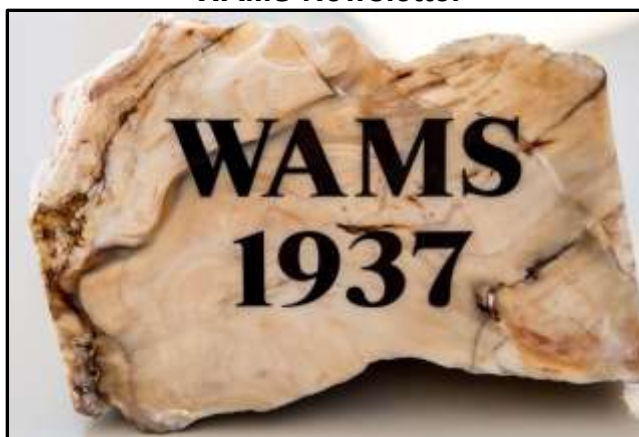


## WAMS Newsletter



**Washington Agate & Mineral Society**

(The Oldest Rock and Mineral Club in Washington State, founded February 3, 1937)

**Washington Agate and Mineral Society** is an educational & social non-profit organization dedicated to promoting the interest in mineralogy, geological sciences and Lapidary arts, and to foster good fellowship, and recreation.

**Mailing address: WAMS Olympia, PO Box 2553 Olympia, WA 98507-2553**

**Email address: [wamsolympia@gmail.com](mailto:wamsolympia@gmail.com)**

**Website: <https://wamsolympia.com>**

**Facebook: Washington agate and mineral society**

**Instagram: wamsolympia**

**WAMS is a non profit 501(c)(3) organization**

**Officers:**

PRESIDENT: Jim Sachet  
 VICE-PRESIDENT: **OPEN**  
 SECRETARY: Doug Shank  
 TREASURER: Doug S.  
 NEWSLETTER: Doug S.

**Committee Chairs:**

PROGRAMS: Jim Sachet  
 TENINO ROCK SHOW: Dan DeBoer  
 WEBMASTER: Pending  
 FIELD TRIP COORD. Sandy Skills

**Next Meeting: Tuesday January 2, 2024 6:30 PM.**

**WAMS Olympia meets the first Tuesday of each month, 6:30 p.m., at the First Baptist Church of Lacey, 4702 22nd (corner of College St. and 22<sup>nd</sup>) [MAP](#)**

**We will be holding open elections for club officers at the January meeting.** The current VP is resigning so we will most certainly need to fill that position.

**THANK YOU** to our outgoing Vice President, Audrey for her contributions of magnificent ideas and hard work in making the annual show and much more a huge success.

**Dues for 2024 are due by January 2<sup>nd</sup> or you will be removed from the membership list. Thanks**

**Membership for one year is \$15.00 for one person and \$25.00 for a family. [membership application form](#)**



If you have any articles, photos, or comments for the newsletter, please E-mail me at [wamsolympia@gmail.com](mailto:wamsolympia@gmail.com)

### Who is bringing the refreshments?

January: Michael & Anjila

February: Jerry

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### Note from Your President

As 2023 closes, it is appropriate to take a quick look back at what and how WAMS-Olympia has done this year. It started off with a note of sadness at the loss of Brian Tallman, club President, active leader, minerals expert, and caring contributor to South Sound clubs for so many years.

During spring, WAMS purchased a club storage shed and installed it at Dan DeBoer's property (thank you, Dan!). The new shed became the focal point for much activity leading up to the Tenino Rock Show in late July. I'd like to pause here and acknowledge the hard work and energy of **Doug Shank**, **Audrey Forcier**, and **Sandy Skill**... I pitched in as well. I've lost count, but am sure there were well over 70 five-gallon buckets and boxes of rocks that were dumped, sorted, graded and individual specimens priced for the Show. **Dan DeBoer** did his stellar job behind the scenes, directing and coordinating the vendors and landscape of the rock show. Lots of other members pitched in during the Show and throughout the year. You are the cement that glues this club together.

Looking forward to 2024, I think we're on a good track, but we can grow in many ways. We have an energetic leader, **Daniel Kauffman**, behind our Kid's program. We have a new Field Trip Coordinator, **Sandy Skill**, launching our program for rock hounding field trips and other types of knowledge acquisition. We have several knowledgeable and energetic new members. One of our challenges is zoning in on the right communication tool. I want to thank **Gretchen Newman** for taking on the 'web master' role for the past 3 years. Our next "master" **Becky Berg**, and we invite her ideas and energy.

In 2024, I look forward to more. More rock hounding trips. More cutting, grinding & polishing. More learning and educational opportunities. Getting to know you all better and sharing our obsession with everything having to do with rocks, gems, fossils and lapidary!

