

TRIP B-4: SOME CLASSIC MINERAL COLLECTING SITES  
IN ST. LAWRENCE COUNTY

MICHAEL A. WHITTON  
St. Lawrence County Rock and Mineral Club/  
Geology Department  
St. Lawrence University  
Canton, NY 13617

SCHUYLER ALVERSON  
St. Lawrence County Rock and Mineral Club  
P. O. Box 112  
Rensselaer Falls, NY 13680

Introduction

The St. Lawrence County Rock and Mineral Club is a local organization who meets once a month and organizes collecting field trips as well as trips to rock and mineral shows. We have members from as far away as New Hampshire, Ohio and Canada. All meetings and trips are open to the public. It is our pleasure to welcome you to Canton and to lead you on this field trip of classic mineral localities in St. Lawrence County.

If you would like more information about our club for attending some of our meetings or trips, you may write to our club president Gary Stacy, 148 Rowley St., Gouverneur, NY 13642, vice-president Michael Whitton, 24 Miner St., Apt. 1, Canton, NY 13617, or Schuyler Alverson at the above address. Michael will be along on this trip as one of the principal guides. He will be happy to take a business card or take down your name and address to include you in the club's next newsletter.

We will be departing Canton, from St. Lawrence University at 8:30 AM on Sunday, September 26. Our first stop will be at Benson Mines in Star Lake. At one time, this was the largest open pit magnetite mine in the world. Our second stop will be in West Pierrepoint at a tremolite locality. Our last stop will be the world famous Powers' Tourmaline Locality in Pierrepoint. This site has been known for over 100 years since George Kunz wrote about it in 1892. We will learn more about each stop later. At the end of this road log will be a list of suggested readings for these stops if you would like to find more information about them.

We will be eating en route to our second stop to save time. We will spend a good deal of the morning travelling to Star Lake and back. You may eat at any time you wish, but we want to be sure to have everyone back to Canton on time so that they will not miss their rides or their scheduled time of departure. The map on the next to last page of this trip log shows our route and the stop locations.



ROAD LOG FOR SOME CLASSIC MINERAL COLLECTING SITES  
IN ST. LAWRENCE COUNTY

Cumulative Mileage	Miles From Last Point	Route Description
0	0	Begin the trip at SLU's J-Lot. Turn left onto Park Street.
3.3	3.3	Take the left at the Y.
6.1	2.8	Take the right at the Y and climb up Waterman Hill toward Degrasse. There will be a radio tower in a field on the right on top of the hill. Notice the vista over Canton behind you.
11.2	5.1	This intersection is known as the Turnpike Crossing. If you'll notice the tavern on the corner you will understand why. Proceed straight across this intersection, but don't forget it. On the return from Benson Mines we will be turning here for the second stop.
21.5	10.3	Turn left on County Route 77 toward Fine.
29.3	7.8	Turn right onto County Route 27 to Route 3 where we turn left toward Star Lake. Staying on Route 3, go through the village and 1.5 miles more.
38.2	8.9	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 then head for the mine dumps to do some mineral collecting.

STOP 1. J & L STEEL CORPORATION, BENSON MINES, STAR LAKE, NY

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 D. Benson, a large land owner in southern St. Lawrence County sells the company the mineral rights on 2,201 acres of the Brodie Tract in the town of Pitcairn. In 1886, a railroad is 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 are 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 (magnetite 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, Jone & 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 Magnetic Iron Ore Co. (both belonged to the Benson family) consolidated to form the 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 County 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 that allows 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 are 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 30 years ago in a fracture zone and associated with various other secondary minerals. These, needless to say, are only rarely found. The following minerals can usually be collected, many in crystal form: aragonite, azurite, bornite, calcite, chalcopryrite, 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 small pick. Be sure to bring something (sample bags, boxes) to store your specimens in on the trip.

### Notes

Collecting is by clubs or groups only. Permission may be obtained and arrangements made by writing in advance. The person to talk to, his address and phone numbers are

listed here. He will send you a release form for everyone to sign and return before going to the mine. Please respect the common courtesies expected of you.

David H. Ackerman  
Benson Mines, Inc.  
100 Bay Street  
Glens Falls, New York 12801  
(518) 523-9757 or (201) 267-3306

Cumulative Mileage	Miles From Last Point	Route Description
38.2	0	Back down to the gate we came in. There will be some extra mileage from driving around the mine and the dumps that is discounted here. From the gate take the same route back to the Turnpike Crossing.
65.2	27	At the Turnpike Crossing, turn right onto County Route 24.
66.7	1.5	Turn right, just after the sluice pipe bridge in West Pierrepont, onto the Selleck Road.
67.7	1	After driving one mile from County Route 24, look for a narrow, dirt road on the right. All of us may not be able to drive into the site and turn around to come back out. We may have to car pool to get everyone in or some will have to hike and leave their vehicles on the road. It is only 0.2 miles in, but uphill. Once we get to the top of the hill, we park and start digging. The site lies on either side of the road. You may start collecting anywhere along the top or front side of the hill.

