Yuma Co., Arizona

The ORO FINO, MIDDLE CAMP, and LA CHOLA Placers, located in in the Plomosa Mining District, about five miles from the town of Quartzite which have been reported on and examined by the following Engineers:

Professor John A. Church, Professor of Mining Mineralogy and Metallurgy, Columbia University, New York City, and Professor of Mining and Metalurgy, Ohio State University.

Captain George D. Stonestreet, Former Inspector of Mines for the British Government in the Transvaal, South Africa, from June 1st, 1901 to May 31st, 1904. Manager for Durban & Roodepoort Deep Limited, Johannesburg, South Africa, and for 12 years with Hon Cecil Rhoades.

George Walker, E. M. B. I. M. of Los Angeles, California.

Howland Bancroft for the U. S. Government.

Frank C. McClure, for the bureau of Mines, State of Arizona.

F. W. Remy, Geologist and Consulting Engineer, Los Angeles, California.

For location see Plate IV, USGS Bul 620 C & Middle Camp Wtr Topo Map.

REPORT OF
Professor JOhn A. Church, New York City
Geologist aNN Mining Engineer
On
A Chola Gold Placer, Arizona.

INTRODUCTION.

Professor Church is a Mining Engineer of eminent and high standing in his profession. He was graduated from the Columbia School of Mines, and afterwards became the acting Professor of Mineralogy and Mteallurgy, Columbia School of Mines, and professor of Mining and Metallurgy in the Ohio State University. Prof Church has eaminined many of the important mines of the United States, among them being the famous Comstock Lode. He was for four years in the service of the Viceroy Li Hung Chang opening silver mines in Mongolia, and introducing American methods and mahihery. He nos says:

I have made an exhaustive examination of the Plomosa Placers lying east of the Colorado River, and am strongly impressed by their unusual richness. They lie in the Pomas valley, a great north and south depression, with the Plomosa mountains forming the eastern boundary and north-west extension of the Castle Dome Range .

Pomas valley runs northward for 30 or 40 miles, and is from 10 to 15 miles wide. It slopes to the north and offers a very extensiv field.

TWO GREAT PLACERS.

In this valley lie the two great placers, which it is proposed to operate. On the eastern side of the Plomosa River is the Plomosa Placer, and on the western side an extended deposit of gold bearing gravel, which in various parts bears the name of the La Chola- Oro Fino and Middle Camp.

The Plomosa placer is also very extensive; but how large I cannot say, as the time permitted me in this examination was sufficient only to cover the territory half a mile long by 1500 feet wide.

THE OLD FASHIONED WASHERS:

Men with dry washers have operated along the side of the mountains for a lehgth of ~~1~~two miles, and I judged the length of the gravel deposit along the line where I sampled to be three or four miles. Its width going from the mountains westward I found to be four and one half miles.

The thickness of this great deposit could not be ascertained, as there was no means of sinking a shaft; but there are deep ravine cut into the gravel by floods from the mountains, and they afford miles of banks from 10 to 15 feet high, in which the upper layers of Gravel are well exposed. It was in these banks that I took my samples, scraping off the surface and cutting into the undisturbed grave with careful avoidance of any material that lay in the bottom of the ravine.

A MODERATE ESTIMATE:

My sampling merely gives the value of the upper gravels and they were taken so as to be truly representative of the hugh body of this material that this placer contains. I have not introduced any allowance for the higher values of the bedrock.

This placer is different from the gold gravels usually found, and having somewhat angular fragments of rock instead of thorely rolled pebels. The distance from the mountains, form which the gold is derived, is small, and the rushes of water which brought th the gravel down were probably of short duration that complete rounding of the water worn pebbles was not produced. Much of the gold is angular in shape.

ANOTHER HIGH QUALITY

Across the valley and about 12 miles from the Plomosa Placer, is another bed of gravel of similar extent and north and south range and at the point in question consists of quartz and some shale overlying granite. A hill of eruptive rock lying east of the gravel seems to part of the flow that crossed the valley and now forms the southern boundary of the Plomosa Placer as well as the Middle Camp.

THESE GREAT PLACERS:

The western mass of gravel is occupied at various places by three camps all rich in gold but differing materially in the character of the gravel.

Middle Camp, the most northerly of the three, has granite gravel. Oro Fino, in the center, has much porphoritic slate, and A. Chola, at the south, is mostly composed of quartzite and schist pebbles. Their differences are accompanied by equally marked distinctions in the character of the mining zones. At La Chola near th the mountains there is silicious cement, very rich, but also very hard, that requies it to be broken with powder before going to the dry washer.

AT ORO FINO, THE SMALL BEDROCK IS VERY NEAR THE SURFACE:

The sampling done was mainly Middle Camp; but in Oro Fino, a small sample, only twenty pounds of the bedrock was obtained that gave $2.53 to the cubic yard a result which is poor for the bedrock seam in that locality. Another of nearly a half a ton, most ordinary gravel, but included 45 lbs of bedrock gravel yielded $1.02 per cubic yard.

The extent of this vast body of gravel is about the same as the Plomosa. The Middle Camp Placer occupies the east and west valley, crossing the mountain range a mile wide, and four or five miles long. The total length is greater than this but the bedrock rises to the west and the gravel is thinner. This is the chosen location of the dry washer, who takes his machine to the point where the bedrock can be rached quickly. There the rich seam gravel on the bedrock yields from four to ten times the value of the thicker gravel, and in the crevices he obtains nuggets worth from $10/00 to $25.00.I obtained some of these from the man that I employed, he having taken out altogether $42.00 a few days prior to my reaching the camp.

