ORE DUMPS MAY HIDE MODERN DAY BONANZA Page 1

By Delos Toole

The rush of the 1990's interest in old ore dumps will be comparable in magnitude as to the rush of the old 49ers, who chased the gold nugget fields of the west. All through the 1 800's, gold nuggets were scooped up from the surface of the land much like one would pick strawberries today.

When the gold nuggets ceased to be easy pickings, the eye-balling prospectors turned their efforts from surface searching to digging holes and soon discovered, just below the surface of the land more of the gold nugget bonanza in glory holes, pot holes, shallow sinks, dried up canyons, and ancient basins.

Those eager prospectors stirred up the dirt and gravel like so many busy gophers and marmots would do. Leaving behind huge discarded piles of rock containing unrecognized metals, unseen valuable minerals, elements and rare earth minerals.

Time was when the eager quest for wealth was concentrated on only for gold. World events created a demand for silver and this big demand created more holes to be dug by the prospectors who threw away more seemingly worthless rock and dirt onto newly formed ore dumps.

Time marched on into the future and interest in new minerals appeared and created a demand for new test holes, and new ore dumps at the mine head. Fueled by several wars, the world's appetite for more and different minerals seemed unsatisfying and the hunt was on for tungsten, zinc, copper and lead as well as the dependable gold 'n silver.

This demand for new metals drew thousands of dreamy-eyed would be prospectors out of America's depressed areas and into the western part of the country, to dig still more holes, sink shafts, carve out tunnels and create new lode mines.

These new diggers sent the dirt flying in all directions, creating newer piles of dirt 'n rock, and unknowingly created huge piles of heaped unrecognized minerals. Invisible wealth in rare-earth metals, exotic minerals and unseen valuable rare nobles lay in wait for future prospectors armed with new knowledge and technology to unravel those secrets.

The old-time prospectors unaware of what treasures remained locked in the rocks they discarded, threw their split rocks into the canyons below, made wagon roads, and built up railroad roadbeds with the discarded rock debris. The discarded rock contained ores rich in cobalt, bismuth, rare platinum, uranium and a host of other valuable minerals.

Early prospectors being "sight prospectors~, passed over much valuabie ore which gave evidence as to signs in metallic form. This discarding practice moved tons of dirt'n rock debris onto waste dumps, considered at that time as being worthless material.

Fortunes in unseen minerals were left behind when the old mines were abandoned after the visible gold 'n silver, lead, zinc, copper and tungsten ran out. These old ore dumps have lain undisturbed for more than a hundred and fifty years, just waiting for today's knowledgeable prospector to come along with a field testing kit to chemically analyze its

mineral content and to identify each individual metallic mineral, rare-earth metal and mineralized element.

The instruction kit that comes with the step-method in chemical analysis testing is easily Understood. With varied alterations in heating tests, evaporation of solutions showing color in spectrum, step-additives in numbered chemicals and methods of filtrations, will give results and answer questions as to the Unknown identity of the ore. It will also give an indication of its worth, quantity, percentages and will provide the prospector with reassurance that they have made a quick, intelligent assessment of the discovered old ore dump waste. The chemical analysis testing is semi-quantitative, semi-qualitative and gives results of the ore sample tested in grades of very good, good, fair and poor.

Beryllium is a valuable rare metallic chemical element used to form strong, hard alloys with several metals, including copper and silver. This miracle metal, when used as alloy, makes tools non-sparking, non-magnetic instruments, high-speed bearings and turns stainless steel into a "super metal".

There are 48 very important rare minerals associated with beryllium. A simple test can determine what the sample host ore contains. Should beryllium or any of the companion rare-earth minerals be located in low or high grade deposits, or in pockets of varying quantities near the earth's surface, it is possible to sell in small lots of the material, giving the prospector quick cash without having to become too involved with tons of ore by the carloads, as when dealing in lesser hard rock metals.

