

# Nittany Mineralogical Society Bulletin

Nittany Mineralogical Society, Inc., meeting in State College, Pennsylvania  
Contact information on back page

Editor (see back page):

David C. Glick

February, 2020

Visit our web site: [www.nittanymineral.org](http://www.nittanymineral.org)

February 19<sup>th</sup> meeting:

## Geology of the State College area

Dr. Charles E. Miller, Jr.

*Our February meeting is planned for Wednesday the 19th in room 114 (the large auditorium) Earth & Engineering Sciences Building on the west side of the Penn State campus in State College, PA. Maps are available on our web site.*

6:45 to 7:45 p.m.: Social hour, refreshments in the lobby  
7:45 to 8:00 p.m.: announcements, questions, answers  
about 8:00 p.m.: featured program

*The event has free admission, free parking, and free refreshments, and is open to all; parents/guardians must provide supervision of minors. Bring your friends and share an interesting evening! -Editor*

This month's talk discusses local geology. Several themes discussed in the presentation are described herein. The largest features are alternating ridges and valleys of the Ridge and Valley Physiographic Province. Bald Eagle Mountain is the northwestern-most ridge. The ridges and valleys make up the Appalachian Mountains, formed approximately 300 million years ago when the proto-Atlantic Ocean was closing. Stresses originating in the east and extending to our area and beyond produced mountains as majestic as today's Rockies. We will discuss the many forces which have played a part since then, and the geological features which we now see as a result.

See the illustrated article on pages 4-7.

## Weather Cancellation Policy

In case we experience active winter weather on a meeting date, our policy is to cancel the meeting only if evening classes at Penn State have been cancelled. That cancellation is publicized in the usual radio and TV service announcements.



Penn State notes that weather-related cancellation / closing information can be found at WPSU-FM, the news site <<http://news.psu.edu/>>, and <<http://www.facebook.com/pennstate>>



- Editor

## Minerals Junior Education Day Saturday, March 28, 2020 PLEASE VOLUNTEER!

NMS's 25th Annual Minerals Junior Education Day is set for Saturday, March 28, at Central Pennsylvania Institute of Science & Technology at Pleasant Gap, the same location as the last few years. Please save the date and volunteer to help with one of the stations at the event.

At this event, kids get an empty egg carton when they check in, then go to a series of stations, each concerning a different aspect of mineral properties, rocks, fossils, etc. They learn about the topic from a demonstration or discussion, and receive a properly labeled specimen or educational item related to the topic, so they gather a whole collection in their egg carton. There is also a sales table with kid-friendly prices. **Registration for kids to attend will open in mid-March.** More news will be on the NMS web site.

The topics for the various stations have now been set. We are now **seeking volunteers** to help at the various stations by talking to the children about the topics, handing out the giveaway samples, etc. Help at the sales table will also be needed. We can always find a spot for a volunteer to help. We also welcome advance donations of identified minerals, tumble-polished material, fossils, books, etc. which can be sold at child-friendly prices. **To volunteer or get more details, please contact**

**Frank J. Kowalczyk:**

[frank.j.kowalczyk@gmail.com](mailto:frank.j.kowalczyk@gmail.com)

or 814-404-9854.



### ATTENDING THE FEBRUARY MEETING?

Donations of **a few high quality, labeled door prize specimens** are invited.

Your donated snacks will be welcomed.

Bring a friend!

## FEDERATION NEWS

Nittany Mineralogical Society, Inc., is a member of EFMLS, the Eastern Federation of Mineralogical and Lapidary Societies, and therefore an affiliate of AFMS, the American Federation of Mineralogical Societies. **The Federations and our Society strongly encourage all members to read the monthly Federation Newsletters, available on their web sites,** which are linked from our web site, [www.nittanymineral.org](http://www.nittanymineral.org). We present brief summaries here in order to encourage readers to see the entire newsletters. There's a lot there!

EFMLS leaders want **you** - the club member - to see the **Newsletter**. Please see it at <https://efmls.org/newsletter> (also linked from the NMS home page). The February issue includes preparations for the annual convention, which is early this year (March 27-30). Regional vice presidents are announced; NMS is in Region III and our new VP is Carrie Meyers in Manheim, PA. Registration is in full swing for Spring (may 18-24) and Fall (August 24-30) sessions at Wildacres; see <https://efmls.org/wildacres>. EFMLS seeks a volunteer for Secretary for next year. Clubs which honor their members for outstanding service are encouraged to extend that honor by submitting those members for the EFMLS Club Rockhound of the Year program. The Club Spotlight article is on the Gem and Mineral Society of the Palm Beaches, Florida, which has a fully equipped lapidary workshop and classes, a show with 2300 attendees, and collaborative activities with other clubs. The safety article talks about keeping safety prominently at the "top of the list" of club concerns - "safety first."

