the CMS Tumbler

January 2019

The monthly newsletter of the **Cascade Mineralogical Society, Inc.** Kent, Washington

Next Meeting:
January 10, 2019
7:00 p.m.

American Legion Hall
25406 97th Pl S
Kent, WA

The Program CMS Member Rich Russell is going to give a demonstration on faceting.

The Show & Tell Them is picture rocks and picture thunder eggs.

This month remember to wish a Happy Birthday to
Jennifer Watson on January 7,
Roger Danneman on January 8,
John Haworth on January 13,
Ann McMurtray on January 19,
Becky Trepanier on January 19,
and also our club has been around for 70 Years!

Connect with us!
Website: www.cascademineralogicalsociety.org
Club Facebook: www.facebook.com/CasMinSoc/
Show Facebook: www.facebook.com/cascadegemandmineralshow
Instagram: www.instagram.com/cascadegemandmineralshow/

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Postal, or Email, Exchange Bulletins are welcome.
Email preferred.
greenrockdraggin@yahoo.com

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Shop Operations **Bob Pattie**	425-226-3154	bobpattie@comcast.net
Show & Tell **Michael Blanton**	425-271-8757	mblanton41@hotmail.com
Webmaster **Mark Hohn**	253-332-3736	showchair@cascademineralogicalsociety.org

2019 CMS Dues are $25 per year per family
Pay online, by mail, or at our meetings.
Mailing Address: Richard Russell
14431 SE 254th St.
Kent, WA 98042

You can pay your dues via credit card! We now accept all cards through our website, or at the meeting. You can renew your membership, or enroll as a new member, and pay your dues all in one shot online. You will find it under the “Membership” tab on our website **http://www.cascademineralogicalsociety.org**

The object of the Society shall be to stimulate interest in the study of the earth sciences, lapidary arts and related subjects.

This Society is affiliated with the *American Federation of Mineralogical Societies*; the *Northwest Federation of Mineralogical Societies*; and the *Washington State Mineral Council*.

Every member of the club should be receiving a copy of the Northwest Newsletter. If you are not receiving a copy contact Mike Blanton in person or by telephone at (425) 271-8757 or by computer at **mblanton41@hotmail.com**

To get information to the Tumbler via the Internet send it to **greenrockdraggin@yahoo.com** Please put Tumbler and subject in the Subject Line. The deadline is the 20th of each month.

The Cascade Mineralogical Society Facebook page is **https://www.facebook.com/CasMinSoc/**

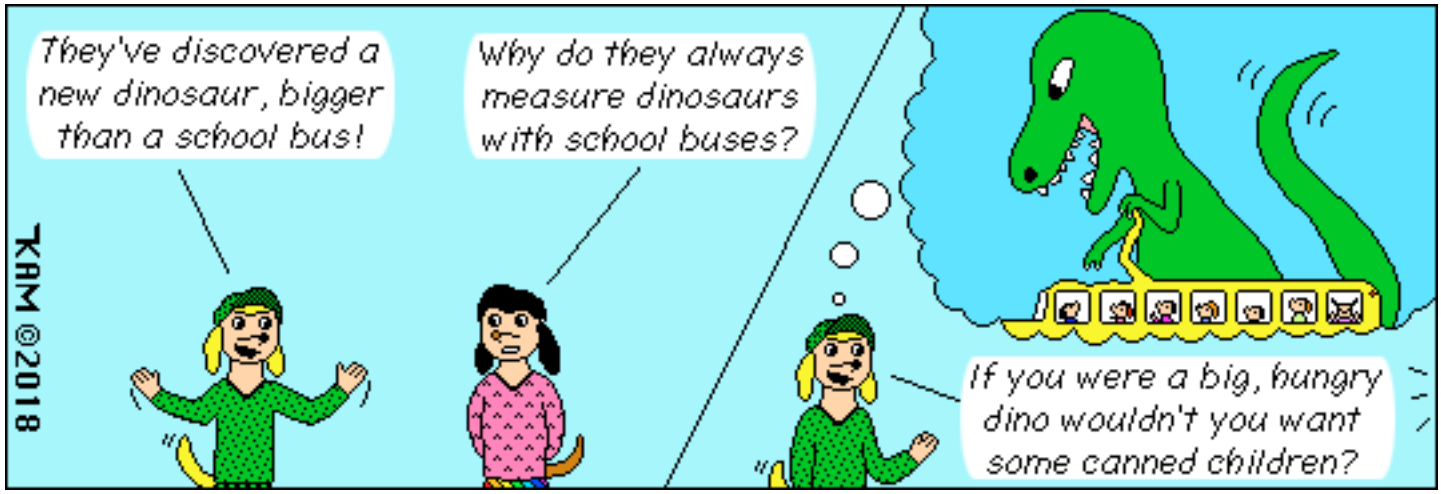
The Cascade Gem & Mineral Show Facebook page is **https://www.facebook.com/cascadegemandmineralshow/**