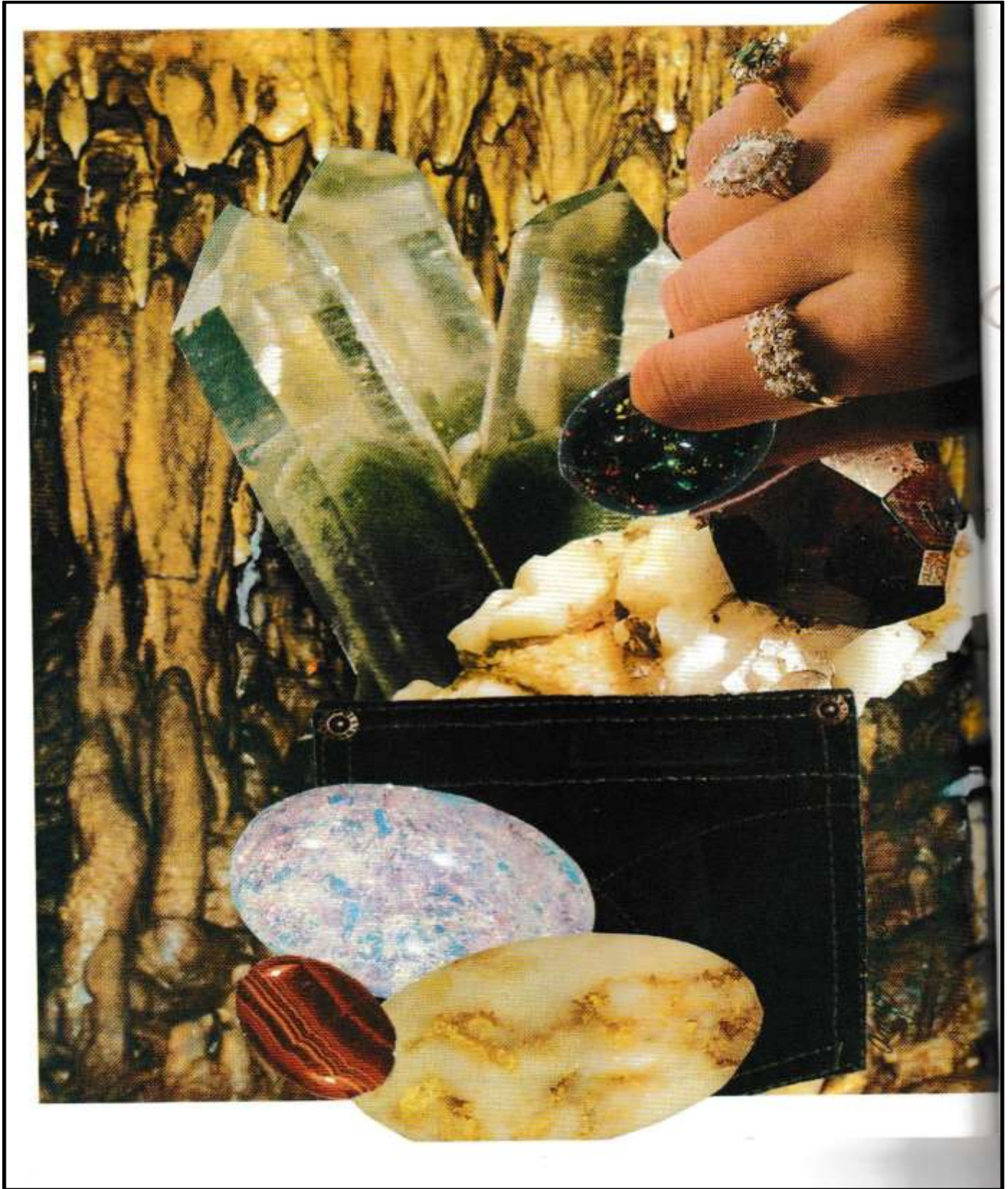
If you want to join in "more", consider being a club officer. Elections will be open during our January 2024 meeting. Elected officers are President, Vice-President, and Secretary-Treasurer.

Best wishes to you and yours,  
Jim S

### The December meeting and/or pot luck Holiday party:

Thanks to everyone that participated in the gift exchange and brought desserts and side dishes to go along with the delicious pizza. The food was marvelous. I think the holiday celebration was a great success.

**Korwin, Alan, Pocket Piece, Lapidary Journal, November 1992**





As a youngster, I was always intrigued with movies like *King Solomon's Mines*, where a lucky band of explorers stumbles upon massive treasure — especially when the treasure was gems and minerals. *Journey to the Center of the Earth* has a scene of a cavern wall totally encrusted with foot-long, full-color crystals. Love it!

Invariably, the cast loses the booty, but the characters all escape with their lives and are enriched without gaining enormous physical wealth. Ha! I say, be sure you bring some back with you, no matter what!

This rather blunt attitude is the deepest motivation behind my attachment to pocket pieces. Pocket pieces are those specimens you find that are such standouts you wouldn't risk losing them for *anything*. If you make it back alive, so does your pocket piece.

Now if you ever find yourself alone in a field of fabulous ruby crystals, holding on to a single specimen is a ridiculously narrow perspective. I want you to ignore it, scoop up all you can stuff in your hat and shirt, and hightail it out of there. Just don't be surprised if you lose it all before getting back.

Under normal circumstances, however, you're lucky to have a good pocket piece or two per outing. By keeping these stones on you, they're available for show, which comes in handy. It helps other people spot the material you're seeking, opens conversations with other collectors, and is useful in getting a detailed ID should you stumble across a local jeweler or other knowledgeable source.

Having a pocket piece actually reduces stress. You've probably noticed a certain dynamic tension involved in specimen collecting, a pervasive feeling of quandary as to whether your efforts will pan out or not. A sizzling pocket piece puts those fears to rest completely and soothes your soul. Crystal power advocates attribute this "proximity effect" to the vortex field's alignment with Mars. Planetary configurations aside, it's just great to have your old favorite along.

Since pocket pieces have a tendency to be the best of show on a collecting day, you help to ensure

BY ALAN KORWIN

*Illustration by Amy L. Wasserman*

# Pocket Piece

## VIDEOS

**VIDEO DEMONSTRATION TAPE ONLY \$10.00**  
Excerpts from 12 different Lapidary videos. 1 hr., 10 min. Buy this tape and receive \$10 discount on your next order.

**NEW - TAPE 38-B-BASIC ENAMELING**  
90 min. of adding color to jewelry in a variety of techniques. Expand your jewelry production knowledge.

