Port Moody Rock & Gem Club Quarterly News

The Planet Earth Post

Winter, 2008/09 editor: Rose Kapp, roszay@shaw.ca

What a Great Turnout!

Port Moody Rock & Gem Show Review

Photos by Tom Schlegel, Warren Edwards and Emma Turgeon

The hard work is a memory now, but we had a great time putting on the 2008 show. Over 1000 people attended, a record for us! Just shows what good planning, help from all the volunteers and an interest in nature and lapidary can produce.

more photos on page 6

Port Moody Rock & Gem Club Quarterly News
The Planet Earth Post
www.portmoodyrockclub.com
The Planet Earth Post is published 4 times per year by the Port Moody Rock & Gem Club.

Co-Chairpersons: Andrew Danneffel, Lisa Elser
Secretary: vacant
Treasurer: Marlene Flanagan
Membership: Sonja Stubbings
Workshop: Geoff Cameron, Andrew Danneffel, Shirley & Warren Edwards, Bill McCracken, Tom Schlegel , Richard Wile
Newsletter: Rose Kapp
Society Delegates: Gary Richards (Sr.), Lisa Elser (Int.), Ken Ayres (Jr.)

General Meetings: Last Thursday of each month (except July, Aug, Dec), 7:30 PM, Arts Centre or Kyle Centre, St. Johns St., Port Moody.

Workshop Schedule September to June. Please check with the Kyle Centre for other months.

Monday:	Lapidary	8:30 am - 12 noon
Tuesday:	Lapidary	7:00 pm - 9:45 pm
Thursday:	Lapidary	8:30 am - 12 noon

For Field Trips, Rock Shows and special events in British Columbia, please check the BC Society website: www.lapidary.bc.ca

Planet Earth Post Advertising

The Planet Earth Post is accepting advertising. The quarterly publication of the Port Moody Rock and Gem Club contains articles about club activities, lapidary news and tips, geological and other earth science articles.

Our full colour newsletter is available on-line through the club website. Members and people on our contact list are notified by email when the next edition is available. As of October 2008, we have over 250 people on our contact list.

We distribute black & white hard copies to Vancouver area rock clubs, lapidary suppliers, the Geological Society and the BC Federation of Rock Clubs as well as in our Kyle Center Workshop. We print about 30 hard copies.

Advertising rates start at a reasonable $5 for a 2.5" x 3.4" vertical ad.

The Planet Earth Post is an excellent way to advertise to people in the lapidary world in the Lower Mainland.

Edition and Distribution Dates:

Winter - early January
Spring - late March (Society Show edition)
Summer - early July
Fall - early October (PMRC Show edition)

Submissions are requested no later than 1 month before distribution and will gleefully be accepted earlier.

Please contact Rose Kapp (editor) if you wish to receive a rate card or to place an ad.
ph: 604-941-3023 • email: roszay@shaw.ca

Port Moody Club News

2008-09 Membership

Membership fees for the term of Sept 1, 08 - Aug 30, 09 are due. Family memberships are $45 (for an immediate family of up to two adults). For family memberships including more than two adults, additional adults will need to pay the $25 individual rate.

Membership fees can be submitted at our next general meeting, or mailed to the club at: Port Moody Rock & Gem Club, c/o Kyle Centre, 125 Kyle St., Port Moody, BC, V3H 2N6

Elections

The new executive take office on Jan. 1st, 2009. In line with the club's constitution, the membership opted for two Co-Chairpersons as opposed to a President and VP. The Co-Chairpersons will work together to manage the business of the club.

A big thank you to Warren Edwards who has served as Vice President for the past three years.

We are still seeking a Secretary. Please let us know if you would like to volunteer for this position. It is not complicated and primarily involves taking notes at the meeting and sending them off to the mailing list afterwards. The Secretary also sorts through the mail that arrives at the workshop and is welcome to participate at Executive meetings.

Club Member Gains GIA Certification

Congratulations to Lisa Elser for getting some initials behind her name! She is now a GIA,G.G. (Gemological Institute of America Graduate Gemologist). Hitting the books has paid off!

