

THE GOLD NUGGET

Sept 2019

The Prez Sez by Jim Long



Where did the summer go...? It seems like Christmas was just last month and we just now got back into the creeks and rivers. Now September is upon us and the season is going to change again. I am wondering if some of you have noticed this or maybe it is just me growing old far too quickly.

I remember back when I worked for a living, never seeming to have any time to do all the things I wanted to do. There seemed to always be something in the way that had to be done yesterday or today and could never be put off until tomorrow. Between the wives, raising two kids, and property maintenance and vehicle maintenance, there was little time to spare for the things that I wanted to do. Today, I look back and wonder in awe at how I was able to get all the things done that I did do. It seems I have far less time now to do things than I did when I was working. I swore that when I

retired, I would assign myself one task each day, even if that task were no more than having lunch with a friend, and that by doing so, I would stay healthy and engaged. And that is exactly what I did. Only the one task grew to two, and then three and four and five until suddenly, I have all these things I gotta get done today and some of them are things I put off yesterday until today and my list for tomorrow is already too much again. I am sensing some kind of pattern here but not sure, what it is.

One thing I do know, I am getting in less time prospecting now that I was, for sure. And things have changed for the wife and me. Her health is forcing me to stay closer to home for longer periods than I anticipated needing to do. But it is what it is and we are the kind that live our vows as they were stated. But I am able to arrange things to still manage to get out a little with the Club and keep my hand in the game enough to get a little 'shiny' from time to time. It makes me sad to encounter older folks who waited way too long to try their hand at finding gold until their health does not permit them to get out there and get it done. In order to find any gold, they require a little help from others to assist them in their quest. I am totally blown away from the many instances that I see every day in our state's mining community of folks who step up and help others for no more reason than someone asked for a little help. I see our fellow miners from every part of the state who go out of their way to take others out and show them how to do this small-scale mining thing that we do. They offer meaningful tips on equipment and places to go and take the newbies out there to find a little gold. Rarely do I see any instances of rudeness or meanness. It warms my heart to see this stuff going on so much. I give a lot of credit to our good friend and fellow Club member, Kevin Single, for creating a social media forum for people all over the country to access and follow and learn a little about what we all do. And the book that he worked so hard to put together has become a beacon not only here in Colorado, but for folks all over the country. There are folks who actually plan their vacations now around the information they gather from his book on Finding Gold in Colorado. There are over 4400 people who follow the forum now. Many people who were just out there on their own have now linked up into small groups who prospect together now as a result of finding each other on the forum. It has become an amazing thing to see and participate in. Though I am sure Kevin did not realize where his adventure would lead him when he began it, and it has to be a very satisfying thing to see where it has gone and I know that he is humbled by the success of it all. Believe me when I say that it was not easy for him to do the research, travel and testing. It took time and commitment and no small personal expense but he did it. And the result has been nothing less than spectacular.

There are some who would never have done such a thing. But Kevin is a lot like me in that he truly believes that knowledge should be shared. Now I am not saying that either one of us would give up the location should either of us make a really good strike, but I am talking in the sense of sharing knowledge of how to do this mining thing that we do. How do others learn if we can't share in the excitement of watching someone else when they find their very first gold in a pan. I still thrill to see that look of discovery in someone's eyes when they see their very first gold and know that they are the ones who dug it out of the earth with their own two hands. And you were the one that helped them get there. Those are moments you never forget!!

