

# Gold Digger's Underground



Volume 1, Issue 3

## Reading a Creek - (Part 3) Gravel, Rock & Silt Clues to High Water Gold

Essential Prospecting - Why, What & How to...

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Recall... After looking at trash and other high water indicators you now will need to take a look at the hydrologic indicators of water speed changes. Gold will drop when water slows down. These speed indicators are signs of water slowing or speeding up. The simplest of these are the formation of gravel bars & pools.

### 1. How were gravel bars altered by these flows?

**Why:** Know how gravel stacks up in flood conditions shows where gold will be found too.

**What:** You are looking for larger coarser gravel unless lots of flood gold flour is present.

**How:** Follow the gravel bars

- a. Flood flows will also stack up large rocks and gravel as water velocity decreases forming the Rocky points and gravel and sand bars along

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## What you should know about "sue and settle"...

PJ's Private Prospecting Intel

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You might be asking "What is 'sue and settle' and why do I care?"

Sue and settle has been used at the federal level to restrict your access to public and private lands for gold prospecting and mining I will explain more of this in a second.

First let me explain that sue and settle is an important "in the dark" tactic used by special interest groups to gain regulations that are set up without any timely public review. The process shows you an outline of the procedure used in sue and settle tactics courtesy of the US Chamber of Commerce you can read more about it at this link.

### The "sue and settle" process\*:

Environmental or other advocacy group sues a federal agency to issue regulations by a specific deadline (Utilizing lawyers paid for by the same advocacy group out of their nonprofit legal war-chest)

Advocacy group and federal agency work out an agreement. Work is conducted behind closed doors with no public review. Note that means there is no input from you or your representatives.

A draft consent decree or settlement agreement is lodged with the Court. Under some laws the federal agency invites and receives public comments on the degree or agreement. This point is too little, too late and far too short a period for sufficient review by the public, the legal damage has been done.

The court finalizes the decree or agreement (it generally does not matter to quartz if the decree or agreement is not required or authorized by any federal statute, it's not their job).



*Jess*



**Reading a Creek - Gravel rock and silt clues**  
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the riverbed. These will serve as additional indicators of gold.

- b. Worth noting here are the gravel bars that may have been cut into by flood flows and now are stranded out into the current stream bed. It is not unusual to find out that the outer curves of these gravel bars have gold in significant quantities down near bedrock. It is always worth investigating these regions down to bedrock. Remember this used to be an inside bend point on the boundary of the riverbed prior to some more recent flood.

## 2. Where did stagnant pools form?

**Why:** Stagnant pools tell you the places where gold will likely not be, because it will have dropped out before the water velocity drops too low.

**What:** You will need to identify places where high water flow has the widest and deepest cross-section.

**How:** Follow these hints

- a. Stagnant pools form where the flow is deep and widest. Look for long-broad deep zones relative to your high water baseline. These are just downstream from a narrow chute or funnel. Hint: gold drops out just as these high water chutes enter the slower pools.
- b. Keep in mind slow pools will oftentimes be filled with finer silt, sands and gravels. It is possible that some of the sands may trap significant quantities finer flood gold. It's pretty simple to test these deposits with a gold pan.
- c. Polished pool bottoms mean higher speed water which will tend to blow gold out. Waterfalls will often have these polished pools.

## 3. How do you map gravel bars to find gold?

**Why:** To find gold trapped above bedrock look at the river-bed's composition (Heavy gold goes with heavy & bigger rocks).

**What:** Bigger rocks take stronger water flows to move them; same goes for gold so big rocks and gold will hang together.

**How:** Follow these tips

- a. Map out sandbars, gravel bars, boulders and other gold traps
- b. Sand-bars form in the lowest velocity water because the particle size are so small, only flood or flower gold dust will typically be found here.
- c. Small gravel bars form in the next velocity zone

and will typically be areas of coarse gold concentration.