Meeting Snack List

One of the most important aspects of our monthly meetings is - treats! Here's the reminder list for 2009:

January - Wesley Anshelm
February - Sue Levinson
March - Tanya & Andrew
April - Sonja S.
May - Elaine Watts

'09 Rock Show Request for Help

The Port Moody Rock & Gem Club is seeking assistance for our annual show in October. Our theme will be dinosaurs and other fossils. We would like to make it an educational and entertaining theme and are looking to get a travelling exhibit if possible. Our show attracts many young people who are keenly interested in rocks, dinosaurs and interesting bits of nature.

Is there anyone in the Rock and Gem Club who is a teacher or is married to a teacher, especially one who teaches science? A connection through the education system would be useful as Provincial Museums, etc. are very education-oriented. Another contact might be geologists, or someone who is connected with a museum.

Do you have a significant fossil specimen you would like to display? If you know of anyone who could help, or you yourself are interested in helping set up this display, please contact either Rose, Tom or Andrew.

Rose: roszay@shaw.ca
Andrew: adanneffel@atomation.com
Tom: ctschlegel@shaw.ca

more club news on pages 6 & 7

Earth Science News From Around The World

Amazing Striped Icebergs

Icebergs in the Antarctic area sometimes have stripes, formed by layers of snow that react to different conditions. Blue stripes are often created when a crevice in the ice sheet fills with melt water and freezes so quickly that no bubbles form. When an iceberg falls into the sea, a layer of salty seawater can freeze to the underside. If this is rich in algae, it can form a green stripe. Brown, black and yellow lines are caused by sediment, picked up when the ice sheet grinds downhill towards the sea.

These pictures were taken by Norwegian sailor, Oyvind Tangen while aboard a research ship 1,700 miles south of Cape Town, South Africa.

information from: www.snopes.com
Thanks to Andrew for finding this and the next two articles.

Scientists say a rock can soak up carbon dioxide

NEW YORK (Reuters) - A rock found mostly in Oman can be harnessed to soak up the main greenhouse gas carbon dioxide at a rate that could help slow global warming, scientists say.

When carbon dioxide comes in contact with the rock, peridotite, the gas is converted into solid minerals such as calcite.

Geologist Peter Kelemen and geochemist Juerg Matter said the naturally occurring process can be supercharged 1 million times to grow underground minerals that can permanently store 2 billion or more of the 30 billion tons of carbon dioxide emitted by human activity every year.

Their study will appear in the November 11 edition of the Proceedings of the Natural Academy of Sciences.

Peridotite is the most common rock found in the Earth's mantle, or the layer directly below the crust. It also appears on the surface, particularly in Oman, which is conveniently close to a region that produces substantial amounts of carbon dioxide in the production of fossil fuels.

The scientists, who are both at Columbia University's Lamont-Doherty Earth Observatory in New York, say they have kick-started peridotite's carbon storage process by boring down and injecting it with heated water containing pressurized carbon dioxide. They have a preliminary patent filing for the technique.

Many companies are hoping to cut their greenhouse gas emissions by siphoning off large amounts of carbon dioxide from coal-fired power plants and storing it underground.

That method could require thousands of miles of pipelines and nobody is sure whether the potentially dangerous gas would leak back out into the atmosphere in the future.

Reporting by Timothy Gardner

Survival of the Firmest

Scientists say rocks evolve too

Randy Boswell, Canwest News Service
Published: Tuesday, November 25, 2008

A landmark scientific study co-authored by a Canadian geologist has identified a sudden explosion of mineral diversity after the emergence of life on Earth, and advanced a "revolutionary" theory that rocks have been evolving - much like plants and animals - throughout the planet's history.

Wouter Bleeker, an Ottawa-based researcher with the Geological Survey of Canada, is one of eight members of an international team whose theory of "mineral evolution" - the idea that many of the Earth's rocks are dynamic "species" which emerged and transformed over time, largely in concert with living things - is generating a major buzz in the global scientific community since its publication last week in a U.S. journal.

"The key message," Bleeker told Canwest News Service, "is how closely intertwined

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Volcanoes, such as Nevado del Huila, shown here erupting Nov. 20 in Colombia, could have played an important role in the evolution of rocks, a team of geologists suggested.

the mineral world is with life and biology." He said human teeth - with their key ingredient of apatite - are vivid reminders that the "seemingly static, inorganic" physical Earth should be viewed more like a "living organism" underpinning the biosphere.