La Chola Camp, south of Middle Camp, lies along the foot of the mountains like the Plomosa and is three or four miles in length. Taking the camps together, the gravel is about the same as at Plomosa, and I sampled gravel from one shaft 47 feet deep, and from another 60 feet deep. The area of this ground covered by this sampling was larger than at Plomosa; being three miles long and a quarter of a mile wide.It would require severalmonths to open this ground sufficiently to ascertain its actual depth and extent.

Among the shallowest known depth, 16 yards, and at 53 cents

per yard there would be $19.000.000.00 in gold. The depth of the gravel is irregular in passing from Middle Camp thru the Oro Fino to La Chola, but it is probable that actual quantity of the gravel is ten times that included in the area of my sampling, and may bea much more, at La Chola, but it is probale that the actual quantity of gravel is ten times that included in the area of my sampling and may be much more.

The locality of these placers is among the oldest known portio of Arizona. Forty years ago the Colorado River was the main gateway of this territory, freight entered by this way for many years, and mills are still standing on the river.

THE ABSENCE OF WATER:

The value of these placers was known to miners who in that early day passed over all the region adjoining the Colorado; but th the almost total absence of water in the mountains compelled the miners to pack their rich dirt to the river, or to a distant National Tank to be wshed. Oro Fino was the most celebrated camp of that day. Here the soft shale bedrack rises to the surface and when the art of dry washing was learned, the rich bedrock was the scene of the active work and most of it has been washed and re-washed a dozen times.

The placers mentioned above are not the only ones on the line. The upper part of the pomas valley is barren of water, but after heavy rains men have penetrated and found the gravel on which they worked while they could. That is all that could be said of what is valuable ground.

On this property on the Colorado and on the western slope of the mountains in which the Middle Camp lies, are well known and rich placers, and they have the distinction of producing the purest gold in the world, selling for $19.00 an ounce in the field, while the gold from other camps brings only $18.00.

IMMENSE VOLUMN.

The gravel whaich the company ought to work, being of such immense volume, was passed over as low grade. It was taken for granted that such accumulation must be too poor to work by this method, and it was not untill my sampling that the experienced dry washers employed by me discovered that there are parts of this ground, of great deposits where ten dollars per day may be made and washed by one man and held that same may be obtained most any place.

RETURNS VERY LARGE.

When operations on a large scale are applied the these gravels the returns ought to be very large, and the situation is such that the amount of gravel moved will be limited only by the means applied to move it.

In quantity these placers are surpassed by other localities, but these are mostly of an inferior grade? The examination I made indicates the the quality of the gravels of the Pomas Valley are superior to those of others of equal bulk.

The gold placers of this section are of very unusual richness and of such an extent that they may be worked on a large scale for many years.

(Signed) John A. Church. E. M.

REPORT OF

THE MIDDLE CAMP PLACER.

Located in
THE PLOMOSA MINING DISTRICT.
By

Capt Geo D. Stonestree,, E. M. B. SC. M.
(Copy)

A report upon the property known as the Middle Camp Placer Mine situated in the Plomosa Mining District Arizona, about five miles from Quartzite. Approximately 18 miles from Blythe, California and about 30 miles from Bouse, Arizona. A station on the Phoenix branch of the Santa Fe, R. R.

MAP OF THE PROPERTY:

Accompanying this report and made a part of same is a sketch map showing the claims and their relative location to adjoining Oro Fino holdings.

AREA UNDER REPORT:

This report covers an area of 1300 acres in 28 claims. These claims vary in size, ranging from 20 to 130 acres each. The shortcut highw way from Los Angeles to Phoenix runs along the southern boundary of the holdings.

WATER:

I have changed my views somewhat decidedly on the water question since making the Oro Fino report. I find that water can be developed about 5 miles from these holdings, and we believe that water can be developed right on the ground. Elevated reservoirs could be built if necessary to give a strong head to a gravity flow//. As before mentioned, the bringing in of water from the Colorado River. It is also worthy of some consideration, and should be looked into. But again I repeat, while firm in the belief that ample water can be developed locally, I still prefer that the matter be reported on by men specializing along these lines.

GEOLOGICAL:

The geological horizon for a distance of 10 or 12 miles north and south shows a decided mineraliztion complex for within this environment one finds ledge matter of gold, silver, lead, tungsten, and three notted placer fields, Namely; The Middle Camp, The oro Fino and La Chola. The Middle Camp being the most northerly of the three, lying at the base of the Dome Rock Mountains. The gold placer having its origin from the ledge matter of these hills, which had a greater altitude in past ages, but thru contraction and expansion due to the elements, erosion took place and the waters carried the mass to its final permanent bed. The major flow came from the north and west, and due to the fact, the nroth-eastern portion of the Oro Fino property was given an added enrichm ment.

The placer itsself consists of the usual rich but loose gravel on the surface, with the lower gravel in a semi-cemented condition. The gravel is composed of about 50% aluvium. The lower portion however is not so hard as the La Chola and Plomosa placers, because the lime carbonate has been more or less leached out after dep osition. This is worthy of note, as it will lessen the cost of

operation decidedly as compared with the La Chola and others.

The Middle Camp Placer consists of grantie gravel while the Oro Fino has a porphoritic slate, and the La Chola to the south is mostly composed of quartzite and schist pebbles, so hard, that while very rich it must be mined with powder before going to the dry washers.

On the Middle Camp property there are no large boulders to contend with and a steam shovel or other similar equipment would have no trouble in handling several thousand yards per 24 hours per day.