The **AFMS Newsletter** February issue <http://www.amfed.org/news/> discusses setting up competitive displays at mineral shows - rules, hints, lighting, and possible upcoming courses for judges. Cheryl Neary discusses the AFMS Endowment Fund, how it benefits club programs, and how to donate items for the fundraising auction. The Fund supports the Juniors program which has now awarded over 15,000 activity badges in the Future Rockhounds program. The Historian seeks very early photos of rockhounding activities. Many Club Rockhounds of the Year are introduced.

-Editor

## Geo-Sudoku

by David Glick

This puzzle contains the letters AEILNRSUV; one row or column describes water as a solvent. As usual, if you've read this issue, you've seen it. Each block of 9 squares, each row, and each column must contain each of the nine letters exactly once. The solution is on page 8.

		R				A		
U	L				N		V	S
A	N		L	V		R		
I	E		U			L		R
R	A				E			
	S		N			U		
			E					A
S	V	I	R			E		L
E					L		U	

### 51st Annual Gem & Mineral Show by Che-Hanna Rock & Mineral Club, Inc.

Saturday March 28, 2020 9 a.m. – 5 p.m.  
 Sunday March 29, 2020 10 a.m. – 4 p.m.

**\*\* GREAT LOCATION \*\***

WYSOX VOL. FIRE CO. SOCIAL HALL  
 111 LAKE ROAD, WYSOX, PA

OUTSTANDING GEOLOGICAL EXHIBITS  
 PRESENTED BY

Susquehanna River Archaeological Center  
 and

Fluorescent Mineral Programs by UV-Bob at:

Saturday--11am--1pm--3pm  
 Sunday--12 noon--2pm

Demonstrations of Cabochon Making & Geode Cutting  
 Exhibits of Minerals, Gems, & Indian Artifacts

Mini-mine for Kids

Dealers with Minerals, Gemstones, Fossils,  
 Jewelry and Hobby Supplies

Door Prizes

Food Available on Premises

Admission: Adults \$3.00  
 Students \$1.00 \* Under 8 Free

**Delaware  
Mineralogical  
Society Show  
March 7-8,  
2020**



Raffle prize: Amethyst,  
Thunder Bay, Ontario

Saturday March 7,  
10 a.m. to 5 p.m.;  
Sunday, March 8,  
11 a.m. to 5 p.m.

Doubletree by Hilton (next to Concord Mall)  
4727 Concord Pike (Route 202)  
Wilmington, DE 19803

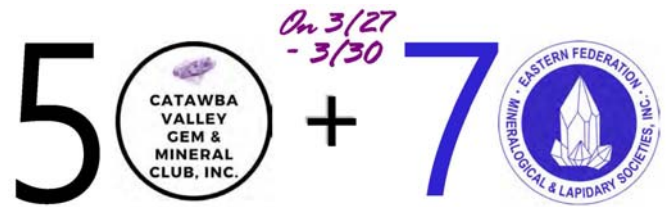
Adults \$6.00 (\$1.00 off with printed coupon)  
Seniors \$ 5.00 Juniors (12-16) \$4.00  
Children under 12 FREE with adult  
Scouts in uniform FREE

Tickets are available at the door.

See "SHOW" tab at <http://www.delminsociety.net>

Activities, Events & Exhibits may include:

- 17 Show Vendors offering gems, minerals, fossils, jewelry, and more in all price ranges, some material 'fresh from Tucson'
- Interesting and educational exhibits of mineral, lapidary and fossil specimens
- Fluorescent Minerals 'room'
- Displays of minerals from the Iron Hill Museum
- Display of regional Native American stone artifacts and demos by the Archaeological Society of the Northern Chesapeake
- Famous, provenanced mineral specimens, as published in magazines
- Luxurious facilities with an expanded list of outstanding dealers of minerals, fossils, gems, jewelry and lapidary supplies
- Large specimen raffle with one FREE Raffle Ticket per paid Admission
- Demonstrations by club members and folks from the Tuscarora Lapidary Society may include: Gem Faceting, Cabbing, Wirewrapping, Pearl Knotting, Viking Wire Weaving, Gem Tree Making, Bead-Wire Ringmaking, Fossil Fish Specimen Preparing, and more!
- Club Members' booth where folks can purchase self-collected specimens and self-made jewelry items at low cost
- Children's booth where youngsters of all ages can purchase inexpensive minerals and fossils, \$1.00 on up
- Our Junior Booth will have pounds and pounds of lapidary slabs for sale.
- FREE fossil specimen for all kids, while supplies last