January

SUN	MON	TUE	WED	THUR	FRI	SAT
1949		1	2	3	4	5
6	7 Board Meeting 7 PM	8	9	10 General Meeting 7 PM	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	2019	

CMS Board Meeting:……Monday, January 7……7:00 pm to 8:00 pm
CMS General Meeting:……2nd Thursday, January 10……7:00 pm to 9:00 pm

Lapidary Class Hours:……By appointment, call to set a time & day for your lesson (425) 226-3154
Lapidary Shop Hours:……Most Tuesdays…… 2:00 pm to 5:00 p, call ahead (425) 226-3154
Lapidary Shop Hours:……3rd Saturday……by appointment only (call a few days ahead to set time)



The Tumbler has received One-Time Rights to publish this cartoon

CMS Board Meeting Minutes December 10, 2018

Meeting canceled.

Deception Island, Antarctica by Kat Koch

A large volcanic eruption shook Deception Island, in Antarctica, 3,980 years ago, and not 8,300, as it was previously thought, according to an international study published in Scientific Reports. This event was the largest eruption in the austral continent during the Holocene (the last 11,700 years after the last great glaciation on Earth). This eruption formed the caldera of the volcano, one of the most active in Antarctica, with more than 20 eruptions registered in the last 200 years.

This colossal episode of eruptive caldera collapse ejected between 30 and 60 cubic kilometers of ash, comparable in volume to the eruption of the Tambora Volcano (West Nusa Tenggara, Indonesia) eruption in 1815, an event that is attributed to a global temperature cooling that resulted in a series of bad harvests in Europe, in what is known as the "year without summer.

According to the researchers it is very important to be able to date this type of eruptions as it allows us to understand the climatic changes caused by volcanic eruptions, in this particular case at high austral latitudes.

Answers To The Song Puzzle At The Christmas Party

1. Jingle Bells
2. Walking In A Winter Wonderland
3. Santa Claus Is Coming To Town
4. First Noel
5. Rudolph The Red-Nosed Reindeer
6. Little Drummer Boy
7. I'm Dreaming Of A White Christmas
8. I Saw Three Ships
9. What Child Is This?
10. We Three Kings Of Orient Are
11. Deck The Halls
12. Holy Knight
13. Feliz Navidad
14. Baby It's Cold Outside
15. Silver Bells
16. Santa Looked A Lot Like Daddy
17. Away In The Manger
18. Twelve Days Of Christmas
19. Rocking Around The Christmas Tree
20. Frosty The Snowman
21. Let It Snow
22. Go Tell It On The Mountain
23. Chestnuts Roasting On An Open Fire
24. It Came Upon A Midnight Clear
25. I Saw Mama Kissing Santa
26. O, Come All Ye Faithful
27. Silent Knight
28. Little Town Of Bethlehem
29. Meet Me Under The Mistletoe
30. Hark The Herald Angels Sing
31. Joy To The World
32. O, Christmas Tree
33. Around The Christmas Tree
34. All I Want 4 Christmas Is My 2 Front Teeth
35. Santa And The Kids
36. Skaters Waltz
37. Grandma Got Run Over By A Reindeer
38. Little Saint Nick
39. I Want A Hippopotamus For Christmas
40. Cradle Song
41. Cherry Tree Carol
42. Holly And Ivy
43. Please Mr. Santa Claus
44. I'll Be Home For Christmas
45. Swingle Jingle
46. All Through The Night
47. Parade Of The Wooden Soldiers
48. Good King Wenceslas
49. Fum Fum Fum
50. Do You Hear What I Hear?

Months with more than one birthstone, usually have an expensive stone and a cheaper stone.

CMS General Meeting Minutes December 16, 2018

by Pete Williams, 2018 Secretary

The December meeting drew 39 members who enjoyed the Christmas dinner and auction. There were 53 lots in the auction with 22 wining bidders. The main order of business was the election of officers. Each officer will serve the 2nd year of their 2 year terms with the exceptions noted below.

