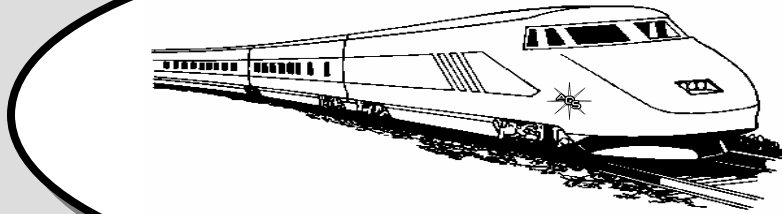


The Opal Express

Published monthly by The American Opal Society



May 2007

Volume 40 Issue 5

Table of Contents:

President's Message	1
Members Only Website Password	1
Opal Society Workshop	1
Second AOS Live Auction for June 14th	1
Lambina Opalfield	2
Scientists Discover 'Kryptonite' in Serbian Mine	5
Determining the Township	5
Serpentine: California State Rock	5
The Rhodochrosite Story	6
Freshwater Pearls from China	6
A Look at Pearl Quality	7
Safety - UN-EQUAL	7
May 2007 Gem & Mineral Shows	8

President's Message

By Gene LeVan

The April AOS meeting about how to photograph opals was given by Fran Tuttle, Steve Tuttle and Will Shaw. This talk and demo was very well done and informative. You missed a great slide show and ideas.

I ask Will to give us a review of this process for all to know how to do the photography, see his notes in this newsletter. More news about opals and people that know about stones are at every meeting be sure to come!

Bring a friend to the meeting this month! Let them see what the Opal society is about! See you in May.

Members Only Website Password

To log onto the website's members only area at: http://opalsociety.org/aos_members_only_area.htm type: Name: "member" and Password: "knobby".

Opal Society Workshop

The American Opal Society's workshop is open at Ball Jr. High School every Monday from 7:00 to 9:30 p.m. The school is located at 1500 W. Ball Road in Anaheim. This is between Euclid Ave. and Harbor Blvd. If you are traveling east on Ball Rd. the parking lot entrance you need to use is just before the railroad tracks. If you are traveling west, the lot is just after the railroad tracks. Room 37 is in the center of the campus.

Instruction will be given in cutting opal, wax models, lost-wax casting, fabrication, and setting stones. The workshop will furnish machines to cut and polish stones as well as a centrifuge for casting and a kiln for burnout. You will need to furnish other equipment you wish to use. Please bring a roll of PAPER TOWELS with you for clean-up as the room is a science lab and needs to be kept spotless.

To attend, membership in the American Opal Society is a must due to insurance. A nightly fee of \$2 is asked to help keep the equipment in good running condition. Our thanks to Pete Goetz and the Anaheim Union High School District for the use of this classroom for our workshop!

Second AOS Live Auction on June 14th

The AOS will hold it's second "O-Bay," AOS live auction, will on Thursday, June 14 at our general meeting at 7:00. O-Bay will be fun, and "fund-raising," so come and snag a bargain while supporting your club!!

There were many great bargains to be had at the last event in March!

Don't miss a chance to buy or sell opal rough, cabs, books, tools, display cases, and other neat gem stuff when Will Shaw, our volunteer auctioneer, takes up the gavel Thursday night! Members may bring up to 5 items each for sale, as long as they are gem-related, and are approved by the AOS Board of Directors. You must be an AOS member to sell at the auction, and you must sign a vendor agreement, printed here for preview. Vendors must donate 10 percent of the final price to the AOS, and will be paid after the refreshment break prior to close of meeting. We will arrive at 6:30 to help vendors prepare their items. If you have items for sale, please come early, and allow us to assign a Lot Number, any minimum "Reserve" price you may request, and log your items into our computer for easy checkout later!

Bidders may be members, or visitors, provided they have a photo ID like a driver's license, and are willing to abide by Bidder rules. You must have an official bid paddle to bid, so sign up early when you first get to the mtg. Copies of the Vendor Rules and Bidder Rules will be made available at the signup table when you arrive.

If you want to bid, you must sign in to get a paddle, and agree to the Bidder rules, which state that all items must be paid for prior to close of meeting, the highest bid wins, all sales are final, no returns or refunds. The AOS auctioneer has final authority to determine the high bid, and can accept or reject any bid at AOS discretion. Bidders cannot bid for another person, and must pay for and remove their auction items prior to the end of the meeting. Bidders are not permitted to loan their paddles to others.

Proceeds from the O-Bay auction will go toward AOS activities like our workshop, and our annual show preparation and advertising. Please be generous with your bids, and get a bargain at the same time!

Lambina Opalfield ...a gem in South Australia's Far North

By Jack Townsend (Consulting Geologist and Gemologist)

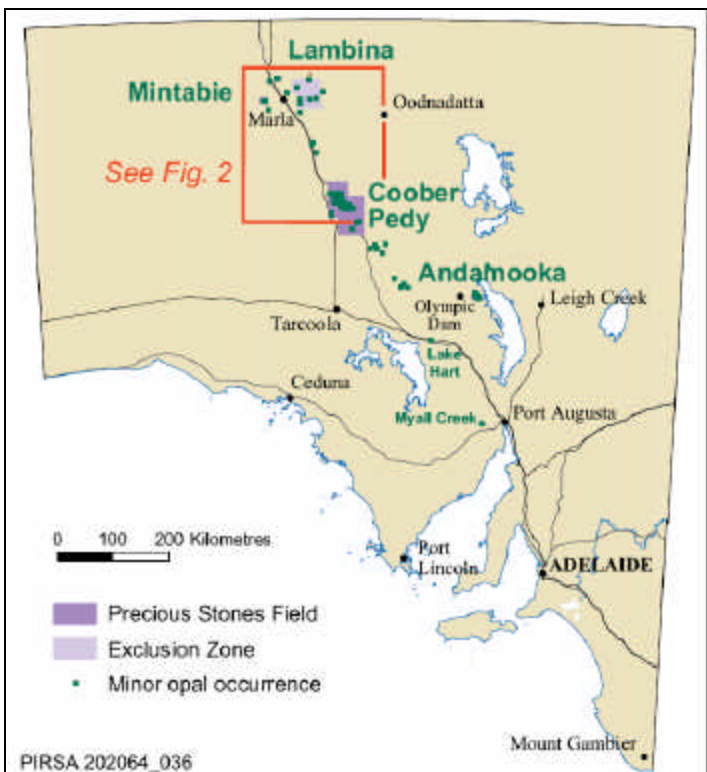


Fig. 1 Location of South Australia's Opal Fields

Introduction

Lambina Opalfield, 100 km south of the Northern Territory border in South Australia's remote Far North, is Australia's most recently worked source of precious opal.