**Eastern Federation of Mineralogical  
and Lapidary Societies  
Annual Convention  
Hosted by  
Catawba Valley Gem and Mineral Club, Inc.  
Hickory Metro Convention Center  
March 27-30, 2020**

The Catawba Gem and Mineral Club invites all delegates and guests to their **50th Annual Catawba Valley Gem and Mineral Show** to be held in association with the annual EFMLS Convention in Hickory, NC March 27-29, 2020.

EFMLS Convention Hotel: the Hampton Inn is well suited since it is adjacent to the Hickory Metro Convention Center and a walk of one to two minutes. It is located at 1956 13th Avenue Drive, SE. A block of rooms has been set aside for convention delegates at \$119 plus tax. Mention that you are with the EFMLS Convention when calling 1-828-624-2000.

Hickory is in the foothills region of North Carolina between the piedmont and mountain sections - a medium sized town with a diverse economy, a liberal arts four-year university, and an ideal location which is equidistant from Charlotte (a major financial and travel hub), Winston Salem (with a major university and tertiary medical center), and Asheville (historic and a favorite destination of many tourists).

**EFMLS Convention Schedule of Activities:**

Friday, March 27 4:00 PM Cracker Barrel @ Hampton Inn Center  
Friday, March 27 7:00 PM Annual business meeting @

Hickory Metro Convention Center  
(cash bar at 6:30)

Saturday, March 28 8:00 AM EFMLS Editors and Webmasters  
Breakfast @ Hampton Inn (\$5 .00)

Saturday, March 28 1:30 PM EFMLS Auction @ Hickory Metro  
Convention Center

Saturday, March 28 7:00PM Awards Banquet @Hickory Metro  
Convention Center (\$35) (Cash Bar at 6:30)

Monday, March 30 8:30AM Field trip to Propped Farm for Sapphires.  
Meet in Lobby of the Hampton Inn \$20.00 dig fee payable at site.

For more information, registration forms, etc., see  
<http://cvgmc.com/SpecialEvents.html>

**EFMLS Upcoming Conventions:**

2021 Syracuse, NY - Gem & Mineral Society of Syracuse  
2022 Harrisburg, PA - The Central Pennsylvania Rock &  
Mineral Club

## Geology of the State College area

Dr. Charles E. Miller, Jr.

This month's talk discusses local geology. Several themes discussed in the presentation are described herein. The largest features are alternating ridges and valleys of the Ridge and Valley Physiographic Province. Bald Eagle Mountain is the northwestern-most ridge. The ridges and valleys make up the Appalachian Mountains, formed approximately 300 million years ago when the proto-Atlantic Ocean was closing. Stresses originating in the east and extending to our area and beyond produced mountains as majestic as today's Rockies. Figure 1a depicts folds of the early Appalachians in our area. At that time, resistant sandstones capped the folds. Figure 1b depicts present-day, local structure. If the sandstones were so resistant, how did local landforms evolve into the current structural setting so that inverse geology now exists - i.e., anticlinal valleys and synclinal ridges (Figure 1b)? This will be discussed.

Nittany Valley is the northwestern-most valley of the Ridge and Valley. It is mostly underlain with carbonates (limestone and dolostone). Solution of these rocks produces karst topography. Soluble, fractured

rock at or near the surface, sinkholes, caves, and sinking creeks are a few features characterizing karst. Unique to karst is groundwater that commonly flows through solution channels (Figure 2). It is this karst setting that was involved in State College's first-ever superfund site involving 29 chemicals, including Mirex and Kepone. This will be discussed.

