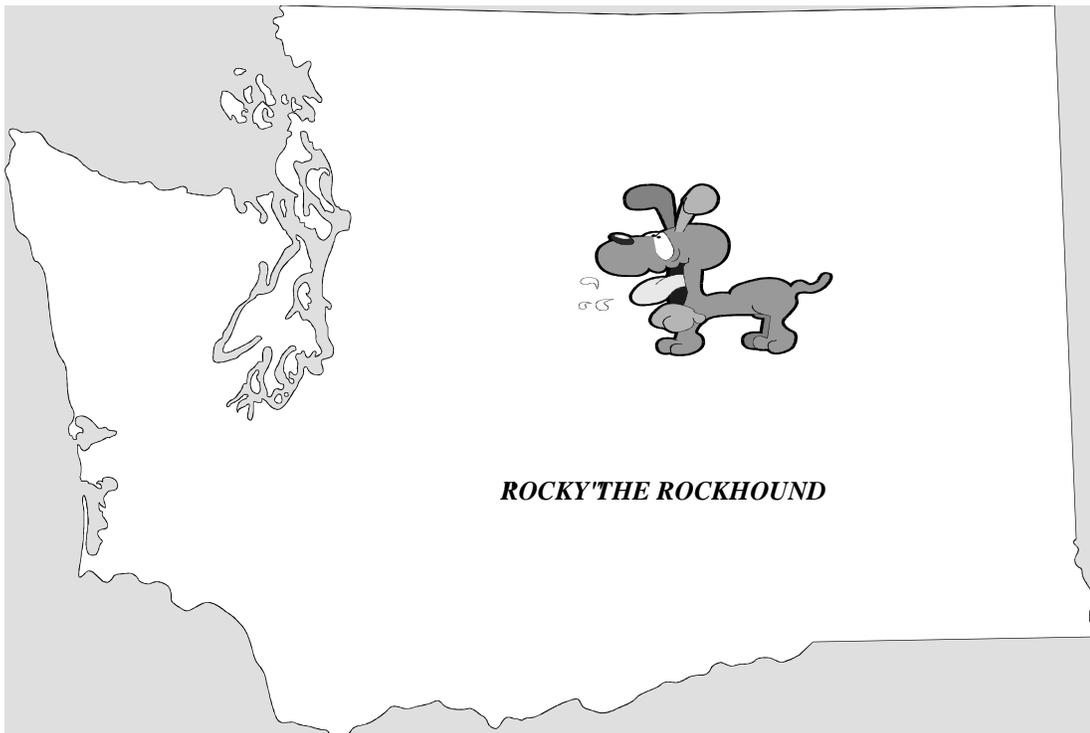

◆ **The Council Reporter** ◆

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The West Side Board meets the third Tuesday of each month between Quarterly meetings, unless a meeting is specially called. Usually no meeting in July and December dependent on Board action.

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Flaked Out: An Introduction To Flint-Knapping

by Bob Miller a.k.a. White Arrow

Member of the Deming (New Mexico) Gem & Mineral Society

Somewhere, lost in the sands of antiquity, the first flint tool lies buried and forgotten. My guess is that it sleeps somewhere east of Eden in Mesopotamia, likely fashioned by the hands of Adam. Of course, I don't really know and neither does any other living human. The bond between mankind and flint is very old and deep indeed. Likely, it is some vestige of this friendship that reappears today as the urge to rockhound.

Flint-knapping (from the German ("Knappen" meaning "to nibble") is doubtless one of the most basic and ancient of industries. Without the very sharp and durable edges produced by fracturing flint even the working of wood becomes next to impossible. If you doubt this, go into the woods without knife, ax, or saw and try to fell a useable sapling. Catching a cooperative beaver is about your only option here. Along with fire, flint was survival for millennia, and many of those fires were kindled using a flint spark.

In everyone's genealogy there were flint-knappers. It may be many generations ago for some or only a few as in this writer's own Cherokee and Choctaw ancestors. Their skills were undoubtedly adequate or we would not be here today.

Until the recent development of fused diamond plating on a tungsten matrix blade, obsidian (as in "Apache Tears") produced the sharpest known edges, far superior even to the best surgical steel scalpels. Obsidian fractures at the molecular level producing edges that may be only a molecule or two thick. The Maya Indians of southern Mexico were in fact successfully performing brain surgery (trepanning) centuries before Columbus landed, using obsidian tools.