**TAPE 35-DW-DESIGNING WITH WAX**  
Lost wax workers will appreciate mastersmith Vesta Ward as she demonstrates using waxes in methods the manufacturers never thought of. **A 95 min. treat**

**TAPE 31-CM-THE COMPLETE METALSMITH**  
Basic jewelry-making covering joining, cutting, forming and surface techniques. A superior course in handcrafted jewelry. An exceptional tape! **Approx. 70 min.**

**TAPE 27-R-CREATING A RING**  
A master jeweler, in a step-by-step process, designs, solders, does beading, sets diamonds and garnets. **2 hrs.**

**TAPE 28M-SOLDERING PRECIOUS METALS**  
Excellent instruction in various soldering techniques. Also shows diversified soldering equipment and accessories. **Approx. 90 min.**

**TAPE 23-W-LOST WAX CASTING**  
An in-depth look at waxes. Use fabric as patterns. Photos are converted to waxes. Vacuum system in action. **2 hrs.**

**TAPE 23E-ELECTRO-CLEANING, PLATING, FORMING**  
Plate local areas by masking. Convert cloth, plastic figures, shells, etc. to saleable gold items via Electro-Forming with NON-CYANIDE chemicals. **1 hr.**

**TAPE 37-GEMSTONES OF AMERICA...\$29.95**  
Learn how crystals are formed and mined-why they are so rare. Discover world's rarest gems shown at Smithsonian Institute. Narration by Eham Zimbalist, Jr., John Sinkankas and many others. **1 hr.**

**TAPE 17-F-FACETING MARQUISE CUT...\$45.00**  
The expert is back by popular demand to demonstrate his step-by-step procedure. There is an added fee for this extra long tape but the information makes it a best buy! **2 hrs. 30 min.**

**TAPE 40-T-THE TUCSON EXPERIENCE...\$24.95**  
Visit the world's largest lapidary show without the inconvenience of travel. See 18 shows in one and watch dealer enthusiasm and displays. **1 hr.**

**TAPE 19C-CARVING TECHNIQUES**  
Exceptional tape featuring Vincent Jarell. Close ups, tools to use, examples of award-winning carvings all combine to produce a 2-hour lesson.

**TAPE 29-SS, "STONE SETTING"**  
TWO professionals are viewed as they handled bezel work, prong settings and numerous more complex tasks. **1 hr. 20 min.**

**TAPE 19S-ALL ABOUT SOLDERING**  
Vesta Ward, mastersmith, illustrates an in-depth look at various soldering techniques and data. **1 hr. 47 min.**

**TAPE 25C-CREATING A CABOCHON**  
Cutting material and cabbing equipment discussed. All the information you require. **1 hr. 45 min.**

**TAPE 11-OP-ALL ABOUT OPAL**  
Past president of the Opal Society demonstrates his technique for cutting and polishing opals, also making doublets and triplets. **1 hr. 30 min.**

**TAPE 3F-FACETING**  
Joe Rubin demonstrates his doping techniques, cutting a "Brilliant" Good for beginners. **1 hr. 24 min.**

**TAPE 9F-FACETING**  
Bill Vance with over 20 years of faceting experience, cuts a beautiful "Pin-wheel Pear Shape" stone. An exceptional tape! **1 hr. 30 min.**

**TAPE 6LP-FIRST STEPS TO LAPIDARY**  
Step-by-step guide to tumbling and cabochon making. A "must" for beginners. Good for clubs. **63 min.**

**TAPE 21-B-DO IT YOURSELF BEAD STRINGING**  
You will appreciate the close-ups, the detailed instructions and the wide range of creative bead production jewelry. A full hour of step-by-step bead stringing techniques.

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### Pocket Piece . . .

their intact survival by placing them in a cloth sack (your pocket) instead of an ore crusher (your jammed collecting bag). It's amazing how, after a while, you immediately sense that your eyes have fallen on the *pièce de résistance*, nimble fingers gingerly reaching, then depositing it in a warm, cozy pocket for safekeeping.

Even when the stone turns out to be less than prime, a sense of attachment forms anyway. The handling of it builds a kind of magnetism. A rapport is developed, a feeling of belonging. So what if it's not the most crystal-clustered clump you turned up all day? You like the piece. Beauty is in the eye of the beholder. Sometimes less is more. And isn't this what it's all about—feelings of enjoyment and satisfaction.

You can even pocket pieces that have no collector value in the common sense. Motor home travellers are up on this technique. Many will pick up a rock simply because it represents where they have been. After a while, a shoeboxful starts to take on character.

When I flew out of Antarctica in 1982, cramped in an overcrowded twin-engine Cessna, I squirreled out a few precious pounds of the continent in my duffel bag. When I learned later, to my horror, that our bags were set to be jettisoned in case we lost power and had to lighten the plane, I vowed always to keep at least something on me at all times. I didn't want to end up like the folks in the movies, with a wonderful experience but nothing to show.

My wife and I came to Arizona on a road trip vacation before moving here permanently. Cheryl picked up a burnt sienna colored chip the size of a silver dollar that looked an awful lot like petrified wood. If you remember the December 1986 issue of LJ ("In a Highly Mineralized State"), you know it was indeed petrified wood, and that we had one edge polished by a local lapidary while we looked on, fascinated.

Technically, I have far better specimens than that little chunk. But it remains one of my all-time favorites, and always will. You see, Cheryl was only my girlfriend at the time, but we had become as enamored of each other as we were with the parts of the planet we had pocketed.

### ELDORADO BAR, MONTANA

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NATIONAL GEOGRAPHIC • OCT 81

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250 carats	\$750
500 carats	\$1,000
625 carats	\$1,125
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2,500 carats	\$3,500
5,000 carats	\$6,500

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1/2 kilo (2,500 carats)	\$750
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## What is the meaning of this?!