BLACK SAND AND CHROMIUM.

Black sand and chromium are by-products of this placer and consist of Hematite(Iron) and chromium, or chromite. Both of these elements are of commercial value, the hematite carrying in gold values assaying from $10.00 to $500.00 per ton of Black Sand. The black sand content will average 1% of the gravel. 1% represents 20 lbs to the ton of 2.000 pounds. 100 yards of gravel will yield more than one ton of black sand, and should there be installed a plant that will handle 2.000 cubic yards a day, you will net more than 20 tons of black sand and concentrates.

These concentrates have a value of from $10.00 to$500.00 per ton, would mean an average of $255.00 per ton of black sand and concentrates

Gross value of 20 tons per day at $255.00 per ton equals $5.100 but let us base our figure on a lesser amount, $150.00 per ton.

20 tons black sand and concentrates at $150.. per ton	$3.000.
Let us figure the free gold content at $1.00 per cu. Yd.	$2.000.
	$5.000

Gross for 365 days $1.825.000

OVERHEAD PER DAY
The old system of sluicing with steam shovel or darg line should not exceed $150..00
Operating expenses for 365 days at $150.00 per day $54.750
Net income for 365 days at $150.00 $1.770.250.

The gravel ranges from nothing where it feathers out at the foot of the mountains to 30 feet and more at its maximum, has an average depth of 15 feet or 5 yards.

There are 1300 acres in the property;
There are 4840 cubic yards to the acre
4840 x 1300 equals 6.292. 00. surface yards.
6.292.000 surface yards by 5 yards the depth gives 31.460.000 total.

This at an average sample taken made $1.06 per cubic yard would represent the sum of $33. 347.000.00, But I based the net value at $1.00 even. At this rate the total recoverable values would represent $31. $60.000.00

LIFE OF THE PROPERTY:

This figures out at more than 40 years if only one plant unit of 2.000 cu yds per day is used. It is obvious therefore that two or more units would be used and thus reduce the life of the propertyto 10 years.

In the compilation of the foregoing values, it must not be over looked that many samples showed values from $30.00 to $40..

and more per cubic yard# in coarse gold (for the gold on the Middle Camp will be found to be decidedly heavier) and that only the general average is given. No big tests are included, and these have all been taken on the loose cubic yard. The solid cubic yard would naturally go higher in values. The method applied was the same as used on the Oro Fino examination, the measuring of the cubic yard, then the foot of gravel, then screening thru half inch mesh screen; the over size representing some better than 50% of the whole. Only the gold so found by washing has been included. It must be remembered that the hand dry washing only saves about 80% of the values, re-running the savings several times a greater recovery is made.

So when the time comes, which it eventually, where large yardage can be handled economically, then the returns on the investment will be large.

From the reports on these placers it is plain to be seen that they are MORE than valuable, and in my opinion the values contained and the ideal conditions surrounding are such that they warrant the expenditure of a large sum of money in order to place it on an economical basis.

Yours very truly,

(Signed) Geo D. Stonestreet,
M. E.

REPORT ON THE

MIDDLE CAMP PLACER PROPERTY
In
ARIZONA.
By

George Walker, E. M. B. I. M.

The gravel deposition of this territory, are entirely different from the auriferous gravels of California, which are of the Neocene also late Tertiary ages. At coloma, California, which have been worked constantly since 1848, by Marshall. They having produced practicall all of the nations gold during the Civil War.

These gravels were mined and washed by a system of Hydraulis untill the passing of the "Debris Law" in 1884, at which time the famous Sayyer decission was put into effect, stopping hydraulic mining except where impounding dams were erected. Since that time ground sluicing and drift mining have been the principal of working the California gravels.

The gold placer deposits of the Plomosa Mining Districts are of a very different character to the California gravels, having been formed by the erosion from the mountains and lower foot hills surrounding these deposits. The matrix of the placer is composed of washed rock mass, carrying quartz in various stages of erosion, th these quartz veinlets producing the gold, which has been washed down from the mountains for ages, filling the ravines with the broken mass of rocks, intermingled with a sedimentary mass of earth and sand. The placer area shows in places a preponderance of white broken quartz, which has the appearance of being caused by an upheaval or blowout, during the late tertiary period. This is visible thru the overlying bedrocks which in these particular places are granite.

The placers comprising the subject of this report lie about 10 miles east of the Colorado River, continuing in an easterly direction over the mountain range, thru which the County Road passes and which embrace the valley deposition, between the mountain range on the nroth and east side, continuing south and east, as far as Tyson.

Scant vegetation covers this area, which in the upper part is slightly divided by small gulleys and washes.

On the north side of the placer claims considerable broken and wash rock is exposed, the lighter and small rock mass carried further east and south, spreading into regular folds which grow wider, becoming more evenly distributed as the flow continues, finally becoming and evenly bedded terrain covered by silt and alluvium.

Near Tyson which is composed of 10 or 12 houses several trees are in a thrifty condition, also patches of grape vines, where the same are given water, or irrigation has been introduced.

The Placer of the Ore Fino claims are on the south side are of a different complex, being very fine and spongy on the surface and free from rock mass, in general resembling powdered andesite, being of a gray bluish cast; this condition continues thruout the souther exposure.

EARLY HISTORY:

Interesting but not essential. To this report.

In the early days of Arizona, the stretch of the country now called the Plomosa Mining District that is known as Tyson, of Posas valley, embracing the area what is known as Quartzite. During the early days a fort stood at this place known as Fort Tyson, this

This being the junction with Fort Whipple at Prescott.