Although diggings on this field have been worked intermittently for at least 30 years, it has only been in the last decade that production of precious opal has become significant. This update of Lambina includes information on the opalfield's history, geology, production, and characteristics of the opal.

When hypothesizing the formation of opal at Lambina, the author emphasizes the possible influence of Tertiary palaeochannels as conduits for water movement, and hence silica movement, and the deposition of opal in immediately adjacent areas.

Location

Lambina Opalfield is 58 km northeast of the town of Marla, 90 km northeast of Mintabie Opalfield, and 10 km south of Lambina Homestead (See map inset). Access to this remote area is either



Lambina Opal. 20-30 mm thick

from the Stuart Highway eastwards along the road to Granite Downs and Lambina, and then along the old Oodnadatta Road that leaves this road ~60 km east of Granite Downs and 5 km south of Lambina Homestead, or east from Marla 11 km then northeast to Broken Leg diggings and generally

northwards to Lambina Opalfield. The latter access is the preferred route taken by miners. Tracks from the Seven Waterholes area lead to various 'diggings' around Lambina (Barnes et al., 1992). Large map locates the opalfield and its surrounding 'diggings'.

Background

Lambina opalfield was probably discovered in the 1930s, but was not reported on until 1956. It was visited and worked only intermittently in the 1950s, 1964, 1978 (Flint, 1980; Hiern, 1967), and then worked seriously from 1989 to the mid 1990s when available opaliferous 'ground' at Mintabie appeared to be diminishing. A few miners tried their luck at the Seven Waterholes diggings (at the western end of the opalfield) and, when word spread of their success, many others attempted to take out opal claims over this occurrence which appeared to spread eastwards. As Lambina Opalfield was located on a pastoral lease, the legislation required to take out a mineral claim for opal was cumbersome and gaining access was not easy.

Barry Lindner, President of the Mintabie Progress Association, and later the South Australia Opal Miners' Association (SAOMA) and former Department of Minerals and Energy Resources, became guarantors for rehabilitation of 'diggings', with funds collected from a bond levied on each miner taking out a lease near Lambina. This streamlined the process, but there was still much paperwork involved. Native title issues were solved by having the appropriate Aboriginal community make a native title claim, providing a group with whom the miners could negotiate. The Lambina Native Title Agreement between SAOMA and the traditional owners - the



Investigator Mark 10 auger drill.

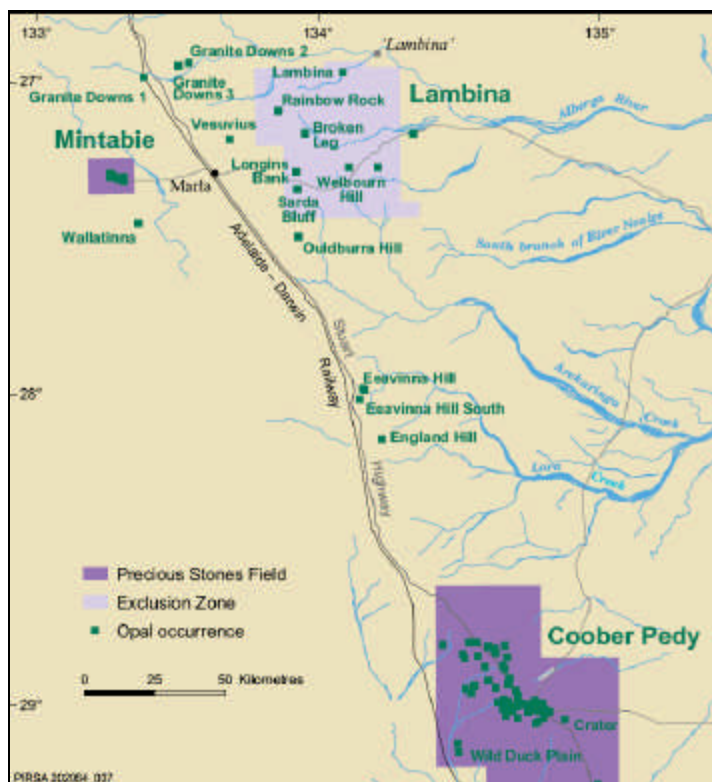


Fig 2: Map of the Lambina Opalfield and its surrounding diggings in relationship to Mintabie

Antakirinja and Yunkuntjatjara people - was signed on 1 June 1998. Lambina and its surrounds therefore became more accessible to opal miners, and over 200 claims were registered in the next four months (see MESA Journal 11, pp. 28-29 for further information). The Aboriginal people negotiated first rights to noodle (fossick) for opal on the bulldozed dumps from open-cut operations, and miners were allowed to camp on an area set aside for camping. But it was agreed that no permanent residences would be allowed on the opalfield.

As Lambina was not to be proclaimed a Precious Stones Field, no officer from PIRSA was stationed on site, and miners had to travel to Marla to register claims. Operations at Lambina and Mintabie are now coordinated from Coober Pedy.

An exclusion zone was proclaimed over Lambina in the mid-1990s to allow miners access to potential opal-bearing areas. Mineral exploration license holders cannot include exploration for opal in the terms of the license (See maps)

Production

Opal production from fields throughout Australia is difficult to estimate, but by using a formula determining the amount of mining activity via the number of active claims, and documenting the amount of equipment on particular opalfields, an estimate of production is made in South Australia every six months and then combined into either a calendar or financial year total. Table 1 provides annual estimates of Lambina opal production taken from



Trench digger in a bulldozer cut.

the PIRSA Division of Minerals and Energy records.

Estimates from 1989 to 1998 are unknown, as all estimates to were included in the Mintabie figures. However, since 1999 Lambina other Far North

opal diggings been treated as a separate entity, that the estimates from 1995 to are deduced only from discussions PIRSA's Coober Pedy Area Officers

Production increased through late 1990s and peaked in 2001, with slight decrease in 2002. Total production from Lambina and near surrounds has been estimated to exceed A\$43 million. Production prior to 1989 is assumed to be minor in comparison to that of recent years, when large mining equipment was introduced.

