



EL PASO MINERAL AND GEM SOCIETY, Inc.

P.O. Box 31516, El Paso TX 79931

FOUNDED – 1947

Membership Dues are due and payable as of December of each year. Dues are \$12.00 for Adults (18 and Over) and \$4.00 for Juniors. Make check out to EPMGS and mail to PO Box 31516 El Paso TX 79931. Delinquency of over 90 days will result in being removed from the Membership Roster.

Meetings will be held on the 4th Thursday of every month at The Memorial Senior Center, 1800 Byron, El Paso TX at 6:30 PM. Board Meetings will usually be held a half hour prior to the general meeting. The meeting in July is our yearly picnic – the date to be announced.

2010 CLUB OFFICERS

President	Tom Smith	(915)356-8653	Programs	Lorraine Johnson	(915)751-4527
Vice President	Matt Durning	(575)382-4301	3 Year Trustee	Miguel Chrisman	(915)740-0301
Treasurer	Linda Durning	(575)382-4301	2 Year Trustee	Matt Durning	(575)382-4301
Secretary	Marie Murphy	(915)471-1071	1 Year Trustee	Randy Herd	(915)821-7818
Historian	Marty Gaugler	(915)859-6634	Show Chair	Harry Bruntz	(915)345-2415
Editor	Charlie Christensen	(575)640-1203	Assist. Show Chair	Jeanette Carrillo	(915)533-7153
Field Trips	Matt Durning	(575)382-4301	Webmaster	Matt Durning	(575)382-4301
Membership	Charlie Christensen	(575)640-1203	Hostess/Host	Judy/Randy Herd	(915)821-7818

THE VOICE

The Voice is the official bulletin of the Society and is published monthly. All articles must be in the editor's possession no later than the Monday following the monthly meeting. Any articles received after that will not be published until the following month. Please note Charlie Christensen's e-mail address: charlieenos@msn.com and mailing address: 4808 Campbell Road, Las Cruces NM 88007. Members are encouraged to submit articles for publication. Permission is granted to reprint material from other sources provided that credit is properly cited. Ads are accepted from members for publication at no charge for the sale or exchange of items pertaining to the hobby. **WEBSITE: www.epmgs.com.** Any information you would like to see on this website contact Matt Durning at madtex@q.com or call (575)382-4301.

The El Paso Mineral and Gem Society, Inc. is a non-profit organization. The purpose of this Society shall be to increase and disseminate knowledge about minerals and other geologic materials; to encourage mineral study, collecting and fashioning as a hobby; to conduct meeting, lectures, displays, field trips, and to sponsor shows for the general edification of the public.

GENERAL MEETING

The next General Meeting will be 24 June 2010 at **6:30 PM**. There will be a Program so come join us to see the Program (they've pretty good and informative). Members with the last name starting A thru K are asked to bring the goodies.

SCHOOL BOARD MEETINGS

The School Board Meeting information is posted under School Information and Class Enrollment.

ADDRESS CHANGES

NOTE: Anyone who has a change in mailing address, phone number, etc please send e-mail to Charlie Christensen at charlieenos@msn.com, or mail to: EPMGS Membership, PO Box 31516, El Paso TX 79931. Thank you.

THE VOICE

VOLUME LXI NUMBER 9 JUN 2010



BIRTHDAYS & ANNIVERSARIES

For those of you who are celebrating one or both of these occasions in the month of June Happy Birthday and/or Happy Anniversary.

BIRTHSTONE FOR JUNE – PEARL

The *Modern* June Birthstone is Pearl or Moonstone

The *Traditional* birthstone is Alexandrite

The *Mystical* birthstone is Moonstone

In the *Ayurvedic* tradition the June Birthstone is also Pearl

The modern June birthstone is the [Pearl](#) and is given on the 1st, 3rd, 12th, and 30th wedding anniversaries.

Pearls, of course, are formed when a tiny grain of sand or mineral lodges in the body of certain mollusks, oysters, for example, and the animal responds to that irritating grain by secreting *nacre*. Over time that grain is coated with the nacre and a pearl is created. Since the pearl itself isn't part of the oyster the animal continues to add to the growing pearl so it increases in size.