The white came into this district in the early sixties, and by act of Congress, the Yuma Indian Reservation was established having a floating population of from eight to ten thousnad people. At this time the Middle Camp Placers were discovered and the gold rush started. The town of Wickenburg was the nearest trading point. Ehrenburg was also started near the place where the new bridge over the Colorado River is located. This town was called after the man who put up the first building, which was a saloon and store. These were lively days.

After the Civil War, when Gen Grant was President, his brother-in-law Major Dent, was sent to inaugurate the two indian reservations of this section, also to take charge of the troops to guard the pack trains and the miners.

Gold was found along the Colorado River, and the Posas valley was instrumental in forming the Territory of Arizona. La Paz being the County Seat, was a very lively place; boats were then plying on the Colorado River. Several thousand placer miners were in the surrounding country, digging and washing placer gold.

La Paz has a record of shipping $10.000.000.00 in gold from that district, this coming principally from the Middle Camp Placers, The old timers who lived at Tyson, say it was not unusual for placer miners to take out one pound of gold per day per man. They were like sheep nibbling her and there, taking only the best, then moving on. A miner's claim was limited to 20 square feet, just enough to sink a shaft and gopher around. Many a hot dispute was had over a few inches of ground.

About 1885 the river receded from La Paz, and the boats could not get in. The miners changed their headquarters to Ehrenburg, which was then fairly established. The boats could still freight to Ehrenburg.

At this time the placers were in full swing, being known as Middle Camp, Americ Trigo, and Maraquite, all of which were worked by the early placer miners who took the cream of the placers at that time. This property is now known as the Middle Camp, Oro Fino, and La Chola.

During the year 1863 and 1864, a road was built from Aqua Nala to La Paz. Previous to the Civil War, Jefferson Davis was instructed a number of camels to be shipped from Arabia accompanied by their native drivers, for the purpose of packing over the deserts of the west. They were supposed to pack 600 pounds 60 miles per day. The Camles were to be used in the building of the southern Railway, between El Paso and San Diego, by way of the Santa Fe trail, thru Albuquerque and San Bernardino.

The camles were unsuited for packing purposes. the roads were too rocky underfoot for the camels; they got sore feet, being worn and cut by the rocks. Their use was abandoned; the camels and the drivers were left to go at their own pleasure.

At this time the "Gold Rush" was on in and around La Paz. Two Arab brothers, by name of Tedro and one being known as Hi Jolle, his Arab nicknamne (who died at Quartzite during 1900 and is buried there), started packing for the miners. This created friction with the "Burro pack trains" which would cause a stampede on the appraach of the camels. Several hot fights resulted. Finally the camels were turned loose to shift for themselves, being gradually killed off by the prospectors untill they became extinct. Tedso later conducted a barber shop from which he died and was buried near his brother.

During 1902 the river receded from Ehrenburg as well as from La Paz, and these places became pracyically abandoned.

Mr. Keiser with whom I talked, informed me that he in company with a Mr. Laird, went to Ehrenburg, and dug up the ruins of an old gambling house, putting the debris thru an old dry washing machine, extracting thru this method two sets of gold scales, two feet high and two feet long, and weights for the same, up to several pounds; $180.00 in gold, also several old fashioned gold rings, a pair of spanish ear ringsand an old time large hand etched solid gold bracelet were also recovered. The etching work was recognized as being done by an old Mexican Gold-smith, who had resided in La Paz during its palmy days. Part of the ground of a gambling house, abou 40 feet from the grave of Castro an immense iron pot was discovered containing $80.000 in gold bullion and old coins.

This is a matter of record; most of the gold had come from the Middle Camp placers and had been purchased from the miners.

Mr. Keiser, my informant told me that during the year of 1914 he had operated a Commisary store, and at the time he bought gold from the Middle Camp. He bought from Costacio Martinez $460.00 in gold nuggets and fine gold. This was taken from a small shaft 30 feet deep by Martinez. His crippled brother Jose Martinez, picked from an old tailing dump after a rain storm, gold nuggets for which he paid him $76.00, the nuggets ranging from $1.00 to over $10.00 in value. He showed me one of the nuggets which he had later made into a brooch for his wife.

In one placer gulch at the head of Middle Camp three Frenchmen were at work. They picked out of the bedrock with their pocket knives over $1.500.00 in gold nuggets.

In those days the ground was blocked off in small claims 20 feet square, this being considered enough for one mining claim, the ground being loose and no timber being available, very few of these holes ever reached bedrock. The miners wer not able to do any drifting on the ground as it would cave in. In fact these holes were only gophered; THE MAIN PART OF THE GOLD IS STILL ON THE BED) ROCK.

During these operations it was not unusual for a hole to cave in burying the miner, who in many instances was left where he had perished in search of gold.. Mr Keiser told me that many times he had taken in $1.000.00 in gold in one day, this being done principally in the surface work. The old Stage Coach plying between La Paz and Agua Mala can be seen at Balboa Park, San Diego, where it is on exhibition as relic of the old days of the gold rush.

There are only a few houses left at La Paz; they are fast falling into decay and will soon be eroded by the elements. A tide land has been washed by the overflow from the Colorado River, and La Paz will soon be lost to view, and except for the ancient history, will become a memory of the past.
Ehrenburg boasts today of only one solitary tenant. There are several walls of buildings standing, but it will only be a short time untill it passes into history, or oblivion.