The knap-ability of flint owes to its crypto-crystalline structure (it's crystals are microscopic or non-existent). It is much like glass, being about 95% quartz (silicon). When struck a sharp blow with a hard object it will fracture into a "Hertzian cone" (conchoidally). Perhaps the easiest illustration of this phenomenon is to shoot a piece of thick glass with a B-B-gun. The characteristic product of this collision is a smoothly-rippled Hertzian cone. This is the basis of flint working by percussion.

Flint-knapping is the art of vectoring blows from a "billet" to remove flakes from the core in a manner predictable enough to eventually shape a blade. This process is called "core reduction." Once a blow is struck it cannot be recalled. For better or worse, the record of that blow is "written in stone."

Knapping is a lot like playing billiards. Due to inconsistency or defects (inclusions) in the flint it can more resemble playing pool on a wavy table with a tree limb and glass eggs. There are times I feel that I am actually matching wits with a piece of flint, as in three-dimensional chess! Many Indians believed that everything, even inanimate objects like rocks had a spirit and were somehow "alive." Perhaps they were right.

There is, of course, a lot more to knapping, like pressure flaking, heat-treating flint to improve its "lithic" qualities, "hands on" experiencing of just how sharp flint really is, weeping over the

February 17, 2015 Westside Board Meeting AGENDA

Opening of Meeting
Treasurer's Report
◇ Kathy Earnst
Committee Reports
◇ Wagonmaster -Ed Lehman
Old Business
New Business
Open Comments

Tentative Meeting Calendar for 2015

West side board meetings:
1/20, 2/17, 6/16, 08/18 (new meeting),10/20

At 7:30PM at the
Maplewood Clubhouse
8802 196th St SW, Edmonds

General meetings :
4/04, 5/02, 9/19, 11/01

All general meetings will be held at:

Palace Café
4th & Main
Ellensburg
Meeting @ 9:30 AM

halves of an exceptional, almost complete blade, and of course losing one's mind.

One thing is certain, if you pursue knapping with any degree of persistence, you will recognize that its ancient practitioners were not a bunch of dumb savages banging rocks together. Instead, that is what we modern hobbyists are! They did it to survive — we do it . . . For fun????!!

via CMSE Tumbler 01/15, The Whittier Rockhounder, 12/14; via The Rollin' Rock, 4/04; from Rock Chips, 3/04

DINOSAUR DIG IN UTAH

When geologist J.S. Newberry, on an Army engineering survey of the West, found the bones of the Dystrophaeus, a mammoth plant-eater, on the confluence of the Colorado and Green rivers in 1859, he could dig out only a few. He reported later that there were more to be removed. But soon after Newberry's discovery, the Civil War broke out and his report languished for about 17 years,

(Continued on page 4)

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was buried until it was finally published, and eventually the site's location above a canyon south of Moab was lost. Researchers rediscovered it in the late 1980s after a 12 year search.

Paleontologists are now excavating this "first dinosaur ever discovered in Utah", according to an Associated Press article in September. The excavation started with a special ceremony marking the discovery more than a century and a half earlier, said John Foster, the executive director of the Museum of Moab. Foster said it's taken years to come up with a plan and funding to pay for the excavation. The project is now being paid for by a grant of about \$9,000 from the nonprofit Canyonlands Natural History Association, Foster said.

The site is difficult to access, located on a steep sandstone slope about 250 feet above the canyon floor. Equipment and large chunks of rock have to be ferried down the cliff face and walked out of the canyon, Foster said. He said there's more bone than researchers expected, so the excavation work will continue into 2015 and possibly the year after that. Once pulled from the sandstone, the bones of the long-necked, long-tailed vegetarian dinosaur are headed to the Natural History Museum of Utah in Salt Lake City to be studied. It will take about a year to clean the bones from the surrounding rock and assemble what they have. Some of the skeleton eventually will be displayed at that museum, while other parts will be lent to the Museum of Moab.

The bones are the oldest sauropod dinosaur bones in North America, so studying the skeleton will help paleontologists understand the origins of sauropods on the continent. Foster said scientists also hope to discover if and how this particular specimen is related to younger sauropods, which scientists know relatively well.

From YRMC News 12/14, Ref: excerpt from Michelle Price, Golden Spike, 10/14 - Assoc Press, 9/14 -Petrograph Nov/Dec 2014

Pegmatite review:

Pegmatite is a coarse-grained vein or dike rock with crystals that range from a inch or so to many feet in length. Pegmatites are mined for their mica and feldspar, or for gems and other accessory minerals. They often contain cavities or vugs lined with crystals.

