

Beehive Buzzer

June 2014 Volume 42 Issue 6



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Photo: Adam Marland

“What light is to the eyes - what air is to the lungs - what love is to the heart, liberty is to the soul of man.”

Robert Green Ingersoll

Beehive Rock & Gem Club Program

Thursday, June 26, 2014 – 7 pm

Please bring any of your “*unknown*” rocks, minerals or fossils to see if we can help you. Also “show & tell table.”



Our program to include some or all of the following:

- **Helpful Lapidary Tips:** Gem dinosaur bone cabs...cutting difficult pieces...to cab or not to cab...used saw oil – reusing/disposal...using “opticom” (super glue) etc...your questions...
- **Short Topics:**
 - Mineral “chatoyance” look
 - Common *collectable* Opal varieties
 - Barite (including gem types)

“Rocky” Ray, Program Chairman



Happy July 4th!

Pioneer Days July Celebration

For current information on all the events:



Ogden: <http://ogdenpioneerdays.com/>
Salt Lake City: <http://www.daysof47.com/>



Calendar

June

18-23

Grouse Creek Field Trip

26

**Monthly Club Meeting
Roy Municipal Center
7 pm**

July

3

**Board Meeting
Roy Municipal Center
(Outside)
7 pm**

4

Independence Day

24

**Monthly Club Meeting
Roy Municipal Center
7 pm**

August

7

**Board Meeting
Roy Municipal Center
(Outside)
7 pm**

28

**Monthly Club Meeting
Roy Municipal Center
7 pm**

“The best thing about the future is that it comes one day at a time.”

