

White's Electronics, Inc.

1011 PLEASANT VALLEY ROAD

SWEET HOME, OREGON 97386

OPERATORS INSTRUCTIONS



Manufacturers of The World's Largest Line of Mineral and Metal Detectors

MINERAL AND METAL
DETECTORS

ELECTRONIC
MAGNETOMETERS

SUPER GEIGER AND
SCINTILLATION COUNTERS

ULTRA VIOLET
LIGHTS

GOLDMASTER

OPERATING INSTRUCTIONS

For Goldmaster Models 63T, 64T and 65T

To put this instrument into operation, proceed as follows:

Rod and Loop Assembly:

Note Rod Mounting Bracket is located on the bottom of the instrument. The Rod has two sets of Retainer Pins in it, (See Figure #1). One set located in the large end for locking the rod in place, to the bottom of the instrument. The other set located in one end of the small section for locking the two sections of Rod together.

To extend the rod, depress the two pins located in the small rod. Pull the small rod out of the large, align the retaining pins to match the holes in the large rod which has the small rod extending from it, snap in place. Place the loop on the free end of the small rod, removing the thumb nuts from the mounting bolts on the loop. Insert them through the holes in the small end of the rod, install the thumb nuts on the mounting bolts, finger tight.

Spiral the loop cable around the rod. Inserting the large end of the rod into the mounting bracket on the bottom of the instrument, depress the retaining pins and align to match mating holes. Lock into place.

Plug the loop cable into the socket on the front end of the instrument. This socket and plug are marked with yellow alignment dots. Align these dots and insert the plug. This plug and socket are also keyed to allow mating with only the correct pin arrangement.

Battery Installation:

Now open the battery compartment by releasing the latches on each side and swinging the door open from the top. Free the battery connectors by removing the tape. Note two black connectors. This unit is also supplied with two black 9 volt battery holders. Snap the battery connector onto the battery holders, noting the connectors and battery holders are set up to match in only one polarity. Be sure to observe this polarity because damage can be done to the electronics if forced together in error.

You are now ready for operation.

Control Settings:

Turn the Metal-0-Mineral Control to 0 so that the 0 is directly at the top of the dial and is in line with the marker (line just above it.)

The Speaker Control should be turned to the extreme RIGHT. This is your volume control. Turning this control to the LEFT reduces the volume in the speaker and to the RIGHT increases the volume. Normally the instrument is used with full volume.

(Models 64T and 65T only) Turn the Range Control to #1.

Turn the Null Control (White Knob with Red Marker) so the marker is in line with the circle just below the word NULL.

Turn the OFF-ON power switch from the OFF position to the ON position.

If a squeal or motorboating is heard, then slowly turn the NULL Control Knob of the instrument to the left or to the Right, whichever direction lowers and slows the sound until the sound just stops. If you continue to turn this control after the sound stops, it will again start. If this occurs, back the control up until the sound stops and leave it set in the center of the dead spot (where no sound is heard).

The Metal-0-Mineral Control and the Vernier tuning control have been combined into one for this model.

Setting for Metal Detection:

Turn the Metal-0-Mineral Control to the LEFT until the Motorboating sound just starts in the speaker. Adjust to a slow beat. You are now set for Metal reactions.

While this adjustment is being made, the instrument should be held with the exploring loop just three or four inches above the surface to be explored, when using the 10 1/2 inch loop and one to two inches above the surface, when using the 4 inch loop and searching for the smallest objects. The instrument is set on the Metal setting and when the exploring loop passes over a detectable metal object, the motor boating sound will increase. As soon as the loop passes the metal object, the motorboating sound will slow to normal. Native gold, copper, silver and coins are never magnetic and are detectable on the Metal setting of the instrument.

Setting for Mineral Detection:

To set the instrument for the detection of minerals (all other controls the same as for metal) turn the Metal-0-Mineral control to the RIGHT, until the beat starts in the speaker. The instrument is now adjusted for the detection of magnetic minerals and when the exploring loop passes over any detectable mineral with a light magnetic field, the motorboating sound will increase in the speaker and will continue as long as the loop is held over the mineral. As soon as the loop passes the mineral, the motorboating sound will slow to normal. The larger and richer the mineralized object, the faster the motorboating. (Nails and steel objects, bolts, etc., being very hard will usually be detected on the Mineral setting.)

