Place: **Union Hall**
Meyers Street
Next to Campus Life
In Kettle Falls

THE PANORAMA GEM & MINERAL CLUB

Time: 7:00 PM
Third Tuesday
Each Month
(Jan.-Nov.)

The Panorama Prospector

October 2006

Minutes September 19,2006

By Joseph Barreca

It was another jam-packed meeting. All the regulars and some irregulars were there with the exception of Luci Bristow, our esteemed secretary, who was just too pooped out from all the other things she volunteers for to make it. So you are stuck with my minutes again.

The club continues to hold its own financially with $4,499.26 in the general fund and $527.52 in the scholarship fund for a total of $5026.77. The auction took in $19.50 last month and the club paid out $25.00 for some sapphire sand to auction and $116 for 2 editions of this chatty newsletter. The drawing had accumulated $54.00 so we gave away the sapphire sand to the lucky winner…(Tada!)..Ann Seabright.

Then we got down to some oral reports on the latest field trips. The 35+ people for the Jim Creek trip got all the galena and pyrite they wanted.

The Metaline Trilobite trip was very popular with 22 cars, over 50 people (75 by my count), and 4 clubs represented. (See the story for more details.)

Diane Rose suggested that we visit **http://www.trilobite.com** if we want to see more trilobite pictures. Then she told us about the newly opened garnet site in Clarkia, Idaho. It costs $10/adult for a day. The Forest Service provides buckets, gravel to wash and a washing setup. She had a jar of garnets to show us.

Rex Barrans arranged a field trip to the Lone Star Mine on the Canadian border at the top of Big Goosmas Creek north of Curlew Washington for Saturday October 7th. We'll hear more later.

President, Johnie Pitman reminds us that the October meeting is the Ugly Rock Contest! Bring yours. November is a rock auction. December the Christmas Party. The theme for the rock show next spring is obsidian. Thanks to Marjorie Wilson for the 10th Club Anniversary cake!

We watched a CD on fossils with some interruptions from the TV. Rex Barrans moved that we buy a new TV. Steve Fox seconded. Motion passed. Steve White will shop for us. (adjourned)

Trilobites!

By Joseph Barreca

The heyday of trilobites was the Cambrian Period, 500-530 million years ago. The heyday of our search for them was September 17th, 2006.

Long before the fish inhabited the seas and the Dinosaurs roamed the land, Trilobites first appeared some 600 million years ago during the Cambrian period. They belonged the phylum Arthropodal (joint-footed), a phylum which to this day represents the most successful (78%) of all animal life forms, including crabs, centipedes, spiders, shrimp and insects. The Trilobites, living in shallow seas, flourished as swimmers, crawlers and burrowers for some 350 million years. They evolved rapidly into many beautiful, bizarre and, even by today's standards, futuristic forms. (From Trilobite,com)

Rock hounds gathered from four different clubs to take advantage of this special occasion. Rex Barrans arranged with Jeff Lindstedt, owner of the (soon to be open) Washington Rock Shop in Metaline Falls that we would meet there at 10:00 AM. Jeff got special permission from the owners and a combination to the lock on the old Lehigh Quarry. As president of the Metaline Lions Club, famous for its train rides on the old Pend Oreille Valley railway, Jeff also had access to the Lions Club hall where he rounded up

some 75 of us for an unexpected first meeting of a club formed specifically to provide regulated access to this fossil site. It is a good idea, and you can learn more from Jeff Lindstedt, (509) 446-2347.

About an hour later than expected, we had caravanned up the winding road to the gate of the quarry. There were 22 cars with folks from the Panorama Gem and Mineral club, the Pend Oreille Rock and Gem Club, The Rock Rollers of Spokane and the North Idaho Mineral Club (Contact **www.amfed.org/nfms** for a list of clubs) plus a van full of Boy Scouts from Chewelah waiting to get into the quarry. And waiting and waiting… Turns out that Jeff didn't have the combination right. He was heading back to town to get the number when my trusty Nokia phone allowed him to call his wife and get the right numbers. We all arrived at the quarry about noon. I don't think anyone stopped to eat for at least another hour.

