"LOCATIONS, MUSEUMS, & MORE"

FRIENDS OF MINERALOGY—PA CHAPTER, INC.
FALL SYMPOSIUM—1987
West Chester State University
West Chester, PA
November 6, 7 and 8, 1987

PROGRAM

Friday, November 6	Schmucker Hall on Church Street
7:00 PM to 8:00 PM	Social Hour—Refreshments, Show and Tell
8:00 PM to 8:30 PM	FM PA Chapter Meeting
8:30 PM to 10:00 PM	"What's New in Pennsylvania Minerals?"

Saturday, November 7	Schmucker Hall on Church Street
8:00 AM to 8:45 AM	Registration
9:00 AM to 10:00 AM	"Geology and Mineralogy of the Anthracite Coal Region," Jon D. Inners, Pennsylvania Geological Survey
10:30 AM to 11:30 AM	"Mineralogy of the Burning Coal," Wayne Downey, geologist, NUS Corporation
11:30 AM to 1:30/ 2:00 PM	Banquet, Italian Club, West Chester. Banquet speaker—Richard Hauck
2:00 PM to 3:30 PM	"Mineralogy of Pennsylvania" project update and mineral auction.
3:30 PM to 4:30 PM	"Historical Perspective of Anthracite Region: Richard Sharpless and Donald Miller, Professors of History, Lafayette College and co-authors of *The Kingdom of Coal*, U. of Pennsylvania Press 1986.

Sunday, November 8	Coopersmith Park, West Chester
9:00 till ?	Mineral swap and sell.

In keeping with the symposium theme, this program features reprints of articles related to anthracite mineralogy. All articles were extracted from *ROCK AND MINERALS* magazine dating from the 1930's. Editor Peter Zodac began his career as a mining engineer in the anthracite region, and after the startup of the magazine, showed some partiality to articles referring to the coal fields.

HUNTING ROCK CRYSTALS NEAR HAUTO, PENN.

BY PETER ZODAC

VOL. 12, NO. 3 MARCH 1937

Near a small community called Hauto, in Carbon County, Pennsylvania, there is a locality for quartz crystals that is worth visiting. The locality covers quite an area of wilderness but one good spot is about 300 feet west of the Bear Creek Dam. The dam is on Broad Mountain and is the main water supply for Lansford, a populous coal mining town in Panther Creek Valley, about three miles to the south.

During 1917 when the writer was a junior mining engineer on the engineering staff of the Lehigh Coal and Navigation Co. (now Lehigh Navigation Coal Co.) whose headquarters were in Lansford, he made frequent trips to Bear Creek Dam. He would get off at the Hauto railroad station, walk across the tracks directly in front of the station and then follow a pipe line and brook (Bear Creek) which led him up to the dam about two miles to the north. To the west of the dam and stretching northward, for miles, was a fire barrier. The fire barrier was a lane or clearing, perhaps 100 feet wide, cut through the woods and whose purpose was to cut off forest fires should they occur.

It was in the clearing of the fire barrier that the writer found his choicest crystals, some of which were three inches in length. The crystals were found lying loosely on top of the ground or mixed lightly with the soil, and they were plentiful. All he had to do was to look around him and when he saw something glistening walk up to it and it would be a crystal.

It was soon apparent that the best time to collect crystals was on a sunny day right after a heavy rainstorm. The rains would not only wash crystals out of the ground but those that had been exposed and which may have become coated with dust or dirt would be washed clean. Then by walking toward the sun, the rays of light would be reflected by the crystals, as by a mirror, and thus they were easily spotted. Within a half hour's time, at least 100 good crystals could be found. No attempt was made to dig for them; there were enough good ones on the surface. The crystals were all loose and with but one termination.

The main rock of Broad Mountain is Pocono sandstone which is coarse and grayish. There is no doubt but that the crystals had weathered out of the sandstone of the mountain although no ledges showing the crystals actually in place were to be seen. None of the crystals collected by the writer showed any signs of being water-worn which indicated conclusively that they must be of local origin.

