



California State Parks Video Transcript



The Evolution of Gold Panning

Many gold mining methods have emerged over the years since James Marshall discovered gold in the tailrace of Sutter's Mill. It was early in the morning of January 24th, in 1848, that James Marshall was inspecting the work being done on the lower end of the tailrace.

It was there, in six inches of water, that he discovered the precious metal, and the only tools he used were his fingers. Very soon, jack knives were used for prying the precious metal out of the cracks in the bedrock.

As word of the gold discovery spread, more and more men gathered on the banks of the American River, each one eager to find his own gold. They found that small pieces of gold were mixed with the sand and gravel of the river.

At first, mining tools were slow to arrive. Mexican "bateas," or wooden gold pans, began to show up in the hands of the miners along many of the riverbanks. Eventually, the more traditional metal pan arrived on the scene. As you can see, the batea was shaped different than the metal pan, and was not nearly as durable. Over time, the batea would give way to the more popular metal pan. It has been said, in those days, that a miner had to wash as many as fifty pans a day to make ends meet.

It was the arrival of the cradle that was responsible for the gold pan moving on to its more traditional role as a cleanup and prospecting tool. In June of 1848, Claude Chainer arrived in the gold country and built the first gold cradle. With that development, the gold pan was relegated to its more traditional role as a prospecting and cleanup tool. A man could wash a lot more dirt with a cradle than with a pan.

The cradle had a hopper on top, riffle bars, and burlap in the trough, and rockers on the bottom. The hopper would be filled with dirt, and water was poured on top, while shaking it side to side. The lighter material would be washed off, while the heavier material would be trapped by the riffle bars and burlap. Usually a cradle was operated by two or three men.

If miners were working a claim next to running water, they could build a "long tom" to wash the dirt even faster. By sending the water flowing through the tom, all they had to do was to shovel the dirt into the trough and let the water wash the dirt for them. Riffle bars, set crosswise in the trough, caught the larger pieces of gold, while the finer gold would be trapped in the burlap. The long tom could keep half a dozen men busy. At the end of the day the riffle bars and burlap would be removed from the cradle or long tom, and the concentrated material panned down.

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It was not long before it became obvious that the surface gold was running out; miners needed to find new ways of recovering nature's golden treasure. The necessity to dig deeper and deeper to mine gold gave birth to the most destructive methods of mining--hydraulic mining and hard rock mining.

Hydraulic mining came about as a result of the discovery of ancient river beds located on mountain sides; sometimes they were found in places where rivers no longer ran. This form of mining turned a great profit but demanded a terrible price. Large volumes of water were unleashed against the hillsides by giant water cannons called "monitors." These monitors could wash away entire mountains with complete disregard for the scars that would be left behind. This deluge of water could cause an ocean of mud and rock to be channeled onto long toms and sluice boxes, where the gold would become trapped. The waste materials would be drained off and discarded in the valleys below, clogging the rivers and causing devastating floods. As a result of the mass destruction caused by this type of mining, the nation's first environmental laws were passed.

Mother Nature's cunning was obvious, as she still held more hiding places for precious metal, locked in solid rock. By following the quartz leads through the rock, miners found new sources of gold. By drilling and blasting, the miners were able to coax the gold out of hiding. Smaller mines, like Placerville's Gold Bug Mine, became very popular, but it was the larger mines, like the Empire and Bodie Standard, that produced volumes of gold large enough to stagger the imagination. Hard rock mining, like hydraulic mining, produced toxic waste, and in a short time all but the largest mines fell prey to the environmental protection laws of the 19th Century.

Regardless of the type of mining being done, a gold pan was always nearby. And, while panning for gold is still very popular today, all types of devices are available, but the gold pan remains the most popular device used for recovering nature's most precious treasure. In fact, gold panning is so popular that it has even established itself as a sport. People gather from all over the world to compete for fun, prizes, and of course, gold. Every year, Coloma hosts the National Gold Panning Championships, and Coloma is the site of the 1998 World Gold Panning Championship. Events such as these are great places for beginners and experts to pick up some handy tips on panning for gold.