### Basalt (part 1)

*(Everything you ever wanted to know about basalt and more)*

Article accessed 12/27/2023 from: <https://geologyscience.com/rocks/basalt/>

Basalt is a type of volcanic rock that is formed from the solidification of molten lava. It is an igneous rock, meaning it is formed through the cooling and solidification of magma or lava. Basalt is one of the most common rock types on Earth, and it can be found in various locations around the world, both on land and under the ocean floor.

Basalt is known for its dark color, typically ranging from black to dark gray, and its fine-grained texture. It is composed mostly of minerals such as pyroxene, plagioclase feldspar, and sometimes olivine. Basalt can have a range of compositions, but it is typically rich in iron and magnesium, and low in silica.



Vesicular and Amygdaloidal Textures

Basalt has a number of unique properties that make it useful for various applications. For example, it is known for its durability, strength, and resistance to wear and erosion, making it ideal for construction materials such as road aggregates, concrete, and building stones. Basalt is also used for manufacturing fiber reinforcement materials, known as basalt fiber, which are used in a wide range of applications including automotive parts, aerospace components, and sporting goods.

Basalt also has important geological significance. It is a common rock type in volcanic regions and is associated with volcanic activity, such as volcanic eruptions and lava flows. Basaltic lava flows, in particular, can cover large areas of land and create extensive basalt plateaus, such as the Columbia River Plateau in the United States and the Deccan Traps in India. These plateaus have significant impacts on the local landscape, ecology, and geology.

In addition to its practical and geological importance, basalt has cultural significance as well. It has been used by various civilizations throughout history for tools, weapons, and artistic purposes. Basalt has also been used in folklore and mythology in many cultures around the world.

Overall, basalt is a fascinating rock type with a wide range of properties and applications. Its unique characteristics make it an important rock in various fields, including geology, construction, manufacturing,

and cultural heritage.

**Group:** volcanic.

**Colour:** dark grey to black.

**Texture:** aphanitic (can be porphyritic).

**Mineral content:** groundmass generally of [pyroxene](#) (augite), plagioclase and olivine, possibly with minor glass; if porphyritic the phenocrysts will be any of [olivine](#), pyroxene or plagioclase. Silica (SiO<sub>2</sub>) content – 45%-52%.

**Composition:** Basalt is composed mainly of [minerals](#) such as pyroxene, plagioclase [feldspar](#), and sometimes olivine. These minerals are typically dark-colored and rich in [iron](#) and magnesium. The exact composition of basalt can vary depending on the specific location and conditions of its formation, but it generally contains about 45-55% silica (SiO<sub>2</sub>), along with varying amounts of other elements such as [aluminum](#), calcium, sodium, and potassium.

**Characteristics:** Basalt exhibits several characteristic properties, including:

1. **Dark color:** Basalt is typically dark in color, ranging from black to dark gray, due to its high content of dark-colored minerals such as pyroxene and olivine.
2. **Fine-grained texture:** Basalt has a fine-grained texture, which means that its mineral grains are generally small and not easily visible to the naked eye. This is due to the rapid cooling of basaltic lava at the Earth's surface, which prevents the formation of large mineral crystals.
3. **Durability and strength:** Basalt is known for its durability and strength, making it ideal for construction materials. It is resistant to wear, erosion, and [weathering](#), and can withstand heavy loads and high pressures.
4. **High density:** Basalt has a relatively high density compared to many other [rocks](#), with an average density ranging from 2.7 to 3.0 grams per cubic centimeter. This makes it a heavy and dense rock, which can have implications for its use in construction and other applications.
5. **Vesicular texture:** Basalt can sometimes exhibit a vesicular texture, which means it contains small gas bubbles or vesicles that are trapped during the solidification of lava. These vesicles can give basalt a porous appearance and affect its physical properties.
6. **Common occurrence:** Basalt is one of the most common rock types on Earth and can be found in various locations around the world, both on land and under the ocean floor. It is a common rock type in volcanic regions and is associated with volcanic activity, such as volcanic eruptions and lava flows.
7. **Unique geological features:** Basaltic lava flows can create unique geological features such as basalt plateaus, lava tubes, and columnar jointing, which are often used for geological study and tourism.

Overall, basalt is a durable, dense, and dark-colored rock with a fine-grained texture. Its unique composition and characteristics make it suitable for various applications, and it has important geological and cultural significance.



Rock forming basalt



Basalt Columns, Iceland Photograph by John Shaw

### Occurrence and distribution of basalt globally

Basalt is a widespread rock type that occurs in many parts of the world. It is associated with volcanic activity and can be found in various geologic settings, both on land and under the ocean floor. Here are some of the major occurrences and distributions of basalt globally:

1. **Oceanic Basalt:** The majority of basalt on Earth is found on the ocean floor, forming the oceanic crust. Oceanic basalt is generated at mid-ocean ridges, where tectonic plates are moving apart, allowing magma to rise up and solidify as basaltic lava. This process creates vast underwater volcanic [mountain](#) ranges known as mid-oceanic ridges, such as the Mid-Atlantic Ridge and the East Pacific Rise, where basaltic lava continuously erupts and solidifies, adding to the oceanic crust.
2. **Continental Basalt:** Basalt can also be found on the continents, typically associated with volcanic activity. Continental basaltic lava flows can cover large areas of land and create extensive basalt plateaus, such as the Columbia River Plateau in the United States, the Deccan Traps in India, and the Siberian Traps in Russia. These large basaltic plateaus are remnants of ancient volcanic eruptions that occurred millions of years ago.
3. **Island Basalt:** Basalt can also be found in the form of volcanic islands, such as the Hawaiian Islands, which are composed mostly of basaltic lava flows. These islands are formed from volcanic activity associated with hotspots, which are areas of upwelling magma from deep within the Earth's mantle. The basaltic lava erupts onto the ocean floor, accumulates over time, and forms volcanic islands.
4. **Rift Basalt:** Basalt can also occur in continental rift zones, where the Earth's crust is being pulled apart and thinned, resulting in the upwelling of magma and the eruption of basaltic lava. Examples of such rift basalt can be found in the East African Rift System and the Rio Grande Rift in the United States.
5. **Volcanic Islands and Submarine Volcanism:** Basaltic eruptions can also occur in various volcanic islands and submarine [volcanoes](#) around the world. For example, basaltic lava flows can be found in volcanic islands like Iceland, the Azores, and the Galapagos Islands, as well as in submarine volcanic regions such as the Juan de Fuca Ridge off the coast of the Pacific Northwest in the United States.

