MINERALS FROM THE LESSER MINES OF THE SAN JUAN MOUNTAINS, COLORADO

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The San Juan mountain range is located in the southwest quadrant of Colorado at the end of the Colorado mineral belt. These mountains are relatively young by geologic standards, being about 15-20 m.y. old. With the exception of the Red Mountain mining district's breccia pipes, massive quartz veins contain gold, silver, pyrite, galena, fluorite, barite, sphalerite, and less common species such as rhodochrosite, hübnerite, chalcopryite, and tetrahedrite. These species commonly occur in large, well-formed crystals, generally as much as 2 in long, but sometimes found as long as 12 in.

Three counties contain the San Juan Mountains: Ouray, San Juan, and San Miguel. There are approximately 10,000 patented and unpatented mining claims in each of these counties but only a handful of large mines. The Camp Bird, the Sunnyside, and the Idarado mines were the largest (and best-known) mines of the region, each employing more than 300 miners during their peak production years. But dozens of smaller mines employed anywhere between 5 and 50 miners, and many more were merely one-man holes, running more on hope than on production. Public and private mineral collections world-wide have specimens from the three largest mines; very few collections, however, have specimens from the lesser mines.

Many mines in the San Juans, even though having limited ore production, did contain many vugs of fine, large crystal groups. Whereas a few of these mines are located near Telluride and Ophir, most are found in Ouray and San Juan Counties. Many of these mines still had accessible workings during the last 30 yrs, including:

<table>
<thead>
<tr>
<th>Ouray County</th>
<th>San Juan County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor</td>
<td>Mountain Monarch</td>
</tr>
<tr>
<td>Black Girl</td>
<td>News Boy</td>
</tr>
<tr>
<td>Boney Hensel</td>
<td>Ohio</td>
</tr>
<tr>
<td>Crystal Cave</td>
<td>Ores and Metals</td>
</tr>
<tr>
<td>Daniel Bonanza</td>
<td>Pony Express</td>
</tr>
<tr>
<td>Gertrude</td>
<td>Portland</td>
</tr>
<tr>
<td>Goodfro No. 2</td>
<td>Senorita</td>
</tr>
<tr>
<td>Grizzly Bear</td>
<td>Silver Mountain</td>
</tr>
<tr>
<td>Longfellow</td>
<td>Silver Point</td>
</tr>
<tr>
<td>Mineral Farm</td>
<td>Thistedown</td>
</tr>
<tr>
<td>Morning Star</td>
<td>Topeka</td>
</tr>
<tr>
<td>Mother Cline</td>
<td></td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Bachelor mine—Located in the Pacquin mining district north of Ouray, this blanket-type deposit contained some notable cream-colored scalenohedral calcite crystal groups found on a matrix of dark, silicified limestone, as much as 5 in wide, in vugs near rolls in the silver-bearing veins.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black Girl—This mine is located in the Pacquin mining district, directly south of the Senorita mine. Milk-white, tabular barite crystal clusters, in association with small, clear quartz druses, were recovered here. Also, in one zone in the main haulage tunnel, limonite-impregnated calcite crystals were found as &quot;wheat-sheaf&quot; doubly terminated rust-colored crystals to 2 in on near-black silicified limestone. Nice selenite clusters to 3 in wide have also been found.</td>
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<td>Boney Hensel—Located on the north end of the Pacquin mining district, this mine has produced clusters of white barite blades as large as 8 in on edge, some with inclusions of manganese oxide on one side, from a tube</td>
</tr>
</tbody>
</table>
on the main haulage.

**Crystal Cave**—This is a huge solution cavity in the Leadville Limestone, perhaps 50 ft wide, along the north side of Canyon Creek. Scalenohedral, gray to light-brown calcite crystals as much 2 in long are found covered with a druse of clear quartz crystals. Some larger water-clear quartz crystals to one-half inch are found as sceptered crystals.