Originally pearls were found by luck. Divers would open many oysters for every decent pearl found. These days most pearls are of the cultured variety. *Cultured* simply means that people insert the grain into the oyster. The grain is of a size and type more likely to produce the desired pearl. The oysters are

then harvested after a couple of years and the pearls extracted.

Indian legend has it that pearls were heavenly dew drops that fell to the sea. In India, ancient warriors attached the pearls to their weapons to symbolize the tears and sorrow of those slain by the weapons.

The *traditional* June birthstone is *Alexandrite*, named after one of the Czars of Russia, Alexander II. The stone was first discovered in Russia, in 1834, on the day Alexander II came of age.

Gem quality Alexandrite is very rare and it is quite unusual to find it in modern jewelry. Russian jewelers loved it, though, so you just might be able to find some in antique Russian jewelry.

One of the distinguishing features of this stone, and one that makes it a very interesting birthstone for any month, is that it can change colors! Depending on the light its color will range from a green or blue-green to red or purple-red. In fact, it's this color changing that defines the stone as an Alexandrite and not just a chrysoberyl.

Moonstone is an alternative June birthstone and is also one of the mystical birthstones. Like pearls, moonstones can come in a variety of colors and have a particular shimmer called *adularescence*. Moonstones are only a 6 on the hardness scale, which means they can be easily scratched.

In India it is said to bring good fortune and is regarded as a sacred stone. Legend also has it that the moonstone arouses tender passion and so is perfect for lovers. In Asian philosophy the Moonstone balances the yin and the yang forces. **Source:** <http://gems4friends.com/birthstones/june.html>

(May 22 – Jun 21)



Gemini
Mercury

(Jun 22 – Jul 22)



Cancer
Moon



GENERAL MEETING

General Meeting of EPMGS was to order at 6:35 PM on 27 May 2010 by President Tom Smith.

The minutes for Aprils Meeting were read and approved.

The 24 July 2010 Annual Picnic will be at Tom Mays Park (which is no longer called Tom Mays Park). Val Provencio did some checking and found out for our group the fee would be \$1 each.

Eddie Davis introduced our 2 guests: Maria Ortez and Jim Phillips (new member Linda Phillips husband). Eddie held the drawing and Rusty Brown, Maria Ortez, and Dorris Brown won.

President Smith asked for reports from Standing Committees:

Treasurer Linda Durning gave the Treasury Report – we have money.

Member Sue Critz inquired as to why the dollar amounts changed from the last meeting to this one. President Smith stated the changes to the Treasury amounts are due to the cashing in of the CDs and transferring the funds to the Clubs different Accounts.

Field Trip report was given by Sue Critz as she was the Leader of this months Field Trip to the Coronados. She stated that she and her husband were the only ones that showed up. This gave them the opportunity to check a few other places to see what was available. They found some Geodes and some other interesting rocks.

Matt Durning apologized to Sue for the lack of participation. He asked Sue if it would be better as an overnight type trip and she stated that there is an RV park in Animas and that you could rough/dry camp in the area. Matt stated that there will not be a Field Trip in June due to heat. He also mentioned that if anyone just wants to go out rock hunting for fun let him know and he'll be glad to go. He went on a Field Trip in the Deming area, with the Las Cruces Gemcrafters, for Rhyolite and some metal detecting at Camp Cody. He went on a personal field trip with a couple of buddies (Jim Enos & Rob Kosnick) to an area south of Marfa. The area they hunted is on a

private ranch and is coordinated through Teri Smith of Alpine TX. It is a fee rock hunting area - \$35 a day and all you can haul out. Found some nice stuff which he had a sampling of at the meeting.

In August there will be the yearly Agate Rendezvous at Apache Creek sponsored by the RMFMS. The camp out runs approximately 10 days and you go out to 10 different locations. The camp ground at Apache Creek has no hook ups or facilities other than a toilet. There is a RV Park nearby and hotels/motels in Reserve. More info will be in the July or August newsletter. There will be a change to the distribution of the e-mail version of the Newsletter. Rather than send a copy out to everyone they will be given the link to our website where all newsletters and other information will be available. The website is www.epmgs.com.

