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PREFACE

Hot Springs, New Mexico June 9, 1923.

Mr. G.C. Holmes Albuquerque, N.Mex.

Dear Sir:

In pursuance with your request for an Engineer's report on the placer mining property locally known as the WICK'S Gulch Placer claims. I am herewith submitting to you the following report, the result of my investigations.

You will kindly keep in mind that my deductions as herein set forth have been arrived at only after most careful field scrutiny and in no wise do I make use of a stated fact without basic reasons to back my assertions. And let me further state that in adhering to this procedure, I have set forth in plain English language my own technical appraisal of this property, attempting at all times to prevent shrouding my meaning with unnecessary technical terms and committing myself most decidedly in opinion where such a decision could reasonably be arrived at.

Furthermore, permit me to impress upon you the fact that throughout my investigations, I have continually kept in mind the commercial rather than the technical aspect of this property, taking as my ultimate objective the possibilities of the former while using the latter no more clearly clarify my meaning as well as to give a brief geological resume of the nature and origin of these deposits, resulting not alone in giving the layman an average intelligent understanding of the nature and occurrence of these deposits, but likewise serving as a reasonable reminder and guide to the placer mining man whose business will be the successful recovery of the values.

This report would hardly be complete without the attached statement of Mr. J.H. Whitham whose many years of practical mining experience lent most valuable aid in the formulation of this paper. A coroboration of his statement is likewise included. Coming from a man like Mr. Robert Martin, President of the First National Bank of Hot Springs, should lend full authenticity to his statement.

I am submitting to you for your personal examination the gold recovered from each individual sample. In the accompanying report you will find tabulated all of these samples with all the necessary information for your convenience. Likewise the enclosed plat will give you the location of the dugouts where these samples were taken.

In conclusion permit me to call your attention to the accompanying plat giving the true location of the original one-hundred twenty acres lying along Wick's Gulch. You will note that this acreage lies both in Sections One and Six. A full survey of the entire area became necessary in order to substantiate the true G.C. Holmes June 9, 1923 Page 2

description. My report and conclusions follow.

Hot Springs, NM

Respectfully submitted, (Signed) Julius Sanchez

Report

Introduction

The land comprising this report consists of 660 acres of Placer Government locations no portion of which are patented. They are surveyed monumented and fully described in attached plat. The description follows - S¹/₂, S¹/₂ SE¹/₂ Sec. 31, T. 15 S., R.6 W., NE¹/₄ Sec. 6, S¹/₂ SE¹/₄ NW¹/₄ Sec. 6, SE¹/₄ SW¹/₄ NW¹/₄ Sec. 6, SW¹/₄ Sec. 6, T. 16 S., R. 6 W., S¹/₂ Sec. 1, T. 16 S., R. 7W.

This property lies about twenty-five miles in a S.W. direction air line distance from Hot Springs, Sierra County, New Mexico. It is reached by the Southern Highway to California which goes through Hot Springs, Palomas, Hillsboro and Deming. This Highway traverses the property about six miles before reaching Hillsboro. It lies in what is known as the Las Animas Mining District in what is locally known as Wick's Gulch.

The District as a whole is characteristically a placer mining District which formerly saw much activity during the early days. The "gopher" like diggings spotting practically the entire area attest to the zeal with which the richer pay streaks were sought. No extensive recovery systems were ever adopted, perhaps on account of the scarcity of water and the subsequent necessity of adopting dry concentration methods. As is usually the case in old mining districts of this nature, many tales of fabulous recoveries are many times heard and very often recounted. There remain however, the very unmistakeable earmarks of a once substantial producing District notwithstanding the very limited ways in which recovery was attempted. And even to this day after any appreciable shower the District is swarmed with gold seekers along the various small water courses whose varing fortunes are presumably well recompensed since their pilgrimages continue yearly.