President - Kat Koch
Vice President - Miriann Fu (1 year term as backfill)
Treasurer - Charles Benedict (1 year term as backfill)
Secretary - Pete Williams
Past President - Bob Pattie
Show Chair - Mark Hohn
Director - Roger Pullen
Director - Roger Danneman
Director - Rich Russell (New position-2 year term)
Mineral Council - Bob Pattie, Jackie Pattie
Federation - Mike Blanton, Kat Koch

Attention Club Officers and Committee Members!

by Keith Alan Morgan, Editor

Please check Page 2 to see if the correct contact information is there for you. Let the editor know if any information is wrong, changed, or missing. Thank you!

Largest Natural Diamond in North America Just Found

by Kat Koch

The Canadian mining company, Dominion Diamond Mines, has just discovered the largest natural diamond ever found in North America. This newest diamond is 552 carats and measures 33.7 mm x 54.56 mm and was dug up from Diavik Mine.

This is the same mine where the previous largest North American diamond was found. The 187.7 carat Diavik Foxfire Diamond. This diamond is now the 2nd largest North American diamond ever discovered.

A Note From The President's Desk…

By Kat Koch, 2019 CMS President

Happy New Year! 2018 was a very good year for our club. I hope 2019 proves to be just as great of a year.

Since we are nearing 100 active members we have expanded our Board. In 2019 we have a few new faces on our Board and I am hoping for new ideas and input for our club. Please share with any Board member suggestions you may have for meeting topics, field trips and things you would like to see our club do.

I am trying to work with NAMA and Roger, CMS Field Trip Leader, to put together a gold hunting field trip for the first weekend of August. It will be for stream panning (placer gold). You will be able attend a single day or the weekend. There will be camping or you can stay at a motel in Leavenworth.

Further information will be available in the newsletter or at our meetings as this pulls together. Mark your calendars now if you are interested in this field trip.

Virgin Valley Opals by Evelyn Cataldo

Hidden in the high desert region of the northwest corner of Nevada, lies the famous Virgin Valley precious opal mines. The area is famous for black opal, known to occur in only two places on Earth: Virgin Valley, Nevada and New South Wales, Australia.

It is believed that this area was once a large lake surrounded by a forest filled with a variety of tree species. Over time the forest was devastated by a series of volcanic eruptions. Twigs, limbs and rotting wood collected in the coves of the lake. The forests, the lake and the driftwood were buried under layer after layer of ash. The buried wood decayed and left cavities. Over millions of years, heat and pressure filled the cavities with silica that percolated through the ash; gradually hardening into opal. Under the right conditions, precious opal was formed. Over time, the entire area has been uplifted and eroded, exposing the opal deposits. It is said that it took Mother Nature twenty million years to make a Virgin Valley black opal.

The Virgin Valley area has been inhabited by man for more than 10,000 years. In the southwestern portion of the valley lies the "Last Supper Cave". Its bones and artifacts have been carbon dated to 10,000 to 12,000 years.

There is evidence that the Chinese sent an expedition to mine the precious black opal approximately 4,500 years ago. During the late 1800s and early 1900s a few specimens were collected by cowboys and sheepherders.

These specimens were reported to the press and soon prospectors found their way to Virgin Valley. Opals were first mined commercially in the area in 1905 with the discovery of the Bonanza Mine. Other early mining operations included the Rainbow Mine. Both are still in production today.

Most of the opal found in Virgin Valley is in the form of replaced wood and limb casts. Opalized bones of vertebrate animals have also been found, as well as opalized bark, roots, pine cones and seeds. The opals are found in layers of clay. The precious opal bearing layers may be as much as 10-30 feet below the surface and range in thickness from 2-12 feet. Common opal is abundant throughout the layers of clay and ash, but only specific conditions produced the precious opal.

Anything that resembles petrified wood should be carefully examined and kept. Look for specimens that are glassy looking. The background color does not matter. Some of the most beautiful opal specimens do not show color immediately. Collect everything glassy looking, black, clear , milky, brown, etc. Sometimes, good pieces of opal are covered with a white, chalky coating. A small percentage of the opal found in Virgin Valley is valued at more per carat than diamonds. Keep your eyes open for other fossils and artifacts.

Virgin Valley is high desert. Expect warm days and cool nights. Be prepared with a variety of clothing, plenty of liquids, sun screen, hat, and chap stick. Food, fuel and lodging can be found at Denio, Nevada (35 miles away).

Dry camping is available at the CCC campground with is about five miles from the mines. The campground is free. There are no hookups but outhouses are available, a shower room and swimming in the hot spring. There are fire pits for the cool evenings, but you need to bring your own wood.

Other items you will find useful are a small pick, small garden rake, small shovel, spray bottle with water, a bucket for sitting on, gloves and some zip lock bags to store your specimens.

