



# PGS Newsletter

<http://www.pittsburghgeologicalsociety.org/>



Vol. LXIX, No. 1

Karen Rose Cercone, Editor

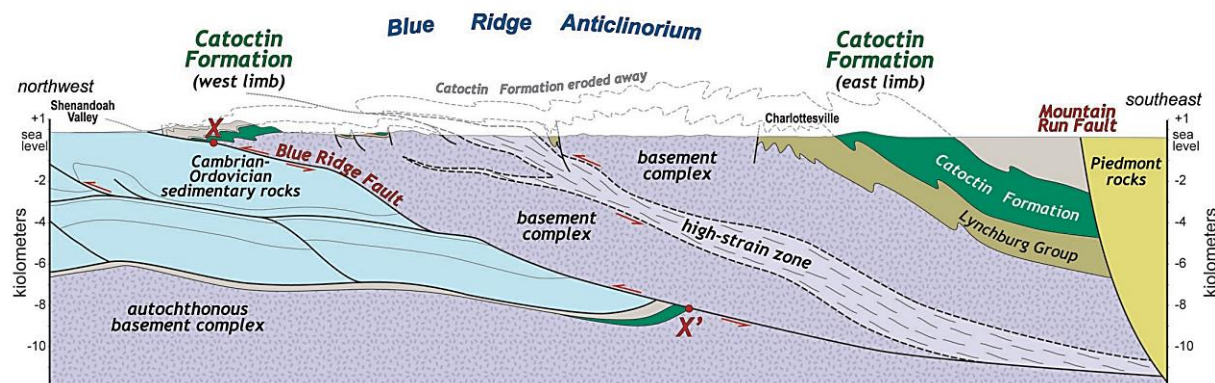
September 2016

Wednesday, September 21, 2016

## From the Paleozoic to the Present: Tales from Troubled Terranes in the Central Appalachians

Dr. Christopher M. Bailey

Department of Geology, College of William & Mary



The central Appalachian Orogen is an accretionary mountain belt that formed during a protracted interval of collisional tectonics in the Paleozoic. The Blue Ridge province forms the old pre-Appalachian Laurentian margin, and served as a significant mechanical boundary during later deformation. The Virginia Piedmont includes exotic (peri-Gondwanan) terranes that were accreted at various times in the mid- to late-Paleozoic. The record of terrane accretion is recorded by structures in the Piedmont as well as in the sedimentary record in the Appalachian foreland basin. Ductile strike-slip faulting and orogen-parallel elongation are a significant, but under-appreciated component of Appalachian deformation. As the 2011 Virginia (Mw = 5.8) earthquake demonstrated these old Piedmont terranes are not altogether passive.

**Social hour - 6:00 p.m.**

**Dinner - 7:00 p.m.**

**Program - 8:00 p.m.**

Dinner costs \$30.00/person, students \$10.00; checks preferred. For reservations, please email [pgsreservations@gmail.com](mailto:pgsreservations@gmail.com) with your name and number of attendees in your party. You can also reserve and pay for dinners via PayPal on our website <http://pittsburghgeologicalsociety.org>. Please include your name and number of attendees in your party. Deadline for reservations is noon Monday, September 19.

**Meeting will be held at Foster's Restaurant, Foster Plaza Building 10, Green Tree.**

## SPEAKER BIOGRAPHY



Christopher 'Chuck' Bailey is a professor of Geology at the College of William & Mary, where he's been on the faculty since 1996. He earned his Ph.D. from Johns Hopkins University. He is a structural geologist, and has studied deformed rocks in the Appalachians, Southwestern United States, Rocky Mountains, British Columbia, Portugal, and most recently Oman. Professor Bailey is the 1999 recipient of the Geological Society of America's Biggs Award for excellence in University Teaching. He currently serves on the GSA Counsel.

