundereggs; ② E 5 mi. on US 26, Ochoco Lake shores above the dam, area—Ochoco jasper; ③ E 6 mi., on US 26, on NW side of the Ochoco Reservoir in Sec. 14, T. 14 S, R. 16 E, area—Ochoco jasper; ④ E approx. 19½ air mi., in T. 14 S, R. 18 E, sheep Cr. (NW¼ Sec. 25), area—green moss agate; ⑤ E, into the Clarno Basin, all regional land breaks, washes, erosional slopes—fossil bones and cones; ⑥ ENE on US 26 to dirt rd. turnoff NE along Ochoco Cr., then NE ⑦ 12 mi. (into Wheeler Co.): (a) turn W, back into Crook Co. to Coyle Spring (Sec. 34, T. 12 S, R. 19 E), area—green jasper; (b) Sec. 35, Ahalt Cr., area—Vistaite; ⑧ NE ⑨ 12 air mi. (6.2 air mi. due N of the E end of the Ochoco Reservoir), in T. 13 S, R. 17 E, Dry Cr.: (a) line between Sec. 7 & 8, SW¼ Sec. 8, area—jasper; (b) due N ½ mi. or so, area—thundereggs; ⑩ NE ⑪ 16 air mi. (11 mi. NNE of E end of the Ochoco Reservoir), in T. 12 S, R. 17 E: (a) S part of Sec. 22, Harvey Cr., area—thundereggs; (b) NW¼ Sec. 22, Harvey Gap—thundereggs; (c) nearby, in Sec. 30, T. 12 S, R. 18 E, at Forked Horn Butte, area—thundereggs; ⑫ NE ⑬ 16 air mi.: (a) T. 13 S, R. 18 E, White Fir Spring (Sec. 7), area—thundereggs; (b) Sec. 5, white Rock (immediately SE of Wildcat Mt.), area—thundereggs; ⑭ NE ⑮ 19 air mi., at Wildcat Mt., the famed Ochoco Nodule Beds, area—plume agate, chalcedony, opal, thundereggs (agate centers); ⑯ NE ⑰ 25 air mi., in Sec. 26, T. 11 S, R. 18 E (area reached by USFS rd. 1223), area—green moss agate; ⑱ NE ⑲ 26 air mi. via US 26 to the Ochoco Divide, turn W on dirt rd. to Whistler Spring in T. 12 S, R. 18 E: (a) Sec. 11, area about the springs—thundereggs; (b) Sec. 16, Desolation Canyon, area—thundereggs; ⑳ S about 15 mi. on the Crooked R. rd. to the Prineville Reservoir dam, then continue S and E about 6 mi. to rd. fork at Bear Cr.: (a) turn N to mouth of Bear Cr. in Sec. 4, T. 17 S, R. 16 E, area—agate; (b) from fork turn S and E about 12 mi. (past Little Bear Cr. turnoff, then up Bear Cr. from its confluence with Sage Hollow Cr.), then fork N on crooked dirt rd. about 3 mi. to Sec. 15, T. 18 S, R. 17 E, Fischer Canyon (on the Crook Co. side of the Deschutes Co. line), area—petrified wood; ⑲ S ⑳ 19 mi. on Rte. 27 and 2 mi. S of confluence of Bear Cr. with the Prineville Res., on E side of Taylor Butte (Sec. 9, T. 17 S, R. 16 E): (a) area—moss agate, chalcedony, drusy quartz in agate; (b) gravel bars of the whole length of Bear Cr. —moss agate, chalcedony, drusy quartz in agate; ⑳ SSE about
12 mi. on the Juniper Canyon rd. to Antelope Cr.: (a) area E toward the Carey Ranch in Sec. 11, T. 16 S, R. 16 E, the famed Carey Agate Beds—Carey plume agate, chalcedony, jasper; (b) SW about 3 mi. to end of rd. in Sec. 21, (a short distance E of the Prineville Res.), area of Reservoir Heights—black moss agate; @ SE ≈ 12½ air mi. to Eagle Rock in Sec. 29, T. 15 S, R. 17 E, area N of the Prineville Res. And Crooked R.—dendritic agate; @ SE ≈ 30 air mi. into Ochoco Natl. Forest, in Sec. 1 & 2, T. 17 S, R. 17 E, area—varied moss agate; @ SE ≈ 40 air mi.: (a) 4¼ mi. S of Logan Butte, in SE¼,SE¼ Sec. 12, T. 19 S, R. 19 E, Smoky Mt., area—agatized limb casts; (b) ≈ 4 mi. SE of Logan Butte at Owens Water-South Pole Cr. in Sec. 3 & 9, T. 19 S, R. 20 E, area—green agatized wood.

CURRY COUNTY

AREA: ① ocean beaches along entire Co., but especially N and S of the mouths of the Chetco and Rogue rivers—agate, Californite (Idocrase), Jasper; ② Rogue R. gravel bars from Marial in the NE corner of Co. to its mouth at Wedderburn—agate, Garnets, Gold, jasper, petrified wood.

AGNESS: ① area Rogue R. gravels—agate, carnelian, chalcedony, Grossularite garnets, Gold, jasper, Quartz crystals; ② old mines and prospects along the lower Illinois R.—Copper minerals, native Copper.

BROOKINGS, area ocean beach gravels—agate, jasper, Nephrite jade.

CHETCO, CORBIN, ECKLEY, MARIAL, OPHIR, PORT ORFORD, SELMA, many regional streams with placer sands, formally mined and yielding colors and nuggets to the casual seasonal panner—Gold.

PORT ORFORD, area ocean beach sands—Platinum.

SIXES, E on rural rd. into Coast Range ≈ 15 mi. to Sugarloaf Mt., area talus slopes and stream gravels—Nephrite, serpentine.

WEDDERBURN (at mouth of the Rogue R.), area river gravels—Grossularite garnets.

DESHUTES COUNTY

LAPINE (30 mi. S of Bend on US 97), N 5 mi., turn E for ≈ 13 mi., area between Paulina and East lakes—obsidian.

DOUGLAS COUNTY

AREA, Cedar Springs Mt., the Ball Mine—Azurite, Chalcocite.

GLENDALE, area old hydraulic placers and lode mines—Gold.

OAKLAND, SE, area old mines—Cinnabar.

REEDSPORT, W, all ocean beach gravels N and S of Winchester Bay—agate.

RIDDLE, NW, at Nickel Mt., area mines—chrysoprase, Nickel minerals.

ROSEBURG: ① SE 9 mi., area quarries—marble; ② E 12 mi., in gravels of Davis Cr.—orbicular jasper; ③ area gravels of the Umpqua R.—Oregon Jade (massive Grossularite garnet): (a) N, in gravel bars of the North Umpqua R. and (b) especially 22 mi. E in same river gravels, and (c) S, in gravel bars of the South Umpqua R.—agate, chalcedony, carnelian, jasper, petrified and silicified wood.
A Location Guide for Rock Hounds in the United States

GRANT COUNTY

AREA: ① many old mining dists. In NE part of Co., including Alamo, Crane Creek, etc.—Gold; ② at Beach Creek, in cavities in volcanic rock—Cowlesite, Levyne (both fluorescent).

CANYON CITY (just S of John Day on US 395), several area old placer mines—Gold.

GRANITE (far NE part of Co. and 14 mi. NW of Sumpter, in Baker Co.), many dredger tailings and area mines—Arsenopyrite, Galena, Gold, etc.

JOHN DAY, NE, in very broad area extending to Austin (30 mi., the Poker Flat mining dist.), hydraulic placers—Gold; ② and Granite (38 air mi.), all regional draws, washes, land surfaces—gem jasper.

PRAIRIE CITY: ① the Quartzburg Dist. mines—Cobaltite, Chalcopyrite, Gold; ② the Copperopolis claims—Malachite; ③ Saw Mill Gulch, hydraulic placers—Gold.

SUSANVILLE (Dist.), many area old mines—Cinnabar, Chalcopyrite, Gold, Sphalerite, etc.

HARNEY COUNTY

AREA, the Steens Mts. in SE corner of Co. (follow any desert rd. into general surrounding region of these abrupt, high isolated mts.): ① reds. S from Princeton 40 mi. Se of Burns via Rte. 78 lead to W side of the Steens, and ② rds. SW from Folly Farm 30 mi. SE of Princeton leading to the Alvord Ranch, Andrews, and Fields give access to the E side of the range, all regional land surfaces, draws, washes, etc.—moss agate, jasper, thundereggs, geodes, Quartz crystals, etc.

BURNS: ① W, broad general area, and ② E to Buchanan, area of the Harney Valley—moss agate, jasper, thundereggs, geodes, Quartz crystals, etc.; ③ N 18 mi. on US 395, then 7 mi. W, Silvies Canyon in Myrtle Park—wood opal; ④ E 40 mi., the Warm Springs Reservoir: (a) area surfaces—agate, chalcedony, jasper, petrified wood; (b) at milepost 171 on US 20 turn S on dirt rd. 14.2 mi. to the reservoir, on E side of rd. along lake and on surfaces of surrounding hills—agate (black dendritic and white plume).

DENIO, the Pueblo Mts. (S of the Steens Mts.), mines, as large masses—Uraniferous silica.

HARNEY CITY, area placers—Gold.

JACKSON COUNTY

AREA, This Co. and including adjoining Josephine Co. are located in the Mountain Region of SW Oregon. The Gold producing mines of SW Oregon belong to the same mineralized belt as the deposits in Siskiyou Co., CA.

APPLEGATE (Dist.): ① area diggings and hydraulic placers along the Applegate R. (originally worked by Chinese labor)—Jade (botryoidal, or Monterey type), soapstone, placer Gold; ② Upper Applegate Dist. (area drained by the Applegate R.): (a) area mines, (b) the Queen Anne Mine, and (c) the Sterling Mine—Arsenopyrite, Calcite, Gold, Pyrite.

ASHLAND: ① Big Butte, area—agate; ② SE, on Green Springs Mt. (elev. 4,551'), area slopes, draws, etc.—agate nodules, carnelian, chalcedony, jasper; ③ mining dist., including Mt. Ashland or Siskiyou Peak, Pilot Knob and Grizzly Peak plus the intervening Bear Cr. Valley, with several tributaries leading N as far as Phoenix (8 mi.): (a) Ashland area mines—Gold, Pyrite, Pyrrhotite, Quartz crystals, Sericite; (b) Columbine mines—Chalcopyrite, Gold, Marcasite, Pyrite, Pyrolusite; (c) Crackerjack mines—Bornite, Chalcopyrite, Calcite, Gold, Pyrite; (d) Mattern mines—Calcite, Gold, Pyrite; (e) Palmer Cr., small prospect—Cinnabar; (f) Reeder, area mines—Calcite, Chlorite, Gold,
Pyrite;  (g) Shorty Hope, mines—Calcite, Chalcopyrite, Galena, Gold, Pyrite, Pyrrhotite.

BUTTE FALLS, area stream gravels—bloodstone.

CENTRAL POINT, area from 4 mi. E of town to 6 mi. NE at Eagle Point: ① Rogue R. gravel bars, and ② gravels of Antelope and Butte creeks and their tributary draws—moss agate.

EAGLE POINT, area stream gravels—moss agate, bloodstone.

GOLD HILL (Dist.), includes the Rogue R. Valley from Central Point and Table Rock E to Josephine Co., a great many important regional old mines scattered in the backcountry, most of which have similar minerals on their dumps—Arsenopyrite, Bornite, Calcite, Chalcopyrite, Galena, Gold, Pyrite, Pyrolusite, Pyrrhotite, Sphalerite.