Geology and Formation of Opal

Opal at Lambina and other Far North opal 'diggings' is hosted mainly in rocks of Cretaceous age. The age of the opal throughout the Great Artesian Basin (GAB) has been a point of speculation, and claimed ages range from Cretaceous through to Recent. This has

led to a variety of geological models being proposed for opal formation because, if the age of the formation cannot be dated, then the models for formation are likewise many and varied. It is generally



Bulldozer in an open cut

thought that Lambina opal formed during Tertiary times.

The factors common to most South Australian deposits (and the same appear to apply to other opalfields in Australia) are that opal is associated with weathered sediments of the GAB, and generally with host rocks of Cretaceous age. Mintabie is the



Tracked drilling rig

exception, in that the opal-hosting rocks are much older; but they are also weathered and do have onlapping Cretaceous sediments (Townsend, 1981), although much of these sediments has been eroded away leaving only remnants around Mintabie, and outliers further west.

Most of the South Australian GAB sediments are marine (Bulldog Shale), whereas in Lightning Ridge and parts of the Winton Formation in Queensland, the GAB sediments are terrestrial (Horton, 2002). Horton also suggested that there was gentle warping of the GAB sediments at ~24 Ma, and that the opalization and silcrete formation occurred at or after this, approaching the 20-18 Ma age (Tertiary times) suggested for much of the South Australian opal.

All Australian opalfields have silcrete (silicified claystone, siltstone or sandstone) capping the Cretaceous and/or Tertiary sediments; this is also interpreted as having developed during Tertiary times. However, the timing of opalization is necessarily identical that of the silicification despite there being strong association geographic locality between the two.

At Lambina, opalized sandstone occurs well as opal introduced into cracks, nodules replacing fossils such marine snails, belemnites and bivalves.

Influence of Palaeochannels

Tertiary palaeochannels(ancient river channels) have been found on many opalfields, and these are considered important factors in opal genesis. They are generally coarse-grained sand bodies with good porosity that could have acted as channels or conduits for water movement, and hence silica movement and deposition of opal in adjacent areas. Similarly, faulting or fault zones are associated with opal formation, and are therefore also considered to be conduits for silica-rich groundwater.

The digital elevation model (DEM) of Lambina (Fig. 3 below) indicates the possibility of remnant channels trending east to west, and opal occurrences in the area extending from Lambina through to Todmorden Outstation and south to Eeavinna Hill and England Hill occur in 'breakaway' country of mesas and eroded plains that cut into the Early Cretaceous Bulldog Shale.

Year	Value (A\$)
1989	no data
1995	50 000
1996	1 000 000
1997	3 900 000
1998	5 100 000
1999	7 500 000
2000	8 250 000
2001	10 211 000
2002	7 322 000
Total	43 333 000

Table 1 Estimates of Lambina Opal Production

As plotted on the DEM, many known occurrences of opal are associated with these mesas (topographic highs, shown in red); the interpreted palaeochannels are shown in white (Fig. 3). The



A parcel of Lambina opal

palaeochannels are interpreted as having originally been topographic lows - stream channels that were later silicified during the Tertiary and now remain as highs caused by a reversal in topography resulting from erosion of the softer surrounding Tertiary and weathered Cretaceous sediments since late Tertiary times.

Potential Future Sources of Opal

As the occurrence of opal in northern South Australia is so widespread — several hundred kilometres north of Coober Pedy on 1:250 000 map areas such as WINTINNA, ABMINGA and through to Mintabie opalfield on EVERARD - there appears to be much potential ranging from England Hill (Townsend and Scott, 1981) in the south and Lambina (Flint, 1980) to the north, Todmorden to the east and Mintabie to the west. This area of at least 10,000 km² includes sporadic occurrences of opal adjacent to mesas and, more importantly, contains remnants of palaeochannels.

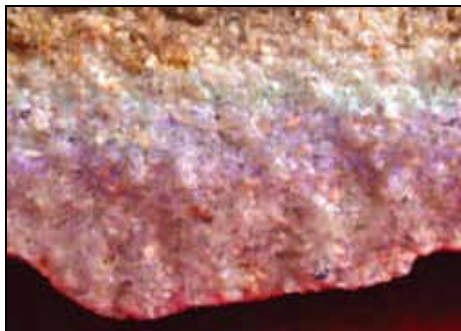


Sorting: Left dish shows opal stained with iron

Interpretation of remote sensing data will almost certainly assist in further discoveries of opal, as has been shown using DEM pseudocolour images of Coober Pedy, Andamooka, and now Lambina and its surrounds. At Mintabie, Andamooka and Coober Pedy, the DEM images were made after most of the diggings were already known, but in northern South Australia there are only a sprinkling of known opal occurrences over a very large area of 'breakaway' landscape. Closer-spaced airborne surveys to produce more detailed DEM images in selected areas should assist in this exploration.

Acknowledgements

The author thanks the PIRSA Division of Minerals and Energy for assistance with the photographs generated from the Coober Pedy office, and provision of map images from PIRSA Spatial Information Services and Publishing



Opalised sandstone from Rainbow Rock, southeast of Lambina. Note that opal fills pore spaces between quartz grains in Cretaceous or Tertiary sandstone. The seam is 30 mm thick.

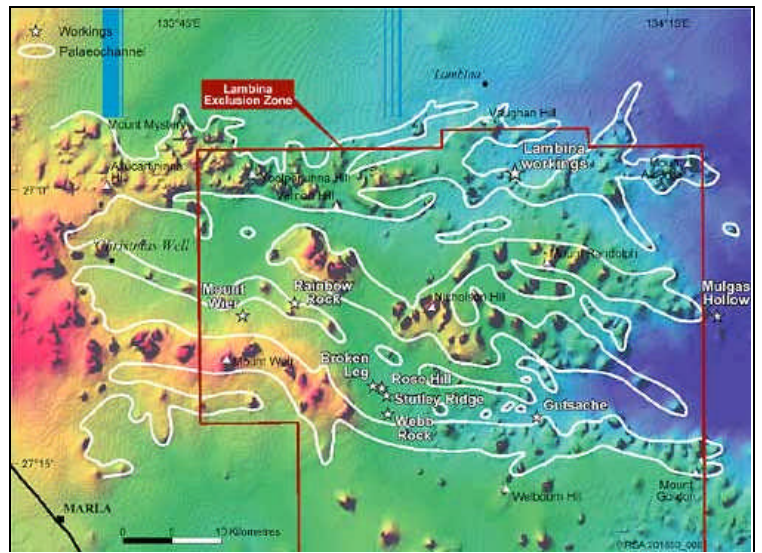


Fig. 3 Digital elevation model of Lambina and other Far North opal diggings. A number of east-west-trending mesas interpreted as remnant palaeochannels are outlined in white.

