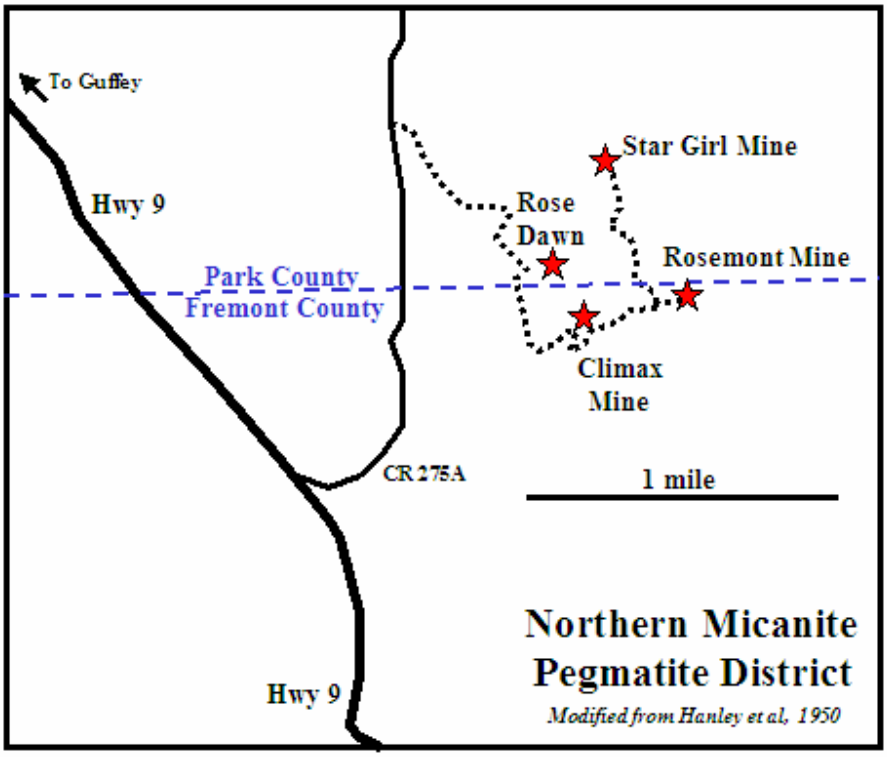
ZONED PEGMATITES
OF THE MICANITE DISTRICT
FREMONT & PARK COUNTIES, COLORADO

By Andy Weinzapfel

INTRODUCTION

The below article is based on library research and field work conducted during 2007.

The Micanite pegmatite district covers an area about 4 square miles, partially on BLM land, partially on private property. Focus of this article will be on the northern portion of the district having favorable access.



Based on mapping by Wobus et al (1979) the area is dominated by metamorphic rocks, mostly biotite-cordierite-sillimanite gneiss and schist. The district is characterized by steep topography, and is an erosional window through rather monotonous younger rocks associated mainly with the nearby Guffey volcanic center. Pegmatites intrude Precambrian metamorphic rocks. Minerals reported from the pegmatites include large “books” of muscovite mica, pink microcline masses as much as 10 feet across, cordierite, white albite, biotite, apatite, schorl, garnet, beryl and rose quartz. Probably the most abundant attractive mineral remaining for the collector is schorl (black tourmaline):

MINING HISTORY

The mining history of the district is described by Hanley et al (1950). In 1902 and 1903, the Unites States Mica Company located and high-graded several pegmatites. Much development work was done during 1904-1907. The district remained inactive from 1907-1934, when the known major deposits were acquired by Colorado Feldspar Company of Canon City. From 1934-1942, the company produced about 2,000 tons feldspar and 175 tons scrap mica.