Overall, basalt is a widespread rock type that occurs in various geologic settings around the world. Its occurrence and distribution are closely related to volcanic activity, both on the ocean floor and on land, and it plays a significant role in the geology and [geophysics](#) of these regions.



Vesicular Basalt

### Importance of basalt in geology, geophysics, and Earth's history

Basalt is an important rock in the fields of geology, geophysics, and Earth's history due to its unique characteristics and widespread occurrence. Here are some key points on the importance of basalt in these fields:

1. **Petrology and Geochemistry:** Basalt is extensively studied in petrology and geochemistry as it represents a common and well-characterized rock type. By analyzing the mineral and chemical composition of basalt, geologists can gain insights into the conditions of magma formation, eruption processes, and the evolution of Earth's mantle and crust. Basaltic rocks also provide important clues about the composition of the Earth's interior and its geologic history.
2. **Volcanology and Tectonics:** Basaltic lava flows and eruptions are important in the study of volcanology and tectonics. The study of basaltic volcanic features, such as lava flows, cinder cones, and volcanic vents, can provide information about volcanic processes, eruption styles, and magma properties. Basaltic lava flows can also be used to determine the direction and rate of tectonic plate movements, as they record the orientation of the Earth's magnetic field at the time of their formation.
3. **Geophysics and Seismology:** Basalt is significant in geophysics and seismology as it forms a major component of the oceanic crust. The study of basaltic rocks and their physical properties, such as density, seismic velocity, and magnetic properties, provides insights into the structure and composition of the Earth's crust, mantle, and lithosphere. Seismic studies using basaltic rocks also help in understanding the behavior of [seismic waves](#) and the interpretation of [earthquake](#) data.
4. **Earth's History:** Basalt plays a crucial role in reconstructing Earth's history. Ancient basaltic lava flows and plateaus, preserved in the geologic record, provide valuable information about past volcanic activity, climate change, and the evolution of Earth's crust and mantle. For example, the study of basaltic rocks from large igneous provinces (LIPs) like the Deccan Traps in India and the Siberian Traps in Russia has helped in understanding the timing and environmental impacts of massive volcanic eruptions in Earth's history, including their potential role in mass extinctions.
5. **Economic Importance:** Basalt has significant economic importance as it is used as a construction material, crushed stone, and aggregate in various infrastructure projects. Its durability, strength, and resistance to weathering make it suitable for a wide range of applications, including roads, buildings, and railway ballasts.

In summary, basalt is a crucial rock type in geology, geophysics, and Earth's history, providing valuable insights into the composition, structure, and history of our planet. Its widespread occurrence and unique

characteristics make it a key rock for studying volcanic processes, tectonics, geophysics, and Earth's evolution, as well as for its economic applications.

## Basalt

### Petrology of Basalt

Petrology is the branch of geology that studies the origin, composition, texture, and structure of rocks. Basalt, as a common rock type, has been extensively studied in petrology to understand its formation and characteristics. Here are some key aspects of the petrology of basalt:

1. **Origin and Formation:** Basalt is a volcanic rock that forms from the solidification of basaltic magma, which is a type of magma that is rich in iron and magnesium, and low in silica. Basaltic magma is generated in the mantle, either by partial melting of the mantle rocks or by melting of the mantle at mid-ocean ridges or hotspots. Basaltic magma is typically erupted at the Earth's surface through volcanic eruptions or can intrude into existing rocks as intrusive basaltic rocks. The cooling and solidification of basaltic magma result in the formation of basaltic rocks.
2. **Composition:** Basalt is a mafic rock, which means it is rich in magnesium (Mg) and iron (Fe), and low in silica (SiO<sub>2</sub>). Basalt typically contains minerals such as [plagioclase feldspar](#) (calcium-rich), pyroxene (commonly [augite](#) or other varieties), and minor amounts of olivine and [magnetite](#). The exact mineral composition of basalt can vary depending on the specific geochemical and geothermal conditions during its formation.
3. **Texture:** Basalt exhibits a characteristic fine-grained texture, known as aphanitic texture, which is typically composed of microscopic crystals that are not visible to the naked eye. This fine-grained texture is a result of the rapid cooling of basaltic lava at the Earth's surface, which inhibits the growth of large crystals. However, in some cases, basalt can also exhibit a porphyritic texture, where larger crystals of minerals such as olivine or plagioclase are embedded in a fine-grained matrix.
4. **Chemical Characteristics:** Basalt is characterized by its relatively low silica content (typically ranging from 45-55% SiO<sub>2</sub>) and high content of iron and magnesium. This chemical composition gives basalt its dark color and dense nature. Basaltic magma is also typically enriched in certain trace elements, such as [chromium](#), [nickel](#), and [cobalt](#), which can provide insights into the geochemical processes occurring in the mantle and crust.
5. **Classification:** Basalt is classified based on its mineral composition, texture, and chemical characteristics. One commonly used classification scheme is the TAS classification, which categorizes basaltic rocks into four main types: tholeiitic, alkali, transitional, and high-alumina basalts, based on their silica content and alkali (sodium and potassium) and aluminum oxide (Al<sub>2</sub>O<sub>3</sub>) contents. Another classification scheme is the total alkali-silica (TAS) diagram, which is based on the total alkali (sodium + potassium) and silica contents of basaltic rocks.

