Palomar gem & mineral club

VOLUME 60 - ISSUE #7
JULY 2019

BOARD OFFICERS ELECTED	
President	Jef Wright
Vice President	**Justin Engelmeyer**
Secretary	**Fred Floyd**
Treasurer	Toni Floyd
BOARD OF DIRECTORS (APPOINTED)	
CFMS Chairperson:	Toni Floyd
Field Trips:	Melissa Takagi
Parliamentarian:	Chris Toft
Shop Coordinator:	Alan Mazzola
Program Chair	**Karen Wagner**
Show Chair	Michele Shepard
Newsletter Editor	**Carol Hiestand**
Website:	Ian Burney
Membership Chair	Lori Goodman
STANDING COMMITTEES (APPOINTED)	
Facebook Page	Jeff Fox
Ways & Means	Dawn Wright
Historian	Barbara Bury
Hospitality & Good Cheer	Judy Jessup
Meeting Displays	Barbara Bury
Picnic Coordinator	Moni Waiblinger
Refreshments	Dawn Wright
Redwood Rep	Barbara Bury
Librarian Calendar	Chris Toft Justin Engelmeyer

NEXT MEETING:

WEDS July 17, 7 PM

DITTUS HALL, REDWOOD TERRACE

710 W. 13TH AVE. ESCONDIDO

INFORMATIVE PROGRAM!!!!

BRING A FRIEND!!!

Needed: CFMS Chair, fun job & reimbursed for expenses!

HAPPY BIRTHDAY TO JULY BIRTHDAY MEMBERS!!

CONTENTS:

BIG THANKS TO:

Cindy Stankowski, MA executive director, San Diego Archaeology Museum, for her fascinating & informative talk & slides: "Archaeological Artifacts of SD County"

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Grand Prizes, PGMC Gem Mineral & Jewelry show June 29-30

Many thanks to all the hard-working volunteers who made it a success!

(See photos starting p.10 in newsletter)

JULY PROGRAM: Info isn't available yet, but our new chair Karen Wagner, is working on something informative and of interest to club members!!

FIELD TRIPS: Melissa is trying to put something together for club members interested in visiting the San Bernadino County museum in Riverside. If you heard the presentation at the May meeting you know it will be worthwhile. If not, I promise a fascinating learning and hands-on experience for kids and adults to enjoy!

PICNIC IN AUGUST: Annual summer picnic SUNDAY AUGUST 18

10AM- ???? @ JESMOND DENE PARK
2401 N. Broadway, Escondido 92026.
Bring: picnic chair, food dish to share.

Non-alcoholic beverages provided.

NO MEETING IN AUGUST!!!

HEADS-UP:

Regular meetings resume in Sept. with "PIE MONTH"!

UPCOMING EVENTS:

******UPCOMING CLASSES******

Lapidary & Silversmith Workshop

2120 W. Mission, Suite S., Escondido

Cabochon/Lapidary Class & Open Workshops

Tuesday 6:30 – 9:30 pm

Wednesday 11:00 am – 2:00 pm

Thursday 2:00-5:00pm

Learn to cut and polish a rock into a beautiful stone suitable for wire wrapping or fabricating in

metal. A fantastic assortment of material is available for purchase on site.

The workshop is also open for general use. No prior registration needed.

Thursday 6:00 pm – 9:00 pm ***METAL SMITHING only - open for to those students who have had metal smithing instruction or experience and/or have instructor approval.*** *Those students who have attended an introductory class may continue to work on improving their skills in this weekly workshop*. An experienced metalsmith will be available for consultation.

Cost: A $7 shop fee will be collected for regular workshop. Club membership required.

Introduction to Faceting

An informative introduction and hands-on experience in the world of gem cutting. Learn how to

create a gem out of a piece of rough, during a weekend class. No machine required. Return

students welcome with or without their own machine. Each class can accommodate 3 new

students without machines and 3 returning students with their own machines.