- d. The next zone of interest is larger gravel and rocks less than 6 inches in diameter. This area has potential to collect small nuggets and coarse gold.
- e. Big rocks 6 inches and larger the boulders are the next zone of interest and should always be investigated down to bedrock. This is where nuggets will be found along with smaller nuggets called pickers.
- f. Of course boulders are known to form traps which are a completely different topic we will discuss later. This is where pockets of gold and Nuggets will trap out in the most violent flood flows. The boulder itself is often the indicator of just how big the flooding flow was since many of these weigh more than a car or truck.

**Take Action:** Practice these steps to search out flood flow clues & get good at this. This stuff is really important for your prospecting success... Remember to map it as you go. Maps steer you and allow learning from mistakes that normally happen in the process of a search.



## What is Gold?

Gold is a metal, found on the periodic table under silver and between platinum and mercury. Its scientific name is *aurum*, abbreviated Au.

The atomic number of gold is 79 and its atomic weight is 196.967. It melts at 1063° Centigrade, a temperature which could be achieved by ancient metalworkers with charcoal furnaces. Gold has a specific gravity of 19.3.

*Sue and settle, continued from page 1*

And there you have it, without any sufficient public input; regulations (restrictive laws) are placed on you without your even knowing it. You also have no idea of the multi-billion-dollar impact on you or local economies that was never factored in to these closed-door discussions.

The thing it's important to note here is although many of these tactics are deployed by environmental groups they can just as easily be deployed by any special interest group with a large legal war-chest. What that means is constitutional rights will be subjected to erosion by any special interest group left-leaning, right-leaning, center of the road. This is a problem that all U.S. citizens should be concerned about. It probably has long term international implications through extension to U.N. regulations too.

Case in point for gold prospectors is the recent removal of access to some 26,000 acres of land by the Dept. of fish and wildlife for the protection of the Yellow toed frog and the Yosemite toad. This restriction impacts local businesses, gold prospectors, even wilderness access for hikers and campers.

The problem with these restrictions is that, when this new fish and wildlife regulation came into being in April 2013 there was no significant public input. The small communities are most affected by these restrictions have a vested interest in tourism and other small business concerns that are directly impacted by these measures and had no say with the Dept. of Fish and Wildlife before the decision was made to enact these restrictions. Check it out.

Action steps for you: If you want to learn more about what you can do, check in with the US Chamber of Commerce and Congressman Tom McClintock. Ask about steps you can take and let your voice be heard before it's too late.

Prospector Jess  
(Advocate of Your Access Rights)

P.S. This also happens on a state and local level too all too often, just look at California's dredging restrictions and regulations by other water and air quality boards all over the U.S. If the one with the biggest legal or political war chest wins, then we all lose.

\* Steps based on the US Chamber of Commerce article about the Sue and settle process: [Click Here](#)



## Learning to speed pan with confidence

### *Nugget Finding Strategies*

This is not a tutorial on how to pan, but a way to learn to pan faster. When most people pan they take far too long to get through a small amount of material. This costs them a lot of time. The goal is to pan faster without losing gold.

A great trick for increasing your panning confidence is using three or four copper-coated BB's or split shot sinkers. The slightly flattened split shot is closer to a nugget in shape and density. They can also be painted with bright or gold colors so you can see easily if you lose one as you pan.

Take 3 or 4 of the BB's or split shot and place them in the pan with the dirt. Pan as fast as you can while maintaining what you think would be optimal for keeping the simulated gold in the pan. When you get to the bottom of the pan, check for and count the BB's.



Repeat again, as you pan faster and faster. Don't be shy or play it safe. Push yourself and find out how hard it is to lose the BB's. When you find that you have lost one, you'll know how fast and vigorous your panning was to lose the BB.

The goal of speed panning is to go fast enough to pan through all your material quickly without losing any gold. If you are leaning over for hours doing pan after pan, you will be exhausted without much to show for it. Remember, more samples per hour means more sample clues at the end of the day. This will help you find your pay-streak with less effort.