The quarry is in a formation of 515 million year old Phyllite, a fine-grained metamorphic rock formed from sediment on the bottom of a shallow costal sea.. This picture is of the shear wall of rock on the east side of the quarry. In the foreground on the west side is where the action is. For quite awhile all you could hear was the steady chink, chink, chink of rock hammers splitting open the black rocks in search of trilobites. There were plenty to be found, even just walking around the parking lot. The best area seemed to be an outcrop of layered rocks in the middle of the west side. It forms the background to these two boys who seemed to be finding ever-more exciting specimens every 5 minutes.

What we were mostly finding, I'm told, were the impressions left by discarded shells of the trilobites, that shed them as they grew. They came in two sizes, the most common were larger ones ranging from 1 inch to almost 3. There were smaller ones occasionally about 1/2 to 3/4 of an inch. These were more likely to be whole. The discarded shells had no heads on them. From what I can tell, these were related to Dikelocephalus, a more recent species around 300 million years old.

Here is Jim Batchelor and his daughter Sara examining a specimen. There were remnants of trilobites on many rocks. The trick seemed to be to find a rock that you could split open to see both halves of the same trilobite. Despite the unexpected delays, we all had a good time. It was a beautiful day and we came home with buckets of rare fossils. Thanks to Rex and Jeff for putting this together.

Rex's Rambles, Part III

This is the last in a series of articles about a rock hounding trip taken by our own Rex Barrans, his wife Mable and fellow club member Scott Jackson this last summer. When we last heard from them, they were recovering from lightning strikes at Delmoe Lake, bad roads up Pryor Mt, wild horses on the road and a beaver pond flooding it. But they had already collected agates, buffalo bones, some florescent ores and crystals in Montana and Wyoming. What else could go wrong? We'll soon find out.

June 25

We are headed over the Bighorn Mountains to a place near Buffalo that the Wyoming rockhound book shows as 'Dry Creek Petrified Forest'. There are three passes over the mountains, but the shortest two have huge warning signs telling of very steep road (10% or more) so we elect to take the most southern route which is recommended for Motor homes, good thing, we barely made it over even with unhooking our tow car and driving it separately . We had been having a persistent misfire in the ignition and had taken it to a repair shop where they put it on an analyzer. They detected a lot of transient spikes on the ignition but could not locate the source. When we pulled in to the parking area at Dry Creek Petrified Forest there was a grass fire in progress, a group of fire trucks were right on our tail as we entered the area. They made short work of the fire and we proceeded to camp. We were only staying over night so Scot chose to sleep in his truck rather than erect his tent. We got some agate in the area but the petrified wood in the area was no good although plentiful (collecting was allowed off of the reserve).

June26

This morning I discovered that I had a burned out alternator on the motor home. Not to worry! I had carried a spare alternator all the way to Alaska and back and had left it in the motor home ever since. Now it was put to good use and an hour later we were on our way to the next stop. Voila! No more misfire! Sparking on the brushes of the alternator had been the source of the misfire all the time. It was a short days drive to the next location, which was Sand Creek very near the South Dakota line. This was a very beautiful area with huge Oak and Yellow Pine trees and we camped in nice grassy meadow between two roads.

(Bighorn Reservoir – picture taken June 25th)

June 27

We look in the recommended places (Wyoming Book again) but found no agate at all, so Scot and I go exploring in the Sidekick. Going up a gulch we came onto a nice springs and meadow so we stopped and let Dutchess (Scot's dog) out for a romp, wouldn't you know , she found a very fresh cow pie and proceeded to roll in it. After a thorough bath for Duchess we went on to Cement Ridge Lookout by a terrible road full of boulders, as soon as we topped the last steep rise to the lookout we came upon a very good gravel road that came in from another direction.