The old time ferry has been replaced by a substantial steel bridge. This is constructed of solid concrete pillars high above the level of the river. A new road is being constructed by the County ans State. A stage line is operating busses between Los Angeles and Phoenix Quartzite will become one of the principal stopping places for the stage travel and should become a desert villiage

THE MIDDLE CAMP PLACER:

This property lies in the Posas valley, the Plomosa Mining District being east of the Colorado River in Yuma County, Arizona. The

Plomas mountains are east of it, also north-east and extension of the Castle Dome Range on the west. The placers lie at an elevation of approximately 1207 feet at the highest point in the pass, slowly declining to about 900 feet at Quartzite, covering a distance from the Colorado River of practically 15 miles.

The Los Angeles and Phoenix highway passes thru the property. The Santa Fe railway is within 30 miles in a nrth-easterly direction, the nearest rialroad station is at Bouse, which is on the branch line of the Santa Fe Railway.

CLAIMS:

The Middle Camp holdings consist of the following claims, which comprise approximately 1300 acres. They are as follows:

Gold Nigger and Gold nigger No. ".
Iron Queen Fracyion.
Iron Queen No. 1-2-3-4-5-6-7-8-9-10-11
Nonparell and Fraction.
Excelsior No. 1-2-3-4-5.
Keiser Extension.
Keiser North Extension.
Keiser South Extension.
Keiser East Extension.
Keiser West Extension.
Miller No. 1-2-3.
Oro Fine No. 1-2-3-4.
Keiser Placer.
Garfield.
Abe Lincoln.

TITLES AND ABSTRACTS:

All of these mining claims are held under location, the annual assessment work being done in the regular manner as prescribed by the United States Mining Laws, several men being employed constantly, the present owner having held title since 1917.

An abstract of title has been brought down to the present date showing the property record from the recorder's office, to be free and clear from all incumbrances and proof of labor filed in due form.

GEOLOGY-NORTHERN SECTION OF THE CLAIMS:

The geological construction of the Middle Camp Placer and their environment are of the varied complex. The Pre-Cambrian formation show that they consist of coarse, roughly porphoritic grantite and grantoid rock, with gneiss and schist of various kinds. These formations , especially on the north side of the holding have been impregnatated with several mineral formations, the principal mineral being gold. The mountain range refered to is traversed with many veins and dykes of various formations, which carry gold and other minerals. These vary from 30 feet to a few inches, with stringers of quartz and porphylitic magmas. The innumerable veinlets and impregnations thruout the mountain range are scarcely perceptable in the smaller deposition of the rock mass, but upon close inspection, and under a glass, gold and other mineral matters are shown without any appearance of quartz, or other vein matter.

Approximately ten miles in a nrotherly direction from the upper end of these claims, a cross dyke traverses in a northwesterly and south easterly direction. This dyke is from 20 to 30 feet in width, carrying a well defined body of quartz containing gold, also a deposit of calcarous tufa,

which varies in width according to the quartz formation.

This evidently is a Tertiary deposit, and of a later age than the surrounding formation. This dyke can be traced as far as the eye can see in the mountains range, in an easterly direction, this appearance on the earth surface in its western trend toward the Colorado River.

SOUTHERN SECTION OF THE CLAIMS:

The geological complex of the center and southern part of the placer holdings are of an entirely different character. The center claims show a granite bedrock. The matrix of the placer is a combination of tertiary accumulation and eroded granite. In several places quartz croppings are exposed on the surface, giving evidence of a later disturbance and upheaval, as shown by the distribution of the broken quartz, pricipally in large and small cube forms. This quartz contains gold and is one of the sources of distribution of the placer gold supply. The banks wher visible in the ravinges show this to be a more solid formation, appearing to have a false bedrock of seni-cemented formation, but amenable to power shovel operations. This formation is chiefly on the Nonpariel and Excelsior claims.

The Oro Fino to the south is much different in geological structure, being of a late Tertiary age as shown by the mountain ranges on the south, the slope of which is to the north.

These mountain ranges are overlaid with a capping of quartz, syenite and porphyry, All of which are in a decomposed state, being powdery form, spongy on the surface, but becoming more solid in depth, as evidenced by the numerous shafts and prospecting cuts that have been made in sampling the property, and in doing annual assessment work.

The quartz, syenite and porphyry have a bluish slatey color, varying from pink to brown in places. The underlying rock mass, where exposed to view, is of a pronounced gneissoid, schistose structure, very friable,some of which can be crushed by finger pressure. Small quartz veinlets are distributed thruout the entire structure, which is the base supply for the gold that has infiltrated the erosive mass, which has been gradually washed down into the valley, forming placer depositions.

Cloud-bursts and torrential rains have carried this erosive mass into the lower portins of the valley, seeking its level as it passes on.

This body of placer deposit consists of the usual loose gravel formation on the surface, gradually becoming more solid and semi-cemented as it nears the bedrock. This applies to the central south and southeast part of the placer holdings. The north and north easterly portions being loose and free. Here no solid formation is encountered that will hinder sucessful operation of a dredge or power shovel. No large boulders, in fact none were visible to the writer, which could not be easily lifted by the workmen, and ## these very scarce.

PLACER YARDAGE:

The Oro Fino Placers contain approximately 16.250.000 cubic yards. This allows for bedrock intrusions as near as is possible to ascertain, without incurring considerable expense in proving the yardage figures. Ther are many ridges, also deeper ravines to be considered in making a general average of the gravel content. In this report, my associate, now deceased, has placed the average depth of the gravels at 15 feet. On another page under extract from Geoge D. Stonestreet, he places the average depth of the gravel at

15 feet, with Porf. John A. Church places the depth of one large area of gravel at 8 yards, with a slope on the bedrock from nothing to that depth, with a total yardage of 32.000.000 cu. yds. I would not attempt to place an accurate figure on the exact yardage to be treated, without further examination of the ground, but from my knowledge of similar depositions, I am justified in saying there is more placer content available than the amount quoted, giving as a total yardage 31.460.000. cubic yards.