Instructor: Bob Johnson

Location: Club Shop

Dates & times: Saturday, July 13, and Sunday July 14, 2019 – 9am -5pm

Cost: $80 New students. Club membership required. $70 return students.

Contact Bob Johnson for more info or to register - 760-809-0152 or email Bob at N78532@yahoo.com

Faceting – Continuation Class

This is a class for continuing students who have completed the Introductory Class and is held once per month, from 9 to 5 on the Saturday following the general meeting, (which is always on the third Wed.)

Instructor: Bob Johnson

Location: Club Shop

Cost: $35.

July workshop – July 20, 2019, 9-5

Contact Bob Johnson for approval and to reserve a spot - 760-809-0152 or email Bob N78532@yahoo.com

Faceting Immersion

An informative 5 day workshop/summer camp exploring the world of gem cutting. Learn how to

create a gem out of a piece of rough. No machine required. Return

students welcome with or without their own machine. Each class can accommodate 3 new

students without machines and 3 returning students with their own machines.

Instructor: Bob Johnson

Location: Club Shop

Dates & times: 1st Session August 5-9, 2019 – 9am -5pm

2nd Session August 12-16

Cost per 5 day session: $175. Club membership required.

Contact Bob Johnson for more info or to register - 760-809-0152 or email Bob at N78532@yahoo.com

Introduction to Silversmithing Class

Ring by Mike Mettelka

This is a 10-hour introductory silversmith class. The students will learn to develop their designs, use a jeweler's saw to cut out a pattern, solder a bezel to a backing and add a bale or a ring shank, creating a wearable piece of jewelry.
Intermediate students can work on a project of their choosing with instructor approval. At the completion of this introduction the student can continue learning in the Thursday night workshop.

Instructors: Diane Hall & Annie Heffner

Dates & times: July 27 & 28, 2019, 10-4

Cost: $60 (club membership required - $25 fee for single membership)

Materials additional – (Approx. $30) and please bring a cabochon to set in silver or let us know if you need one.

**Call Diane Hall at (760) 741-0433 (leave message for call back) or email dianehall213@gmail.com for more info or to register. *Next class September 28 & 29*.

Chasing & Repoussé Workshop

We are planning a week of chasing & repoussé for those who have had beginning experience, have their own tools and want to get together to create, share ideas, and enjoy time with other chasers.

Dates & times: Monday, August 19 – Friday, August 23, 2019 from 10-4.

Cost: $75

Materials: Bring your own pitch bowl and tools.

**Call Diane Hall at (760) 741-0433 (leave message for call back) or email dianehall213@gmail.com for more info or to register.

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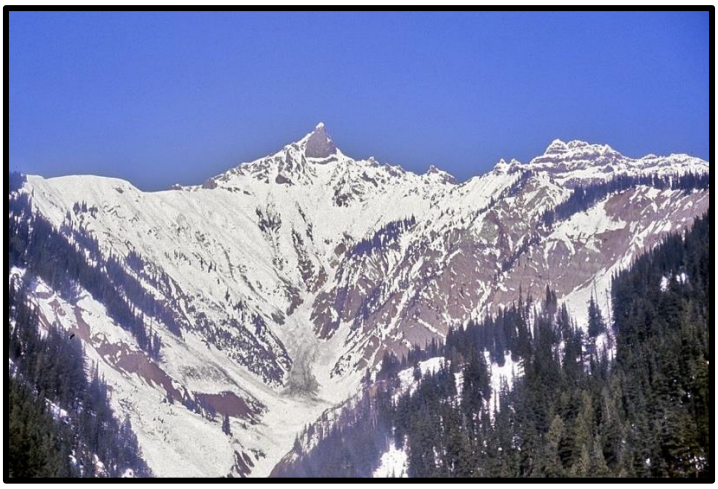
MEAGER MOUNTAIN COMES TUMBLING DOWN

by Gene Ciancanelli

A typical Pacific Northwest early morning mist enfolds the trees in British Columbia's Garibaldi Range. The helicopter's engine revs and slowly climbs suddenly breaking above the mist into bright sunlight and rising before us is the snow and glacier covered summit of Meager Mountain.