JACKSON (Medford Dist.)  The dist. adjoins the Ashland Dist. on the NW and includes all of the Bear Cr. Valley between Phoenix and Central Point; to the SW it extends to the divide between Bear Cr. and the Little Applegate R; to the NE it is limited by Antelope Cr.: ① the Norling Mine—Gold, Pyrite; ② the Opp Mine—Calcite, Chlorite, Gold, Pyrite, Petzite; ③ the Town Mine—Gold, Pyrite, Quartz; ④ the Yellow King Mine—Gold, Pyrite.

MEDFORD: ① on hills above McCloud on Rte. 62 to Crater Lake:  (a) area basalt outcrops—Natrolite;  (b) draws, washes, slopes, etc.—Quartz crystals; ② Big Butte, area—medfordite (green and white jasper); ③ Big Falls, area—bloodstone; ④ NE 10 mi. on Rte. 62, broad area—carnelian moss agate; ⑤ N 12 mi., Table Rock, area—agate, petrified wood.

JEFFERSON COUNTY

AREA, N and E parts of Co., tributaries of the John Day R., in regional gravels, draws, washes, etc.—fossil ferns.

ASHWOOD: ① area—agate, chalcedony, geodes, jasper, thundereggs; ② E 22 mi., the Horse Heaven Mine—morrisonite (chert).

MADRAS: ① general region—agate, chalcedony, geodes, jasper, thundereggs; ② NE 17 mi. and 4 mi. SE of Willowdale, the Fulton Agate Beds (formally known as the Friday Ranch), one of the best known gem locations (fee) —agate, chalcedony, jasper, precious Opal, thundereggs.

WILLOWDALE, general area surfaces, draws, washes, etc.—agate, chalcedony, geodes, jasper, thundereggs.

JOSEPHINE COUNTY

AREA, Josephine Cr., placer gravels—Gold, Josephinite (a Nickel mineral), Platinum nuggets.

CAVE CREEK JUNCTION: ① area gravels and placer mines along Cave Cr.—Gold, Rhodonite; ② E 18 mi. to famed Oregon Caves, all area surrounding the cavern—agate, chalcedony, Gold nuggets (in alluvial gravels of watercourses), jasper, petrified wood, Rhodonite.

GALICE (Dist.), occupies the Rogue R. Valley NW of the mouth of Jump-Off-Joe Cr. to the W boundary of Co., many area old mines—Arsenopyrite, Azurite, Bornite, Calcite, Chalcopyrite, Chrysocolla, Galena, Gold, Malachite, Pyrite, Pyrolusite, Pyrrhotite, Sphalerite.

GRANTS PASS (Dist.), occupies the Rogue R. Valley SE of the mouth of Jump-Off-Joe Cr. (except Applegate Valley), many old mines—Arsenopyrite, Azurite, Bornite, Calcite, Chalcopyrite, Chrysocolla, Galena, Gold, Malachite, Pyrite, Pyrolusite, Pyrrhotite, Sphalerite.
HOLLAND, S 1½ mi. along Althouse Cr., area—agate, Garnets, Gold nuggets, jasper, Quartz crystals, serpentine.

KERBY, W 10 mi., mine—chrysotile asbestos.


KLAMATH COUNTY

AREA: ① Crater Lake National Park: (a) all area surrounding park—agate, petrified wood, etc.; (b) immediately S of park, area—Crater Lake Flower jasper; ② Klamath R. gravel bars—agate, jasper, chalcedony, etc.

LAKE COUNTY

AREA, far NE corner of Co. (reached 12 mi. Se of Hampton, Deschutes Co. via US 20), on SE side of hwy., Glass Butte (elev. 6,393’), center of a vast volcanic area (obsidian flow) denominated as the Glass Butte Recreational Rockhound Area in Sec. 3, 10 & 14, T. 23 S, R. 22 E (the Glass Butte-Black Butte area)—obsidian (various types).

LAKEVIEW: ① all surrounding desert area—agate, jasper, geodes, nodules, sanidine, sunstone; ② S 8 mi., in Crane Canyon, area—agate, jasper, thundereggs; ③ N 6 mi. on US 395, turn E on Rte. 140 to Warner Canyon, general area with long N-S dirt rd. giving access from Crane Mt. On the S to Crook Peak on the N—quartz family gemstones, petrified wood.

PLUSH, NE to Hart Mt.: ① W flank and draws—agate, chalcedony, geodes, jasper, opal, thundereggs; ② summit, cavities in Tertiary basalts—chalcedony, opal.

QUARTZ MT. (E side of Quartz Pass on Rte. 140 about 66 mi. E of Klamath Falls, Klamath Co.), area of the pass—agate, chalcedony, jasper, etc.

LANE COUNTY

BOHEMIA (S part of Co. 15 mi. SE of Disston), a mining dist. comprising placer claims on Sharps, Martin and Steamboat creeks and tributaries—Gold, Barite, Cerussite, Chalcopryrite, Pyrite.

GOSHEN, E 3 mi., Mt. Pisgah, area—agate, Calcite, Heulandite, jasper, Malachite, Mesolite, Quartz crystals.

HAMPTON, LANDAX (on Rte. 58 about 30 mi. SE of Eugene), W, at June Mt., a ledge—salt peter.

TRENT, S on Hwy. 58, then ½ mi. to rd. E to Snyder ranch to dig (fee)—agate with Realgar.

LINCOLN COUNTY

AGATE BEACH (famed OR coast collecting locality, especially after every winter storm), in beach gravels—agates, moonstones, jasper, chalcedony, etc.

NEWPORT: ① area beaches, especially at Agate Beach to the N—agate, chalcedony, jasper, petrified wood, Quartz crystals (waterworn); ② Yakina Bay to Toledo, area black sands—placer Gold.

YACHATS: ① area beaches—sagenite agate, chalcedony, orbicular jasper, moonstone, geodes; ② beaches S to Florence, Douglas Co.; and ③ beach gravels 2 mi. N of
the mouth of China Cr. to Commings Cr. beach 3 mi. S of town—agate, jasper, petrified wood, enhydros, moonstones, Grossularite garnets; ♦ gravels of Big Cr. —Garnets.

LINN COUNTY

SWEET HOME, HOLLEY, area: ① the Sweet Home Petrified Forest (embracing some 20 sq. mi.), especially along Ames Cr. and the shores of the Calapooya R., area—banded agate, crystal geodes, silicious wood; ② Chandlar Mt. SW of Holley, area—agate (purple or Calapooya blue), carnelian.

QUARTZVILLE, in placer sands of Quartzville Cr.—Gold.

MALHEUR COUNTY

BROGAN, all surrounding area—agate, chalcedony, chert, jasper, petrified wood.

IRONSIDE: ① all surrounding area; and ② NE, to the Willow Cr. Reservoir, all surrounding area—agate, chalcedony, chert, jasper, petrified wood.

JORDAN VALLEY: ① all area draws, washes, surfaces—chert, jasper; ② gravels of Jordan Cr.—agate, chert, jasper, petrified wood. (A dirt rd. runs E, rough and very steep in places, to the highly mineralized region of De Lamar and Silver City, Owyhee Co., ID, a back door entrance passable for stout cars and pick-ups; many great Silver mines, etc.)

MALHEUR, area extending NE to Rye Valley, Baker Co., many regional mines (some very deep lodes)—Gold.

NYSSA: ① area immediately surrounding town—agate, geodes, nodules, jasper, petrified wood, thundereggs; ② basalt rimrocks along regional cr. valleys—moss agate, jasper, chalcedony, thundereggs; ③ SW 8 mi. to Owyhee, then W and S on Co. rd to the Owyhee Reservoir Dam: (a) NW 10 mi., near Nigger Rock, area—agate, chalcedony, jasper, petrified wood; (b) the Morrison Ranch near S end of the reservoir, area—morrisonite (a gemmy jasp-agate); ④ S 35 mi., broad area extending over the ID state line, best reached S from Homedale, ID, on US 95, then S 2 mi. to large sign: Graveyard Point, 4 mi. W and 1 mi. S. (Brass Plaque). From the monument head S along a ditch bank to a bridge, cross W, and take main dirt rd. on right of emergency air strip, up a hill, through a gentle gap, and across a cattle guard back into OR: (a) all area surrounding both sides of the state line—agate; (b) W 2 mi. from the cattle guard to a rd. fork, take right fork, all area hills along both sides of rd. showing pits, trenches, excavations—agate.

ROCKVILLE (at S end of the Sucker Cr. Canyon about 43 mi. S of Nyssa), upstream along Sucker Cr. for entire length—agate, chalcedony, chert, jasper, opalized wood.

MARION COUNTY

DETROIT, the Santiam Dist., area placers—Gold.

MORROW COUNTY

HEPPNER, SE, to area of buttes—opal filled nodules.
PARKERSMILL, S, at Opal Butte, area—Hyalite opal.

POLK COUNTY

DALLAS, area land surfaces—jasper.
SHERMAN COUNTY
BIGGS, S 5 mi. along US 97, and 5 mi. S of Rufus, area—agate, jasper (Wascoite type).

TILLAMOOK COUNTY
AREA, ocean beach gravels of entire Co. S of Oceanlake, Lincoln Co.—agate, jasper, bloodstone, moonstone.

UNION COUNTY
STARKEY, the Orofino Mine: ① area—agate, jasper; ② mine dumps—Gold.

WILLOWA COUNTY
JOSEPH, along the Lower Inmaha R., area—agate, prase.

WASCO COUNTY
ANTELOPE: ① general area—agate (iris, moss), chalcedony (rose, geodes), Jade, jasp-agate, jasper; ② E 1¼ mi., a quarry—red jasper; ③ E 10½ mi., area—jasper; ④ S 6.8 mi. on rd. to Ashwood, Jefferson Co., area—green moss agate; ⑤ SE 15 mi., area—fossil ferns.
MOSIER, area stream gravels—petrified wood, silicified pine cones.
PINE GROVE, W, and SE of Bear Springs Forest Camp, at Sunflower Flats, all hillsides and creek gravels—jasper, thundereggs.
SIMNASHO, the Warm Springs Indian Reservation: ① general area—brecciated jasper; ② S flanks of the Mutton Mts., area—agate, chalcedony geodes, black agate geodes.
THE DALLES: ① W, gravels of upper Chenowith Cr. (E side of mts. from Mosier), area—white opalized wood.
WAPINITIA, N, in mts., area—agate, chalcedony, jasper.

WHEELER COUNTY
ANTONE, in gravels of Spanish Gulch, placers—Gold.
DAYVILLE: ① NW 7 mi., and ② E 13 mi., area—fossil bone, petrified wood; ③ gravels of the John Day R. (through entire Co.)—fossils, petrified wood.
FOSSIL, S and W 16 mi., the famed Clarno Fossil Beds, area—agate, jasper, fossils, petrified wood.

YAMHILL COUNTY
McMILLVILLE, area—Calcite (fluorescent).
Known as the Keystone State, Pennsylvania manifests an extraordinary geological history. Except for the coastal plains southeast of Philadelphia and around Lake Erie, the state is mostly hills and steep, high mountain ridges slashed by narrow valleys. Central Pennsylvania is a 2,500’ plateau with a generally Arctic character, marked by the sprawling parallel Blue and Allegheny mountain system. Through these mountains drainage rivers, older than the mountains themselves, cut spectacularly scenic water gaps that enabled colonial pioneers to penetrate the rich interior limestone valleys.

During the Ordovician and Silurian periods, Pennsylvania was part of a great western syncline lying beneath shallow epeiric seas and being steadily filled by the wasting away of the western slopes of Precambrian Appalachia. This ancient continental land mass, now entirely gone and with its granite roots sunk beneath the Atlantic Ocean off the shores of New England, was the source land for the basic rock strata of the state—the coarse, deltaic Pottsville conglomerate. The sedimentary deposits reached thicknesses of 4,000’ and 5,000’, and the widely extended beds of Pennsylvanian marine limestones were formed while much of America lay under the epicontinental seas.