Placer mining, unlike metal mining previous to where development work has reached such a stage where blocked ore bodies carrying known values have reduced all risk to a minimum, offers a very fair opportunity for business appraisal from a mining standpoint. This is essentially so, since as a general rule, all placer properties cover a set area ordinarily easy of access for sampling purposes and requiring, for the recovery of values their own peculiar individual methods of extraction. These methods are either economical or not and it is here where the practical and

successful operation of a placer proposition hinges. And in this respect let it be said that the work entailed in the compilation of this report will be for naught unless the execution of its recommendations and the solution of the various mining problems herein mentioned is entrusted to a technical mining man. Too often the business of mining has been accepted as a venture whose supposedly fabulous returns offers a loop hole for any serious mistake. This is most decidedly wrong and disaster must of necessity overtake any concern whose management is entrusted to unfamiliar hands. No person of average intelligence would consider for a moment entrusting the affairs of a bank to any other than a man familiarly versed in banking practice whatever other his qualifications might be. And so, a big step forward will have been taken towards ultimate success when the technical mining man has been fully recognized in his own profession.

Topography

The property comprised in this report lies within an area of low relief. It forms a gentle water shed on the East foothills of the Black Range, or which Wick's Hill, Animas Peak, and Secco Mt. form a part. This water shed is in many places broken up by water courses forming the various gulches or arroyos in the vicinity. The deeper of these gulches being Wick's Gulch which has cut down to a depth of fifty feet in some places. The entire rolling lowlands in this area is covered to varying depths by mixed silts and gravels. Drainage is all to the east and continues to the Rio Grande Valley. The area is readily traversable and easily accessible, it being significant that in the compilation of this work an auto truck was used, it being possible to cover almost the entire area in this way.

Mineralogy

It is well to touch lightly on the various igneous rocks of this vicinity. The unland intrusives are significant for their basic nature. In fact, in no instance did I pick up a rock of the acid variety containing free quartz. The texture of these rocks vary from the Andesite of felsitic variety to the more coarse or Gabbroid kind. The latter apparently predominates. Large Phenocrysts or crystals are characteristic in the latter rocks. CRYSTALS OF Horneblende, plagiolase, mica (of the biotite variety) and well crystalline magnetites are commonly found in the stream beds. The general color of these intrusives are red iron stained, although the dark basic rocks are common. Consistent panning along stream beds failed to disclose much free quartz.

The nature of gold as recovered from the various samples taken varied from the more coarse variety to the very fine, all however, being granular and rounded. The gold is remarkably pure possessing a bright yellow tinge.

Geology

The entire area of both igneous uplifts and gravel strata belong to the Tertiary age. Along Wick's Gulch there follows a fault line perhaps merely a contraction break in which the stream followed a coarse of least resistence. That the various gravel layers are very recent, is attested to by the fact that deposition took place subsequent to the formation of the break of the basal formation on which these gravels lie. That is to say, the identical gravel layers are found in the stream bottom, as are found along the 50-foot sections in the gulch. Block faulting would be the next only explanation and this along such an irregular twisting course of this gulch, is in my opinion impossible.

Four distinct stratas of gravel were laid down. A blue print of a section along the gulch is included elsewhere in this report. You will note that twelve feet is the thickness of the upper wash. This thickness varies to less than a foot in the more eroded areas to perhaps twenty feet along the arroyos to the north where their wide gentle drainage offered conditions favorable for accumulation of silts. This particular upper strata is composed of present day loose soil and wash, the accumulation from upper drainage areas.

Below this upper strata comes three feet of gold bearing gravel possessing an unvarying blackish yellow tint. It is composed of rounded boulders with equally rounded grains of hematite and magnetite indicating long transportation and consequent long rolling action, bringing about the rounded shape of the gravel. The gold particles are likewise granular and rounded which conclusively points to an origin elsewhere than this immediate vicinity.

The debarkation between the upper strata and that of the basal strata upon which this gold bearing gravel has been layed, is very sharp. Both the upper and lower strata being wholly barren and possessing no gold values whatever. It's thickness is likewise varying, having been subjected to the same conditions at one time as the upper gravel strata is now undergoing.