Pegmatites are limited to areas of crystalline rocks, especially ancient metamorphic rocks. Most of the pegmatites of Idaho and Montana lie within mica schist or gneiss, but some are enclosed in hornblende gneiss, granodiorite, or crystalline limestone. Both the pegmatites and the crystalline rocks in which they occur were formed at great depths in the crust of the earth. They are exposed at the surface only because erosion has removed many thousands of feet of rock that lay over them when they were formed. Pegmatites have been intruded, injected, or otherwise emplaced in the rocks that enclose them.

Most pegmatites are composed of quartz, feldspar and mica, having a similar basic composition as granite. Pegmatites are important because they often contain rare earth minerals and gemstones, such as aquamarine, garnet, topaz, fluorite, apatite and

corundum, often along with tin and tungsten minerals, among others.

Within the metamorphic belts, pegmatite tends to concentrate around granitic bodies within zones of low mean strain and within zones of extension, for example within the strain shadow of a large rigid granite body (batholith). Similarly, pegmatite is often found within the contact zone of granite. Some skarns associated with granites also tend to host pegmatites.

Miarolitic Cavities

The term "miarolitic" originates from an Italian word, miarole, which originally referred to small crystal-lined cavities in granite from the famous mineral-collecting regions of northern Italy. Miarolitic pegmatites are those that possess a proportionately large number of crystal-lined cavities, and from which most of the world's great pegmatitic gem & mineral specimens are mined.

The miarolitic cavities or vugs are where the heated mineral enriched, liquid cavities formed within the pegmatites. As the pegmatites and cavities cooled over 1 billion years ago the crystals formed in the liquid pockets. The crystals form from the outside walls toward the center of the pocket or vug. Due to tectonic plate/volcanic action, weathering and other erosion processes many of these now collapsed crystal pockets are near the earth's surface and ready for harvesting.

The difficulty in finding the old collapsed pockets stems from hundreds of people digging through the pegmatites and finding the easy to get crystals. Sometimes a portion of the pegmatite is exposed to the surface and creates "float" crystals. The crystals are called float because they are on the surface and detached from their source. Inexperienced rock hounds often pick up these float crystals or keys to the location of the crystal pocket without realizing they've not only missed the mother lode, but also erased evidence for others to find the crystal pocket.

It is not unusual to find broken crystals in a cavity. The crystal breakage can be a result of either the original pocket rupturing under pressure during crystal formation, earth movement, or the grinding of crystals against each other over millions of years of frost thaw cycles and other erosion processes.

For a more detailed explanation of how these form, follow this link: <http://www.omgs-minerals.org/London/Pegmatite2>

Link to Idaho Batholiths-- <http://imnh.isu.edu/digitalatlas/geo/batholith/bathdex.htm>

Good Link with pictures on miarolitic cavities and Idaho gems—
<http://www.mindat.org/article.php/568/The+Sawtooth+Mountains+of+Idaho>

more on Idaho gems & minerals(end of article)-<http://imnh.isu.edu/digitalatlas/geog/mining/deposits.htm>

Another link on Devils Den area—http://www.asterism-services.com/FIELD_NOTES.html

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Idaho dept of Lands, Gemstone Guide---

<http://www.idl.idaho.gov/mining/rockhounding/gemstones.html>

From Boulder Buster 01/15

Westside Board Meeting Minutes 01/20/15

Ed Lehman forgot that there was a meeting and no one else had a key to open the club house. Consequently about 6 of us huddled in the cold outside and shot the breeze for about 30 minutes before calling it a night.

Bob Pattie did mention that there is a new bill in the House that affects rock collecting. The following is an excerpt from HB 1271:

(2) The legislature further finds that accessing Washington's great outdoor spaces for the purposes of recreational rock collecting is a legitimate use of the state's outdoor recreational resources. Rock collecting is a hobby enjoyed by entire families and is an educational experience for school children that can separate them from electronic screens and create a lifetime bond with the outdoors and with nature. Rock collecting represents the type of hands-on, outdoor environmental and physical sciences education proven to make a difference in inspiring an outdoor recreational culture.

(3) The legislature further finds that allowing recreational, non-commercial rock collecting on state-owned recreation lands has a de minimus effect on state resources when conducted under appropriate conditions. Recreational rock collectors do not take significant quantities of any materials as part of their hobby.

(4) The legislature further finds that accommodating rock collecting enthusiasts benefits both state revenues and local economies. Increased rock collecting activity on state lands will lead to more discover pass sales and generate economic activity in the communities that host the destination state lands. Rock collectors choose to spend their discretionary income in pursuit of their hobby; spending that will occur in other states if Washington does not support their needs.

The following link will get you to the comment input page.