In 1784, iron was discovered at Scotia. The deposits were widespread and extensive for the time period. During the 1800s and early 1900s, iron was mined there. An example of the iron ore from Scotia can be seen at Circleville Park in Patton Township (Figure 3). While extensive at Scotia, such deposits in Centre County are not unique. Where did all this iron come from? The answer is right before your eyes. In addition to the focus on economic geology, Scotia is also a groundwater recharge area for Bellefonte's Big Spring. Both the iron deposits and hydrogeologic connection to Big Spring are due to development of karst topography in the area. This relationship is discussed.

For a different perspective, we will consider historical geology - a branch of geology describing Earth's ancient past. The oldest local rocks range from approximately 500 to 450 million years. Those rocks provide clues to paleodepositional environments in which they formed. Another aspect of local historical geology is geological sleuthing to determine the length

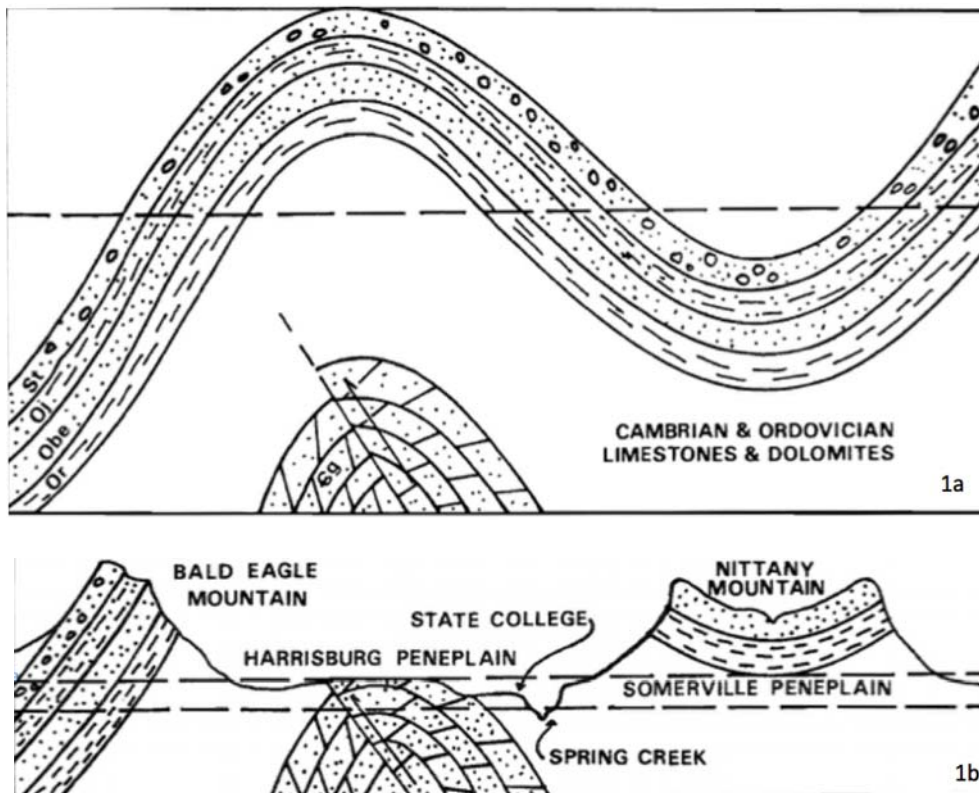


Figure 1: Evolution of structure at State College. 1a shows early folds capped with resistant sandstones. 1b depicts major structures of today.

of a day and the number of days in a year at that time. Why would these numbers be different than what we currently have? How are those numbers obtained? We will continue with geological sleuthing by considering some local carbonates in which volcanic ash layers (bentonites) are found. Their origin is discussed. It is the distribution of the bentonites that is, initially, problematic. By applying paleoweather (paleometeorology), an explanation is given.

Urban settings can provide opportunities to see local geological features without going into the field. For example, in State College, local carbonates are used as building stones, some of which exhibit excellent sedimentary features. Usually these are easily accessible, as in walls along sidewalks or in buildings. On the Penn State Campus, several locations were used as field exercises in Dr. Roger

