

THE GOLD NUGGET

Apr 2020

2020 Member Dues can be paid now by mail or cash, card or check at any time....renewals are \$30.00 a year while new memberships are pro-rated. (Mail address on last page of the newsletter)

DUE TO THE GOVERNORS ORDER PROHIBITING SOCIAL GATHERING UNTIL APRIL 27, THE **APRIL MEETING IS CANCELLED.....SEE YOU ALL IN MAY!**



The Prez Sez by Jim Long



Well, who would have ever thought that we would be in such a mess.? A worldwide pandemic that has literally paralyzed our country. We have endured many different 'so called' crisis' in my lifetime from the Korean War, the Viet Nam 'conflict', a recession or two thrown in, the so called Y2K fiasco, the Twin Towers attack, wars in Iraq and Afghanistan and so on, but none of these ever paralyzed our nation as much as this coronavirus also known as covid 19. And whatever possessed these morons to think that they could take advantage of our people by buying up all the hand sanitizer and masks can be described in my opinion as nothing short of criminal. And toilet paper...? What in blue blazes is that all about.?? This has caused people to resort to paper towels and such which they then flush causing major problems to the sewer systems and lines. There seems to be no common sense out there hardly at all any more. Those who have autoimmune deficiencies are the most vulnerable, followed by the elderly who can't get around well, and those in our senior citizen and/or nursing homes. So far, here in Colorado, that is where the most deaths so far, have occurred. I suspect it will only get worse, much more worse.

After keeping up with the rapidly changing situation throughout the world and now our own nation, I am literally stunned at the fluidness and unpredictability of this virus. The rapid spread has been and is nothing short of astounding and frightening...! As I write this, our politicians in Washington D.C. are squabbling about details of a fiscal supplement to augment the millions of Americans who have to shelter in place or quarantine to avoid the spread of this nemesis. As usual, the democrats are trying to add 'pork' to the Bill and the republicans are trying to prevent it. In the face of a national emergency, those idiots and morons can't seem to put their B\S aside and think of the American People for just once in their rotten careers. It is absolutely disgusting.!!

I just received word that a golf tournament that I play in annually and have for the last 35 years, has cancelled the May 28, 2020 date that is more than 2 months away. **What with all the restrictions that our Governor has put in place requiring no gatherings until after at least April 27, I am certain that we will not have our April meeting either. I think the membership should just consider that one to be cancelled as well.** As we get closer to that date, I will certainly keep everyone informed.

As far as gold and mining are concerned, I am still seeing quite a few folk getting out and digging. They all seem to be aware of the situation and are maintaining a degree of social distancing and such. After all, small-scale mining is out in the open air and there are not normally a lot of people around anyway. I certainly can't argue with them on that point. If we go into quarantine, I expect things will change but as we have seen, there are a lot of people out there who are not giving this situation the seriousness that it deserves, that is for sure. And for some of them, they will only have to answer to the Grim Reaper for having jeopardized themselves and their families, and the rest of us, to the consequences of their thoughtfulness.



Gold Prospectors of the Rockies Page 2

The stock market has gone nuts, dropping 10,000 points in mere days. Gold has jumped to as high as 1780 one day and back to 1450 a couple days later and all around in between. You would think that it would have shot even higher but investors are not really interested in gold right now. I am not sure why! But the market is especially unstable and volatile right now and who knows what will happen. Silver is very low, running at about 11.50 as I write this, so this would really be a good time to be buying silver. For all of us retirees who have IRA's and other investments, this is a time of uncertainty for sure. And then I see that several Washington politicians immediately sold of a ton of their personal stocks just hours before the news of the pandemic broke and right after Congress was briefed of the situation. If true, I hope the Det. Of Justice investigates and I would love to see them in federal prison. I see that as no different than the scammers trying to scam people into buying 'in home coronavirus test kits' or trying to get your bank information so they can direct deposit your 'federal stimulus check' into the bank for you. The sad part of all this is that there are far too many people who fall for this, especially our feeblest elderly. They are nothing but scum and prison is actually too good for them. I would be glad to offer my services to the federal government to resolve these matters for them. All I ask is a written guarantee of total immunity and a limitless supply of ammunition...! In the meantime, my prayer is for good health for all of us and our families and friends and for this menace to go away quickly. And, please, stay safe out there!!

