

## **Hinsdale County**

### **Lake City District (aka Lake District; aka Lake Fork District)**

The Lake City District has been identified as the Lake, the Lake City and the Lake Fork District. These districts are occasionally differentiated, but here we include all as the same district, extending south to Lake San Cristobal.

The Lake District was one of the six districts into which the Colorado legislature divided Hinsdale County in 1893. (The others were the Carson, Cimarron, Galena, Whitecross and Sherman Districts.) The district occupies the Lake City, Uncompahgre Peak and Redcloud Peak quadrangles.

Lake overlaps (or blends into) the major district to the west, the **Galena or Henson Creek District**. Mindat.org separates the Lake and the Galena into two districts. The seminal work on the area - Irving and Bancroft (1911) does not distinguish the different districts, but rather discusses mines in the vicinity of Lake City.

Mindat.org and Dunn (2003) list the group of mines (the Hidden Treasure, Ute and Ulay) among the most famous and productive in the Lake City District. However, Irving and Bancroft (Ibid) lists them among the "Henson Creek Mines," which implies Henson Creek (Galena) District. Vanderwilt (1947) places these mines in the Galena (Henson Creek) District also, and provides a structural distinction between the two districts, noting that a down-faulted block lies between Henson Creek and Lake Fork. We have chosen to make the distinction as mindat.org does to make referencing the mines easier for the reader.

Irving and Bancroft (Ibid) distinguish a group of mines as the San Cristobal Group, south of Lake City - a geographic distinction that we believe places those mines in the Lake City district.

The geology of the Lake City District is typical of the San Juan Mountains. The district sits within the caldera fill on the northeast margin of the Lake City Caldera (Steven and Lipman, 1976; Wilson and Spanski, 2004). Units include Oligocene quartz latite and andesitic flows and breccias of significant lateral extent, plus more localized flows; the Bachelor Mountain and Carpenter Ridge tuffs, the Fish Canyon tuff, the La Garita tuff, the Henson and Burns formations, the Sapinero Mesa, Eureka and Dillion Mesa tuffs along with silicic lavas (Day et al., 1999). Generalized descriptions are also available in Sanford et al. (1987).

Mineralization was described generally by Vanderwilt (Ibid) as vein mineralization continuous with that of the Silverton area. Bove et al. (2000) distinguish 23 Ma precious metal-bearing barite veins and older base-metal veins. Irving (1905) and Irving and Bancroft (1911) provide a detailed descriptions of the rocks and mineralization.

Some top-producing mines include the Golden Fleece (nee Hotchkiss) mine, discovered in 1874, which produced \$1.4M in metals (Henderson, 1926). The Pelican Mine produced off and on from 1891 to 1960; Irving and Bancroft (Ibid) report freibergite, pyrrargyrite and galena as the main minerals. The Fanny Fern Mine produced silver from tetrahedrite, reporting 74,000 ounces of silver and 65 ounces of gold.

The Black Crook Mine operated off and on until 1953. The Contention Mine was another major producer.

The Ute and Ulay veins are names that always appear in relation to the mines and deposits of the Lake City area. The Ute was the most productive and important of all the mineral veins in the district (Irving and Bancroft, Ibid). The vein was traced for 2,700 feet along outcrop. The vein described an arc, concave to the northwest, averaging four feet in width, but pinching and swelling and occasionally splitting. The vein sequentially filled first with quartz, then rhodochrosite/tetrahedrite/galena and then more quartz. Later movement shattered the vein material and deposited more quartz and barite. The ore mineralization was (presumably, because it was mostly gone even before Irving and Bancroft visited) argentiferous galena with subsidiary tetrahedrite, sphalerite, pyrite and enrichments of ruby silver (proustite/pyrargyrite -  $\text{Ag}_3\text{AsS}_3$ -  $\text{Ag}_3\text{SbS}_3$ ). Further details are available in Irving and Bancroft (Ibid).

A unique situation has been identified at the Golden Wonder Mine. Irving and Bancroft (Ibid) recognized it as the "only true replacement deposit" in the Lake City area. It was recognized as a hot spring deposit in the 1980's (Billings, 1983; Billings and Kallowkoski, 1982; Kalliokoski and Rehn, 1987), described as a small epithermal alunitic gold and base metal deposit within flow-foliated rhyolite. The deposit contains considerable gold (often microscopic native gold) and maintains an active permit with the State of Colorado as of 2015 for LKA Gold Incorporated.