Mention was made regarding hunting for fossils and checking out petroglyphs in the Cloudcroft area. This would be a good Field Trip in the summer due to it being a lot cooler. Matt stated that when ever he goes out to new locations he gets the GPS coordinates and Sue stated she had the coordinates for the Coronado area which she will give to Matt after the meeting.

School Reports were given by heads of the different classes. Redgie Medlock stated that the Senior Center would like students (over the age of 50) to enter jewelry, etc, into the Senior Games. Deadline for entries is 12 July. Talk to Redgie if you're interested. Peggy Fountaine reported that the new session for the Faceting Class will be starting next week and there are 5 students registered. Liz Kosturakis reported that the Silversmith class was full last session and the next session looks good. She also mentioned that they will be having 10 foreign exchange students, ages 10 and above, attending the afternoon classes in Lapidary, Wirewrap, and Silversmith. There will be chaperones and they will be paying the School for all materials and instruction. Robert Bates stated the next session for the Lapidary Class will be starting next week. Redgie asked the Editor of the Newsletter to add Bernadine Salas as an Instructor at the School.

Show Report was not available as Harry Bruntz was not present at the meeting. Jeanette Carrillo mentioned that she submitted the notice regarding our Show to Rock and Gem Magazine.

Old Business: There is no meeting at the Senior Center in July – it is on 24 Jul and is our Annual Picnic. Val Provencio has reserved a covered area at

the Tom Mays Park. President Smith asked who all would be interested and there were approximately 15 people that indicated that they would be interested in attending. Club will provide hamburger/hot dogs, bread, and drinks and rest is Potluck. Directions to Tom Mays Park will be in the Newsletter.

New Business: Peggy Fountaine brought up the subject of Liability Insurance in the amount of \$1 million for the School. The City insists we need to have this coverage. It's a General Liability Insurance that will cover the Gem Club, members, Instructors, and School. It will also cover us if a Student gets injured and sues the School. The City requires that they be named as Insured on Policy. This will cost \$500 (didn't indicate if this was per month or yearly – note from Charlie alternate Secretary).

Motion was made to have a copy of Insurance Policy for members of The Board to review along with a summary of coverage along with a copy of the contract we have with the City. This motion was passed.

Question was raised as to who would be paying the premiums – The School or The Club. It was also mentioned that maybe we should pass the additional cost on to the Students by raising the fees.

A motion was made to table this discussion to a later date when more info has been gathered. Motion was passed.

President Smith called a break in the meeting at 7:20 for snacks.

Meeting was reconvened at 7:35 to watch the program which was titled Those Fabulous Thunder Eggs Part III. It stated that Oregon is the source of the greatest variety of Thunder Eggs. Lithophysae is the technical term for Thunder Egg. The program showed a large variety of Thunder Eggs and also mentioned our local Thunder Egg expert, Paul Colburn aka Geode Kid of Deming NM, on numerous occasions throughout the program.

After the Program we had a presentation by Ken Raab regarding Faceting and how it all works. They had a faceting machine there and showed the different parts on the machine and what they were used for. It was a good presentation. Peggy Fontaine had a display case showing various ways to use a faceted stone.

The Meeting was adjourned at 8:20 PM.

HINTS, TIPS, AND STUFF

EDITORS NOTES: The source of these tips, hints, and stuff are other club bulletins. Be careful when trying out any new idea. They have not been tried by this editor.

PROGRAMS - Lorraine Johnson will be conducting programs for our club members. Due to the fact that Lorraine has to give RMFMS a list of 3 videos she would like per date listed below – we aren't always sure which video we will actually get. So, I am just listing the dates we will be having a program.

DATE

24 Jun 2010

26 Aug 2010

JADE ARTICLE

Attached to this newsletter you will find a long article about Jade – written by Dan Hausel. Due to the size of this Article there will be no other Hints, Tips, etc in this months issue.



FIELD TRIPS

Note from Your Field Trip Coordinator: Any and all Clubs and their members are cordially invited to join us on any of our Field Trips. If you need more information call Matt at (575)382-4301 or (915)491-3244 or e-mail madtex@q.com.