Anyway.... that is the view from here and I wish you all Good Luck in your endeavors, no matter what they may be! And until we meet again, keep your sunny sides up and may the bottoms of your pans turn bright with that treasured 'Yaller Gold'!

You may contact me at 303-452-6087 or at jnslong945@msn.com . Happy and safe prospecting to all!!!

The V.P. Corner by "Joe Fortunato



Hello again, fellow gold prospectors. This past month has certainly produced a series of events that most of us have never experienced in our lives. I hope that all of our members and their families and friends are well and stay well. It looks like things are going to be tough for a while, but we will get through this together. We all have plenty of time for maintenance, research, and the like these days. Right now, I would rather be out there digging in a creek or swinging a metal detector. Personally, I just don't feel that now is the time to be doing any prospecting or detecting. The thought of being out there at this point in time, makes me feel uncomfortable. So, I am going to stay home (when I am not working) and make due with prospecting and metal detecting via the internet. I am looking forward to the day, when this situation peaks and starts to decline. Then, we all can start to get back to a more normal relaxed life again. I haven't been in touch with Pres. Long lately, so I am not sure what the status is with the Clements Center. He might have some information about future club meetings in his portion of this month's newsletter. It is starting to look like my plans for an April or May trip to Nevada could get cancelled, if things don't get better in the next few weeks. I have been looking forward to getting back there for more nugget detecting after that great trip last October. I just don't have much more to ramble on about right now, so I will call it good for now. Until next time...MAY ALL YOUR ADVENTURES, BE GOLDEN!!!! Questions or comments call or text me 303-263-7204 Joe Fortunato.

From the Treasurer/Secretary Ledger by Joe Kafka



The Coronavirus has disrupted everything so whenever we are able to reconvene, the next Meeting will feature a nine (9)-nugget giveaway that will include a 2.4-gram nugget. We should have a new "Special Nugget" by then as well. Be sure and bring extra cash for the nugget giveaways. The Club remains in the black and members may request to see the financial report at any time that I have at my desk in the back. Hope to see you all there at the next meeting..!!

Board Meeting Minutes From Mar 2020

James Long	Joe Shubert	Joe Fortunato	John Johnson
Mike Stevens	Joe Johnston	Chris Kafka	Brandon Luchtenburg
Joe Kafka	Bobby Manning	Andy Doll	Gary Hawley



Gold Prospectors of the Rockies Page 3

THERE WAS NO BOARD MEETING FOR MARCH DUE TO THE CORONAVIRUS PANDEMIC.
HOPE TO SEE YOU NEXT MONTH.

Question of the Month

Refer to March newsletter as it will remain the same until we meet again.

QUESTION OF THE MONTH

Subtract the # of electrons in an atom of gold from its atomic weight and that number is the answer to this month's question.

2020 GPR Board of Directors Members President

James 'JJ' Long

Vice President

Joe Fortunato

Secretary/Treasurer

Joe Kafka

2 Year Board Members

Joe Johnston (2017)

Joe Shubert (2018)

1 Year Board Members

Andy Doll

Brandon Luchtenburg

John Johnson II

Bobby Manning

Chris Kafka

Mike Stevens

Past President

Gary Hawley

General Meeting Minutes From Mar 2020

DUE TO THE CORONAVIRUS PANDEMIC, THERE WAS NO MARCH MEETING.