June 28

Sand Creek has been a complete bust as far as agate is concerned but has been a welcome rest in a nice green spot. Now we are headed to the National Grasslands in Nebraska. We stopped at Newcastle Wyoming to refuel and dump holding tanks. Scot had to go to the BLM office to look for maps and information, so we said we would be at the service station after fueling. We waited about twenty minutes then I remembered we had not dumped so we went to a public RV dump and then back to the station and waited. Wouldn't you

know! While we were gone Scot came back and not finding us at the station decided that we had gone on down the road. After a long wait we decided that Scot must have gone on so we did the same. We never saw Scot again until we got home to Chewelah.

At Ardmore (a Ghost town) we met a motorcycle rider with a map that showed the road to Harrison as a four wheel drive road so we elected to take the highway the long way around through Crawford, Neb. by the time we were at Crawford we were done and looking for a place to camp. We found a nice city park at Crawford with grass and shade and water so decided to camp and look for Scot in the morning at Harrison where we had planned to be.

June 29

When we got to Harrison (a tiny town with no services) no Scot, so we drove up the so called 4 wheel drive road (it would have been easy for the Motor home) to Ardmore and back to Crawford. By this time the day was pretty well shot. So we shopped for groceries and rested for the rest of the day.

June30

We were up at 4:30 to beat the heat, and after a cup of coffee and a bagel we drove back up highway 71 to the Agate Reservoir road. Agate beds started about 50 feet from the highway and continued intermittently for miles but the collecting was best away from the highway a couple of miles. We collected about 10 gallons of agate and jasper, which was about all our backs would take, and were back to our camp by about 9:30 AM, so we decided to head for Farson and the Eden Valley to look for some of the famous Eden Valley petrified wood. After filling with fresh water and dumping the RV holding tanks, we hit the road, making it as far as Douglas Wyoming before the heat and exhaustion got the best of us. We stopped at a KOA campground where we could hook up to run our air conditioner and soaked up the cooling breeze for the rest of the day. That night however, we found the noise of the fan on the air conditioner would not let us sleep and without it the heat was unbearable. After a lousy night we decided to cancel Eden Valley, which had even hotter weather, and head for home.

July 1

We were on the road by 6 :30 AM, and by sticking to the freeways we made good time. By mid afternoon, I had all the driving I wanted for one day
So we pulled in to the city park at Columbus and found I nice shady spot on the banks of the Yellowstone River and crashed for the rest of the day.

July 2

Had a good night sleep and we were again on the road at 6:30 AM, The afternoon heat got to us again so we stopped at a Forest Service campground near Tarkio.

July 3

On the road at 7 AM and home in Chewelah by 10:30 AM.

Mineral Formation Mysteries Part 2
By Bob Bristow

Most rockhounds will find a treasure in the ground and be fascinated by it. They wonder how such a beautiful thing could have formed. This questioning can lead to deeper and deeper probes into geologic processes. They quickly find that the more they discover, the more questions they have. If they continue their research, they quickly run into the fringe of knowledge. Inside of this fringe, we know and understand what is happening. Outside is darkness filled with mysteries. The fringe itself is filled with speculation and theories about the darkness and its mysteries. What is fact and what is speculation is an open question. This is the second article on geology phenomena that I consider speculation while some professionals call them fact. Last time, we talked about how the current theory of obsidian formation and the growth of large crystals doesn't make sense. Let's continue with some more mysteries.

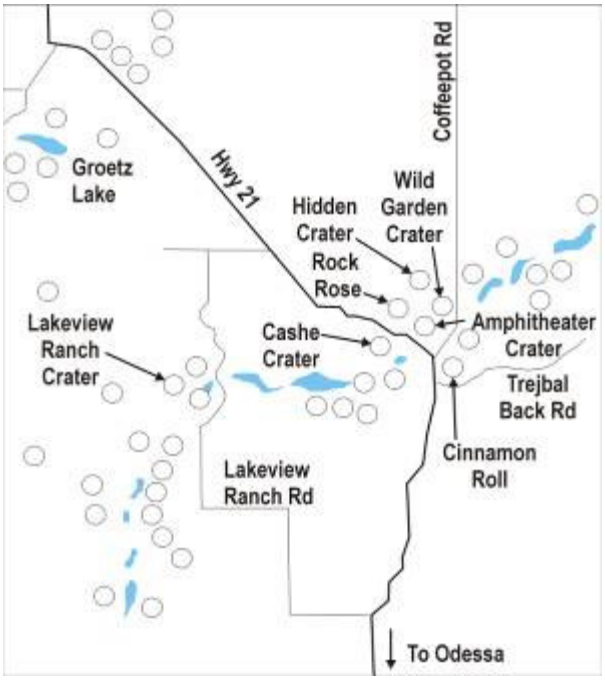
Pegmatites:

