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ACTIVITIES IN THE JOHNSON CREEK QUICKSILVER DISTRICT

On Wednesday, Thursday, and Saturday, July 13th, 14th, and 16th, 1960 I guided Mr. Winston M. Sahinen to the various mines and prospects and other points of interest in the Johnson Creek Quicksilver District in the Ochoco Mountains of Creek County. Mr. Sahinen was employed about two weeks ago as geologist for the Werdenhoff Mining Company, who has contracted to purchase and is doing some development work on the Mother Lode Mine in said district. Mr. Sahinen graduated from the Montana School of Mines in 1953, has done post-graduate work at that school, and was employed for awhile at the Zonolite Company's vermiculite operation near Libby, Montana. His father is chief geologist for the Montana Bureau of Mines. Mr. Sahinen appears to be a sharp, level-headed sort of a fellow, apparently the first geologist of such caliber the Werdenhoff Mining Company has had in their employ at the Mother Lode Mine. However, he has had no previous experience with quicksilver. Consequently he wrote me requesting that I give him a hand.

The following bits of information were picked up during my stay in the area. The Werdenhoff Mining Co. contracted to purchase the Mother Lode property from the Canyon Creek Mining Company for a total price of \$300,000. Beyond the initial down payment of \$10,000 the contract calls for 9 monthly payments of \$1000. each per year or a 10% royalty from production, whichever is greater, until the total purchase price is paid off. I was informed that these monthly payments have been forthcoming regularly since the company began operations in late summer 1958.

During the winter of 1958-1959 a double-D retort was erected and a few flasks of quicksilver were produced from small, high grade ore shoots encountered in prospect excavations on the surface above some of the old under ground workings. Later, apparently during late 1959 and possibly early 1960, a Gulley Mill and two small tables were installed and attempts were made to concentrate the ore before it was roasted. Alas, the Gulley Mill ground the ore to such fineness that a large part

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of the cinnabar was lost due to sliming. The total production from the mine since Werdenhoff took over is probably not more than 20 flasks.

At present the Earley Construction Company of Tacoma, Washington is in the process of erecting a 50-ton Herrshoff furnace. The furnace, purchased from the Pacific Foundry Company is on the property. Erection is expected to be completed sometime in the latter part of August 1960. Robert Earley who recently inherited his father's business, is one of the major stock holders in the Werdenhoff Mining Company.

For some reason or other a new company called the Pacific Development Corporation, has been organized to operate the property by several of the principals in the Werdenhoff Mining Company. It is my understanding that the Pacific Development Corporation is to stand the cost of the furnace. Seven men and a cook were employed on the property during my visit. Of these, two, Mr. Sahinen and Dick Toole, are employed by the Werdenhoff Mining Company and five, including Bill Horne, Bill Reid, George Fowler and Joe Douglas, are employed by the Earley Construction Company. Mr. Horne has been employed in a managerial capacity by the Earley Construction Company for several years.

Since my last visit to the property in April of 1959, several additional trenches and open pits have been dug but no underground work or drilling has been done. During the summer of 1959 a geologist by the name of Sweeny from Tacoma was employed for about 4 months. His total contribution appears to have been a plat of the claims and a single series of a dozen or so channel samples taken from one of the open cuts. The turning points and stations used in the claim survey have been largely destroyed, the boundaries of only one of the many surface excavations were tied in, and points connecting previous surveys of the now caved under ground workings were not established.

Very few samples of significance have been taken. Assay results indicate only the value of small, widely scattered zones containing cinnabar in sufficient

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amount to be visible. These ore shoots make up a commercially insignificant part of the material that must be mined in order to feed a 50-ton furnace. The material between them appears to me to be virtually barren.

Mr. Sahinen has expressed intentions of setting up a small laboratory to assay his own samples and plans to sample the property thoroughly as soon as possible. It is obvious that an adequate sampling job cannot be completed and the assays run by one man prior to completion of the furnace. In addition the company plans to employ a drill and to put down a few holes in the very near future. Little or no thought has been given to where these drill holes can most advantageously be sunk. Apparently this will be left to the discretion of Mr. Sahinen who, unfortunately, has no maps indicating the localizing structures and ore shoots disclosed by the many thousands of dollars worth of dozer trenching that has been done in the past. Knowledge of the controlling factors in the localization of the ore and in many cases the location of the ore shoots themselves exist only in the minds of one or two employees who have little comprehension of the significance of what they observed when the trenching was done. In this area the walls of open cuts cave within a very few days and as a result if these cuts are to be of any value in determining the geology of ore deposition in the Mother Lode mine they will have to be "freshened" at considerable needless expense. It is readily apparent that, unless something in the realm of the miraculous happens, the small amount of ore blocked out and ready to be mined will have been treated in the furnace, providing it goes into operation when scheduled, long before the geology of the mine is sufficiently understood that plans can be made for the development of additional ore. In other words the development of the property should still be considered as in the prospect stage insofar as the potential development of an open pit mine is concerned.

My attempts to aid Mr. Sahinen in understanding the geology of the Mother Lode

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mine was to guide him to the several other properties in the Johnson Creek District and to direct his attention to the presumption that all of the deposits in the district lie in a broad zone of shearing, hydrothermal alteration and quicksilver mineralization that reflects the intense structural deformation of the Clarno formation in the area. I informed him of my presumption that the geologic factors associated with one deposit in the district might be expected to pertain to a greater or lesser degree in the others. Until one is familiar with the geology of the district as a whole, the interpretation of the geologic factors existing in a single deposit is very confusing. I dare say Mr. Sahinen was highly bewildered when we first got together. Perhaps my interference served only to place his bewilderment on a much broader base since both the stratigraphy and the structure of the Johnson Creek District are extremely complex. However, he now knows the answer to several of his problems and realizes that some of the other problems have been considered unsolvable by many besides himself. Detailed observation of geologic conditions as they exist locally are extremely confusing until a general understanding of the major stratigraphic and structural features of the district as a whole is obtained. These factors are relatively simple.