## THE GEOLOGY OF VIRGINIA

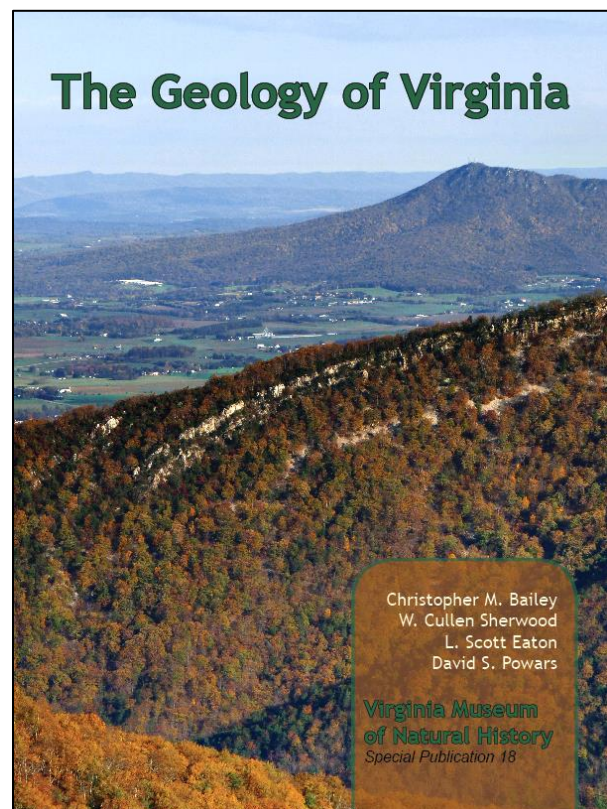
Our September speaker, Dr. Chuck Bailey, served as one of the editors of the newly released 538-page ***The Geology of Virginia***. This review of the state's geology was jointly published by the Virginia Museum of Natural History and the Virginia Department of Mines, Minerals and Energy.

***The Geology of Virginia*** is the 18th installment of the Virginia Museum of Natural History's "Special Publications" series, which includes contributions from museum scientists and researchers throughout the United States.

"To protect the natural world, we must first understand it," said Virginia Secretary of Natural Resources Molly Ward. "By gathering geological information of this variety, validity, and depth, the Virginia Museum of Natural History has done a real service for students, teachers, environmentalists, and anyone interested in Virginia's unique landscape."

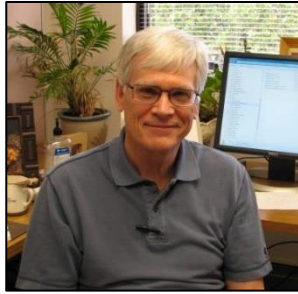
"***The Geology of Virginia*** is the first comprehensive review of Virginia Geology in more than a century," said Dr. James Beard, Curator of Earth Sciences at the Virginia Museum of Natural History. "It represents the combined efforts of more than 40 geoscience professionals and covers all aspects of regional, historical, economic, and hazards geology, as well as fossil life. This book provides a baseline for future work and will be a standard reference for geologists for decades to come."

The *Geology of Virginia* is available for purchase exclusively through the Natural History Museum's website at [www.vmnh.net](http://www.vmnh.net).



## PRESIDENT'S STATEMENT

A little more than two years ago Ray Follador, then President, contacted me to offer my candidacy for a Director-at-Large (D@L) position on the



Pittsburgh Geological Society Board of Directors. I was simultaneously surprised, deeply honored, and apprehensive. I was approaching retirement and thought I already had my future priorities per how to spend my time chiseled in stone. But I was told that as a D@L the amount of work I put into the society would be up to me. So I gladly accepted his offer. And, of course, Ray was right. But when I attended my first board meeting I was very impressed and, frankly, a little intimidated by the dedication and competence exhibited by the other board members. As your new President I remain very impressed with their accomplishments and am challenged by the important work ahead of me.

I want to pay special tribute to Ray Follador for this sterling performance as PGS president over the past couple of years. He was an excellent leader, was very approachable, exhibited keen interest in all facets of PGS events and initiatives, and treated his fellow board members with utmost respect. Not that he's going anywhere: he remains not only a member of the board but also Chairperson of the Finance and Nominations and Elections committees. Having him around will be a huge asset to me. I am also extremely fortunate to have a wealth of experience filling or retaining the other board positions. Tamra Schiappa has done excellent work over the past year in her dual role as Vice President and Programs Committee Chairperson. She's the one with the all-important task of recruiting accomplished professionals in the earth sciences and like disciplines to present at our meetings. Her predecessor in office, Kyle Frederick, bravely took on the office of Treasurer after Steve McGuire's well earned "retirement" and quickly grasped the intricacies of the society's cash flow and finances. And not enough can be said for the work of Karen

Rose Cercone, current Secretary and one of our esteemed past presidents, for keeping accurate and thorough records of PGS business and editing this well-put-together and informative Newsletter. She also heads the committee developing a new PGS website.

Committee chairpersons not here-to-fore mentioned include Judy Neeland (Archives), Past President Wendell Barner (Audit and D@L), Albert Kollar (Awards), Erica Love (Communications), Frank Benaquista (Continuing Education). Our Counselors are John Harper (Membership) and Chuck Shultz, and our AAPG Delegates are Dan Billman and Andrea Reynolds. Other Directors at Large include Ken LaSota, Mark Barnes and Peter Hutchinson, and I am pleased to recognize our two new Directors at Large: Diane Miller and Brian Dunst. I am also happy to introduce our new Student Representative, Phil Graves. The participation of all of these individuals ensures that PGS members will be well served in the months ahead.