Services.

For further information contact Jack Townsend (Ph: 08 8297 4799, Email: townsend.jack@myaccess.com.au)

References

1. Barnes, L.C., Townsend, I.J., Robertson, R.S., and Scott, D.C.— 1992; Opal: South Australia's Gemstone; South Australia Department of Mines and Energy. Handbook, 5
2. Brown, G., Townsend, I.J. and Endor, K.— 1993, Some Far Northern Opal Diggings in South Australia; Australian Gemmologist, 18(8):252-256
3. Flint, D.J.— 1980; Lambina Opal Diggings; South Australia Department of Mines and Energy. Report Book, 80/103
4. Hiern, M.N.— 1967; Opal Deposits in Northern South Australia; Mining Review, Adelaide, 122:37-39
5. Horton, D.— 2002; Australian Sedimentary Opal — Why Is Australia Unique?; Australian Gemmologist, 21(8):278-294
6. Primary Industries and Resources South Australia— 1998; Lambina Native Title Agreement; MESA Journal, 11:28-29
7. McCallum, W.S.— 1980; Vesuvius Opal Diggings; South Australia Department of Mines and Energy. Report Book, 80/38
8. Townsend, I.J. and Robertson, R.S.— 1980; Wallatina Opal Diggings; South Australia Department of Mines and Energy. Report Book, 80/34
9. Townsend, I.J. and Scott, D.C.— 1981; Sarda Bluff, Ouldburra Hill, and England Hill Opal Diggings; South Australia Department of Mines and Energy. Report Book, 81/17
10. Townsend, I.J.— 1981; Discovery of Early Cretaceous Sediments at Mintabie Opal Field; South Australia Geological Survey. Quarterly Geological Notes, 77:8-15
11. Townsend, I.J.— 1990; Mintabie Opal Field: Mining and Geology; South Australia Geological Survey. Quarterly Geological Notes, 117:8-15



Precious Lambina opal

From <http://www.pir.sa.gov.au/>

Scientists Discover 'Kryptonite' in Serbian Mine

April 24, 2007

By Sara Bonisteel

Scientists have discovered a new mineral that matches the composition of kryptonite, the mythical rock that could sap Superman's strength in comic books.

The rock — named jadarite — was discovered in a mine in Jadar, Serbia, by the Rio Tinto company and identified by London's Natural History Museum.



Kryptonite saps Superman's strength in the comics. DC Comics

Though the white rock didn't resemble anything known to real-life man, it did match the one substance known to destroy Superman's power.

"The new mineral does not contain fluorine and is white rather than green, but

in all other respects the chemistry matches that for the rock containing kryptonite," said Chris Stanley, the mineralogist who identified the jadarite. The mineral is sodium lithium boron silicate hydroxide, which "probably won't do Superman or us any harm whatsoever," said Mike Rumsey, a mineral curator for the museum.

Click here to read more about the chemical makeup of jadarite.

The scientists discovered it matched the mythical Superman substance when they entered jadarite's chemistry on Google.

"The first page that came back from Google was a Wikipedia page on kryptonite," Rumsey said.

"We went to check it out and found that in the Superman Returns' movie of 2006, Lex Luthor steals a rock fragment from a museum and it zooms in on the fragment and it lists the chemistry of the mineral and that happens to be exactly the same — or almost exactly the same — as what we had found," Rumsey said.

The discovery has those at DC Comics smiling.

"The universe is full of mysteries, and some have been foreshadowed by comics," said Paul Levitz, DC Comics President and Publisher. "We look forward to scientists figuring this one out."

A DC Comics spokesman told FOXNews.com that the mythical formula for kryptonite was likely devised by a writer for the film.

In the Superman comics, kryptonite came from the shattered remains of Superman's home planet, Krypton. It is found in a common green form and in variations of red, blue, white and gold. Later permutations also followed.

Around 30 to 40 new mineral species are discovered each year, Rumsey said.

Click here to watch a video from the museum on this real-life 'kryptonite.'

This non-radioactive mineral was discovered during Rio Tinto's exploration of an industrial mineral field in southern Serbia. According to a company report, low-grade borate was found in the Jadar mine.

Scientists could not name the new mineral kryptonite, as it doesn't contain the element krypton. It will officially be dubbed jadarite when its discovery is detailed in the European Journal of Mineralogy later this year.

And Lex Luthor, take note. Jadarite could have commercial uses. Its structure contains lithium and borate, which can be used in batteries and cleaning products.

The mineral will go on display briefly on April 25 and May 13 at the London museum.

From <http://www.foxnews.com/>

Determining the Township

By Dave Muster

To begin I will quote from the AFMS Code of Ethics, "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."

It is the responsibility of the fieldtrip chairperson to do the footwork mentioned before having a fieldtrip. I have normally used the BLM office in Sacramento to begin this process. One cannot go to the BLM in Hollister for this information because there is no computer for public access.

From my experience it is important to determine the Township, Section and Range of the proposed site. This is of course when it is public land. Land status can change so status should be checked up to date.

Obtain a surface management status map from the U.S. Department of the Interior Bureau of Land Management, California State Office, Sacramento, CA 95825.

Open the large map on a table with plenty of room and locate the site. Look at the west and east borders of the map. You will see a capital "T" with a number of the Township and a letter of direction, N or S. The number of the Township corresponds to the south of the line to the next Township line and west to east across the map.

The Township lines are thicker than section line borders and run horizontally west to east. Determining the Township is the first step in determining the Township, Section and Range of the proposed fieldtrip. Once these co-ordinates have been established and the exact site and its boundaries are found, then with the help of the BLM the status of the land may be ascertained.

From CFMS Newsletter, 3-2007 <http://www.cfm.org>

Serpentine: California State Rock

Serpentine rock is apple-green to black and is often mottled with light and dark colored areas. Its surfaces often have a shiny or wax-like appearance and a slightly soapy feel. Serpentine is usually fine-grained and compact, but may be granular, platy, or fibrous in appearance. The term "serpentine" is commonly used by the general public to refer to the rock type that geologists call "serpentinite". Serpentine occurs in central and northern California -- in the Coast Ranges, the Klamath Mountains, and in the Sierra Nevada foothills.