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, guys and gals. Here I am “fashionably late “again with this month’s article. The calendar says September 3, as I begin to “hunt and peck “my way along! I am a little surprised that I haven’t heard from President Long, asking when I will be submitting my article. He must be as busy as I have been since the club picnic!!! While I am on the subject, I sure did enjoy the picnic. Lots of burgers, brats, and dogs on the grill. Plenty of ice-cold beverages, along with a variety of side dishes provided by the members who attended. The weather cooperated as well; it turned out to be quite nice during mealtime. Although, it did get a tad on the hot side about the time I decided to do some metal detecting. I stayed in the shade most of the forty minutes or so that I detected, that made it easier to concentrate. I ended up with twenty coins from my brief hunt. I am looking forward to our September meeting. President Long got my attention when he announced that the program would be a video on metal detecting for gold in Colorado. I have been tempted to ask him for more information about the video, but I have decided to wait and see, along with all of you!!! I watch a lot of videos about detecting for gold, and can recall only two or three about Colorado. I am curious as to whether it is a video that I have seen, or if it is new to me. Colorado is not what most “nugget hunters “, would consider, a “go to “state for gold detecting. People can, and do, find gold in Colorado using metal detectors. But they are a small group indeed, when compared to states like Alaska, Arizona, Nevada, and California. When the question was asked, at last month’s meeting, how many people have found gold in Colorado with a metal detector? I saw two hands raised, in a room of about sixty people. I have been detecting for gold since 2004, during that time, I have met less than a dozen people who found gold in Colorado with a detector. Finding gold with a metal detector is a challenge, but even more so, in Colorado. I have had my best luck on mine dumps, but dredge tailings, and old hydraulic operations are prime locations also. The real challenge is making sure that you are not on private property, or on a claim, so do your research before going out. I have a couple ideas in mind that would complement our September Program, if time allows. I will run it by President Long and see what he thinks. I guess that is about all that I have for now, so until next month.....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 September Meeting will feature a nine (9) nugget giveaway of which the largest nugget will be 2.4 grams. The Club remains in the black and members may request to see the financial report at any time, which I have at my desk in the back. Hope to see you all there at the meeting!!

Board Meeting Minutes From Aug 2019

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

Quorum Present: Yes

Call to Order by: Pres Long at 6:01pm

Reading and Approval of Minutes: Corrections: none Approved as read/corrected: yes

Treasurer’s Report: Questions: none Approved: yes

Correspondence: 1 phone call, 12, e-mails, 4 mailings.

Webmaster: Total Hits 154868 Hits for last 2 month 252.

Committee Reports: Pres. Long handed out 2019 Director’s Book updates. Pres. Long also purchased the 2020 gold for the drawings.

QUESTION OF THE MONTH

Which is false about 100% pure gold.

Gold can be molded with : Hammer, chisel, by hand, wooden mallet, roller, melt and pour, hydraulic press, rocks.



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Unfinished Business:

- Pres. Long reported that the status of the Clear Creek Canyon Cleanup Project is on for Sept 28. Details by Sept meeting.
- Xmas gold has been purchased.
- Arap. Co. Fall Festival Panning Demo has been cancelled.
- Our Facebook Page now has over 525 likes and even more followers.

New Business: None at this time.

Planned Outings for 2019: Outing Schedule completed and issued to membership in Feb. Newsletter.

- Aug. 24 Sat Club Annual Picnic Morse Park, 12 noon
- Sept. 5,6,7 Thur/Fri/Sat Panning Demo at Highlands Ranch Museum, see signup sheet
- Sept. 21 Sat Prospecting Outing at Blackhawk, 9am
- Sept. 28 Sat National Outdoors Day Trash cleanup in Clear Creek Canyon, 8a til 1p

From the Board:

- Pres. Long discussed the prospecting outing of July 27 in Blackhawk which went very well
- BM B> Luchtenburg unable to attend.
- BM J. Fortunato made suggestion for some videos to offer for programming

Additional Announcements: Next Board Meeting: Sept. 18, 2019 at 6:00 pm. ,.Next General Meeting: Sept. 18, 2019 at 7:00 pm.

Tonight's general meeting program: We will be having a video presentation on How to Pan for Gold by Freddy Dodge.

Adjournment: Meeting stands adjourned at 6:47 pm.