PEGMATITE ZONATION

Several of the major pegmatites are zoned; that is, discrete areas can be mapped based on differing mineralogy or grain size. Worldwide, zoned pegmatites usually occur in clusters. From inward to outward, four zones are recognized (Hanley et al, 1950):

core zone — consists of white quartz with minor cream-colored microcline. This unit is highly resistant to erosion. Crystals of mottled flesh-pink and green apatite as much as 3 feet long and 1 foot wide have been reported from the west side of the Rose Dawn pegmatite. The apatite zone, several feet across, was recognized in the field, although no giant crystals were noted. This mineral fluoresces a dull yellow brown.

intermediate zone — consists primarily of quartz, albite, and muscovite. Cordierite crystals are reported to extend across the intermediate zone into the core. Masses of muscovite up to 4 feet in diameter have been described.

wall zone — consists of quartz, reddish microcline, white albite, muscovite, and biotite. Accessory light brown garnet crystals are present, as well as large muscovite books. Schorl was noted in the field in this zone at the east side of the Rose Dawn pegmatite.

border zone — Extremely narrow zone at edge of metamorphic country rock. Same minerals as above, but much finer grained.

INTRIGUING MYSTERY MINERAL

Bever, 1953, describes an occurrence 300 feet west of the Climax pegmatite of “glassy grey-violet cordierite as much as 3 millimeters in diameter”. While specimen size is small, the description is intriguing because it appears to be that of iolite, the gemstone variety of cordierite. Since cordierite is a hard mineral, 7 or more on the mohs scale, with minimal cleavage, iolite can become an attractive target. This “occurrence” was briefly field-checked but no iolite found. Abundant non-gemmy black cordierite is present in the area described. It is possible that further field investigation might find iolite also.

SAFETY AND COLLECTING TIPS

Several pegmatite mines in the district have narrow, exploratory tunnels. These should be avoided.

In my opinion, the best pegmatite for mineral collecting with relatively easy access is the Rose Dawn. Unfortunately, due to safety hazards described below, this mine is not recommended for any club field trip. The road below the mine dump has parking for only one vehicle, but one can also drive directly to the mine face (see road log below). The mine dump contains significant schorl, minor beryl, apatite, rose quartz, and attractive small-scale radiating “feather muscovite”. However, the dump is rather steep and unstable. Large rocks can easily be dislodged and roll down the slope onto fellow collectors, or directly onto the road surface below. Above the dump, at the nearly vertical mine face, there are many loose boulder-sized rocks high on the wall which can be dislodged by collecting activities, especially hammering. At the east side of the mine face, schorl is present but rocks above are very unstable. Near the west side, both apatite and small amounts of beryl can be found. The beryl is light green to cream colored.

The easiest place to collect large books of muscovite is at the Climax mine, where ample parking is available. Parking is no problem at the Star Girl mine also.

ROAD LOG

0.0 mi	intersection of paved hwy 9 and 59, just SW of Guffey. Head south on 9. This road parallels the Currant Creek fault.
3.6 mi	turn left onto Fremont County Road 275A. Head NE
4.7 mi	turn right onto steep Mac Gulch Road. Ore was loaded on the wooden structure just south of this intersection. In winter, snow usually blocks shady area up the hill at 5.0 mi.
5.2 mi	above the road on the left is the mine dump of the Rose Dawn pegmatite. Room for only one car to park. Shorl in quartz can be found on this slope.
5.4 mi	left turn climbs to Rose Dawn mine face. Continue straight.
5.6 mi	Climax pegmatite on left. Large books of muscovite mica can be found here. Above mine to north are two early vintage trucks
5.8 mi	stay left at fork. Rosemont pegmatite to right appears to be only a minor deposit.
6.2 mi	Star Girl mine on left. Road ends after mine.

ACCESS/ PERMISSION

To the best of the author's knowledge, all BLM land in the northern part of the district was entirely open the summer of 2007. BLM Land and Mineral Use Records (http://www.geocommunicator.gov/GeoComm/landmin/home/index.shtm) did not list any active claims nor was any claim activity observed in the field. However, the collector should always make every effort to determine current land status prior to mineral collecting!

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