Serpentine rock is primarily composed of one or more of the three magnesium silicate minerals, "lizardite," "chrysotile," and "antigorite." Chrysotile often occurs as fibrous veinlets in serpentine. Chrysotile in fibrous form is the most common type of asbestos. Asbestos is a term applied to a group of silicate minerals that readily separates into thin, strong, and flexible fibers that are heat resistant. Lizardite and antigorite do not form asbestos fibers and instead are plate-like in form. Because serpentine often contains some asbestos, and exposure to asbestos fibers have potential human health consequences, the Air Resources Board adopted regulations in 1990 restricting the use of this rock type as an unpaved road surfacing material. Further information on restrictions for serpentine use in California can be obtained by contacting Air Resources Board at (916) 322-8285, or the local Air Pollution Control District Offices. See our asbestos page for information about asbestos in El Dorado County, a brochure that describes the issue, and related web links.

Serpentine is considered by geoscientists to be the metamorphosed remains of magnesium-rich igneous rocks, most commonly the rock peridotite, from the earth's mantle. The mantle is a thick layer of rock just below the earth's crust. One theory for serpentine formation and occurrence currently in favor with many geoscientists is that peridotite underlying rocks have been metamorphosed to serpentine in subduction zones that existed at

various times in California's past. A subduction zone is an area where ocean crust rocks run into and slide underneath the edge of a continent. Because serpentine has a much lower density than peridotite, it rose toward the surface along major regional thrust faults associated with the subduction zones.

From the California Geologic Survey, via Rockhound Rambling, August, 2006.

+++++

The Rhodochrosite Story

Also called Rose Del Inca, this rare and beautiful pink stone is almost exclusively mined in a remote Andean region of Argentina known as Capilita.

Its name comes from the Greek word "Rhodo" for rise and "Chros" for color. It is popularly known as Inca Rose because this semi-precious stone was discovered by the Inca civilization and treasured by them around the 12th century AD.

Generations later, a man named Franz Mansfiel rediscovered the mine and, during one of his explorations, found the Inca mummy that held in its hand an amulet carved out of this unique stone. Most unusual formations with a circular pattern of light and dark Rhodochrosite occur in this Argentine treasure chest. Highly artistic pieces are hand carved out of the legendary Inca Rose, although due to its rarity and cost, smaller pieces are more often frequently cut today.

From Chips 'N Splinters, 8/01 via the Breccia, 9-2006

+++++

Freshwater Pearls from China

By Richard W. Wise

Excerpts from the book: [Secrets of the Gem Trade \(The Connoisseur's Guide to Precious Gemstones\)](#)

China was one of the first to master the art of culturing. The Middle Kingdom began producing cultured pearls in the fourteenth century. In the 1960s a state-controlled industry introduced freshwater cultured pearls to the world market. Originally cultured using the wild *Cristaria plicata* or cockscomb mussel, initial production was of low quality baroque pearls, disparagingly known as rice crispies.

In the early 1980s, Chinese farmers abandoned the cockscomb in favor of the thicker shelled *Hyriopsis cumingii* or "three-cornered shell" mussel. Implantations of this new mollusk resulted in a breathtakingly superior freshwater pearl. By the early 1990s these pearls began to appear in force on the world market. Pearl culturing in China had come of age.

These new Chinese pearls are filling a niche hitherto occupied by Japanese Biwa pearls. Ironically, just as demand for fine freshwater pearls has increased, and the term "Biwa pearl" has come to connote the very finest in freshwater pearls, actual production at Lake Biwa has declined to the point of nonexistence. Pollution is the culprit! Industrialization surrounding Lake Biwa has sounded the death knell for Japanese freshwater pearls.

The Chinese are producing two types of freshwater pearls: tissue nucleated and bead nucleated. Tissue nucleation uses only a thin segment of living tissue from a donor mollusk to stimulate the development of the pearl. Bead nucleation is a relatively newer technique in China. Pearls of this type have been available only for about five years.

Tissue-nucleated pearls, which are by far the largest group produced, are mainly baroque pearls and are available in many bizarre and amazing shapes. Bead nucleation, as of this writing, has produced round pearls as large as fourteen millimeters.

Color

Chinese pearls come in a variety of hues including pink, apricot (yellowish orange), peach (pinkish orange), champagne (slightly pinkish yellow), plum (reddish violet), bronze (reddish brown), and every shade in between. Unlike black pearls, these pearls can be bleached white by prolonged exposure to the sun or by soaking the



Chinese freshwater pearl strands of exceptional luster and orient; the orient color surrounds the body color on each individual pearl like a halo.

pearl in a bleaching agent for several hours. Natural color Chinese freshwater pearls should be stored in a darkened environment in order to preserve the natural pastel color, since they may fade with long exposure to sunlight. Color in pearls is not a part of the quality equation. Apricot is not more beautiful than champagne. That is a question of preference and simpatico.

Orient and overtone

Chinese pearls appear to have relatively opaque nacre. In smooth, relatively round pearls, the orient will exhibit itself as a slight darkening of the body color, plus perhaps a bit of pink.

Orient can best be judged if the pearl is viewed against a color that is close in hue and therefore neutralizes the body color of the pearl. Diffused daylight is the best viewing environment. In this lighting the overtone is seen in the actual reflection of the light source; the other color seen is the body color. Incandescent light can sometimes produce the opposite effect, bleaching out the color toward the center of the round pearl. In such cases, the orient may be found in the surrounding halo.

The rainbow effect

Baroque China pearls tend to exhibit a rainbow effect, a quality unique to this type of pearl. This is particularly true of the more baroque tissue-nucleated variety. The more texture, the more pronounced is this effect. Rainbow iridescence must be distinguished from true orient. Though beautiful and desirable, it appears to be a surface effect, not the result of refraction. Rainbow iridescence is probably caused by light reflecting in different directions off the pearl's surface. This phenomenon is called interference; light rays literally bump into one another, resulting in the breakup of white light into various spectral colors.

Symmetry

Symmetry is the least important factor in evaluating a pearl. A majority of Chinese pearls are baroque, occurring in many strange and fanciful shapes. Baroque pearls, like fine abstract sculpture, may assume shapes that in no way detract from (and in fact contribute to) the beauty of the pearl. While it is true that curved surfaces bring out the beauty of the orient in a pearl, and that perfection of form does carry a substantial premium in the marketplace, the requirement that a pearl be perfectly round seems, at least to me, somewhat arbitrary.