2019 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 Aug 2019

1. Meeting was opened at 7:12 pm by Pres. Long with the Pledge of Allegiance. Meeting was late due to heavy thunderstorm outside.
2. Pres. Long then announced that the evening Program would feature a video presentation on How to Pan for Gold by Freddy Dodge.
3. Pres. Long then gave the Metals Report: Gold 1502.20, Silver 17.09, Platinum 851.00, Palladium 1453.00, and Rhodium 3680.00.
4. Web hits for last month was 225.
5. Treasurer Joe Kafka reports that the Club remains in the black. Report is available for review for anyone who wishes to see it. We have a new 'Special Nugget' so be sure to buy lots of tickets. It is a beautiful specimen from Australia. Also, don't forget to buy tickets for tonight's 9 nuggets drawing, the largest being 2.6 grams.
6. Dan McConnell reported from the Membership Table that we had 55 members in attendance. There were 3 guests present. The total meeting attendance was 58.
7. Pres. Long read the 'Question of the Month', which was "The Greeks thought that Gold was.....(what)...???" The winners will receive an extra ticket to the gold nugget drawings later.
8. Pres. Long advised that there was time to enter items at the break for the 'Finds of the Month' table and that the monthly winners from tonight will need to be saved for the Finds of the Year competition in November, 2019. A reminder to all that gold submissions need to be weighed dry and only one submission per person per category. Be sure to fill out the entry cards completely. Only finds found within the last 30 days may be submitted.
9. John Johnson presented the membership with the 'Cache' Clue # 2.
10. Pres. Long advised that the Club Store had numerous items for sale. Be sure to drop by at the break and support your Club by buying something. We always have a supply of gold bags for sale as well. They are one of the best in town!
11. Pres. Long informed the membership that the next Outings are as follow:
 - July 24 Sat Club Picnic at Morse Park at 12 noon.



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- Sept. 5,6,7 Thur/Fri/Sat Panning Demo at Highlands Ranch Museum from 9a til 2p each day.
 - Sept. 21 Sat **Prospecting Outing #6**. Blackhawk, 9am;
 - Sept. 28 Sat National Outdoors Day, Assist JeffCo with trash cleanup in Clear Creek Canyon from 8a til 1p.
12. Pres. Long advised that:
- The Aug. 3 Beginners Panning Class went well and that the Aug. 17 Blackhawk Outing went very well also.
 - The October Arapaho County Fall Festival Panning Demo has been cancelled.
 - he Club Facebook Page now has well over 525 followers which is actually pretty good
 - Pres. Long reminded everyone to check pamphlets at the front desk during the break and to vote for the finds of the month, return any items checked out from the Club Library.
 - There was nothing additional of note added from the Floor.
13. **Pres. Long** announced the break at 8:17 pm. Meeting was called back to order at 8:35 pm.
14. **Pres. Long** announced the winners of the '**Question of the Month**'. The answer was, "...'**dense water and sunlight !!**' There were 22 winners who received their extra drawing ticket for the gold drawing.
15. **Pres. Long** announced the winners for the '**Finds of the Month**'. Those were:
- **Best Coin** – **Ron Vejrostek** with an Israeli coin he found metal detecting in Longmont, Colorado.
 - **Best Jewelry** – **Everett Johnston** with a gold ring he found metal detecting in Denver, Colorado..
 - **Best Mineral** – **Bobby Manning** with some topaz crystals from the Dorris Claim in South Park, Colorado.
 - **Best Artifact** – **Angie Yen** with some Indian scrapers she found near Saguache, Colorado.
 - **Best Bottle** – **Robert Mahoney** with an old bottle that he found in Adams County, Colorado.
 - **Most Raw Gold** – **Robert Ahr** with .466 grams of gold found near the Lady B Mine in Colorado.
 - **Largest Raw Gold** – **Dennis Perederin** with two nuggets weighing 0.132 that he found in Lake Gulch, Colorado
16. **Pres. Long** concluded the evening with drawings for the numerous door prizes donated by the **GPR, Kevin Single and Pres. Long**, followed by drawings for the 16 door prizes and 9 gold nuggets. Pres. Long also wants to remind that holders of drawing tickets for the regular gold drawings who did not win and want to redeem those tickets may present them at the end of the Meeting and they will be reimbursed at .01 cents on the dollar, or they shall be considered to have been donated back to the Club. Those assisting in the drawings were **Joe Kafka and Chuck Cown**.
17. **Pres. Long** reminds the members that sometimes during the meetings, The President's time is overwhelmingly taken up by the many who wish to speak to him and he apologizes if anyone ever feels like he is unavailable. It is not his intent to be inaccessible and he encourages anyone with questions to contact him by e-mail or phone outside the meetings at any time. His e-mail and phone number are on the web site.
18. **Pres. Long** thanked **Greg and Nancy Knerl** and all those who contributed to the Refreshment Table. Any member is encouraged to chip in and add to the spread each month. Don't forget the 'tip jar' also, which helps to defray costs. This really helps the folks who run the table and those who volunteer up front each month. The Club appreciates the efforts that each and every one of you to make the refreshment table enjoyable.
19. **The September Meeting Program** will be a video presentation to be determined. Until next time, remember to prospect safely, live long and be grateful for that golden bounty from the stars, that gleaming magical miracle, called 'gold'!
20. The Meeting was **adjourned at 9:00 pm.**