The opal mines at Virgin Valley are fee dig areas. Some mines allow digging through the tailings, some allow digging in the clay wall and Rainbow Ridge offers loads of virgin material. Prices range from $50 per day for going through tailings to $400 for a load of virgin material.

via Golden Spike News, 3/18; from The Geode, 4/07

Silver [Coin, Bar, & Natural Crystal]

Silver is the "whitest" of all metals. It is highly lustrous and can be polished to a mirror finish. Silver is harder than gold, but softer than copper. It has a melting point of 1760ºF (960ºC.) —almost 200ºF below that of gold.

"Sterling" is an alloy of silver and copper that has a historical derivation. Commerce in the 12th century between Germany and England required a dependable form of money for trade. Coins named Easterlings were cast of 92.5% silver and 7.5% copper. Eventually, the Ea in Easterling was dropped to Sterling.

In times of past, precious metals like gold and silver were a means of trading and saving one's values. Today, most of us are only left with "In God We Trust" and a feeble hope & faith in our governments to back the massive amounts of debt and paper

currencies circulating all around the world. And remember, inflation is a stealth tax on all money on deposit.

Workability & Hardness of Silver Alloys

Since copper provides the best combination of wear qualities, it is the most common alloying element used by jewelers and silversmiths. In sterling and coin alloys, the copper tends to dissolve into the silver, resulting in a homogeneous large-structure, which is naturally soft and ductile. Cold working these alloys by rolling, pressing, hammering, or wire drawing, causes some of the crystals to become deformed and smaller, which reduces the alloy's ductility.

Ductility Definition

1. capable of being hammered out thin, as certain metals; malleable
2. capable of being drawn out into wire or threads, as gold
3. able to undergo change of form without breaking
4. capable of being molded or shaped; plastic

Heat treatment can be used to increase hardness and decrease ductility. The process, known as precipitation hardening involves heating and cooling the silver in such a way as to cause copper to precipitate out of solid solution, thereby producing a fine-binary structure. This type of structure is hard, but it is also difficult to work, and has a tendency to crack.

When a specific degree of hardness is desired in the finished article of jewelry or silverware, it is best obtained by controlling the amount of work done on the article after the final anneal, with all work being performed uniformly over the entire piece to prevent cracking at stress points.

Precipitation hardening involves the following 5 stage procedure:

1. Heating the alloy to 1375-1400ºF (745-760ºC.)
2. Holding at temperature for 15 minutes.
3. Quenching rapidly in cold water.
4. The alloy is now in a softened condition, and can be rehardened by heating to 600ºF (316ºC.) for 30-50 minutes and then (5.) air cooling. The resulting hardness is equivalent to the hardness obtained by cold working to a 50% reduction.

The Importance of Annealing

Annealing is an effective method for re-softening silver alloys that have lost their ductility due to working or heat treatment. It permits sterling to be worked with reductions of 90% and even more. When the metal becomes too hard for further working, it is simply annealed and re-softened.

Annealing Precautions

When sterling silver is annealed, care must be taken to avoid "overheating —a condition that increases hardness by promoting undesirable grain growth and a significant loss of ductility.

In torch annealing, it is particularly important not only to see that no part of the work is overheated, but also that all parts of the object or article are brought to the full annealing temperature. Since sterling silver anneals so rapidly, it is not necessary to hold it at the annealing temperature for very long. When it begins to glow pink, you have generally achieved annealing temperature for sterling silver.

The best annealing temperature for normal softening of sterling silver is between 1100ºF and 1200ºF (593ºC.-649ºC). Temperatures above 1200ºF (649ºC.) tend to dissolve the copper-rich phase and unless the cooling rate is rigidly controlled, maximum softness will not be achieved. At temperatures above 1300ºF (704ºC.) the article, if worked, will develop an "orange peel" surface. At temperatures below 1100ºF (593ºC.), the time required to achieve the desired results increases to a point where it becomes uneconomical.

Obviously, the use of a closed furnace has certain advantages, since the temperature of the object can be more precisely controlled and the heat can be absorbed more uniformly. However, the annealing time must be established by trial and error for articles of different size and shape and for different size furnaces.

Controlling Color and Finish of Silver

It is always preferable to anneal silver- alloys in a neutral or reducing atmosphere, in order to prevent the formation of copper oxides. In addition to using a controlled atmosphere for annealing, the alloy can also be protected from the air by coating it with a borax flux.

When silver alloys are annealed in open air, copper oxides will form. These oxides are of two types. One, is on the upper layer with cupric oxide (CuO2), which has a black color. Beneath the layer of the metal there may also be another oxide the cuprous oxide (CuO), which, sometimes is a reddish color that is called "fire".