Baroque pearls present the flexible aficionado with an opportunity to acquire a beautiful gem at a price which is dramatically less than the price a pearl with comparable luster, orient, etc. would bring in a pearl with perfect symmetry.

From Ganoksin.com – Tips from the Jeweler's Bench. Reprinted for educational purposes under the "fair use" provision of the U.S. Copyright Act.

+++++

A Look at Pearl Quality

By Anne Sasso

When buying cultured pearls, consumers must consider several quality characteristics that are very different from the "four C's" of diamonds or gemstones.

Nacre quality is very important. The nacre is the layers of protective coating a pearly substance that grows around a pearl nucleus. Experts warn that only pearls with a sufficient layer of nacre will last through years of wear; thin-nacre pearls often peel or crack. A nacre that is less than 0.35 mm is considered too thin, and thicker is always better. Nacre thickness can be measured by X-ray or by examining the drill hole to see how far the hole goes before reaching the bead at the center.

Here are some other quality considerations for buying pearls:

Luster:

Luster is described as the combination of surface brilliance and a deep, three-dimensional glow. This glow is the light that is reflected, not only off the pearl surface, but off the internal layers of nacre. In fact, the luster of a pearl depends on the quality of its nacre its transparency, thickness, and smoothness. High-luster pearls have a mirror-like finish that is bright and not dull. They command much higher prices than pearls with a low luster. Low-luster (and therefore low-quality) pearls appear chalky or dull with a flat finish.

Surface:

A pearl's surface is considered "clean" when it's free of organic spots, bumps, or indentations. Generally speaking, the cleaner the pearl, the more valuable it is. It is normal for pearls to have some flaws, like small scratches or bumps, but buyers should avoid pearls with cracks or chips, as they will only get larger over time. Look for such damaging blemishes near the drill hole of a pearl. Obvious discoloration, patches of missing nacre, and blemishes covering the majority of the surface of the pearl are other things to look out for and avoid.

Shape:

Round pearls have long been considered the best quality or at least have been the most popular, commanding the highest prices. But in recent years, pearl shape has become more a matter of taste than of quality. Many people enjoy oval or drop-shaped pearls. Asymmetrical or baroque pearls also have a unique charm at a more moderate price than rounds. Keep in mind, also, that since cultured pearls are grown by oysters and subject to the whims of Mother Nature, it is rare to find a pearl that is perfectly round.

Color:

Cultured pearls occur in a variety of colors from white to black and just about every color in between. Color is not usually a true indicator of pearl quality, although certain colors command premium prices. The choice of color should be determined by the buyer's personal preference or taste. The range of pearl hues can complement the wearer's hair, skin, and eye color; buyers should choose what looks good on them.

Size:

Generally the larger the pearl, the more valuable it will be. Sizes of cultured pearls range from 1 mm for a very tiny keshi pearl to as large as 24 mm for a baroque South Sea cultured pearl. The average size pearl is about 7 mm. Size dramatically affect prices, especially for pearls over 7 mm.

Buyers are encouraged to consider all of the pearl quality criteria before choosing the pearls they wish to purchase. It is important to note that even a pearl that is almost perfectly round and blemish-free is not considered high quality if it has a low luster or a thin nacre.

Imitation Pearls

There are several types of imitation pearls, including:

1. hollow glass beads containing wax
2. solid glass beads
3. plastic beads
4. mother-of-pearl shell beads

These imitation pearls are usually coated with something to give them a pearly appearance, such as pearl essence, powdered mother-of-pearl and synthetic resin, synthetic pearl essence, plastic, cellulose, and lacquer.

Are They Real or Fake?

Here are a few tips and tests that may help you figure out whether your pearls are real (meaning cultured or natural). Experts recommend using several of these tests on your pearls to best help in ruling out the possibility of fakes. No one test is fool proof, and certain tests are less effective with different types of pearls.

Test	Real	Fake
Tooth test: rub pearl lightly across upper front teeth	feels gritty or sandy	feels smooth
Magnification test: examine pearl surface with a loupe	appears unusually fine-grained	appears grainy
Drill hole test: examine the drill hole area with a loupe	edges are smooth and sharp	holes are bumpy or ragged
Heaviness test: bounce pearls in your hand	feels heavy to hold	feels unusually light (unless they are solid glass beads)
Flaw test: examine pearls for flaws and blemishes	most will have at least minimal flaws	if they appear absolutely flawless they are most likely fake
Price test: compare price to similar pearls from other dealers	has reasonable or comparative price	price is unbelievably low or discounted

From Ganoksin.com – Tips from the Jeweler's Bench. Reprinted for educational purposes under the "fair use" provision of the U.S. Copyright Act.
 ++++++

Safety - UN-EQUAL

By C. Norman Shealy, M.D.

One of the many karmic debts of our ex-Secretary of War is his fostering aspartame on the world. EQUAL is anything but equal, as if being equal to sugar is good!!

And of course the FDA is a co-conspirator in the crime of allowing this potentially poisonous material over the counter. Aspartame UNEQUIVOCALLY worsens:

- Hypertension
- Migraine
- Epilepsy
- Obesity

Taken together these 4 major illnesses affect well over two-thirds of Americans. Other than the known biochemical damage in patients with the first 3 of these illnesses, aspartame contributes to excess weight and obesity because it artificially:

- Stimulates your appetite
- Increases carb cravings
- Stimulates fat storage and weight gain!

Indeed, drinking a can a day of "diet" pop provides the average consumer an opportunity to add about 15 pounds per year. Indeed the calories in one can of regular "Coke", 139, will also add only 15 pounds per year. But since people think diet is good, they are more likely to drink even more of this toxin. Now instead of a can of junk pop, you could enjoy the following for approximately the same number of healthier calories:

- One banana
- Two and a half apples
- 7 oz of whole milk and skim would be better!

- 4 teaspoons of butter
- A whole grain roll
- A container of yogurt
- An oz of Bailey's Irish Cream (still better than pop!!)