**Daniel Bonanza**—This mine is located high above the west side of the Uncompahgre Gorge. It is reached via a precarious trail blocked by fallen timber and slide shoots. Rose-pink rhodochrosite crystals to 1 in, covered with a druse of gemmy quartz crystals in groups as much as 5 in wide, were found at the bottom of one shaft, as well as a few on the mine's dumps.

**Gertrude**—Located at the north end of Ironton Park on the west side of Red Mountain Creek, this small mine has produced fine quartz-coated octahedral fluorite crystals to 3 in on edge from the two adits.

**Goodfro #2**—In an exploration shaft, large groups to 12 in wide of chocolate-brown scalenohedral calcite crystals (looking like furry hedgehogs) were recovered. One vug in this shaft had cream-colored calcite crystals of the same habit. Another nearby vug contained smooth scalenohedra of calcite coated on one side with a brown overgrowth of calcite.

**Grizzly Bear**—The original claims for this mine were located in 1875 along Bear Creek, now in a wilderness area. There was a tunnel driven from outside of Ouray to intersect the old workings of this gold/silver mine in recent years. The mine's vein system is similar to that of the Sunnyside mine, and the specimen material is also comparable. Fine rhodochrosite rhombs to 4 in on edge, green octahedral fluorite clusters implanted on large, barrel-shaped white quartz crystals in plates to 18 in wide, dark-resin color to black sphalerite crystals to 1 in diameter, light-brown calcite scalenohedra, and small chalcopyrite and hanerite crystal groups have come from the Grizzly Bear.

**Longfellow**—Located on the most southerly breccia pipe in the Red Mountain mining district, this mine is notable for fine large enargite crystals to almost 1 inch in plates as much as 5 in wide. It also produced hopper-terminated white quartz crystals to approximately 2 in.

**Mineral Farm**—One of the earliest mines near Ouray, it was so-named because the mineral-rich veins cropped out along the surface and could be extracted using a hoe, rather like harvesting potatoes. It produced blocky, cream-colored barite crystals to 2 in on edge, as well as very fine pseudomorphs of quartz after scalenohedral calcite crystals to 3 in, implanted on gemmy quartz point clusters.

**Morning Star**—Located near the better-known Mother Cline mine, this mine contains nice groups of gemmy quartz crystals to approximately 1 in long.

**Mother Cline**—Named for the wife of Ouray's first mayor, the mine is located on the south mountainside above Engineer Pass. It has produced white barite crystals commonly edged with a gemmy quartz druse. Also large clear quartz crystals to 3M long have been found, and also nice clusters of bone-white quartz crystals as much as 3 in long.

**Mountain Monarch (Mickey Breen)**—This mine is located approximately 1 mi from the mouth of Engineer Pass. Lovely rose-red rhodochrosite rhombs to 2 in wide sometimes coated with a fine-grained quartz druse and dotted with small chalcopyrite crystals have been found implanted on white quartz crystals. Some specimens recovered in the 1980s were labeled from the "Mickey Breen" mine, which is the name of another of the dozen patented and unpatented claims of this mine.

**News Boy**—Located north of the Bachelor mine, this mine produced clusters to 5 in wide of white barite crystals to 1.5 in on edge with tiny, gemmy quartz crystals growing on one side of each barite.

**Ohio**—A large solution-cavity cave in the Leadville Limestone on the east side of Ouray, this mine is located just below Ohio Park, a lovely meadow in the Amphitheatre. Large, milk-white, slightly barrel-shaped quartz crystals as long as 12 in are found in doubly terminated sprays. Most groups that have been recovered have been found under large limestone slabs that have sloughed off the ceiling. A few quartz casts after calcite have also been
found.

**Ores and Metals**—This mine is reached via a punishing cross-country trek on the east side of Canyon Creek. Nicely formed, clear quartz scepter crystals to 2 in are found sprinkled with small, perfect blue-black anatase crystals at this mine.

**Pony Express**—Located just north of Ouray, this large silver mine has produced plates to 12 in wide of metallic brown scalenohedra of calcite, as well as white barite bladed groups to 4 in near the main portal.