The black surface layer of cupric oxide (CuO2) can be removed by dipping the article in a "pickling solution"- a 5%-10% water solution of sulphuric acid (or Sparex, sodium bisulfate). The pickling action can be accelerated by heating the solution.

Firescale

Firescale is Cuprous oxide that is deep in the silver alloy's layer that often is not visible until the silver is polished and a purple reddish bloom of stain appears. Firescale is usually produced during soldering with a torch flame that sometimes requires heating the silver metal to high temperatures for a time to complete the solder process.

There are only two ways to remove firescale; one is mechanical (i.e. grinding it off) or two, dipping the piece in cold, 50% solution of nitric acid. Since the nitric acid bath removes silver very rapidly, the operator must carefully remove the article from the bath as soon as the fire is dissolved and rinse it immediately with water. from Agatizer, 2/16

Mica by Bev Eisenacher

Mica is a group of sheet silicates (phyllosilicate). Its most prominent characteristic is that it has nearly perfect basal cleavage. Mica forms monoclinic, pseudo hexagonal crystals and often is found formed as a compilation of thin layers called books. The common micas are: biotite, lepidolite, muscovite, phlogopite and zinnwaldite. It is found in almost all igneous and metamorphic rocks and is prominent in granite, diorites andesites, schists, gneiss and hornfels. Mica is widely distributed, but until the 19th century large crystals were rare and very expensive. The price dropped dramatically in the early 19th century when large reserves were found in Africa and South America. As of 2005, the largest deposits were in Koderma district, Jharkhand State, India. China is the top producer, closely followed by the U.S., South Korea and Canada.

Mica has a unique and extensive list of physical properties: splits into sheets, chemically inert, dielectric, elastic, flexible, hydrophilic, insulating, lightweight, platy, reflective, refractive, resilient. It ranges from transparent to opaque. It is stable when exposed to electricity, light, moisture and extreme temperatures. Whew!!

Mica can be used in sheets, books, flakes, films, splittings and scrap. Scrap is usually ground by one of three methods; dry grinding, wet grinding or mocronising depending on the use it is intended for. Only muscovite and phlogopite are generally used in commercial industry. However, the list of uses is enormous. Here are some, but definitely not all. I have not given the properties that make mica a useful ingredient specific to each use. However, Wikipedia does an excellent job of this.

In the house and around the yard:

In the U.S. fifty four percent of ground mica is used in joint compound for drywall. The second most prevalent use is in paint. Other uses: rolled roofing and asphalt shingles; decorative coatings on wallpaper, concrete, stucco and tile; insulation; in concrete blocks; soil conditioner and potting soil; radiation apertures of microwave ovens; windows for ovens and kerosene heaters and latex balloons.

It is also an important ingredient in many cosmetics: blushes, eyeliner, eye shadow, foundations, hair and body glitter, lipsticks and glosses, mascara, moisturizing lotions and in some toothpastes.

In your automobile:

These are some of the possible places where you might find mica in your car (other than in the rugs etc. that rockhounds are likely to track in): plastic fascia and fender, brake linings and clutch plates, metallic paint, axle grease, spark plugs, starter, generator, armatures, navigation compass, tires, electrical components and electronics.

Electrical Components and electronics:

Mica is used in: motors, generators, field coils, as electrical insulation and in capacitors.

Isinglass:

While new materials like Pyrex are being used to replace isinglass (thin transparent sheets of mica) it is still widely used for peepholes where high temperatures and/or radiation is involved.

Miscellaneous:

Mica is indeed a versatile substance. Some of its other uses are: as magnet and commutator core insulation; an additive to drilling fluids; as a filler in rubber; in heat shields and temperature insulation; to strengthen plastics, nylons and polyesters; in optical filters and in diaphragms for oxygen breathing equipment.

Mica has been known and used since prehistoric times. There are indications of its use in ancient India, Egypt, Greece, Rome, China and by the Aztecs. The earliest discovered use was in the paint of cave paintings (40,000 BC — 10,000 BC). The Pyramid of the Sun at the ancient site of Teotihuacan near Mexico City has considerable layers of mica up to 12 in. thick. Mica was and still is used by the Taos and Pictures Pueblos of New Mexico. Powdered mica was and is used to decorate clay pots in India, Pakistan and Bangladesh. In Pakistan it was used to add glitter and embellish women's summer clothes.