Range Control: (Model 64T and 65T only) Always start prospecting with the Range Control set on #1, and when you detect something that is large enough or rich enough to take the meter hand to full scale (the extreme right), and cause a fast motorboating, then turn the Range Control to #2, and continue to pass the loop over the surface to be prospected, and locate the spot where the reading is the highest and the sound is the loudest on the #2 position. This will be the richest spot or center of the object, or where it comes closest to the surface and nearest to the loop. When passing away from this spot, turn the Range Control from #2 back to #1.

Automatic detection of Metals or Minerals:

SPECIAL NOTICE- For models 64T and 65T that have signal indicating meters, turn the Range Control to the #2 position and adjust the beat until the meter hand is in the center of the scale. The meter pointer will swing to the RIGHT on metal and to the LEFT on mineral.

If you wish to set the instrument for the automatic detection of metals or minerals, you may turn the Metal-O-Mineral Control to the Metal setting, until the motorboating sound is twice as fast as normal. Then letting it motorboat, pass the loop over the metal sample, that comes with the instrument, and you will notice the motorboating sound will increase in frequency and volume. Then move the loop away from the sample and you will notice that the motorboating will slow down to its regular adjusted beat. Then pass the loop over the mineral sample, and the motorboating will slow or cease. If you wish to adjust the instrument for the automatic detection of minerals and metals, so that the instrument will sound off on the minerals and slow or cease on the metals, reverse the above procedure. Pass the loop over your mineral sample and the motor-boating sound will increase in volume and frequency, as long as the loop is held over the mineral sample, and the motorboating sound will cease or slow down the instant the loop is passed over the metal object. This is desirable in checking mineralized veins, as the larger the vein and richer the ore, the louder will be the sound, and the faster the frequency over the richer or highest mineralized spots or zones of the deposit.

Earphones:

To use the earphone, insert the plug into the jack provided. NOTE: this cuts off the speaker giving you privacy in listening.

You may use the earphone whenever you wish. Its special feature being that of concentrating the tone close to your ear. This excludes interfering noise about you.

OPERATING HINTS

When prospecting with the instrument, the exploring loop should be held as uniformly as possible at the same height that you held the loop from the ground, when you adjusted the Metal-O-Mineral Control. If the loop varies up and down more than an inch or two in walking, the motorboating will increase or decrease as the loop is raised or lowered. This is especially noticeable in highly mineralized areas, and the more mineralized the area becomes, the steadier one must hold the instrument and the more careful he must be in prospecting, especially if looking for small objects. You may compensate for this by slowly raising the exploring loop two or three inches, as you would carry the instrument in your normal walking while prospecting. At the same time slowly adjust the Metal-O-Mineral Control until the motorboating is normal at the highest point. The instrument is then adjusted for the variations which would occur in walking and will not motorboat until you detect a detectable object or raise the loop to this high point.

The four inch loop is designed for detecting very small objects, but the loop must be passed very closely over the object, as the field from the loop is highly concentrated to react to very small mineral or metal objects. The smaller the object

the closer the loop must be to it. It will also react to large objects as well, but the small loop should not be placed too close to large metal objects, as this may overload the circuit and give a false signal. For example, if you have the instrument set on the Mineral setting and you place the small loop too close or against an aluminum metal sample you received with the instrument you may get an indication on the metal sample by the circuit becoming overloaded. This may also occur if you have an exceptionally highly magnetic ore sample. If the instrument is set on the metal setting and you place the small loop against the sample, you may get a metal indication. If in doubt, and it is a rock you are getting the indication from, set the instrument on the Mineral setting, and adjust it to a slow motorboating sound away from the rock, then slowly move the loop closer to the rock you are testing. If the motorboating sound increases, then the rock is magnetic, but if the motorboating decreases and stops, then this indicates the rock has a non-magnetic metal content. The 4" loop should always be used when checking along gravel bars for small objects due to the high magnetic content of the gravel.

As you are prospecting with the instrument you may notice that the motorboating sound will increase or decrease for no apparent reason. This can be caused by slight mineralization changes in the soil, gravels and sands or by drift. This must be occasionally adjusted by just very slightly turning the Metal-0-Mineral Control until the motorboating sound increases or decreases to the proper beat.