Abraham Lincoln

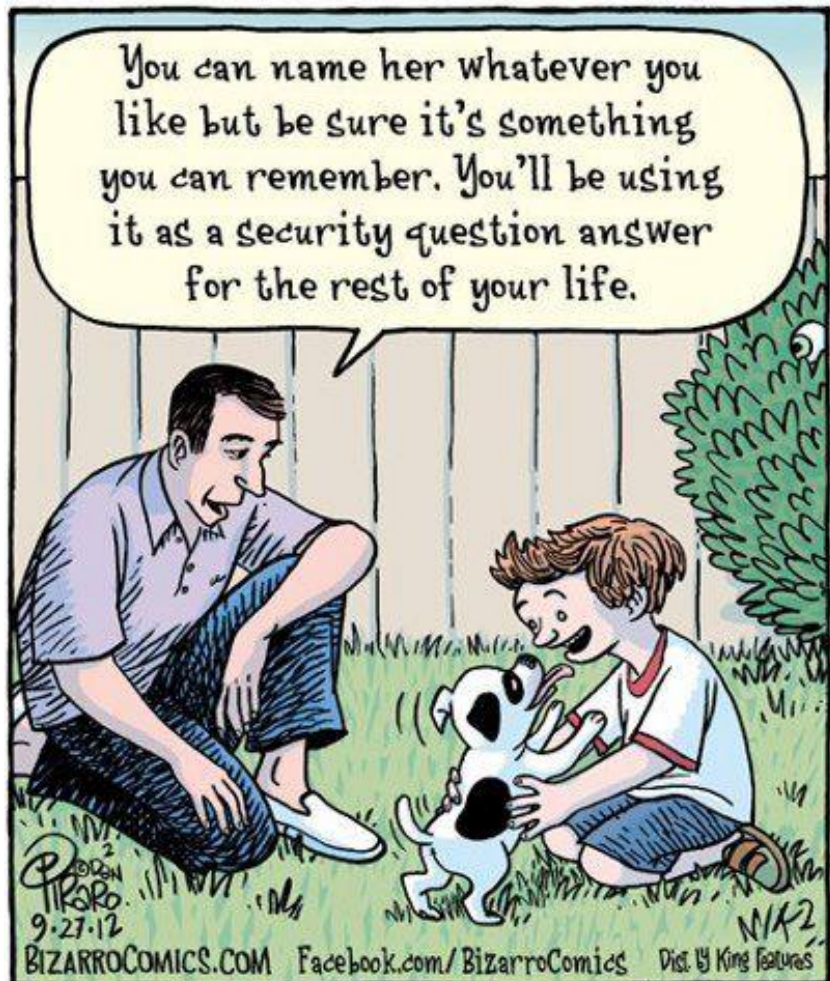
Show Dates

June 20-22 -- Sandy Utah: Wholesale and retail show: Gem Faire Inc., South Towne Expo Center; 9575 S. State St; Fri 10-6, Sat. 10-6, Sunday 10-5; weekend pass \$7, children (0-11) free; Fine jewelry, gems, beads, crystals, silver, rocks, minerals, exhibitors, hourly door prizes; contact Yooy Nelson, (503)252-8300; email: info@ gemfaire.com; Web site www.gemfaire.com

July 4-6 Farmington, New Mexico: Annual show; San Juan County Gem & Mineral Society; Civic Center; 200 w. Arrington; Fri. 10-6, Sat. 10-6, Sunday 10-5; free admission; silent auction, raffle, hourly door prizes, wheel of fortune, Black light display; contact Mickie Calvert, 5986 Hwy 64, Farmington, NM 87401, (505)632-8288; e-mail: mickie2@earthlink.net

September 26-27 Hurricane, Utah: Annual show; Eric Funk; Washington County Regional Park; 5500 West 700 South; Fri. 10-6 Sat. 10-6; free admission; dealers, rocks, gems. Faceted stones, fossils, minerals, geodes, crystals, petrified wood, silent auction; contact Eric Funk, PO Box 537, Ferron, Ut 84523, (435) 609-0136; e-mail: Eric_funk@yahoo.com

Check <http://www.rockngem.com/show-dates-display/?ShowState=ALL> for other shows throughout the country.



A DINOSAUR TRACK MEET?

BY JACK SHIMON, PIKES PEAK PEBBLE PUPS
ALL PHOTOS BY MOM, JULIE SHIMON

My "fossil Grandpa" took me to visit this neat site when I was in Texas last summer. We drove away from Austin to a small rural community where it seemed there wasn't anything to find. My Grandpa pointed me to a small trail, full of flowers that Jane stopped to admire, which eventually led down a steep trail into the river bed. This was definitely not a popular hiking trail and I doubt many people except geocachers have been to this spot. The site is an Earthcache which is a type of geocache that teaches you about a unique geoscience feature. I have been to several Earthcaches in Texas and in at least four other states (Colorado, Iowa, North Carolina and Florida) and learned some interesting lessons. Our job was to study the dinosaur tracks and answer some questions¹.

What type of dinosaur made these tracks? A theropod like velociraptor or T-rex, or maybe even the recently discovered *Lythronax argestes*. Some type of carnivorous predator, and to think, I was standing right where it walked so long ago! It was a little frightening to imagine one coming along and what that would be like in real life.

The first task was to measure the stride. The stride is the distance between two footprints (right- right), not the step length as shown by Jane and I (right-left). I calculated the stride length as 112 inches.



Jane and I at the dinosaur tracks. We are each standing by a footprint.



Dinosaur track.



Next, I had to measure the length of one footprint. I measured several and took the average to be 18 inches long.

Then, I calculated the hip height, which equals five times the print length, or 5×18 inches, which is 90 inches. My hip measures only 30 inches high.

Next, I calculated the length of the dinosaur, which is ten times the print length, or 10×18 inches, which is 180 inches. I am only 52 inches long, but I also don't have a tail like a theropod.



The final task was to determine if the dinosaur was walking, trotting, or running. To do this you divide stride length by hip height, which is $112/90 = 1.244$. I first guessed that it was walking because the prints were so clear and there was no smudging. Was I right?