I look forward to seeing all of you at our first 2016-2017 meeting this September 21. Finally, I have this friendly reminder: please remember to pay your membership dues.

*Peter R. Michael*

President

## PGS IS NOW ON TWITTER!



We have increased our social media presence with Twitter. Join the fun and follow us on Twitter to keep up with the latest happenings in geoscience and the PGS. Follow us and share your news and pictures! Don't forget to like us on Facebook as well to get all the latest society news.

# IN MEMORIAM

**PGS Honorary Member**

# PAUL W. GARRETT JR.

**June 27, 1925 - August 13, 2016**



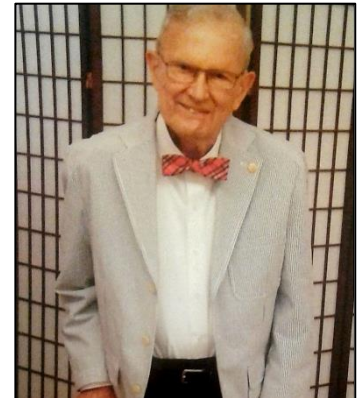
*Paul Garrett (right) with Sam Jack Sr., photo taken sometime in the 1950's.*

A native of Westchester, New York, Paul Garrett served in the US Navy during WWII in the US Pacific Theater. He received his undergraduate degree from Franklin & Marshall College in 1948 and earned his Master's degree in Geology from Texas Tech University.

After college, Paul moved to Pittsburgh and spent his career working for Peoples Natural Gas Company and CNG Development Company. He was a member of the American Association of Petroleum Geologists for 65 years and received several distinguished service awards. He served as Secretary of the Pittsburgh Geological Society in 1953-54 and was our longtime Historian until 2009. He was an Honorary Member of the Society and received the Walt Skinner Award in 1995.

Over the years Paul also served his community in many ways. He had been involved with the Association for Learning Disabilities outreach for children, had been

an active member at Glenshaw Presbyterian Church, he had volunteered at Bread of Life Food Pantry, Meals on Wheels and North Hills Community Outreach. Paul was also very dedicated to Glenshaw's Kiwanis Club and served in various roles including Lieutenant Governor of Kiwanis International. Paul enjoyed sailing and high-adventure canoe trips and was an active member of the Sylvan Canoe Club in Verona, PA, for over 50 years.



*Paul was always a courteous, friendly face at PGS meetings who impressed me with his knowledge and quiet competence. He did an excellent job as our historian, and was a true gentleman. He will be missed. - Michael Bikerman, PGS Past President*

*Paul was a thoughtful mentor to me at PNG and CNGD. He guided, shielded, and encouraged young co-workers. He brought a level minded rational to his peers. I particularly appreciated his encouragement, thoughtful suggestions and opened mindedness - Peter Hatgelakas, Oil & Gas Consultant*

*I will miss Paul dearly. He was a great friend and mentor who provided me with a lot of history of Pennsylvania's oil and gas industry and geology. - John Harper, PGS Past President*

## GEOLOGICAL EVENTS

### **HARRISBURG GEOLOGICAL SOCIETY**

September 8, 2016

Dr. Sid Halsor, Wilkes University – “The Ups and Downs of an Undergraduate Ground Deformation Survey in the Yellowstone Caldera, WY” Fiesta Mexico Restaurant, Harrisburg PA

### **PENNSYLVANIA COUNCIL OF PROFESSIONAL GEOLOGISTS**

September 15, 2016

“Behind the Scenes at the Carnegie Museum: What do the Fossils Tell Us?” Carnegie Museum of Natural History, Oakland PA

### **PITTSBURGH ASSOCIATION OF PETROLEUM GEOLOGISTS**

September 15, 2016

David Blood, EQT Production – “Redox Conditions During Deposition and Early Diagenesis of the Upper Ordovician Point Pleasant Limestone, Western Pennsylvania and Northern West Virginia: Evidence from Pyrite Framboids and Trace Elements.” Cefalo’s Event Center, Carnegie PA

### **GEOPHYSICAL SOCIETY OF PITTSBURGH**

September 22, 2016

6th Annual GSP Golf Open, Lindenwood Golf Club, Canonsburg PA

### **THE ASCE PITTSBURGH SECTION GEO-INSTITUTE CHAPTER**

September 23, 2016

(Friday Afternoon Meeting and Ballgame)  
Dr. Timothy D. Stark, University of Illinois, Urbana-Champaign – “2014 OSO Landslide: Initiation and Flowslide.” Bettis Grill, North Shore Riverfront Park. Pittsburgh. PA



The Pittsburgh Geological Society is delighted to welcome the following new members to the society:

#### **Darren T. Waddell**

Director of PA/WV Operations/Senior Project Manager, BJAAM Environmental, Inc., Beaver, PA

MS in Environmental Sciences and Management, Duquesne University 2015

#### **Soumyo D. Moitra**

Senior Member of Technical Staff Carnegie Mellon University, Pittsburgh, PA

PhD in Policy Analysis, Carnegie Mellon University 1981.