No organized Field Trip this month....However, stay tuned. Spontaneous trips may occur.



SCHOOL INFORMATION AND CLASS ENROLLMENT

Call 915-562-4268 for information and to enroll in Lapidary and Jewelry-craft classes. The Instructors are volunteers from the school committee of the Society and are not paid in any way by the Society or the students. If you want to enroll in one of the classes, all you have to do is sign up at the Memorial Park Senior Center which is located at 1800 Byron Street, El Paso TX. It is important that you register early because a minimum of three students is needed for a "Go" with a maximum of six students per class. Sign up well in advance as there are usually waiting lists. Each Class has a \$20 fee plus a Lab Fee and any other material costs. The \$20 fee payment is to be made on the first day of the class to the Senior Center, and the Lab Fee will be paid to your instructor. All other material purchases should be paid for at the time of purchase or delivery.

Active Member Instructors:

Dorris Brown	Francisco Cuevas	Robert Bates	Roger Lopez
Redgie Medlock	Art Moreno	Ken Raab	Greg Berglund
Peggy Fontaine	Liz Kosturakis	Norm Ballou	Ron Anderson
PJ Schabacker	Bernadine Salas		

SCHOOL BOARD MEETINGS

Tue Jun 22	Mon Jul 19	Tue Aug 24	Mon Sep 20
Tue Oct 19	Mon Nov 15	Tue Dec 14	

The meetings are all held at noon in the conference room at the Memorial Park Senior Citizens Center. Anybody who wishes to sit in on any of the meetings is welcome. We recommend that you call Rose Strong at the Center first to make sure that the meeting date has not changed. Her number is 915-562-4268.

Class Schedule: (Classes run from 9 AM to 12 Noon unless otherwise noted)

Monday & Wednesday	Lapidary	2 Jun 2010 thru 12 Jul 2010 19 Jul 2010 thru 25 Aug 2010 8 Sep 2010 thru 18 Oct 2010 25 Oct 2010 thru 1 Dec 2010
Monday & Wednesday	Silversmith	Beginning 19 Jul 2010 thru 25 Aug 2010 25 Oct 2010 thru 1 Dec 2010
		Advanced 02 Jun 2010 thru 12 Jul 2010 06 Sep 2010 thru 18 Oct 2010
Tuesday & Thursday	Casting, Faceting, & Wirewrap Classes	1 Jun 2010 thru 8 Jul 2010 20 Jul 2010 thru 26 Aug 2010 7 Sep 2010 thru 14 Oct 2010 26 Oct 2010 thru 2 Dec 2010
Monday thru Friday (see note below)	(NEW) ADVANCED WORKSHOP 12:30 – 3:00 PM	All the time
Friday	Beading	Held from 9 AM to 12 Noon. Fee \$3.00. Bring your own materials.

NOTE: ADVANCED WORKSHOP IS FOR ADVANCED STUDENTS. THERE WILL BE NO MATERIAL SALES DURING THIS WORKSHOP. YOU MUST BRING YOUR OWN MATERIALS.

The shop at the Memorial Senior Center is open for anyone's use on Friday's from 9 AM to 12 Noon. The shop fee for every session is \$3.00 to be paid to the instructor in charge of the Workshop.

SHOW DATES

JUNE 2010:

11-13--ALBUQUERQUE, NEW MEXICO: Show, "Gem Faire"; Gem Faire Inc.; New Mexico State Fairgrounds, 300 San Pedro NE; Fri. 12-7, Sat. 10-6, Sun. 10-5; \$5 weekend pass; contact Yooy Nelson, (503) 252-8300; e-mail: info@gemfaire.com; Web site: www.gemfaire.com

11-13--HOUSTON, TEXAS: Show; International Gem & Jewelry Show Inc.; Reliant Center at Reliant Park, 1 Reliant Park; Fri. 12-6, Sat. 10-6, Sun. 11-5; adults \$8; open to the public, professional jewelers, artists; contact International Gem & Jewelry Show Inc., 120 Derwood Circle, Rockville, MD 20850, (301) 294-1640; e-mail: info@intergem.net; Web site: www.InterGem.com