During the 50 million year period of the Upper Carboniferous epoch, undoubtedly the greatest Coal forming era in the world. Vast tropical forests of Sigillarian, Lepidodendron and Calamities were extracting CO₂ from a steaming atmosphere to convert into the enormous Coal beds for which the state is famed. This Pennsylvanian epoch, which began some 330 million years ago, derives its name from Penn’s Woods, the name given to the colony by the original Dutch who first began settling the land in 1681.

Although most of the gemstone and mineral localities of Pennsylvania are found in the southeastern counties, with a few in the south-central and southwestern portions of the state, a few minerals played an important role in the state’s economic development. The Iron which was important in the Revolutionary War came largely from the Great Cornwall Ore Banks of Lebanon Co., opened on South Mt. at Cornwall, the greatest concentration of iron east of the Mississippi River. While coal constitutes the greatest of the state’s natural resources, it was the associated petroleum which really began the world’s oil industry after
Col. Drake drilled his first famous wagon-wheel well near Titusville, Crawford Co., striking an oil gusher at 69½'.

Nickel and Copper were mined in Lancaster Co. before the Revolutionary War, and the Wood Chromite Mine provided most of the Chromite used before the Civil War. Very little Gold and Silver have been found, and what Gold was produced came as a by-product of the Cornwall Iron Mine. Most minerals mined in the state, other than a little Lead and Zinc, are in the nature of marble, limestone, sandstone and other building products. From 1839 to 1892 a good deal of Corundum came from several mines in Chester and Delaware counties, and gem Corundum crystals are still gathered from pegmatite exposures in these counties. Mountain stream gravels produce Epidote, Calcite, Quartz crystals and silicified woods. Many quarries and gravel pits prominent along most of the state's great rivers yield a never ending supply of Quartz family gemstones. Hundreds of Coal mines produce high quality Pyrite cubes. Limestone quarries yield the usually familiar crystals of Calcite, Dolomite and Pyrite.

ADAMS COUNTY

AREA, S part of Co. along the Md. State line, many regional Copper mines—Azurite, Cuprite, Malachite, etc., CASHTOWN: ① 2 mi. N of Newman School at head of the Buchanan Valley, in large Quartz vein—specular Hematite; ② W 1 mi. (W of Virginia Mills and N of Marshall), area outcrop—specular Hematite, Piedmontite (a red Epidote); ③ Charmain, outcrop along RR—Piedmontite; ④ E, at Fox Fills, area—Garnets; ⑤ N, on W side of Piney Mt., area—Piedmontite; ⑥ Caledonia State park, area—agate, jasper.

FAIRFIELD, N 1½ mi., at foot of Sugarloaf Mt., area—Garnets.

GETTYSBURG: ① Culp's Hill, Bushman's Quarry on S slope—native Copper; ② E 2 mi. to Rocky Grove School (2½ mi. SE from the Baltimore Turnpike), many area quarries along the rte.—native Copper; ③ SE 2½ mi. on US 140, on W bank of Rock Cr. (just before the Power Hill jct.), the Teeter Stone Quarry—Chabazite (peach colored crystals), Epidote,
Pennsylvania

Malachite (as coatings), Pectolite, massive Quartz; ⊙ NE 4 mi., Granite Hill, area quarries—Feldspar, Magnetite, Olivine, Quartz, etc.

MARIA FURNACE: ⊙ SW 2 mi., on N banks of Tom’s Cr., the Reed Hill Mine; ⊙ Pine Mt., on rd. from town: (a) NE ½ mi., on W side of rd., the Bingham Mine; (b) W ¼ mi., the Virgin Mine—Azurite, native Copper, Cuprite, Epidote (on Pine Mt.), Malachite, Quartz.

ALLEGHENY COUNTY

ETNA, N 2 mi., at Wittmen and RR cut near Rte. 8—Barite, Calcite, Pyrite, Sphalerite, Wurtzite.

GLASSMERE, area quarry—Barite, Calcite, Pyrite, Sphalerite, Wurtzite.

TRAFFORD CITY, S 0.3 mi., a limestone quarry—crystals, minerals, abundant fossils.

ARMSTRONG COUNTY

APOLLO, GIRTY, KITTANNING, McWILLIAMS, many regional limestone quarries and mines extending for many miles along a major outcrop: ⊙ mine dumps—specular Hematite, Magnetite, etc.; ⊙ area quarries—Calcite, chert, Pyrite, etc.

EDDYVILLE, S, in large old quarry—gem crystals, minerals.

KAYLOR, on Sugar Cr. between town and Snyder’s Run, a large quarry—Calcite, Iron minerals, fossils, Pyrite.

MANORVILLE, area quarries—Pyrite cubes.

NORTH VANDERGRIFT, in stream bed of Gravel Bar Hollow, old Lead/Zinc pits—Galena, Calcite, massive Barite, geodes, Sphalerite, etc.

SOUTH BETHLEHEM, all along Redbank Cr. (N boundary of Co.), area both upstream and downstream—jasper, petrified wood.

BEDFORD COUNTY

BARD, BUFFALO MILLS, HYNDMAN, MANNS CHOICE, NAPIER, all regional quarries (many)—crystals, fossil corals.

EVERETT, NE 6 mi. and 4 mi. S of Hopewell, between Ray’s Hill and Broad Top Mt., the Sherman Valley: ⊙ 2 mi. N of Hopewell, mine dumps and in cuts and exposures along the Sherman Valley rd.; ⊙ ½ mi. E of Cypher Sta., near gap on Ray’s Hill; ⊙ 1½ mi. E of the Sherman Valley open-cut mine—Calcite, Chlorite, Cryptomelane, Orthoclase, Limonite, Quartz crystals, Tourmaline, Zircon.

ST. CLAIRSVILLE, take the Pennsylvania Turnpike at the Bedford Interchange, go 6 mi. on Rte. 220, take right turn E over Brumbaugh Mt. To Morrison Cove, an area of 10 sq. mi.—Herkimer diamonds, Quartz, Amethyst, Calcite crystals.

WATERSIDE: ⊙ area fields all way to New Enterprise—Amethyst, Quartz crystals; ⊙ S 1 mi., at Morrison Cove; and ⊙ N 1 mi., on W side of Yellow Cr., area—Calcite, chalcedony, chert.

BERKS COUNTY

BIRDSBORO, S 1 mi., in quarry—Zeolite crystals.

BLANDON, HANCOCK, TOPTON, READING, area deposits—ochers.

BOYERSTOWN, W ½ mi., on Ironstone Cr. (first Iron furnace erected in state)—Magnetite.
EARLVILLE, 2 mi. W of Hill Church, the Dotterer Mine—specular Hematite.
FURNACE HILL, ROCKLAND, area Iron mines—specular Hematite.
JACKSONWALD, S 1.3 mi. on the Lorane rd., in rd. cut at base of hill—Calcite (orange), Chabazite (peach color), Prehnite (green), Epidote (rare var. of Stilbite, as white translucent crystals and rosettes).

MORGANTOWN: ① E 1¼ mi. on Rte. 122, the Grace Mine—Actinolite, Apophyllite, Byssolite, Calcite, Epidote (massive, pale moss green), Garnets, Natrolite, Quartz (massive, white and smoky), Selenite, Stilbite, Tremolite; ② the Jones Mine—Malachite.

READING: ① area: (a) Alsace Twp., area mines—Pyrrhotite; (b) gravels of the Schuylkill R.—jasper; (c) the Fritz Island Mine—Azurite, Malachite, Magnetite, Chalcopyrite; ② E 1 mi., old mine—sienna.

SINKING SPING, S 2 mi. on the Fritztown rd., turn E ½ mi. on Chapel rd., then N on Wheatfield rd. for 1 mi. to the Wheatfield Magnetite Mine—Calcite crystals, Fluorite (amber crystals), Magnetite, Melanite garnets.

BLAIR COUNTY
ALTOONA: ① NE, in village of Culp (on W and N border); and ② W of the Birmingham Sta., all area Lead/Zinc mine dumps (very many) —Anglesite, Barite, Calcite, Cerussite, Dolomite, Galena, Hemimorphite, Pyrite, Smithsonite, Spalerite; ③ Bald Eagle and Dunning mts., area mines—Anglesite, Barite, Calcite, Cerussite, Dolomite, Galena, Hemimorphite, Pyrite, Smithsonite, Spalerite.

CANOE CREEK (and Sinking Valley), many regional mines—Calamine, Galena, Smithsonite, Spalerite, Calcite, Cerussite, Anglesite, Dolomite, Hemimorphite, Pyrite.

CLAYSBURG, SPROUL, regional quarries—gemmy chert, Quartz crystals.

BUCKS COUNTY
AREA, countywide cr. beds and banks—petrified wood.
BUCKINGHAM, EUREKA, NEW HOPE, RUSHLAND, TREVOSE, regional limestone quarries—crystals, gems, minerals.

BUCKMANVILLE, area mines—Copper mineral, native Copper.

COOPERSTOWN, E 2 mi., area—gemmy diabase.

DURHAM (Twp.), at Mine Hill, area—Feldspar, Hematite, Magnetite, Quartz.
EUREKA, at Eureka Quarry to NE—Smoky Quartz crystals.

FEASTERVILLE: ① area outcrops—sunstone; ② Triassic rock outcrops: (a) S and SE of Holland Sta., (b) NE of Leonard’s Sta., (c) ¼ mi. SE of Roelof’s Sta., (d) 1½ mi. N of Woodburne Sta., (e) numerous other outcrops—agate, chalcedony, chert, silicified wood.


MORRISVILLE, N 2 mi. and ¼ mi. W of Neshaminy Cr., the Vanartsdalen Quarry—Chesterlite (blue orthoclase moonstone).
Pennsylvania

NEW BRITAIN, area mines—Galena, Sphalerite.
NEW GALENA, area mines—Galena, Sphalerite.
NEWTOWN, W, and ¼ mi. SE of Roelof’s Sta., in Neshaminy Cr.—jasper, petrified wood.

PERKASIE, N 2 mi., at Rock Hill (largest quarry in Co.)—gem crystals in pockets and vugs.
QUAKERTOWN, area traprock quarries, in pockets—gem crystals.
VAN SCIVER, gravel operation—gem crystals and minerals.

CARBON COUNTY
BOWMANSTOWN, S, at Lehigh Gap (on Penn. Turnpike on the Lehigh Co. line), area mines—Siderite.
CHRISTMANS (in the Leighton quad.), S 2,000’, on both E and W sides of the Lehigh R. gorge—Uranium minerals.
JIM THORPE: ① area fields, stream gravels, etc.—jasper; ② 0.4 mi. S of the courthouse and ¼ mi. E of RR bridge over the Lehigh R. (1 mi. S of town) area—Uranium minerals; ③ E, on N side of nose of Mt. Pisgah, area—Allanite, Andersonite (fluorescent), Autunite, Carnotite, Chlorite, Liebigite, Metatorbernite (fluorescent), Mica, Pyrite, Quartz, Schroekingerite (fluorescent), Sklodowskite (fluorescent), Soddyite (fluorescent), Tyuyamunite, Uranophane (fluorescent), Uraninite.
MAUNCH CHUNK: ① N ¾ mi., on Mt. Pisgah in exposure of conglomerate—Carnotite; ② SE 7 mi., extending in a SW direction for 20 mi., many regional mines, especially at Hazard and Millport—ocher.

CENTRE COUNTY
LEMONT, in Neidgh Quarry and loose in soil—Quartz crystals.