*Serving the Heart  
of Western Pennsylvania*

*220 South Jefferson Street,  
Suite B, Kittanning, PA*

# UPCOMING MEETINGS OF INTEREST TO PGS MEMBERS

**September 19, 2016**

## PGC - PTTC Workshop

### “The Impact of Utica-Marcellus on American Natural Gas Resource”

Fairmont Hotel, Pittsburgh, PA

This course should be of interest to wide variety of petroleum professionals, not only geologists and petroleum engineers working in upstream operations, but others employed by industry, government and academia who deal with the midstream and downstream sectors as well.

Invited speakers include Porter Bennett, President & CEO, Ponderosa Advisors LLC, Joseph Frantz, Jr., Vice President, Range Resources, Gürcan Gülen, Research Scientist, Texas Bureau of Economic Geology, Michael Ed. Hohn, Director, West Virginia Geological & Economic Survey, David Harris, Head, Energy & Minerals Section, Kentucky Geological Survey, Michael Decker, Executive Vice President & COO, Badlands Energy Inc., Roger Willis, President (retired), Universal Well Services, and Chris McGill, Vice President, Policy Analysis, American Gas Association.

On-site check in will begin at 8:00 a.m. The workshop will start at 8:45 a.m. and will end by 5:00 p.m. PTTC will issue a certificate for six (6) Professional Development Hours at the end of the workshop. To receive this certificate at the workshop, you must register in advance.

Workshop registration cost of \$150 covers lunch, coffee breaks, a jump drive with speaker slides and all workshop expenses. Send checks to WVU NRCCE PTTC, attn.: Doug Patchen, PO Box 6064, Morgantown, WV 26506-6064. Make checks payable to the WVU Research Corp. and include “PTTC workshop” on the memo line. Checks must be received by September 12.

For further information contact: **Doug Patchen**, at 304-293-6216, or [doug.patchen@mail.wvu.edu](mailto:doug.patchen@mail.wvu.edu)

**September 25-27**

## ES-AAPG 2016 Section Meeting

### “Basins to Barrels”

Lexington Convention Center and Hyatt Regency Hotel, Lexington KY

The scenic heart of Kentucky’s bourbon country will serve as the setting for the 45th annual meeting of the Eastern Section of the AAPG in Lexington this fall. The Geological Society of Kentucky and the Kentucky Geological Survey are hosting a full meeting of professional development opportunities, technical sessions, field trips and enjoyable social events.

Pre-meeting activities include field trips to explore the hydrogeology of bourbon distilling (including a bourbon tasting!) and examine the Lexington Limestone / Point Pleasant Interval. Pre-meeting workshops will focus on dolomite and unconventional reservoirs, as well as communicating with legislators. For those interested in staying an extra day, a field trip to the eastern Kentucky coal field and an introductory geochemistry workshop will be available on Wednesday. Participants can sign up for the workshops and field trips when going to the meeting site’s “Registration” link.

SATURDAY SEPT. 24 (Pre-meeting)	SUNDAY SEPT. 25	MONDAY SEPT. 26	TUESDAY SEPT. 27	WEDNESDAY SEPT. 28 (Post-meeting)
Concurrent: Distillery Hydrogeology field trip  and  Dolomite workshop	Concurrent: Upper Ordovician field trip  Congress Needs You workshop  Unconventional Reservoir workshop  Opening session Icebreaker	Technical sessions  Posters  Exhibits  Guest trip  Evening events (4 choices)	Technical sessions  Posters  Exhibits  All-Division lunch  Guest trip	Concurrent: Coal Geology field trip  and  Geochemistry workshop

Technical talks are planned for two full days of concurrent sessions with poster sessions and network breaks in between. Topics range from new techniques for resource production and analysis to emerging unconventional shale plays to environmental and other issues.

Information on the agenda, registration, hotel reservations, and all other meeting activities can be found at [www.esaapgmtg.org](http://www.esaapgmtg.org).

## **PGS MEMBER PROFILE: DIANE MILLER, P.G.**

Diane Miller was recently elected to the board of the Pittsburgh Geological Society as a Director-at-Large. She has been a member of the society for eleven years and attends meetings regularly. She has worked in the environmental field since graduating from Indiana University of Pennsylvania with a BS in Geology. For the past five years, she has worked as a Senior Geologist at Applied Geology & Environmental Science, Inc.

### ***What are some of your day to day responsibilities in your current role?***

Managing the reporting for a PCB remediation program for 36 natural gas compressor stations. Managing the groundwater monitoring programs at several electric generation stations. Report writing and miscellaneous field work for various other ongoing projects.