I met and talked with C. W. Ellingson and Stan Sepic who visited the operation on Thursday afternoon and chanced to be introduced to Mr. Ruffo in the Ochoco Inn lobby on Saturday morning. These gentlemen are principal stockholders and officers of both the Werdenhoff Mining Company and the Pacific Development Corporation. It is my understanding that these men, the former is from Olympia, the latter two from Tacoma, have put a lot of their own money into this operation. They act as though they realize, to a certain degree at least, that sufficient ore has not yet been blocked out to justify the erection of the furnace. Their hopes that additional ore will be found is evidently their only justification unless, perhaps, the SEC is forcing them to show something more than a few holes in the ground for the money they have spent. It is rumored that the Werdenhoff Mining

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Company got itself into just such a jack pot in Idaho about nine or ten years ago. According to Mr. Ellingson a 50-ton Tungsten mill the company erected in the Yellow Jacket District has never turned a wheel.

Mr. Ellingson informed me that the Werdenhoff Mining Company has leased the Round Mountain Prospect, two claims near the Blue Ridge, and the old Devils Food Prospect to supplement the ore from the Mother Lode Mine. At present they have no plans for developing or even sampling these additional deposits.

During the past three years there has been considerable opencut bulldozer prospecting in the Johnson Creek District, no doubt much of it stimulated by the activities at the Mother Lode Mine. At the old Independent Mine construction of a gravity mill having a rated capacity of about 6 tons per hour has been recently completed. The mill was employed at the Blue Ridge Mine during 1957-1958. An option on the property and the mill has been taken by Wayne Coleman, a logger from the La Grande area, and his partner Jack Broch. At the request of these gentlemen I visited the property on Saturday afternoon. I learned that their activities to date are identical to those used in the development of this property over the past 30 years. A bulldozer is one of the most efficient earth moving machines ever devised but, piloted by an amateur prospector or would-be miner, it becomes a toy whose clawings and scratchings would threaten the privacies of Hades, be that evil establishment the center of the earth, were it not for unyielding rock and the lack of sufficient "casting" space. I have heard through a fairly reliable source that approximately \$300,000. have been expended over the past 30 years in trying to develop a quicksilver mine on the Independent property. A few small cabins have been constructed and possibly 2000 feet of drilling and about 1000 feet of underground work has been done. The remainder of the money has apparently been spent for bulldozing. So much bulldozing has been done in an area about 1/3 mile in diameter that there is little place left to dig. More re-

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cent excavations have been cut through those of older vintage. In 1952 a map showing the dozer cuts, underground workings and most of the drill hole locations, was compiled but contains no geology or sampling data. The only map I know of that gives any indications as to where an ore body might be is one prepared by George Hogg in 1940 or 1941. Mr. Hogg claims to have blocked out 18,500 tons of ore averaging a little over 5% per ton. The ore was apparently blocked out by a little cat work and a very limited number of drill holes. Much of the assaying was done by panning. The present optionees are planning to open-pit mine this small ore body and treat it in the recently installed gravity mill.

Roy C. Stanton, Springfield, has applied for patent on his 9 claims enclosing the Blue Ridge in Number One properties. I was told that the mineral examiner was to visit the property on Monday the 18th. There is a considerable crop of yellow pine on these claims and I suspect that the Forest Service will be averse to the patent. Obviously all of the 9 claims do not contain cinnabar but if the mining laws regarding mining patents are interpreted as written I believe that at least three or four claims are patentable. The fact that the Blue Ridge and Number One mines have lost money since their discovery in 1930 will be detrimental to Mr. Stanton's success. However, according to my interpretation of mining laws there are sufficient showings of cinnabar to justify patent. If it can be established that the mines failure to develop into profitable operations was because of the extremely heavy ground and water encountered immediately below the surface rather than because of the low tenor of the ore, then, no doubt the patents will go through on at least some of the claims. Whether or not the bad ground and water problems are the main deterrents to the operation of the mines is a question that cannot now be answered. No assay maps are in existence that I know of and the workings have been caved since 1943. That the ground is extremely bad is obvious from surface exposures of the ore zone. However, I suspect that the overall grade of the ore produced to date would not have been profitably

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mineable under any conditions. While some of the ore bodies were extremely high grade they were small and widely scattered, the ground between being virtually barren.

At the old Devils Food mine lying immediately West of the Amity or the Johnson Creek mine at least a dozen dozer trenches have been cut across the Johnson Creek shear zone. These trenches varying from 40 to 120 feet apart and from 50 to nearly 200 feet long, are distributed along at least 600 feet of the shear zone. Much of this work was done under DMEA contract in 1958. Fred Gustaveson sampled the shear zone exposed in most of the cuts finding no ore grade material. The owners, Dave Westbrook and Jack Campbell, Prineville realtors and insurance men, condemn Mr. Gustaveson soundly for his job of sampling. It appears that in two or three places in these cuts, small kidneys of ore running upwards of 100# to the ton were encountered. It is difficult for the owners to realize that these kidneys fail to appreciably alter the over-all tenor of the ore zone. During the past month or so two men, operating on an option, enlarged some of the DMEA cuts and made a few additional ones. According to Mr. Westbrook the option has been canceled due to the failure of the optionees to fulfill their agreement. The property is now under lease to the Werdenhoff Mining Company.

Howard C. Brooks
July 21, 1960