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A BRIEF REPORT ON THE DEPOSIT MINERALIZATION AND VALUE OF THE COLUMBUS BASIN IN NEVADA.

The Columbus Basin, generally known as the Columbus March, is located in Nevada, some 41 miles west of the old mining town of Tonopah, and is reached very redily by paved highway from Southern Calif. by way of Bishop in Inyo county, from which it is distant some 77 miles. The Tonopah and Goldfield R. R. passes along the Eastern side of the Basin, as does the main highway from Reno and points north, where at the town of Coaldale, on the R. R. near the junction of this highway with the highway from Bishop, and the highway from this point continues on to Tonopah, where again it branches, one branch continuing on the route to the east to Ely and Salt Lake, and the other running south thru Goldfield to Las Vegas, where it meets highways to Boulder Dam, Calif. points and points east. Hence the transportation facilities are of the best.

CLIMATE.

The area is desert, having but scant rainfall, mostly in summer thunder showers, with only slight snowfall, except in the higher mountains surrounding. Snow seldom remains on the ground bt a short time. The climate is good, dry and invigorating, and work is carried on generally thruout the year.

GEOLOGY.

I will not go into the geology further than to state a few facts that have a direct commercial value, and while the area is one of great interest to any geologist, will avoid technical matters, and only give a brief resume of the salient points that have to do with the genesis of the deposit, its probable values at greater depth and the, the source of the valuable minerals contained in the deposit. This also will have a direct bearing on the character and condition of the material which constitutes the deposit and the best method of economical handling, and recovery of the commercial values contained, in it, Briefly: On an old erosional surface of ancient sedimentary rocks, which constituted the surface, and during a period of intense volcanic action, the entire area was covered with flows of volcanic lavas, or porphryes, of great thickness and enormous l teral xtent. This took place at about the beginning of the Tertiary period. Following this period of vulc nism, which was one of great heat, and due to the necessary re-adjustment of the earths crust upon cooling, the entire area was much faulted in two directions, northerly and southerly, and easterly and westerly, dividing the whole area into fault blocks. In turn these blocks underwent a great deal of movement, and were tilted at various angles, elevated nd depressed, and most of the basins cover the area represented by a depressed block, and which in most cases was tilted to a considerable degree. This is also shown by the fact that practically every mountain range of the present shows as a fault scarp. This movement was continued thru a long period, during which a great deal of fracturing, crushing and grinding took place, making the erosion which followedmore rapid along the upturned edges of the various fault blocks. This erosion is plainly shown to be of enormous proportions, and wide extent. Following these events, as is generally the case, there followed a long period of intense thermal activity, or hot water flow from the faults, and there was an enormous deposition of calcareous material deposited on the surface, all of which was mercury bearing, occurring as impregnations of cinnabar. Great

masses of this material are still to be seen as outliers and remnants on the same face at the present time. And the material from the erosion of this formation, which we call secondary, was undoubtedly responsible for some of the mercury now shown to be present in the basin deposit. There are still some hot springs active along the faults in the district which represent about the close of the thermal activity described above. These generally are issuing from typical mounds of the calcareous matsial, which are typical cones with water flowing up thruthe center, but almost boked off by the deposition and hardening of the material.

COLUMBUS BASIN OR MARSH.