CHESTER COUNTY
AREA, many regional Corundum mines in Co.—Corundum, Feldspar, Diaspore (clear crystals), Kyanite, Margarite (pearly plates), Sillimanite, Spinel, Tourmaline.
AVONDALE (London Grove Twp.): ① the Leiper Quarry—Garnets (Almandite, Essonite); ② N ¼ mi., area—Apatite; ③ E ¼ mi., area—Quartz crystals (clear, smoky), Rutile crystals.

CHESTHAM, SW 1 mi., area—Apatite.
CHESTER, NORTHROP, area pegmatite outcrops—gem Beryl, Garnets.
COATESVILLE, NW 1½ mi., pegmatite outcrop on Rte. 30 by-pass and just S of, on S side of hwy. (park on side rds. and walk), area—Amethyst, Beryl, Epidote, Garnets, Smoky Quartz crystals.
DOWNTOWN, N on Rte. 282 through Lyndell, turn NE to crossrds. Of Cornog, to the Keystone Trap Rock Co. quarry on N side of hwy.—Byssolite, Epidote, Feldspar, Garnet, Prehnite, Quartz crystals (blue, clear, smoky, w/ inclusions), Sphene, Tourmaline.
EAST BRADFORD (Twp.), S and SW of Sconneltown, between Brandywine Cr. and Plum Run, area—rock crystal.
EAST NOTTINGHAM (Twp.), 1½ mi. NE of Chrome, area pegmatites—Corundum.
FAIRVILLE, area quarries—Labradorite, sunstone.
FREMONT (West Nottingham Twp.), SW 2 mi., area—Corundum, Albite crystals.
GOAT HILL, area bounded by Co. line and the MD border, numerous old pits and prospects—Albite, Magnesite, Sepiolite (Meerschaum).

HAUTO, area—Quartz crystals.

KENNETT SQUARE: ① SE ¼ mi., at Pierce’s Paper Mill (on E branch of Red Clay Cr.); and ② SE 2 mi., on Cloud’s farm (on a brook that enters the E branch)—Labradorite, sunstone.

KNAUERTOWN, 0.12 mi. N of village of St. Peters, at French Cr. Magnetite mine and dumps—Apatite, Apophyllite crystals, Azurite, Calcite (green crystals w/ inclusions of Byssolite, Malachite or Chalcopyrite), Chrysocolla, Erythrite, Malachite, Pyrite crystals, Quartz crystals, Rhodochrosite, Stilbite, Werniere.

LYNDEL, the Cornog Quarry—sunstone.

NOTTINGHAM: ① general area, exposures—sunstone; ② SW 2 mi., on S bank of Black Run, numerous quarries (largest is Brandywine)—gem serpentine, Garnets, Feldspars, Tourmaline; ③ Nottingham Park: (a) across cr. bordering park and S of the main office, trails lead through woods to many old mines, on dumps—Albite, Chrome minerals; (b) SW 1¼ mi., the Keystone Quarry; and (c) W, at the Sparvetta Quarry—fibrous Actinolite, Apatite, asbestos, moonstone, massive Quartz, Tourmaline, Williamsite; ④ Cooper School, N, in fields—Colerainite (in rosettes with Feldspar), Goethite.

OXFORD, S, on the MD state line—Brucite, Chromite, Kämmererite, Magnesite, gemmy serpentine, soapstone, Williamsite, Zaratite, etc. Very many old Chromite mines of the Scott, Pine Groves and White Barrens—gem serpentine, Williamsite.

PARKESBURG, area pegmatite outcrops—Rutile crystals.

PHOENIXVILLE: ① area Lead / Zinc mines, the Jug Hollow Mine in Schuylkill Twp.—Barite, Cerussite, Chalcopyrite, Galena, Malachite, Melaconite, gold-bearing Pyrite; ② S, to the Wheatly Lead Mine and the Chester County Mine (0.2 mi. S of rd. between Pickering and Willaims Corner)—Anglesite (fluorescent), Apatite (fluorescent), Azurite, Barite (clear crystals), Cerussite (fluorescent), Chalcopyrite, Cuprite, Fluorite, Galena, Hydrozincite (fluorescent), Linarite, Malachite, Mimetite, Pyromorphite (green & yellow), Quartz crystals, Silver minerals, native wire Silver, Sphalerite (rare), Sulfur, Wulfenite.

POMEROY, area—Rutile crystals.

UNIONVILLE (Newlin Twp.): ① area farms, small mines and prospects—Corundum; ② NE ½ mi. at Corundum Hill, in pegmatite exposures—gem Beryl, Corundum, Diaspore, Citrine; ③ 1 mi. N of Corundum Hill: (a) area; and (b) NE 2 mi. on Northbrook rd. at Corundum Hill—Corundum, serpentine.

VALLEY FORGE, W 1½ at abandoned Jug Hollow Mine—Amethyst.

WAKEFIELD, S on US 222 to near MD border, turn E on rural rd. to Cedar Hill Quarry—verde antique, Williamsite.

WARWICK (Twp.), French Cr., area Iron and Copper mines—Chalcopyrite, native Copper, specular Hematite, Limonite, Magnete.

WEST CHESTER: ① N, area—gem serpentine; ② ¼ mi. E of Pocopson Sta. (in Birmingham Twp.), many outcrops in area—rutilated Amethyst, Quartz crystals (clear, smoky); ③ S 1.4 mi. to Darlington Corners, the Brinton Quarry (on Radley Run on N side of Rte. 926, W of Rte. 322, just SW of center of Darlington Corners)—Actinolite, gem Beryl, Bronzite, Clinochlore, Feldspar crystals, Garnets, Quartz crystals, Tourmaline, Williamsite (translucent green), Zircon; ④ S 2½ mi., on W side of Osborn Hill, area—Corundum, Quartz crystal (clear, smoky).

WEST PIKELAND Twp., Opperman’s Corner, on Rte. 113, NE ½ mi., at old Ben Franklin Mine (reached via exit 23 from Penn. Turnpike onto Rte. 111, S for ½ mi. to Rte. 113), quarries on the N—Garnets, Graphite, Limonite, Quartz (gemmy blue), Pyrite crystals, Zircon.
WESTOWN Twp., many area outcrops—Quartz crystals (clear, smoky).
WILLOWDALE (East Marlboro Twp.): ① SW 1 mi., on W branch of Red Clay Cr., area—rock crystal; ② at Bayley's farm SW of Willowdale—Tourmaline

COLUMBIA COUNTY
CENTRAL, near town—Meta-zeunerite, Uranospinite (both fluorescent), and other radioactive minerals.
ESPY, area mines—Calamine.

CUMBERLAND COUNTY
BOILING SPRINGS: ① SE 2 mi.; ② SE 3 mi.; ③ White Rock, I mi. E of Reading Bank, area—Cryptomelane (gummy, blue black), Goethite, Quartz crystals, Tourmaline, Zircon; ④ N, in a traprock dike crossing the Co.—Calcite, Fluorite, Quartz crystals.
CARLISLE: ① area farm fields—banded agate, Quartz crystals; ② E 1 mi. from the Carlisle Interchange on the Penn. Turnpike, area on S side of Rte. 11—banded agate; ③ NW 1½ mi., area—agate, jasper, Amethyst, Quartz crystals (clear smoky).
CLEVERSBURG-PINE GROVE FURNACE, South Mt., area mines—Copper minerals, native Copper.
MT. HOLLY SPRINGS: ① W, general area of fields, ditches, cut banks, etc.—agate nodules; ② SW 1 mi., area mine dumps—Cryptomelane (gummy, blue black), Goethite, Quartz crystals, Tourmaline, Zircon; ③ S on Rte. 34 through Holly Springs, turn W at main intersection for ½ mi., take right fork to a farm 1.2 mi. from Rte. 34 on N side of rd., area fields S of farm, ditches, banks, along fences, etc.—agate, chalcedony, jasper; ④ SW 3 mi., on N flank of South Mt., the Wharton Mine—gem Cryptomelane; ⑤ W 3½ mi. on Huntsdale rd., turn S opposite cannyery by RR to South Mt. phosphate mine dumps—Apatite, Braunite, Cacoxenite, banded chalcedony, Quartz crystals, Strengite, Wavellite (often with Pyrolusite); ⑥ W 4 mi., in vicinity of Moores Mill, area mines—Wavellite.
PINE GROVE FURNACE, N 1 mi. along Little Rocky Ridge, in area Quartz outcrops—specular Hematite, Quartz (milky, smoky, yellow).

DAUPHIN COUNTY
HARRISBURG, take I-83 S across Penn. Turnpike to overpass, the 1 mi. farther to Fairview church, collect from weathered material—agate, Garnet.

DELWARE COUNTY
AVONDALE (Springfield Twp. – see map on next page): ① area quarries, in small amounts—Chalcopyrite; ② Leiper's Quarry (now Faccenda Quarry) on E side of Crum Cr.—Aquamarine, Golden Beryl; ③ in a quarry to SE on W side of Crum Cr.—Quartz crystals; ④ 1 mi. W in quarry on George Sharpless Farm—Amethyst.
BAKER: ① area quarries—Amethyst, Smoky Quartz crystals; ② area rd. cuts, excavations, etc.—Amethyst, Quartz crystals.
BOOTHWYN (Upper Chichester Twp.): ① SW 0.3 mi., and W of the E branch of Naaman's Cr., on N side of the B & O RR Sta.—Sphene; ② N ½ mi., on the Armstrong farm E of the Chelsea rd.—Amethyst; ③ N 2 mi.: (a) and E of the Chelsea-Boothwyn rd., area; and (b) at J.B. Okie's farm—Amethyst; ④ loose in soil at McCay’s farm—rutilated
Quartz crystals; ① in pits on W side of E branch of Naaman’s Cr.—Quartz crystals, Garnets.

CHADD’S FORD: ① SW 1 mi., area transparent Oligoclase crystals; ② S 1½ mi., in gravels and banks of the Brandywine R.—Amethysts.

CHELSEA: ① SW 1 mi., mined as an abrasive—Garnet; ② W 2 mi., a pegmatite mine—Garnet. CHESTER (Twp.): ① area gravels of Chester Cr.—Amethyst, Smoky Quartz crystals; ② area quarries—gem Beryl, Feldspar, rock crystal; ③ E ¼ mi., Shaw & Esrey Quarry (N of the B & O RR)—Amethyst, Beryl, Smoky Quartz crystals; ④ Bridgewater Sta. on the Penn. RR, opposite, at John Mullen’s Quarries (on E side of Chester Cr.)—Mica, Quartz crystals, Sphene.

CHESTER HEIGHTS (Aston Twp.), S 1 mi.: (a) in soil above Peter’s Mill dam in Green cr.; and (b) in gravels of Green’s Cr.—Almandite garnets.

CROZIERVILLE: ① area fields, rd. cuts, etc.—Amethysts; ② W ½ mi., on S side of Chester Cr. opposite Lenni, area—Amethysts.

CRUM LYNNE (RR Sta.), Ward’s Quarry on Crum Cr.—Amazonite, gem Beryl, Feldspar, Quartz crystals.

DARBY (Upper Providence Twp.): ① Sycamore Mills, E along Ridley Cr., pegmatite dike exposures—Amazonite, transparent Oligoclase crystals, sunstone; ② 3½ mi. below, at the Shaw & Esrey Quarry—Aquamarine, Beryl; ③ near White Horse, 3 mi. S—Beryl.

ELWYN STATION, area farm fields—Corundum.

GLENDALE (SW corner of Lansdowne quad. In Haverford Twp.), take Glendale rd. N of Darby Cr., 1 mi. S of jct. of cr. with Rte. 3, a pegmatite mine—gem Beryl (to 4” long), Garnets, Feldspar, Quartz, black Tourmaline.