A Miner's Laugh

There was an old miner who had been slipping in and out of a coma for several months, yet his wife had stayed by his bedside faithfully for each and every single day. One day, the old boy regained consciousness and noticed that his wife was sitting near him. He motioned for her to come close. As she did so, he whispered softly as his eyes filled with tears, 'You know what? You have been with me through all the bad times. When I was fired from the mine, you were there to support me. When I opened that mining supply store only to see it fail, you were there to support me even then. When I was shot by that claim jumper, you were by my side. Even when we lost the house after bankruptcy, you were unfailingly by my side. When my health started to fail and I wound up here in the hospital, you have faithfully stayed with me the whole time. You know what I think?' His wife leaned even closer and whispered 'What dear?' as her eyes brimmed with tears and her heart began to fill with warmth. The old boy frowned and said, 'I think you are bad luck.!!!' Sadly, no one attended the funeral..!

(Taken from the internet and revised just for all us 'old miners')



The finds of the Month Mar 2020:

Be sure to bring your finds of the month that you have collected since the **February meeting**. All those finds will be in competition when we can reconvene next, which may in fact, not be until May. The judging has started anew for the year 2020 and the November 2019 Finds are included in the 2020 contest.

Be sure to save all your winning items for the November 2020 judging.

Mining Concerns from Around the Country

(In my attempt to keep our members aware of what is happening involving mining from around the country, I will run this little section every month or so and see how it goes. I am apt to put a little passion and some direct finger pointing in my reporting, for which I will offer no apology to anyone who may feel offended. I support responsible mining and responsible miners, period. It is what it is, and it is strictly my opinion, and that is that, like it or not.....j

Deer Trail Man dies During Hunt for Forrest Fenn's Treasure

(From the Denver Post March 25, 2020)



Gold Prospectors of the Rockies Page 4

Two Colorado men went into the wilderness in search of treasure, and only one of them came back alive. The pair set out from the Denver area March 17 to visit Dinosaur National Monument along the Utah—Colorado border to search for Forest Fenn’s treasure, a bounty rumored to be worth about \$2 million dollars that an eccentric New Mexico antiques dealer said he hid somewhere in the Rocky Mountains. Thousands have searched for the treasure since Fenn announced the hunt in 2010 when he offered clues to the treasure’s location in a self-published memoir titled “The Thrill of the Chase”. Fenn, 89, has said that he hoped the hunt would push more people outside to enjoy the wilderness. But over the years, some have died during their quests, including at least four Colorado men. . “What happened was tragic,” Fenn said in an email Tuesday to The Denver Post. “My heart goes out to the family and friends.” Michael Wayne Sexson, 53, of Deer Trail and an un-named 65 year old man from Thornton set out from Denver last week. The pair rented snowmobiles when they arrived at Dinosaur National Monument and roared last Wednesday off into the wilderness. They had a copy of Fenn’s book with them. They brought along a few candy bars and a couple bottles of water as they traversed into remote terrain near the northwest boundary of the Park. At some point, there wasn’t enough snow on the ground to ride on and the pair abandoned their snow machines and pressed forward on foot. “They were not dressed appropriately for the conditions, even for a day trip and definitely not dressed for if something happened and they couldn’t get out of there,” said Lt. Chip McIntyre of the Moffat County Sheriff’s Office. Last Wednesday night, the person who rented the snowmobiles to the men called the Sheriff’s Office to report that they hadn’t returned. And on Thursday morning, the wife of one man also reported the pair as missing. The search for the men started in earnest Thursday. And as the search got underway, authorities quickly realized that the same men had been rescued from the Wild Mountain area just two weeks before, on Feb. 29. In that incident, the same two men were riding snowmobiles when they became stuck in deep snow. They were able to call 911 and were rescued the same day, unhurt. Uintah County Sheriff Steve Labrum reported on Tuesday. This time, authorities started the search in the same general area the men had previously been rescued from. The rescue teams found the men’s truck on Friday and the snowmobiles were found Saturday morning about 5 miles from a road. The men were then found Saturday afternoon after having been missing for four days. They had made it about a mile from their abandoned snow machines. This turned out to be only five miles from where they had been previously rescued and it was in steep mountainous terrain. Sexson was dead when rescuers reached the men. The un-identified 65 year old man was treated at a local hospital and released. Sexson is at least the fourth Colorado person to die in search of Fenn’s treasure. Randy Bilyeu, 54, of Broomfield died while searching along the Rio Grande River in 2016. Paris Wallace, 52, a Grand Junction pastor, died while on a hunt in New Mexico in 2017. Eric Ashby, 31, of Colorado Springs died during a rafting expedition in 2017. A number of others have had to be rescued over the years when they found themselves in situation that they were unable to get out of. Sonya Popelka, a Park Ranger at Dinosaur National Monument said, “The treasure hunting thing, and I don’t really know the specific statistics of it, comes up a lot when we find people who make the worst decisions”. Fenn, who has previously urged treasure hunters not to go out during the winter or go into dangerous places, has faced criticism after each death has been reported. He has been asked to end the treasure hunt but so far has steadfastly refused to do so.