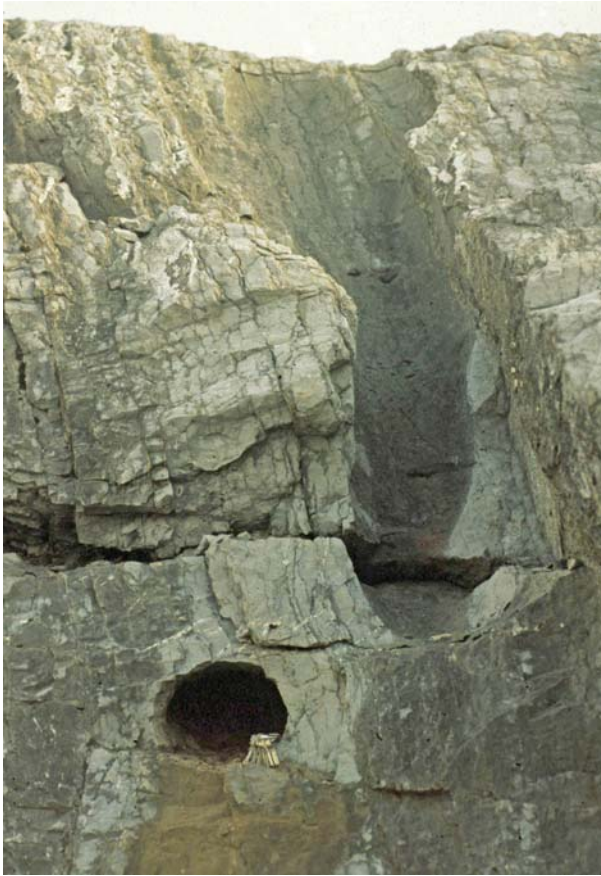


Figure 2: Solution channels in limestone.  
*Image by the author.*

Cuffey's (Emeritus Professor of Paleontology) Historical Geology. Off campus, an excellent example was the former Citizens Bank on College Avenue that has now been renovated to be a restaurant. Polished limestone slabs used in the walls displayed prolific clam shells (pelecypods) known as rudists. Some of these fossils



Figure 3: Iron-ore boulder at Circleville Park, Patton Township.  
*Image by the author.*

measured several inches in a dimension. Those slabs have since been removed. Two other "urban" locations are discussed where sedimentary features are quite impressive (Figure 4).