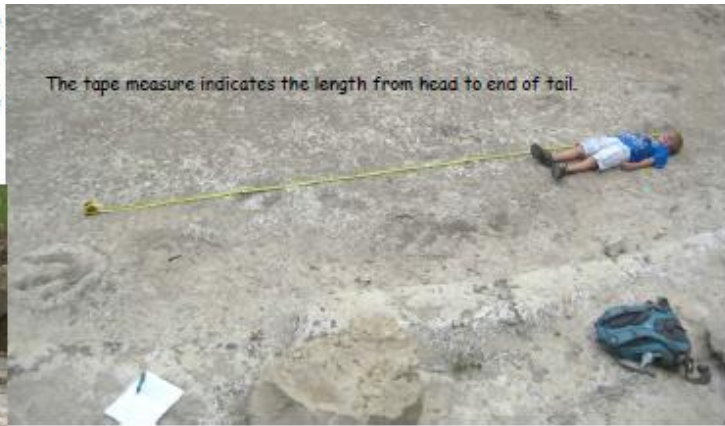
Yes, I guessed correctly! For the calculation stride length divided by hip height the following values correspond to motion: <2.0 is walking, $2.0-2.9$ is trotting, and >2.9 is running.

I had a lot of fun at the Earthcache with my Grandpa and enjoyed learning how to interpret dinosaur tracks. As we were exploring some more he showed me these interesting



The tape measure indicates the height of the dinosaur hip.

layers. The thick hard white layers are deep water limestone deposits. The thin bedded gray layers in between are shallow water mudstones. The dinosaur tracks were found at the base of the lower mudstone layer.



The tape measure indicates the length from head to end of tail.

References:

1 Track Meet? Cache GC1RZM5 by Waterweasel & Tygress

About the author: Jack Shimon is a member of the Pikes Peak Pebble Pups in Colorado Springs, and is in the Colorado Springs Mineralogical Society Unit. He is in 3rd grade and also enjoys cub scouts, mountain biking and playing the drums. He is always conducting research on Earth science topics either through science or art.



Rocky Mountain Federation Newsletter, March 2014

Grouse Creek Field Trip - June 18-23

Instructions start at Snowville, Ut:

West on I84 to SR 30 (Exit 5)

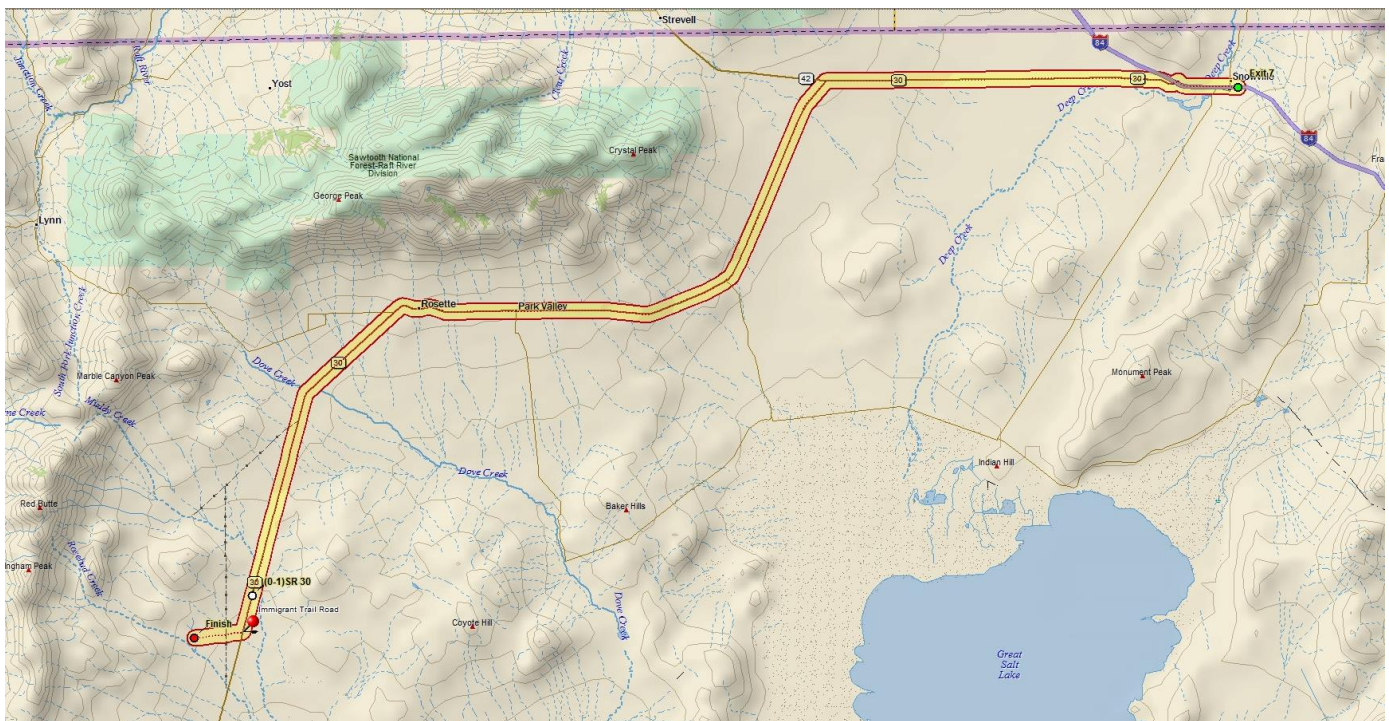
West on 30 to junction with SR 42 (About 15.6 miles)