11-13--OVERLAND PARK, KANSAS: Show; International Gem & Jewelry Show Inc.; Overland Park Convention Center, 6000 College Blvd.; Fri. 12-6, Sat. 10-6, Sun. 11-5; adults \$8; open to the public, professional jewelers, artists; contact International Gem & Jewelry Show Inc., 120 Derwood Circle, Rockville, MD 20850, (301) 294-1640; e-mail: info@intergem.net; Web site: www.InterGem.com

12-13--SAN FRANCISCO, CALIFORNIA: Show, "San Francisco Crystal Fair"; Pacific Crystal Guild; 99 Marina Blvd.; Sat. 10-6, Sun. 10-4; admission \$6; contact Jerry Tomlinson, (415) 383-7837; e-mail: sfxl@earthlink.net; Web site: www.crystalfair.com

18-20--SANDY (SALT LAKE CITY), UTAH: Show, "Gem Faire"; Gem Faire Inc.; South Towne Exposition Center/Exhibit Hall 5, 9575 S. State St.; Fri. 12-7, Sat. 10-6, Sun. 10-5; \$5 weekend pass; contact Yooy Nelson, (503) 252-8300; e-mail: info@gemfaire.com; Web site: www.gemfaire.com

19-20--BUTTE, MONTANA: Annual show; Butte Mineral & Gem Club; Civic Center Annex, 1340 Harrison Ave. (exit 127 North); Sat. 10-5, Sun. 10-5; 15 dealers, minerals, gems, jewelry, fossils, displays, demonstrators; contact Pete Knudsen, P.O. Box 4492, Butte, MT 59702, (406) 496-4395

19-20--POWELL, WYOMING: Show, "Wyoming Wonders"; Shoshone Rock Club, Cody '59ers; Park County Fairgrounds, 655 5th St.; Sat. 9-7, Sun. 9-4; adults \$2, ages 12-18 \$1, children 5th grade and under free with adult; contact Jane R. Neale, (307) 754-3285, Mary Ann Northrup, (307) 754-4472, or Art Schatz, (307) 548-7258

26-27--COLORADO SPRINGS, COLORADO: Show, "Rock Fair at WMMI"; Colorado Springs Mineralogical Society; Western Museum of Mining and Industry, 225 N. Gate Blvd.; Sat. 9-4, Sun. 9-3; adults \$5, children \$2; vendors, rocks, minerals, jewelry, children's area, rock, mineral and fossil identification, speakers, demonstrations, gold panning, metal detecting; contact Ronald "Yam" Yamiolkoski, (719) 488-5526; e-mail: info@csms.us; Web site: www.csms.us

JULY 2010:

2-4--FARMINGTON, NEW MEXICO: Show; San Juan County Gem & Mineral Club; Farmington Civic Center, 200 W. Arlington St.; Fri. 10-6, Sat. 10-6, Sun. 10-5; free admission; door prizes, rocks, gems, minerals, Farmington Freedom Days; contact Mickie Calvert, P.O. Box 1482, Farmington, NM 87499, (505) 632-8288; e-mail: mickie2@earthlink.net

9-11--DURANGO, COLORADO: Show; Four Corners Gem & Mineral Club; La Plata County Fair Grounds, 2500 Main Ave.; Fri. 10-6, Sat. 10-6, Sun. 10-5; free admission; jewelry, kids' activities, gold panning, jewelry making tools, gems, minerals, fossils, beading supplies, door prizes, mineral displays, raffle, silent auction; contact Bill Birza, P.O. Box 955, Durango, CO 81302, (970) 385-6850; e-mail: wcbirzzz@durangolive.net; Web site: www.durangorocks.org

9-11--SAN RAFAEL, CALIFORNIA: 2nd annual show, "San Francisco Fine Mineral Show"; FineMineralShow; Embassy Suites Hotel, San Rafael-Marin County, 101 McInnis Pkwy.; Fri. 10-6, Sat. 10-6, Sun. 10-5; contact Dave Waisman, P.O. Box 8543, Spokane, WA 99203; Web site: www.finemineralshow.com



JADE

by W. Dan Hausel

From: GEM HUNTER: The Prospector's Newsletter, Oct 2009
[How to find this extraordinary gemstone.](#)

Jade is the gemologist's term for two different mineral species: nephrite and jadeite. These two minerals are nearly impossible to distinguish from one another without the aid of mineralogical and XRD (x-ray diffraction) tests.