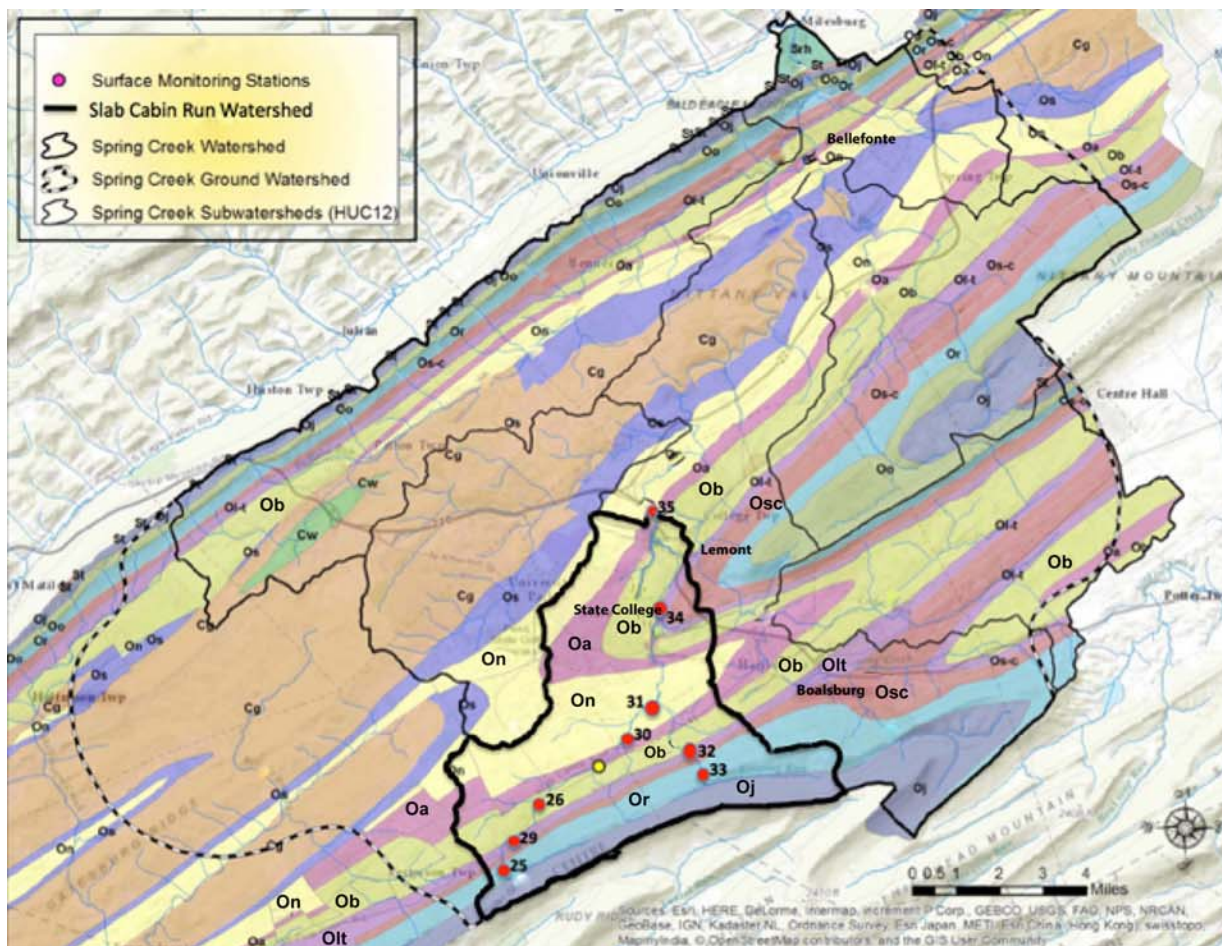


Figure 4: Impressive layer of stromatolites; Cambrian Warrior Formation; Patton Township. This landscaping block has been turned over. Top is at the bottom. *Image by the author.*

In 1975, the writer was in Professor Gene Williams' geology field-mapping course at Penn State. One exercise was to map the State College Quadrangle. Part of the project included the Slab Cabin Run Watershed, covering 22.3 square miles. This area is a sub-basin of the larger Spring Creek Watershed. Fundamental to this exercise is the concept of the watershed. A watershed or drainage basin is the area contributing surface and groundwater to a stream or point-source flow. Groundwater divides may not coincide with surface-water divides. This is true for the Spring Creek Watershed. This means the watershed boundary for surface flow in that watershed is not coincident with that for groundwater flow. How watershed boundaries are drawn will be shown in the talk.

In addition to making a geology map, the mapping course included chemical analyses and flow measurements of Slab Cabin Run from its headwaters to Spring Creek. Slab Cabin Run originates on Tussey Mountain where, primarily, sandstones and shales exist. Farther downstream to its confluence with Spring Creek, the stream flows across carbonates in the valley. Water is called the "universal solvent" because it is capable of dissolving more substances than any other liquid. Therefore, chemistry of Slab Cabin Run should reflect different lithologies over which it flows.

Variations in the geochemistry of this waterway (Figure 5) will be discussed. In



Slab Cabin Run  
Watershed = 22.3 mi<sup>2</sup>

Stratigraphic Column For Slab Cabin Run Watershed		
Formation name	Map Symbol	Lithology
Juniata	Oj	Siltstone/shale/sandstone
Reedsville	Or	Shale
Coburn, Salona	Osc	Limestone with shale
Nealmont, Linden Hall, Snyder, Loysburg	Olt	Limestone
Bellefonte	Ob	Dolostone
Axemann	Oa	Limestone
Nittany	On	Dolostone

Slab Cabin Run Hydrogeologic Observations									
Alkalinity, hardness, calcium, magnesium, and nitrate are in parts per million, ppm									
NM = Not Measured									
cfs = cubic feet per second									
Station #	Formation	pH	Alk	Hardness	Ca	Mg	Ca/Mg ratio	Nitrate	Flow, cfs
25	Or	5.6	20	50	25	25	1:1	<0.44	1.58
29	Olt	6.8	90	125	75	50	1.5:1	<0.44	NM
26	Ob	7.3	80	130	60	70	0.86:1	2.64	0.16
30	Oa	7.3	110	180	100	80	1.25:1	1.32	0.27
31	On	7.0	170	200	125	75	1.67:1	>1.32, <2.64	0.25
34	Ob	7.1	170	187	87	100	0.9:1	>1.32, <2.64	0.54
35	Oa	7.1	180	275	130	145	3:1	>1.32, <2.64	1.95

Figure 5: Composite showing geology, geochemical analyses, and flow measurements of the Slab Cabin Run watershed.

general, as distance downstream increases, so does flow. This is because more and more acreage contributes surface and subsurface flow to the stream as distance downstream increases. However, flow measurements show that, in certain sections, this generalization does not hold for Slab Cabin Run (Figure 5). In those stream segments, it is a losing stream. How is this explained? Elevated nitrates are also noted as Slab Cabin Run flows off Tussey Mountain (Figure 5). What are the nitrate sources and why should we care?