The 18 beryllium minerals are the "poor man's road to easy street", along with the overlooked 66 minerals found in the same beryllium family formation which can be uncovered using the easy step-by-step quick chemical analysis testing kit. The following test illustrates how easy and simple this step-by-step analysis can be. Keep this explanation on file as it is an easy test for beryllium. Should you loose the test formula, E-mail me at DelosToolec@earthlink.net

Place 60 drops of cold, distilled water into a clean test tube. Take sodium hydroxide, one-half the size of a green pea, and add to the test tube. Shake and agitate Until it is dissolved. Into this solution add quinalizarin dye powder, an amount equal in size to a half-grain of rice. Mix and shake until this prepared quinalizarin solution shows a purple color to it. Prepare the mineral fusion by placing borax glass in the amount of on-half the size of a green pea onto a piece of chinaware or broken crockery. Make a small depression in the center of this and add a bit of powdered mineral sample from the old ore dump discovery equal to the size of a large grain of rice.

Next take a pellet of sodium hydroxide, half the size of a green pea, and place flat side down on the powdered sample. With a blowpipe, fuse this completely in a lamp flame. NOTE: While still hot, remove specimen sample with a knife blade and repeat the fusion over again. Once more while the specimen is still hot, remove it with the knife blade, then crush to a powder in a porcelain mortar. The next step is to place this crushed fusion onto a clean evaporating dish and add 20 drops of very cold distilled water Using an eye dropper. Stir and mix to help dissolve the mixture. (Use this as a test solution to follow).

Take two small dishes to be used for separate tests. In one of the small dishes, place 2 drops of the test solution. In the other dish, place 2 drops of clear, cold distilled water: we will call this dish a "blank" to be used for comparison. To each of the dishes add two drops of quinalizarin solution NOTE: The blank will have a purple color to it. The dish containing the test solution will have a light blue color to it. If either beryllium or magnesium is found in the test solution, they will be easily distinguishable by the purple color found in the blank dish. Should the test solution not produce a blue color, then the test is complete and you should proceed on to the next step-by-step of the quick chemical analysis testing. If the test does show the color blue, then

proceed with further testing to determine whether the sample of the crushed ore has beryllium or magnesium in it.

Place 8 drops of this test solution into a test tube along with 4 drops of the quinalizarin solution. Mix and shake well. If there is magnesium in the crushed ore sample, the test will turn the solution blue and after five minutes the solution will appear cloudy with tiny blue particle specks in the solution.

Place the test tube in the rack and allow it to set for 30 minutes until the tiny particles begin to settle to the bottom of the test tube as a dark blue precipitate; the solution itself will appear as a colorless solution.

If beryllium is in the crushed host ore sample, there will be a clear like blue appearance to the solution. There will be no blue particles or dark blue precipitate show up in the bottom of the test tube as found in the previous test after setting for 45 minutes; the solution will now remain blue.

Somewhere out in the "boonies" lay thousands of abandoned prospect holes, old ore dumps and abandoned mines where the rocks were thrown aside onto the ore dump and apron that could possibly contain a fortune in rare earth metals.

Maybe that helpful old prospector with his magnifying glass, after looking at that piece of rock that was shown to him, called that black weighty junk as worthless, and it most likely was the chief ore (columbite) of the element columblum which appears to be just common black iron at first glance; a missed treasure, to be sure. Those black, brown or red nodules, which so stubbornly stuck to the riffles in the sluice box and had clung to the sides of the gold pan were possibly not magnetite or hematite, as the prospector thought. With the use of the chemical analysis testing kit those nodules would have shown up as cassiterite, the number one important ore of the element tin.

Perhaps the magnifying eyeglass the searcher was using fooled them once again as they eye-balled the red or brown granite rock speckled with black formations. With a few minutes of analysis testing, the black specs might have proven to be one of many lost fortunes in rare-metals, as tantalite, columbite, samarskite or as cassiterite.

The curious doesn't have to know what one rock or element looks like, nor is it necessary to have an education in the sciences, or the ability to understand the mysteries of chemistry. Throw away the old fashion idea fostered by the 1873 Dana practice of specific gravity, hardness testing, color and physical properties. Do away with the guessing game associated with the magnifying eye-glass. Replace all this with the chemical analysis testing kit.

Of the 92 elements, only a few can be seen with the naked eye and in rare cases at best. This leaves the unseen mystery to be resolved through the use of modern day chemical analysis testing kit, by bringing to focus the reality of the existing rare earth metals, exotic minerals and the difficult to detect valuable elements, minerals, metals and the exotic ores