Find more details about how to increase your gold panning & sampling output on this page:  
<http://hunting4gold.com/get/pftp/dvd/>



## Sluice Box Overload

### What Went Wrong?

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It's always instructive to think about things that didn't work out, or things that went wrong with an attitude that says, "Mistakes happen so use them as opportunities to learn".

Let me give you an example from my own experience. I've learned the hard way that trying to speed buckets of material through the sluice box becomes counterproductive. I went so fast that I built up to much material behind the riffles and was unpleasantly surprised to find far less gold in the clean out than the sample panning indicated I would find. Here's the reason for what happened.

Overloading your sluice with sand and silt will only end up launching gold out the back of your sluice box. Don't rush box feeding faster than your sluice box can operate.

**Why:** The gap between riffles traps the gold and allows proper cyclic agitation of particles, sifting gold to the bottom out of harm's way. Overfilling this gap causes both light and heavy material to float across the trap zones behind each riffle. This in turn will cause all material in the sluice to roll toward the back and fall off the end of the sluice box, unless it is heavy enough to settle through the overloaded material. Fine gold and smaller pieces exit first, but even large pieces will start to roll off

**What:** You are looking at the amount of material trapped behind each riffle. You want to be able to see the carpet or Miner's Moss in between the riffles with the sand and coarse material trapped just behind riffle. If this area is filled in such a way that there is no Miner's Moss or carpet visible, the box is overloaded and you may be sending your gold bouncing over the surface and out the back of the sluice box. This is especially true for finer gold particles.

Note that it is also important to keep from flushing all the sands and gravels out because they represent part of your gold trap and protect smaller particles of gold from being washed on as well. So the goal is to keep the material moving so that there is about a 25% - 50% coverage of the base material with sand and gravel at all times.



Approximately 1/2 of the carpet exposed

**How:** Simply monitor the material filling the gap between sluice and riffles and make sure that you slow down when the gaps fill up more than 50%. By slowing down you allow the material to sift naturally and separate behind the gold traps formed by the riffles. This will allow the fine and coarse gold and nuggets to make their way down to the Miner's Moss and carpet and be trapped out of the flow.

The lighter material will continue to bounce down from riffle to riffle with less and less gold as it moves down the box. The material should contain little or no gold as it exits out the box. Remember, your goal here is to concentrate gold efficiently and not worry about miniscule amounts of gold exiting your sluice box. You more than make up for that miniscule amount by moving your sluice box material as rapidly as you can without filling the riffles beyond 50%.

That 25% - 50% fill rate is the optimum flow for any sluice box. The tilt of the box, water flow rate, the average size of the material entering the sluice and the time allowed for the sluice to flush are all play a role in the efficiency of your sluice box.

There's no need to worry excessively about this rule of thumb. Just practice it as you operate your equipment also learn to adjust the tilt angle of your sluice box and your water flow so that you get an appropriate affect for the kind of raw material that you are sluicing gold out of.

Slow down adding material to let the box clear  
Speed up adding material to fill the box more.

Find more about how to boost your gold sluicing & sampling results on this page:

<http://hunting4gold.com/get/sfg/dvd/>





# A Look at the Five Stages of Gold Finding (Part 3)

## Nugget Finding Strategies

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### Stage V - Mine or move on

Once you understand your pay streak characteristics, it is straightforward to determine the equipment you'll need to mine it and the amount of manpower or power (gas or diesel) required to extract the gold and return the environment to its prior condition.

You also determine the profit or loss levels. That way you can minimize losses and maximize your return by moving on when the site does not have sufficient data backed results to be worth mining. That's where the moving on part comes into play. Keep in mind this is another one of those cases where if you do make a mistake you simply learn from what you found before you have gone too far.

### Why mine or move on?

Once you have your samples lined up and pay-streaks identified, now it's time to plan your mining operations and set your budget and recovery thresholds. With a better idea of what you face in your recovery procedures and the costs associated with them you will be ready to begin mining with the right gear for the gold that is estimated for your site. You will be able to quickly decide when to scale up or move on to your next site.