Sources:

Complete Guide to Rocks and Minerals, John Farndon, Hermes House
https://en.wikipedia.org
http,//www.mineralszone.com

via Gem & Mineral Journal, 2/16; from Rock Buster News, 2/16

Sea Monsters of the Early South Atlantic Revealed to the Public by Jim Brace-Thompson

When the Age of Dinosaurs began 250 million years ago, much of Earth's land mass was joined together in a huge supercontinent dubbed Gondwana. Due to plate tectonics, that supercontinent began to fragment, sending pieces adrift to form the continents as we know them today. 135 million years ago, one seam split between present-day Africa and South America, creating a narrow South Atlantic seaway that quickly became populated with all manner of marine reptiles. These included mosasaurs, fierce creatures resembling alligators with flippers. An exhibit at the Smithsonian features mosasaurs assembled from fossils collected in the African country of Angola thanks to digs conducted by Louis Jacobs of Southern Methodist University. His colleague Michael Polcyn began reassembling one mosasaur skeleton in his dining room until the 23-foot specimen overwhelmed his home and had to be transferred and hung from the basement of the SMU paleontology department as it was prepped for display at our national museum in a temporary exhibit that will extend through 2020.

from Rockhound Rambling, 11-12/18

Young Tumblers News

The Club is in the planning stage of having a regular activity/learning meeting each month. More information will be coming soon.

Tell US What You See

Earn $2 Rock Bucks or $5 Rock Bucks

Earn $2 Rock Bucks: Look at 4 rocks or minerals in your collection with a magnifying glass or microscope. Then describe below what you see.

What type of rock or mineral are you looking at? _____

Describe what you see. _____

_____

What type of rock or mineral are you looking at? _____

Describe what you see. _____

_____

What type of rock or mineral are you looking at? _____

Describe what you see. _____

_____

What type of rock or mineral are you looking at? _____

Describe what you see. _____

_____

After looking at these 4 rocks/minerals what was the most interesting thing learned or saw in your rocks?

Earn an additional $3 Rock Bucks: Bring this completed sheet to a meeting with along with the above rocks or minerals. Then at Show ‘n Tell time tell us all about what you saw.

Agate vs. Jasper, How Do You Tell The Difference? by Duane Flackus

Chemically agates and jasper rocks are identical, SiO_2 (Silica & Oxygen molecules).

Different impurities in the clear silica determines the different colors.

An agate rock with iron impurities becomes red. It is called carnelian. A jasper rock with iron impurities becomes red. It is called red jasper. No help there.

Well, it is all in the micro-chemical-molecular make up... but here is the simplified answer to your question.

If light passes thru the stone, it is agate.

If light does not, then it is jasper.

from The Clackamette Gem, 8/18

Over 50% of all the zinc and lead discovered to date has been found in just four countries on earth.

Source: U.S. Geological Survey, Minerals Information Institute

from https://minerals.usgs.gov/west/morefun.htm, 12/15/17

Young Tumblers News

Classic American Fossil Sites for Earth Science Education by Jim Brace-Thompson

Several years ago (November 2013, to be exact), I reported on a book by Albert B. Dickas entitled *101 American Geo-Sites You've Gotta See* (Mountain Press, 2012). I noted how Dickas helps you take kids to sites that tell unique geological stories; for instance, dramatic evidence of an ancient meteorite strike in Alabama, a view of the Pacific plate sliding by the North American plate along California's San Andreas Fault, fossil-bearing ash beds in Nebraska that tell of an unimaginably immense volcanic eruption in ancient Idaho 12 million years ago, or evidence of a tropical sea as well as massive glaciation in Ohio. With 101 sites included across all 50 U.S. states, you should be able to find a locality within reasonable distance for a day- or weekend trip for your club's pebble pups and juniors.

Well, Dickas has done it again! He has just published *101 American Fossil Sites You've Gotta See* (Mountain Press, 2018). The book opens with a quick romp through the history of paleontology as a science, provides the basics of fossils and fossilization, and explores the history of life on Earth, eon-by-eon, period-by-period. Then comes the real meat of the book: the 101 sites from Alabama to Wyoming (including Alaska and Hawaii). Each site entry consists of a two-page spread. The opening page provides GPS coordinates, a one-sentence overview of the significance of the site, and an overall description and paleontological history. The second page provides colorful supporting illustrations, maps, and photos. Printed on high-quality glossy paper, the photos make it a wonderful coffee-table book in addition to an informative read. Additional helpful info is provided in an end-of-book glossary and a reference section supplying four additional suggested readings for each site.