Meager Volcano 1979

In the 1970's, my friend and former Phelps Dodge co-worker, Jim, is a consulting geologist in Vancouver, British Columbia. At the time, I'm a consulting geologist exploring for geothermal energy. Jim calls his company Lion's Gate Ltd. Jim knows I have many geothermal clients and inquires if there might be geothermal resources in Canada. I suggest he explore the volcanoes in British Columbia's Garibaldi Volcanic Belt, which is the northern extension of the Cascade Mountain Range. Jim and his partner, Trevor, begin trying to identify geothermal prospects along the Garibaldi Volcanic Belt using geologic criteria that I've developed as guideposts. Jim is familiar with many of these, because we used them for porphyry copper exploration.

Following the 1970s Energy Crises, utility companies are being pressured to develop alternative energy resources. The United States and Canadian governments are throwing money into finding new energy resources, including geothermal energy, and as usual the shady characters and sleazy politicians are stuffing their pockets at the taxpayers' expense. California's economically successful Geysers Field has legitimized geothermal energy. Seizing on this, Lion's Gate convinces B. C. Electric Power to fund geothermal exploration at Meager Mountain the largest and most recently active volcanic center in the Garibaldi Volcanic Belt. In standard utility company public relations practice, B. C. Electric Power views the Meager Mountain Project as a distraction to convince the public they are seriously investigating alternative energy resources. In reality, during the decade of the 1970s, the utility industry is fixated on nuclear power generation, because that is their most profitable electrical energy generation method under the contrived energy pricing regulations. Under this subterfuge, B. C. Electric Power will fund Lion's Gate to conduct exploration at Meager Mountain for over a decade.

As Canada's only geothermal project, the Meager Mountain Project rapidly moves forward with the blessing and funding from the Canadian government and B. C. Electric Power. Soon self-proclaimed geothermal experts from academia and government agencies, as well as the Lion's Gate boys, descended on Meager Mountain.

Almost immediately, the project experiences a tragedy, when a four-man field party is killed in an enormous rockslide. The geophysical field party is working in a canyon at the base of Meager Mountain. They would have stopped for lunch along the creek bottom, when suddenly a large section of the mountainside collapses in an enormous landslide. Sitting in the dense forest, the four men can't see the slide coming and, in any

event, they couldn't have reached safety. Large rocks, boulders, and tree trunks sweep down the canyon accompanied by a loud noise and shock wave. The men are buried under the rock landslide and no trace of them is ever found.

(Left) The canyon down which the landslide traveled that buried the four men. (Right) The canyon bottom filled with landslide debris under which the four men are buried.

In 1976, I'm supervising a geothermal drilling project at the Roosevelt Utah geothermal field. We are using Pender Associates' services for environmental assessment and mitigation. Following my recommendation, Lion's Gate recommends B. C. Electric Power retain Pender as their engineering and environmental consultants. Probably, as a token reward, I'm given a small assignment to assist in preparing the Meager Creek Environmental Report and thus I met Oleg Farkas, B. C. Electric Power's project manager. Oleg wants the project to be a success to boost his career. I'm the "out-of-town geothermal expert" and Oleg asks for my overall appraisal regarding Meager Mountain's geothermal potential. He is pleased to hear that there is a high probability that a geothermal reservoir is present. The project is then evaluating the volcano's upper flanks, which aren't suitable for development, due to extremely steep slopes, very unstable rocks, and glacial ice cover. It would be impossible to build access roads on the very steep and unstable mountain slope. They are proposing to drill wells and build a power plant near the mountain's summit, which is covered by a glacier. It will be impossible to build and maintain a power plant, a geothermal well field, and steam gathering pipeline on a moving glacier. I recommend refocusing exploration onto the volcano's lower flanks, particularly the eastern flank where the terrain is suitable for development and there is a much lower risk of landslide disruption.

