

Guide to *TREASURE*

FIND an
**Ounce
of Gold
a Day**

by Charles Garrett

You Can Find an Ounce of Gold a Day

by Roy Lagal Reprinted with Permission

INTRODUCTION

There is no deep mystery to prospecting for gold. But, there is excitement. And, there can be profit. No large expenditures of cash are required. Success is limited only by the enterprise and dreams of the prospector.

The thrill of happiness is immeasurable, but monetary rewards come in all sizes from small nuggets worth a few hundred dollars to the huge "Hand of Faith" nugget that was found by an amateur prospector with a Garrett detector and sold for one million dollars.

Beginning prospectors and professionals alike can discover gold nuggets with a metal detector find gold in a pan or dredge for gold. They can relive the past, participate in adventure in the great outdoors and enjoy physical exercise all the while with the potential of monetary profit at the risk of only a few dollars.

It could happen to you!

BASIC TOOLS

Your Garrett Gold Pan Kit contains these tools

- 14-inch Gravity Trap pan
- 10 ½-inch Gravity Trap pan
- Combination classifier
- Gold guzzler suction bottle

Gold Pan Kits

Other pre-packaged kits are available that contain one or more pans and other screening devices. Many of these kits include unnecessary items that can slow down the learning process and complicate your hobby. If you select a kit other than that offered by Garrett, choose a circular design and time-proven green color and avoid equipment using complicated procedures that vary from standard panning practices.

The implements in your Garrett kit will certainly be all you need to get started as a gold panner, and you may never need anything else!

Additional Tools

Persistent and successful weekend prospectors often encounter the need for additional tools, most of which will be specified in this booklet. Among these tools you will find....

- Waders (or rubber boots)
- Magnifying glass
- Tweezers
- Small can
- Ore bag (or sturdy sack)
- Face mask (snorkel)
- Large screwdriver (or small rod)
- Rock hammer
- Shovel
- Large and small pry bars
- Modern metal detector

Gold Pan

Because every tool is truly optional except the gold pan, careful attention should be given to the choice of a pan. Many sizes and types are available, and they vary in shape, color and material. Today's most popular gold pan is made of plastic, which has significant advantages over tin or steel.

Plastic is lightweight and is not affected by acid or other substances that can attack metal. Plastic is not attracted by magnets and is easy to cast or mold into a specific design. Non biodegradable plastic will last for centuries, while steel pans rust away. True gravity-trap riffles are indented at a right angle, offering a distinct advantage especially for the beginner.

Special Note

Speaking personally, I must recommend the Gravity Trap gold pan with its sharp 90-degree riffles which traps gold, as shown below. I designed field-tested and patented (U.S. Patent #4,162,969) these pans.

Metal Detector

A modern metal detector can produce more ounces of gold per dollar spent than any other type of prospecting equipment used in the world today. In fact, more gold nuggets have probably been discovered in recent years with detectors than were found in all the early gold rushes.

Beginners and professionals alike have used metal detectors successfully. Detectors designed specifically for hunting gold can recover nuggets in stream beds, search for mine veins, seek nuggets in dredge tailings, locate new gold sources and otherwise prove useful in all aspects of field prospecting.

Complete information on the use of metal detectors in the search for gold can be found in my co-authored book *You Can Find Gold with a Metal Detector*. Co-author Charles Garrett has also written the authoritative *Modern Metal Detectors*, which also contains just about everything you'd ever want to know about a detector.

Wet Panning

Whenever water is available, wet panning is the method that should be used. This is the type of panning traditionally associated with searching for gold. All tools in the Gold Panning Kit will be used in wet panning.