The sites include those where viewing-only is allowed (for instance, Arizona's Petrified Forest or Oregon's John Day Fossil Beds National Monument) but also a wonderful assortment where hands-on collecting is not only allowed but encouraged. I've been to 22 of the 101 sites from California to New Jersey and points between, and from first-hand knowledge of those sites, I can assure you that Dickas has chosen wisely. All are worth considering as field trip destinations for your club's kids - and are sure to provide a whole lot of fun!

from AFMS Newsletter, 10/18

Dinosaur Defenses by Keith Alan Morgan

Dinosaurs had a number of defenses (and offenses) to protect them from attacks. Here are ten dinosaur defenses to find in the puzzle.

Words run up and down, side to side, and diagonal.

Armor
Beak
Bonehead
Claw
Horn
Plate
Shield
Spike
Teeth
Thagomizer

T	E	A	H	T	U	G	J	F	X
S	H	I	E	L	D	Y	P	H	W
H	Q	A	R	M	O	R	E	T	Z
E	Y	S	G	H	H	W	K	D	R
E	F	P	I	O	X	S	A	P	N
L	T	E	R	T	M	P	V	L	Q
D	V	N	J	E	U	I	Y	A	C
W	G	S	B	E	A	K	Z	T	J
Y	P	N	W	T	J	E	V	E	F
B	O	N	E	H	E	A	D	A	R

Years ago, Gary Larson, in his comic The Far Side, had some cavemen refer to a Stegosaurus tail as a Thagomizer after the late Thag who got too close. Paleontologists realized that there was no special name for the Stegosaurus tail and began using the term Thagomizer for real. Don't let anyone tell you that paleontologists don't have a sense of humor.

The United Nations Proclaims 2019 the International Year of the Periodic Table of Chemical Elements by Mitch Portnoy, NY Mineralogical Club

On 20 December 2017, during its 74th Plenary Meeting, the United Nations (UN) General Assembly 72nd Session has proclaimed 2019 as the International Year of the Periodic Table of Chemical Elements (IYPT 2019). In proclaiming an International Year focusing on the Periodic Table of Chemical Elements and its applications, the United Nations has recognized the importance of raising global awareness of how chemistry promotes sustainable development and provides solutions to global challenges in energy, education, agriculture and health. Indeed, the resolution was adopted as part of a more general Agenda item on Science and technology for development. This International Year will bring together many different stakeholders including UNESCO, scientific societies and unions, educational and research institutions, technology platforms, non-profit organizations and private sector partners to promote and celebrate the significance of the Periodic Table of Elements and its applications to society during 2019.

The development of the Periodic Table of the Elements is one of the most significant achievements in science and a uniting scientific concept, with broad implications in Astronomy, Chemistry, Geology, Physics, Biology and other natural sciences. The International Year of the Periodic Table of Chemical Elements in 2019 will coincide with the 150th anniversary of the discovery of the Periodic System by Dmitry Mendeleev in 1869. It is a unique tool enabling scientists to predict the appearance and properties of matter on Earth and in the Universe. Many chemical elements are crucial to enhance the value and performance of products necessary for humankind, our planet, and industrial endeavors. The four most recent elements (113, 115, 117 and 118) were fully added into the Periodic Table, with the approval of their names and symbols, on 28 November 2016.

The International Year of the Periodic Table of the Chemical Elements will coincide with the Centenary of IUPAC (IUPAC100). The events of IUPAC100 and of IYPT will enhance the understanding and appreciation of the Periodic Table and chemistry in general among the public. The 100th Anniversary of IUPAC will be on the UNESCO Calendar of Anniversaries on 28th July 2019.

“As the global organization that provides objective scientific expertise and develops the essential tools for the application and communication of chemical knowledge for the benefit of humankind, the International Union of Pure and Applied Chemistry is pleased and honored to make this announcement concerning the International Year of the Periodic Table of Chemical Elements” said IUPAC President, Professor Natalia Tarasova.

Chemical Elements play a vital role in our daily lives and are crucial for humankind and our planet, and for industry. The International Year of the Periodic Table of Chemical Elements will give an opportunity to show how they are central to linking cultural, economic and political aspects of the global society through a common language, whilst also celebrating the genesis and development of the periodic table over the last 150 years. It is critical that the brightest young minds continue to be attracted to chemistry and physics in order to ensure the next generation of scientists, engineers, and innovators in this field. Particular areas where the Periodic Table and its understanding have had a revolutionary impact are in nuclear medicine, the study of chemical elements and compounds in space and the prediction of novel materials.