Left on SR 30 Southwest approximately 41.6 miles to where Immigrant Trail road crosses SR 30

Turn right on Immigrant Trail Road, go approximately 2.1 miles to camping area.

GPS: Immigrant Trail Road crosses SR 30 at N 41 36 36.1 W 113 33 56.6

Camp is at N 41 36 21.2 W 113 33 26.7



Popigai Crater & Impact Diamonds

About 35 million years ago an asteroid about 3 to 5 miles in diameter, traveling at a speed of about 35,000 to 45,000 miles per hour slammed into the area that is now known as the Tamyr Peninsula of northern Siberia, Russia. The energy delivered by this hypervelocity impact was powerful enough to instantly melt thousands of cubic kilometers of rock and blast millions of metric tons of ejecta high into the air. Some of the ejecta landed on other continents.



The large Popigai impact crater from space. Photo © www.wikipedia.org

The explosion produced a 62 mile-wide impact crater with a rim of deformed rock up to 12 miles wide. We now know this feature as "Popigai Crater" or "Popigai Astrobleme," the seventh largest impact crater that has been identified on Earth. It is designated by UNESCO as a Geopark, a site of special geological heritage. The heat and pressure produced by this impact greatly exceeded what is required for the formation of diamonds at the impact point. A hypervelocity impact of a 3 mile wide object would produce an energy burst equivalent to millions of nuclear weapons and temperatures hotter than the sun's surface. In late 2012, the Siberian branch of the Russian Academy of Science said the Popigai crater in eastern Siberia contains "many trillions of carats" in so-called "impact diamonds" which are good for technological purposes but not for jewelry. The deposit was discovered in the 1970s but

kept a state secret. It was little publicized even after the fall of the Soviet Union when its sheer remoteness, 1,200 miles from the main Trans-Siberian railway line, made exploitation impossible. Even today there are problems linked to accessibility and mining in an extreme environment. Large examples of impact diamonds from Popigai Crater. Photo ©

www.nydailynews.com However, according to the official news agency ITA Tass, the diamonds at Popigai are "twice as hard" as the usual gemstones, making them ideal for industrial and scientific uses. Many of the diamonds at Popigai contain crystalline lonsdaleite, an allotrope of carbon that has a hexagonal lattice. Pure, laboratory-created lonsdaleite is 58%



harder than ordinary diamonds, although it is unknown whether the natural, impure examples at Popigai show similar characteristics. Additionally carbon polymorphs even harder than lonsdaleite have been discovered at the crater. What remains to be seen is if this creates the possibility of Russia undercutting the price of synthetic diamonds now produced in China, and delivering a cheap new technology for making machine and airplane parts as well as jewelry work.