But the new theory is also being hailed as a potential tool in the search for life on other planets since it offers new ways of perceiving the interactions between rocks and living things. Probes of distant planets should be seeking evidence of biological processes that may have shaped alien landscapes, the scientists contend.

The study, published in the latest edition of American Mineralogist, chiefly proposes a new way of understanding Earth's natural history and teaching the geosciences - particularly how plant processes have altered the planet's atmosphere and its rock chemistry, and how the rise of complex life forms with shells and skeletal features "irreversibly transformed Earth's surface mineralogy."

The research team, led by U.S. geologists Robert Hazen and Dominic Papineau of the Washington, D.C.-based Carnegie Institution, recounted how just 12 minerals are believed to have been present among the dust particles swirling through space at the dawn of planetary formation some five billion years ago.

As the materials that formed Earth "clumped" together and were subject to thermal pressures and other forces, the number of distinct minerals increased to about 250, the study says. Then, due to volcanic activity, plate tectonics and other processes that churned the surface of the planet before life emerged, the population of mineral "species" had grown to about 1,500 by four billion years ago.

That's when changes to ocean chemistry and atmospheric conditions, coupled with the emergence of life, sparked an unprecedented diversification of the world's minerals.

continued next page

Among the best known examples of how living things transform the Earth's rock layers is limestone, which is accumulated from the dissolved shells of tiny marine creatures. But the new study provides the first comprehensive analysis of the multitude of rock-life interactions and documents how mineral evolution unfolded rapidly as life took hold early in the planet's history.

"Biochemical processes may thus be responsible, either directly or indirectly, for most of the Earth's 4,300 known mineral species," the study states.

"Mineral evolution is obviously different from Darwinian evolution-minerals don't mutate, reproduce or compete like living organisms," said Hazen in a statement announcing the study's findings. "But we found both the variety and relative abundance of minerals have changed dramatically over more than 4.5 billion years of Earth's history.

"For at least 2.5 billion years, and possibly since the emergence of life, Earth's mineralogy has evolved in parallel with biology," Hazen added. "One implication of this finding is that remote observations of the mineralogy of other moons and planets may provide crucial evidence for biological influences beyond Earth."

Stanford University geologist Gary Ernst is quoted in a Carnegie Institution summary of the study describing the research as "breathtaking" in its scope and adding that "the unique perspective presented in this paper may revolutionize the way Earth scientists regard minerals."

BC Heritage Fossil Site a Paradox, According to British Team Study

Fossil tissues survived because minerals able to withstand high temperatures

October 29, 2008

By Randy Boswell, Canwest News Service

Researchers have unravelled how one of Canada's greatest gifts to science - the Burgess Shale fossil site in BC - survived a subterranean superheating a half-billion years ago to preserve hundreds of "exquisite" images of slithering creatures, including a primeval human ancestor, from the "dawn of animal life."

The existence of the Burgess Shale, a UNESCO World Heritage Site found on a Rocky Mountain cliff in Yoho National Park is "a paradox," says a British team that has published a study in the November issue of the journal Geology.

"The fossils have been buried deep in Earth's crust and heated to over 300° C before being thrust up by tectonic forces to form a mountainous ridge in the Rocky Mountains," said a statement announcing the study. "Usually, such extreme conditions are thought to destroy fossils. But, in the Burgess Shale, the detail of soft tissues has been preserved."

Fossil enthusiasts pick through the offerings at the Burgess Shale fossil site near Field in BC's Yoho National Park.
Warren Tasker/CANWEST NEWS SERVICE

The team, claiming to have "solved this riddle," concludes that the fossils survived because the animals' tissues were replaced during heating in the underground crucible by minerals able to withstand the high temperatures and capture "intricate details such as gills, guts, and even eyes."

The latest study follows the publication of a paper earlier this year that reconstructed how the sudden burial of an entire seabed ecosystem, following a catastrophic underwater landslide, led to the formation of the Burgess Shale some 530 million years ago.

That study described how an avalanche of "mud-rich slurry" killed tens of thousands of marine animals representing hundreds of species, then sealed them instantly in a deep-sea tomb.

Interest in solving the mysteries surrounding the formation of the Canadian fossil treasure is further testament to its international importance for scientists.

The site, close to the BC-Alberta border, is considered crucial to understanding the so-called Cambrian "explosion" of life, a time when the future Canadian land mass was drifting in tropical climes close to the Earth's equator.