The next great hoax, according to a recent news report, is the planned introduction by Coca-Cola in the spring of diet coke with added vitamins! JUNK IS JUNK and no amount of vitamin supplementation will make it healthy! Of course all "artificial" sweeteners have the same effect of fooling your hypothalamus and stimulating appetite, carb craving, and increased fat storage. We do not know yet whether the latest scam, Splendor, will have the additional harmful effect of worsening hypertension, migraine and epilepsy. But it has no health value. Real food is the answer. The bottom line is:

Un-Equal is indeed a war upon your health! You can't afford the luxury of eating or drinking this reported ant poison. Or any other non-food junk!

From Dr. Shealy's newsletter Each Monday you can tune-in and talk online with Dr. Shealy at Voiceamerica.com. Check Health & Wellness channel, March 19, at 11 AM, Central Time. The call-in number is: 866-472-5792. From the CFMS Newsletter, 2007-05

+++++

May 2007 Gem & Mineral Shows

4-6--BISHOP, CA: Show; Lone Pine Gem & Mineral Society; Bishop Fairgrounds; Fri. 5-9, Sat. 9-5, Sun. 10-3; free admission; dealers, demonstrators, field trips; contact Francis Pedneau, (760) 876-4319, or Jeff Lines, (760) 937-4498; e-mail: franceem@qnet.com.

5-6--ANAHEIM, CA: 48th annual show, "Gem Roundup"; Searchers Gem & Mineral Society; Brookhurst Community Center, 2271 W. Crescent Ave.; Sat. 10-5, Sun. 10-4:30; kids' program, silent auctions, gold panning, grab bags, hourly door prize, tools, minerals, gemstones, jewelry; contact Betty Nelson, (714) 530-1365; e-mail: betty@azteche.com. Web site: www.searchersrocks.org.

5-6--BAKERSFIELD, CA: Show, "Art in Stone"; Kern County Mineral Society; Kern County Fairgrounds, Ming Ave. and S. P St.; Sat/ 10-5, Sun. 10-5;

contact Bill Leslie, 18631 Santa Fe Way, Shafter, CA 93263, (661) 746-3167; e-mail: mjblasie@msn.com.

18-20--ANDERSON, CA: Show; Superior CA Gem & Mineral Association; Shasta District Fairgrounds; Fri. 9-5, Sat. 9-5, Sun. 10-4; Bill Seward, (530) 365-8641.

18-20--COSTA MESA, CA: Show, "Spring West Coast Gem & Mineral Show"; Martin Zinn Expositions; Holiday Inn - Bristol Plaza, 3131 S. Bristol, near South Coast Plaza and John Wayne Airport; Fri. 10-6, Sat. 10-6, Sun. 10-5; free admission; 100 dealers, US, China, Brazil, Russia, India; contact Martin Zinn Expositions, P.O. Box 665, Bernalillo, NM 87004-0665, fax (505) 867-0073; e-mail: MZ0955@aol.com; Web site: www.mzexpos.com.

18-20--SACRAMENTO, CA: Show; Gem Faire Inc.; Cal Expo/Bldg. A & B, 1600 Exposition Blvd.; Fri. 12-7, Sat. 10-7, Sun. 10-5; \$5 weekend pass; contact Yooy Nelson, (503) 252-8300; e-mail: info@gemfaire.com; Web site: www.gemfaire.com.

19-20--NEWBURY PARK, CA: 33rd annual show, "Pageant of a Thousand Gems"; Conejo Gem & Mineral Club; Borchard Park, 190 Reino Rd.; Sat. 9-5, Sun. 10-4:30; free admission; exhibits, demonstrations, gem and jewelry sales, youth activities, door prizes, silent auctions, plant sales; contact Robert Sankovich, (805) 494-7734; e-mail: rmsorca@adelphia.net.

19-20--YUCAIPA, CA: Show; Yucaipa Valley Gem & Mineral Society; Yucaipa Community Center, 34900 Oak Glen Rd.; Sat. 9-5, Sun. 10-4; free admission; silent auction, w slabs, specimens, large items, kids' rock bingo, spin the wheel, informational sessions, 14 dealers, jewelry, carved stones, specimens, lapidary equipment, in conjunction with the Yucaipa Iris Festival; contact William Jochimsen, P.O. Box 494, Yucaipa, CA 92399, (909) 790-1475; e-mail: bjm2285@aol.com; Web site: http://mysite.verizon.net/yucaipagem/id3.html.

25-27--SANTA BARBARA, CA: Show; Gem Faire Inc.; Earl Warren Showgrounds/Exhibit Hall, 3400 Calle Real; Fri. 12-7, Sat. 10-7, Sun. 10-5; \$5 weekend pass; contact Yooy Nelson, (503) 252-8300; e-mail: info@gemfaire.com; Web site: www.gemfaire.com.

26-27--VIRGIN VALLEY, NV: 3rd annual show; thegemdealer.com; Opal Negra Mine Millsite, Sagebrush Creek Rd.; Sat. 10-5, Sun. 10-5; free admission; field trip Mon.; contact Scott Ryals, P.O. Box 2543, Port Angeles, WA 98362, (800) 803-7601; e-mail: gemshow@thegemdealer.com; Web site: www.thegemdealer.com/gemshow/virginvalleygemshow.htm.

Custom Creative Gem Cutting Stan M. McCall

Lapidary and Jewelry Artist

Custom Jewelry Designs & Repairs
Gemstone Cutting & Repolishing
Diamonds, Opals, Colored Stones

(714) 220-9282

6029 Orange Ave. Cypress, CA 90630

<http://home.earthlink.net/~custom-creative/>
custom-creative@earthlink.net

Tuesday-Saturday 10am-3pm. Appointments Also Available

Australian Opal Imports

"Specializing in the Finest"
Black Opal from Lightning Ridge
Rough and Fine finished stones

Gene and Loretta LeVan

Phone: (562) 621-1805, FAX: (562) 621-1806

<http://www.australianopalimports.com>

fineblackopal@sprynet.com

2201 East Willow St. D338, Long Beach, CA 90755

~ Wired Artist Opal Creations ~

<http://www.wired-artist-jewelry.com/opal.html>

wired-artist@wired-artist-jewelry.com

for people who like gemstones

gemfilm
channel

www.gemfilmchannel.tv

American Opal Society Membership Renewal

TYPES OF MEMBERSHIP		DUES / FEES)	AMOUNT PAID
DUES: SELECT ONE	All <u>US</u> Addresses including Alaska and Hawaii	\$30	
	<u>International Members</u> All addresses <u>outside</u> of US Addresses	\$40	
ADDITIONAL BADGES \$5.00 each (First Badge <u>free</u> when joining)		\$10	
ONE TIME INITIATION FEE All <u>New</u> members		\$10	
SENIOR DISCOUNT Age 65 or over deduct \$5		-\$5	
TOTAL PAID DUES, less Senior Discount plus Badge plus Initiation Fee (if Applicable)			

Please make check or money order payable to "**American Opal Society**". Mail payment and application to:
American Opal Society; PO BOX 4875; Garden Grove, CA 92842-4875
 An optional, quicker method of payment is via the **Internet**. To pay, just visit the membership page on our website at http://opalsociety.org/aos_application_by_web.htm and complete the form. You may pay with a **Credit Card** or via **PayPal** account. The transaction is completely secure and the AOS never sees your credit card number. The AOS PayPal account is **membership@opalsociety.org**.