### ***What is the best and worst thing about your current job?***

The best thing about my current job is the people I work with. We have a great group of people at all levels who work together to give our clients the best service possible. I truly enjoy working with everyone in the office.

The worst thing about my job is the sometimes crazy deadlines that some of our clients request. However, everyone will pitch in and do what it takes to get a project done and out the door on time.

### ***What is your dream geology job?***

I think it would be great to work at one of the National Parks out west and be able to tell people how some of the fascinating geologic features came to be.

### ***What is one thing you wish someone would have told you when you were starting out in the geology profession?***

That being a geologist encompasses so much more than studying rocks. Throughout my career I've had to become knowledgeable in such things as concrete, asphalt, chemical warfare materiel, explosives, and the inner workings of natural gas compressor stations, to name only a few.

### ***What is the most exciting place you have been geologically?*** Yellowstone National Park

### ***What's your favorite rock, mineral, or fossil?***

The near-perfect trilobite I found in a cow pasture in Altoona during a field trip.

### ***What's the #1 most-played song on your iPod?***

I'm not sure where my iPod is but Ed Sheeran is the most listened-to artist on my Spotify account.

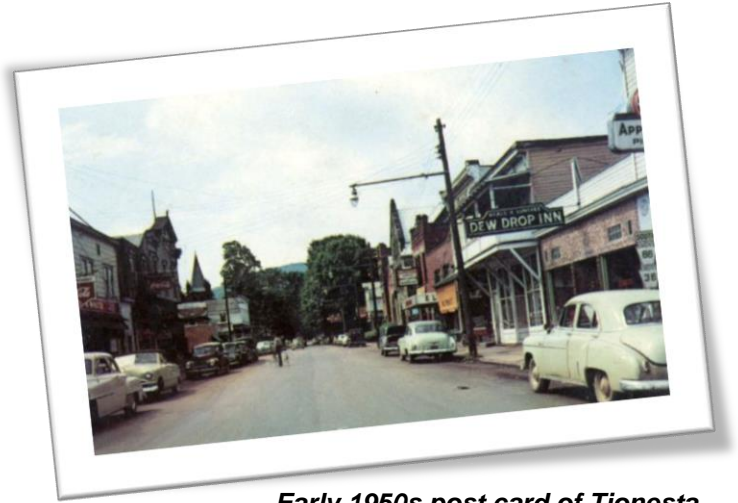
### ***Anything else you would like to share about yourself?***

This year I will celebrate 24 years of marriage to my wonderful husband. My son, who is also an IUP graduate, moved to the Philadelphia area last year after studying in France for his entire senior year. My daughter will be a junior in high school and we will be starting the great college hunt very soon.



## THE ORIGIN OF WESTERN PENNSYLVANIA PLACE NAMES

Tionesta, the seat of Forest County, is a borough in one of the more picturesque corners of northwestern Pennsylvania. The name supposedly is derived from a Native American word meaning "home of the wolves", although a well-known work on Native American place names claims it is a corruption of *Tyonesiyo*, meaning "there it has fine banks". When it was still a Native American community on the Allegheny River at the mouth of Tionesta Creek, Tionesta was called *Goshgoshing*, mean "place of hogs". Located not very far from Oil City and Titusville, Tionesta in its heyday was part of the great oil drilling boom of the late 1800s and early 1900s, and then of the gas drilling boom of the 1980s. Today, Tionesta is at the heart of an area that is a popular destination for outdoor lovers.



*Early 1950s post card of Tionesta*

---

### DID YOU KNOW . . . ?

Sunflowers are being used to clean up radioactive waste because of their ability to extract pollutants (including radioactive metals) through their roots and store them in the stems and leaves. Five years ago, Fukushima, Japan, suffered a devastating tsunami that caused the Fukushima Daiichi nuclear power plant to have a meltdown. The fallout from this event forced nearly 80,000 people to evacuate their homes and for 30 miles surrounding the power plant, the land has been left contaminated and relatively barren. Reports of radioactive rice, beef, vegetables, milk, seafood, and even tea have been found more than 60 miles away from the site, well outside the mandatory evacuation zone.