Information for this article came from www.wikipedia.org, www.nydailynews.com, www.esmonitor.com, www.geology.com, via [www.Gemcrafters and Explorers Club "EL Gambisino"phys.org](http://www.GemcraftersandExplorersClub.com)

The Great Cameo of France

by Carolyn Weinberger Proof

that the Greeks and Romans cut cabochons can be found in numerous museums around the world including our own Walters Art Museum here in Baltimore, but do you know about the Great Cameo of France? This amazing cameo is a five layered sardonyx that dates back to approximately 23 AD. It has a well documented past - probably coming to France from the Byzantine Empire, then stolen during the French Revolution and recovered in Amsterdam years later. The cameo is the largest of the ancient cameos to survive. It is engraved in 24 layers which are divided up into three levels. The theme of the work asserts the continuity and dynastic legitimacy of the Julio-Claudian dynasty. The original gold frame which was lost during the Revolution has been replaced with one of bronze. The cameo is now on display at the Bibliotheque Nationale in Paris. Via Gem cutters News



Via MOROKS Newsletter, June 2014

HEALTH IN LAPIDARY

Respiratory Protection

What about ventilation? Does this mean, if we open a door or window, we're covered? Many of us use some type of repair adhesive in the process to correct minor flaws and setting stones. The warning labels clearly state to use in a, "well ventilated area." Windows fans blowing outward or exhaust fans with open windows or doors are the more prudent way to go. Respirators come in a variety of types, each for a specific function. Certainly it would not be prudent to purchase a full-face respirator when a partial respirator, fitted with the proper cartridges would do as well. In most cases a dust mask, like many contractors use, will suffice when cutting or grinding stones. However, I would advise each of you to see what type of chemicals you use in your specific area of interest and purchase a cartridge respirator with a supply of cartridges suited for the chemicals you are using! Another way to make your shop well ventilated would be to design an exhaust system directly adjacent to the area where the harmful chemicals are to be used to accomplish this your local home improvements center can recommend which exhaust system would be best suit your need. That just about sums up the basics of PPE and creating a safe workshop, be sure to look for more articles on tips of the trade and minor maintenance of shop equipment in the upcoming news letters.

Materials of concern:

ACTINOLITE	Some varieties contain asbestos; asbestos causes mesotheliosis.
BERYLLIUM TIFFANY STONE	avoid breathing dust or vapors containing beryllium compound causes berylliosis

CHRYSOCOLLA	copper based ore; all copper based ores are saturation heavy metals and can lead to a number of health related issues
COVELLITE	copper based ore
CUPRITE	copper based ore
GREEN PETRIFIED WOODS	chromium; can cause liver and kidney damage
MALACHITE	copper based ore
QUARTZ	silica fine dust particles from sand blasting or long term inhalation of water vapor containing silica particles can cause silicosis
SERPENTINE	chromium
TURQUOISE	copper based ore
POLGLYCHOLINE	even low-tox products are considered toxic. Keep from mucus membranes and prolonged exposure to the skin. Seek medical attention if splashed in the eyes.

By Miner Matters Gazette

June counts three gems as birthstones, pearl, Alexandrite, and moonstone.