GLEN MILLS (Thornbury Twp.), area—Amethyst, Albite, rutilated Quartz crystals.
LEIPERVILLE (Ridley Twp.): ① W ½ mi., at Deshong’s Quarry on E side of Ridley Cr.—Aquamarine, Golden Beryl, Thulite, Quartz crystals; ② E ¾ mi., in fields of Sherz’s and Hibbard’s farm—Corundum.

MARPLE Twp.: ① general area—Amethyst, Quartz crystals (clear, rutilated); ② Plamer’s Mill, area mines—Chromite.

MEDIA (Middletown Twp.): ① the Media Quarry—gem Beryl, Feldspar, Quartz; ② W: (a) in area pegmatite outcrops—Corundum; (b) on the Schofield and Hibbard farms—Corundum; ③ W 1 mi., at Mineral Hill: (a) area farm fields, rd. cuts, etc.—Albite, Amazonite, Corundum, sunstone; (b) the Mineral Hill Quarry (W of Ridley Cr. and N of Blackhorse)—Albite, Amazonite, aventurine, Aquamarine, gem Feldspar, Garnets, moonstone, sunstone; ④ N, at the Phillips Chromite Mines—gem serpentine; ⑤ Black Horse: (a) S ¼ mi. along rd. to Elwyn, area—Corundum; (b) SE ½ mi., pits in pegmatites—Corundum (crystals to 6” long, in area farm fields as gray, blue, white and brown crystals), Amazonite, Beryl, Feldspar, Kyanite, moonstone; (c) NE ½ mi.—green Quartz; (d) ¼ mi. (1 mi. W of Media), area—Albite, Amazonite, sunstone; (e) SW, to Chrome Run, area of widespread pegmatite outcrops—Albite, Amazonite, sunstone; ⑥ NW 2½ mi., Blue Hill, area—Albite, Amazonite, Beryl, Oligoclase, sunstone; ⑦ NW 2½ mi.: (a) ¼ mi. NE of Sycamore Mills, at Blue Hill Crossroads—Quartz crystals (blue, green); (b) 1 mi. E of Rose Tree dam on Crum Cr., area—Amethysts; ⑧ Lenni Sta.: (a) E, in RR cut—Albite, Amazonite, Oligoclase, sunstone; (b) N 1 mi., on Dismal Run, area—transparent Oligoclase crystals.

Morgan station: ① S ¼ mi., area—Corundum; ② W, area fields, cuts, etc.—Amethysts; ③ Dutton’s Mill rd., a pegmatite dike outcrop—Amethysts; ④ Village Green, area—Corundum, yellow Quartz crystal.

MORTON, NW, in area quarries—Garnet, Feldspar crystals, rock crystal.

NEWTON SQUARE (Newton Twp.): ① W 1 mi., in pegmatite outcrops and rd. cuts—Oligoclase; ② a mine near Ox Run, in serpentine—Chromite.

SWARTHMORE, S, on Crum Cr., in Leiper’s Quarry—gem Beryl (golden to pale yellow green), Amethyst, Garnets, Quartz crystals.

SCAMORE MILLS: ① E, in fields of Reece’s farm on Ridley Cr.—Corundum; ② W ½ mi. on Walker Yarnell’s farm—Smoky Quartz crystals; ③ S ¾ on J. Tyler’s farm—green Quartz.

TRAINER STA. (Lower Chichester Twp.): ① N 1½ mi., on a knoll near the Linwood Mill Dam—Quartz crystals (clear, smoky); ② at William Trainer’s farm ½ mi. N—Quartz crystals (clear, smoky), green Beryl.

UPLAND: ① area quarries on Chester Cr.—Feldspar, Garnets, Quartz crystals; ② E: (a) area around Henvi’s Quarry N of Chester Cr.—Amethyst geodes; (b) area around Waterville rd.—Amethyst geodes.

UPPER DARBY (P.O.), along West Chester Pike, W ½ mi., area—Quartz crystals (large clear, smoky).

WAYNE, E, area quarries and stream gravels—Garnets, blue Quartz crystals.

FRANKLIN COUNTY

AREA: ① South Mt., in gemmy rhyolite porphyries, breccias and conglomerates; and ② Pigeon Hills, area—gem red jasper.

CALEDONIA PARK: ① area around the Caledonia State Park—agate, jasper; ② N slope of Huckleberry Hill—Garnets.

CHAMBERSBURG, area mines—Barite.

LANCASTER STA., area quarries—Fluorite.

WAYNESBORO, area mines—Barite.
FRANKLIN & ADAMS COUNTIES

AREA, the Blue Ridge Summit (E of Waynesboro), E on Rtes 16 and 116 (toward Fairfield), with Greenstone being a center for a large area of many old mines and mills: ① on mine dumps—Copper minerals, native Copper, Quartz; ② the Ruberoid Quarry—Copper minerals, Epidote (in rhyolite, some with native Copper inclusions); ③ the Bingham Mine—Cuprite; .Mine—Cuprite; ④ Mt. Hope area quarries and mine dumps—Talc, native Copper (at Bechtel Copper Mine); ⑤ the Snively Copper Mine (a popular rock club field trip locally)—Cuprite.

FULTON COUNTY

FORT LITTLETON, N 1 mi., pits and trenches along Aughwick Cr.—Barite, Calcite, Chalcopyrite, Pyrite, Quartz crystals.

NEEDMORE: ① Beaverdam Pond, area—Manganese minerals; ② Duvall Cove, along Oregon Cr.—Manganese minerals; ③ McConnell’s Cove, area limestone quarries—gems, minerals; ④ W 4 mi., on Sideling Hill at Whips Cove—Cryptomelane, Psilomelane, Pyrolusite.

GREENE COUNTY

CARMICHAELS, DURBIN, MT. MORRIS, WHITELEY, regional quarries in sandstone—Quartz crystals.

JEFFERSON, along Tenmile Cr. to Laurel Run, area quarries—Quartz crystals.

MORRIS TWP., SE section, along Browns Run, area—Iron minerals, nodules.

OAK FOREST, 2 mi. above, at Pursley Run—Iron minerals, nodules.

TRUMBULL, on S bank of Tenmile Cr., a quarry—Calcite, Pyrite.

WAYNESBURG, S 1½ mi., in a sandstone quarry—Quartz crystals.

HUNTINGTON COUNTY

MAPLETON, area quarries—Quartz crystals.

McCONNELLSTOWN, ORBISONIA, UNION FURNACE, area limestone quarries—Calcite crystals, Fluorite, etc.

MT. UNION, THREE SPRINGS, in area sandstone quarries—Quartz crystals.

WARRIORSBURG, S 3 mi., on S slope of Dry Hollow Ridge, numerous Iron mines—gemmy Cryptomelane, jasper, Quartz crystals.

LANCASTER COUNTY

BAINBRIDGE (Paradise Twp.): ① N 1 mi., area fields—petrified wood; ② Kinzer, area—rutileted Quartz crystals; ③ 2 mi. NW of Churtchtown; and ④ 3 mi. NE of Churtchtown—petrified wood.


BLUE BALL: ① many area quarries—gems, minerals; ② N on Rte. 23 to the Showalter Quarry on N side of rd.—dogtooth Calcite, Fluorite, specular Hematite, Quartz crystals, Rutile.

BROWNSTOWN, a nearby quarry on Conestoga Cr.—crystals of Calcite and Quartz.

CENTERVILLE, an abandoned quarry on Chickies Cr.—crystals of Calcite and Quartz.
COLUMBIA: ① E, a quarry—crystals of Calcite, Dolomite and Quartz; ② N 1 mi. from jct. of Rte. 30 with the St. Joseph’s Academy rd., then N toward Chestnut Hill, park car on summit, area fields to E and W); and ③ 1 mi. farther NE, to Grubb Lake and Mud Lake, area—Limonite (geodes).

EAST PETERSBURG, SILVER SPRINGS, TALMAGE, very many area quarries—crystals of Calcite and Quartz.

EPHRTA, SW 1 mi., a quarry—Dolomite (tinted pink and green).

GAP: ① SW 4 mi., the Gap Nickel Mine—Chalcopyrite, Millerite, Pyrite, Pyrrhotite; ② many area quarries—gems, minerals.

JERKINS CORNER: ① W 0.3 mi., at Rock Springs Run (Fulton Twp.) and 1¼ mi. NNE of Rock Springs, MD, area—moss agate; ② at Cedar Hill Quarry, reached via Hwy. 222 going E on road (along PA-MD line) and following signs to mine—Brucite, Magnesite, Talc (all fluorescent), and Williamsite.

LANCASTER: ① area quarries along Conestoga Cr.; ② quarries along Little Conestoga Cr.—crystals of Calcite, Dolomite and Quartz; ③ NE, in the Stoner Quarry, abundant—Pyrite crystals; ④ the Blue Ball Quarry—Calcite, Dolomite, Fluorite, Hematite, Pyrite, Quartz crystals, Rutile; ⑤ area Zinc mines—Calamine, Cerussite, Smithsonite; ⑥ N 1 mi., near Fruitville Pike, on E side on the property of a nursery—Limonite cubes.

LITITZ, N, in a quarry—pink Calcite crystals.

MILLERSVILLE, W 1 mi., a quarry—Calcite crystals, Pyrite.

MT. PLEASANT (Bart Twp.), NW 1 mi., area—Amethyst.

PEQUEA, the Pequea Mine—Galena, Sphalerite, Wulfenite.

QUARRYVILLE, SE on Rte. 472 to Union, turn W onto left trending rd. before reaching edge of village, go ½ mi. to the Stillwell Quarry—Brucite, Chlorite, Chrysotile, Magnetite, Williamsite.

TEXAS, area outcrops—serpentine.

WAKEFIELD, S, the famed State Line Dist.: ① the Cedar Hill Quarry (just N of the PA-MD state line, reached from US 222 via an E trending rd.—agate, Aragonite, bloodstone, Brucite, Calcite, chalcedony, Chromite, Deweylite (fluorescent), Dolomite crystals, Hydromagnesite, Magnesite, common opal, prase, Williamsite and many other minerals; ② the Octoraro Cr. dist., in serpentine exposures—Chromite.

WINGDALE, SE 3 mi. on rd. to Lee’s Bridge (9 mi. SW of Oxford), the old Wood Chromite Mine shafts and adjoining pits—Brucite, Cacoxyenite, banded chalcedony, Chromite, Uvarovite garnet, Millerite, serpentinite, Steatite, Vesuvianite, Williamsite.

LEBANON COUNTY

ALMA, AVON, CLEONA, MILLARDSVILLE, MYERSTOWN, PALMYRA, very many regional quarries, wide assortment—gems and minerals.

CORNWALL: ① many area quarries—gems and minerals; ② area mines—Azurite, Chalcopyrite, Magnetite, Malachite, Pyrite; ③ S, just NW of a rd. at Big Hill (on old Rte. 322), extensive mine dumps—Actinolite, Andradite, Calcite, Chlorite, Diopside, Epidote, Fluorite, Grossularite, Gold (traces), Labradorite, Magnetite, moonstone, Prehnite, Pyrite crystals, Sphene, Talc, Tremolite, Wurtzite (crystal form), Zeolites.