This basin is typical of many both in California, and scattered thru the area between the Sierra Nevada and Rocky mountain ranges, and generally called "Dry Lakes" It is an eliptical basin, about 3wice as long as wide, and containing some 110 square miles. It is surrounded by low mountainranges, has no outlet, consequently is a "sink" and represents the end point, or final deposition of all the sands, mud and gravels, coming from the erosion of some 3000 squ re miles which constitute the hydrographic or drainage area, and find their last resting place in this basin. The material making up the deposit is a definitely stratified alluvial deposit, and it is seasonal, and the area is one of scant rainfall, each strata is comparatively thin, gennerally not more than a few inches in thickness, this, as well as the character of the material which make up the strata, vary considerably, because the country is subject to cloudbursts, and when one of these occur, the action is much more violent, and hence a strata laid down, is both heavier and composed of much coarser material, although the fine muds and sands make up the gretest part of the deposit, and boulders are generally absent, and there are rarely any of considerable size. This basin is a depressed fault block, which was also tilted to the north and east, and hence the northeast portion was, and is the lowest portion and by reason of this the material coming to rest in the lowest part, is made up of very finely ground material and very largely very fine mud. This part, comprising about one third of the whole, is crusted with salines, borax, salt and others, generally about 6 to 12 inches in thickness, The water table is shallow and ovr this portion generally only one or t two feet thick, The whole basin is somewhat like a saucer, so that as you go in any direction from the lowest point there is a gradual rise, and in consequence the distanceto water increases in depth until toward the base of the surrounding hills it is from 80 tp 100 feet deep. The writer has spent the past four months in sampling and making determinations of the value of this deposit, with the result that he has proved to his own satisfaction, that it is one of the most remarkable and valuable mineral deposits yet uncovered in the entire history of mining development in this country, or of the world. It is remarkable first, in its great uniformity. In the sampling of many square miles, there are no blanks, and the values are not only commercial, but exceptionally high for placer ground. They are made up of gold, silver, mercury and many other valuable minerals, the MERCURY predominating. It is most remarkable by reason of the fact that it is of such a character that it lends itself so readily to the cheapest methods of handling known to mining, namely the hydraulic. All the conditions are ideal. HERE IS A NATURAL "tailings" dump of enormous extent, a case where Mother Nature has MINERALIZED milled, and concentrated, hundreds of millions of tons of mineral BEARING ROCKS or more properly speaking, low grade ore ready to the hand of MAN.

All of the work that I have done has been done from the practical view point, and based on my 40 years of practical experience, during which time I have covered a wide range of territory, both in examinations, and in development work. I am familiar with, and have examined hundreds of placer deposits, from Canada to the southern end of Mexico, and I have never seen anything to compare with the deposit of Columbus basin, either in average values, volume, and ideal working conditions. The values are remarkable in their uniformity, and careful sampling shows them to be several times greater than any deposit of any where near the same magnitude. I have drilled a great many holes to a depth of 20 feet and more, have never reached bedrock, and have never had a "blank." That the deposit is much deeper than any of the holes, is amply proven. Several wells scattered over the area, have been drilled, by the government and others, and only in one instance was bedrock reached. Unfortunately these drillings were never sampled, the govt. work being for potash determinations, and the deepest well of all by private capital was drilled to a depth of 1 mile, looking for oil. This well got bedrock at a depth of 300ft. In all the holes I have drilled, the values increased materially with depth, and were better at the bottom. Hence I think it both logical, and reasonable, to expe that values extend deeper, and will be richer than those shown in the shallower holes sampl sampled. Since the deposit is younger at the top, being late quartenary, and increases in age with depth, and as all the conditions which are responsible for the deposition of the mineral vales were much more intence in time past, it is to be expected that values will increase with depth.

As before stated this deposit represents material that has come from the erosion covering more than 3000 square miles. All of the material from the eastern slope of the White Mountain range, all of that from the western slope of the Silver Peak range, both of which are highly mineralized, in gold, silver and mercury, found their way into the Columbus basin, and since it is a sink, all that ever came in is still present. There a number of good gold, silver and quicksilver mines, in this drainage area, some of which are now inoperation, and the entire drainage area i is highly mineralized, and the grinding of the material and its travel, meeting numerous reducing agents in this travel, also concentrated the reduced minerals to the condition in which we find them in this basin.

To sum up: Here we have an enormous tonnage of material, which has been mined and milled by old Mother Nature, on a stupendous scale, and deposited in a huge "tailings pond" in the Columbus basin, with none of the values removed, and ready to the hand of man, with abundance of water for working it cheaply, and all the other conditions necessary for the economical recovery of these great values, ideal.