NAME		
BUSINESS NAME		
ADDRESS		APT # or PO BOX
CITY		STATE
ZIP or POSTAL CODE		COUNTRY (IF OUTSIDE USA)
PHONE - Home ()	PHONE - Business ()	FAX ()
E-MAIL		
WEBSITE		
OCCUPATION		HOBBIES AND INTERESTS

NAME BADGE ORDER FORM:
 PLEASE PRINT NAME AS YOU WISH IT TO APPEAR ON YOUR BADGE using up to two (2) lines of text for your name, nickname, or name of your opal related business.

MEMBERSHIP ROSTER and NEWSLETTER MAILING: The AOS publishes a membership directory once per year in its Newsletter, the *Opal Express*. Your name will be included. Please check what additional personal information that you want listed for other members. If it is different from the information above, please note that on the application.

- Address
 Phone
 E-mail
 Website
 E-Mail the Opal Express Newsletter instead of Postal Mail
 Include my name & address on a list provided to the Dealers selling at our Annual Opal & Gem Show.

Please sign here: _____ Date _____

The Opal Express is published monthly by
 The American Opal Society.
 Copyright 2007. All rights reserved.
 Non-Commercial Reprint Permission Granted Unless Otherwise Reserved.
Editor-Jim Pisani
 Please address all inquiries and exchange newsletters to:
The Opal Express C/O
Jim Pisani
P.O. Box 4875
Garden Grove, CA 92842-4875
 E-mail: editor@opalsociety.org

Are Your Dues Due Now?
PLEASE CHECK YOUR ADDRESS LABEL. If your label shows the current month/year your dues are DUE NOW. If the date is older, your dues are overdue.
A Renewal Grace Period of two months will be provided. If your dues are due now you will receive two additional issues of the newsletter. Please note, however, that as the system is now set up, if your renewal is not received you will be AUTOMATICALLY dropped from membership thereafter. It is your responsibility to assure your dues are current.
 Thank you,
 The Editor

The Opal Express

American Opal Society
P.O. Box 4875
Garden Grove, CA 92842-4875



**Volume #40 Issue #5
May 2007**

TO:

Some Topics In This Issue:

- Second AOS Live Auction for June 14th
- Lambina Opalfield
- Scientists Discover 'Kryptonite'
- Determining the Township
- Serpentine: California State Rock
- The Rhodochrosite Story
- Freshwater Pearls from China
- A Look at Pearl Quality
- Safety - UN-EQUAL

Important Info:

General Meeting - May 10th

Jim Pisani will give a slide presentation on the Tecopa Opal Fields in California. He will discuss the locale, area history, collecting, and will have samples of Tecopa opal for viewing. This presentation was the basis of his published article in the October 2006 issue of Rock & Gem Magazine. Don't miss it!

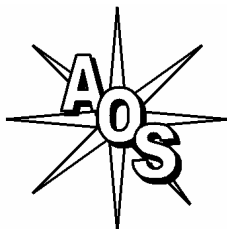
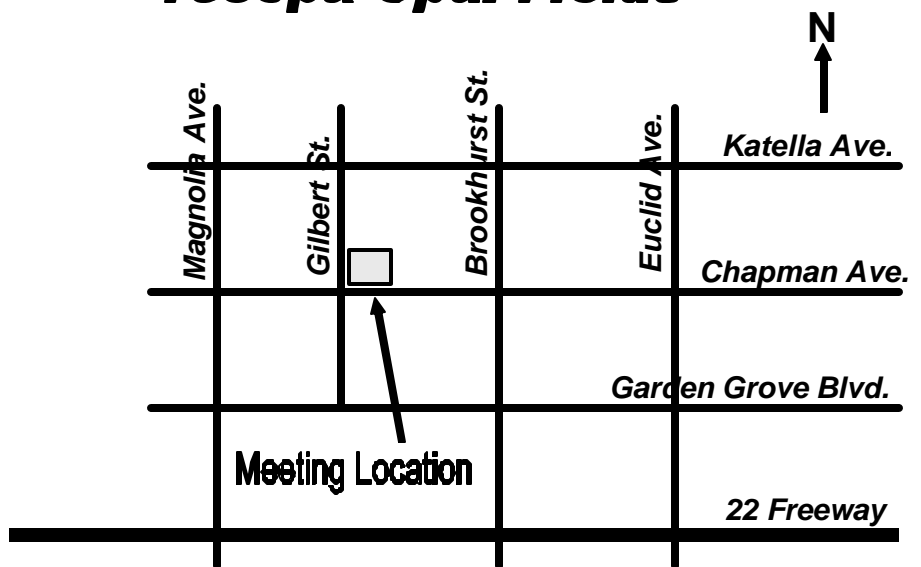
— GENERAL MEETINGS —

2nd Thursday of the Month
7:00 pm - 9:00 PM
Garden Grove Civic Women's Club
9501 Chapman Ave.
(NE corner of Gilbert & Chapman)
Garden Grove, CA

MEETING ACTIVITIES

Opal Cutting, Advice, Guest Speakers,
Slide Shows, Videos, Other Activities

May 10th: Jim Pisani on the Tecopa Opal Fields



The American Opal Society

<http://OpalSociety.org>

Eugene LeVan
Jim Lambert
Russ Madsen
Jim Pisani

President
Vice-President
Treasurer
Editor & Webmaster

(562) 621-1805
(714) 891-7171
(562) 884-2254
(562) 797-5239

email: fineblackopal@sprynet.com
email: jlamb777@yahoo.com
email: chairman2rgm@charter.net
email: editor@opalsociety.org