JONESTOWN: ① S 1 mi., in Bunker Hills, in white sandstone—Quartz crystals; ② S 2 mi., a traprock quarry—gem crystals.
LEHIGH COUNTY

ALBURTIS, BREINIGSVILLE, area deposits—ochers.
ALLENTOWN: ① area hills, washes, fields—gemmy jasper; ② S 7 mi., near Penn. Turnpike, area fields, washes, rd. cuts—colored chert.
BETHELHEM, S 4 mi. on Rte. 12, at Friedensville: ① area Zinc mines—Aragonite, Calamine, Greenockite, jasper, Quartz crystals, prase, Pyrite, Smithsonite, Sphalerite; ② ¼ mi. W of main town intersection, the New Jersey Zinc Mine—Aragonite crystals (fluorescent), Nicholsonite (fluorescent, phosphorescent), Pyrite crystals, Quartz crystals, Smithsonite (banded), Sphalerite crystals, Spinel.
MACUNGLE, SE 2 mi. (½ mi. N of Shimerville), area—blue Corundum (Sapphires; large crystals, asteriated).
SHIMERVILLE, N ¾ mi., area—Sapphires (large crystals, asteriated).
VERA CRUZ (13 mi. S of the Lehigh Interchange of the Penn. Turnpike), in regional hills—jasper (red, brown, yellow), Sapphires.

LUZERNE COUNTY

HAZELTON, WEST PITTSTON, area anthracite coal mine dumps—Pyrite.
WHITE HAVEN: ① area quarries—gemmy red quartzite; ② N 5 mi., the Moosehead mines—ochers.

LYCOMING COUNTY

BEAVER LAKE: ① W 0.7 mi., on the Leon Myers farm (just S of Strawbridge), in a sandstone outcrop—Meta-zeunerite, Uranospinite (both fluorescent), and other radioactive minerals; ② E side of Beaver lake, ½ mi. N of outlet, a sandstone outcrop and an old Copper mine—Copper minerals (radioactive); ③ S ½ mi. from the Beaver Lake Hotel, on W side of Beaver Run 250’ from hwy. Crossing of cr., an old Copper mine—Copper minerals (radioactive); ④ SW of the S end of Beaver Lake 1 mi., on hill facing S between two branches of Beaver Run, old Copper mine—Azurite, Chalcocite, Chalcopyrite, Malachite, fossils (plants).
MUNCY, the Muncy Quarry—Calcite (fluorescent).
TIVOLI, N edge of town on N side of Big Run 200’ NW of US 220, area—Copper minerals (radioactive), fossils.

MONROE COUNTY

AREA: ① SE part of Co., all regional limestone quarries—Calcite, Pyrite, etc.; ② Delaware Gap, area quarries—Fluorite.
KUNKELTOWN: ① area stream beds and banks—Quartz crystals (some coated with tiny crystals of Azurite); ② S, in sand and clay pits—Quartz crystals.
STROUDSBURG: ① area close to NJ line—agatized corals, Quartz crystals and gemstones (see map next page); ② steep wooded area located on the Christian Armitage farm S of Stroudsburg. Crystal Hill is reached by taking Rte. 611 E from Stroudsburg to a blinker light and turning S on Hwy. 191 for 3.1 mi., then keeping right 1.4 mi. to Armitage house, walk up steep hill to site where quartz crystals are loose in fine grained quartz conglomerate (fee)—Quartz crystals.
MONTGOMERY COUNTY

AREA: ① Alsace Twp.: (a) Spies Church, NNW 1½ mi., and (b) 1½ mi. S of Jacksonwald, at Kensey Hill, area—chalcedony, jasper, jasp-agate; ② Edge Hill (and near Spring Hill), area mines—Pyrolusite; ③ Lower Providence Twp., the Eaton Mine—Cerussite, Copper minerals, Iron minerals.

AUDUBON, the Ecton Mine—Cerussite, Sphalerite (both fluorescent).

BOWERS Sta.: ① S 1 mi., on Flint Hill (on Rte. 320 on the Schuylkill R.), and ② Olney Furnace, NE 1¾ mi., at Green Hill, area—Amethyst, chalcedony, silicified wood.

BRIDGEPORT, SE ½ mi., on Rte. 202, the Bridgeport Dolomite Quarry (along side the RR)—Calcite, chalcedony, Dolomite, Goethite, jasper, Malachite, rock crystal, Sphalerite.

CONSHOHOCKEN, GLENSIDE, MONTGOMERYVILLE, NORRISTOWN, PLYMOUTH, all regional quarries—gem serpentine, Steatite.

DURHAM (Twp.), general area outcrops of Cambrian quartzite—chalcedony, jasp-agate, jasper.

JARRETTOWN, W 2 mi. at Hill Crest, quarry—gem serpentine, Talc.

LAFAYETTE Sta. (Lower Merion Twp.): ① SE, in quarries on both sides of the Schuylkill R.—serpentine, Steatite; ② NE bank of river, at Prince’s Quarry, variety—gemmy minerals; ③ the Lafayette Soapstone Quarry (on the Schuylkill R.)—serpentine, Steatite; ④ Lafayette Hill, a quarry—Chalcopyrite, soapstone.

MONT CLARE (across the Schuylkill R. from Phoenixville, Chester Co., near confluence of river with Perkiomen Cr. and trail to Audubon’s Home): ① many area old Copper mines; ② the Perkiomen Mine—Azurite, Chalcopyrite, Barite, Malachite; ③ N of bridge over small cr., mine—Goethite, Linarite, Malachite, Mimetite, Glauberite.

MORGANVILLE Sta.: ① E ¾ mi., and ② Maple Glen, area gravel pits—petrified wood.

PERKIOMENVILLE, E ½ mi. on Rte. 29 and about 8 mi. SW of the Quakertown exit of the NE extension of the Penn. Turnpike, in a quarry—Actinolite, Calcite (fluorescent), Chlorite, Epidesmine (crystals with Calcite and Pyrite), Epidote, Fluorite (purple,
translucent), Garnet, Heulandite, Limonite, Natrolite, Pyrite crystals, rock crystals (in groups), Stilbite, Zeolites.

PHILADELPHIA (Philadelphia Co.), N and W, in cr. beds and rural country fields, cut banks, etc.—agate, chalcedony, chert, jasper, Quartz crystals, petrified wood.

ROSE GLEN, NW ¾ mi., at the Gladwyne quarries, many kinds—Quartz family gemstone.

SUMNEYTOWN: ① nearby mine in Upper Salford Twp.—Azurite; ② S 1 mi., on the Kobers farm, an old Copper prospect—Azurite, Tenorite, Zeolites.

WEST MANAYUNK, along Rock Hill rd., many quarries—gem serpentine, Steatite.

NORTHAMPTON COUNTY

BETHELHEM: ① many area quarries—chert, oolitic flint, crystals, fossils; ② NE 3½ mi., the Camels Hump Mine—ocher; ③ E 5 mi. and S of Redington (Lower Saucon Twp.), on South Mt., area—Cat’s-eye, chalcedony, chert, prase, Quartz crystals.

EASTON: ① area: (a) mines—ocher; (b) limestone quarries below town—oolitic chert, dark flint; (c) quarries along Bushkill Cr.—chert, flint; ② N side of Rte. 611 and 1.3 mi. N of jct. with Rte. 22, at Chestnut Hill (Forks Twp.), area quarries—Apatite, asbestos, Bronzite, Diopside, Epidote, Pyrite, Quartz crystals, radioactive minerals (rare), noble serpentine, Sphene, Talc, Tremolite, Vesuvianite, Williamsite.

FREEMANSBURG, HANOVERVILLE, HELLETON,ISLAND PARK, many regional limestone quarries—chert, oolitic flint, crystals, fossils.

PHILADELPHIA COUNTY

FRANKFORD: ① area gneissic outcrops—Chalcopyrite; ② Falls of Schuylkill, area—Fluorite; ③ Wissahickon Cr., area gneiss outcrops—Chalcopyrite.

SCHUYLKILL COUNTY

AREA, numerous anthracite Coal mines—Pyrite cubes.

MAHONEY CITY, area anthracite Coal mines, gemmy—Pyrite cubes.

POTTSVILLE: ① the Mammoth Coal Bed, gemmy—Pyrite crystals; ② the Diamond Bed—Pyrite crystals.

ST. CLAIR, area, Dickite (fluorescent), Siderite.

SULLIVAN COUNTY

LAIRDSVILLE, NE 1 mi., turn N from Rte. 115 for ½ mi., turn right 1 mi. to second rd. fork, bear left 2.7 mi. (from Rte 115) to an abandoned house, behind it is an old prospect pit—Galena, Chrysocolla (turquoise colored), Copper and Uranium minerals, Marcasite, Metatorbernite (flakes), Uranophane, plant fossils.

STRONESTOWN, S ½ mi. on Rte. 220, Eagles Mere, S on rd. opposite jct. ¼ mi., a hillside exposure—Copper and Uranium minerals.

WESTMORELAND COUNTY

ALEXANDER, area farm fields, cut banks, ditches, etc.—chalcedony, jasper, variously colored Quartz.

DERBY, area exposures, gravels, quarries—rock crystal.
GREENSBURG: ① area limestone quarries—Marcasite, Pyrite; ② area clay beds—petrified wood; ③ E 7 mi., a quarry—Quartz crystals.
   HUFF, IRWIN, JEANETTE, PENN, area shale exposures in pits, rd. cuts, quarries—Marcasite, Pyrite.
   KINGSTON: ① area fields—jasper; ② ½ mi. above the waterworks, in Loyalhanna Gap, area—Calcite, Marcasite, Pyrite, fossils; ③ gravels of the Conemaugh R.—petrified wood.
   LIGONIER, W 3 mi. on US 30 to a large quarry (½ mi. long)—Quartz crystals, fossils in limestone.
   McCHANCE, W 1 mi., at Long Bridge, an extensive quarry—Quartz crystals, fossils.

YORK COUNTY
   DELTA, PEACH BLOSSOM, a quarry on the York Co.-MD boundary—Verde Antique (called Cardiff green marble).
   DILLSBURG: ① S ½ mi. on US 15, a diabase exposure—Analcime, Apophyllite, Calcite, Laumontite, Leonhardite, Natrolite, Pyrite, Quartz crystals, Sphalerite; ② N 2½ mi., a limestone quarry, many varieties—gem crystals, minerals; ③ the James Iron Mine—Magnetite, Pyrite.
   HARRISBURG, S on I-83 to Reesers Haven via Lemoyne and new Cumberland interchanges, 1 mi. beyond an overpass, area—agate, Amethyst, chalcedony, Andradite garnets, opal, Quartz crystals, silicified wood.
   LISBURN, N, in gravels of Yellow Breeches Cr., a conglomerate decorative stone—Potomac marble.
   MARCH RUN, on W bank of the Susquehanna R., area—Potomac marble.
   MOUNT HOPE: ① the Bechtel Min (in town); ② S 1 mi., mine; ③ NE 1 mi., on E side of mt., the Snively Mine—Azurite, Bornite, Chalcopyrite, native Copper, Malachite, Cuprite.
   THOMASVILLE: ① area quarries—Fluorite, Pyrite, Quartz crystals; ② S on US 30 (5½ mi. SW of West York), quarries along both sides of rd. N of the RR intersection—Calcite crystals (some fluorescent), Fluorite, Hematite, Marcasite, Pyrite, Quartz crystals.
   WEST YORK, W 1 mi. on Rte. 234, in cement quarries—Azurite, Calcite crystals, Chalcopyrite, Galena, Malachite, Quartz crystals.
   YORK HAVEN, S and SW 2 mi., area fields—petrified wood.
RHODE ISLAND

Smallest and most densely populated of the fifty states, Rhode Island was named from the principal island in Narragansett Bay. With a western boundary only 42 miles long and a maximum width across the south of 35 miles, the surface of this state is rolling and hilly, cut by short, swift streams that pour over many waterfalls. Sandwiched between Connecticut and Massachusetts, Rhode Island's geology partakes of both. Sedimentary deposits, other than Pleistocene to Recent, are extremely rare, since the whole state was scoured to bedrock by Ice Age glaciers.

