

State Department of Geology and Mineral Industries

702 Woodlark Building
Portland, Oregon

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*Extra copy
Final draft
(without maps
+ pictures)*

Name of property Shanghai Gulch Placer Mine.

This property has been extensively placered and worked for pocket gold, a vein of quartz crystals, the object of current interest, being exposed by the workings on one of the latter operations.

Lessees Mrs. I. Muegge and Mrs. E. Warfel, Baker, Oregon.

Owner Mr. Herbert P. Lambert, Sparta, Oregon.

Claims 65 acres of patented placer ground. (map appended)

Location Lot 39, Section 3, T. 8 S., R. 44 E.W.M. This is 2.4 miles from Sparta, the last half mile being a fair forest road.

Development Work There is an old shaft. This attained an estimated depth of 20 to 30', and it was on a vein of quartz. It is now largely filled in with rubble and only a portion of the vein is now visible. This is the place where the crystals occur. A tunnel, apparently on this same vein, is situated a short distance away. It was driven towards the shaft, but judging from the size of the dump, it is doubtful if it was carried that far. There is no recent development.

Geology Bedrock in this general region is predominately a highly decomposed albite granite with a belt of the Clover Creek Greenstone series of interbedded and metamorphosed lavas and pyroclastics together with some sediments and limestones. (map appended) outcrops are lacking in the immediate vicinity of the crystal occurrence, but from what is to be seen in the pit, it appears that the deposit lies

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in the greenstones, probably quite near the granite contact. Only the hanging wall, which looks to be a highly altered andesite, is exposed. The vein dips 40 degrees and strikes S. 70 W. Only a portion of it is exposed on the sides of the pit, but from what can be seen and from the nature of the material on the dump, it is evident that the vein has a rather open structure, at least locally. Large blocks of cloudy to clear crystalline quartz are erratically spaced in a loosely cemented matrix composed of small crystals, and numerous massive chunks of quartz show open cavities. But few and poorly developed large crystals were seen in place. However, from the number and size of well developed crystals that have been gathered from the dump, it is evident that cavities or an open parting, or some comparable situation favorable to the development of such crystals, exists within the body of the vein.

Production

There has been no organized attempt to develop this deposit, work to date consisting of cursory examination and preliminary sampling to ascertain whether or not crystals with suitable properties occurred there. Such a crystal, weighing approximately five pounds and with a clear tip, was found there and Mr. G. G. Campbell of the Radio Specialty Manufacturing Company, Portland, reports that "We had several samples come in here (from the Shanghai

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Gulch Placer), which were given several tests to determine radio activity and usability. Three of these rocks were cut, one only being of any account whatever. Out of this one rock we secured three or four oscillator plates and, I believe, we finished and shipped two of these." This was the only suitable crystal discovered. Otherwise, comparatively few large, well formed or clear crystals were found, but this is not surprising as the dump is known to have been sorted over by mineral collectors during the past several years and the best specimens have undoubtedly been carried away. Indeed, one party is reported to have taken away a small pickup load. However, an altogether encouraging quantity of small ones and fragments of large ones were found. Picture No. 1 illustrates a representative assortment which constitutes but a small part of the material so collected by the lessees. Picture No. 2 shows selected crystals. The largest one measures nearly four inches across the base. Whereas none of these excepting the small ones are more than partially clear, the one usable crystal found sets a precedent by virtue of which it is not unreasonable to conclude that additional comparable ones exist.

Conclusions and Recommended Development

As a prospect this property merits a reasonable expenditure of money for prospecting and sampling. It merits it not only because the promising show of crystals found to date

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indicates that an economically attractive deposit might be developed, but because of the present critical need of such crystals as well.

The pit should be cleaned out. This will require the efforts of two or more men and a small amount of timbering. And it should be continued beyond its original bounds as it is necessary at this time to expose the vein in such a way as to reveal the structure of the vein for more significant geologic study than is possible at present. It is important in terms of subsequent development and evaluation, to know the exact nature of occurrence of the crystals, that is, whether there be an open fracture in the vein or scattered cavities in which the crystals grow, and if so, why these cavities exist. This may have a bearing on the size of the deposit. In this connection, further exploration in the form of surface trenches to determine the lateral extent of these crystals is necessary. Very few and relatively poor ones have been found on the tunnel dump. This indicates either that this tunnel is not on the same formation, or that, if it is, this crystal development does not extend that far in that direction. If this latter situation be the case, the deposit must of necessity extend in the opposite direction, or be limited in areal extent to the area immediately adjacent to the shaft. Thus, after the

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shaft is cleaned out and deepened, or co-incident with that work, these trenches should be dug. If the overburden does not prove to be excessive, the vein should be stripped continuously along its course in preference to individual pits. Should the deposit prove to be local, it may still extend in depth, so that given a sufficient number of usable crystals per ton of rock to mine, it would still be of value. Mining technique will depend on the conditions found to prevail after the pit is cleaned, but whatever the method selected then, a representative amount of fresh material should be dug and set aside. This material should then be examined carefully and an estimate made of the number of clear and probably usable crystals contained. This will give data on the potential value per ton of the deposit, but this figure will not necessarily be the final criterion for evaluating the property, since this material as mined will likely be in many large blocks with the crystals imbedded and intergrown so that complete extraction of individuals without damage will be impossible. Therefore, as a final step in sampling, an efficient system for the recovery of crystals must be devised and used. The value of the crystals so recovered will then serve as a basis for evaluating the deposit in terms of tonnage and cost of producing.