A Miner's Laugh

An old miner named Frog goes into a bank and approaches the teller. He can see from her nameplate that her name is Patty Whack. "Miss Whack, I'd like to get a loan of \$30,000 to go on holiday." Patty looks at him in disbelief and asks his name. The old boy says his name is Kermit Jagger Frog and states proudly that his dad was Mick Jagger and that it is okay, he knows the bank manager. Patty explains that he will need to secure the loan with some collateral. The old miner says, "Sure, no problem, I have this,"





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and produces a tin porcelain elephant, about an inch tall, bright pink and perfectly formed. Very confused, Patty explains that she will have to consult with the bank manager and disappears into the back office. There, she finds the bank manager and says, "There is an old miner named Kermit Jagger Frog out there who claims to know you and wants to borrow \$30,000, and he wants to use this as collateral." She holds up the tiny pink elephant. "I mean, what in the world is this?" (*You are gonna love this*) The bank manager looks back at her and says, "It's a knickknack, Patty Whack, give Mr. Frog the loan. His old man was a rolling Stone...!!!" (*Oh come on, you sang it didn't you? Yeah, I know you did..!!*)
(Taken from the internet and revised just for all us 'old miners')

The finds of the Month Aug 2019:

Best Coin – Ron Vejrostek with an Israeli coin he found metal detecting in Longmont, Colorado.

Best Jewelry – Everett Johnston with a gold ring he found metal detecting in Denver, Colorado..

Best Mineral – Bobby Manning with some topaz crystals from the Dorris Claim in South Park, Colorado.

Best Artifact – Angie Yen with some Indian scrapers she found near Saguache, Colorado.

Best Bottle – Robert Mahoney with an old bottle that he found in Adams County, Colorado.

Most Raw Gold – Robert Ahr with .466 grams of gold found near the Lady B Mine in Colorado.

Largest Raw Gold – Dennis Perederin with two nuggets weighing 0.132 that he found in Lake Gulch, Colorado.



Be sure and bring your treasures and finds in to share with the rest of the membership each month. We would like to know what everyone else is finding so don't be bashful. Winners each month will have their names published in the Newsletter. There are seven (7) categories to choose from when entering. Winners of the monthly judging will need to save and return with their winning find next November 2019, when the Finds of the Year will be judged. DON'T FORGET SAVE THEM!!!!