Instructions

1. Place classifier atop the gold pan and fill the classifier with gravel, sand and other materials.
2. Submerge pan and classifier, holding firmly with both hands, and use a twisting motion to shake them. Small gravel, sand and gold will pass through the classifier and settle in the gold pan.
3. Check for nuggets in the classifier.
4. Remove the classifier, and discard its remaining contents.
5. Grasp the pan securely with both hands while it is still under water. Begin rotating the contents in the pan as you raise it slightly from the water. Occasionally shake the pan, which will help cause heavier contents to settle. Remove small rocks as they continually move to the top of the contents. Occasionally tip the pan forward in the water to permit water to carry off lighter material. Be careful, however, not to lose any of the other contents of the pan. Eventually about a handful of concentrate will remain in the pan.
6. Transfer all the material that remains in your 14-inch pan to the smaller finishing pan.
7. Make certain the Gravity Trap riffles are always on the lower side as you rotate the pan under water. This brings all materials across the traps. You will develop your own method for shaking; i.e., side to side, back and forth or a circular motion. Your aim in moving the pan under water is to cause the heavier gold to settle into the riffles where it will be trapped. As the contents become concentrated on the bottom of the pan and in its riffles, the total amount of material will appear smaller.
8. Continue to tip the pan occasionally so that water can carry off lighter materials. Try to separate all other materials from your gold by a gently swirling motion, leaving the gold concentrated together in the riffles.
9. Retrieve your gold. Use tweezers for all large pieces and the gold suction bottle to vacuum up fine gold from the water.

As you follow these instructions, you will develop your own methods of panning. No unusual type of equipment such as square or oblong pans will help because use of the standard circular pan is natural and easy for anyone to master.

You can practice at home by using small BB shot which will behave like little gold nuggets. More specific wet panning instructions are contained in my book *Gold Panning is Easy*.

DRY PANNING

Dry panning is not the most reliable method of discovering gold in desert areas, but it is often the only practical one. Gold pans require riffle traps that are sharp and deep. The riffles should be positioned at a 90-degree angle to the wall of the pan. Gravity Trap riffles are designed like a small dry-washing sluice box. If operated properly, the riffles make this pan excellent for testing purposes, even when water is not available.

Instructions

Place the dirt in a large Gravity Trap gold pan. Clean larger rocks by rubbing them against each other or by striking them together sharply. Let the dirt and small gravel that is loosened fall into the gold pan. Discard the thoroughly cleaned rocks after careful inspection to make certain none of them is a nugget.

Sift fingers through the remaining materials and lift out the smaller rocks without removing any fine gravel or sand. Examine these rocks carefully for traces of gold before discarding. Continue examination of materials until only fine concentrate remains.

Lift the pan with one hand and tilt at a 45-degree angle with riffles on the lower side. This permits contents to flow over the riffles, which will trap the gold. Use your other hand to bump the higher edge of the pan close to you. A sharp bump will vibrate the contents of the pan as they flow over the riffles. Continue bumping the pan and occasionally level it to shift contents to the bottom. Repeat this procedure as the lighter material gradually flows out of the pan. Finally only one or two handfuls of concentrates will remain.

Inspect the remaining material by spreading the concentrates over the pan. You will occasionally expose a small nugget or gold flake. Use tweezers to retrieve the nuggets or gold flakes.

Thoughts on Dry Panning

When searching in rugged canyons and other remote locations, it is difficult to carry the dry washing unit that is necessary to test for gold. Because dry panning with a Gravity Trap pan is easily accomplished, such a pan should always be carried even when prospecting in areas remote from water.

The deserts of Western America contain many fortunes in gold that have simply been overlooked. Some were never tested because water was not available. If in doubt about an area, use your Gravity Trap gold pan. More specific dry panning instructions are contained in my book *Gold Panning is Easy*.

NUGGET HUNTING

The term 'nugget hunting' is so ambiguous that no description of it could ever be complete. Even though many articles and books have been written about this method of searching, prospectors generally find the written instructions too complicated. Condensing descriptions of target areas and summarizing only the easiest most productive searching methods has produced the following instructions that are simple but employ methods that have proven successful for both beginning and professional prospectors the world over.

Let me emphasize that literally millions of dollars in gold nuggets are being discovered all over the world today with metal detectors. These devices enable suspect areas to be searched in a manner never before possible. It is reasonable to state that more nuggets have already been discovered with metal detectors than were ever discovered in all the famous old gold rushes.

Using a modern metal detector will undoubtedly produce the best results where gold abounds and large nuggets commonly occur, such as certain "mother lode" areas, the deserts of the Western United States, Alaska, Australia, New Zealand, China, Mexico, Africa and other areas of the world where sizable nuggets appear in nature. Use of the metal detector as an optional gold hunting tool will provide the weekend prospector with many enjoyable and exciting hours of recreation and can unearth riches beyond anyone's wildest imagination.