**Sunflowers at the Fukushima Daiichi power plant**

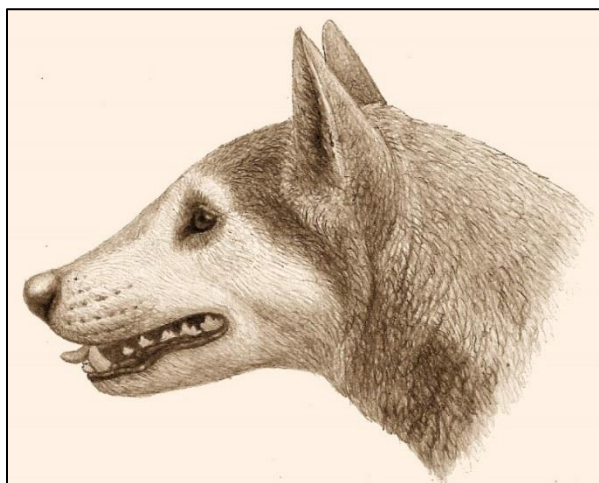
But the communities decided to fight back by getting Mother Nature to help restore their land. They planted millions of sunflowers in radioactive areas to soak up toxins from the ground and brighten the hillside of Fukushima. Monks at the nearby Buddhist Joenji temple distributed sunflowers and their seeds to be planted all over Fukushima. The plants are known to soak up toxins from the soil, and patches of sunflowers are now growing between buildings, in backyards, alongside the nuclear plant, and anywhere else they will possibly fit. At least 8 million sunflowers and 200,000 other plants, including field mustard, amaranthus, and cockscomb, have been distributed by the Buddhist temple.

This is not the first time sunflowers have come to the rescue in radioactive situations. Many were planted around the Chernobyl site after 1986's most devastating civilian nuclear accident in history to extract cesium from nearby ponds. Residents of Fukushima today are also experimenting with planting sunflowers next to vegetables in their personal gardens, hoping they will suck up all the toxins and they can begin to grow again. Because of the sunflower's ability to absorb nuclear waste, they have become the symbol of nuclear disarmament.

---



A new species of fossil dog was found recently by an amateur collector in Maryland. The new species, *Cynarctus wangi*, was a coyote-sized dog, a member of the extinct subfamily Borophaginae, commonly known as bone-crushing dogs because of their powerful jaws and broad teeth. It roamed the Atlantic shore during the Middle to Late Miocene, about 12 ma. These dogs are believed to have behaved in a way similar to that of today's hyenas.



**Artist's concept of *Cynarctus wangi***

Because Miocene terrestrial vertebrate fossils from this region are relatively rare, the new find helps paleontologists fill in important missing pieces about what prehistoric life was like on North America's East Coast. When the fossil was first found, the paleontologists, from the University of Pennsylvania, assumed it was a known species of borophagine dog that been found in older sediments in the same area. But when they compared features of both known and new specimens, they found notable differences. They concluded that the specimen represented a distinct species new to science.

Borophagine dogs were widespread and diverse in North America from around 30 ma to about 10 ma. The last members went extinct during the Late Pliocene. *C. wangi* represents one of the last surviving borophagines and was likely outcompeted by ancestors of wolves, coyotes, and foxes. Despite its strong jaws, *C. wangi* probably wasn't completely reliant on meat to sustain itself. Based on its teeth, the paleontologists think only about a third of its diet

would have been meat, with plants or insects making up much of its diet. In that sense, it probably lived more like a mini-bear than like a dog.

---

The discovery of two new species of ceratopsian dinosaurs was announced recently. The first, named *Machairoceratops cronusi*, was discovered by an international team of scientists conducting paleontological and geological surveys in the Grand Staircase-Escalante National Monument of southern Utah in 2006. This herbivore was about 26 feet long and weighed two tons. The dinosaur's neck shield includes two appendages anchored to the animal's skull.

The second found by an amateur fossil collector in Montana, also in 2006, is named *Spiclypeus shipporum*, or spiked shield. A member of the team that discovered *Machairoceratops*, on the announcement of the unrelated discovery in Montana, said, "Today is the day of new horned dinosaurs. Still very exciting for the world of paleontology."



**Artists' reconstructions of *Machairoceratops* (above) and *Spiclypeus* (below)**

Super-eruptions are volcanic events large enough to devastate the entire planet. Now, based on a microscopic analysis of quartz crystals in pumice from the Bishop Tuff in eastern California, the site of a super-eruption that formed the Long Valley Caldera 760,000 years ago, they might actually give us a year's warning before they blow. The analysis, by geologists from Vanderbilt and the University of Chicago, concluded that a magma body such as is needed for a giant, super-eruption is characterized by events occurring at a variety of time scales. It takes 10's of thousands of years to prime the crust enough to generate sufficient eruptible magma, but once this has been accomplished the giant melt-rich magmas are unstable and last only for a few centuries to a few millennia. Then, with the onset of decompression that releases gas bubbles to power the eruption, it takes less than a year until there is an eruption.