Beginner's Panning/Sluicing Fall Class

On August 3, the Club hosted the Fall Beginner's Class on Clear Creek at Arapaho Bar. Fortunately, once again, we had gorgeous weather and the Creek cooperated in as much as the water flow is down sufficiently enough to be able to work the water now. We did not have such a large class as we had in the spring, and that make it a lot easier for us to have hands on with the instruction. I am amazed at how we encourage folks by giving very specific instructions on what to bring, and yet, there are always people who come unprepared. Be that as it may, we were able to make do and even those who were not properly prepared were able to learn the technique sufficiently well enough to find a little gold. And that is the goal after all. The sluicing portion of the Class went very well and the 'set' was perfect. For those of you who have not been down the Bar, there have been some significant changes in the very east end of the Public Panning area. At least 4 of the big shade trees have been cut down and two large concrete drainage culverts have been built under the bike/walk path. This is all as a result of the very large construction project going in on the property behind the old animal shelter location. But even so, it did not hamper us doing the class in any way other than there was less shade than ever before. Pres. Long did manage to get a few photos.



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2019 Prospecting Outing #5

Club members gathered again on August 17 for our monthly sojourn up on the mountain in Lake Gulch near Blackhawk. The weather was once again excellent and all the diggers had a good time. Everyone is still finding a little gold and some, of course, do a little better than others do. It seems by now that we have a fairly steady group of attendees at this function and they have all pretty much established their own dig areas. We still manage to get the new folks who have never been up there onto productive spots of their own as well. Pres. Long took a few photos of all the fun:



ANNUAL CLUB PICNIC

On Saturday, August 24, Club members gathered at Morse Park in Lakewood to conduct the annual picnic get together. The weather was perfect and Pres. Long set up the bar-b-que and grilled hot dogs, brats and hamburgers for everyone in attendance. Everyone brought a side dish to share and the feast was on...!! A number of folks brought their metal detectors (after all, it is a Park, you know) searching for whatever little goodies they could find. Pres. Long managed to get a couple of photos:



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 each month 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 .jj)

(Gold suddenly hits \$1500.00 an ounce again and the gold miners start publishing their gold reports in the local papers and on line again...go figure....JJ)



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Aug. 8 – **Golden Minerals reports second quarter loss:** Golden Minerals Co. has reported a \$2.5 million dollar loss for the second quarter. On a per share basis, the Golden based company said it had a loss of 3 cents per share. The company's shares closed at 23 cents. A year ago, they were trading at 26 cents.

Aug. 8 – **Gold Resource releases News of second quarter profit:** Gold Resource Corp. has reported a second quarter profit of \$1.8 million dollars. The Colorado Springs based company said that it had net income of 3 cents per share. The gold and silver miner posted revenue of \$29.4 million during that period. During the final minutes of trading on Tuesday, the company's shares hit \$3.67. A year ago, they were trading at \$5.68.

Aug. 9 – **Royal Gold reports profit:** Royal Gold Inc. (RGLD) has reported a fiscal fourth quarter profit of \$26.5 million dollars. On a per share basis, the Denver based company said it had a profit of 40 cents. Earnings, adjusted for nonrecurring costs, were 45 cents per share. The manager of precious metal royalties posted revenue of \$115.7 million dollars in the quarter. For the year, the company reported net income of \$93.8 million, or \$1.43 per share, swinging to a profit in the period. Revenue was reported as \$423.1 million dollars.

A Glimpse into Colorado History *(We continue our journey in the Nederland Region)*

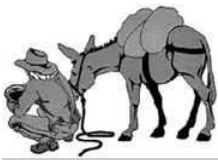
BALTIMORE: Baltimore must have been a prosperous and attractive mining community. But it apparently is one of the least known. It is in a clearing a short distance off the highway, a beautiful location, rapidly developing into a resort area. The ruins of the old city demonstrate that it was a large community. A big two story building, believed to have been a hotel, recently fell on its chin near the opening of the clearing, while several other ruins can be found back near the hills. Some ruins have stone foundations. Aspens grow now in the living rooms of some of the roofless cabins. Baltimore had an opera house that had some of the top shows of the region. It also had a lavish social club called the Baltimore Club. After activity began to fade here, the club's bar, curtains and other fixtures were moved to Central City.

