Restoring your Finds like the Professionals

The greatest sense of achievement in metal detecting is when you find something obviously valuable made of gold or silver. When that special event does occur, your find will need special treatment to bring it back to its original state. Silver for example, if found in salt water will be encrusted in a thick black layer of sulphides. Whilst this covering does not in itself harm the object is does take all value away from what might be a saleable object.

It is also a misconception to think all gold recovered from salt water will be in its pristine condition especially 9 carat and lower. This is because although the gold itself may not be affected, metals used to alloy the gold usually is. Jewellery items such as rings, broaches, chains; medallions are the items worth restoration, although it could be something so old that its value is in its rarity.

You probably wont realize this when you first recover a find, because that coating of black sulphides can and usually does hide what the object was constructed of when it was manufactured. It is only on close inspection and careful removal of the sulphide coating that the object can be identified.

As we are dealing with valuables it would be most unwise to use instruments such as knife blades and blunt instruments to scrape away that layer, for in doing so deep scratches on the surface of the metal could render the object worthless. For this reason, electrolysis is used, because basically it's a reversal of the method of the sulphide deposition. Also because it is a very gently way of initially cleaning the object.

ELECTROLYSIS.

Theoretically, all one needs to clean metallic objects by electrolysis is basically a DC power source. This can be a six or 12-volt car battery, a battery charger or any modern DC battery eliminator. Any of the above will work as a simple method of electrolytic cleansing. In operation, two small crocodile clips are connected to the negative and positive leads connected to say a 12 volt car battery.

The positive lead is connected to an electrode usually stainless steel, the negative lead, is connected to the object about to be cleaned. Margarine or ice cream containers are ideal to hold your electrolytic solutions, which is made up from tap water and ordinary table salt. It is best to keep the objects placed into the container about two inches apart, once current starts to flow through the electrode, bubbles should start to appear and come off the object being cleansed. If the reverse happens, you have he leads connected the wrong way around.

As you watch the object being cleansed, you will see small black particles rising to the surface of the solution, this is normal. After a time you might even

find the solution has become a dirty black muddy like solution as the sulphides rise to the surface. It pays to remove the object being cleansed from the solution and wipe it with a soft sponge or something similar to check the progress of cleansing occasionally.

Fresh solutions should be used when cleansing a metal different to the first one. Never clean Silver in a solution you have just cleaned copper in, because you could inadvertently transfer copper sulphates onto the silver object you are trying to clean by electrolysis. The ideal method is to have three separate solutions make up, one for Silver, Gold and another for copper and so on. Care must be exercised, especially when using this method to clean rings containing gemstones.

Usually gemstones are mounted professionally in special mounts using claws to hold the stone into place. Although some of the cheaper gemstones can simply be glued onto the base metal. Electrolytic cleansing can and often will break the adhesion or weaken the bond.

Check the solution before discarding it, you could be throwing away a vital part of the item you are cleansing. In really stubborn cases of build up a very fine wire wool can be used, remembering of course, you are dealing with delicate articles, that should be treated with great care. This is only a brief description of the electrolytic process; most libraries contain a wealth of information on the subject. Although virtually any dc power supply can be used as long as the voltage does not exceed 12 volts, a variable power supply would be the ultimate tool.

SILVER

It is hard to believe but the Egyptians of 3000 BC regarded silver as a metal far superior to Gold. In Europe, silver was considered a precious metal and was used by Greece to mint coins from 600 BC. The Spanish and their discoveries of Gold and Silver in the New World led to large-scale mining. Indians were used as slave labour to work many of these mines in the production of Gold and Silver. These precious metals were stockpiled, eventually loaded onto galleons and returned to Spain. Word of these treasure fleets soon spread throughout the seven seas resulting in piracy.

Queen Elizabeth the First supplied such people as Sir Francis Drake and others with ships and arms to raid and capture some of these treasure fleets. The output and export of Silver from the New World was so great that the metal became so abundant that the wealthy had everyday objects manufactured out of it.