US paleontologist Charles Walcott, following reports of fabulous fossil finds by railway workers laying tracks across the Rockies in the late 19th century, is said to have tripped over a block of shale that revealed the area's remarkable supply of fossils.

Scientists have gathered tens of thousands of specimens from the site, capturing in remarkable detail the rich diversity of organisms that suddenly filled the world's oceans a half-billion years ago.

Among the imprints of animal remains excavated from the Burgess Shale is one called pikaia, an eel-like creature that has been classified as the earliest known, identifiable ancestor of modern vertebrates - including humans.

Prehistoric Seabed Survival Zone Found in Canada

October 01, 2008

By Randy Boswell, Canwest News Service

It was the biggest mass extinction in Earth's history: a climate catastrophe about 252 million years ago that wiped out more than 95% of all plant and animal species on the planet.

But scientists have theorized that somewhere in that oxygen starved world, where a "runaway" greenhouse-gas disaster nearly stopped the evolution of life dead in its tracks, a few communities of primitive organisms must have found a handful of habitable ecological niches in which to survive and wait out the primordial holocaust. Now, three Canadian researchers believe they've discovered just such a refuge, the first ever found, in a thin band of rock in BC, Alberta and Arctic Canada that once formed the coastline of the ancient supercontinent Pangaea.

University of Calgary geologists Tyler Beatty and Charles Henderson, along with University of Alberta earth scientist J.P. Zonneveld, say this survival zone can be identified by its diverse and abundant deposits of fossils, proof that a "thriving" array of clams, worms and other seabed species endured in this narrow strip of paleo-Canada at time when nearly all of the world's terrestrial and aquatic ecosystems had become poison to living things.

"Life at that point is very, very sparse. The question has always been: if we have survivors, where are they?" Henderson told Canwest News Service. "Obviously life does come back again; it didn't re-evolve. So it had to be hiding somewhere. And we're giving an indication of where it might have been hiding."

The discovery, detailed by the researchers in the October issue of the journal Geology, suggests the Canadian survival zone "provided the seed communities from which the marine realm was repopulated" once the extinction event ended a quarter billion or so years ago.

So Canada saves the world?

"Yes, Canada saves the world," laughs Henderson, "in our own mild, humble and meek way."

Earth Science News From Around The World

850-pound emerald at center of dispute

This enormous raw emerald was being kept in a Las Vegas warehouse.

Los Angeles, California (CNN) Sat. Dec 28, 2008

An 850-pound emerald said to be worth as much as $370 million is in the hands of the Los Angeles County Sheriff's Department while a court decides who really owns it, a spokesman for the sheriff said.

This enormous raw emerald was being kept in a Las Vegas, Nevada, warehouse.

The "Bahia Emerald", one of the largest ever found, was reported stolen in September from a secured vault in South El Monte in Los Angeles County. The report was made by someone who claimed to own the giant gemstone, Los Angeles Sheriff's Lt. Thomas Grubb said.

Federal court papers showed the emerald has been at the center of a dispute between a California man who claimed ownership, a company he contracted with to sell it, and a potential buyer.

Detective work traced the Brazilian stone to a Las Vegas, Nevada, warehouse, where the person in possession claimed to be the rightful owner, Grubb said.

A federal judge ordered the sheriff to hold the 180,000 carat emerald until he can sort the case out, Grubb said.

Investigators suspect someone used falsified papers to remove the stone from the secured vault in California, although no criminal charges have been filed, Grubb said.

While Grubb said it was his understanding the stone had been appraised at $370 million, the value is unclear.

The company hired by the owner to sell it said in court papers it had received a $19 million offer, which the company wanted to accept.

It alleged the gemstone's owner then tried to go around the broker to sell the emerald to the same buyer for $75 million.

At one point, the emerald was listed for sale on eBay for a "buy it now" price of $75 million. ■

Dinosaur eggs mislabelled for years

Fossilized nest in Calgary collection turns out to be one-of-a-kind

Paleontology professor Darla Zelenitsky sits alongside a fossilized nest of dinosaur eggs, the first of its kind ever discovered. photo: Ted Rhodes/CNS

Jamie Komarnicki, Canwest News Service

November 14, 2008, CALGARY — The first clue something was wrong was the shape of the dinosaur eggs — long and pointed at one end rather than smooth and round.