In 1979, I'm retained as an advisor to the Meager Creek Project. In mid-March, Oleg, Trevor, and I spend a day flying over the project area by helicopter. It is a glorious day with bright sun and blue sky above Meager Mountain's pristine snow and glacier covered slopes. I'm surprised to learn that exploration is still focused on the volcano's summit. Millions of dollars have already been thrown away on useless and/or unproven exploration methods. The next day, we join fourteen other men at a project meeting. These fellows are employed by several government agencies and universities to perform various geophysical, geologic, and geochemical surveys. Following their presentations, I'm asked to assess the various studies and the overall program. I know most of these studies are wasting time and money. They don't contribute anything of value and certainly nothing toward finding a geothermal reservoir. The entire exploration program lacks control and clearly defined objectives. Expensive academic studies are being funded, while ignoring exploration methods useful for locating the reservoir. When asked to access the overall project, I sarcastically reply, ***"The emperor isn't wearing any***

clothes." The participants look at me with a questioning expression. (Gene) ***"It is my understanding the project's purpose is to find a geothermal reservoir and develop that reservoir for electric power generation. For several hours, we have listened to and seen data from studies being conducted at Meager Mountain. Many of these studies involve new unproven geophysical methods or the application of inappropriate geophysical methods to evaluate Meager Mountain's geothermal resources. Most of the work is being performed on the mountain's upper slopes across the glacier and unstable rock. This work is dangerous to the field workers and extremely expensive, requiring complete helicopter support and attended with constant weather delays. If these studies do show the mountain's summit area contains a geothermal reservoir, that reservoir cannot be economically explored and developed. The area is too steep and unstable for building an access road. Wells cannot be drilled and completed through the glacier to service a power plant, even if B. C. Electric Power is inclined to build a power plant on a glacier. The necessary steam supply pipelines and electrical transmission lines would have to cross the glacier on an inaccessible mountain top with unstable rock and no possible road access. Even on the mountain's lower flanks, there are only a few locations where production wells and a power plant can be safely constructed and operated. Rather than waste millions of dollars exploring the mountain's summit, I suggest a better and less expensive approach is to drill deep temperature-gradient holes at those few localities, where development is feasible. If these holes find anomalously high temperature gradients, then drill a deep production test well."*** My comments aren't what the academic and government geologists want to hear expressed. They want to do research and publish papers. They aren't exploration geologists, but are in their own words **"true pure scientists".**

The glacier and snow-capped summit of Meager Volcano where exploration was centered. Much of this area collapsed in the 2010 landslide.

In late 1980, Trevor and I are back at Meager Mountain. On this trip, we visit localities on the ground and exchange ideas regarding exploration. There is an ongoing problem with Oleg, regarding payment for Cascadia's services. First Oleg refuses to pay for travel time. If it takes half a day to travel to Vancouver to attend a four-hour meeting and half a day to return to San Diego, Oleg only wants to pay for the four hours spent in the meeting. He also doesn't want to pay for frequent telephone consultations by himself and others and he refuses to pay many legitimate expenses. Then he deducts "Canadian taxes" from our total invoice. Cascadia is paying both U. S. and Canadian taxes for both my consulting fee plus all the expenses for air travel, lodging, food, telephone, etc. Our company is losing money consulting for B. C. Electric Power. B. C. Electric Power got one hell of a deal for my services considering all the free consulting advice I gave the project prior to and after my employment ended.

In November 1980, Oleg asks for an "expression of interest" for Cascadia to provide services to the 1981 drilling program. I never hear from Oleg after responding to that inquiry and never again work on the Meager Mountain Program, although Trevor and Jim continue to send reports and ask for advice, which I foolishly provide at no cost to B. C. Electric Power. Eventually a discovery well is drilled at the volcano's eastern base and the project expands with further exploration and planning for power plant and transmission line construction.