Silver is still a precious metal, as such, items manufactured from it are required to be hall marked. Pure silver, is seldom seen the most common being Sterling Silver that contains .925 parts of pure Silver in every 1000. Occasionally special issues are made of Britannia Silver, which has been refined to .958.4, but this only occurs in England. Other countries do have variants but usually stick to Stirling silver to manufacture their jewellery.

Gold.

. Gold is perhaps, the oldest precious metal used for decoration. It is not known when it was first used but can be traced back to the ancient Egyptians of 3000 BC. who worked mines with slave labour to obtain the precious metal. Pure gold when first recovered and refined is 24 carat, but is usually alloyed with other metals to harden it and make it more durable. Depending on the amount of alloy used, gold can be obtained from 22, 18, 15 and 9 carat.

Countries such as the U.S.A. do put out odd alloys, such as 8, 10, and 14 carat. Because gold is usually hall marked, one can tell just how much gold maybe present in an object. These marks could be in the form of decimal equivalents, i.e.: 9 crt = .375, 18 crt = .750, and so on.

Those marks can also be used to value objects manufactured of the precious metal. Because gold is floated on the stock exchange against International currencies, its price often fluctuates and is always priced against American Dollar. However, conversion to the Australian Dollar is done by a simple mathematical formula which can be done on any calculator.

Simply by dividing the gold price by the value of the Australian Dollar but moving the decimal point forward two places. For example 70.29 becomes .7029, knowing this can save you from being cheated out of the true value of your gold by buyers in the jewellery trade.

These buyers often offer prices far below market value despite the fact that they are unable to purchase gold below that market price. They also forget they have to pay sales tax and account for the gold they purchased. Its essential to know the current gold price to get the best price for your gold and prevent being cheated, the manufacturer wants to buy as cheaply as possible. Gold is a soft malleable metal, which is in reality an element.

As such, it cannot really be destroyed and can always be returned to its original state by refining. Gold, when recovered from the ground always appears in its pristine condition, no matter how long it had been buried. Alloys such as 9 carat, can and do take on a dirty appearance especially when submerged in salt water for a long period of time. It is not so much as the gold that's affected, but the metal used as an alloy.

One must examine heavily corroded objects carefully, for under those layers of corrosion could be a valuable object made of 9 carat gold that would otherwise end up in the junk bin. You would be throwing money away. Gold is used extensively for a large range of jewellery likely to be found with underwater metal detector's.

The common wedding band, or friendship ring being the most common of finds. Shrinkage of the fingers, through loss of weight or hypothermia being the main reasons for their loss.

TOOLS.

Hidden from the public's view in any jeweller's workshop, is one of his most valuable tools, his polishing machine. With this machine, he can make an old dirty ring appear as if it had just left the production line. Anyone can make one of these overpriced devices simply by removing the grinding wheels of a common bench grinder and placing buff spindles designed with a spiral thread on to hold polishing buff pads on either end.

These come in both left and right hand threads, one suitable for each end of the grinder. The right side is usually used to carry the polishing buff and the left what's known as a ring felt, used for polishing the inside of the ring. Spindles can be obtained from good tool suppliers, buffs, ring felts, tripoli and jeweller's rouge can be obtained through lapidary suppliers.

A polishing buff used for tripoli, should never be used with rouge and visa versa, therefore it is essential to have a number of pads available. One for tripoli, one for rouge and another for the final polish. It is essential to remove all scratches and marks from the object to be polished first.

After an object has been treated with electrolysis to remove excess build up of corrosion, deep scratches and abrasions might become visible. Most of these can be removed with polishing sticks. Anyone can make these from strips of wood covered with various grades of sandpaper or wet & dry. Forget about course grades, only the finest of papers will need to be used, with a flour paper for the finish.

A round piece of wood should be used for cleaning and polishing the inside of rings. Some signet rings maybe engraved with the owners initials, whilst this might be fine for the owner it does decrease the value of the ring. Rings such as this will only fetch scrap value unless the initials are removed first. Depth of the engraving governs the method of removal. A variety of very fine files are useful for this purpose, together with a device known as a ring vice.