In summary, the petrology of basalt involves the study of its origin, composition, texture, and classification. Basalt is a mafic volcanic rock that forms from the solidification of basaltic magma and exhibits a characteristic fine-grained texture. Its composition, texture, and classification provide insights into the processes involved in its formation and the geochemical characteristics of the mantle and crust.



Rock forming basalt

## Mineralogy and major rock-forming minerals in basalt

Basalt is a mafic volcanic rock that typically contains several minerals, with some minerals being more abundant and characteristic of basalt than others. Here are the major rock-forming minerals commonly found in basalt:

1. **Plagioclase Feldspar:** Plagioclase feldspar is one of the most abundant minerals in basalt, typically comprising 40-60% of the rock's composition. Plagioclase feldspar in basalt is usually calcium-rich and belongs to the series of minerals known as the plagioclase solid solution series, ranging from calcium-rich anorthite to sodium-rich albite. Plagioclase feldspar is typically white to light gray in color and has a prismatic crystal shape.
2. **Pyroxene:** Pyroxene is another major mineral in basalt and belongs to the group of silicate minerals. The most common pyroxene in basalt is augite, which is a dark-colored mineral with a prismatic crystal shape. Pyroxene can also occur in other varieties such as [hypersthene](#) and pigeonite. Pyroxene minerals are typically dark green to black in color and are important in determining the texture and composition of basalt.
3. **Olivine:** Olivine is a common mineral in basalt, although it is usually found in lesser amounts compared to plagioclase feldspar and pyroxene. Olivine is a magnesium-iron silicate mineral and is typically olive green in color. Olivine can occur in different varieties such as forsterite and fayalite, and its presence in basalt can affect the rock's chemical composition and physical properties.
4. **Magnetite:** Magnetite is a common accessory mineral in basalt and is a type of iron oxide. It typically occurs as small black or gray grains and can sometimes be present in significant amounts, contributing to the magnetic properties of basalt.
5. **Other Minerals:** Basalt can also contain other minor minerals such as [ilmenite](#), [apatite](#), and amphiboles, depending on the specific geochemical and geothermal conditions during its formation.

These minerals can provide additional information about the origin and history of basaltic rocks.

In summary, the [mineralogy](#) of basalt typically includes plagioclase feldspar, pyroxene, olivine, and magnetite as major rock-forming minerals. These minerals contribute to the characteristic composition, texture, and physical properties of basaltic rocks, and their study can provide insights into the formation and evolution of basaltic magma and rocks.

### Classification of Basalt

Basalt can be classified into different types based on various criteria, such as its composition, texture, and formation environment. Here are some common classifications of basalt:

(to be continued in February)

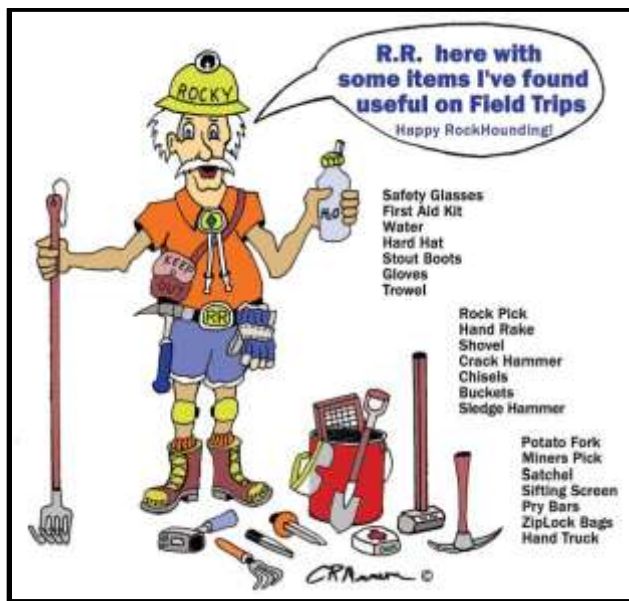
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### FIELD TRIPS:

#### Washington State Mineral Council (WSMC) Fieldtrips:

WAMS members are permitted to join WSMC on their field trips.

**No field trips scheduled at this time**



### The Rockhound's Code of Ethics

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

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

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

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

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

I will leave all gates as found.

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

I will discard no burning materials – matches, cigarettes, etc.

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

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

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

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

I will cooperate with Field Trip Leaders and those in designated authority in all collecting areas.

I will report to my Club or Federation Officers, Bureau of Land Management, or other proper authorities, any deposit of petrified wood or other material on public lands which should be protected for the enjoyment of future generations and for public educational and scientific purposes.

I will appreciate and protect our heritage of Natural Resources.