Nine years pass and B. C. Electric Power has spent approximately 33 million dollars on the Meager Mountain Project. During those nine years, I performed no further paid services on the project. Many companies and people, including Oleg, have profited handsomely studying Meager Mountain. I'm not among them. The telephone rings at ten o'clock on a Sunday morning. It is Oleg Farkas. We haven't spoken in nine years, although I've seen Oleg at several geothermal conventions, where he ignored me. Oleg is in a San Diego hotel and has flown down from Vancouver specifically to meet with me. He says, ***"As the project's advisor, I must meet with you right away. B. C. Electric Power is closing down the Meager Project. We need to get together today to develop a plan to save the project."*** (Gene) ***"Oleg, we haven't spoken in nine years. You decided not to follow my advice and millions of dollars were wasted. I wasn't paid for giving B. C. Electric Power good advice and now you call and expect me to jump up and again provide free services. I was planning to spend this Sunday cleaning my garage and that will be a more profitable use of my time."*** I hung up the telephone without saying another word.

Shortly afterward, B. C. Electric Power stopped the project and terminated Oleg's employment. Oleg tries the geothermal consulting business for several years before drifting into oblivion. Recently, Oleg has rejoined the Lion's Gate boys to search for another geothermal reservoir in the remote forests of British Columbia. These gentlemen are now in their 80's and I have a mental vision of a group of decrepit old men stumbling optimistically and aimlessly through the forest.

After B. C. Electric Power abandons the project, a Canadian penny stock company acquires the property and touts their plan to develop this "vast" geothermal resource. In typical fashion they hype the project with overly optimistic consultant reports, where the consultants periodically increase the reservoir's size to accommodate their client's promotional needs. Each report is very precise in defining reservoir capacity, without the benefit or perhaps "encumbrance" (would be a better word) of corroborating drill hole and well testing information. In 2004 and 2005 three dry holes are drilled at Meager Mountain. This doesn't deter the consultants from issuing more glowing reports on Meager Mountain's geothermal reservoir. A promotional news release blitz touts a $538 million (U.S.) 200 MW development project to be on line by 2008. The next year, through several convoluted transactions with other shell companies, the promoting company dilutes their ownership and transfers the Meager Mountain property to a new penny stock company. As for the investors (a.k.a. suckers), who bought the stock based upon glowing press releases and consultant reports, well they now own essentially worthless stock. Legally, the first penny stock company just made a business decision to divest the company's Meager Mountain asset that was recently being touted as valuable and on the verge of immediate development.

In 2009, Meager Mountain's new owner continues promising imminent development. No one questions the problems and exorbitant costs associated with developing an unproven reservoir beneath a remote and extremely steep unstable mountain. Then there is the difficulty and expense to build a 100-mile transmission line across extremely rugged and

environmentally sensitive mountain terrain. In 2009, there is yet another consultant report promising a new drilling strategy to complete productive wells. The endless hype that development is about to begin continues, because there remains promotional profit to milk selling stock in this golden cow.

In early 2010, the musical chairs continue when the second penny stock company merges with several other penny stock companies, into a third penny stock company. Today, their website says nothing about the Meager Mountain Project, other than it is listed as an inactive project. Some day a new company may dust off Meager Mountain and once again promote its eminent development.

In 2010 the inevitable happened when the second largest landslide in Canadian history occurred at Meager Mountain. The following news release relates this landslide's destructive events.

It was pitch-black when a roar and rumble rocked Mt. Meager. These are the unmistakable signs of disaster in a region classified slide-prone. When word of a landslide reached Pemberton, some 70 kilometers south of the Meager region, David Steers was among the first dispatched by helicopter early on Friday, August 6. He and his colleagues with Pemberton search-and-rescue were tasked to reach the disaster site, evaluate the damage and rescue any people. Only later would he learn that the roar in the night had registered a 2.6 on the Richter scale, and would amount to one of the largest landslides in Canadian history.

Steers and his colleagues arrived in the region as morning was unveiling the damage. Flying north, the scope of the slide was revealed to Steers by degrees. "Going up the Lillooet River, we could tell the water level had dropped considerably," he recounts. "The farther north we got, the less water we could see." But it was only when the helicopter turned a bend in the river that the magnitude fully sunk in: the debris field stretched to a vanishing point in the distance. "People describe being dumbstruck," he says. "When we turned that corner, that's the only word for it. We all just sat there staring. Someone occasionally said, 'Wow.' That's about it."

