DVESSCAPADES

Year 50, Volume #5

Newsletter of the Delaware Valley Earth Science Society – DVESS

May 2007

***Meeting Place**: Training Room, Linden Hall, RowanUniversity 201 Mullica Hill Rd., Glassboro, New Jersey*
***Meeting Time**: 7:30 PM, 2nd Wednesday of each month (except July and August)*
Meeting Date**: **May 9, 2007

Main Program

To be announced

Junior Rockhounds

To be announced.

Position openings: Newletter Editor, Membership Chair and Field Trip Coordinator

No pay, no cooperation and a lot of aggravation. Interested applicants please see the President.

American Federation
of
Mineralogical Societies

Eastern Federation
of
Mineralogical & Lapidary Societies

Special Congress
Representing
Involved Bulletin Editors

DVESSCAPADES

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BACKGROUND

The Delaware Valley Earth Science Society, Inc. (DVESS), a non-profit organization, was founded in 1956 and incorporated in the state of New Jersey in 1957. The Society promotes interest, knowledge, and the development of skills in the "earth sciences." These interests include mineralogy, paleontology, lapidary arts, archeology, and local preservation. The Society supports the conservation of natural resources, advocates the availability of collecting sites, and maintains close contact with those in the academic field.

MEETINGS

The Society meets the 2nd Wednesday of each month from September through June, at Rowan University, Linden Hall, Glassboro, New Jersey. At 7:30 PM members meet to socialize, view displays, sign the registry and receive a door-prize ticket, toward a specially chosen specimen. Meetings start promptly at 8:00 PM and include the evening's program followed by the monthly business meeting, concluding around 10:00 PM. Meetings are open to the general public.

MEMBERSHIP

See the Membership Chairperson for an application for membership in the Society. Regular memberships are entitled to participate in all DVESS activities and to receive a newsletter when published. Sponsoring memberships are entitled to all of the above plus a specially chosen mineral specimen. Membership rates for the Society are:

Regular Membership

$15.00 for the 1st family member + $5.00 for each family member
$10.00 for the 1st Senior (65+) member + $5.00 for each family member
$10.00 for Students with College ID

Sponsoring Membership

Level	1st Member	+	Additional Members	=	Receive
"Silver"	$50.00	+	$5.00	=	Geode Specimen
"Gold"	$75.00	+	$5.00	=	Native Gold Specimen
"Platinum	$100.00	+	$5.00	=	Premium Specimen

Dues are renewable each year in January

Delaware Valley Earth Science Society Inc., DVESS
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Maple Shade, New Jersey 08052

DVESS Website:
http://www.dvess.org

EFMLS Website:
http://www.AmFed.org/EFMLS

DVESS 2007 SPONSORS

Feigin Family – Platinum
Baer Family - Silver

Editor's Notes

Editor is not responsible for authenticity of information in any articles submitted for publication. Nor are the opinions expressed in the "DVESScapades" necessarily those of the officers of the Delaware Valley Earth Science Society, Inc., and/or the editors.

To submit an article for publication in the DVESScapades contact the Newsletter Editor.

Privilege to enter Rowan University facilities is limited to the night of the meeting between the hours of 7PM & 10PM under the direction of the University staff. Permission from the University staff is required to enter the school at any other time.

DVESS
2007 Officers & Positions

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Field Trip Coordinator
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Special Events Coordinator
Past & Future President
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President's Message or "Kernels of Wisdom" by Society President Gerald Feigin

Editor's note: the President is apparently a man of few words.

April 11, 2007 General Meeting Minutes by Milord (Mel) LeCompte, Recording Secretary

Junior Rockhounds Gerald spoke to the Juniors about **Optical Minerals** and their properties. Various kinds of special optical phenomenon are exhibited by certain minerals. This unique property adds a distinct character to a mineral and aids in its identification.