Though the writer collected crystals at the locality 19 years ago, investigations prove that they are still available.

Ed. Note: This locality was visited in the spring of 1982 by Jim Quickel and Jay Lininger. The site described in the article was easily located but the fire barrier was no longer maintained. While no crystals were found, the potential does exist. Late fall or winter would likely be the best time to collect.

THE MAUCH CHUNK CARNOTITE

BY RICHMOND E. MYERS

VOL. 10, NO. 16 OCTOBER 1935

Some time ago the Editor suggested that I write an article for ROCKS and MINERALS on the Carnotite deposits of Mauch Chunk. There is little that I can add to what has already been written concerning these deposits which prove that all the Carnotite in the United States is not found along the Colorado-Utah state line. Others far better fitted for the task have adequately described the Mauch Chunk material, but for the benefit of the readers of this magazine I will more or less summarize what they have said, and add a bit from my own observation.

This Mauch Chunk Carnotite occurs in a small area in the Pottsville Conglomerate on the side of Mt. Pisgah just outside of the city. This formation is fairly rich in the yellow Carnotite stains, and is made up of crudely stratified masses of pebbles, mostly quartz although some are calcite, varying in size from some as small as B B shot, to others almost as large as golf balls. These pebbles are cemented together by silica or calcite. The beds of the formation show much evidence of considerable slipping by well marked slickenslides.

The Carnotite appears on this slickenslide surface where it looks as if someone had smeared dobs of yellow paint at random, but as a rule it is more or less evenly distributed through the pebbles, filling the cracks in and between them. Often it is seen in the cementing material, where it appears to be replacement. Some of the Carnotite splotches are quite large, as they vary in size from a few inches to several feet in width.

One can not say how far into the mountain these deposits reach, however the chances are that they do not extend far below the surface, probably not below the water table, for their deposition probably took place in circulating surface water. As a matter of fact one can readily observe water dripping through the conglomerate today, and it is fairly safe to assume that the early deposits were precipitated.

Several theories are advanced with regards to the origins of the Uranium and Vanadium that were originally dissolved in the water that in turn deposited the Carnotite. The first: assuming the beds to be of marine origin, is simple, and is merely that these elements were precipitated from sea water, for we know that both are found in the ocean today in minute quantities. The second assumes the possibility of these elements having been present in the earlier rocks of these regions, and that they were more or less washed down as alluvial deposits into a basin of continental deposition, where they collected. This could have been possible, as both Uranium and Vanadium minerals are present in the pegmatites and gneisses of this district.

As far back as 1874 Genth noted the presence of a Uranium mineral on the slopes of Mt. Pisgah, yet he did not call it Carnotite. Not until 1908 was it identified as such by Wherry. No commercial operations seem to have been made for mining the deposits, but the cutting of a roadbed to a trolley line between Mauch Chunk and Lansford some years ago opened up a considerable area to the delight of the mineral collectors. Recently the cutting of a state highway (U. S. Route No. 309) has made deeper inroads on the mountain, opening more of the yellow deposits to those interested. The location is easily reached. Start from Jersey Central Railroad Station in Mauch Chunk, head north and then west, turning with the highway around the mountain. Go ahead by the bridges that cross the Lehigh, but NOT over them. One and one-tenth mile from the station observe the wall of rock to the left of your car, and you will be rewarded. The rock is quite hard to work. Sledge hammers and crowbars can be used to advantage. At the time of writing there seems to be some preparation for road construction work going on right by these deposits. In all likelyhood the state contemplates widening the

road. If this will mean cutting back into the mountain it will probably prove fruitful in opening up more of the deposits. At any rate, the work will bear watching.

Ed. note: The yellow mineral described at Mauch Chunk (Jim Thorpe) as carnotite has been reclassified in recent years as the mineral tyuyamunite.

A NEW OCCURRENCE OF MILLERITE — FURTHER NOTES ON THE SULLIVAN TRAIL COAL CO.