DEADWOOD DIGGINGS *(not on a map)* and **GAMBELL GULCH:** A. P. Gambell located some placer claims here in the winter of 1859. After his discoveries, he journeyed to Denver for supplies. A stranger from the hills, buying supplies with gold dust, was always a subject of curiosity. When Gambell left Denver, he found he was being followed by a group of men, and no matter what he tried, he couldn't lose them. In fact, the men soon overtook Gambell, roughed him up a little and forced him to take them to his gulch. Thus was the nefarious beginning of Gambell Gulch. One of the first claims after Gambell made the original strike, was staked by a B. F. Langly. He named the spot Deadwood Diggings for the fallen timber in the area. Early records show that his small camp late became Gambell Gulch. Both, apparently, were camp names, although Perigo and gold Dirt ere the two towns that emerged in the gulch. Perhaps Gambell Gulch was an earlier name for one of those towns. However, the name of the gulch as remained the same. On Gambell Gulch there was the Colorado Tunnel, operated by the Colorado Mining Company, which made regular shipments to the big Argo Mill in Denver. The Penobscot Mining and Milling Company had a tunnel running to the Tip Top Mine, and were making plans just after the turn of the century to extend the tunnel 1,800 feet to meet several of the mines on Perigo Hill. There was also a Happy Hollow Mine on the Gulch, and the Mountain Monarch Tunnel. The Star of Gilpin Mining and Promoting Company worked several properties on Lump Gulch. Two of the large mines here were the Victoria and the Gettysburg.

PERIGO: Perigo was one of the more industrious towns in the region for several years. There were several mines and a few mills to handle the ores. It was quite a sociable town as well, and Perigo society attempted to make a name for itself on the society pages of the Central City and Denver newspapers. There was a Perigo Social Club, which sponsored several dances and outings. The "Society" attempted to lure many of the shows of Central City and Denver to Perigo, but met with very little success. They had to be content with making a big show about attending the social events, music and drama doings in the other nearby cities. The society columns of the day were frequented by Perigo matrons. There were several mines around Perigo: the Free Gold, the Golden Sun and the Perigo itself, for which the community was named. The big deal at Perigo, however, was the 30 stamp mill. The stamps were extra heavy to treat the low grade ore found here, and was one of the first of its kind in the state. The mill was taken over by the McFarlane and Company firm of Central City and Black Hawk. Mining has long since died away here, but Perigo is still alive as a summer resort and small supply town. It still has a Post Office.

To be continued

(Excerpts taken from the 1968 printing of The Guide to the Colorado Ghost Towns and Mining Camps by Perry Eberhart)



Sluice Box Building – Performance Factors

Taken from “How To Build and Operate Sluice Boxes” By Gary Weishaupt

One of the most critical factors in sluice operation with respect to improving performance regardless of the riffle design is the classification and preparation of materials.

The term classification simply means running raw materials through a mesh sieve of a specific size prior to feeding that sifted material into the sluice.

There are several different standards for laboratory sieve mesh sizes and designations including the American Standard, Tyler Standard, British Standard and others but the Tyler Standard seems to have the widest adoption by most mesh manufacturers.

Scientific (laboratory) sieves, the types used by soils engineers and geologists, are sized according to the values in table 1 but take note that most of the sieves, normally called ‘classifiers’ sold by mining supply companies are made of relatively cheap industrial metal screening material (woven wire fabrics) and are not manufactured to high dimensional standards.

For example most mining supply outfits sell eight separate classifiers numbered from 2 to 100.

You can see how these wire fabric sizes are calculated since the designations are based upon a certain number of openings per inch (mesh) as a number 8 just has 8 openings per inch so the wire grid is spaced 1/8 of an inch apart (.125”). Since the wire takes up some of the space the net opening in the mesh is significantly reduced from the nominal mesh designation. For example a number 4 classifier that most people assume will pass 1/4” material will in fact only pass pieces of gravel that are less than 7/32” or just slightly larger than 3/16”.