This mapping project is adaptable to earth science and geology classes ranging from high school to the graduate level. The writer adapted this exercise to his college-level geology course in Hagerstown, MD. There, Antietam Creek flows from South Mountain - where primarily sandstones and shales crop out - across a carbonate valley. That setting is analogous to the Slab Cabin Run Watershed.



Figure 6: Stromatolite bioherms (mounded reefs) in the Cambrian Warrior Formation at the Grays Woods Exit of I-99 at State College. *Image by the author.*

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## Philadelphia Mineral Treasures and Fossil Fair March 28 - 29

2020 Mineral & Fossil Show Sponsored by  
Philadelphia Mineralogical Society and  
Delaware Valley Paleontological Society  
Details coming at [www.phillyrocks.org/mineral-show/](http://www.phillyrocks.org/mineral-show/)

LuLu Temple: 5140 Butler Pike,  
Plymouth Meeting, PA 19462

Saturday March 28 10:00 a.m. – 5:00 p.m.

Sunday March 29, 10:00 a.m. – 4:00 p.m.

Admission - Adults \$5.00 – Kids under 12, \$1.00.

Uniformed Scouts Free.

Fossils, Minerals, Gems, and Jewelry for sale.

Fossil and Mineral Exhibits and Demonstrations.

Learning activities including a free Fossil Dig for children and a Kids Corner with free mineral specimens and scouting merit badge information.

Food, Beverages, and Door Prizes!

### NMS BOARD MEETING NOTICE

NMS members are invited to attend Board of Directors meetings, which are generally held at 7:00 p.m. about two weeks prior to the general monthly meeting, although we do not meet every month. **The next date is March 5.** Members who would like to attend should contact president David Glick to verify time and place; those who would like to have their discussion item placed on the agenda should contact him at least one week in advance of the meeting.

**Some Upcoming Shows and Meetings**

Our web site <http://www.nittanymineral.org> has links to more complete lists and details on mineral shows and meetings around the country. See [www.mineralevents.com](http://www.mineralevents.com) for more.

**Mar. 7-8, 2020:** Earth Science and Mineral Show, by Delaware Mineralogical Society. Doubletree by Hilton, 4727 Concord Pike (Route 202), Wilmington DE 19803 <http://www.delminsociety.net/marchshow/marchshow.htm>

**Mar. 13-14, 2020:** 44th Annual Micromount Symposium, by Leidy Microscopical Society. Advent Lutheran Church, 45 Worthington Mill Road, Richboro, PA. Friday Noon – 6:00 p.m., Sat. 9:00 a.m. – 6:00 p.m. INFO: Don McAlarnen, 610-584-1364, [donmcalarnen@outlook.com](mailto:donmcalarnen@outlook.com).

**Mar. 21-22, 2020:** 56th Annual Gem, Mineral, Fossil Show; Montgomery County Fairgrounds. 16 Chestnut St., Gaithersburg, MD Saturday 10am-5pm, Sunday 11am-5pm. [www.glmsmc.com](http://www.glmsmc.com)

**Mar. 27-30, 2020:** EFMLS Convention and Catawba Valley Gem & Mineral Club Show, Hickory, NC. A field trip to collect sapphires at Propped Farm is scheduled for Monday, March 30 (\$20 dig fee). <https://efmls.org/annual-convention> See p. 3. Show info: [www.cvgmc.com/SpecialEvents.html](http://www.cvgmc.com/SpecialEvents.html).

**Mar. 28-29, 2020:** 51st Annual Gem & Mineral Show, by Che-Hanna Rock and Mineral Club. Wysox Volunteer Fire Company Social Hall, 111 Lake Rd., Wysox PA 18854 Sat 9:00 a.m. to 5:00 p.m., Sun 10:00 a.m. to 4:00 p.m.. See page 2 and <http://www.chehannarocks.com/show.html>

**Mar. 28-29, 2020:** Philadelphia Mineral Treasures and Fossil Fair, by Phila. Mineral. Soc. & Delaware Valley Paleontological Soc. LuLu Temple, 5140 Butler Pike, Plymouth Meeting, PA Sat. 10:00 a.m. to 5:00 p.m., Sun. 10:00 AM to 4:00 PM. See page 7 and [www.phillyrocks.org](http://www.phillyrocks.org).