Geology books say pegmatites form when the final granite melt is squeezed into the surrounding rocks where it cools so slowly that the crystals grow huge. There are certainly plenty of cases where this could be true. However, to be acceptable, a theory must explain all occurrences. There are at least as many cases where the cooling rate has been rapid as there are cases for the slow cooling proposal. Most of us have seen narrow veins (under four inches) that are filled with large pegmatite crystals. (Just south of the Hwy 395 bridge over the Little Spokane River is an example of numerous four-inch pegmatite veins.) The country rock around the veins could have been hot and kept the temperature up in the veins, but there is no evidence of heat having altered the rock except very near the vein boundary. This indicates that cooling

must have been relatively rapid. If thin veins cooled rapidly and still formed large crystals, why propose that other pegmatite bodies had to cool very slowly. In addition, the center of the granite melt must have taken as long as the pegmatite liquid to cool down. Why doesn't the granite center have large grains like the pegmatite?

Ring Craters of Odessa:

Marge and Ted Mueller have written a good book on the Columbia Plateau basalt flows and the great floods that produced the scablands. In this book, they describe the 100 or so "ring craters" north of Odessa. Figure 1 shows about half of the craters on the Mueller's map. Luci and I spent an afternoon



examining several and found them fascinating. Some are simply shallow craters. The interesting ones have partial rings of basalt around the outside. The rings can be up to 15 to 20 feet high and I noted one crater with three rings. The space between the rings was even lower than the bottom of the crater center. The best crater we saw is called "Amphitheater Crater." The Muellers have an explanation for the crater's formation but they indicate that they really can't believe it and included it as the only explanation available. The theory they list involves the breaking up of an upper crust over molten lava and hardening with that upper crust sagging down into the soft lava below. The great floods then formed eddies in the low spot plucking out most of the basalt and leaving the rings. Like some of the theories discussed above, this might fly except it doesn't account for all of the evidence.

Southeast of Amphitheater Crater is Cinnamon Roll. This is like the ring craters except that it sticks up in the air about 50 feet and is composed of several bulges that correspond to the rings in the other craters. It looks like this mound may have started to form like the other craters but was halted part way through the process. If this is true, the craters were first pushed up into several concentric cylinders and then sucked down leaving parts of the hardened edges of the cylinders as the rings. What could have caused this? I haven't a clue and it looks like no one else has either. However, it makes for exciting speculation and is a great mystery.

Thundereggs:

I have a folder of theories on thunderegg formation. One says they formed in voids in rhyolite like common geodes. Another writer is convinced they are fossilized crinoid heads. A third author has written a whole book on the subject. After rejecting all existing theories, he explains how silica (quartz) in rhyolite could form balls like it does in some man-made applications. The balls would then form into thundereggs. This is the best research I have seen. However, it, too, has some serious flaws.

We know the following about thundereggs and any successful theory must account for all items:

1. Eggs have a spherical shape
2. Rhyolite in the egg is often different from the country rock rhyolite.
3. Some eggs are hollow.
4. There is sometimes a small sphere at the center.
5. Large shrinkage of the rhyolite core occurred before silica filled the interior.
6. Some eggs have flow line where silica entered from cracks in the shell.
7. Eggs form in both volcanic ash and solid lava.
8. Opal, calcite, flint, and other minerals sometimes substitute for silica.
9. Sometimes the country rock is composed of the same odd form of rhyolite as the egg shell.