Nephrite is categorized as an amphibole and consists of extremely dense and compact fibrous tremolite-actinolite; and jadeite is categorized as a pyroxene, and also forms dense and compact material.



Many rocks are mistaken for jade. Some of the more common include rounded, stream-worn or wind-polished cobbles of amphibolite (a dark metamorphic rock that resembles dense basalt), metadiabase (another dark metamorphic rock that also resembles basalt), epidotite (a dense pistachio green rock), quartzite (granular rock that can be white, dark gray, green or other colors) and serpentinite (dark green rock that can be scratched with a pocket knife). These rocks can be distinguished from jade by a couple of tests including simple field observations. For example, amphibolite and metadiabase have granular texture that is lacking in most jade (jade is smooth and massive without granular texture). A freshly broken surface of quartzite will sparkle in sunlight due to the reflection of light bouncing off individual quartz grains; and epidotite has a distinct pistachio green color (unlike jade). One of the more common rocks and minerals mistaken for jade is serpentinite (a rock formed mostly of serpentine). Jade is tough and hard, whereas serpentinite is relatively soft and can be scratched with a pocket knife. In addition, serpentinite will have pockets or zones of weak to moderate magnetism that can be detected by a geologist's magnet. I've never seen a piece of magnetic jade, although some probably occurs.

I've seen serpentine sold to unsuspecting tourists as apple green jade. I even showed one rock shop owner that most of the material he was selling was serpentinite, but he refused to listen and continued to sell it as high-quality apple-green jade – and probably still does to this day.

When prospecting for jade, note that jade boulders will ring when struck by a hammer. They feel much heavier than ordinary rocks, and are much smoother and denser than other boulders. Some boulders and cobbles of jade are so smooth that it gives an impression the stone was polished in a rock tumbler. Jade feels slightly sticky when wet and prospectors will look for a “show point,” area where the green color shows through altered rinds that encrust much detrital jade.

Jade never shows external crystal structure except in rare cases where it pseudomorphs, or mimics the crystal habit of another mineral. I had heard about this phenomenon from a couple of rock hounds over the years, but never witnessed it until about 10 or 15 years ago when I found a pocket of hexagonal jade in the Granite Mountains (Wyoming) northeast of the Red Dwarf ruby deposit that had the same crystal habit as quartz.



Light green muttonfat jade from the Granite Mountains. Note the crystal is hexagonal (6-sided) just like quartz. This jade replaced a former quartz crystal leaving behind this rare pseudomorph).

Microscopically, jade will form a mass of matted, intricately interwoven fibers that produce an extremely tough gemstone resistant to fracturing. Mineral toughness is rarely considered in mineralogy books, but any discussion of jade always leads to a discussion of toughness. The toughness of a mineral is represented by its fracture strength (or ability to resist fracturing), which is about 30,000 psi for nephrite. In other words, it takes a lot of pressure to fracture a coherent piece of jade. Only carbonado, a black granular to compact industrial form of diamond, is tougher than jade; whereas gem-quality diamond is hard, but not all that tough. Gem diamond can scratch almost anything, but it can be smashed with a little effort with a blow from a hammer. It is the toughness of jade, combined with hardness that makes the gem carvable, durable and unique.



Variety of jade specimens with one piece of serpentinite – can you tell which one is not jade?

Jade ranges from opaque to translucent masses and has a vitreous to waxy luster and is reported in a variety of colors including black, white, and several shades of green. The green color is due to the presence of iron. When iron is absent, the mineral is practically colorless to cloudy white, resulting in a variety known as ‘muttonfat jade’. Other varieties of jade include translucent, emerald-green ‘imperial jade’; ‘apple-green’ jade, ‘olive-green’ jade, ‘leaf-green’ jade, ‘black’ jade, and ‘snowflake’ (mottled) jade. The greater commercial values are attached to the lighter green translucent varieties. Rare emerald green jade is colored by iron and trace amounts of chromium.