**Portland**—Located in the large cirque known as the Amphitheatre just east of Ouray, this mine has produced clear quartz groups, white quartz scepters, pale amethyst crystal clusters, and outstanding lime-green sphalerite crystals dotted with small pyrite crystals perched on thin plates of calcite.

**Senorita**—One of the better-known mines in the Pacquin mining district north of Ouray, the Senorita contains excellent milk-white, complex barite crystals, found singly or as crystal clusters on dark limestone covered with quartz druses. Micro-crystals of azurite and malachite, the result of decomposition of chalcopyrite, have been found on the mine's dumps.

**Silver Mountain**—Located on the slopes of Brown Mountain, the dumps contain light-green tetrahexahedra of fluorite coating clusters of large, white quartz crystals. Small selenite crystals less than one-half inch long, the result of post-mining water seeps, are found on some fluorite groups.

**Silver Point**—Located high on the east side of the Uncompahgre Gorge's Ruby Cliffs north of Engineer Pass, the mine is owned by Benjy Kuehling of Ouray, well-known field collector and mineral dealer. The mine's lower workings contain extraordinary, large groups of small, gemmy quartz crystals forming incrustation pseudomorphs after barite, with purple-red hematite dusting on the inner sides of the casts. Groups more than 12 in wide were lowered from the mine to Highway 550 on ropes and pulleys. The upper workings contain larger individual quartz crystals and rough galena cubes approximately one-half inch wide.

**Thistledown**—Located above timberline on the east side of Canyon Creek, this mine was operated as recently as World War II for its fluorite. A very few grass-green fluorite octahedral perched on clusters of etched, crystalline quartz have been recovered. One 4-in octahedron on matrix, one of the largest fluorite crystals known from Ouray County is in the speaker's collection.

**Topeka**—Located on Brown Mountain just above the Silver Mountain mine, this one has produced fine, complex fluorite crystals to 1 in on edge of a nice dark-green color.

**San Juan County**

**Adams**—Located above the American tunnel of the Sunnyside mine, this property is well-known for large sprays, to 3-4 in long, of hübnerite crystals on quartz matrix. Most groups have been etched out of quartz, but a few have been found growing free in vugs.

**Bandora**—Located along South Mineral Creek outside of Silverton, the mine's Little Todd vein contains spectacular chalcopyrite crystals to 1 in, perched on sprays of gemmy quartz crystals, often associated with fine one-half inch black sphalerite crystals, small bladed barite crystals, and small galena cubes. The lower mine workings contain small azurite, wulfenite, cerussite, and linarite crystals, all formed as a result of decomposition of chalcopyrite in this wet mine.

**Ben Franklin**—Found in Eureka Gulch, an outcrop near the road contained well-developed, clear quartz crystals to 6 in long, with a pronounced trigonal cross section, caused by overdevelopment of alternating prism faces.

**Brooklyn**—Located just east of Highway 550's Chattanooga turn, this mine has had a checkered history of altered geologic reports, stock scams, and dashed hopes. Nice pyrite cubes to one-half inch on edge, bladed rhodochrosite coating chalcopyrite and sphalerite, and a few native gold wires growing on sphalerite have all been found at this mine.

**Bullion King**—Located in Porphyry Basin north of Chattanooga, this mine is well known for fine, large milk-
white quartz crystals to 3 in (some sceptered), waxy-lustered sphalerite crystals, and sharp pyrite cubes to 1 in on edge.

**Esmeralda**—Located nearly at the end of Minnie Gulch, white quartz crystals to 3 in have been found coated on one side with mounds of black-brown siderite.

**Eureka Gulch**—At the very end of Eureka Gulch, above the original workings of the Sunnyside mine is a wide vein of rhodonite. Small sprays of hübnerite in quartz veinlets, intermixed with the rhodonite, have been found there.

**Galty Boy**—Found near the trail to Lark Basin, this mine contains lustrous bladed black hübnerite crystals to 1.5 in, quartz druse pseudomorphs of fluorite cubes to 1 in on edge, and beautiful mounds, as much as 4 in wide, of quartz crystal points colored light brown by inclusions of micro-hübnerite.