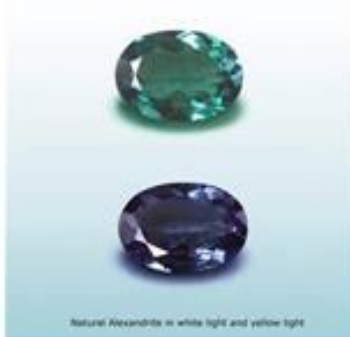
Pearl

Historically, pearls have been used as an adornment for centuries. They were one of the favorite gem materials of the Roman Empire; later in Tudor England, the 1500s were known as *the pearl age*. Pearls are unique as they are the only gems from living sea creatures and require no faceting or polishing to reveal their natural beauty. In the early 1900s, the first successful commercial culturing of round saltwater pearls began. Since the 1920s, cultured pearls have almost completely replaced natural pearls in the market.



Alexandrite

A relatively modern gem, *Alexandrite*, was first discovered in Russia in 1831 during the reign of its namesake, Czar Alexander II, and is an extremely rare chrysoberyl with chameleon-like qualities. Its color is a lovely green in both daylight and fluorescent light; it changes color to a purplish red in incandescent light. Due to its rarity, some jewelers stock synthetic versions of this enchanting gemstone. (Synthetic gemstones are man-made alternatives to the natural material, possessing the same physical, optical, and chemical properties as the natural gemstone.)



Moonstone

The third birthstone for June is the *Moonstone*. It was given its name by the Roman natural historian Pliny, who wrote that moonstone's appearance altered with the phases of the moon — a belief that held until well after the sixteenth century. A phenomenal gemstone, moonstones show a floating play of light (called *adularescence*) and sometimes show either a multirayed star or a cat's eye. Considered a sacred stone in India, moonstones often are displayed on a background of yellow (a sacred color) and are believed to encapsulate within the stone a spirit whose purpose is to bring good fortune. Part of the family of minerals called *feldspar*, moonstone occurs in many igneous and metamorphic rocks and comes in a variety of colors such as green, blue, peach, and champagne. The most prized moonstones are from Sri Lanka; India, Australia, the United States, Myanmar, and Madagascar are also sources.



FELDSPAR VARIETY

Can be numerous colors, including blue grey white pink green and brown.

Fracture:	Uneven to conchoidal
Mohs scale:	6.0 hardness
Luster:	Opalescent
Streak:	White
Specific Gravity	2.61

COPPER, A RAINBOW YOU CAN HOLD

Early man used native copper as early as 8,000 BC to fashion simple tools and crude pieces for defensive and offensive instruments of war. It was used by the Incas in Peru, and by the early Egyptian, Roman, Greek and Chinese civilizations. Smelting seems to have been discovered under differing circumstances such as the burning of fires for heat and cooking.



Copper

The Bronze Age began about 3000 BC when man began making alloys of copper and tin. Tin was brought to the Egyptians and Greeks from the "Islands of the Cassiterides" by Phoenician sailors and traders.

The "Islands of the Cassiterides" were actually what we know as the British Isles and it was the mines of Cornwall, in southwest Britain, that were the chief source of tin. The island of Cyprus was the main source of copper. Natives called it "Cyprium metal". Romans later called it "Cyprium". Scientists have provided us with the geological associations of copper in our country. A study of Precambrian formations introduces us to copper and copper minerals, in Montana and Arizona. Paleozoic rocks in Utah provide copper. (ie Bingham Copper Mine) Copper is found in the Mesozoic outcrops of California and Nevada.

The more recent Tertiary Age is where we next pick up the trail of copper. We are aware of copper deposits in Lake Superior, Sierra Nevada, the Rocky Mountains and the Atlantic coastal beds that stretch in a chain from Florida to Labrador to western Greenland. Chalcocopyrite is by far the most widely distributed ore of copper.



Beaverite

A curious fact is that the areas rich in copper pyrites carry the merest traces of the precious metals. Chalcocopyrite is associated with the purple ores of Butte, Montana. When most prospectors were searching for precious metals, Michael Hickey, a Union Army soldier staked out a claim in the Butte called "Anaconda". This claim became the world's

largest copper enterprise. In locations where copper has decomposed through oxidation it is not desirable for smelting. In these areas are found minerals such as malachite and azurite known for their beauty and desirability in the collector's world. Large deposits of native copper were found in the Keweenaw Peninsula of Michigan. Loose nuggets called "float copper" from that location were distributed by ice age glaciers throughout a large area.