My sampling, by drilling, to a depth of 20ft. and more, shows an average recoverable value of from $5. to $15. in gold, silver and mercury, and there are a number of other valuable minerals shown by analysis that should add to these values. If you figure a single square mile, to a depth of only 20 ft. And I know it is deeper, both the tonnage, and its value in dollars, will stagger even your imagination. We have more land than we can work in several lifetimes, we have ample water, which we control by reason of legal filings in the State of Nevada. We want help from men who have the ability to operate this great enterprise, we are not trying to sell "a p pig in a poke". We only ask for a proper examination, knowing that the property will stand the most rigid examination. We invite yiu to come and be convinced.

Signed,

R. M.

Los Angeles,
October 26, 1939

Mr. Ralph Arnold,
Subway Terminal Building,
Los Angeles, Calif.

My dear Mr. Arnold:

With reference to our conversation this morning and pursuant to your request for a brief statement of the proposition in the Columbus Basin near Coaldale, Nevada, I will undertake to give you briefly the facts that I have found.

As you know, I have been engaged for the past three years in determining the values of a placer deposit in that Basin. The property consists of 11 claims of 160 acres each. The ground is practically level, lying in the central portion of the Columbus Basin on the main highway from Bishop, Calif. to Tonopah and Ely, Nevada, and on to Salt Lake City. It is very favorably located as to ease of access and transportation facilities, being served by two main paved highways, one from Reno to Tonopah and the other from Bishop to Tonopah, and the Tonopah-Goldfield Railroad passes through the eastern portion of the Basin, where there is a railroad station.

The ground is made up of a stratified alluvial deposit which represents the end point of deposition of all the material eroded from a hydrographic basin or drainage area comprising some 3000 square miles. This entire area is highly mineralized in gold, silver and mercury, and the deposition in the Columbus Basin represents the material eroded from this entire area, which, in its travel from a point of origin, has been ground, mixed and concentrated before its final deposition in this Basin.

This Basin is a sink surrounded by a rim of hills on all sides, and the floor of this Basin is some 500 feet below the two gaps through which any of this material could escape. In other words, all of the material ever carried into this sink by erosion and deposition remains.

As you know, I have been working on this proposition for some three years, and have spent a great deal of money in sampling and testing both the value and the best mode of recovery, with the result that has led me to build a milling plant on this ground. Prior to this I did a great deal of metallurgical work in conjunction with some very competent engineers and metallurgists with whom you are well acquainted, the results of which, running over many samples, was very flattering both as to gold and mercury values.

I have planned and built this plant, which has a capacity of from 25 to 50 tons for 24 hours. The plant is complete and has been operating long enough to know that as to mechanical construction it is O. K. I have financed this to this point on my own, but lack sufficient money, about $750.00 to put the finishing touches on and house in the plant for winter operation. The weather conditions in this particular region are not bad through the winter ordinarily, but it is impossible to operate a plant without shelter.

Now as to the value of the deposit and its extent I simply want to say this, that I have sampled it to a depth of 30 feet, and found it remarkably uniform in value, and the values which I am here setting forth are the minimum, having eliminated all of the higher grades, some of which were astonishingly high. Conservatively, I think I am more than warranted in making the statement that this entire deposit, taken to only 30 feet in depth, is of enormous tonnage. That the tonnage is much deeper there is ample evidence, but how deep it may go, I cannot say; but this is true, in all of my work from the surface down to 30 feet there was a material increase in the value both in mercury and gold. I feel perfectly willing to make the statement, and consider it ultra conservative, that this entire material, running into many millions of tons, will average from 10 to 16 pounds per ton in mercury and $10.00 to $15.00 per ton in gold.

In all my many years of experience in most of the mining sections in the western half of the United States, I have no knowledge of any deposit at all comparable in tonnage to this one that will give any such values.

In order to get the needed money to complete and put this plant into operation I am willing to make a very liberal proposition.

To the people who will furnish the necessary money, not to exceed $1000, I will make the following proposition: All of the money will be returned out of the first production from this plant and before any dividends of any kind are paid to anyone else, and as a bonus for the use of this money I will assign an overriding royalty of 4% of the net production.

Yours very truly,

James R. Martin

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