BY M. ALLEN NORTHUP

VOL. 13, NO. 10 OCTOBER 1938

In the January, 1937, issue of ROCKS and MINERALS, the author[1] described various minerals found at West Pittston, Pa., especially at the Sullivan Trail Coal Co. mine. He reported then that no Millerite, the mono-sulfide of nickel, was found there, although a thorough search was made. However, on revisiting the locality some months later (May, 1937), not only Millerite, but several other new minerals were found in fair abundance. This improvement in the locality was due to the presence on the culm heap of a great deal of fresh rock taken out in deepening the shaft. As this rock had not passed through the crushers and hydraulic cones in the breaker, it was in almost its original condition and the associated minerals hadn't been damaged. It also seems to have come from a different and more mineralized formation than any of the rock previously examined.

Another reason for the author's not finding any Millerite formerly may have been that he was looking for it in clay-ironstone concretions, having read that it occurs that way. This was a great mistake. The collector should look for neither concretions nor Millerite, but for veins in slate filled with Quartz or Ankerite crystals. On cracking these open, if he is lucky, he will find little tufts of pale brass-yellow Millerite fibers in spaces between the crystals.

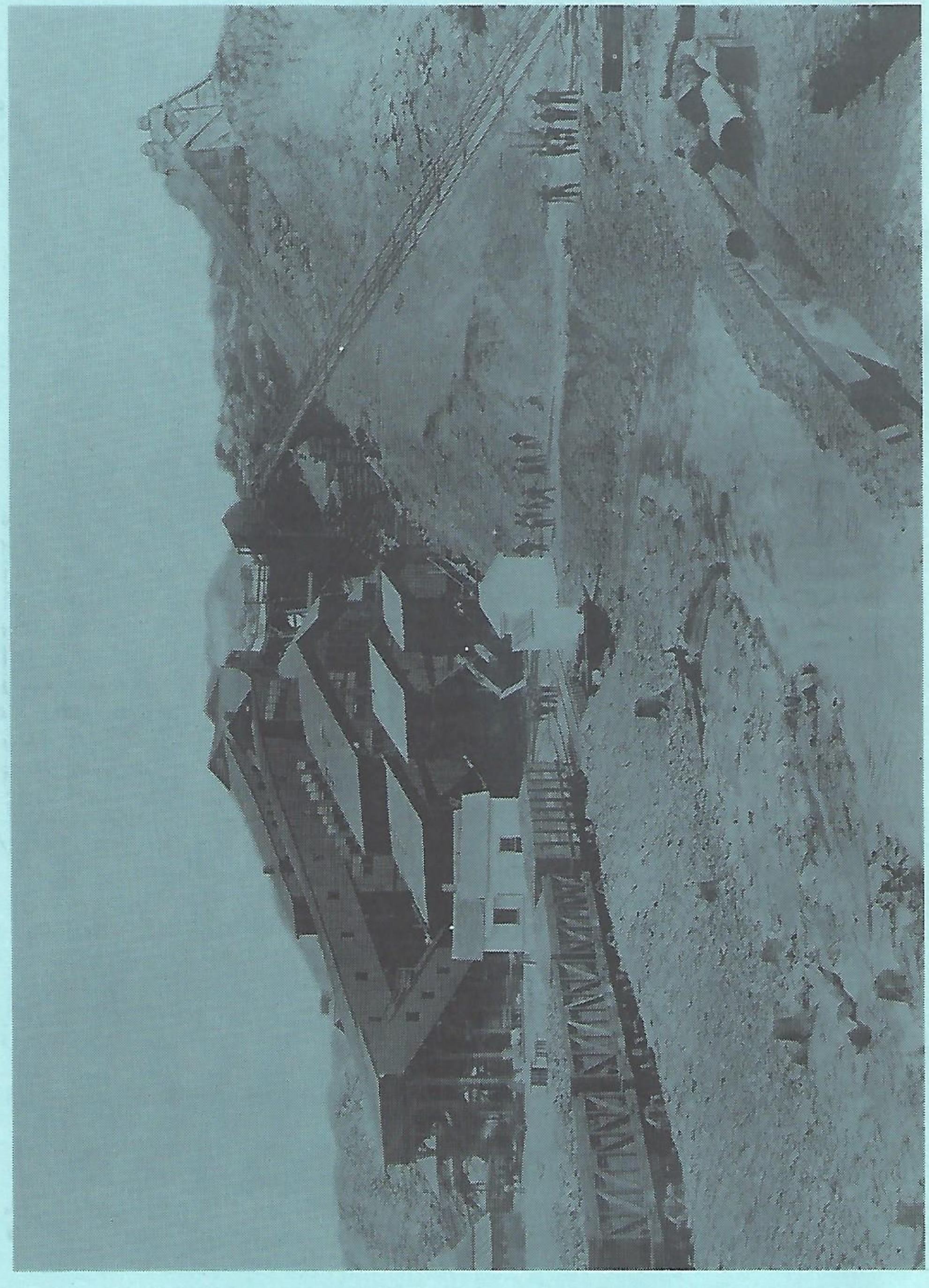
Although fairly abundant, the tufts are small, varying from 1/16″ to 1/2″ in length depending on the free space available. The number of fibers in a group also varies from a few widely separated ones to close packed bunches of numerous individuals. Rarely, a tuft of short fibers branches out of the tip of a longer single one, and once in a while a specimen is found with a characteristic greenish gray tarnish. A single example of Millerite having tiny Pyrite crystals strung on the fibers like beads was found on Quartz at a nearby mine.