GOLD VALUES.

According to the gravel tests made on the Middle Camp Placers from time to time, by several prominent Mining Engineers you to another page of this report where F. W. Remy, places the actual average at $1.00 per cubic yard, for the ground he has tested by the old fashioned dry washer process or system, well known to all placer miners. Captain Geo D. Stonestreet, quotes the average of his sample tests at $1.06 per cubic yard, basing his estimation on on $1.00 per cubic yard however. The area embraced in the Ore Fino he has placed an average value of $1.18 per cubic yard.

Professor John A. Church p laces the average value of this gravel at $1.04 per cubic yard.

In the samples that I took personally, computing 2600 pounds to the ton of gravel, I made the following tests:

Sample No. 1.

80 pounds, at bedrock from a shaft 14 feet in depth, value per ton $19.64 based on bedrock sample only, which I entirely disregard, as it is misleading, and will not apply as to averages of h the whole, but it does show what may be expected on the bedrock. I have the gold recovered in my possession, but as I have previously stated, I base no computation on sample # 1. which was made by the use of the dry-washing machine, which in my opinion save not to exceed 70 to 75 % of the actual value of what could be recovered by water concentration.

Sample No. 2.

Made from 80 punds of gravel, gave a vaule of 22 cents for the 80 pounds, for a depth of 15 feet, or an average of $2.36 per cubic yard based on bedrock value only.

Sample No. 3.- 80 pounds, gave $6.35 per cubic yard, allowing 15 cubic yards for depth of gravel, based on bedrock sample, making th the same in manner stated previously. This sample I throw out except to show what I actually received from my tests. The gold recovered is in my posession.

Sample	#4	3 cubic feet	made	$12.01	per yard.
"	5	2 " "	"	2.51	"
	6	2 " "		2.43.	"
	# 7	2 " "	"	2.29	"
	8	2 " "	"	3.64	" "
	9	2 " " "		7.03	" "

All of the baove samples bedrock samples

Samples by F. W. Remy:

Sample	#1	Iron Queen	No. 7	Cubic yards	$1.29
"	2	" "	9		1.27."
	3	Miller	3		1.88
	4	"	2		1.34

Sample No. 5	Iron Queen	4		$1.39
6	" "	2		1.88
7	" "	1		1.32
8	" "	6		1.29
9	" "	2		1.36
10	Miller	1		1.41.
11	Iron Quenn	3		1.46
12	" "	11		1.38
13	Iron Queen	5		1.30
18	Nonpareil	N. W.		1.38
19	"	Sw		1/14
20	"	N. E.		1.37
21	"	N. W.		1.18
22	" Fraction			1.18.
3	Excelsior	1		1.10
24	"	3		1.12
25	"	2	extreme	35
26	"	4		30
27	West extension Keiser			96 East
28	Keiser Extension			48 end
29	Keiser extension north			55
30	Keiser east extension		center	50
31	" " "		South	40
32	Excelsior	#5	North	60
33	"	5	South	60

The last mine sample quoted is from the feather edge of the placer ground, fartherest from the main body of the gold distribution from the mountains and ravines. The nearer the mountains, the better the values. These samples were all made by the use of the dry washing machine, using air in the usual method, after first screening the gravel as it was put in the hopper of the dry washing machine.

The above quotations were made on gold values of $19.00 per ounce. I have not made any examination of the chromite values contained in the placer deposit, but refer for the same to the assay made by Reinhardt who is a specialist in establishing the values in black Sand and other concentrates. In my report I am only treating the free gold values in the placer deposit.

Included in this rep ort you will find extracts from the reports made by George D. Stonestreet E. M. also extracts from the reports of Professor John A. Church E. M.

PROCESS OF WORKING THE PLACERS:

Nearly all placers of this nature are dry. The reason why the Middle Camp Placers are available today is for the reason that the water supply was thot not to be available or obtainable except at great expense in bringing it from the Colorado River. I find upon close investigation that there is a water supply close at hand, at but small cost.

In making tests on the property with the dry-washing machine, I am convinced that this immense placer ground(deposit) can be worked practically dry. By the use of a power driven shovel, this placer aggregation can be handled very cheaply per cubic yard. With a shaking screen device to receive the material as it is being delivered by the shovel or dragline, fifty per cent of the load can be disposed of immediately, stacking the over plus, as it is being discharged, the residue falling into a second scree, will reduce th the remainder, so that a roughing concentrator will take care of the gold values. Then passing the concentrates to a wet machine, wh

Which can be so adjusted that but little water will be required. The process is simple and will not need intricate machinery, to do the work.

Most of the gravel deposit is loose enough, so a shovel will operate successfully. The gold will fall to the bottom in the handling of the mass, always keeping the lowest place in the operation, untill reaching the wet concentrates. This method also takes care of the chromite values so that the loss will be negligible.

WATER SUPPLY:

I find upon close examination, that there is an extensive underdrainage near this ground Several wells are furnishing water, and with two or three well combined and the water pumped to the highest point, I believe enough water can be furnished for all purposes, at a cost not to exceed $25.000.00, this including 7 miles of pipeline, which would deliver the water to the head of the placer, with a lift of approximately 310 feet.