(I will say this...that people have sought hidden treasures for centuries and many have perished along the way. The Great Gold Rushes’ of 1849, 1859, 1892, and countless others are perfect examples of that. I personally agree with Fenn in that the allure will always be there, if not for this treasure, then for some other. There is no excuse for piss poor judgement and that is a fact. Many people who enter the back country for whatever purpose are often woefully ill prepared in material, supplies and decision making skills. For them, there is often a heavy price to pay. Recklessness will never be rewarded by Mother Nature. Never..!! These two men described herein are perfect examples. They got lucky once, but were stupid twice. I would hope the survivor has now learned a valuable lesson. And that is that you can’t spend the riches if you are dead!! Pres. JJ)

(Spring is upon us and if you venture out to the Creeks, you can expect to encounter poison ivy and ticks. Therefore, I have included the following two pieces to make some of you a little more aware and hopefully, a little better informed.....Good luck and heavy pans!!!! Pres. JJ)

Prospector’s Poisonous Plants by Richard Bauman

One of the worst things you can run into when you are outdoors is poison ivy. Unlike a dangerous animal that may at least warn you of its presence, you can tangle with poison ivy and not even know it until it’s too late. It usually takes several hours to several days before your body starts reacting to contact with poison ivy, or one of its relatives,





Gold Prospectors of the Rockies Page 5

poison oak and poison sumac. But when your skin erupts with blisters, localized burning and itching, you'll know that you have had a run in with one of these plants. Virtually every state in the lower 48 has one or more of the poison ivy type plants. Poison ivy and oak are neither ivy nor oak. They are actually members of the cashew family. They are quite hardy plants that grow in just about any soil where there is plenty of water or relatively little. The distinguishing feature is that the leaves can be different shapes and sizes, even on the same plant. However, they almost always retain the same distinctive pattern, groups of three leaves. There is an old adage. "Leaflets in three, let it be..!", which means when a plant has three leaves growing together near the tip of the stem, it is likely to be poisonous. Leaves NEVER occur in pairs along the same side of stems on poison ivy or oak. Poison ivy usually grows as a vine, just like real ivy, and if the plants are old, the vines can be several inches in diameter. More often though, the vine will run along the ground, inter-growing with other shrubbery. Poison oak is more distinctive than ivy, not only in appearance, but in the way it grows. It usually takes the form of low growing, upright shrubs with slender branches. While leaves grow in threes, they are usually lobed



and somewhat similar to oak leaves in appearance. Poison oak is like poison ivy in that it tends to grow just about anywhere. You will never find poison sumac growing as a vine. As a small tree, it may grow to a height of 25 feet, although normally, it is only 5 or 6 feet tall. In contrast to the three leaf rule, sumac often has leaflets bearing 7 to 13 leaflets arranged in pairs (similar to marijuana).



