

Trip B-4

MINERAL COLLECTING AT J & L STEEL CORPORATION, BENSON MINES, STAR LAKE, NY

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HISTORY OF THE MINES

The ores were first discovered in 1812 when a military road was being built in the region. It became known as the Chaumont Ore Bed. In 1883, the Magnetic Iron Ore Co. was formed. Byron C. Benson, a large land owner in southern St. Lawrence County sold the company the mineral rights on 2,201 acres of the Brodie Tract in the Town of Pitcairn. In 1886, a railroad was started from Carthage to Jayville in the Town of Pitcairn and additional mineral rights on 40,000 acres in the southern part of the county were obtained by the Magnetic Iron Ore Co.

In 1887 and 1888, the company purchased mineral rights for magnetite iron ore on Vrooman Ridge in the Town of Fine and all the mineral rights (9185 acres) in the southeast corner of Chaumont Township (later part of Clifton Township) including the Chaumont Ore Bed. In 1888-89, work was done on the Jayville mines in the Town of Pitcairn. From 1889-93, the Magnetic Iron Ore Co. shipped 150,000 tons of high grade concentrates (magnetic iron ore) to Pennsylvania.

In 1906, Benson Mines Company formed and leased Benson Mines (Chaumont Ore Bed). From 1907-1919, sporadic mining occurred at Benson Mines and in 1922 the Benson Mines Co. gave up its lease and sold its plant to the Magnetic Iron Ore Co., owner of the mineral rights.

Later in 1922, the Benson Iron Co. Inc. was formed, but did not do much mining. In 1941, Jones and Laughlin Ore Co. leased Benson Mines and built a \$7,000,000 mill and upgrade of the mine. In 1946, the Benson Iron Co. Inc. and Magnetite Iron Ore Co. (both belonged to the Benson Family) consolidated to form Benson Iron Ore Corporation and by 1950, it was the largest open pit magnetite iron ore mine in the world.

In 1978 Benson Mines shut down. The St. Lawrence Development Corporation tried to find a buyer or lessee without success. Lumbering is the only thing going on in the mine area now that is bringing in any money, but just barely enough to pay the taxes. Of the 3,200 acres now owned by the company, only 1,200 are cut in a 15 year cycle to allow for replenishment. There is some sale of waste rock, but the income from this is negligible. The mine used to employ 1,000 people and pump 2,000,000 gallons of water a day.

GEOLOGY

The Benson Mines ore body is not of simple origin. Sillimanite gneiss, metagabbro and pegmatitic units are located throughout the pits. Small, localized fault zones rich in secondary mineralization provide the areas of greatest interest to the crystal collector.

MINERALS

The primary ores mined here were magnetite and martite. Samples of each abound. The sillimanite crystals from here are unparalleled in their size. The sunstone, relatively common in the pegmatitic zones, may be fashioned into cabochon and used to make attractive jewelry. Probably the most desired species from this mine is the dark green fluorite cubes, found about 40 years ago in a fracture zone and associated with various other secondary minerals. These are only rarely found. The following minerals can usually be collected, many in crystal form: aragonite, azurite, bornite, biotite, calcite, chalcopyrite, chlorite, garnet, hematite, hornblende, magnetite, malachite, martite, microcline, molybdenite, muscovite, pyrite, quartz, sillimanite, sunstone, tourmaline, and others.

The tools that will be most helpful here are a crack hammer, chisel and pick. Sledges are very helpful on the large boulders of pegmatitic material. Be sure to bring something to store your specimens in for the trip home.

NOTES

Collecting is by clubs or groups only. Permission may be obtained and arrangements made by writing in advance. Please write, call or e-mail me and I will give you the information you need to set up your own field trip.

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SUGGESTED READINGS AND REFERENCES

Agar, W.M., 1921, The Minerals of St. Lawrence, Jefferson, and Lewis Counties, New York, Amer. Min., vol. 6, p. 148-164.

Dana, E.S., 1877, A Textbook of Mineralogy, John Wiley and Sons, New York, 485 p.

Finch, J., 1831, Essay on the Mineralogy and Geology of St. Lawrence County, State of New York, Am. Jour. Sci., ser. 1, vol. 19, p. 220-228.

Kunz, G.F., 1892, Gems and Precious Stones of North America, facsimile edition, Dover Publications, New York, 376 pages.

Robinson, G.W. and Alverson, S.W., 1971, Minerals of the St. Lawrence Valley, 42 pages, (out of print, may find some copies with local collectors).

VanDiver, B.B., 1976, Rocks and Routes of the North Country, New York, W.F. Humphrey Press, Geneva, New York, 205 pages.

ROAD LOG TO J&L STEEL CORPORATION,
BENSON MINES, STAR LAKE, NY

Cumulative Mileage	Miles From Last Point	Route Description
0.0	0.0	Begin trip at SUNY Potsdam's Lot 7 (behind the geology department and Timerman Hall). Exit the lot at the south end onto Lake Placid Drive and turn right onto Barrington Drive.
0.2	0.2	At the fourth stop sign on Barrington Drive is the intersection with Pierrepont Avenue (State Route 56). Turn left (south) here.
6.5	6.3	After driving through Hannawa Falls, you will come to a four corner intersection with County Route 24. Turn right here (west).
15.5	9.0	At the intersection with County Route 27 turn left (south). We will be on this route for most of the rest of the trip, it just takes several turns.
25.7	10.2	Stay with County Route 27 by turning left.
33.5	7.8	Stay with County Route 27 by turning left.
34.3	0.8	At this intersection we meet up with State Route 3. Turn Left here.
40.2	5.9	This is Padgett's IGA, our stop for lunch supplies and cold drinks. After stopping, continue through the village of Star Lake to the mine.
42.3	2.1	Turn left just before the large blue buildings and across the road from the St. Lawrence County Solid Waste Disposal Authority's Waste Transfer Site. This is the mine entrance. We will proceed through the gate, pass the mill buildings and toward the flooded open pit mine. We will let our tour guide lead us around the mine for some history and then head for the mine dumps to do some mineral collecting. The trip after here is toward home. <u><i>There are no plans to return to Potsdam.</i></u>