- **Moonstone**" *adularescence* - a bluish reflection coming from a definite plane in a mineral; comes from the feldspar variety adularia and is best known in the gemstone "moonstone."); A milky sheen or wavy glowing light effect which appears to come from below the surface of the gems is known as adularescence. Orthoclase feldspar named moonstones is the only example which exhibits the true adularescence.
- **Opal**: *opalescence* - a milky blue, pearly appearance caused by reflection of short wavelength light; opal is an amorphous form of silica ($SiO_2 \cdot nH_2O$) made up of sub-microscopic spheres of silica with a little amount of water (3% to 21%). Air is trapped in the spaces between these round spheres. The openings between the spheres are large enough that light doesn't have to bend when traveling through them and no diffraction can takes place. But instead of diffraction, the light scatters; the scattering creates a sort hazy effect in the inner particles of opal, which is commonly known as opalescence.
- **Tiger's Eye** – *chatoyancy* is a particular property of reflecting light because of fine inclusions of some foreign minerals in thin, needle-like parallel orientation. The reflection exhibits a single glowing band of light across the surface which looks like a slit of an eye and helps us to see a silky radiance or glow. In some good specimens the eye seems to open and close when the gem is rotated. The term "chatoyancy" comes from the French "chat", which means "cat", and "oeil" which means "eye" so it literally translates as "the eye of a cat" and that's the reason this phenomenon is known as **cat's eye effect**. This term should always be used as a modifier, such as cat's eye tourmaline or cat's eye moonstone. It has also been seen in quartz and corundum but the most beautiful and valuable cat's eye gem is chrysoberyl.

  Cat's eye gems are transparent to opaque. The chatoyancy seems to glide magically across the surface of a gem when it is moved and is most easily produced by **overhead** light, sunlight or another point light source like a spotlight. A one-side moving light source helps the gem get the lighting laterally and creates "milk and honey" effect. When two light sources are used to move from the center to the side, the eye splits into two bands; each band follows one of the light sources and creates an effect of opening and closing. Under multiple light sources each light produces its own cat's eye and as a result blurs the effect. In dim or florescent lights chatoyancy may vanish completely.

- Sunstone: *schiller* - Sunstones are plagioclase feldspar formed in lava flows that cover much of southeastern Oregon. The sunstone flow is usually (not always) covered by a hard cap-rock known as basalt that can be up to several feet thick. Feldspar crystals can be found in the basalt that covers sunstone deposits. Many sunstones appear to be transparent, but when viewed in just the right direction, a pink to red metallic shimmer flashes from within the stone as a collection of small spots or as a mirrorlike surface. The color variations and the shimmer are caused by different amounts and sizes of tiny crystals of copper metal within the stone. This effect is called "schiller" or "adventurescence" and is caused by light reflecting from minute parallel metallic platelets suspended in the sunstone.

  Feldspar crystals, found all over the world, are rarely gem grade. Only Harney County and Lake County Oregon – where Labradorite is the State Gem - have crystal deposits of gem grade and large enough to facet for jewelry. The name Oregon Sunstone is used to describe the transluscent adventurescent or schiller labradorite/andesine which contains light-reflecting native copper platelets. Red is the most prized color for schiller labradorite, and this one has the additional property of sprays of copper striations that flash like rain falling at an angle, just under

the table as the gem moves and is seen from different directions. It is the copper and iron that that make Oregon Labradorite special. The bright copper platelets gave the name Heliolite, from the Greek helios for sun and lithos for stone. Varying amounts of copper cause the stones to range in color from water clear to yellow, as well as many shades of green, red and pink. Some stones contain from two to four of these colors, and some have pure native copper platelets that cause the stone to sparkle. This effect is called aventurescense or schiller. **Aventurescense** is a beautiful glittering or sparkling "play of colors" effect caused by light reflecting off of minute platelike inclusions.

Labradorite: labradorescence – an exclusive optical phenomenon of Labradorite feldspar (also called spectrolite for its similarity to the color spectrum); bright metallic-looking spectral colors are created with the movement of the stone. These flashes of blue, green and golden natural "color-play" on its front surface are also known as "schiller". It's similar to the adularescence of moonstone, but with more attractive bluish color. The iridescent display is directional oriented. Sometimes greenish, purplish, gold and yellowish reddish bronzy flashes can be seen. Red-orange or peach-orange and white or off-white hues also seldom appear, when the stone is moved under a source of light. The background color of Labradorite is unattractive just like dark smoky gray.

The structural pattern of Labradorite is the reason for this phenomenon which is caused by repeated, microscopic thin layer (lameller) twinning inclusions made-up of black magnetite or ilmenite and generally showing some fracturing. Due to this structure interference and diffraction of light occurs when light passes through the stone and reflects from the parallel surfaces. The "shiller" of Labradorite visible at certain angles. The colors to be seen on the surface of the gem is also depends on the thickness and uniformity of the layers.