Copper has many uses historically. At one time small amounts of copper salts were used to can green peas, pickles and other vegetables. Adjusted doses are added to water reservoirs to kill weed growth. Most all of New York City's tall buildings are capped with copper. The Statue of Liberty is made of copper. Everyone likes a rainbow. A common dream is to find the pot of gold at either end. Copper is made up of all the colors. Reality is seeking the specimens with your desired colors and holding the rainbow in your hands.



papagoite

Consider the red of *cuprite*, the red-orange of *chalcotrichite*, the canary yellow of *beaverite*, the green of *malachite*, the blue of *papagoite*, the indigo-blue of *Covollite* or the blue-violet of *linarite*. A freshly broken piece of *bornite*, sometimes called "peacock ore," with exposure to air, has every conceivable hue - golden yellow, the deepest indigo, brilliant green and royal blue. **TRULY A RAINBOW YOU CAN HOLD.**



Bornite

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Cuprite



Chalcotrichite



malachite



Covollite



Officers & Club Information

2014 Board of Directors

Officers

President	Dan Siler	801-737-3013
Vice President	Steve Smith	801-731-4216
Secretary	Dave Offret	801-791-6081
Treasurer	David Law	801-731-4255

Activity Committee and Chairpersons

Field Trip Leader	Joe Kent	801-771-8184
Program	Ray Rutledge	801-732-8331
Door Prize	Jim Alexander	801-399-0785
Hospitality	Linda Pilcher	801-392-7620
Communications	Kay Berry	801-825-6261
Membership	David Law	801-644-4931
Mini-show	Alice Crittenden	801-547-7781
Safety	Lynn Hayes	435-723-2216
Publicity	Mark Acker	801-475-4705
Buzzer Editor	Dave Harris	801-737-1266
Associate	Leora Alexander	801-399-0785
Photographer	Shari Bush	801-388-8605
Calling Committee	Sherm & Ricky Thompson	435-760-1362

Federation Representatives

Rocky Mountain Federation Delegate	Joe Kent
Utah Federation Delegate	Open
Public Land Advisory Committee	Jim Alexander

Club Affiliations

The Beehive Rock & Gem Club began in April of 1970 and is a member of the following:

- Utah Federation of Mineralogical Societies
- Rocky Mountain Federation of Mineralogical Societies
- American Federation of Mineralogical Societies
- Scribe

Advertising Rates:

For sale ads are permitted for members at no charge. Business advertisements will be charged at the rate of \$5.00 for ¼ page or 15 cents per word for less than ¼ page.

General Objectives of the Club

The purpose of our club is to stimulate interest in the collection of rocks, minerals, gem materials, and legal fossils. To discuss and impart our knowledge of the different phases of collecting, cutting, polishing and

displaying them. Also to organize educational meetings, field trips and similar events while enjoying and protecting our natural resources.

Membership Dues

Yearly membership dues are for adult members are

Single	\$11
Couple or Family	\$16
Junior (Under 18 not part of family membership)	\$5

Dues are due October 1 of each year.

Meetings

General club meetings are held at 7 pm on the fourth Thursday of each month in the multi-purpose room of the City of Roy Municipal Center located at 5051 South 1900 West, Roy, Utah.

All visitors are welcome!

Board Meetings are held at 7 pm on the first Thursday of each month at the Roy Library located at 1950 West 4800 South, Roy, Utah.

Newsletter

The Beehive Buzzer is the official newsletter of Ogden Beehive Rock and Gem Club and is published eleven times per year. Please send submissions and exchange bulletins to beehivebuzzer@gmail.com.

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