REMEMBER: When prospecting and you pass the exploring loop over a mineralized piece of float or rock and the motorboating sound starts, do not push the loop any closer to the rock, then you were holding it from the surface when prospecting. If you push the loop against the rock that the instrument is reacting to, you can overload the oscillator section of the instrument and get a reverse indication. When this occurs, you would get an indication on the Metal setting of the instrument for a mineral and you would get a mineral indication on a metal; so always hold the loop as uniformly as possible at the prospecting height that you have adjusted the instrument for, and NEVER touch the object, with the loop, that you are receiving the reaction from.

Instructions for testing the Battery for 63T Models:

To test the two (2) 9 volt battery packs in the instrument proceed as follows:

1. Turn the power switch on, with the loop installed.
2. Turn the battery check switch to each of the 9 volt positions in turn and note the reading on the meter in each position.

New fresh batteries will read 9 volts on the meter. Replace the batteries when the reading drops to 4 or 5 volts, for maximum performance.

After checking the batteries be sure to turn the battery check switch back to the OFF position.

Each battery pack takes (6) 1 1/2 volt penlight AA cells.

Instructions for Battery Testing on Models 64T and 65T

1. Turn the Radio Tuner to 0, so that the 0 is at the top and centered on the line above it. Turn the Power Switch ON.
2. Turn the Metal-Null Mineral Control to NULL where no sound is heard.
3. Turn the Battery Check Switch to each of the volt positions in turn, and note the meter reading in each position. This model uses two 9 volt battery packs, which takes (6)1 1/2 volt Penlight AA cells each. The meter reading should be approximately 35 on the meter. The batteries should be replaced when the reading drops to 25, or the center of the meter scale. However, the batteries may be used as long as the instrument has sufficient volume. When testing the batteries, if you find a low reading, you can tell which pack it is by unsnapping the battery connector clips on the battery pack. When you remove the one under test, the meter reading will drop to zero. Replace the batteries in this pack.

After checking the batteries be sure to turn the battery check switch to the OFF POSITION.

Before putting the instrument away, be sure that the POWER SWITCH is turned to the OFF position, or the batteries will become discharged and damp, and can severely damage the instrument's case. When the instrument is put away for a period of time, it is a good policy to remove the batteries from the case to safeguard against the instrument becoming accidentally turned on and discharging the batteries, as well as damage to the case. Always remove all discharged or dead batteries from the instrument promptly.

If ever in need of service, the instrument should be returned prepaid to the factory, or to one of our factory authorized service centers.