The IYPT is endorsed by a number of international Scientific Unions and the International Council for Science (ICSU). The IYPT will be administered by an International Steering Committee in collaboration with the UNESCO International Basic Sciences Programme and an International Secretariat, to start operating in early 2018. In addition to IUPAC, IYPT is supported by the International Union of Pure and Applied Physics (IUPAP), the European Chemical Sciences (EuCheMS), the International Astronomical Union (IAU) and the International Union of History and Philosophy of Science and Technology (IUHPST).

from AFMS Newsletter, 10/18

New Years often means make a Resolution.

1. Start being more creative.
2. Stop procrastinating.
3. Improve your concentration and mental skills.
4. Start expressing yourself artistically .
5. Become more active.
6. Become more confident and take some chances.
7. Become more polite.
8. Learn to be happier with your life.
9. Volunteer and give more.
10. Pick up useful skills for your hobby.
11. Become more organized.
12. Reinvent yourself.
13. Stop being late all the time.
14. Learn how to be more self-reliant.
15. Turn your hobby into a career.
16. Learn more about art.
17. Start being more responsible.

from The Agatizer, 12/18

A Brief History Of The Club

Conception

In the summer of 1948 three people, Cecil “Chris” Christian, J. Arthur Risher, and Robert N. Smith talked about rockhounding and ended up with Chris wishing that they might start an organization for those interested in rockhounding.

On October 12, 1948, fourteen people met and discussed the formation of a club. Further meetings were held during November and December to decide on dues, bylaws, where to meet and a name, so that the club would be completely organized and ready to go in January, 1949.

Birth

On January 13, 1949, the first regular meeting of the Sebac Mineralogical Society was held in the T-102 Building on Ellis Avenue. Sebac was an abbreviation of “Seattle Boeing Airplane Company” and was suggested by John Haberlin. The meeting had 35 members and visitors, refreshments, a door prize, two speakers and the election of officers. The first Board meeting was held later in the month.

The First Newsletter

Rock Talk Special Edition December 1950 was a 16 page, one-time bulletin, put together by George & Barbara Frost. (George Frost was the club’s first President and Barbara was the first Secretary-Treasurer.) It contained a message from the club president, informative articles, and jokes.

Growing Pains

Originally, Sebac accepted both Boeing employees and non-Boeing employees as members, but by 1952 the non-Boeing people outnumbered the Boeing people. When it was decided that Sebac would not accept any more non-Boeing members, several members quit.

Name Changes

On November 5, 1954, Vernon Mann made a motion, seconded by Howard Hollingsworth, that the name of the Sebac Mineralogical Society be changed to the Boeing Mineralogical Society. Motion carried. In 1956 Boeing asked that the name be changed to the Boeing Employees’ Mineralogical Society and the club complied.

A Regular Newsletter

In July 1956 the first issue of The Tumbler was sent out with Era Risher as Editor.

Incorporation

In September of 1961 the club incorporated itself and the club finally became the Boeing Employees’ Mineralogical Society, Inc.

Renaming

In 2009 Boeing stopped supplying us with a location for our shops & a place to meet and in 2010 our long association with Boeing ended & we renamed ourselves the Cascade Mineralogical Society, Inc.

AFMS Code of Ethics

I will respect both private and public property and will do no collecting on privately owned land without the owner’s permission.

I will keep informed on all laws, regulations of rules governing collecting on public lands and will observe them.

I will to the best of my ability, ascertain the boundary lines of property on which I plan to collect.

I will use no firearms or blasting material in collecting areas.

I will cause no willful damage to property of any kind - fences, signs, buildings.

I will leave all gates as found.

I will build fires in designated or safe places only and will be certain they are completely extinguished before leaving the area.

I will discard no burning material - matches, cigarettes, etc.

I will fill all excavation holes which may be dangerous to livestock.

I will not contaminate wells, creeks or other water supply.

I will cause no willful damage to collecting material and will take home only what I can reasonably use.

I will practice conservation and undertake to utilize fully and well the materials I have collected and will recycle my surplus for the pleasure and benefit of others.

I will support the rockhound project H.E.L.P. (Help Eliminate Litter Please) and Will leave all collecting areas devoid of litter, regardless of how found.

I will cooperate with field trip leaders and those in designated authority in all collecting areas.

I will report to my club or Federation officers, Bureau of Land management or other authorities, any deposit of petrified wood or other materials on public lands which should be protected for the enjoyment of future generations for public educational and scientific purposes.

I will appreciate and protect our heritage of natural resources.

I will observe the “Golden Rule”, will use “Good Outdoor Manners” and will at all times conduct myself in a manner which will add to the stature and Public “image” of rockhounds everywhere.