Regular old window screen by the way is typically a number 16 mesh having a 1/16” wire grid with 0.0395” net openings. In 1968 the USGS Geologist Harry Tourtelot (17) developed what he called the ‘Hydraulic Equivalence Factor’ that almost overnight changed the way commercial placer operators looked at the entire process of sluice box gravity concentration. Basically this theory was based upon the observation of the layering and horizontal distribution of various materials observed in sluice boxes prior to their being cleaned. Tourtelot realized that this phenomenon was due to the effect of each particles specific gravity in relation to its physical size.

Tourtelot was not the first person to observe this phenomena but he was the first one to look at from a scientific perspective. Miners realized almost a century earlier that there was a systematic deposition of materials in sluice boxes and that there relationships between gravel size, gold particle size and water velocity so in these early days a rough set of guidelines were developed that many of us still adhere to even today such as sluice slope, classification of source material and control of water volume and velocity.

Tourtelot recognized that there were very specific scientific reasons behind these old generalities and that a person could operate a sluice in such a manner as to maximize or optimize the recovery of extremely fine gold that up until then had normally been washed out in the tailings. (This is one reason old tailings can be such good places to revisit).

Briefly stated the Theory of Hydraulic Equivalence holds that a certain volume of water run at a velocity suitable to wash gravel of a specific size through a sluice will reach a point of mechanical energy equilibrium within two to three feet of the head of the box. At that point there becomes a relationship between the size of that gravel and the size of gold particles that is locked into place by the laws of physics regardless of the design of riffles being used. For instance if you have enough water to wash gravels of 1/4” in size thru the length of a sluice then the finest gold you can successfully recover, with any assurance, will be approximately larger than .025” (40 mesh or larger).

After Tourtelots findings became public the recovery of gold down to 150-mesh at large commercial placer operations became relatively common though not necessarily efficient or consistent.

The secret is in proper classification of materials in proportion to the smallest average size of gold contained in any gold bearing materials.

For all practical purposes most amateur gold miners will never need anything finer than a number 8 classifier and you’ll find that about 90% of all classification work done on placer sites, even by large commercial companies, is now done using number 4 mesh (.25” grid). I personally almost never classify anything down below a number 4 mesh but there are advantages to going down to a number 8 or even a number 12 mesh if you’re trying to recover very fine gold.



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The problem is that classification takes time and the finer you attempt to classify material the less time you have to actually process it. In the mining business time really is money and most of you already know how many hours we all put in to our claims and favorite prospecting sites.

Studies have shown however that fine gold recovery goes up almost exponentially in proportion to how finely graduated the source material is classified before the gravels are run through the sluice. This is so important that in some spots you literally may be forced to take the extra time to classify down to a number 12 mesh, perhaps finer if necessary to optimize fine gold recovery.

Now we're getting down to gravel that is far more in proportion to the size of gold that might be found at most sites today. This is the size of material that I try to run whenever possible even when just prospecting a site for the first time. Initially at an unknown site I might pan some unclassified gravels just to get an idea of what's there but once a decision is made to run the sluice box then we'll take the extra time it takes to maximize our chances of finding some worthwhile flakes and fines.

Just to be able to relate the numbers back to common household materials. As mentioned, window screen is 16-mesh, beach sand is typically 12-mesh. Ground Coffee is 20-mesh, sugar is 30-mesh and table salt is 40-mesh. Baking flour is 80-mesh and talcum powder is 100-mesh and finer.



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For information to publish your "Ad" in The Gold Nugget, please contact the Editor. **COPY DEADLINE** is due to the editor by the 25th of the month for publication in the following months' issue of the Newsletter.

Contact the GPR President

(Layout Design Subject To Additional Cost)



Coming Announcements and Special Events for Oct 2019

(**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
6	7	8 WMMI <i>Cripple Creek's Cresson Mine: The Untold Stories</i>	9	10	11	12
13 Navy Birthday	14 Columbus Day	15	16 GPR Club Meeting	17	18	19
20	21	22	23 GPR Pumpkin Carving Contest	24	25	26
27	28	29	30	31 Halloween		