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Below the gold bearing gravel, acting as a basal formation for it, is sixteen feet of a mixed loose gravel whose upper portion is well intermixed with a washed white dolonitic material forming a soft cement for the gravel and consequently making an ideal basal formation. This material is locally termed "caliche" and forms a clear indicator of the bottom of the "pay gravel". This gravel likewise consists of rounded boulders somewhat intermixed with a more angular kind. There is unquestionably a certain period of time separating the deposition of this gravel and the upper gold bearing gravel. This is indicated by the "caliche" strata which forms part of this gravel strata and which was undoubtedly eroded from some lime magnesium beating formations then existing and layed down during this period of separation of the two gravel strata. No "caliche" is found in the gold bearing gravel as a general rule, unless a secondary movement has caused intermixing which seems to be the case in several local instances. These movements have had a tendency towards better concentration of the gold values along the lower portions of the gold bearing strata with the result, that ordinarily better gold value are panned in these places.

The bottom strata consists of twenty feet of tight fairly well cemented gravel having a pinkish hue. This gravel is distinctly made up in the major part, of the breccia and disintegrates of the local igneous intrusives. It is only significant as forming the bottom strata overlaying the basal Tertiary intrusives, it being also barren of values.

Distinct contacts of the various Tertiary intrusives are common. Later Dykes of igneous intrusives traverse the West uplifts. I have indicated in the accompanying plat, a dyke of a basic intrusive which traverses Wick's Gulch. It bears no importance to the property except perhaps that it may serve to deviate the underground percolating waters from the upper water sheds precluding a possible strong water supply by drilling below the dyke. I have discounted this theory however owing to the broken nature of the country and although a similar reason prevents a positive assurance of a certain productive drill site, nevertheless it is equally certain that this dyke will have no bearing upon a possible lack of sufficient water supply.

Sampling

The accompanying plat has on it numbered and located, each sample taken. Below I have tabulated the results in terms of cubic yards of gravel. The miner's pan was used exclusively and water aided in bringing about the results. Owing to the inability of recovering the finer gold by this method, the results obtained are necessarily lower than the actual. About one to one and a fraction cubic feet of gravel was cut to each sample and the fines carefully swept up. The amount of overburden in each instance has been noted and from this date my computations as well as deductions have been arrived at.

Sample	Wt. of	Thickness	Amount	Quantity	Wt. Gold Nature
	gold	Pay Gravel	Overburden	of sample	per Cu.Yd. of gold.
1	1.5 gr.	5.0 ft.	2.0 ft.	0.78 cu.ft.	52 gr.
2	0.3 gr.	1.0 ft.	3.0 ft.	1.20 cu.ft.	8 gr.
3	0.3 gr.	4.0 ft.	4.0 ft.	1.20 cu.ft.	8 gr.
4	0.8 gr.	2.0 ft.	3.0 ft.	1.20 cu.ft.	18 gr.
5	0.2 gr.	0.5 ft.	2.0 ft.	0.50 cu.ft.	12 gr.
6	0.3 gr.	3.0 ft.	5.0 ft.	0.60 cu.ft.	14 gr.
7	0.1 gr.	2.0 ft.	4.0 ft.	0.90 cu.ft.	3 gr.
8	None	None	4.0 ft.	0.40 cu.ft.	None (Testing lower gravel)
9	0.9 gr.	2.0 ft.	4.0 ft.	1.20 cu.ft.	2 gr.
10	0.8 gr.	4.0 ft.	6.0 ft.	1.20 cu.ft.	18 gr.
11	0.4 gr.	2.0 ft.	6.0 ft.	1.20 cu.ft.	9 gr.
12	0.2 gr.	1.0 ft.	2.0 ft.	1.20 cu.ft.	5 gr.
13	1.0 gr.	1.5 ft.	5.0 ft.	1.00 cu.ft.	27.0 gr.
14	0 3 gr	1 5 ft	3 0 ft	1 20 cm ft	14 gr

Average thickness pay gravel----2.0 ft. Average thickness overburden----4.0 ft. Average wt. gold per cu. yd.---- 16 gr. VALUE -- 70¢.

From the above tabulated results it is apparent that the samples ran on an average about the same and that an average of better than seventy cents per cu. yd. can reasonably be expected insofar as the weight of no exceptional size nugget is taken into account nor is the whole of the finer gold included here. Much of it was panned away.

It is a noteworthy fact that as a means of comparison a two and one-half cubic feet sample was carefully run in a socalled "dry washer" or concentrator netting an average recovery of eighteen grains of gold per cubic yard. It is thus seen that the miner's pan is little if any better than the dry concentrator, neither being capable of better than two thirds recovery.