The ring is held in the vice whilst the engraving is gently filed away. Once the engraving has been removed, it simply a matter of using polishing sticks until all scratch marks disappear. Jeweller's used a variable speed Faro drill for the final polishing prior to buffing. The high cost of these machines put them out of the average person's reach.

Although there is a new hand held machine on the market called the Dremel. It comes with a wide variety of dentist type drills and accessories suitable for jewellery restoration. Some rings, especially those that have been in the water for many years could be broken at the joint.

These can be rejoined by professionals, to make the object saleable and increase the value of the object. Again the cost of the special gas torches, gold solder and know how to use them far outweighs the cost of a simple join. Jeweller's can re-size the ring at the same time. Gold, having been immersed in water becomes hard and brittle and needs to be annealed to soften it

before becoming workable.

This is done by heating until the object becomes a dull red colour before cooling under cold running water. Following annealing, heat stains, flux and oxides will have to be removed by pickling the object in a 1 in 9 dilute solution of sulphuric acid. Acids should be handled with care, kept out of reach of children and only added to water to avoid the possibility of overheating or explosion.

Following the pickling process all traces of acid must be removed by washing in running water. Next stage of the process after you have dried the ring off is to buff it up on the buffer. I should point at this stage we are dealing with a device spinning at about 3000 RPM.

Accidents can and do happen, even to experienced jewellers and polishers. An expensive piece of jewellery can be totally destroyed in seconds if you don't know what you are doing. You are advise to ask a jeweller or metal polisher to show you how he cleans a ring before you attempt to do it yourself. Even then you must use the utmost care and keep your eye on what you are doing,

Never take your eye off your work for one second. It is that one second that all the damage can take place. The jewellers lathe consists of two wheels the left hand one usually holds a small brush, or felt buffing pad to which a greasy red substance called tripoli is applied. Holding the ring about one third of the way up from the bottom of the brush or pad you gently, very gently touch the ring against the brush.

You then slowly turn the ring around in a circle slowly between your fingers at the same time as holding the ring up against the brush or pad. When you have completed the circle, you turn the ring over and do the other side exactly as you did the first. You may have to repeat this operation several times until you can see the gold taking on a bit of a shine. The right hand wheel usually hold the jewellers rouge on a softer polishing pad.

This is the material that is used to give those rings the final polish, that makes them look like new. Great care must be exercised using only the lightest amount of pressure against the pad at all times. Never hold the ring on the pad for more than a second at a time until you gain the experience necessary to know what you are doing.

Follow the exact procedure as you did on the first cleaning buff going all the way around the ring, then turning it over and doing the same on the other side. As you work, you will see how the ring takes on that new polished look, it will surprise you how good it will finally look on the final polish. Having polished the ring to a stage that you feel you are satisfied, you stop the buffing machine and remove the right hand pad by spinning it off.

The next item you should have is a small finger stall pad, jeweller's use for cleaning the inside of rings. You only use rouge on this pad and you have to

work fast and gently with it, because once you put a ring over it the felt spinning at 3000 revs could easily give you friction burns so the utmost care is used.

There are two ways of doing the hard way turning the ring around the felt, or the easy way, pushing it up the felt till its tight and pull it back off the felt quickly. Interiors of rings do not get all that dirty, unless it's a ring that has been submerged for many years and the hallmarks are filled with black muck. You should have checked it out with electrolysis before hand. A word of warning, before attempting to clean a ring containing precious stones of any description inspect the claws to make sure the stone is seated properly and that the claws that hold the stone in are not damaged.

Only use a fine brush with rings that have stones in them, as it is all too easy to drag a stone out and lose it in the carpet. You can also lose stones in Ultra Sonic cleaning machines too.

After the final polishing, we need to clean the ring, ideally you should have an Ultra Sonic cleaning machine. However good results can be obtained using Ammonia, fairy liquid and hot water with a tooth brush and final rinse under warm water. For more information check out your local library or ask a friendly jeweller. Look in the yellow pages under metal polishing.

Happy Hunting ALAN HASSELL the Wizard Maker