**Apr. 18-19, 2020:** Gem, Mineral & Fossil Show, by Monongahela Rockhounds. Skyview Hall, West Mifflin Volunteer Fire Co. #4, 660 Noble Dr., West Mifflin PA 15122. Sat 10-6, Sun. 10-4. <http://www.monongahelarockhounds.org/events.php>

**Apr. 23-26, 2020:** Rochester Mineralogical Symposium <http://www.rasny.org/MinSymp/>

**Apr. 25-26, 2020:** Gem & Mineral Show, by New Jersey Earth Science Association. Littel Community Center, 12 Munsonhurst Rd., Franklin NJ 07416. Sat 9-5:30, Sun. 10-5. <http://njesa.org/index.html>

**Geo-Sudoku Solution**

V	I	R	S	E	U	A	L	N
U	L	E	A	R	N	I	V	S
A	N	S	L	V	I	R	E	U
I	E	N	U	S	V	L	A	R
R	A	U	I	L	E	N	S	V
L	S	V	N	A	R	U	I	E
N	U	L	E	I	S	V	R	A
S	V	I	R	U	A	E	N	L
E	R	A	V	N	L	S	U	I

**INVITE A FRIEND TO JOIN THE SOCIETY**

The Nittany Mineralogical Society prides itself on having among the finest line-up of speakers of any earth sciences club in the nation. Everyone is welcome at our meetings. If you'd like to be part of our Society, dues are \$20 (regular member), \$7 (student rate), \$15 (seniors), \$30 (family of two or more members, names listed). Those joining in March or later may request pro-rated dues. Your dues are used for programs and speakers, refreshments, educational activities, Bulletins, and mailing expenses. Please fill out a membership form (available at [www.nittanymineral.org](http://www.nittanymineral.org)), make checks payable to "Nittany Mineralogical Society, Inc." and send them in as directed, or bring your dues to the next meeting.

**We want to welcome you!**

**CONTACT INFORMATION**

**mailing address:**

Nittany Mineralogical Society, Inc.  
c/o S. Bingham, Treasurer  
145 Goddard Cir.  
Penna. Furnace PA 16865

**SOCIETY OFFICERS**

David Glick (President) 814-237-1094 (h)  
e-mail: [xidg@verizon.net](mailto:xidg@verizon.net)  
Dr. Bob Altamura (Vice-President) 814-234-5011 (h)  
e-mail: [raltamura@comcast.net](mailto:raltamura@comcast.net)  
John Dziak (Secretary) e-mail: [jjd264@psu.edu](mailto:jjd264@psu.edu)  
Stuart Bingham (Treasurer)  
e-mail: [sebing145@comcast.net](mailto:sebing145@comcast.net)

**OTHER CONTACTS**

Field Trips: Dale Kephart  
e-mail: [beckdale2@comcast.net](mailto:beckdale2@comcast.net)  
Junior Rockhounds: Dr. Andrew Sicree  
814-867-6263 (h) e-mail: [aas132@psu.edu](mailto:aas132@psu.edu)  
Membership Chair: David Glick (see above)  
Programs: Dr. Duff Gold 865-7261(o), 238-3377(h)  
e-mail: [gold@ems.psu.edu](mailto:gold@ems.psu.edu)  
Door Prizes: Dr. Bob Altamura (see above)  
Facebook & Publicity: John Dziak: [jjd264@psu.edu](mailto:jjd264@psu.edu)

The **Bulletin Editor** will welcome your submissions of articles, photos, drawings, cartoons, etc., on minerals, fossils, collecting, lapidary, and club activity topics of interest to the members. Please contact:

David Glick E-mail: [xidg@verizon.net](mailto:xidg@verizon.net)  
209 Spring Lea Dr. phone: (814) 237-1094 (h)  
State College, PA 16801-7226

Newsletter submissions are appreciated by the first Wednesday of the month. Photographs or graphics are encouraged, but please do not embed them in word processor files; send them as separate graphics files (TIF, or good to highest quality JPEG files, about 1050 pixels wide, are preferred). Please provide captions and name of photographer or artist.

**Visit us at [www.nittanymineral.org](http://www.nittanymineral.org)**