If you've ever seen anyone panning for gold, you might get the impression that it's hard to do; in fact it's easy. We've broken it down into seven basic steps. But before we get started, I'd like to give you a tip for later on when you're practicing your technique. I like to make practice flakes, and for that we use fishing shot, just like you buy at the sporting goods store for your fishing line; take a hammer and smash it flat. Now if you like, you can paint them gold so that they look like the real thing. All you have to do is throw this on top of the dirt in your pan. Now, when you got to the point where you're practicing and you're not losing any flakes, then you're ready to go out and find the real thing.

Fill your pan about three-quarters full of dirt. If you have your practice flakes ready, now's a good time to toss them on top.

Now place the pan in the water carefully, so that the water fills the pan but none of the dirt falls out into the water.

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With your pan still in the water, mix the dirt and water together and carefully wash off the larger stones. As they could have gold stuck to them, make sure that you do this over your pan. Then discard the stones back to the stream.

Gold is nineteen times heavier than water, and this will assist us to keep the gold in the pan. In order to settle the heavier flakes to the bottom of our pan, we need to shake the pan from side to side and swirl it at the same time. Go slow for now; about twenty seconds should be enough time.

While shaking and swirling, tip your pan to the working angle, and then stop. We're going to start washing the lighter materials now. With the pan held at the working angle, dip it into the water. We're going to let the water do most of the work for us. Lift the pan out of the water. Be careful not to lift the front of the pan; we want the water to run out and carry the dirt off the top without disturbing the gold underneath.

Every three or four dips, swirl the material. This will keep the gold underneath from migrating to the front of the pan. Repeat the dipping and swirling until you have nothing but black sand left.

Now we get to see how well we've done. Put about a half-inch of water in your pan, and shake the sand into the crease of the pan. Then slowly roll the water around the pan to uncover what may be hidden beneath the sand.

Historically, the methods for the separation of black sand and gold involved drying of the concentrates, which is the combination of black sand and gold. A miner would normally place the concentrates into a cloth, usually a bandanna. After the material had a chance to dry, there were two steps in the process. First, a magnet was used to pick up the black sand, leaving the coarse gold behind. The remaining material required further refinement; the black sand attracted by the magnet still contained fine particles of gold. To further refine this, a "jiggling pan" was used. After placing the materials into the pan, the operator would shake the pan back and forth while blowing gently on the sand. By using breath control, he could blow the sand away, leaving only the gold behind.

Today there are easier ways to separate your black sand and gold, and I'd like to show you two methods that you can use without having to wait for your black sand to dry.

The first method is not very traditional, but it is very popular today: that is the use of a snuffer bottle. It is simple to use and extremely efficient. What you do is, when you're done rolling the water around your pan to see if you recovered gold, take the snuffer bottle and squeeze the air out, and at the same time place the tip of your bottle over the gold, release the pressure on the snuffer bottle and snuff up your gold. It's that simple.

Now, the more traditional method is more difficult to do, but if you desire to compete in traditional gold panning competitions, it is the only acceptable method to remove your gold from the pan. You have already exposed the gold in the bottom of your pan. Now take your finger, and some folks like to lick their finger first, and firmly place your fingertip against the gold, and drag your finger as you lift it up. Once the gold sticks to your finger, touch it to the

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water in your vial and the gold will release itself from your finger and fall inside the vial safe and sound.

There are many places you can go and pan for gold today, but a good rule of thumb is: before you head out, find out where you want to go, and take a look at your map; if it's on public land, find out what agency is in charge of that land.

The next thing to do is to call them and make certain that it is okay to pan for gold, and ask if there are any entry fees to pay in order to access the area.

The California Department of Parks and Recreation limits gold panning to the river-run streams and gravel bars.

Keep in mind that muddy water from your panning operation may not extend more than twenty feet from where you are panning and that hands and pans are the only tools that you may use. There is no digging with shovels, and you can only pan stream-run gravel. Never take material from dry areas. Also, it is a good idea to see if the State Park you're in limits where you can pan. Most State Parks have entry fees, and not all State Parks allow gold panning.

And please, when you leave an area, take out everything you brought with you, and leave our public lands in the same condition in which you found them.

Running Time: 13 minutes
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