**Genoa**—Found just off the Animas River road on the path to Arrastra Basin, this small prospect produced wonderful plates of white quartz encrustation pseudomorphs after green fluorite, and a few octahedral of uncoated, apple-green fluorite crystals to 2 in on edge, as well as pseudomorphs after tabular barite.

**Gold Lakes**—Little Giant Basin is reached from a trail off Arrastra Gulch and was the site of some of the earliest gold workings in the region. The Gold Lakes mine can be found high above timberline in a hanging valley with spectacular views and wild flowers, as well as two small lakes fed from glacial runoff. In various dumps and outcrops can be found large amethyst scepters to 6 in, groups of clear reverse scepters, quartz pseudomorphs after rhombic calcite, and quartz pseudomorphs after tabular barite to 2 in.

**Growler**—This small mine is found just north of the Brooklyn mine. Resin-colored sphalerite crystals to 2 in perched on pyrite pyritohedra have been collected here.

**Hematite Gulch**—The locale is found on the west side of the Animas River, opposite the mouth of Cunningham Gulch. Large, somewhat rounded, tabular white barite crystals to 2.5 in, coated with quartz crystals on one side, have been found in a short adit about halfway up the gulch.

**Highland Mary**—Located high above the end of Cunningham Gulch, the gold from this mine was pinpointed (supposedly) with the aid of a psychic. Nice calcite clusters, both as scalenohedra and as hemispheres of tan color, have been found here.

**Keystone**—Located near the mouth of Cunningham Gulch, this mine has produced fine amethyst crystal clusters to 5 in wide and fine-grained drusy quartz pseudomorphs after elongated barite crystals, some 2 in long.

**Kittimack**—Found at the end of Maggie Gulch, this mine contained small, reddish hübnerite sprays to approximately one-half inch long on a matrix of massive white quartz.

**Little Dora**—A small mine just outside Silverton along Highway 550. Small hübnerite sprays, implanted on pale-green to colorless fluorite cubes, have come from this mine.

**Maggie Gulch**—About one-half mile from the mouth of this gulch is a tall outcrop pocked with many cavities containing quartz pseudomorphs after barite, some as large as 4 in long.

**Osceola**—A large mine located in Cunningham Gulch, near the turnoff to Stony Pass. This mine has produced specimen material for many years. Clear quartz crystal sprays have been found in association with black sphalerite crystals to .75 in, cream-colored calcite sprays, and small chalcopyrite crystals. In a lower drainage tunnel very fine calcite scalenohedra in groups to 4 in wide have been recovered.

**Pride-of-the-West**—Located next to the Osceola mine, these mines may exploit the same vein system. Similar specimen material comes from both mines.

**Ransom(e)**—The lower portal to this mine was found just above the ruins of the Sunnyside mill near the mouth of Eureka Gulch but has now been deliberately caved and contoured to discourage mineral collecting. Wonderful octahedrons as much as 4 in on edge and cubo-octahedra to approximately 1 in of water-clear, pale-green
fluorite crystals perched on white, barrel-shaped quartz crystal plates have been found here. They were found in a huge vein that spanned the entire width of the tunnel, rising at least 12ft above and below to an unknown depth. When collecting, one was standing on sloughed quartz plates that jammed the lower opening.

**Rochester**—Located on the west side of the Animas River just north of Hematite Gulch, this mine contains sharp quartz pseudomorphs after tabular barite crystals to 4 in long.

**Ruby**—Located about halfway up Maggie Gulch, this mine produced fine, ruby-red hübnerite crystals to about .33 in long, densely coating quartz plates. Some pale-green fluorite crystals have been found on the dump.

**Yukon**—Located up Cement Creek about a mile below the American tunnel, this mine contained green cubo-octahedra of fluorite to 1.5 in with rust-brown hübnerite sprays.

**pp. 10-15**

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