The fossilized nest that contained five of the 12-centimetre-long eggs sat mislabelled in a private Calgary collection for years, its significance undetected.

But a closer look by University of Calgary paleontologist Darla Zelenitsky determined the eggs were not, in fact, the rounded, "dime-a-dozen" duck-billed dinosaur find. Rather, the eggs belonged to a small theropod, or meat-eating dinosaur, closely linked to birds, making the fossil the first known nest of its kind.

Researchers don't know the exact identity of the mysterious mother who abandoned the eggs 77 million years ago to the swelling waters on a sandy river beach, Zelenitsky said. But they have picked up clues of her reproductive habits.

The mother dinosaur hunkered down on the banks of a fast-flowing river in the Montana badlands, said Francois Therrien, a co-investigator in the study and curator of dinosaur paleoecology at the Royal Tyrrell Museum.

She built a sandy mound, then laid about a dozen eggs, two at a time, placing them in a ring around the nest before climbing atop to keep them warm, he said.

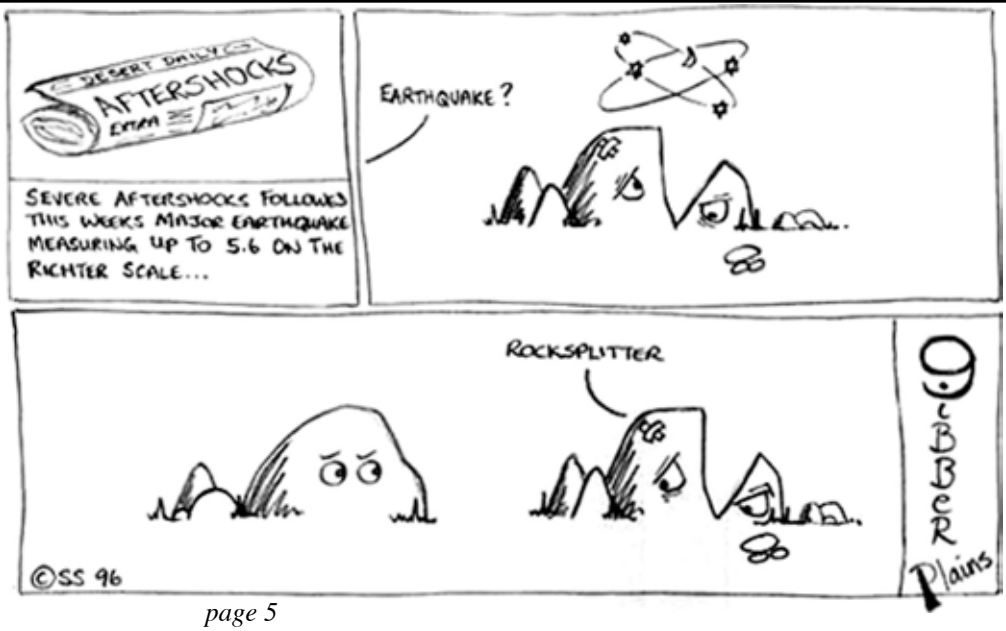
The fossilized nest was discovered near Cut Bank, Mont., in the 1990s and belonged to a private Calgary collection. It had been labelled the more common hadrosaur, or duck-billed dinosaur.

Examining the collection several years ago, Zelenitsky noticed the unusual patterns of the eggs. Realizing the significance of the nest if it belonged to a meat-eater, she began an in-depth investigation when the fossils arrived at the Royal Tyrrell.

Researchers have since narrowed the possible mother down to two likely candidates: a small raptor called a dromaeosaurid, or an ostrich-like caenagnathid.

The dinosaur likely weighed about 40 kilograms and was 2.5 to three metres long.The mother's identity may only be truly revealed if another nest of this type is discovered with an adult atop, or embryos inside the eggs, Zelenitsky said.

The fossilized nest goes on display at the Royal Tyrrell at the end of November. ■



Port Moody Club News

More show photos

Look Ma! Look how strong I am from playing with rocks!

Actual proof that Warren does his fair share of work.

Fun & laughter in the Kids Corner.

Gary taking 5.

Mary surprised in the kitchen.

No such thing as a useless rock!

Lynne Johnston can't throw a rock away. This attractive water fountain, built from stones collected over the years, sits in her backyard.