The name "Labradorite" derives from the Labrador Peninsula (now part of Newfoundland and Quebec Provinces, Canada) where it was first discovered by a Moravian missionary on the Isle of Paul in 1770. This sodium rich feldspar is also found in Australia, Madagascar, Russia, Mexico, China, India, the Scandinavian Peninsula and the United States etc.

The brightest and most uniform color flashes, without "dead" areas, determine the value of the gem.

Editor's note: Minutes from the main meeting and program are lost somewhere in the cyber space of Ann Lynne Benson's computer. If and when they are found they will most likely not be reported on here. So if you thirst for the minutes, please contact the Selenite Queen and arrange a visit. Likewise if you have some computer skills perhaps you can help her locate her hard drive and the thousand of file that are stored upon it.

Junior Rockhound News by Gerald Feigin

Editor's note: the Coordinator did not provide notice of this months program.

Programs by Gary Weinstein

Editor's note: the Program Chair did not provide any information on this months program.

"CHICK-EN" by AnnLynne Benson

No one ever imagines the little dinosaurs on the playground taunting hulking T. Rex by calling him "chicken". But it seems this strange scenario may be fitting.

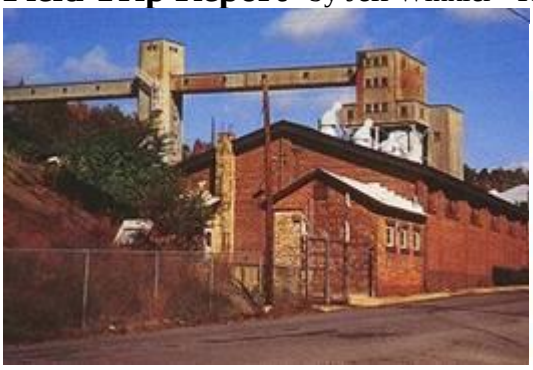
Scientists have revealed that a collagen protein in a T. rex bone is "extraordinarily similar" to that of a chicken. This link of a precise molecular dinosaur protein code is described in the 4/13/07 issue of the journal Science.

Previously, such links were impossible to verify because DNA, the gold standard of evolutionary comparison, is degraded beyond recognition in remains more than some tens of thousands of years old. Protein, on the other hand, can survive reasonably intact for tens of millions of years. The T. rex thighbone analyzed in the study is 68 million years old.

Jack Horner of the Museum of the Rockies participated in the work and says teams will roam the world this summer in search of more specimens suitable for analysis. Sandstone in particular seems better at preserving proteins than other types of rock.

So, if you want to call towering, toothy T. rex a chicken, go right ahead; you might not be too far from fact.

Field Trip Report by Jeff Winkler "Trip Master for the Super Dig"



April 28, 2007 - 9AM till 11PM

The Sterling Hill Mining Museum not only provided us with an outstanding "dig in the ground" but participants got to see and enjoy the mine and the giant conveyor and other machinery that was used by the NJ Zinc mining company. Areas not normally open to the general public were made available for this event.

One of the intriguing situations at the Sterling Hill mine is that it appears to have been running normally one moment and just "shut off" the next moment, with everything left just as it was at the moment things were shut down. In fact, the ore from the mine that was on the conveyor at that moment is still sitting on the conveyor belt! (More about that later…)

While we will all miss seeing the "fluorescent wall" lit up at night at the Trotter Diggg, we did get to experience the fluorescent wall at Sterling Hill. Prior to this event, the wall at Sterling has only been "lit up" with UV light for very special foundation member's only events. At that time it was found that there is a "horse head" that appears on the wall when it is lit with the UV light. What is intriguing is that the company logo for the NJ Zinc company, that ran this operation, was a horse head! VERY STRANGE INDEED!! While not everyone was able to see the horse head, those of us with a very special imagination saw a sight that Pablo Picaso could have created.

TENS of TONS of new material has been pulled down from the mountain into the dig area, to the delight and advantage of the participants in this special event.

The admission fee, which was the same as it has been for many years, also included a tour of the MINE as well as the mining museum, conducted by the "docents" (knowledgeable guides) from the museum. At 7 p.m. a large crowd did the special "blackout" tour of the mine and got to experience the fluorescence IN the mine itself just as the NJ Zinc company Geologist did all those years ago.