First aid: If you have brushed against a poisonous plant:

- Be careful not to touch other parts of your body, especially your face.
- Wash affected areas immediately with a strong non-perfumed soap. You can prevent the rash this way, but only if you wash within 5 or 10 minutes after contact. If you are unaware you have touched the plant and a rash appears, don't scratch it. You can spread the poison.
- After washing yourself, sponge the affected area with rubbing alcohol.
- Wash any affected clothes with strong detergent and hot water. If you don't, the plants harmful oil will stay in them and continue to 'poison' you whenever you wear them.
- Wear rubber gloves to wash exposed pets and decontaminate other articles by sponging them with rubbing alcohol.
- Many over the counter remedies, including calamine lotion, Epsom salts, and bicarbonate of soda are available to soothe the itching. If a rash does develop, consult your pharmacist.
- If the itching is unbearable, or the rash is severe, or if you get it on your face, see your doctor.
- Blisters will form in the rash area as soon as your body fights the poisonous oil. Fluid in the blisters is not harmful and will not spread the rash.
- Never burn poison ivy, oak or sumac. Smoke from the fire can carry bits of the poisonous oil through the air and spread the problem.
- Many people are immune to the harmful effects of poisonous plants, but never automatically assume that you are one of the. Learn to identify the plants and stay away from them.

Watch Out for those Ticks

Similar to the lone star tick, the Rocky Mountain wood tick is considered a three-host tick because each feeding stage requires a different host. This tick species becomes active with the first warm days of spring, usually feeding from mid-March to mid-July - when humans are most susceptible to wood tick-related diseases. Larvae and nymphs feed mainly on rodents such as voles, chipmunks and squirrels. Adults prefer to feed on medium to large animal hosts including sheep, deer and humans.

Rocky Mountain wood ticks are usually found in wooded areas with low-growing vegetation, open grasslands and around trails. This tick is found at higher densities at lower elevation. This environment helps them easily attach to a passing host that brushes against the vegetation. Nymphs and adults overwinter in ground debris.

The Rocky Mountain wood tick is a primary vector of Rocky Mountain spotted fever, a severe infectious disease with a mortality rate of more than 20 percent. A tick needs to be attached for more than two hours before the disease is transmitted, so early detection is



Mat Pound, USDA Agricultural Research Service, Bugwood.org UGA1418013



Gold Prospectors of the Rockies Page 6

key. The main symptom is a full body rash that develops 2-5 days after the bite.

This tick species can also transmit Colorado tick fever and tularemia, and is known to cause tick paralysis when it feeds for at least 5-6 days.

Outdoors, experts recommend wearing tick repellent and long-sleeved clothes. Homeowners should keep grass cut low and ensure weeds and woodpiles are removed.

If a tick is found on the body, use fine-tipped tweezers to grasp it as close to the skin's surface as possible. Then, pull upward with steady, even pressure and avoid twisting or jerking the tick as this can cause the mouthparts to break off and remain in the skin. Once the tick is removed, thoroughly clean the bite site with soap and water. Then, flush the tick down the toilet or wrap it tightly in a tissue before disposing in a closed receptacle. If you develop a rash, headaches, pains or fever, call a doctor immediately.

Only a small percentage of ticks are infected by virus or bacteria that cause diseases. Larval ticks acquire a virus or bacteria from the blood of infected host animals usually rodents. As an adult, the tick passes the infection on to larger animals including people. Both male and female adult ticks attach to and feed from mammals. Colorado Tick Fever is the disease most often acquired. Rocky Mountain Spotted Fever and Lyme disease are very rare in Colorado.

Colorado Tick Fever:

A virus carried by the Rocky Mountain wood tick is the source of Colorado Tick Fever. Between 100 to 300 cases of the disease are reported in Colorado each year. Incubation period runs 3-6 days. Duration of up to 5-10 days for those up to 20 years of age, and up to 21 days for those over 20 years of age. Symptoms include head and body aches, lethargy, nausea and vomiting. There may be abdominal pain as well. Individuals may be sensitivity to light. For treatment, check with a physician! Be sure to inform the physician that you may have been bitten by a tick. If you have the tick, always take it with you in a sealed container if possible.