Instructions

1. Ground balance your detector to the magnetic iron content of the search area in accordance with manufacturer's instructions. This is quite easy with Garrett's Scorpion Gold Stinger or any of its CX computerized detectors with microprocessor controls.
2. Scan slowly and examine every target. This will not be as onerous a task as it might sound to a metal detector enthusiast. Because you are scanning in remote areas, you should encounter few familiar "junk metal" targets.
3. When you have found and precisely pinpointed a target, slip a shovel under it and place all material in a plastic gold pan. If the target is located in a bedrock formation, use your rock hammer and small bar to dislodge it into the pan for observation.
4. Check the contents further with a metal detector. This is an important reason for using a plastic pan since no inspection with a detector would be possible in a metal pan.
5. Follow manufacturer's instructions to determine whether your target is conductive. If so, examine it carefully. If you have not found a nugget, you may have located an area where panning can prove lucrative.
6. Continue scanning, and examine every target response carefully. Always use the shovel and gold pan to make certain that tiny nuggets do not wash away or be lost in cracks in the ground.

Modern metal detectors can be used to locate large concentrations of magnetic black sand, which usually indicate locations of gold. When you find such sand, inspect it carefully for gold nuggets. In dry areas the procedure will vary only slightly. Locate the target with your detector, dig carefully with your hands or a small tool, being careful not to damage the possible nugget.

Identify and examine the target carefully, as described above.

Metal detector earphones are an advantage in most areas since small nuggets generate only a faint response. It is best to dig or investigate visually all targets unless they can be identified absolutely as "hot rocks." Electronic discrimination of modern detectors is a valuable aid in such identification.

Areas with small, loose material make visual identification of targets more difficult. When searching such areas, shovel targets into a plastic gold pan or small plastic cup and check for electronic responses. When you identify a small target in the pan, use dry panning, first, to reduce contents. Then, grasp a handful of the pan's remaining contents with your hand (which must be free of rings and other metallic jewelry) and pass your hand over the detector's searchcoil. Make certain your detector is tuned correctly and move your hand containing the material across its coil. Continue testing material until your hand responds. Then, place contents that generated the response into a can to avoid losing the target. Contents of the plastic cup can be inspected in the same manner.

Cracks and other bedrock sections where gold may be trapped should be inspected with a detector in a similar manner. More detailed instructions are contained in the book I wrote with Charles Garrett, *You Can Find Gold with a Metal Detector*, from Ram.

In desert areas where nuggets can be found and water for testing them is scarce, the metal detector provides the easiest method of recovery. The introduction of modern detectors has resulted in fantastic success stories. Natural elements continually erode mountains, allowing rich deposits to surface; it can be discovered by a metal detector. Even when exposed, these nuggets are rarely detectable by sight alone, and the absence of water leaves electronic detection as the surest and most effective method.

Streams can be a valuable source of nuggets. In heavily mineralized areas where productive mines are located, rich ore specimens are often deposited in streams by natural elements. All targets should be carefully examined before assuming one to be a "hot rock." Valuable antique coins can often be found in streams of old mining districts. The silver-producing areas of Mexico also produce large nuggets that can be easily recovered from creeks and rivers. Small streams created by the melting of large glaciers in Alaska and western Canada often contain nuggets easily found with modern detectors.

Large nuggets encrusted with a black or dark coating have been found, particularly on mountain tops. It is believed that volcanic actions or oxidations of other minerals and materials created the black coating with which the gold is encrusted. Commonly called "volcanic gold" or "black nugget," such discoveries represent a fantastic opportunity for the prospector and are almost impossible to locate except with electronic detectors.

FIELD SEARCHING

The term field searching could easily cover the entire spectrum of prospecting. Because the weekend prospector seeks results with a minimum of effort, we will limit our discussion to areas and conditions most commonly occurring and producing positive results. Remember what volumes have been written concerning most major geographic areas where large discoveries have been made. Technical manuals detailing these discoveries, however are directed primarily at professional prospectors and others in the mining field. Suggestions in this booklet are quite simple by comparison, yet they include procedures used by successful prospectors.