**A tiny (about 1 mm in diameter) quartz crystal with a rim that can help determine when a supervolcano will erupt.**

This scenario was determined by noting that quartz crystals from supervolcano eruptions have distinctive surface rims that formed in less than 100 years before eruption. This new study used a more accurate method of measuring rim growth times based on variations in the concentration of titanium in the crystal, one of the few elemental impurities incorporated into quartz in sufficient amounts to be useful. Titanium diffuses quickly enough to permit probing of time scales measured in minutes, but it is very difficult to measure such small levels directly. Instead, the researchers used cathodoluminescence to make high-resolution measurements of variations in titanium concentration, which in turn allowed them to determine timing and growth rates of the surface rims. Maximum rim growth in the samples occurred between 1 minute and 35 years, with more than 70% less than 1 year. Growth took

place under conditions of high supersaturation, suggesting that rim growth marks the onset of decompression and the transition from pre-eruptive to eruptive conditions.

---

Soapstone, a metamorphic rock composed primarily of talc with varying amounts of chlorite, micas, amphiboles, carbonates, and other minerals, is usually very soft and has a “soapy” feel (thus its name). Its composition depends upon the parent rock material and the temperature / pressure conditions of its metamorphic environment. Soapstone most often forms at convergent plate boundaries where the Earth’s crust is subjected to heat and directed pressure. Peridotites, dunites, and serpentinites can be metamorphosed into soapstone in such an environment. Soapstone can also form by metasomatism from siliceous dolostones.

Because it is composed primarily of talc, and shares many physical properties with that mineral, soapstone has value as a product with many different uses. For example, it is soft and very easy to carve, nonporous, nonabsorbent, resistant to heat, acids, and alkalis, and has low electrical conductivity and high specific heat capacity. These make it ideal for a wide variety of uses such as countertops and sinks, cooking pots, cold stones, bowls and plates, woodstoves, electrical panels, fireplace liners and hearths, wall and floor tiles, facing stone, bed warmers, cemetery markers, marking pencils, molds for metal casting, and ornamental carvings and sculptures.



**Traditional Inuit soapstone carving of a woman's head**

This latter use is especially prominent in history since humans have quarried soapstone for thousands of years to carve make ceremonial bowls, smoking pipes, and ornaments for thousands of years. Native Americans on the west coast canoed from the mainland to San Clemente Island 60 miles offshore to obtain soapstone for carving bowls and effigies as early as 8000 years ago.

Researchers in Australia found small glass spherules in a drill core from the volcanic Duffer Formation in Pilbara region of Western Australia, some of the oldest known sedimentary rocks on Earth. These spherules were found in sea floor sediments that The sea-floor sediment layer, preserved between two volcanic layers, enabling very precise dating of the sediments to 3.46 ga. The researchers suspected that the spherules originated from an bolide impact, and subsequent testing found the levels of elements such as platinum, nickel, and chromium matched those in asteroids.

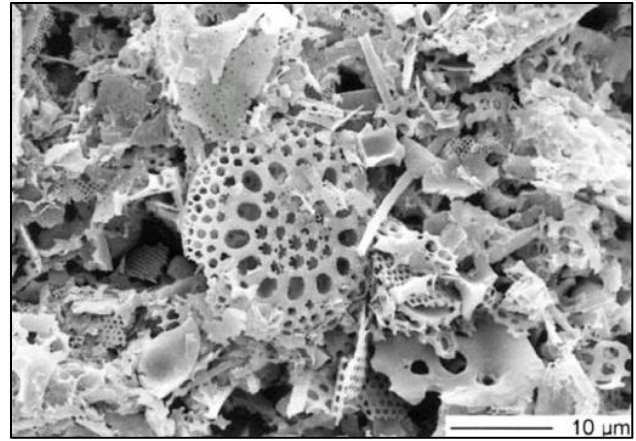


The asteroid would be the second oldest known to have hit the Earth and, at 15 miles across, one of the largest. It has been estimated that the crater would have been hundreds of miles wide and that material from the impact would have spread worldwide. To date, the location of the impact is unknown, and it is unlikely that it will ever be discovered given that plate tectonics, volcanic activity, and erosion would have obliterated any evidence. Bolide impacts as big as this one typically result in major tectonic shifts and extensive magma flows and could have significantly affected the way the Earth evolved. So far, scientists have found evidence for only 17 impacts older than 2.5 ga, but there could have been hundreds or thousands.

---

Gold is so malleable that it can be made into sewing thread, and an ounce of that thread could be stretched more than 50 miles.

---



**Diatomite is a sedimentary rock composed primarily of diatom skeletons**

Diatomite, a friable, light-colored sedimentary rock, is composed primarily of the siliceous skeletal remains of diatoms. Diatomaceous earth is simply diatomite that has been crushed into a powder. Because diatomite is a very porous rock with a fine particle size and a low specific gravity, it is very useful as a filter media, an absorbent, and lightweight filler for rubber, paint, and plastics.