At the present time two wells, connected together with an underground tunnel so as to form a subterranean reservoir, for the accumualtion of water for pumping purposes, also a reservoir 80 feet in diameter, with and approximate depth of from 12 to 14 feet, are available, and can be procured at a nominal price. Other wells could be made in the immediate vicinity, should the necessity for more water be found necessary.

I have refered herein to a dyke traversing the country in a northwesterly and southeasterly direction. This mammoth dyke, or lode, is partly quartz and partly tufa. I of the opinion that at 120 feet probably less a sufficient water supply for all purposes would be found available.

This would necessitate a pumping plant to force the water to a height a little above the highest point of the placer, letting the water flow by gravity into a tank, thense for distribution to the place of operation. The sinking of this well will not be expensive, as the tufa is soft, and at a point available for examination at a depth of approximately 70 feet, I found this tufa becoming aqueous, forming mud balls when pressed together by hand. A suitable location for drilling this well could be found at a point where the road crosses the formation. Much less pip e would be useed should this plan be adopted. This cost of installation of such would be nominal, probably the well refered to

TRANSPORTATION AND ACCOMMODATION:

The nearest railway is at Bouse, a distance of approximately of 30 miles from the property. A good road with practically no apparent grade to interfere.

Supplies can also be purchased at Quartzite, the store being close to the local Post Office, or they can be shipped to Bouse, or they can be brought in by truck.

Housing facilities can be erected at some place convenient to the property.

CLIMATIC CONDITIONS:

Climatic conditions are ideal for all year operations. Water for drinking and culinary purposes are available, being of the highest quality for domestic and other uses. With the advent of Bus lines for passenger transportation, daily mail is assured. As already stated the Los Angeles and Phoenix Stage line passes thru the placers thus making the property easy of access.

LABOR CONDITIONS:

Labor conditions are good, a desirable.

RECOMENDATIONS:

Under this head I will dwell but briefly, as the pricipal factor in the way of equipment to be considered, is the manner of hadnling the gravel deposition. There are many machines now handling similar deposits. This is a large body of placer ground, and it will take many years to work it out. It is my opinion that the greater part of this placer can be worked as sucessfully dry as wet.

It is a well known fact that gold will settle to the bottom of any recepticle with a rocking motion. A steam or power shovel will successfully dig and hoist the gravel, high enough for a revolving trommel. There many types of these machines, which are self discharging, having a capacity to accomodate any power shovel. There are also shaking machines of the level type that are a success, which discharge into a stacker, the residue being conveyed to a sufficient distance not to hamper operation.

By using two sizing machines or shakers, most of the gravel surface is disposed of, the remainder could be treated on a roughing concentrator, which would make a product ready for a wet concentrator which would finish the operation, securing the gold as well as the chromite content. I would advise a small machine of each type to commence operation, then secure larger machines after the results have been ascertained. Ordinary gravel shovels, machine and shakers could be used for the first operation but care should be used in selecting the final concentrator. There are many makes now in use that will sucessfully do the work required. The rose concentrator is especially adapted for this purpose, using but little water in the operation.

POWER:

It is established by the Deisel engine for electric energy makes the most economical and best operative power. Individual motors should be attached to each machine; a low grade oil could be used for fuel.

WATER:

The question of water should be looked into carefully for the first operation; I am inclined to favor the wells at Quartzite, but before determining fully it would be advisable to investigate the possibility of getting wells in the Tufa Lode, mentioned in this report. For the reason I discovered no other apparent water strata in that vicinity except the wells at Quartzite.

Water could be brought from the Colorado River, but this would be costly at commencement of operations. Later when money could be diverted from income, this could be considered. There is a large acreage of land that could be brought under cultivation and irrigation, when use of water for places purposes are determined.

WHERE TO COMMENCE OPERATIONS:

According to the findings of the tests made for placer values, the best results were obtained in the sections embraced in the area of the Iron Queen Claims. Here the deposition can be advantageously handled. The gold is heavier, being nearer the sources of supply; the commencing of the rim to 20 feet in depth. The Iron Queen #3 would be a desirable place to commence operations, first working towards the mountains. Several units of machinery should be installed for operations as soon as practicable. The Ore Fine claims have very little rock in the matrix; less machinery would be

needed but more water for concentratingPurposes.

RESUME:

In reviewing the foregoing report, I find that there is very little that I can add, exscept to touch on a few important details.

The amount of yardage to be treated is only a matter to be decided by the equipment used. The larger the equipment, the larger the amount of net returns may be obtained.

Let us forget any chromite values for the time being, treat is as velvet to sweeten the whole. Mr. Remy and Capt. Stonestreet arrived at practically the same gold content recovered per day.

Mr. Church arrived at .04 cants per cubic yard higher values in the tests presuming that such operation costs had been figured the same; these three Engineers are practically a unit as to t the auriferous content of the same.

There should be three or more units at work as soon as practicable. The amount of income is to be determined by the capacity of the equipment. The amount of yardage as herein estimated, I am of the opinion will be exceeded under careful computation. This can only be ascertained correctly, by a systematic testing, which under the prevailing conditions are needless, being and unnecessary expense, except it were to ascertain the true gold content of the whole while finding the depth of the gravel. In making these dry wash tests, I am entirely convinced that the true value was not arrived at for the reason that heavy gold would not stay in the dry washer machine, also that any gold adhering to any formation would either be sloughed while screening, or pass over the riffles of the machine. It is reasonable to believe that with wet concentration the placers will yield more auriferous content than the dry washer have shown in the placer.