The state's geology was extensively studied in the nineteenth century, with some areas being prospected and mined for iron, Graphite, manganese and talc. There are few gemstones occurrences of any consequence.
BRISTOL COUNTY

BRISTOL, area gravel pits and deposits, as pebble—jasper.

KENT COUNTY

WARWICK, in gravels along the shores of Narragansett Bay—carnelian pebbles. WEST GREENWICH, at Nooseneck, Weaver Hill rd. and I-95—Amazonite.

NEWPORT COUNTY

JAMESTOWN, near Jamestown bridge abutments on Cananicut Island—Staurolite. TIVERTON: 1 S 4 mi., a mine—Graphite; 2 in quarry on Fish rd.—rutilated Quartz.
PROVIDENCE COUNTY

AREA: ① Calumet Hill, area quarries—agate, chalcedony, jasper and sagenite Quartz crystals; ② Fenner Ledge, a large mine—Graphite; ③ Mt. Hope Bay, area beach gravel—agate, Amethyst, carnelian and jasper pebbles.

BRIDGEPORT, PAWTUCKET, VALLEY FALL, area mines—Graphite.

CRANSTON, area deposits—Graphite and Hematite.

CUMBERLAND HILL: ① area quarries—agate, chalcedony, jasper and Quartz crystals; ② (a) Iron Mine Hill Quarry at Sneech Pond, take Copper Hill rd. W to West Wrentham rd., N ½ mi. and W ¼ to Ballou Meeting House—serpentine with Diopside; (b) Iron Hill Mine dumps—Amethyst; (c) near Sneech Pond, area extensively prospected during the second decade of the 19th Century, mines and prospect pits—Chalcopyrite, Garnet, Magnetite (especially in beach sands on the S side of the Pond), manganese ore (resembling Knebelite, in a bed 40 ft. thick), Molybdenite, Rhodonite and Wad; ③ at McLaughlin’s Ledge—Smoky Quartz.

DIAMOND HILL: ① (a) area quarries—agate, chalcedony, jasper and Quartz crystals; (b) Diamond Hill Granite Quarry in dumps—Arsenopyrite, Epidote, Magnetite, Sagenitic Quartz and Tremolite; ② area mines—Hematite; ③ area limestone exposures, in pockets—agate, chalcedony, Amethyst and Quartz crystals (clear, smoky).

JOHNSTON, in Hwy. 6 road cuts—Beryl.

LIMEROCK, in Conklin Lime Company Quarry—serpentine, agate and Quartz.

MANVILLE, area quarries—talc.

PAWTUXET, area beach gravels—agate, carnelian, Amethyst and jasper.

PROVIDENCE, 5 mi. N of North Providence, at Dexter: ① an area lime quarry—Bowenite (a jadelike serpentine); ② the nearby Conklin and Harris quarries—Bowenite; ③ Wanskirch Granite Quarry—Quartz.

SMITHFIELD, area quarries in mica slate and from outcrops of quartz mica schist—whetstone.

SPRAGUEVILLE, at jct. of Mann School and Wanskuck Hill rds. in road cut—Beryl.

WOONSOCKET, E 2½ mi., the Iron Mine Hill (and a prominent constituent of the regional gabbroid rock)—Magnetite.

WASHINGTON COUNTY

KINGSTON, TOWER HILL, area mines—Galena.

NARRAGANSETT, in outcropping pegmatites along the eastern shore, at Bonnet Point, Bonnet Shore Beach, Ft. Varnum and Watson Pier—Beryl and Quartz.

SAUNDERSTOWN, area mines—Graphite.

WESTERLY, Westerly Granite Quarry—Beryl.
SOUTH CAROLINA

This subtropical state divides roughly into three main geological regions: the broad sea level Coastal Plain, separated from the rolling Piedmont down the middle of the state by the Fall Line, and the small Inner Piedmont in the extreme northwestern corner as part of the Blue Ridge of the southern Appalachian Mountain system. The Upcountry, as the Inner Piedmont is known, covers approximately 500 sq. mi. of mountainous territory that culminates near the North Carolina boundary in Pickens Co. at Sassafras Mt., 3,560' high.

The underlying rock formations of the Inner Piedmont are primarily gneissic schists and granites of Precambrian to early Paleozoic age, cut by granite intrusives and smaller bodies of dunite and peridotite. Regional pegmatite exposures provide sources for Amethyst, Beryl, Corundum, Garnets, smoky and clear Quartz, Tourmaline, Topaz and Zircon. These more showy gem crystals were discovered early, but not commercialized until the 19th century. Although mining of Copper, Lead and Zinc remains minor, some placer Gold was worked. The pegmatite gems were found in the stream gravels, along with an occasional alluvial Diamond.

In the northern Kings Mountain Belt the regional metamorphism that accompanied intense folding and faulting produced widespread conglomerates, marble, quartzites and schists in which Vermiculite mines became the major minable mineral. The many Vermiculite mines scattered throughout the Inner Piedmont also yield collectable gemmy
specimen of asbestos, Barite, Copper minerals, Feldspar, Garnets, Kyanite, marble and Mica.

With the exception of the Piedmont and the Blue Ridge section, South Carolina's surface is largely Upper Cretaceous (Tuscaloosa Fm.) laden with fossils, Tertiary and Recent sediments.

ABBEVILLE COUNTY

AREA: ① countywide stream gravels, rock exposures, cut banks, fields, etc.—Beryl, Corundum, Epidote, blue jasper; ② regional mines (in long belt extending NE across several counties)—Gold.

ABBEVILLE: ① area mines—Gold; ② S 9 mi. and ½ mi. E of Beula Cross Roads, a mine—Gold.

ALLENDALE, take Hwy. 301 SW across the Savannah R., turn NW for 8 mi. to where rd. makes sharp turn S, continue ahead on dirt rd. 12 mi. and collect along rd.—chert.

ANTREVILLE, go 3 mi., W on Hwy. 284, then a mi. N on S-1-72, and ¾ mi. farther and right to house (fee), return to next rd. S and go E and N a mi. to mine—Amethyst, Smoky Quartz.

CALHOUN FALLS, area mines—Chalcopyrite, Graphite, Ilmenite.

DONALDS, SE 4 mi., on the J.T. Algary farm—Amethysts.
DUE WEST, at the nearby Ellis-Jones Amethyst Mine—**Amethyst** (largest crystals up to 45 lbs.).

LOWNDESVILLE: ① N 1.8 mi. at Barnes place; and ② just S of town on the McCalla farm—**Amethyst**; ③ S 46° W 3 mi., a mine—**Gold**.

McCORMICK STATION, the Dorn Mine—**Gold**.

Aiken County

AREA, Silbur Bluff on the Savannah R., at base of alluvial deposit, mined—**Manganese** mineral (bearing Cobalt).

AIKEN, area of Herse Cr. Valley, 1 mi. off old US 1 near Clearwater, as area float and in gravel pits—**Amethyst, chalcedony, Ilmenite, Monazite, Quartz** crystals (clear smoky, rutile), **Rutile** crystals, **Zircon**.

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LOWNDESVILLE: ① N 1.8 mi. at Barnes place; and ② just S of town on the McCalla farm—**Amethyst**; ③ S 46° W 3 mi., a mine—**Gold**.

McCORMICK STATION, the Dorn Mine—**Gold**.

Anderson County

AREA: ① Savannah R boundary of Co., on NE bank of river ¼ mi. from mouth of Big Generostee Cr.: (a) the old Gaillard Mica Mine, and (b) the Fretwell prospect—**Aquamarine, Golden Beryl**; ② numerous exposures along a belt extending from near Anderson part Iva on to Lake Secession to Due West, Abbeville Co.—**Amethysts**.

ANDERSON: ① W 2 mi., area, as occasional clear crystals—**Beryl**; ② E 3 mi., several pegmatite exposures: (a) area—**Beryl, Almandite** garnets, **Limonite** cubes, **Mica, Quartz** crystals (clear smoky), black **Tourmaline**; (b) ¼ mi. NNE, area—**Aquamarine**; ③ SW 8 mi., in narrow veins—**asbestos**; ④ N 9 mi., near dam on Twenty-six Mile Cr., the Burgess Mine—**Feldspar, Garnets, Mica, Quartz** crystals; ⑤ at J.M. McConnell place 3½ NE in schist—**Emerald**; ⑥ at Ferguson Mine 5.6 mi. N on Hwy. 187, and ¼ mi. SW of McConnell place in pegmatite—**Beryl**; ⑦ S 15 mi. on Hwy. 28 where rd. cuts dike near lake—**Amethyst, Garnet**.

IVA: ① NW 1 ¼ mi. along Wilson’s Cr. on Rte. 413, on the Frank Pruitt farm—**Golden Beryl**; ② S, area of the Shерard farm near Moffettsville, in exposure of mica slates—**Amethyst** (single crystals and clusters); ③ SW 3 mi., the J.B. Anderson farm—**Golden Beryl**; ④ N 5.7 mi. on US 187, the Martin-Blackwell-Ferguson Mine—gem **Beryl**; ⑤ SE 11 mi., on the Thompson and Jackson farms—gem **Corundum, Garnets**, white **Quartz, Zircons** (orange, brown).

PELZER, on Co. line, pegmatite outcrop (extends 1 ½ mi. SW of Piedmont to 1 mi. S of Pelzer) —**Aquamarine, Indicolite** tourmaline.

Cherokee County

AREA: ① E part of Co., in prospect pits, mines, rd. cuts, stream gravels and banks—**Barite, Hematite**, gem **Kyanite, Sillimanite**, etc.; ② the Bowen R. region, in exposures in the Archean gneiss—**Corundum, Sapphire**.

BLACKSBURG: ① NW, the Bowen R. drainage basin, extending to Buffalo Church: (a) area slate exposures—**Corundum, Garnets**; (b) regional stream gravels—**Corundum**; (c) tributaries of the Bowen R., in gravel beds—**Corundum, Sapphire**; ② NW 2½ mi. on Rte. 83 (the Buffalo Church rd.) and on the Andrew Moore farm—**Emeralds, Sapphires**; ③ Porter’s Hill, area stream gravels, area stream gravels—**Corundum, Garnets, Quartz** crystals, **Topaz, Zircon**, etc.; ④ Earles Sta. (10 mi. S of Shelby), area pegmatites—**Emeralds**.

BUFFALO CHURCH: ① area stream gravels—**Amethyst, Rutile** crystals; ② W, on the W.T. Gibbons farm—**Amethyst, Corundum**, etc.
COWPENS, NE 3 mi., several area mines—Corundum (particles), Gold, Monazite, Pyrite, Tourmaline.

GAFFNEY: ① area, pegmatite dike outcrops—Cassiterite; ② NE 1¼ mi., the Ross Mine, and other nearby mines—Cassiterite, Feldspar crystals, Fibrolite (banded kyanite), Quartz crystals, Pyrrhotite; ③ SE 2.8 mi., on Limestone Cr. (tributary of the Broad R.), the Cameron Mine—argentiferous Galena, Pyrite, Pyromorphite, Siderite; ④ SW 8 mi., at Love Springs, the Troy Blanton Mine—Garnets, Mica, Tourmaline; ⑤ SE 11 mi. (and 1 mi. W of Smith’s Ford on the Broad R.), the old Darwin Mine—Gold; ⑥ SE 12 mi., near the 12 mi. post, Flint Hill, area mines—Gold; ⑦ at Porter’s Hill, on Bowen R.—Sapphire.