## STOP 2. TREMOLITE LOCALITY, WEST PIERREPONT, NY

### History of the Site

This site has also been known for many years. It was discovered by prospectors looking for iron ore. Ours was one of the first rock and mineral clubs to visit the site in 1965. Originally, the amphiboles were called actinolite. However, Dr. George Robinson identified them as tremolites by electron probe.

### Geology

Tremolite-actinolite crystals are commonly found in the calcium silicate rocks associated with the county's Grenville Marble deposits. The rock here appears to be a tremolite-quartz schist, with varying amounts of calcite, diopside and pyrite. A large body of

leucogranitic rock nearby, if representing an igneous intrusion, may have provided the necessary physiochemical conditions to recrystallize the adjacent sediments.

### Minerals

Doubly terminated crystals of tremolite-actinolite occur in pockets and fissures throughout the outcrop. Other nearby outcrops have furnished dravite, diopside, pyrite and quartz crystals.

### Notes

The best crystals are in the cracks and crevasses in the ledges. Hammers, chisels, crowbar and small digging utensils will prove useful.

Cumulative Mileage	Miles From Last Point	Route Description
67.9	0.2	Starting from the top of the hill where we parked, we will start heading out to the Selleck Road.
68.1	0.2	Turn left onto Selleck Road.
69.1	1.0	Turn right onto County Route 24.
73.4	4.3	Intersection with Route 68 in the hamlet of Pierrepont. Go straight.
74.4	1.0	There will be a bridge, the Irish Settlement Road on the right and a gravel road on the left after the bridge. Take the gravel road.
75.9	1.5	The gravel road has been nearly taken over by brush since the bridge over Grannis Brook was taken out. Just before the bridge site there is a small clearing on the right. Pull in here and park.

### STOP 3. POWERS' FARM, PIERREPONT, NY

The collecting site is just a short hike along the brook. Stay on the farm lane until you come to a path. Turn left onto the path and twenty-five yards or so ahead is the collecting area.

### History of the Site

As stated above, George Kunz wrote about this locality in 1892. It was known to collectors for some years before that. It was originally the Ryland Clary Farm. An aggressive mineral collector by the name of Charles D. Nims would drive his horse and

wagon to the site from Canton where he worked for the railroad for 10 year. He would remove baskets full of crystals.

Around 1910, Bower Powers, Sr. bought the land. In 1921, William Agar wrote about the occurrence. Just prior to 1962 the top of the hill had been bulldozed. In 1993, due to littering, people sneaking in, burning fires and digging on the hillside next to the stream, Bower Powers, Jr. closed the site to individuals. It is still possible to arrange in advance club or group trips as long as you abide by the rules. There are still many nice crystals to be found.

### Geology

The geology of this PreCambrian Grenville site is very complex. The interesting minerals occur in veins and along contacts between the Grenville marble and other metamorphic rocks including a mica-tourmaline-quartz schist, an amphibolite, and other rocks locally rich in pyroxene or scapolite. Additional evidence of an origin through recrystallization is provided by the frequent presence of uralite, a pseudomorph of actinolite after diopside. The field relationships are buried by overburden. The mineral paragenesis is complicated and not worked out.

### Minerals

The uvite tourmaline crystals found here are indeed world famous. They contain a relatively high percentage of iron. These dark, magnesian tourmalines are typified by their lack of prismatic striations and short c axes. Figure 1 below illustrates the most commonly encountered forms: trigonal prism (m), ditrigonal prism (a), rhombohedra (e) and (r), basal pedion (c), and trigonal pyramids (o). Other minerals to be found here in excellent representations include: uralite, rennselaerite, diopside, pyrite, pyrrhotite, quartz, apatite, micas, chlorite, calcite, actinolite, titanite and scapolite.