Rocky Mountain Spotted Fever:

Spotted Fever is rare in Colorado, but it is a very serious ailment. It is caused by *Rickettsia Rickettsii*, a bacterium carried by the Rocky Mountain wood tick. Incubation period is 2-4 days. Symptoms include fever, headache, nausea and vomiting. There may also be aches in abdomen and muscles. There may be a spotted rash beginning on the hands and soles of the feet then spreading over the entire body. Treatment options are to check with a physician! Be sure to inform the physician that you may have been bitten by a tick. If you still have the tick, be sure to take in a sealed container to the physician if at all possible.

Lyme Disease:

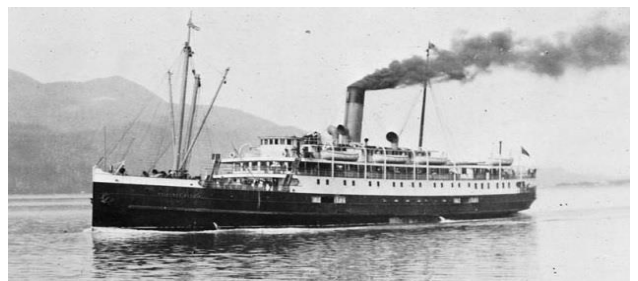
Borrelia burgdorferi is the spirochete bacterium that causes Lyme disease. This bacterium is found in blacklegged ticks, *Ixodes* genus, which feeds only on white-tailed deer that are fairly abundant on the eastern plains of Colorado, especially along the river bottoms. The river bottoms are heavily infested with ticks. The Colorado Department of Public Health and Environment reports **zero confirmed cases** of Lyme disease in Colorado to date.

FORGOTTEN SHORT STORIES OF THE KLONDIKE GOLD RUSH

The Wreck Of The *Princess Sophia*

By 1918, the Gold Rush had officially fizzled out. As far as gold prospectors were concerned, however, there was still plenty of gold to be found. Rather than stay up in the Yukon year-round, miners would spend their summers looking for gold and their winters in warm southern climates. Ship companies like the Canadian Pacific Railway Company made trip after trip from the lower provinces and states, up to Alaska, ferrying miners to their summer searches and winter breaks.

On October 23, 1918, the *Princess Sophia* left Skagway, Alaska, carrying passengers heading south for the winter. The ship left in spite of warnings of severe weather and drifted off course in the snow, running aground on a reef within hours of leaving port. A number of ships—including a fishing boat and a mail ferry—attempted to help the stranded crew and passengers, but the captain refused all help, not wanting to risk anyone else in getting his own charges disembarked. He was also convinced that the tide would dislodge his ship and, since there didn't seem to be any damage, he could easily just wait it out.





Gold Prospectors of the Rockies Page 7

After two days of waiting, the weather turned even worse, and rescue ships were no longer able to get closer to the beached *Princess Sophia*. There was one final distress call at 5:20 PM on October 25 before the ship sank. Everyone on board was killed instantly, suffocated by oil that had leaked from the ship and coated the sea. It took 10 years, but the ship's captain was ultimately cleared of any wrongdoing. Relatives of crew members received a small pension, but no other recompense was ever made.

The Cremation of Sam McGee



Photo credit...: Hilend Design

At first glance, poetry doesn't seem to have a place in the Klondike. But one of its most famous poems—a work by Robert Service—was not only popular back then but has remained so to this day, thanks in large part to a bone-chilling recitation by Johnny Cash.

The poem itself details the hardships faced by prospectors and a man faced with keeping a promise to his dead friend, Sam McGee. Sam's last wish was to be cremated, so the narrator carries his body to the derelict wreck of a ship and sets it—and Sam—ablaze. In an unexpected twist, McGee is revealed to be alive as the flames simply thawed him out.