In field searching the successful weekend prospector takes full advantage of the assistance provided by both man and nature in years and centuries past, while utilizing the most modern electronic methods available. If you will seek out these opportunities to discover and identify precious minerals, you can cram an incredible amount of prospecting into only a few short days or hours.

To further enhance your enjoyment of the hobby learn all you can about the areas where you are searching. Research can be fun, and it will help you avoid wasting time in fruitless prospecting.

Instructions:

1. Attach your largest searchcoil to the metal detector.
2. Groundbalance your detector according to manufacturer's instructions and local conditions. Detector should be operated in an All Metal Mode and ground balanced precisely.
3. Search the area. Easier said than done! With the detector and its large searchcoil directly before you, walk across the search area. Establish grid patterns that insure that the entire search area is covered.
4. Investigate all target responses. Because iron deposits often contain valuable minerals, indications of both gold and iron mineralization should be investigated. I recommend that no discrimination be used when searching for nuggets. When employed properly, however, this precise feature on modern detectors can help you determine whether a deposit contains minerals of interest to the prospector. Let me urge you, however, to use discrimination sparingly.

Complete instructions for field searching are contained in the book I wrote with Charles Garrett, *You Can Find Gold with a Metal Detector*, which can be ordered with the blank at the the end of this booklet.

OLD MINES

Old mines, tunnels and other areas of underground exploration can offer a bonanza to the electronic prospector. This is not meant to exclude newer mines, but the newer locations are likelier to have undergone electronic detection. In

those older mines that were abandoned decades ago, however, all the hard work of earth moving has already been completed. It is possible that the original operators missed a vein or "pocket" by inches.

In fact, even if you examine only a few inches deep in the floors, walls and ceilings of an abandoned mine you will have prospected more cubic yardage than the original miners who moved literally tons of earth and rock.

Caution: old mine are dangerous. Always be careful with working around them, and never enter one alone or without permission from the owner.

In mining districts where rich gold pockets were common, secondary enrichments very often occurred. This phenomenon was caused by the deposit's being leached or decomposed, causing gold values to become trapped far away from the original pocket. Such a fine deposit was rarely visible and will usually cause only a slight audio response on the finest detector. In fact, fine gold is sometimes not conclusive enough to cause any audible response on a detector unless it is a high quality, modern instrument.

In Mexico literally tons of pure native silver have been recovered from old Spanish mines with the aid of metal detectors. The almost pure silver was unidentifiable with the naked eye because it was slightly covered. Unfortunately, access and resale possibilities in Mexico present great difficulties, making a discussion of electronic detecting in this rich area moot point.

Arizona mountain ranges are rich in native silver and produce good results for those whose research helps them locate conductive ore patterns. Canadian silver mines in the Cobalt district offer unlimited opportunities to the electronic prospector. The silver here is almost pure and in a native conductive state. The only remaining obstacle is obtaining permission to inspect and remove ore samples from the abandoned mines. Shallow gold mines in Australia and New Zealand are producing fantastic finds when reworked with metal detectors. Prospecting permits are required in Canada and Australia. Obtaining one is a simple procedure with the cost only a few dollars. Do not fail to obtain a permit.

Mine Searching Instructions:

Select a modern metal detector, which will be capable of canceling iron minerals. Such a quality detector will also be able to identify ferrous and non-ferrous deposits and measure their conductivity.

1. Attach a large search coil to the detector for maximum depth penetration.
2. Ground balance the detector for local conditions in accordance with manufacturer's instructions.
3. Search the area with a slow scanning motion of the search coil. Make sure the detector remains in the same position relative to your body to prevent false signals coming from your light, shovel or other tools and metallic items. The search coil should normally be six inches to one foot away from the search area, but this distance can be altered in relation to the presence of magnetic iron. False signals can be caused by the uneven nature of surface areas. Pay close attention to the roof of mine tunnels because an unexposed piece of rich ore could have been left there. Also, scan the floor very carefully. If the mine was producing high grade ore, it is quite possible that the floor might contain a few specimens that are small but rich.
4. Investigate all targets! Often a deposit may be only slightly conductive but still be enormously rich. When a target is detected, use the detector's discrimination feature to determine its content. The target may be difficult to examine because of small pieces of iron, tools, blasting caps or other refuse present. If so, a specimen should be removed by hand and examined with the detector and its coil in a prone position.
5. Always obtain specimens when in doubt. Often the target can be identified as worthless iron, but specimens should be obtained with the rock hammer or small bar for later examination.