The omens went from bad to worse when the helicopter eventually reached the peak of Mt. Meager, where the slide had originated. "That's when I realized the whole damn mountain had fallen down." (David Steers and Michael LaPointe news report The Tyee.ca August 12, 2010)

On August 6, 2010 at 3:27 AM, Mount Meager's 8,379 ft. southern peak collapsed as a series of major rockfalls that fell 1,600 feet onto highly altered and heavily water saturated "rotten" rock, which was destabilized and collapsed as a very rapid debris flow. The landslide had a volume of 43,500,000 cubic meters and was one of the largest landslides in Canadian history. This was the tenth large landslide to have occurred at Meager Mountain since 1850. This debris flow traveled down Capricorn Creek and then inundated both Meager Creek and the Lillooet River valleys. As the debris flow moved along, it stripped the large trees off the lower slopes of the valleys. Meager Creek was dammed for 19 hours creating a 1.5-kilometer-long lake, which ultimately failed releasing a flood torrent toward the town of Pemberton. There were no deaths or injuries associated with the landslide and flood.

Fortunately, there were no geothermal wells drilled on the mountain's summit area. Had such wells been present, the wellhead equipment would have sheared off leaving uncontrolled geothermal wells violently venting superheated steam. There would have been virtually no way to get equipment onto the steep landslide scar to plug the wells. Probably the wells would have been allowed to flow uncontrolled, because the cost to plug the wells would have been prohibitive if even at all possible.

The show was incredible and went off very smoothly. Much of the credit is due to Michele Shepherd, who worked tirelessly on it for months, and is still working hard to make sure everyone else gets recognition!

These are some of the volunteers who made the show possible:

Raffle prizes cases

Prize tickets:

Kyle Kellermand

Cases:

Jeanne Abril

Susan Minnock

Ray Pearce

Jackie Laverone

Paul Rigdon

Diane Hall

(Please see main list p.14)

Anne's booth

r dis **Amber display**


Rockhounding
Arizona

P P PGMC DISPLAY CASE

MANY THANKS TO EVERYON

WHO WORKED SO HARD TO MA
THIS SHOW SO SUCCESSFUL:

Ticket Sales

Justin Engelmeyer, Michael Nelson, Sileste Palmeri
Matthew Geschke, Karen Wagner, Betty Ciancanelli
Karen Wagner, Carol Hiestand, Bob Verish
Megan Coyne, Melissa Takagi, Moni Waiblinger

Prize tickets

Charles Shupe, Bruce Coe, Brian Bauman
Jim Hamilton

Membership Booth

Matthew Greschke, Sileste Palmeri, Lori and Julia Goodman
Megan Coyne, Jeff Charles, Gayle Hamilton

Kids Dig

Lois Waller, Cathy Charles, Barbara Bury

Show Cleanup

Justin Englemeyer, Karen Wagner, Luke Woodaman
Alan Mazzola, Bob Verish, Moni Waiblinger
Mike Nelson, Bob Mieth

Security

Bruce Coe, Mike Shuka
Sileste Palmeri, Bob Russell

Volunteer sign-up Chris Toft
Master of Ceremonies Archie Keuhn
Publicity Dawn Wright
Show Finance Dawn Wright
Show Operations Jef Wright

Setup Alan Mazzola
Chris Toft, Luke Woodaman, Justin Englemeyer
Van Lynch, Bob Johnson, Lois Waller
Karen Wagner, Charles Shupe, Gloria Bowker

Cases Barbara Bury
Van Lynch, Kevin Smith, Bruce Coe
Annie Heffner, Charles Shupe, Mike Nelson
Justin Englemeyer, All cab contributors

Demonstrators Diane Hall
Ian Burney, Eleanor Arman, Cheryl Kellerman
Ray Pearce, Bob Johnson, Justin Englemeyer
Bob Bauman, Van Lynch

THANKS:

Thank you to all who worked so hard to make this year's show a success! Many, many people spent endless hours working tirelessly (and not so tirelessly!) to pull this off. Although not all the results are in yet, It seems safe to say the club and the shop are financially healthy for this next year. We also received a number of new members who will help bring new ideas to the club. So, in spite of having two competing shows last weekend (Gem Faire and Culver City), we managed to pull in a large number of customers to the show, got a full load of vendors, entertained and educated a record number of kids, all with a friendly, smiling contingent who worked the show!
Awesome job! How will we top this next year?!?!