KINGS CREEK: ① area mines—Barite; ② SW 2 mi., the Barkat Mines—Gold; ③ Canaan Church, W, mines (Bolin, Wyatt)—Gold; ④ E from Rte. 97 (and S of Rte. 5), mines (Dixon, Eutis, Southern Gold, Wallace)—Gold, Chalcopyrite, Copper minerals, Galena, Hematite, Kyanite, Quartz crystals, Pyrite, Sillimanite, Steatite.

WALHALLA, N 15 mi., area mines—Galena.

CHESTERFIELD COUNTY

AREA, numerous old mines—Gold, Pyrite.

JEFFERSON: ① area N of Rte. 265, along the Lynches R., numerous old mines—Topaz; ② W 3 mi. to Brewer Knob on the Lynches R. (Co. line), the old Brewer Mine—Cassiterite, Covellite, Enargite, Gold, Kyanite, Pyrite, Quartz crystals, Rutile crystals, Staurolites, Topaz (massive, blue, champagne, golden).

DARLINGTON COUNTY

DARLINGTON, E to the Pee Dee R. crossing of I-95, on W side of river near bridge, abundant—petrified wood.

HARTSVILLE, along Bellyache Cr.—petrified wood.

DARLINGTON & FLORENCE COUNTIES

REGION, all fields, stream beds, rd. cuts, etc.—petrified wood.

EDGEFIELD COUNTY

EDGEFIELD: ① N 6° W 12 mi. (2½ mi. N of Meeting St.), E side of Sleepy Cr., a large area of old mines—Gold; ② in Turkey Cr. within sight of Hwy. 25—serpentine.

FAIRFIELD COUNTY

AREA: ① countywide sand and gravel pits—petrified wood; ② Lake Murray Dam, in rock exposures along river bank—Garnets, Kyanite crystals.

LITTLE MOUNTAIN, E, to the W side of the Broad R., an old mine—Kyanite crystals.

GREENVILLE COUNTY

GREENVILLE: ① N 5 mi., near E end of Parris Mt. State Park, pegmatite exposure at jct. of two streams, the Boling prospect—Beryl, Garnet, Quartz crystals (clear, smoky), Sillimanite, black Tourmaline; ② SW 7 mi., just W of Rte. 20 across RR near Saluda R.,
the Cleveland Mica prospect—gem Beryl, Mica; ① SE 9 mi., the Willimon Mine—gem Kyanite; ② numerous old area Vermiculite mines, on dumps—Amazonite, Feldspar, Rutile crystals, sunstone, Xenotime (resembling zircon).

GREER: ① area mines, and ② NW 8 mi.: (a) the McBee Mine, and (b) 1 mi. above, on opposite side of Middle Tyger R., mines—Gold, Pyrite.

MARIRRTA, 4 mi. distant, area mines—Polycrase.

PIEDMONT, at the D.D. McNeely place—Beryl.

PRINCETON, NW 3 mi., the Desota Mine—Gold.

TIGERVILLE, E 1 mi. on Rte. 414, near Baptist church, a Vermiculite mine—gem crystals, minerals.

GREENWOOD COUNTY

AREA, NE part of Co., from 4 mi. SE of Shoals Jct. to 1 mi. SW, across Co. line E of Due West, Abbeville Co., numerous exposures, outcrops, fields, etc.—Amethyst, Quartz crystals, etc.

BREEZEWOOD, W 2 mi., mine—Psilomelane.

GREENWOOD: ① NW to jct. of US 25 and US 178, then N 4.3 mi., in rd. cut—Limonite cubes (to 2” dia.); ② S 5 mi., area mines—Psilomelane.; ③ at Stockman’s Quarry—Garnet; ④ at Wrenn’s place—Amethyst; ⑤ at Harper’s place at powerhouse—chalcedony; ⑥ at Milford place—Quartz crystals (clear, smoky).

SALUCA, on W shore of lake Greenwood—Unakite.

SHOALS JUCTION: ① SE 1½ mi., and ② SW 1 mi. (3 mi. SE of Donalds, Abbeville Co.), area fields, cut banks, etc.—Amethyst, Quartz crystals; ③ as float near Lake Greenwood—Amethyst.

HORRY COUNTY

MYRTLE BEACH, area beach gravels—agate, chalcedony, Quartz, fossil shark teeth.

KERSHAW COUNTY

CAMDEN, NW 9 mi. (1 mi. NW of Getty’s Bridge over Sawney’s Cr.), the Lamar Gold Mine—Gold.

LANCASTER COUNTY

KERSHAW: ① area mines; ② N 51° E 3.8 mi., the Haile Gold Mine (large scale)—Gold, Pyrite, Quartz, etc.; ③ N 5° E 8 mi., on Flat Cr. tributary of Lynches R., the Blackmon Gold Mine—Gold, Pyrite, Sericite; ④ the Maile Mine—Molybdenite.

LIBERTY HILL, a deposit near the Wateree Reservoir on a tributary of the Catawba R.—gem Smoky Quartz crystals (to 6” long and 2½” dia.), Zircons.

LAURENS COUNTY

CROSS HILL: ① S on Rte. 39 to jct. (marked by white house on the right), turn right on dirt rd. to next right turn, in farm field; and ② N on Hwy. 39 to crossrds. With large white house, turn right 3 mi. until rd. takes shape turn, turn and go ½ mi. to rd. right into pines, dig in field to right of rd.—Amethyst.
LAURENS: ① at New Cemetery and inside city at Dead Man’s Cut in railroad—Corundum; ② at Dead Man’s Cut—Pyrope garnets.

MARLBORO COUNTY
BLENHEIM, in sand pits 4 mi. S—petrified wood.

McCORMICK COUNTY
McCORMICK: ① area creek sands, placer—Gold; ② 2½ mi., old mine—Gold; ③ W 2 mi. on Rte. 378, turn left on Plum Branch rd. 2 mi. to cr. bridge, area on right just before bridge—Limonite cubes.

NEWBERRY COUNTY
PROSPERITY, area, as crystal masses—Rutile.

OCONEE COUNTY
AREA, gravel beds of the Toxaway and White Water rivers, old placer mines—Gold. ADAMS CROSSING, SW 3 mi., a mine—Gold. CHERRY, SW 1½ mi., a mine—Gold. PULASKI, N 4 mi. (10 mi. N 40° W of Ft. Madison), a mine—Gold, Graphite. SENECA: ① area mines—asbestos; ② N 2 mi., on the Leroy farm—gem cat’s-eye Sillimanite crystals; ③ S 5½ mi., old mine—Gold. WALHALLA: ① N 11½ mi., old mine—Gold, Pyrite; ② W 14 mi. (1 mi. W of Rogues Ford and 2 mi. below Cannon’s Stone), on E scarp of the Chatooga R., the Henckel Mine—Gold; ③ N 15 mi., on the Middle Fork of Choochee Cr., old mine—Gold, peridotite, Pyrite.

PICKENS COUNTY
CALHOUN, N 1 mi., mine—Gold, Mica. CLEMSON: ① area of mica mines around Clemson College; ② N 4½ mi. and 0.7 mi. NW of Twelve Mile Cr., the Head prospect; and ③ NW 7 mi. (SW of cr. 1 mi. E of the Seneca R.), the Davis prospect—Garnets, Quartz crystals. EASLEY, area schist outcrops—carvable Steatite (with Chlorite).

RICHLAND COUNTY
COLUMBIA, at Lake Murray—Amethyst.

SLUDA COUNTY
SALUDA, NE 6 mi. (12 mi. S of Newberry), in fork of Big Cr. and the Little Saluda R., the Cultbreath Mine—amphibolite, Chalcopryite, Chlorite, Gold, green Hornblende crystals, Magnetite, Niccolite, Pyrite.
SPARTANBURG COUNTY

AREA, countywide stream gravels—placer Gold, rare Diamonds.
COWPENS, N 2 mi., old mica mines—Mica, black Tourmaline.

ENOREE: ① area of jct. of Enoree rd. and Dutchman’s Cr.—gemmy red quartzite; ② E 5 mi. on Rte. 92, then 1 mi. on Rte. 30 and 3 mi. E on Co. rd. to Vermiculite prospects (in Cross Anchor Twp.)—massive Quartz, pegmatite gems and minerals.
GLENN SPRINGS, S 8 mi., area mines—Asbestos; ② ③ area stream gravels, placers—Gold, Zircons; ③ E, in a granite quarry—crystals, minerals.

UNION COUNTY

AREA, numerous old mines scattered through Co.—Gold.

WEST SPRINGS, on Fair Forest Cr., the Nott Mine—Gold, native Copper, Pyrite.

YORK COUNTY

AREA, numerous well known old Gold mines in Co.—Gold.

BETHANY, N 3 mi. on W side of Rte. 161, the Patterson Mine—Gold, Pyrite, Quartz crystals.

BLACKSBURG, E, to Kings Mt. Battlefield: ① S 1.3 mi., area pits—Barite; ② E 2 mi., the Ferguson Mine—Gold, Pyrite, Quartz crystals.

CATAWBA JUNCTION, SE 4 mi., extensive exposure—Wad.

CLOVER: ① NW 3 mi. on Rte. 508, in rock exposures on Henry Knob—Andalusite, gem Kyanite, Lazulite, Staurolites, Tourmaline; ② SW 5.7 mi., old mine on Bullock’s Cr. of Broad R.—Gold, Magnetite, Monzonite, Pyrite, Sericite, slate.

HICKORY GROVE: ① N 1 mi., the Wylie Mine—Gold; ② SE 2 mi., alongside Rte 221, the Thunderhead Mine—Gold, Pyrite; ③ W 2.2 mi. on Smith’s Ford rd., at head of a branch of Guin Moore’s Cr. on S side of rd., the Magnolia Mine—Gold, Malachite, Biotite, Quartz crystals; ④ SW 3.2 mi., old mine—Gold; ⑤ SW 4 mi., and ⑥ ½ mi. NW of Rte. 211, area—Andalusite, Kyanite, Lazulite, Staurolites, Tourmaline.

Hickory Grove-Smyrna, AREA OF Quartz vein outcrops extending NE between both towns, some 50 Gold mines and prospects along both sides of Rtes. 5, 97 and 221—Calcite, Galena, Gold nuggets, Sphalerite, Tourmaline.

KINGS CREEK, SW 3 mi., the Carroll & Ross Mine (on Wolf Cr. tributary of the Broad R.)—Gold, Pyrite.

PIEDMONT SPRINGS, N 1 mi. and just N of Rte. 55, numerous pits (mainly W and N from Zoar Church on Rte. 731)—Barite.

ROCK HILL, W 5 mi. and 0.2 mi. S of jct. of Co. rd. 46-102 with Co. rd. 46, as area float—Sillimanite.

SMYRNA: ① NE 1 mi., the Horn Mine; ② E 2 mi., the Castles and Scoggins mines—Gold, Pyrite, Quartz crystals; ③ W 1 mi., the Martin Mine—Gold nuggets; ④ SW 3 mi., area rock outcrops—Andalusite, Kyanite, Lazulite, Staurolites, Tourmaline; ⑤ W 3½ mi., the Hull Mine—Calcite, Galena, Gold, black Tourmaline (sunbursts), etc.; ⑥ SW 4.4 mi.: (a) the Dorothy Mine; and (b) an old prospect ½ mi. E of the mine—Gold, Malachite, etc.

YORK: ① area mines, such as (a) the Big Wilson Mine; and (b) E 4 mi., the Mary Mine—Chalcopyrite; ② NE, an old Copper Mine—Malachite, Cuprite, native Copper; ③ Five Points crossrsds. On Nanny Mt.: (a) ¼ mi. W of jct. of Rtes. 49 and 56, on right side of rd. leading to Clover, along the NC boundary, area fields, cuts, breaks, etc.—black Corundum; (b) area mines 11 mi. NE of York on Nanny Mt.—Pyrrhotite.