Early activity did not develop until the Brunot Treaty of 1873 with the Ute tribe allowed worry-free entry into the territory. The Ute-Ulay discovery had been made in 1871, but not developed until the treaty was in place (Eberhart, 1969). Lake City was the first settlement, named for Lake San Cristobal. Many colorful characters passed through the town, including Alfred Packer, the famous Colorado cannibal.

Mines listed in the district (mindat.org and others) include:

- Belle of the West Mine (Malter Placer; Western Belle; Delphos; Trenton; Extension; Patented Claims: Belle of The West)
- Black Crook Mine (Ilma-Hiwassee group; Ilma Mine; New Year)<sup>1</sup>
- Cleveland Mine
- Contention Mine (Patented Claims: Contention; Mayflower)<sup>1</sup>
- Dauphin<sup>1</sup>
- Dawn of Hope
- Eckman Manganese Deposit
- Evangeline claim
- Fanny Fern Mine (Mayday Lode; J. C. Lode; Springfield; Unpatented Claims: Fanny Fern No. 2; Patented Claim: Fanny Fern; B. R. Lode)
- Ferrara Ranch
- Galena
- Garlock mine
- Gladiator Mine (Ore House; Gladiator; Montana Nos. 1-9)
- Gold Quartz Mine (Wells Mine; Patented Claim: Red Cloud; Gold Quartz Nos. 1-6; Unpatented Claim: Gold Quartz)
- Golden Wonder Mine<sup>1,2</sup>
- Happy Day
- I.D.A. Occurrence
- Ilma Mine
- L-C Property (Lake City Property)

- Lake City
  - Belle of the East Mine
  - Golden Fleece Mine<sup>1</sup>
  - Governor Pitkin Mine
  - Hidden Treasure Mine<sup>1</sup>
  - Hotchkiss lode
  - Ocean Wave Mine
  - Oulay Mine (Ulay Mine; **Ute-Ulay Mine**)<sup>1</sup>
- Lake Fork River
  - Monte Queen Mine
- Lode Star<sup>1</sup>
- Louise Morrell Lode Nos.1 & 2
- Mable
- Matterhorn Peak Area
  - Dix and Cimarron Chief Groups
- Missouri Favorite Mine<sup>1</sup>
- Monte Queen<sup>1</sup>
- Nellie M. Mine (Patented Claim: Nellie M.)<sup>1</sup>
- Ottawa Mine<sup>1</sup>
- Pelican Mine<sup>1</sup>
- Red Mountain Alunite Deposit
- Risorgimento Mine (Patented Claim: Risorgimento)
- Rodney No. 1
- Silver Creek
- St. Mary's Mining Company Property (V.C.)
- Sulphuret Mine (Cora; Patented Claims: Sulphuret; Sulphuret-Cora Mine)<sup>1</sup>
- Sunshine Peak tuff
- Uncompahgre Peak
- Uncompahgre Peak Prospect (Maurell Claim)
- Ulay<sup>1</sup>
- Ute<sup>1</sup>

Notes: <sup>1</sup>Detailed description of mine contained in Irving and Bancroft (1911).

<sup>2</sup>Considerable information on mine (refer to bibliography).

Minerals listed in the district (mindat.org) include:

Acanthite	Colusite	Lead
Aikinite	Copper	'Limonite'
Altaite	Covellite	Luzonite
Alunite	Dickite	Magnetite
Ankerite	Emplectite	Malachite
'Apatite'	Enargite	Marcasite
Arsenopyrite	Epidote	Matildite
Azurite	Fluorite	Mawsonite
Baryte	Freibergite	Melanterite
Bismuthinite	Galena	Melonite
Bornite	var: Argentiferous Galena	Molybdenite
Boulangerite	Gold var: Electrum	Molybdite
Bournonite	Gypsum var: Selenite	Muscovite var: Sericite
Calaverite	Hematite	Natrolite
Calcite	Hessite	Pearceite
Chalcopyrite	Hinsdalite (TL)	Petzite
Chalcostibite	Jamesonite	Pilsenite
'Chevkinite'	Kaolinite	Polybasite
Coloradoite	Krennerite	Proustite

Pyrargyrite	Smithsonite	Tennantite
Pyrite	Sphalerite	Tetrahedrite
Pyroxmangite	Stephanite	var: Argentinian Tetrahedrite
Quartz	Stibnite	var: Zincian Tetrahedrite
var: Chalcedony	Stützite	Uraninite var: Pitchblende
var: Jasper	Svanbergite	Volynskite
Rhodochrosite	Sylvanite	Wurtzite
'Schirmerite'	Tellurium	
Silver	Tellurobismuthite	

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[www.mindat.org](http://www.mindat.org), accessed September 2015.