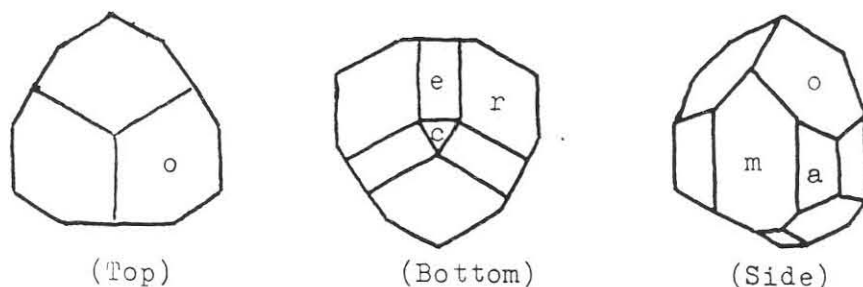
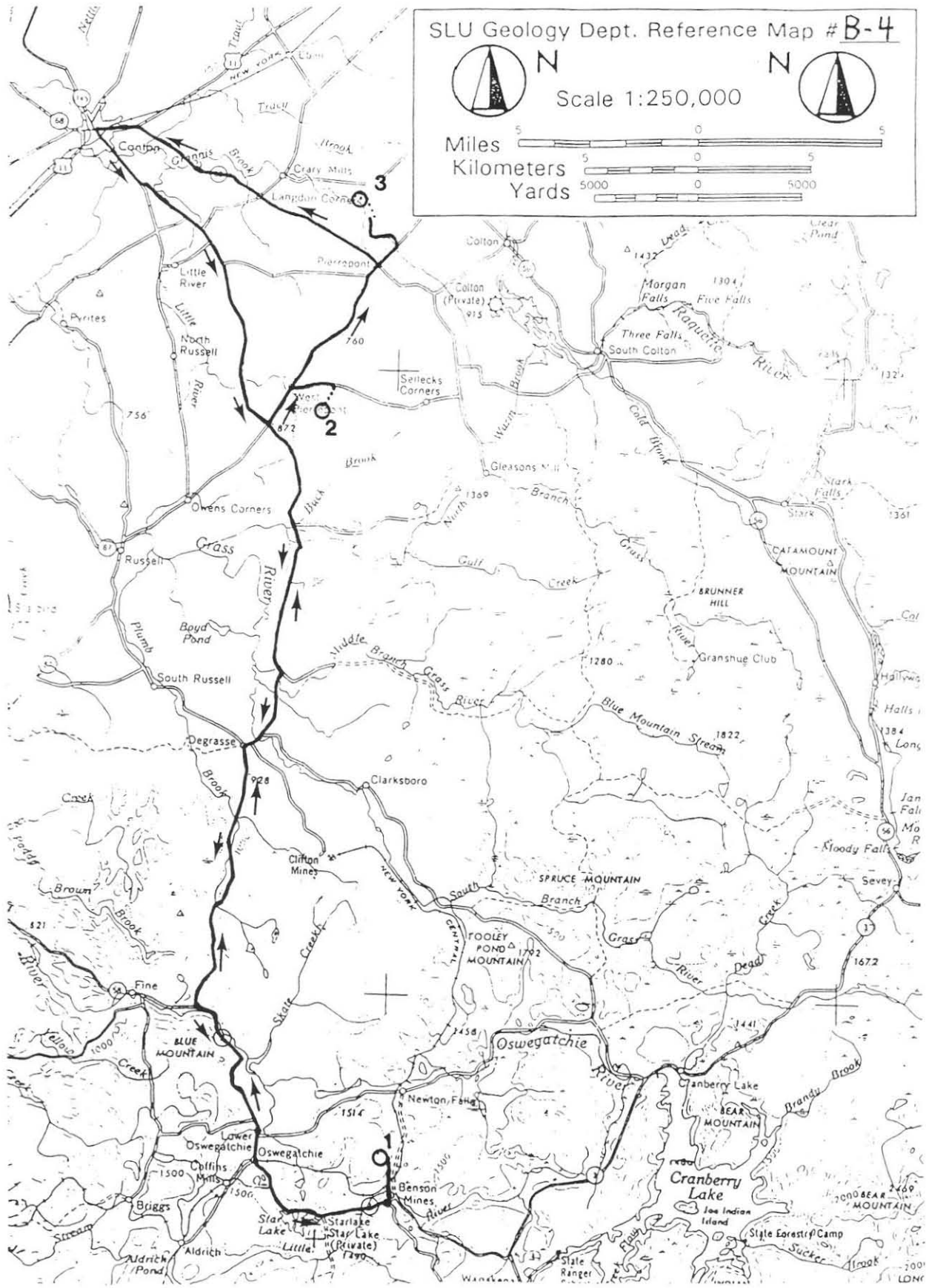


Figure 1. Hemimorphic Tourmaline Crystal

### Notes

Although small single crystals may be found in the soil, the better specimens lie deeper and occur most often in pockets and seams in the solid tourmaline-quartz rock, especially where it is in contact with the calcite. Often, good specimens can be obtained by removing the calcite from the matrix rock with dilute hydrochloric acid.





Useful tools for this location include shovels, crowbars, sledge hammers, wedges, and other heavy tools will be needed to reach the deeper crystal bearing areas, but hand tools will also be useful.

Cumulative Mileage	Miles From Last Point	Route Description
75.9	0.0	Return to the vehicles from the collecting site. Load up everything and turn around to head back out to the four corners in the hamlet of Pierrepont.
78.4	2.5	At the intersection with Route 68, turn right and head back toward Canton.
85.4	7.0	At the intersection with Route 11, turn left, drive into town.
87.5	2.1	After turning onto Route 11, you come right into Canton, turn left at the first traffic light onto Park Street and head back the starting point at St. Lawrence University.

#### 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.
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- 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.
- Martin, J. C., 1916, The PreCambrian Rocks of the Canton Quadrangle, New York State Museum Bulletin #185.
- 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.