### What is mine or move on?

The mining phase is defined by the type, amount and quality of gold that you are finding. In addition federal and local regulations will dictate what you can and cannot do to recover the gold you have identified in your sampling and pay-streak phases.

A minimum recovery rate is set for your mining and recovery work to stay in operation. This will need to be defined by the quality and price for gold recovered and your budgetary needs (or willingness to risk funds.)

The move on step takes place as a decision or evaluation that your allocated budget has been exceeded for this location and it makes more sense to move to your next most likely good gold site based on prior phase I & II site research.

### How do you mine or move on?

As your gold mining recovery progresses along the surveyed pay-streaks and sample locations, you track gold recovery rates. As long as the recovery rates stay above your minimum level, work can continue. Once the gold values recovered drop below your targets or the market changes, you have a decision to continue to mine at risk, or move on. Pretty simple as long as you track your results as you mine.

Pretty simple on paper, but remember several forces are at work here;

1. Market fluctuations in gold prices will impact your plans and your budget...
2. Gold site recovery will vary
3. Unusual events happen (that cost more than planned.)

All of these and more will conspire to make your simple plan more difficult to manage. Just watch an episode of Gold Rush to see this in action.



## Nuggets to know:

### Why are there different colors of gold?

Gold in its native state is too soft for use in jewelry. Therefore, other metals such as copper and silver are mixed with the gold to produce sufficient hardness for the gold to be useful.

The color of gold depends on the type and amount of metal alloyed with the gold. In general, copper produces a reddish tint to gold while silver contributes a white or greenish tint. The amount of alloy determines the color. It also determines the value of the gold.

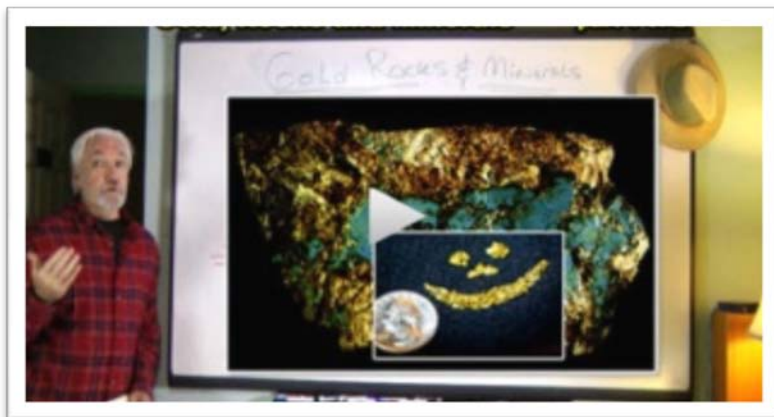
### How is gold measured?

Gold is often measured by the carat. Pure gold is 24 carat, and the more alloy is mixed with gold, the smaller the carat. 12 carat gold is half gold, half alloy. This system derives from the early practice of measuring gold according to its weight in the fruit of the carob tree, called the carat. Every carat pod weighs one-fifth of a gram.

Gold is also measured by grains and troy ounces. Using grain for a measure is possible because grains of barley or wheat, taken from the middle of the ear, also have a uniform weight.

One troy ounce weighs 480 grains. A troy ounce weighs slightly more than our standard, or avoirdupois, ounce. It takes only twelve troy ounces to make a pound, while sixteen standard ounces make a pound.

G.D.U. - Resources & Gold Prospecting Links:  
*Mentioned in this issue*



*Site Links:*

**Hunting4Gold on the Web:**

- H4G Site -- <http://Hunting4Gold.com>
- FaceBook -- [Hunting for Gold Page](#)
- YouTube -- [ProspectorJess Channel](#)
- Twitter -- Follow @ [ProspectorJess](#)

For Hunting4Gold Help please call or email with your questions and any site, newsletter or product issues you may have.

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