

## Gunnison County

### Quartz Creek Pegmatite District

In this compilation, we treat the Quartz Creek Pegmatite District as separate from the adjacent districts known for their metallic minerals (**Box Canyon, Gold Brick, Tomichi, and Quartz Creek**) because of the unique geology. Dunn (2003) described the Quartz Creek Pegmatite District as lying in Townships 49 to 51N and Ranges 3-5 East along the west slope of the Sawatch Range.

Sources differ in their estimate of the size of the district. Del Rio (1960) followed Hanley et al. (1950) in describing the district as occupying ten square miles. Staatz and Trites (1955) claimed 29 square miles, a figure we find more accurate.

Staatz and Trites (Ibid) describe in detail the geology of the district. Rocks range from Precambrian (quartzites, hornblende gneiss, tonalite and dacitic pillow lavas), overlain by Jurassic Morrison formation and Cretaceous Dakota formation. At the north end of the district is a quartz monzonite porphyry. Intruded into the older rocks are a coarse-grained granite and fine-grained granite dikes and pegmatites.

Martin (1993) describes two general forms of pegmatite - long, narrow NE-trending dikes and large irregular masses with no apparent linear orientation. Both types intrude the host rocks unconformably. He describes them as "typical granite pegmatites" but varying from other Colorado pegmatites in that they carry relatively low muscovite, biotite, and tourmaline and relatively high accessories lepidolite, topaz, and microlite.

Del Rio (Ibid) reports that, of the 1803 pegmatites investigated in the district, 232 contain beryl, 14% are zoned and many are lithium-rich (hence the lepidolite). The pegmatite bodies are dominated by albite, perthite, and quartz. Economic minerals include beryl, lepidolite, microlite, topaz, and feldspar; major accessories include beryl, muscovite, garnet, magnetite and biotite. Columbite-tantalite occurs in 29 different pegmatite bodies (with the Brown Derby containing 1.4%); lepidolite in 17% but ranges up to 95% by volume. Monazite occurs in 24 of the pegmatites.

Martin investigated several of the pegmatites for the Bureau of Mines specifically for columbium-tantalum potential. He reported the major producers in the district were the Brown Derby (lepidolite, beryl, microlite - Ta bearing); the White Spar (feldspar and lepidolite) and the Bucky (mica, beryl, monazite and columbite-tantalite).

The mineralization was not discovered until 1930, with the Brown Derby pegmatite. Production did not begin until the war years, specifically 1943, with lepidolite and beryl.

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

- [Bazooka](#)<sup>2,3</sup>
- [Beryl and Rare Minerals Lode](#)<sup>1</sup>
- [Beryl claim](#)
- [Black Canyon Beryl Prospect](#)<sup>2</sup>
- [Black Wonder Occurrence](#)<sup>1</sup>
- [Brown Derby Mine](#)

- Brown Derby No. 1<sup>1,2,3</sup>
- Brown Derby No. 2<sup>3</sup>
- Brown Derby No. 3<sup>3</sup>
- Brown Derby No. 4<sup>2</sup>
- Brown Derby No. 5<sup>1,2,3</sup>
- Brown Derby Ridge (Ventura claim)<sup>2</sup>
- Buck Horn Mine (Buckhorn)<sup>1,2</sup>
- Bucky pegmatite (New Anniversary; Willow Creek)<sup>1,3</sup>
- Comet<sup>2</sup>
- Last Chance<sup>2</sup>
- Mine X
- Monazite claims
- O C Group
- Opportunity Mine<sup>1,3</sup>
- Pegmatite 417 Occurrence
- Pegmatite No. 537 Occurrence<sup>1</sup>
- Pegmatite No. 538 Occurrence<sup>1</sup>
- Pegmatite No. 560 Occurrence<sup>1</sup>
- Trio No. 1 Occurrence<sup>1</sup>
- Unnamed pegmatite
- White Spar No. 1 Mine<sup>1,2,3</sup>
- White Spar No. 2 Mine<sup>1,2,3</sup>
- Willow Creek Occurrence

Notes: <sup>1</sup>Mine described in detail in Staatz and Trites (1955).

<sup>2</sup>Mine described in detail in Hanley et al. (1950).

<sup>3</sup>Mine investigated and described in Martin (1993).

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

Albite var: Cleavelandite	Fergusonite-(Y)	Pyrochlore Group
'Albite-Anorthite Series'	Fluorite	Quartz var: Smoky Quartz
'Allanite'	Gahnite	Rutile var: Strüverite
Allanite-(Ce)	'Garnet'	Rynersonite
Almandine	Grayite	Samarskite-(Y)
Amblygonite	Helvine	Schorl
'Apatite'	Hematite var: Martite	Spessartine
Autunite	Kaolinite	Spodumene
Beryl	'K Feldspar' var: 'Adularia'	'Stibiconite'
var: Aquamarine	'Lepidolite'	Stibiotantalite
var: Morganite	'Lithiophilite-Triphylite Series'	'Tantalite'
var: Vorobyevite	Magnetite	Topaz
'Biotite'	'Manganese Oxides'	'Tourmaline'
Brockite	'Mica Group'	'var: Indicolite'
Chrysocolla	Microcline var: Amazonite	'var: Rubellite'
Clinochlore	Microlite Group	'var: Verdelite'
'Columbite'	'Monazite'	Trilithionite
Columbite-(Fe)	Monazite-(Ce)	'Uranpyrochlore (of Hogarth 1977)'
Columbite-(Mn)	Monazite-(Sm)	'Uvite'
'Columbite-Tantalite'	Muscovite var: Sericite	'Zinnwaldite'
Cookeite	'Perthite'	Zircon var: Cyrtolite
Elbaite	Pollucite	
Euxenite-(Y)	'Prochlorite'	

References:

Del Rio, S.M. 1960. Mineral Resources of Colorado: First Sequel. Colorado Mineral Resources Board, Denver, Colorado.

Dunn, Lisa. 2003. Colorado Mining Districts: A Reference. Colorado School of Mines, Golden, Colorado.

Hanley, J.B., Heinrich, E.W., and Page, L.R. 1950. Pegmatite Investigations in Colorado, Wyoming, and Utah, 1942-1944. U.S. Geological Survey Professional Paper 227.

Martin, Clay M. 1993. Reconnaissance Investigations of Selected Columbium and Tantalum Occurrences in Colorado. U.S. Bureau of Mines Open-File Report 17-93.

Staatz, M.H. and Trites, A.F. 1955. Geology of the Quartz Creek Pegmatite District, Gunnison County, Colorado. U.S. Geological Survey Professional Paper 265.

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