A very special staff-guided tour of the upper mining operations was conducted twice during the day which gave everyone an opportunity to see the operations after the ore came out of the ground. This was a "camera rich" day as well as a

"mineral rich" day! As in addition to plenty of photo opportunities each patron got a piece of the last ore mined at Sterling Hill for their very own collection complete with a certificate of authenticity.

The only fly in the ointment was due to the extensive cloud cover which prevented the use of the Ellis Observatory located on the mining museum premises. It was planned to train the telescope on Saturn, but alas our plans were foiled by the weather. But what ruins a view of the heavens makes night collecting even better as the cloud cover kept it plenty dark allowing collectors to maximize there UV lights output.

Special thanks need to be given to the Sterling Hill Mining Museum and its staff who stayed late to allow us to have our fun. Dick and Bob Hauck for making the facility available for this special event without their generosity and faith in us to run a safe dig this event never would have happened. Pete Gillis, Chris Gillis, John Dymond, Eric Weiss, Mel LeCompte, Michael Anderson, Matthew Anderson, Thomas Anderson, Daniel Anderson, David Anderson and of course Mark Anderson who has trained his children so well that he could sit back and nap while the boys ran the shop, Chuck O'Loughlin, Jennifer Winkler, Jason Winkler and myself, Jeff Winkler rounded out the fantastic volunteer staff that made this event happen.

Calendar of Shows and Events compiled by Chuck O'Loughlin from various sources

May 2007

19-20: Berks Mineralogical Society Presents the 39th Annual **"World of Gems and Minerals"** at Leesport Farmers Market Banquet hall, Rte. 61, Leesport, PA; 8 miles south of Rte. 78/6 miles north of Reading, PA., Sat. 10-5, Sun. 10-4, admission donation $1.00, students free. Raffles, exhibits jewelry, fossils and locally collected minerals. Sat. ONLY, Tailgate Section under roof for rental of $10 per table for a "first come" set-up at 8am. Contact: info@berksmineralsociety,org

June 2007

2: MACUNGIE, PENNSYLVANIA Semi-annual **"PSEA Spring Mineralfest"**, **Pennsylvania Earth Sciences Association,** Macungie Park Bldg., Rte. 100, Sat. 8:30-3; adults $3.00, children under 12 free. 100 tables of minerals, fossils, jewelry, fluorescents, micros, exhibits, gold sluicing and panning, children's activities, door prizes; contact Ed Richards, 431 Maryann Dr., Alburtis, PA 18011; e-mail; mineralfest@aol.com

2: Gem-Mineral–Fossil and Jewelry Show Sponsored by The Bergen County Mineralogy & Paleontology Society and The New Jersey Paleontological Society. Saturday, June 2nd 10:00AM to 5:00 PM - Rain Date - Sunday June 3rd - at the Bergen County Courthouse Parking Lot River & Court Streets Hackensack, New Jersey. Free admission to the public. Directions: The Courthouse can be reached from Exit 66 of Rt 80, right onto Kennedy and then left onto River St, the show is on the left, opposite PepBoys or go north from the Rt 46 traffic circle in Little Ferry onto River St. From Rt 4, take Hackensack Ave. south onto River St., the show will be on your right. Dealer enquiries welcome. For info call Tom at 631-499-7504 - tomcagg@aol.com or Howie at 201-265-2236 –fossilh@aol.com

9: 5TH ANNUAL ROCK SWAP AND SALE 9am to 4 pm. To benefit CAMA's Mining Museum. On the Museum grounds in Kent, CT. Tailgate swapping $5, selling $20. Information: (860) 354-0296
Editor's note: CAMA's Mining Museum has been a friend of DVESS for several years sponsoring and supporting our annual fund raiser which is now known as the "Superdig"

Additional shows and events are listed on the Eastern Federations Web site www.afms.org/efmls/

D V E S S 8/17/2006

W O R D D P U Z Z L E

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by Ed Loveland

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DVESS*capades*

The Newsletter of the
Delaware Valley Earth Science Society
PO Box 372
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DVESS*capades* — May 2007

This Month's Meeting:
May 9, 2007

Main Program

TBA

Junior Rockhounds

TBA