The extraordinary color of apple green jade.

The origin of nephrite jade was investigated in the 1960s. It is thought that nephrite formed by metasomatic alteration of amphibole during metamorphism. This means that hot fluids reacted with existing amphiboles and slowly replaced them by extracting some atoms and replacing those atoms with new atoms. In Wyoming, this happened when these rocks were buried under several miles of rock about 2 to 3 billion years ago. Blocks of

amphibolite were disrupted and trapped in a molten granitic rock and portions of the amphibolite (xenoliths) were altered to jade by the hot granitic fluids. These reactive fluids not only produced jade, but they also altered the surrounding rocks to produce a group of minerals that included clinozoisite, zoisite, sericite and chlorite.

When found in outcrop, nephrite jade is associated with this distinct assemblage of minerals that form an alteration halo around jade. This halo consists of bleached leucocratic (white) granite-gneiss that is mottled pink and white, some secondary greenish clinozoisite, pink zoisite, pistachio green epidote, green chlorite and fine white mica. This alteration halo can be used as a guide to find hidden jade deposits. While exploring between some jade deposits north of Jeffrey City to the jasper deposits in the Tin Cup district to the west, I found more than a dozen such halos – a couple had exposed jade, others did not. The ones without jade, such as shown in the photo below, likely have hidden jade at shallow depth.



Characteristic wallrock alteration found with jade includes bleached white granite gneiss with pink zoisite, green chlorite and trace epidote. While searching north of Jeffrey City, I found more than a dozen areas with this characteristic alteration halo. Where found, this halo represents places where jade or hidden jade is likely to be found (with some digging). Below right– leaf-green jade fashioned into

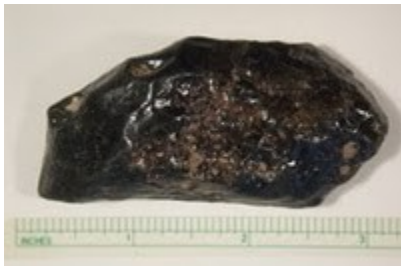


arrowheads.

The name jade comes from the time of the Spanish conquest of Central and South America where jade and jade carvings were prized as much as gold by the Aztecs. The Spanish used the name *pedra de hijada*, or stone of the side, because it was believed that jade cured kidney ailments when applied to the side of the body. The Spanish also called this stone kidney stone or *pedros de los rinones*, which translated into Latin as *lapis nephriticus*. The term nephrite anglicized the Latin term for jade. Nephrite has been known as ‘axe-stone’ because many nephrite stone artifacts have been found that were shaped into axe-heads due to its toughness. Although primary deposits of jade are important, much of the finest material comes from secondary alluvial deposits.

Some incredible pieces of jade have found their way to the jewelry industry. For example, one small jadeite ring sold for more than US\$2.4 million: a 27-bead emerald green jadeite necklace sold in Hong Kong for US\$9.3 million. In 1999, a 2-inch diameter (0.33-inch thick) jadeite bangle sold at a Christie's auction for US\$2.6 million and a jadeite cabochon of 1.4-inches in length sold for US\$1.74 million!

All of the jade found in Wyoming is nephrite, whereas much of the jade mined in the Orient is jadeite.



Right- black jade & left – translucent jade cabochon.

For those interested in searching for jade in Wyoming, it is found primarily in the Granite Mountains and to the south at Crooks Gap-Green Mountain. It has been reported elsewhere in the state, but much of the material reported outside of the Granite Mountains has turned out to be serpentinite.

The best jade specimens found in Wyoming are pebbles and boulders in alluvial fans and soil around Jeffrey City. Cobbles and boulders are found south of US Highway 287 (789) while jade (in place) is found in outcrops to the north of the highway in the Granite Mountains.

The jade localities are described in the following books:

· Hausel, W.D., and Sutherland, W.M., 2000, *Gemstones & Other Unique Minerals & Rocks of Wyoming - A Field Guide for Collectors: Wyoming Geological Survey Bulletin 71*, 268 p.