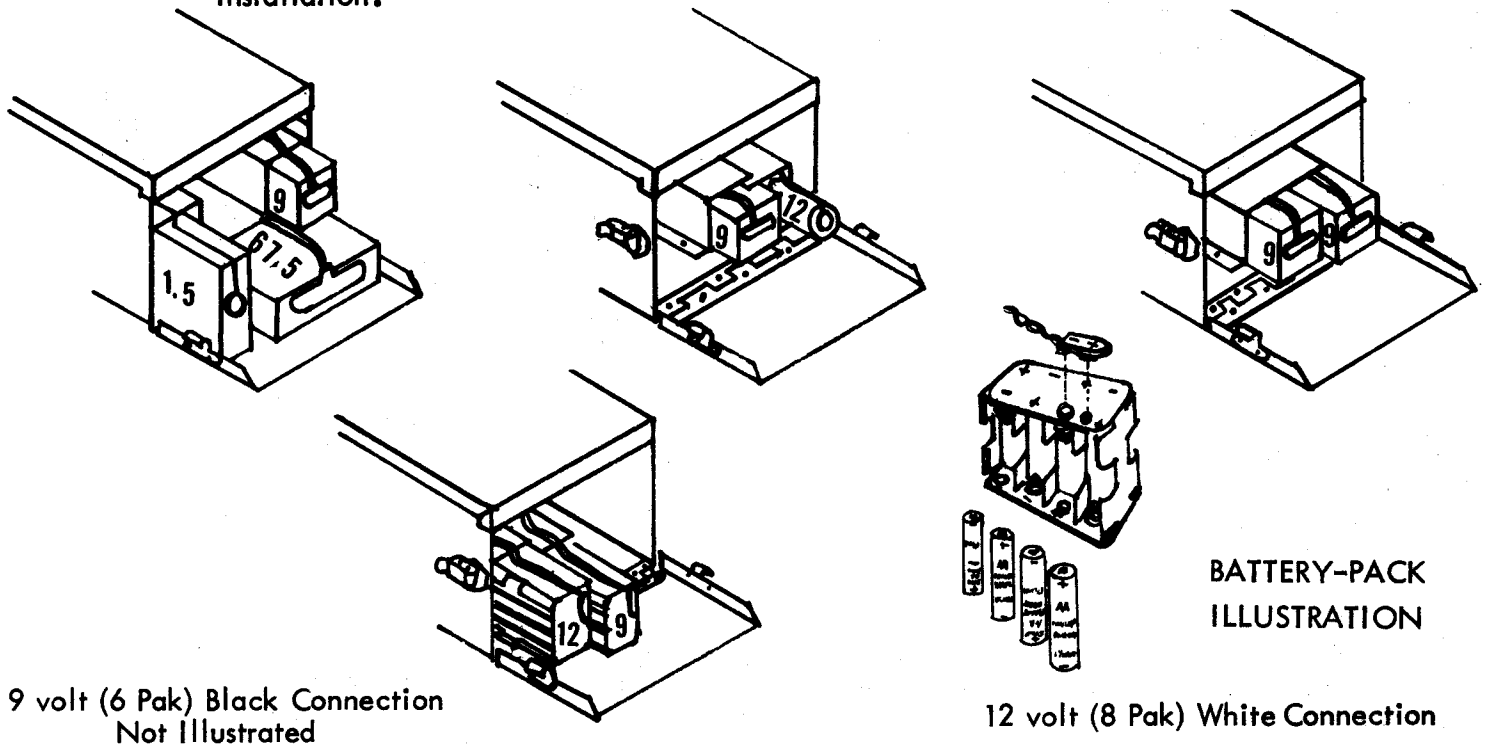
Please send it in "Attention the Service Department", and inclose a note explaining the difficulty you have had with the instrument.

The instrument is guaranteed for two years, to the original owner, except batteries, for defects in workmanship or materials.

WHITE'S ELECTRONICS, INC.
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BATTERY DIAGRAM

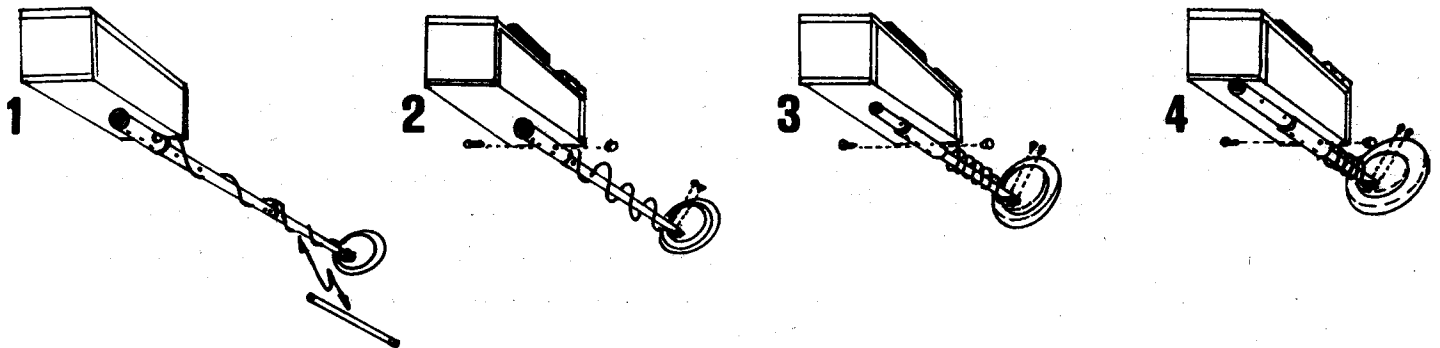
Note... To prevent damage in shipping, the batteries have been removed from your instrument and placed in a separate container within the shipping carton. See following diagram for proper installation.



	EVEREADY	BURGESS
9 Volt -----	246	2NG
12 Volt -----	228	PM 8
67.5		
67.5 Volt -----	467	XX45
1.5 Volt -----	W353	2F
1.5 Volt "AA" (Battery Pack Models) ---	1015	910

When ordering replacement batteries from the factory, please state the instrument model, voltage of batteries and battery number.