I will observe the "Golden Rule", will use Good Outdoor Manners and will at all time conduct myself in a manner which will add to the stature and Public Image of Rockhounds

### Links to other community websites:

<https://www.washingtonminerals.com/>

<http://www.northseattlerockclub.org/>

[http://orerocon.com/ore\\_rock.htm](http://orerocon.com/ore_rock.htm)

<https://mineralcouncil.wordpress.com/>

<https://puyallupvalleygemandmineralclub.com/>

<https://www.kmgsrockclub.com/>

<https://everettrockclub.com/>

<https://www.marysvilleroockclub.com/>

<https://www.cascademineralogicalsociety.org/>

<https://www.amfed.org/> American Federation of Mineralogical Societies (links to clubs around the nation)

### **BLM Resources:**

**BLM PDF "Can I Keep This"** (right click and select open hyperlink- it's very slow to open)

<https://gpb-blm-egis.hub.arcgis.com/> (this app opens with an unsupported browser)

### **General interest sites:**

<https://www.gatorgirlrocks.com>

[BLM PDF Explore Your Public Lands](#) (copy and paste into your internet browser)

<https://www.blm.gov/outdoorethics>

<https://awesomegems.com/>

<http://dsc.discovery.com>

### **GEM AND MINERAL SHOWS:**

Link to gem and mineral shows, shops, and more: <https://www.rockandmineralshows.com/>

### **WASHINGTON**

Whidbey Island Gem Club Annual Gem Show

February 2024 10th 9am—5pm

11th 9am—5pm

Oak Harbor Senior Center 51 SE Jerome St.

Oak Harbor WA

East King Co Club Annual Rock and Gem Show

March 2024 2nd 10am - 6pm

3rd 10am - 5pm

Pickering Barn 1730 10th Ave NW

Issaquah, WA

Mt. Baker Rock & Gem Club 62<sup>nd</sup> Annual Rock and Gem Show

March 2024 23rd 10am - 6pm

24th 10am - 5pm

Ferndale Pavilion 2007 Cherry Street

Ferndale, WA

#### **Maplewood Rock & Gem Club - 04/13/2024**

Start Date: 04/13/2024

End Date: 04/14/2024

Hours: 10:00 - 5:00

Venue: Maplewood Rock and Gem Clubhouse

Address: 8802 196th St SW  
Maplewood Rock and Gem Clubhouse  
Edmonds, WA  
Website: <http://www.maplewoodrockclub.com/home>

Lakeside Gem & Mineral Club 27<sup>th</sup> Annual Rock & Mineral Show  
April 2024 20th 10am - 5pm  
21st 10am - 4pm  
\$5 adults, 12 & under free  
Benton Franklin CountyFairgrounds Building 2, 1500 S. Oak  
Kennewick, WA

#### [Parade of Gems - 04/26/2024](#)

Start Date: 04/26/2024  
End Date: 04/28/2024  
Hours: Fri 10:00-4:00 Sat 10:00-5:00 Sun 10:00-4:00  
Venue: Central Washington State Fair Grounds  
Address: 1301 South Fair Avenue  
Central Washington State Fair Grounds  
Yakima, WA <http://www.yakimarockclub.com/>  
Website: <http://www.yakimarockclub.com/>

#### [Seattle Mineral Market - 05/18/2024](#)

Start Date: 05/18/2024  
End Date: 05/19/2024  
Hours: Sat 10:00 - 6:00 Sun 11:00 - 5:00  
Venue: Hangar 30 Building @ Magnuson Park  
Address: 7400 Sand Point Way NE  
Hangar 30 Building @ Magnuson Park  
Seattle, WA 98115  
Website: <https://elementalendeavors.com/seattle-mineral-market>

#### [Puyallup Valley Gem and Mineral Club Show - 05/31/2024](#)

Start Date: 05/31/2024  
End Date: 06/02/2024  
Hours: Fri 12:00-5:00 Sat 10:00-5:00 Sun 10:00-3:00  
Venue: Swiss Park  
Address: 9205 198th Ave E  
Swiss Park  
Bonney Lake, WA 98391  
Website: <https://puyallupvalleygemandmineralclub.com/>

#### [Maplewood Rock & Gem Sale - 08/10/2024](#)

Start Date: 08/10/2024  
End Date: 08/11/2024  
Hours: 10:00-5:00  
Venue: Maplewood Rock & Gem Clubhouse  
Address: 8802 196th St SW  
Maplewood Rock & Gem Clubhouse  
Edmonds, WA

Website: <http://www.maplewoodrockclub.com/home>

## **OREGON**

Oregon Agate & Mineral Society 73rd Annual show  
February 2024 23rd 9am—5:50pm  
24th 9am—5:50pm 25th 9am—5pm  
Oregon Museum of Science and Industry (OMSI)  
1945 SE Water Ave.  
Portland, OR

Tualatin Valley GemClub 65th Annual Rock and Mineral Show  
March 2024 1st 10am - 5pm  
2nd 10am - 5pm 3rd 10am - 5pm  
\$1 adults, 12 and under free  
Forest Grove National Guard Amory 2950 Taylor Way  
Forest Grove OR

Willamette Agate & Mineral Society 67th Annual Rock and Gem show  
April 2024 19th 9am - 5pm  
20th 9am - 5pm 21st 10am - 4pm  
“River of Gems” \$5, 17 & under free/adult  
Polk County Fairgrounds 520 S. Pacific Hwy  
Rickreall, OR

## **IDAHO**

Idaho Gems & Mineral Society (SEIGMS) Annual Rock and Gem Show  
March 2024 23rd 10am—5pm  
24th 10am - 5pm SE  
\$3, 12 & under free/adult Bannock County  
Fairgrounds 10588 Fairground Dr.  
Pocatello ID 83201