<https://app.leg.wa.gov/psc/bill/1271>

The summary of the bill is at the following link:

<http://app.leg.wa.gov/DLR/billsummary/default.aspx?Bill=1271&year=2015#documents>

We also talked about changing the meeting schedule slightly. The

April 14 West side meeting will be dropped since there is a Combined meeting on April 4. A new meeting on West side August 18 will be added otherwise the first meeting after summer will be the Combined meeting in Ellensburg. We thought that it would be best if the West side got together before the September meeting to set up the agenda.

Submitted by
Glenn Morita
Secretary, Pro-Tem

The Washington State Mineral Council web site has MOVED.

Please update your web browsers to the new URL
<https://mineralcouncil.wordpress.com/>

The move allows the website to use Wordpress without having to upgrade our web hosting account.

The old URL www.mineralcouncil.org will re-direct you to the new location.

Dues are due

Download the PDF or Word version from the WSMC website in the Misc. Resources menu

Kathy Earnst will be in town all spring so send in dues as soon as possible.

GPS Co-ordinates Needed

The WSMC needs the GPS co-ordinates of any and all of the collecting sites in the state. In an effort to make the map booklets as accurate as possible the Mineral Council is asking for everyone to record GPS readings while on field trips. The data can also be used to help in our fight to keep our collecting areas open.

Attention: All Newsletter Subscribers

If you, or someone you know should be receiving this newsletter electronically and are not, please contact Bob Pattie or myself (Glenn Morita).

We are trying to keep our mailing list current and want to make sure that everyone who wants an electronic version of the newsletter gets one.

WSMC FIELDTRIPS 2014 (Will be updated—see mineralcouncil.org)

The Washington State Mineral Council plans guided fieldtrips to collecting sites. Open to member clubs, and the general public. Most trips are free. Included will be Pow Wow trips (must join to go on trips). Host clubs and contact persons will be set up as I gather info. For now, go to mineralcouncil.org for updates, or contact Ed Lehman @ wsmced@hotmail.com , or home (425) 334-6282 cell (425) 760-2786.

Date	Host	Site	Meeting place and time	Material	Tools
01/10	Msvl	Beaver Valley	10:30 @ info Center Beaver Valley Rd	Chert & Zeolites	Hard rock tools
01/31	Msvl	Walker Valley	9 @ Big Lake Store	Geodes, Agate nodules	Hard rock tools
02/21	Msvl	Cedar Ponds	9:00 @ 2nd Monroe Jack n Box	Jasper	Dig & Lt hard rock tools
03/07	Msvl	Cherry Creek	9:00 @ Duvall Safeway	Jasper	Dig, Lt hard rock, wading
04/18-19	POW	Saddle Mt Mattawa, WA	8:00 @ Mattawa boat launch	Petrified wood	Dues required \$7.50/each \$15/family
004/25	Msvl	Racehorse Creek	9:00 @ IGA @ Nugents Corner	Fossils	Dig & Lt hard rock tools
05/23	Elb	Saddle Mt	9:00 @ Mattawa Leprechaun Market	Petrified wood	Dig, Lt hard rock
06/13	Spk	Emerald Creek	9:00 @ Emerald Creek Star Garnet Area, Idaho	Star garnet	Tweezers
06/21-23	Spk		Call	Picture jasper, petrified wood, agate, thunder eggs	Lt hard rock
06/25-28	POW	Madras, OR	8:00 @ Fairgrounds see dues above	Petrified wood, agate, jasper, T-Eggs -\$1 #	
07/10-13	HC	Somewhere in Idaho	One day travel each way from Western Washington	Large garnets, quartz crystals	Dig & Lt hard rock tools
08/15-16	NWOS	Greenwater	9:00 @ Enumclaw Ranger Station	Agate, Jasper	Dig, Lt hard rock
09/12-13	POW	Red Top	8:00 @ camp (W fork M fork jct) Dues, see above	Agate, geodes, jade, jasper	
09/26	NWOS	Little Naches	9:00 @ Enumclaw Ranger Station	Thunder-Eggs	Dig, Lt hard rock
10/17	Msvl	Money Creek	9:00 @ Money Creek Camp	Ore, picture Jasper	Lt hard rock, light
11/14	MtBkr	Blanchard Mt	9:00 @ I-5 240 exit gas Station	Stilpnomelane & Chert	Hard rock tool

Host	Club	Contact info
Msvl	Marysville R & G Club	Ed Lehman— wsmced@hotmail.com (425) 334-6282 or (425) 760-2786
POW	All Rockhounds Pow Wow Club of America	Larry Vess -vessel3@comcast.net (253) 473-3908
Elb	Ellensburg Rock Club	Steve Townsend—srrocks@aol.com (509) 933-2236
Spk	Spokane Rock Rollers	Mike Shaw— mikeshawmoose@yahoo.com— (509) 244-8542
NWOS	Northwest Opal Society	Tony Johnson— (253) 863-9238
HC	Hells Canyon Gem Club	Dan Cease—rockmangem@q.com (509) 254-1720

This is just a project in works. Participants please respond with corrections and updates.