There really was a Sam McGee, but he didn't actually die in the freezing Yukon. Quite the contrary—he lived to the age of 73, when he ultimately died on his daughter's farm and was buried alongside his wife. McGee was only a part-time prospector who made his money building roads through the Yukon. He moved south with his wife and children in 1909, settling in Montana. He returned to the Yukon twice, upon discovering that people could purchase the supposedly-genuine ashes of one "Sam McGee."

So how did his name become immortalized in a poem that had little to do with his real life? Robert Service later admitted that he only had a passing knowledge of the real Sam McGee. He actually got the name from a bank ledger and used it because he thought it sounded like an appropriate name for a prospector. There was never any legal dispute about the use of his name, though McGee did decide to change banks as a result.

Taken from article **How To Build and Operate Sluice Boxes** by Gary Weishaupt and Chris Jacobson
Mats and Underlay

When I started out on this little test project I had no intention of even using any type of matting or underlayment beneath the riffles we were going to test but it soon became obvious after a few days that different riffle systems perform better when matched with certain types of matting so by default we had to test these various types of secondary concentration and recovery fabrics to some extent but this is entirely secondary to the objective of testing the riffle designs.



This Figure depicts just a few of the various mats we tested over the summer. Starting at the upper left-hand side of the snapshot is the usual 1/8" V-groove mat (rubber, not vinyl) that seems to be almost universally popular. Next to that piece is a section of what I call 'waffle-mat' which is sold as a drawer or shelf lining material at most home improvement stores. It is very spongy and about 1/8" thick with a 1/8" grid. It comes in several colors. Next to that in the lighter shade of gray is a plastic diamond mesh material and next to that in blue is a plastic screen material of about 16-mesh. To the right of that is a section of typical 1/2" aluminum expanded metal mesh used to cover the mats.

There seems to be some confusion on the discussion boards based on pictures I've seen posted between real expanded metal mesh and the diamond-patterned punched plate material, which is very flat and one-dimensional. Actual expanded metal mesh is what I call two-dimensional and if you see the two products side by side they are easy to differentiate between.

Flat diamond punched plate serves no purpose in a sluice box unless it's being used as some form of grizzly for gravel classification and if you're using it over miner's moss in a sluice it isn't contributing to the collection of heavy materials



Gold Prospectors of the Rockies Page 8

in any way but many so-called 'economy' boxes are sold in this configuration and the material needs to be replaced with real mesh in order for the sluice to perform properly.

In the lower portion of the picture is a section of 1/4" grooved indoor-outdoor carpeting which also comes in a variety of colors and to the right is a segment of regular ungrooved indoor-outdoor carpet.

We also used the regular old standby of 'Miner's Moss', which is 3M brand 'Nomad' traffic matting in both the unbacked (#8100) and backed (#8150) versions.

We have friends who have made composite mats by layering several types of fabrics and then sewing or stapling them together at periodic intervals. One of the things we've seen used successfully consisted of layered 'crochet mesh' over course-weave Scotch-Brite abrasive pads which appeared to be especially effective on fines.

We also want to look into using the small modular range hood filters made from very fine layered expanded aluminum mesh since these units come in sizes that are perfect for sluice boxes.

With respect to mats in a sluice I seriously doubt if anybody has exhausted the possible combinations of various materials, used either alone or in combinations of multiple layers, so what we ended up using in these tests is in no way exhaustive and really should be another separate test that somebody decides to undertake.

There have been some excellent tests of various matting performance posted at the more popular discussion boards so readers need to do their own homework in digging out these reports based upon people's first hand experiences.