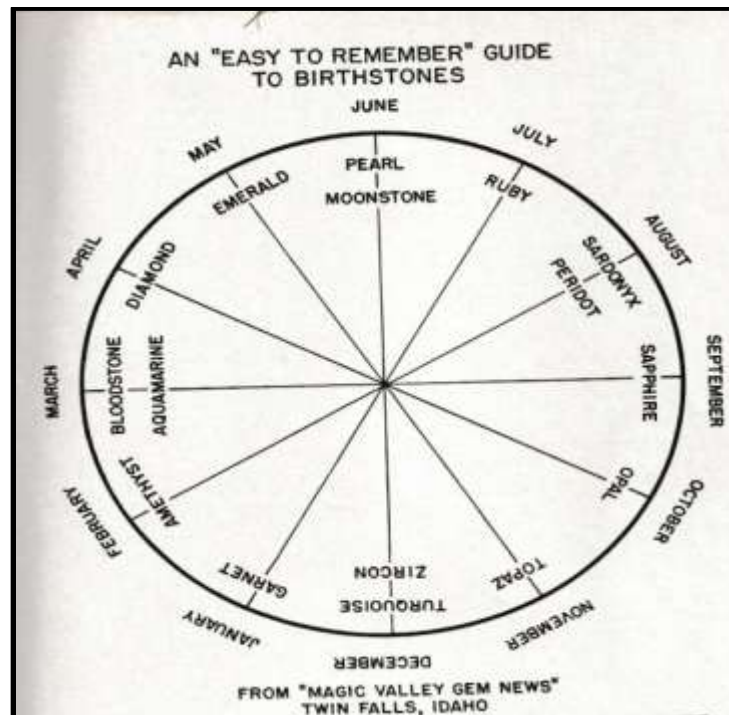
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## BIRTHSTONES

Traditionally, a birthstone is associated with each month of the year. For example, the birthstone for January is a garnet, while babies born in April get a diamond as their birthstone.

The origin of birthstones is believed to date back to the breast plate of Aaron which contained twelve gemstones representing the twelve tribes of Israel.

The idea of birthstones has a place in many traditions, customs, and belief systems.



## JANUARY



Those born in January are lucky to have the beautiful and diverse garnet as their birthstone. Garnets are commonly red but also come in an extraordinary range of beautiful colors, including orange, yellow, purple and vibrant green. There are even garnets that change color from blue to purple in different lighting. Some believe the true value of the garnet birthstone is its power to bring the wearer good health, wealth and happiness.

### **Garnet birthstone meaning & history**

The name “garnet” originates from the Medieval Latin *granatus*, meaning “pomegranate,” in reference to the similarity of the red color. Garnets have been used since the Bronze Age as gemstones and abrasives. Necklaces studded with red garnets adorned the pharaohs of ancient Egypt. Signet rings in ancient Rome featured garnet intaglios that were used to stamp the wax that secured important documents. The clergy and nobility of the middle Ages had a preference for red garnets.

Garnet is actually a group of several minerals. Five of these – pyrope, almandine, spessartine, grossular and andradite – are important as gems. Pyrope and almandine range from purple to red. Spessartine is found in exciting oranges and yellows, while andradite is mostly yellow to green (the gem variety demantoid). Grossular may have the widest range, from colorless through yellow to reddish orange and orangy red, as well as a strong vibrant green called tsavorite.

The Smithsonian’s antique pyrope hair comb is one of the most [famous pieces of garnet jewelry](#) (pyrope is from the Greek *pyrōpos*, which means “fiery-eyed”). A large rose-cut garnet sits at the crest, much like a queen serenely surveying her court. The pyrope garnets that decorate this tiara-like jewel came from the historic mines in Bohemia (now part of the Czech Republic), and these rich red beauties were extremely popular during the Victorian era (1837–1901), when this piece was fashioned.

Curious about your garnet birthstone’s reputed health benefits? According to Indian astrology, garnet helps eliminate negative feelings (depression, guilt) and instill greater self-confidence and mental clarity to promote creative thinking and peace of mind. In ancient and medieval times, gems like garnet were also thought to be remedies for inflammatory diseases and to soothe the angry heart.

### **Where is garnet found?**

Garnets come from many different regions and countries. Bohemia was the primary source of the red pyrope garnets so popular during Victorian times. Today, the African continent supplies much of the world’s garnet. Namibia is now producing demantoids, and most of the bright green tsavorites in the market come from Kenya, Tanzania and Madagascar. Namibia and Tanzania are also key sources of the rich orange-to-yellow spessartine garnets. For many years, Southern California’s Little Three mining area was known for producing this spellbinding gem, The birthstone for January is also found in Myanmar, Brazil, Iran, Afghanistan, Pakistan, India and Sri Lanka, among other countries.

## Garnet birthstone care & cleaning

The different types of garnet range between 6.5 and 7.5 on the [Mohs scale of hardness](#). This means that this birthstone is more susceptible to damage than rubies, sapphires and diamonds. So while not all garnets are good candidates for daily wear, they are ideal for earrings, brooches and pendants. Give thought to how you store your garnet jewelry. If you let it rub against harder gems – again, think diamonds, rubies and sapphires – it can be scratched. And in turn garnet can scratch softer gems, such as opals or pearls.

Most garnets are not treated. Rarely, however, some garnets might be fracture filled, whereby treaters try to improve the apparent clarity of the gem by filling surface-reaching breaks with a glass-like substance. Such treated stones require special care. Regardless, use of a soft brush with warm soapy water is always safe for cleaning garnets. Ultrasonic cleaners are usually safe, except for stones that have fractures or have been fracture filled. Steam cleaning is not recommended.



*This stunning 5.55 carat tsavorite garnet is set in platinum with two fancy yellow diamonds weighing a total of 0.71 carats and 136 round diamonds weighing 1.02 carats total weight. Courtesy: Omi Privé*

Whether you're shopping for the January birthstone, or a gemstone to celebrate your 2<sup>nd</sup> wedding anniversary, be sure to review our [Garnet Buying Guide](#). It has the essential tips you need to find the perfect garnet. Take it with you, and shop with confidence.

**WAMS Olympia is a member of the Washington State Mineral Society and:**