The Quartz and Ankerite crystals upon which the Millerite occurs are found in transverse veins in profusely faulted black coal-measures slate. They usually have a layer of small rhombic crystals of Ankerite next to the rock on both sides, with more or less Quartz in the openings of the wider ones. Generally there is some crystallization of the Quartz leaving angular cavities between the faces, even if the vein is filled almost completely. The best Millerite occurs here.

Since Millerite occurs either on Quartz or Ankerite, or both, and has not been found at this locality penetrating either one, the order of deposition is: Ankerite, Quartz, Millerite.

As far as the author knows this occurrence of Millerite has not been previously reported. He was only able to find one reference[2] to the mineral having been found anywhere in the region, and that was a questionable occurrence with Quartz in Siderite, presumably at a coal mine in Scranton, Pa., some 9 miles east of the new locality.

It is interesting to note that Howarth[3] in describing Millerite from the South Wales coal fields, states that the mineral is generally found in cavities in clay-ironstone concretions.



Although such nodules are abundant on the culm heap at the Sullivan Trail mine and contain similar accessory minerals to those mentioned by Howarth, no Millerite has been found in them. The reason for this has not been determined, though the evidence at hand suggests that the concretions came from a different, and probably higher, geological level than the Millerite-containing rocks, the two strata being separated by one or more coal veins. In other words, Millerite probably occurs only in the lowest levels of this mine.

The following other minerals were also found at this locality recently:

Sphalerite: Dark brown grains and tiny triangular crystals occur sparingly in cavities in clay-ironstone concretions; also in slate with Quartz and Millerite, and in Pyrophyllite. Often several minute crystals from around a grain of Chalcopyrite.

Pyrite: In abundant masses of various forms, notably as flattened concretions up to a foot or more in area in slate. Some have an oval cross section, are elongated, and have spatula shaped ends. All of them are composed of very fine granular Pyrite mixed with carbonaceous matter. Sometimes they show longitudinal cracks spreading out radially from a central axis. When very flat, they have little concentric ridges around the edges, showing that they were squeezed down from their original thickness. These last have a layer of well-formed, but tiny crystals on one side. As such slabs are always close to one or more fault lines, it looks as if not only the flattening, but crystallization as well, was brought about by intense pressure caused by movements of the rock along these faults. They make very showy specimens if one has the patience to pry the slate off and clean them up.

Barite: Translucent whitish cleavage masses, seldom more than an inch across, in clay-ironstone concretions.