FROM MICHELE

JULY BIRTHSTONE

Ruby is the July birthstone – and it's one of the most coveted of gems. The name is derived from the Latin word *ruber*, meaning "red" – the color of love and passion. Few things catch the eye like the ruby birthstone. The finest color of the birthstone for July is a deep red with a hint of purple, called "pigeon's blood" in the trade. A variety of the mineral corundum, ruby gets its color from trace amounts of the element chromium. The more chromium, the stronger the red. Here's what you need to know about this beautiful July birthstone so you can better choose one for yourself or a loved one who was born in the month of July.

RUBY BIRTHSTONE

RUBY BIRTHSTONE MEANING & HISTORY

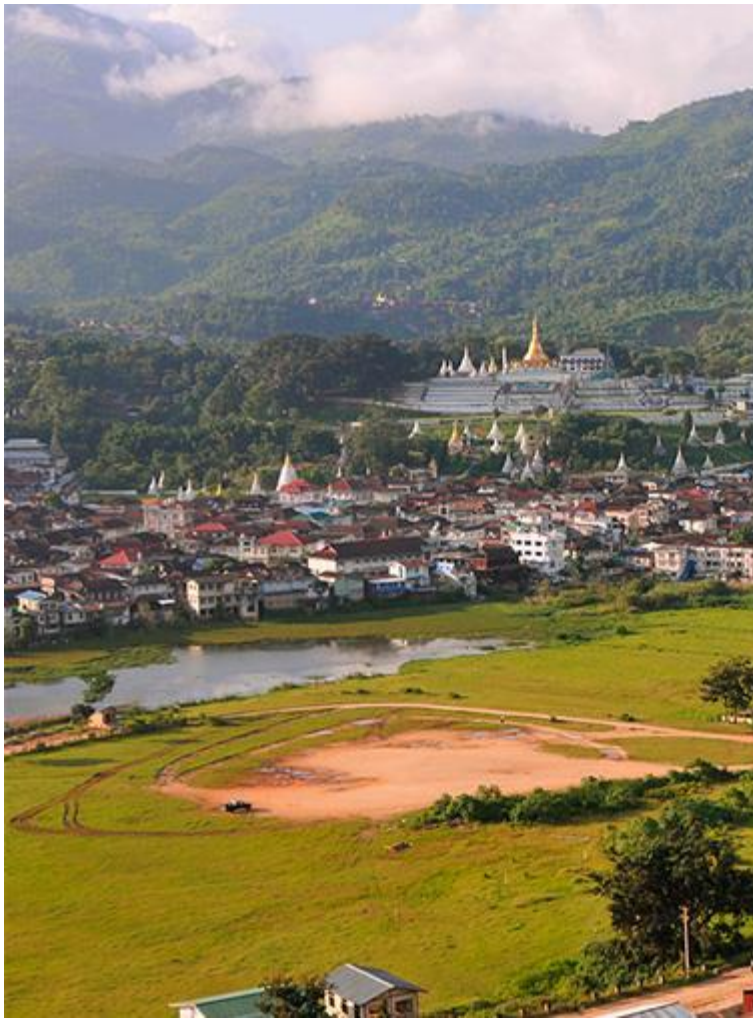
In ancient India, ruby was called the "king of precious stones" for its rarity, hardness (second only to diamond), beauty and seemingly mystical powers. Long associated with the life force blood, ruby was a symbol of power and youthful energy in Indian jewelry. In past centuries, some believed this birthstone for July could predict misfortune or danger, and others claimed it would cure inflammatory diseases and soothe anger. Burmese warriors believed it made them invincible in battle. Medieval Europeans maintained that rubies bestowed health, wisdom, wealth and success in love.