INSTRUMENT ASSEMBLY, DRAWINGS

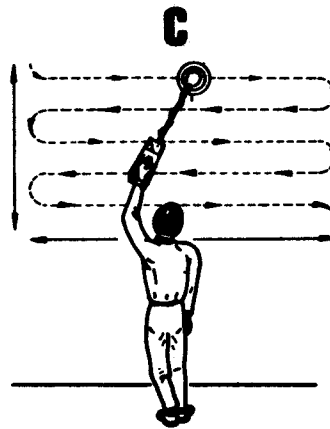
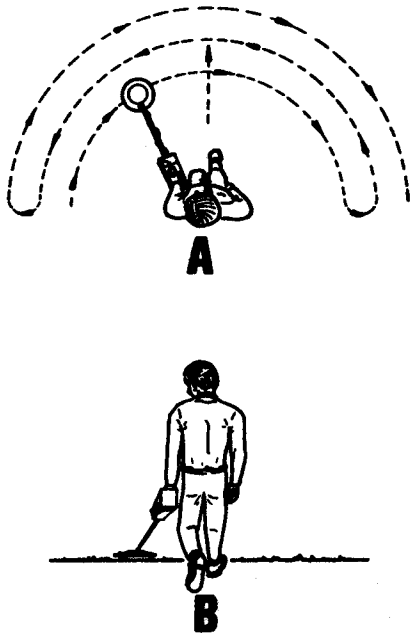


Illustrated in Drawing No. 1 is the easy method of breaking down and assembling a White's Metal Detector. NOTE: When breaking your instrument down for carrying or storing, always replace thumb bolts and screws to their correct places so as not to lose them.

Drawings No. 2, 3 and 4 are hints for the treasure hunter who finds himself searching around old ghost-towns, homesteads, etc. Many places can be rather difficult to get into with a full length instrument. For this purpose we show you how, by drilling a few extra holes in the rods, the instrument can be shortened to accommodate almost, any place a hunter can go.

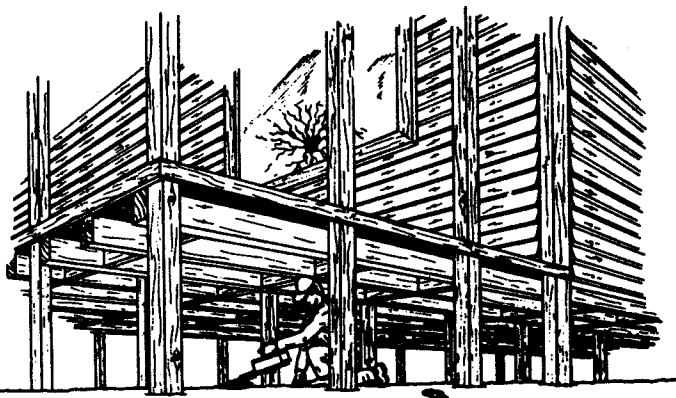
NOTE: Always coil the loop cable as snug as possible without trying to pull or stretch it.

OPERATING ILLUSTRATIONS

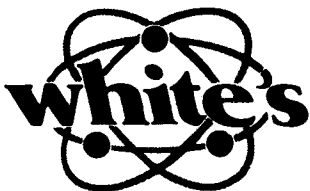


As shown in Diagrams A and B, when you are working on the ground, move forward in a straight line, at the same time, moving the loop from side to side across in front of you. The distance between each swath of the loop is determined by the size of the loop you are using. With a 6" loop you would make a 3" step, with 12" loop you would make a 6" step, and so on. Using this method of hunting enables the hunter to cover more ground, more completely, in less time. For tuning your loop, hold it as close to the ground as possible.

Diagrams C and D show you just one more of the many ways the versatile design of the White's instrument can help you either in prospecting or treasure hunting. This diagram demonstrates the extra ability the design gives in reaching to the out-of-the-way places. This system can be used for checking outcroppings, walls, etc.



Remember, a lot of old artifacts and treasure have been found under old buildings, as well as in the attics. When going through an old homestead, never overlook any place or area that could represent a good hiding place. So if you are planning such a trip, follow these simple illustrations and prepare your instrument. At a time like this you don't want to pass up any chances.