Pyrophyllite: White, very fine granular masses filling narrow fault or strain cracks in slate, often running diagonally across the main cleavage of the rock; and varying in thickness from ¼″ down to a mere film. Some specimens are solid and break out cleanly from the slate, while others are gouged and grooved as though rock movements had taken place along the vein after the mineral was deposited. Due to its softness and "slip", it would make a good lubricant for such movements. The mineral has been reported[4] from collieries at Drifton, Gowen, and Mahoney City, Pa., but as far as the author knows, not from the neighborhood of West Pittston.

Chlorite: Tiny green to brown scales in booklets attached by their edges to the walls of cracks or cavities in slate are probably one of the Chlorites. As a determination of optical properties would be required to establish the exact identity of the mineral, this cannot be given. One specimen of Chlorite was found included in little Quartz crystals, giving them a nice dark green color.

Literature References

[1] "The Minerals of West Pittstown, Pa." by M. Allen Northup; ROCKS and MINERALS, Vol. 12, No. 1, P. 18 (Jan. 1937).

[2] "The Mineralogy of Pennsylvania" by S. G. Gordon: Special publication No. 1 of the Philadelphia Academy of Natural Sciences: cf. "Millerite" also, "Lackawanna County."

[3] "Millerite" by W. E. Howarth; ROCKS and MINERALS, Vol. 5, No. 1, P. 3 (March 1930).

[4] See No. 2 above: P. 127.

Carbon County anthracite workings photographed in 1913.

HALOTRICHITE FOUND NEAR FREELAND, PENNSYLVANIA

By John J. S. Shrader

VOL. 11, NO. 1 JANUARY 1936

Recently, workmen found an attractive, unusual stone on the "rock table" (waste conveyor) in the breaker at the No. 4 Jeddo colliery of the Jeddo-Highland Coal Company, near Freeland, Pennsylvania. Not knowing what it was, and wondering if it had any commercial value, they retained samples for identification and analysis.

Due to its appearance it was at first thought to be pyrophyllite but was later found to be halotrichite. It occurs in silky, white and light brown fibrous aggregates: dull, waxy, greyish felted plates; and grey capillary masses associated with pyrite crystals and anthracite disseminated through a schistose matrix.

Chemically, it is a hydrous iron-aluminum sulfate—$FeAl_2 (SiO_4)_4$ 24 H_2O—and has the characteristic bitter, astringent taste of the soluble metallic sulfates. Because of its high moisture content, when exposed to dry atmosphere it loses its lustre and becomes friable. To the touch it is greasy, soft, and light. Hardness 1 - 2. Specific Gravity 1.885 to 2.04. It is translucent and leaves a white streak. Before the blowpipe it fuses and expands, with reagents gives a sulphate reaction.

As the Jeddo mines are extensive, it is not known definitely which section yielded the halotrichite. According to mine officials, however, it is from the Mammoth Vein at the bottom of No. 4 slope.

NATURE CENTER SEEKS HELP

On Sunday evening, October 18, 1987 a disastrous fire destroyed the activities building at historic Fort Roberdeau, in the Sinking Valley region of Blair County, Pennsylvania. As part of the national landmark's historic image, the 51 year old building contained award winning mineral and arrowhead collections as well as a primitive period art collection and period costumes. The pre-dawn fire began in a kitchen and spread to the activities building causing an estimated $150,000 damage. The minerals were totally destroyed, with crystal specimens literally melting and exploding in the intense heat. The mineral collection was valued at $8,000. Museum director Fred E. Long has appealed to the Pennsylvania Chapter of FM to help in restoring the collection to its original condition. Specimens being sought include minerals indigenous to Blair County and Pennsylvania. Also, specimens which will serve in educational exhibits for school children and the public at large. Mr. Long also added that insurance coverage only amounted to $45,000 so all donations would be gratefully appreciated.

Fort Roberdeau was a Revolutionary War era fort set up as an outpost while mining lead in the Sinking Valley, to supply bullets to Washington's Army. The restored fort was not damaged. All donations will be acknowledged by letter. Send donations to:

Fort Roberdeau Office
Highland Hall Annex
Hollidaysburg, PA 16648