Cab Contest Winners

First Place Masters: Tom Schlegel, presented by Port Moody city counsellors, and PMR&G president, Andrew Danneffel

Christine Laurin, second place Masters

Shirley Edwards, third place Masters

MASTERS	NOVICE
1st Tom Schlegel	1st Emma Turgeon
2nd Christine Laurin	2nd Tanya Hazzard
3rd Shirley Edwards	3rd Mary Coventry

see article, last page...

Port Moody Club News

December Potluck Dinner Review

The Port Moody Rock & Gem Potluck dinner was a wonderful gathering of members during the dark time of the year. Lynne supplied lovely table decorations that were taken home by lucky members.

The food was plentiful and delicious. A big thank you to Ken and Joanne Ayres for cooking the ham and turkey the club provided.

Andrew supplied a crossword puzzle that was harder than usual so that Rose wouldn't win first again. That honour went to Tom. Lots of groans when the answers were revealed. All who attended had the chance to pick a gift from the large table of rock slabs and holiday-themed items.

Thanks to everyone who helped set up and clean up at the end. A large box of food was collected for the Share foodbank. Thanks to Lisa in making the delivery.

It was a fun and cozy time with lots of socializing. Music was provided by the dance club next door which helped liven the atmosphere. Everyone went home stuffed and smiling.

Rose Kapp, photos by Andrew

Potluck line-up

Lots of socializing

Gift Table

Member Celebrates 85

Long-time club member, Cecil Smith celebrated his 85th birthday in the workshop earlier this year. Cecil has done his fair share of supervising the workshop and reminds everyone to work the whole wheel and stay out of the center!

Engaged!

Andrew proposed to Tanya on Oct. 24th, 2008, at our annual show. He presented her with stones to be set on a yet-to-be designed ring. Nestled in a tin of tumbled pebbles were a 2.2 carat Tanzanian red spinel, cut by Geoff Cameron in a round brilliant design with a modified Portuguese crown. The other are .50 carats of trapezoid diamonds for the side stones. We wish them well and are very happy for this special couple.

Library Display

Our club is very lucky to have the use of the display case in the Port Moody Library during the month of October. This display overlaps the time of our annual show and generates interest to patrons who might be interested and attend.

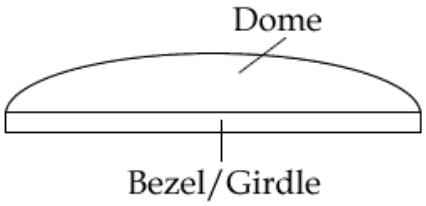
We had a number of members place finished cabs, specimens and jewelry with a bit of explanation. Thanks to all who took the time to put their items in the showcase and to the Port Moody library for the use of the display.

A Special Report from Geoff Cameron & Andrew Danneffel, 2008 Cabochon Tournament Judges

Techniques for a Higher Quality Cabochon

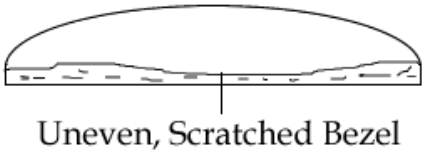
We congratulate the 2008 cabochon tournament winners!

While top entries receive certificates and recognition, the most important role of the cabochon tournament is to help participants recognize areas that require refinement and develop new techniques to produce a higher quality product. We believe that through refining four key areas our workshops users will all be in a position to challenge for 1st place masters in 2009. The four key areas are discussed below.



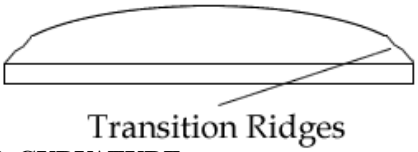
1. SELECTION OF MATERIAL

Not every material cuts or polishes the same way. You can increase both the overall appeal of your cabochon and its score in multiple categories by selecting a material that cuts evenly and polishes well. For example, a stone that undercuts or contains soft spots or pits will generally score lower in the polish and curvature categories than one that does not. The simple task of selecting the best material therefore is critical in returning the highest score possible. It is strongly recommended a solid agate be used when cutting competition stones; Brazilian or Montana agates are top choices. Interestingly enough, the second and third place masters stones were cut from these agates.