Diatomite has been used as a beer filter because of its very small particle size, high porosity, and relatively inertness, which make it an excellent material for use as a filter. Much of the beer brewed in the United States is filtered through diatomaceous earth. Diatomite used for beer filtering is selected from freshwater deposits because the salt in marine diatomites will ruin the beer! Diatomaceous earth is also used to filter wine, drinking water, syrup, honey, juice, swimming pool water, and much more.



Chris Slane Cartoons: <http://www.slane.co.nz/>

# **PGS Thanks Our Corporate Sponsors**

**ACA Engineering, Inc.**

**American Geosciences, Inc.**

**American Geotechnical and  
Environmental Services, Inc.**

**Ammonite Resources**

**ARK Resources, Inc.**

**AWK Consulting Engineers,  
Inc.**

**Barner Consulting, LLC**

**The Baron Group, Inc.**

**Billman Geologic  
Consultants, Inc.**

**DC Energy Consultants**

**DiGioia, Gray and  
Associates, LLC**

**DORSO LP**

**Enviro-Equipment, Inc.**

**Gannett Fleming, Inc.**

**GEO-COM LLC**

**Geo-Environmental Drilling  
Company, Inc.**

**Geo-Mechanics, Inc.**

**Groundwater & Environmental  
Services, Inc.**

**Hayward Natural Resources,  
Inc.**

**HDR Engineering, Inc.**

**Howard Concrete Pumping  
Company, Inc.**

**Huntley & Huntley, Energy  
Exploration, LLC**

**Insite Group, Inc.**

**Key Environmental, Inc.**

**Moody and Associates Inc.**

**Natural Energy Development  
Corporation**

**Oil & Gas Management, Inc.**

**Pennsylvania Drilling Company**

**Seneca Resources Corporation**

**THG Geophysics, Ltd.**

**Vista Resources, Inc.**

**Woodard & Curran, Inc.**

# PGS Website of the Month



<http://www.mindat.org/min-1720.html>

---

## PGS Board-of-Directors

**President:** Peter R. Michael  
**Vice President:** Tamra Schiappa  
**Treasurer:** Kyle Frederick  
**Secretary:** Karen Rose Cercone  
**Past President:** Ray Follador

**Director-at Large:** Diane Miller  
**Director-at Large:** Mark Barnes  
**Director-at Large:** Brian Dunst  
**Director-at Large:** Ken LaSota

**Director-at Large:** Wendell Barner  
**Director-at Large:** Peter Hutchinson  
**Counselor:** John Harper  
**Counselor:** Charles Shultz

**Other PGS Positions**  
**Webmaster:** Mary McGuire

**Historian:** Judy Neelan  
**Continuing Ed:** Frank Benaquista

**AAPG Delegate:** Andrea Reynolds  
**AAPG Delegate:** Dan Billman

---

**Officer Contacts:** If you wish to contact a current PGS Officer, you can email Peter Michael, President, at [mshabell9@comcast.net](mailto:mshabell9@comcast.net); Tamra Schiappa, Vice President and Speaker Coordinator, at [tamra.schiappa@sru.edu](mailto:tamra.schiappa@sru.edu); Kyle Fredrick, Treasurer, at [fredrick@calu.edu](mailto:fredrick@calu.edu); and Karen Rose Cercone, Secretary and Newsletter Editor, at [kcercone@iup.edu](mailto:kcercone@iup.edu).

**Memberships:** For information about memberships, please write PGS Membership Chair, PO Box 58172, Pittsburgh PA 15209, or e-mail [jharper.pgs@gmail.com](mailto:jharper.pgs@gmail.com). Membership information may also be found at our website: [www.pittsburghgeologicalsociety.org](http://www.pittsburghgeologicalsociety.org).

**Programs:** If you would like to make a presentation at a PGS meeting or have a suggestion for a future speaker, contact Tamra Schiappa, Program Chair at [tamra.schiappa@sru.edu](mailto:tamra.schiappa@sru.edu).

**PGS Website:** To contact the Webmaster, Mary McGuire, with questions or suggestions, please either email [marykmcguire@comcast.net](mailto:marykmcguire@comcast.net) or use the site's "Contact Us" link at [www.pittsburghgeologicalsociety.org](http://www.pittsburghgeologicalsociety.org).

**Facebook:** Follow the PGS at <https://www.facebook.com/PittsburghGeologicalSociety> for breaking news, announcements and interesting geological facts.

**Twitter:** PGS now has a Twitter Feed! You find it at <https://twitter.com/> on the web or look for [@PghGeoSociety](https://twitter.com/PghGeoSociety) on your mobile Twitter app.



## Fun Fact Having Nothing to Do with Geology

The Treasury Department minted and circulated the first U.S. 5-cent coin that did not contain silver in 1866. The "nickel" contained 75% copper and 25% nickel