6. Ground balance the detector for local conditions in accordance with manufacturer's instructions information on searching old mines is contained in the book I wrote with Charles Garrett, *You Can Find Gold with a Metal Detector*.

MINE DUMPS

The term "ore dump" generally refers to that location where ore from a mine or mines was normally stored prior to milling or transportation from the sites. Other than desert areas where electronic prospectors are achieving amazing results locating large gold nuggets, the most profitable areas for finding gold with a metal detector are the old ore dumps where rich specimens might have been overlooked for one reason or another. Someone else has completed the work here of digging out the material from beneath the earth. Your chore is but to analyze it!

Native silver will often be electronically detected within worthless rock which can be burst to expose the almost pure specimen. Gold nuggets can also be found. They are hard to spot visually and will require bursting larger pieces of rock for hand-testing small specimens with the detector in a prone position. Even the faintest responses can then be readily interpreted.

In the United States, Canada and Mexico where gold and silver often occurred in the almost pure, native state, searching old mine dumps with a modern metal detector is often the most productive type of weekend prospecting. Large specimens with almost pure metallic content and weighing several pounds are being recovered daily at dumps by prospectors using metal detectors. You can see many of these specimens on display in museums and prospecting shops.

Dump Searching Instructions.

1. Attach a medium or large search coil to a modern metal detector.
2. Ground balance the detector for local conditions in accordance with manufacturer's instructions.
3. Search the area by sweeping your search coil in the dump at a height on the amount of interference encountered from magnetic iron in the rocks.
4. Investigate target responses. When targets are located dig or chip them out and isolate them for further testing. Place the detector in a prone position and determine if the target is conductive or worthless "hot rock" by using the discriminate mode on your detector. Accuracy is not always possible with on-site inspection, but it can be helpful, especially if you will familiarize yourself with different ores and metals known to be present in the area you are searching. Always test target samples of conductivity with the detector lying down on a non-metallic surface.
5. Place specimens in an ore bag and bring them home for better evaluation. "Hot rocks" will usually be rejected at the dump through use of just a small amount of discrimination. When visual inspection indicates that a target is located in a larger worthless rock, use your rock hammer to break out the target. This will avoid the necessity of transporting large amounts of worthless material.

DREDGE TAILINGS

Entire river valleys have been dredged by large mining operations. Rocks discarded because they were too large for the trommels sometimes contained nuggets. At other times fine gold and nuggets were concealed in large clay and mud balls. This gold, still in its ancient protective disguise, now lies in large piles along the banks of these streams...awaiting your modern metal detector.

Select an area that has produced large nuggets and one that presents easy access. Be especially attentive on wet days or when the piles are wet because specimens are often easily visible at these times.

I once recovered a gold nugget that weighed 2 1/2 pounds from the dredge tailings of one of the better known mining districts.

Searching Instructions

1. Use a medium or small searchcoil on a modern metal detector.
2. Ground balance the detector for local conditions in accordance with manufacturer's instructions.
3. Search the pile. Often small pieces of junk iron will be found in dredge tailings along with "hot rocks". Identification should never be attempted casually; carefully investigate every target signal. Magnetic iron content of heavily mineralized areas presents too many possibilities for error.
4. Dig out your target for examination. In dredge tailings be very careful in removing rocks that cover a target. Continually check with your detector for responses as you expose it. Because of all the loose rocks, use a plastic gold pan to slip under the target area, and further isolate your target in the pan.

BENCH TESTING

There are three basic methods for examining rock specimens:

Visual (In the Field)

Bench Testing (with a metal detector)

Acid tests (definitely not recommended for amateurs)

Bench testing, there, not only offers a simple method of determining metallic content simple method of determining metallic content and monetary value of an ore specimen but presents the only method beyond visual examination. Of course, you must use a modern metal detector that with ground balance and discrimination capable of correctly identifying metal conductivity in relation to non-conductivity of magnetic iron

1. Lay your detector on a non-metallic surface
2. Adjust your detector to its Discriminate mode with controls set at "zero" discrimination.
3. To determine the conductivity of your sample bring it across the searchcoil.