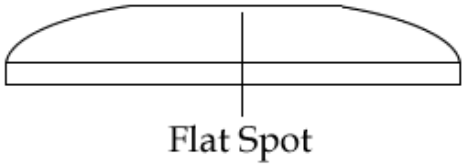
2. EVENNESS & POLISH OF BEZEL

The bezel is the line that separates the dome of the cabochon from its bottom edge. Our tournament scores both the evenness and polish of this bezel line. The bezel categories generated significant point losses and ultimately determined the 1st place master position. Loosing points in these categories is a shame because they are not difficult to address. Remember to spin the cabochon on its edge on the 280 grit wheel and up to remove scratches and generate a fine bezel polish. Keep an eye on the evenness of the bezel as you cut your dome on the 80 and 220 grinding wheels. To help keep your bezel even, use the "brass screw" in the workshop to draw an easily visible guide line.



3. CURVATURE

Curvature is the evenness of the dome cut on the cabochon. Lumps, bumps, or ridges on the cabochon will result in a lower curvature score. Holding the cabochon at eye level and spinning it on its dop stick will allow you to catch most unevenness that may be present. While most stones in the competition had an even top dome, the transition area above the bezel line often contained ridges. Such ridges are remnants of the 80 and 220 grit shaping process that were not adequately sanded away on the 280 grit wheel. Remember, the purpose of the 280 grit Nova wheel is to remove ridges and scratches left by the grinding wheels. The 280 grit wheels in our workshop are "flex wheels" for a reason – apply moderate pressure to the transition region between the bezel and the top of the dome and sand away those unwanted ridges.



4. FLAT SPOTS

To ensure an even curvature there can be no flat spots on the cabochon. The most likely place for a flat spot is on the very top of the dome and is the result of not properly "peeling the apple" on the grinding wheels. Through "peeling the apple" we mean the process of cutting a series of angles into the cabochon until they meet at the centre and form a dome. Flat spots on the top of the dome often contain deep scratches and signal insufficient time on the grinding wheels. Instead of spending time on the sanding wheels (280 grit and up) attempting to remove such a flat spot, go back to the 80 or 220 grit wheel and finish "peeling the apple." You will be amazed at how quickly you can sand and polish the stone when it has been shaped properly. The equipment will thank you as well.

JUDGING YOUR OWN WORK

(Taken from http://www.gemsociety.org/info/lap23.htm)

When examining a cabochon, begin by judging the polish. Look for any scratches or pitting that will reduce the amount of light reflected from the surface. A pair of opti-visors will help detect any imperfections. The next thing to look for is how even the contour is. A cabochon should have an even curvature to its surface. Look at the cab from both ends and both sides. The shape, (the curvature) should be a mirror image from side to side. No area should be thicker than its opposite and there should be no bulging.

Another way to judge the shape is to hold the gem so light reflects off its surface. Move the gem so the light travels across the top. If the surface is properly cut, you will see the band of reflected light glide evenly over its surface. The band of light will begin to snake if there are any irregularities. The very top of the gem is where you are most likely to see a problem. Often a small area will be somewhat flattened. This is hard to see when viewing from the side, but obvious as light passes over it. The fact that light doesn't flow smoothly over this area is why it is considered to be second-rate workmanship. However, if you look closely, that area probably doesn't have as good a polish either.

We wanted to pass along a web site that does a good job at explaining the steps used to cut cabochons. If you are using the workshop equipment frequently please read through it: http://www.gemsociety.org/info/lap23.htm

Note the following tip for the 280 grit wheel:

We have noticed that many workshop users are ending up with scratches or ridges in their final product. Please remember the role of the 280 grit nova wheel: to sand away scratches and ridges left over from the 80/220 wheels and prepare your project for a fantastic shine. This wheel is a "flex wheel" which means you need to apply some pressure to allow the wheel to take the shape of your stone and smooth the surface evenly. Remember to sand all the way down to the bezel line to remove any ridges that may appear just above it.

A cabochon that has been properly sanded using the 280 grit wheel should only take a few minutes to complete using the 600, 1200, and 3000 wheels (only a few minutes should be spent on each of these grits). Through using the 280 wheel correctly you will not only end up with a superior cabochon in less time, you'll also avoid excess wear and tear on the equipment.

Happy cabochoning in 2009!

Geoff Cameron & Andrew Danneffel