The one thing we observed when using any type of matting is that you absolutely must have some way of stopping the flow of captured materials once they enter the mat due to the continual water flow that runs inside or beneath the matting. The more 'open' the weave of the material the more important it is to control the flow. Using a mat with an impervious backing will not stop this slow migration of at least portions of the heavy materials that will eventually exit the sluice. I call this flow in the very bottom of the sluice or actually inside the matrix air space of material like miner's moss the 'underflow' and in miner's moss it can be significant depending on what weave and thickness of material you are using. There are many materials out there similar to Nomad fabric that are not nearly as dense so you have to be careful about what you select.

We found that the simplest way of minimizing the effects of this under-flow is to install small (1/16 to 3/32-inch diameter) rods running transversely about every 6-inches on center in the bottom of the sluice. These rods can be welded in place or just secured with J-B Weld or some similar epoxy. The rods basically act like small 'water-stops' or 'gasket-bars' between the matting when it is compressed by pressure on the riffle assembly sidebars. In effect you're creating small pockets beneath and within the matting that act almost like tertiary collection troughs. The rods are extremely effective in slowing both the quantity and the velocity of water running through the mat material. Ideally the rods should be placed in a position that is directly under a riffle. Even a small piece of wire, like a section of coat hanger, under the riffle has been proven to reduce the underflow of fine heavy materials.

Alternatively the 1/8 or 1/4" V-groove matting can be used on the bottom of the sluice under other types of mats and the ridges in the material behave much like the rods in creating mini water-stops as the upper mat is compressed by the riffles and sidebars.

If you get really paranoid about losing ultra-fine material that's washed down inside or under the matting you can copy the concept of the Wolf Trap sluice and actually create a low lip on the exit end of the flume and use the gasket rods and v-groove mat under the Nomad. Beware however that doing this will cause the box to load up much faster so you have to do cleanups more often. Also keep in mind that the thicker layers of matting, especially relatively 'open' materials like Miner's Moss will contain a significant amount of both water and concentrated materials and as a result will require more water volume and velocity to operate properly compared to denser matting such as Ozite carpet.

We found that Nomad and similar 'spaghetti' type mats required at least 15% more water volume than carpeting. In the range of flow rates we tested this equates to 5-15gpm more flow at any given sluice slope.

Ninety percent of the tests we conducted were done in a bare aluminum sluice with no matting of any kind being used and as long as there was sufficient water flow to keep the concentration vortices operating we lost very little material due to running a bare box. I found this to be quite interesting and it points out the fact that matting actually doesn't aid in concentrating and consolidating material but acts instead more like an entrapment element that helps to prevent particles from being scoured or saltated during periods when the water flow changes or is interrupted, disrupted by a fresh load of gravel, or is stopped completely at shut-down.



Gold Prospectors of the Rockies Page 9

This observation just helped to remind us that it's the water flow combined with the settling rate of heavy materials, aided by centrifugal vortexes, if using riffles or expanded metal mesh, that collects and concentrates the heavy materials. There seems to be a popular, and ongoing, misconception that matting acts like a filter or sponge that collects the heavy materials as they are washed down the sluice run and this effect is indeed present but to an extremely minor degree in a sluice box. It is the expanded metal mesh or riffles that actually provide the turbulence that concentrates the heavy particles and forces them down into the mat as mentioned earlier.

Keep this in mind as you're designing your own sluice, as even the best underlay will not make up for a poor box design or improper water velocity.



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Contact the GPR President
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Coming Announcements and Special Events for May 2020

(**WMMI** - Western Museum of Mining & Industry, 225 North Gate Blvd. Colorado Springs, CO 80921
<https://www.wmmi.org/>) (Free to GPR Member with badge)

SUN	MON	TUE	WED	THU	FRI	SAT
					1	2
3	4	5 Cinco de Mavo	6	7	8	9
10 Mother's Day	11	12	13	14 Panning Demo Aurora	15	16
17	18	19	20 GPR Club Meeting	21	22	23 GPR Outing Lake Gulch
24/31	25 Memorial Dav	26	27	28	29	29