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Proper Care of Your Detector

The following are precautions you should take to protect your instrument from harm, insure its long life, and avoid nullifying the warranty.

Cleaning: The loop and rod or probe are waterproof. They can be cleaned with fresh water and a mild cleanser. After cleaning, however, dry the instrument thoroughly. Caution! The instrument case is not waterproof, and water—if allowed to enter it—may damage electronic components.

Weather Conditions: Protect your detector from excessively cold weather. Freezing can damage the electronic components, the case and/or the batteries. Excessive heat can also damage the instrument. Never leave it in the sun. It's best to lay it in the shade when temporarily not in use. If it's left in a car on a hot day, cover it with a blanket or something similar to protect it from the direct rays of the sun, and then leave the windows slightly open to permit ventilation. Needless to say, protect your detector if you operate it in the rain, as water may get into the instrument case.

Salt Water: Salt water is very corrosive! Immediately after your detector has been exposed to salt water, rinse it thoroughly with fresh water, being careful not to allow water to enter the instrument case. Then wipe it with a cloth dampened with fresh water and dry it thoroughly.

Storage: If you plan to store your detector for any length of time, unsnap the battery and remove it from the instrument. Whenever your detector is not in use, turn the **VOLUME** knob all the way to the "**PWR OFF**" position.

Service And Warranty Information: If your new metal detector is ever in need of service, ship it to us at the factory address below or to one of the Service Centers listed on the back of the warranty statement. Insure it fully, prepay the charges, and enclose a letter describing the nature of the problem. As long as your detector is under warranty there is no charge other than a small handling and postage fee.

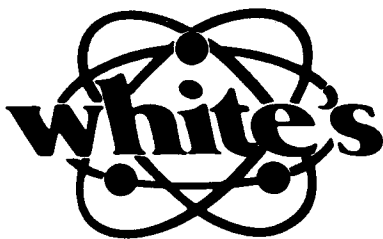
Read your warranty card carefully. It describes completely what is covered and the length of the coverage. If you have any questions don't hesitate to write us. We will be happy to answer any questions you may have.

HELPFUL HINTS AND TIPS

1. "How deep will it go?" Detection depth is determined by five main factors.
 - a. The **SIZE** of the object.
 - b. The **SIZE** of the loop.
 - c. The **LENGTH OF TIME** the object has been buried.
 - d. The **SKILL** of the operator.
 - e. The ground **MINERAL CONTENT**.

The longer an object has been buried, the better you will be able to detect it. A chemical reaction called a "halo effect" between such objects as silver or copper coins and the surrounding soil may cause your detector to register a much larger increase in volume than might otherwise be expected for a small coin. If the halo effect is strong enough, your detector may continue to register even after you have dug up the coin.

2. "What will my detector locate?" Silver, lead, copper, bottle caps, tin foil, pull tabs, cartridge cases, rings, brass and tin cans are just a few of the conductive objects that can be detected. Your detector will not locate sticks, rags, bones, paper, wood or other non-metallic objects.
3. Learn how to interpret the different types of responses from your detector. A nail lying flat in the ground will sometimes produce a double or single reading depending upon whether your loop passed across it lengthwise or across its width. So it's a good idea to sweep your finds from several different directions to try to learn as much as possible about the object you have located. Coins will usually only produce one reading regardless of sweep direction.
4. Rather than waste time, check around the trees for junk items such as foil, pull tabs, bottle caps, etc. This will frequently indicate whether or not someone has already been in the area with a detector.
5. Always "criss-cross" an area when hunting it.
6. After you have dug up a coin, always check the hole again for more. As many as 10 coins have been found in one hole!
7. When beachcombing the best place to look for coins is near the concession stands.
8. Check the shallow water in swimming areas. Most rings and coins are lost when people enter the water.
9. If you make plans for coinshooting, check the history records of the area.
10. Always carry a plastic bag for your detector in case you get caught in the rain.
11. Never ask permission to treasure hunt over the phone. People tend to visualize you using a pick and shovel, making large holes.
12. Join a local historical society or get acquainted with its members.
13. In lawn areas, use a screwdriver of no more than eight inches as your tool. Limit the size of the hole to a **MAXIMUM** of two inches in diameter. Don't forget to fill in the hole. Public and private officials and property owners will be more likely to allow continued treasure hunting if you do no environmental damage.



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