Art Deco carved ruby and diamond necklace by Mauboussin circa 1930. The ruby beads are secured to the frame by white metal posts capped with a tiny diamond. Photo: Robert Weldon/GIA. Courtesy: Private Collector

In addition to being the July birthstone, ruby is traditionally given for the 15th and 40th wedding anniversaries.

WHERE ARE RUBIES FOUND?

Our search for the July birthstone starts in Myanmar (formerly known as Burma), one of the oldest recorded sources of fine rubies. For more than five centuries, the Mogok area in Myanmar has produced some of the most sought-after rubies – vibrant red beauties softened by light-scattering inclusions and a glowing red fluorescence. The region is a place of weathered marble and ancient Buddhist temples.



A classic view of Mogok town, dominated by the Chan Thar Gyi Pagoda (left) and arranged around its lake, which was created from a gem mine worked during British colonial times. Photo: Vincent Pardieu

A small village sits at the base of the mountains in the ruby-bearing Luc Yen region. Photo: Vincent Pardieu/GIA

Since the late 20th century, Vietnam has been another important source for the July birthstone. The Luc Yen region in northern Vietnam, where rainforest-clad mountains rise over broad paddy fields, produces rubies of red to purplish red color. Farther south, the Quy Chau district has also yielded many fine rubies. Today, artisanal miners work the soil in hopes of finding a gem that will change their fortunes.

Mozambique is an important new source for the July birthstone. This African nation is home to the prolific mines at Montepuez. Rubies found there have been compared to the famed gems of Mogok.

For many years in the late 1900s, the ruby deposits along the border between Thailand and Cambodia were the major source of rubies in the marketplace. Other important producers of the July birthstone include

Afghanistan, Tajikistan, Pakistan, Sri Lanka, Kenya, Tanzania and Madagascar.

RUBY BIRTHSTONE CARE & CLEANING

The 5.00 ct oval ruby in this designer ring is set in platinum with 18k rose gold, surrounded by halos of round rubies and diamonds. Courtesy: Omi Privé

Rubies are often heat treated to remove purplish coloration, leaving a purer red. The process can also remove "silk" (minute needle-like inclusions) that can cause a gem to appear lighter in tone and be more opaque. The trade typically accepts heat treatment, as it is stable to normal conditions of wear and care. However, rubies may also be subjected to lattice diffusion treatment and dyeing. In lower-quality material, surface-reaching fractures and cavities may be filled with a glass to decrease their visibility so the gem appears more transparent. Some of these treatments may make the ruby more vulnerable to damage during normal wear and care.

Before you buy, always ask if your ruby has been treated and by what method. The Federal Trade Commission requires disclosure of treatments that affect a gemstone's perceived value. A GIA Identification Report is important in identifying if a stone is natural or synthetic and whether it has been treated in any fashion.

In most cases, the July birthstone can be safely cleaned with warm soapy water and a soft brush. Ultrasonic and steam cleaners are usually safe for untreated, heat-treated and lattice diffusion–treated stones. Glass-filled or dyed stones should only be cleaned with a damp cloth.

Whether or not you have a July birthstone, owning a beautiful ruby is a rare and precious thing. And if you love red gems in general, check out our Ruby Buyers Guide.

MORE ABOUT RUBY **RUBY BUYER'S GUIDE**

INTERESTED IN EXPLORING ADDITIONAL BIRTHSTONES?
VIEW ALL BIRTHSTONES

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UPCOMING SHOWS:

FALL FESTIVAL OF GEMS (Fallbrook Gem & Mineral Society)
Sun OCT 13
9A-4P FREE

52nd annual OPAL Show
NOV 2-3
Anaheim, CA

El Cajon Valley Gem & Mineral Annual Rock & Gem Show
Nov 16-17
Lakeside, CA