Thanks, Ed

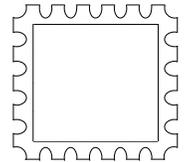
Local Area Shows for 2015

February 2015 7th 9am—5pm 8th 9am—4pm	Whidbey Island Gem Club	50th Annual Sweetheart of Gems Show	Oak Harbor Senior Center 51 SE. Jerome Street Oak Harbor, WA
February 2015 13th 9:30am – 5:30pm 14th 9:30am – 5:30pm 15th 9:30am – 5:30 pm	Oregon Agate and Mineral Society	OAMS Gem and Mineral Show	OMSI 1945 SE Water Avenue Portland OR 97214
February 2015 21st 10am—6pm 22nd 10am—5pm	Idaho Gem Club	Annual show \$3.00, under 12 free w/adult	Expo Idaho 5610 Glenwood Boise ID 83714
February 2015 21st 4am—4pm 22nd 9am—4pm	Washington Prospectors Mining Association	20th Annual show \$5, under 13 free w/adult	Evergreen State Fairgrounds 14405 179th Ave SE (off Hwy 2) Monroe, WA
February/March 2015 28th 10am - 6pm 1st 10am - 5pm	East KingCo Club	Annual Rock and Gem Show	Pickering Barn 1730 10th Ave NW Issaquah, WA
March 2015 6th 8:30am - 6pm 7th 9am - 5pm	Panorama Gem and Mineral Club	Annual show	NE Washington Fair Grounds, Ag Trade Center 317 West Astor Colville WA
March 2015 7th 10am - 6pm 8th 10am - 5pm	Owyhee Gem & Mineral Society	61st Annual Rock and Gem Show	O'Conner Field House 2200 Blaine Caldwell, ID
March 2015 13th 9am - 5pm 14th 9am - 5pm 15th 10am - 5pm	Tualatin Valley Gem Club	Annual Show	Washington County FairPlex 873 NE 34th Ave. Hillsboro, OR.
March 2015 14th 9am - 5pm 15th 9am - 5pm	Magic Valley Gem Club	64th Annual Show	Twin Falls County Fairgrounds 215 Fair Ave. east of Filer on US Hwy. 30
March 2015 14th 10am - 5pm 15th 10am - 4pm	Northwest Montana Rock Chucks	8th Annual Rock and Mineral Show \$1, kids free	Flathead County Fairgrounds Grandstand Bldg. 265 N. Meridian Rd Kalispell, MT
March 2015 21st 9am - 6pm 22nd 10am - 5pm	Hellgate Mineral Society	Gems Of Montana 21 st Annual Gem, Mineral and Fossil Show \$2, under 14 free w/adult	Hilton Garden Inn 2730 North Reserve St. Missoula MT
March 2015 21st 10am - 5pm 22nd 10am - 5pm	North Seattle Lapidary & Mineral Club	61st Annual Rock and Gem Show	Lake City Community Center 12531 28th Ave. NE, Seattle
March 2015 27th 10am – 6pm 28th 10am – 6pm 29th 10am – 4pm	Rock Rollers Club of Spokane	56th Annual Gem, Jewelry and Mineral Show	Spokane County Fair & Expo Center N.604 Havana Spokane WA
March 2015 28th 10am - 6pm 29th 10am - 5pm	Mt. Baker Rock & Gem Club	54th Annual Rock and Gem Show	Bloedel-Donovan Park 2214 Electric Ave. Bellingham WA
March 2015 28th 10am - 6pm 29th 10am - 5pm	Sweet Home Rock & Mineral Society	67th Annual Rock & Mineral Show	Sweet Home High School Activity Gym 1641 Long St. Sweet Home, OR
April 2015 11th 10am - 6pm 12th 10am - 5pm	SE Idaho Gems & Mineral Society (SEIGMS)	Annual Rock and Gem Show \$2, 12 & under free/adult	Bannock County Fairgrounds 10588 Fairground Dr. Pocatello ID 83201

Westside Board Meeting
February 17, 2015
7:30 PM

Maplewood Clubhouse
8802 196th St SW
Edmonds

COUNCIL REPORTER, Monthly publication of The
Washington State Mineral Council



WASHINGTON STATE MINERAL COUNCIL
27871 Minkler Road
Sedro Woolley, WA. 98284