Gradually increase discrimination until you get no signal. Responses will help you decide whether your sample is basically a conductive (metallic) substance or magnetic iron.

Further instructions on bench testing can be found in most of the books from Ram Publishing Company that you can order with the form in the back of this booklet. I will especially recommend the two books previously discussed: You Can Find Gold with a Metal Detector and Modern Metal Detectors.

BLACK SAND

The term "black sand" has been used several times in this booklet, and some of you may be wondering just exactly what it means. Black sand is simply an accumulation of several minerals, with each weighing more (having a higher specific gravity) than the gravel or dirt in which they have become deposited. Sometimes they contain great values; sometimes they are worthless. Granular sizes will also vary, depending primarily on iron deposits in the area.

A variety of minerals other than magnetic iron or can usually be found in black sand concentrates, including gold, silver, platinum, tungsten, mercury, lead, galena, manganese and zinc. Also to be found are such gemstones as garnets and sapphires along with rare earth minerals.

Never discard black sand until you are convinced that no further gold can be extracted profitably. Remember, some firms purchase concentrates based on their assayed value.

Once again, more detailed information can be found in my book Gold Panning is Easy and You Can Find Gold with a Metal Detector. Both are available from Ram Publishing. You can use the Order Blank at the back of this booklet.

METAL DETECTORS

Be confident that you can find gold with a metal detector! Both amateur and professional prospectors are accomplishing this daily. But, also understand that certain promoters and manufacturers have misled hobbyist into believing that

any type of detector can locate some sort of gold, whether it be nuggets, placer gold or ore veins just about any place they want to search.

This is not true! Two requirements are basic to the discovery of gold with a metal detector:

1. You should be using a modern metal detector with precise ground balancing capabilities and proper, factor-calibrated discrimination.
2. You should always begin by looking in locations where gold is known to exist.

GARRETT DETECTORS

Manual ground balance and calibrated discrimination are vital to a prospecting detector. It must also have a Deepseeking All Metal mode of operation and interchangeable search coils. Several manufacturers build detectors especially designed for finding gold. Because I know them best (and helped in their design) I will discuss only those detectors manufactured by Garrett.

In addition to the Scorpion Gold Stinger, Garrett's new GTI 2000 and any other of its universal metal detectors are ideal for research for gold. The ability to ground balance precisely and discriminate properly make the Grand Master Hunter CX III and CX II, Master Hunter CX and the Scorpion Gold Stinger quite satisfactory, whether your search be for nuggets, placer gold or surface veins.

The Depth Multiplier Bloodhound two-box search coil should be added when searching for deeper veins or ore structures.

The Scorpion Gold Stinger was developed specifically for seeking gold and other precious metals. It is equipped with Garrett's famous 15kHz Groundhog circuit and features a convertible design for comfortable hip mount operation.

Even though they do not have manual ground balancing capabilities, computerized circuitry is helping the GTA detectors to build a reputation for themselves among gold-seeking hobbyists who use them for nugget hunting. There can be no question, however, that the GTA detectors without manual ground balance, will probably miss some tiny nuggets that the Scorpion Gold Stinger, the GTI 2000 or any of the CX detectors will find with ease.

Instructions

1. Always hunt with a metal detector (and pan, too) in areas where gold has already been found. Only after you have gained experience should you try to explore 'new' territory with a metal detector. Gold discovery will probably come more quickly in known gold producing areas.

2. Electronic prospecting requires techniques that coin hunters or beachcombers have probably not encountered. Try to develop these techniques by working with a pro or from the literature listed in this booklet to become successful more rapidly. "Trail and error" in the field can be a slow and painful learning process...expensive, too!

3. Familiarize yourself with various types of ores and other rocks in the area you are searching/ Do this by bench testing with factory calibrated equipment. Learn how your detector recognizes the different ores you can expect to find.

4. Always hunt in the All Metal mode and dig every target! Of course, you can try to check out your finds with factor-calibrated discrimination before you dig (and the GTA's last mode feature is especially handy there).

5. Be Patient.