WATER

There is at present no available water on the premises. About one and one-half miles due west of the property is located the Wick's gold mine, the operation of which was partially suspended because of the flooding of the mine from the 400 ft. level. Not over two miles due south of the property flows the Perchy river, a permanent stream. One mile due north of the property is Hilcher's well, dug it is claimed, forty feet to water. This, however, is shallow gravel water and undoubtedly not in quantity. These indicative factors point strongly to a possibility of obtaining permanent water by means of the drill.

ACCESSIBILITY

The property is traversed by the highway to California by way of Hillsboro and Deming. It is thirty miles from Hot Springs, and six miles from Hillsboro. The roads are in a fair traversable condition. Lake Valley is the nearest railroad thirty miles a little west of south of the property.

REMARKS

After all is said and done it is the actual economical recovery of the values that any concern is primarily interested in. Nevertheless, there is a certain routine procedure that an engineer must of necessity go through in order to arrive at the results required to base his recommendations on. It is folly of an engineer and meaningless of any man to offer a conclusive opinion on mere casual observation. On the other hand it becomes of no real importance for an engineer to delve deeply into theories and deductions of a highly technical nature such as become of no consequence to the true issue at hand. Hence, I have desisted from any other than a practical array of this property from a commercial standpoint.

RECOMMENDATIONS

Elsewhere in this report I mentioned the fact that the overburden in certain portions of this property is so heavy that it precludes economical recovery within these areas. There is however, a total of at least one hundred acres of recoverable land whose average overburden is four feet and whose gold bearing strata is two feet. There are therefore 3,200 cubic yards of gold bearing gravel per acre whose total value at seventy cents per cubic yd. is \$2,240 making a total recoverable gold value of two hundred twenty four thousand dollars (\$224,000).

From the above figures the property assumes the proportions of one whose management should be entrusted to trained mining Water being a very essential factor without which the men. property becomes of no value, it becomes my duty to most strongly recommend expenditure necessary to insure permanency of water I urge that you strongly consider the present and future supply. cost of the uncertainty of a well drilling venture in contract with a pipe line from a permanent supply whose gravity head will give you the essential pressure required to manipulate at least two hydraulic pressure gins. I furthermore urge you to consider the possibilities of eventually renting or selling your water supply to those northern placer areas requiring some. Above all, I recommend the fine gold amalgamator designed by Mr. Whitman believing it a very efficient and economical contrivance to work in conjunction with the sluices. In fairness to Mr. Whitman I am leaving out the description of its method of working. In conclusion, I want to place myself on record as wholly opposed to any so-called "dry washers" or concentrators as being both inefficient and impractical as a recovery system for this area.

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CONCLUSION

During the process of future operation of this property, various mining problems will present themselves, both in the mode of stripping the barren overburden as likewise in the mode of more efficient recovery. I urge therefore the constant study of these problems with a view toward ultimate maximum economy of operation. Most important of your problems will be the recovery of the finer gold values, which is indispensable to the profitable operation. Certain it is that with good management and the carefull heeding of this report the successful operation of this property will be assured.

As has been my custom in former reports, I am submitting for your own personal information a short brief of my qualifications.

Graduate in Mining and Geological Engineering two Degrees, New Mexico State School of Mines.

Asst. Engineer for Shannon Copper Co., Metcalf, Ariz. Asst. Geologist Detroit Copper Co., Morenci, Ariz. Asst. Engineer Phelps Dodge Co., Miami, Ariz. Reconnaissance Geologist Midwest Oil and Refining Co. of Wyo. Varied underground experience covering five years throughout the Southwest.

(Signed)

JULIUS SANCHES Mining Engineer STATE OF NEW MEXICO, : : SS. COUNTY OF BERNALILLO :

On this 12th day of June, 1923, before me personally appeared Julius Sanchez, to me known to be the person described in and who executed the foregoing instrument, and acknowledged that the same is a true report and that he executed the same as his free act and deed.

My commission expires Jan. 17, 1927.

(Signed) D.S. Watner Notary Public for Bernalillo County, State of New Mexico.

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