· Hausel, W.D., 2006, *Minerals & Rocks of Wyoming, A Guide for Collectors, Prospectors and Rock Hounds*, WSGS Bulletin 72, 125 p.

Hausel, W.D., and Sutherland, W.M., 2006, *World Gemstones: Geology, Mineralogy, Gemology & Exploration: WSGS Mineral Report MR06-1*, 363 p.

Hausel, W.D., 2009, *Gems, Minerals and Rocks of Wyoming. A Guide for Rock Hounds, Prospectors & Collectors*. Booksurge, 175 p.

A great majority of in situ jade is found north of Jeffrey City (T30N, R92-93W). Many were prospected in the past and thus most are now marked by old prospect pits. Look on Google Earth for prospect pits and then visit them.

Jade was at one time highly sought after by Wyoming prospectors. But much of the high-quality easily found, emerald-green and translucent jade was found in Tertiary conglomerates at Crooks Gap. Lower quality light-



green jade was found in place to the north of Crooks Gap in the Granite

Mountains, but the source of the valuable emerald green was never identified and remains to be found. In the 1930s and 1940s, many jade boulders weighing several hundred pounds were found near Jeffrey City in central Wyoming.

Left - Massive emerald green jade. Below - Cowboy jade carvings.

Jadeite has never been found in Wyoming. It forms at high-pressure and low-temperature from near surface to depths as great as 30 miles. Geologically, it is found near convergent continental margins (where there is



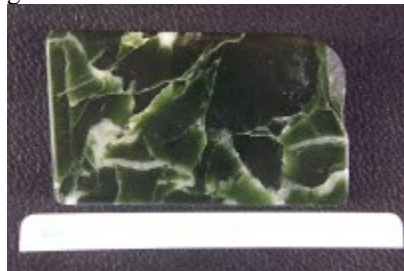
considerable pressures and temperatures from tectonic stress), and forms by fluid interaction with serpentinizing peridotite at depth. It occurs in veins and masses within metamorphic rocks, particularly albitite, actinolite schist and/or serpentinite. Most jadeite is found in highly faulted, subduction-related serpentinite or mélangé along major fault zones – such as in California.

Below - Extraordinary specimen of polished jade and typical rind found coating many pieces of alluvial jade.



Only three countries produce jadeite on a commercial scale: Burma, Guatemala and Russia. The jadeite from Guatemala is granular, mottled, and opaque. Burmese jadeite has more intensely saturated colors of deep-lavender to emerald- imperial green. Jadeite from Russia, although generally dark-colored, tends to sit between the Burmese and Guatemalan jadeite. Jadeite has not been identified in Wyoming.

Nephrite jade is produced primarily by Canada. Wyoming produced large quantities of fine nephrite in the past, but there is no longer commercial production. Russian nephrite was exported to China in the past and most Russian jadeite was sold through markets in Hong Kong as Burmese jadeite. In Eastern Turkistan, the jade market is strictly controlled by the Chinese government and only government buyers can purchase jade at the price set by the government.

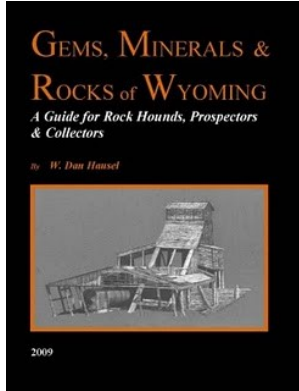


Did you guess which was the serpentinite? The specimen to the left has small spots that are magnetic that can be detected using what is known as a pencil magnet (see <http://www.minerox.com/>). With some effort, it can also be scratched with a pocketknife.

Intrigued by all of the treasures out there in the world to be found? There are geological hints on where and how to find jade and hundreds of other mineral deposits. Many of these are described in my newsletters at [GEMHUNTER](#)

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and are also described in much greater detail in my new book on Gems, Minerals and Rocks available at Booksurge and [Amazon](#).



Below - specimens of low-quality jade.



Source: <http://dansjade.blogspot.com/>, <http://danhauselauthor.pbworks.com/>, and W. Dan Hausel who was kind enough to grant permission to reprint the above article in our newsletter (4/26/2010 via e-mail).