CONCLUSION:

In conclusion will say that upon the analysis of the foregoing reports, showing the average to be $1.00 per cubic yard, which do most sincerely believe proven to be recovered in the placers, except in that section fartherest from the distributing source, which will naturally be the last of the placers to be worked.

I see no reason why this property will not yield a tremendous income on the money necessary to equip and operate this property; I do, therefore, recomend it without any hesitation or reservation to any person seeking a potential investment.

(Signed) George Walker,

Geologist and Consulting Engineer.

S T A T E M E N T .

On the

MIDDLE CAMP GOLD PLACERS' HOLDING

By

F. W. REMY, E. M.

Los Angeles, California.

April 1929.

I have made a personal examination of what is known as the Middle Camp Gold placer Property, situated in the northern past of Yuma County, State of Arizona. It lies on the eastern slope of the Dome Rock mountains, not far from Quartzite. Bouse, Arizona, a station on the Los Angeles to Phoenix branch of the Santa Fe Railway, lies approximately 30 miles northeast of the property, and about 12 miles east from the Colorado River.

This property is not patented, therefore, held by posessory rights, the law of the United States governing and controlling the same, realative to the performance of annual labor having been complied with. The present owner having held title since the year 1917, and has the abstract of title down to date from the Recorder's Office.

Ingress to the holdings may be had either by automobile, via the short cut highway between Los Angeles and Phoenix, or one can take the train at Los Angeles at five o'clock in the evening and arive at Bouse about 4 in the morning, thece by Bus to quartzite, or by auto from either from Bouse or Quartzite. Good accommodations may be had at Quartzite.

The Middle Camp holdings consist of 28 claims, totaling 1300 acres. The claims range in size from 2o-40-60- to 160 acres.

One can drive pretty much all over the holdings in an automobile. The altitude at the apex being 1207 feet above mean sea level , - at Quartzite 900 deet above,-giving a falàf 307 feet in about six miles.

Ample water can be obtained at Quartzite for either sluicing or placer mining dredge, and POSITIVE that WATER can be developed on the ground, in sufficient quantities for the same purpose.

Geologically it is indicative of water in qunatity and the small forest of Palo Verde Trees, mesquite, and Ironwood only grow where there is underground water. Just a few miles above the apex to the west of the property is the Gonzales well "Unofficially" 40 odd feet in depth, and water within 27 feet of the surface. This gives water on both the east and the west sides of the holdings. The water level at Quartzite is from 40 to 60 feet.

GEOLOGY:

The environment in which the Middle Camp Placer is situated is composed of granite gravel and granite bedrock, no large boulders to contend with. There is a false bedrock at a depth of what everyone calls cement, but it differs from the various other placers in the district, in so far as the alluvial overlying is composed of more or less powdery mass, making it possible for the surface water to migrate downward- water coming in contact with lime carbonate in that form will naturally disintegrate the mass to a greater or lesser extent, leaving the false bedrock in a semi-cemented condition. A steam shovel or similar equipment would readily handle several thouand yards of this material a day. The major flow of the Middle Camp placer came from the higher portions of the mountains to the north and west; it runs out to nothing at h the base of the mountains but gained it depth as it entered the valley.

The Middle Camp placer is approximately one mile wide and four miles in length with an average depth of 16 feet. The Middle Camp holding contains a total of 33.557.333. cubic yards. Having seen the sample map of Capt. George D. Stonestreet, I stayed away from h his sample holes altogether and sampled as directly oposite as possible. A dry washer holding 100 punds in the hopper was placed

in operation. The loose gravel was then cast against the screen of one quarter of an inch, the average going into the tailings. The oversize ran both over and under the 50% mark. I ran the tailings over three or four times in order to save as much of the values as possible; for it is axiomatic that a dry-washer will not save any where near all the values. I put down 18 test holes, and did not go to bedrock, it exceeds 15 feet in depth, and my average value per cubic yard was 87 cents. Therefore, with a total yardage of 33.557.333. and an average value of 87 cents per cubic yard this will yield a total of $29.394.869.00

Yours very truly,
(Signed)F. W. Remy
Geological and Consulting Engineer.

COPY.

Telephone Drexel 5010 857 South Alverado St.,
Karl S. Reinhardt.
Wednesday July 25, 1928.

Cerificate of Analysis---Assay

No. 9
No. 367.970------Gold Assay.

Sample of Concentrates, from Mr. F. W. Remy.

Marked "Black Sand" containing chromite, submitted for gold assay to me, shows in the sample dried at 100 centigrade---Gold 53.75. value $1.075.00 per ton
Chromite---0.27% equivalent toCrO3----0.52% Magnetite

Remaining constituents consist of pure iron, no titanate of iron (ilsenate) with a trace of silicates

(Signed) Karl S. Reinhardt.

$6.00/lb -
Scheelite &
Chromite &
Galena - 6¢/lb.

Is there a
basic rock formation
trend - probably
a metamorphic
extending from
the Goodman
area through the
Profile Placers
to the Slocum
Placers on the
East ?

REPORT ON THE PLACER PROPERTY KNOWN AS THE ORO FINO IN YUMA CO? ARIZ

Dear Sirs:-

In accordance with your request, I herewith have the privilege of subqitting my rport upon the placer property mentioned above, know as the Oro Fino, situated in the Plomosa Mining District.

AREA UNDER REPORT:

This report covers 13 claims of 160 acres each, or a total of 2080 acres.

GEOLOGICAL:

This placer has the unique distinction of having its origin from two directions instead of the usual single origin. Here the flow has come from the south and the north. From the south the origin is the same as the La Chola placers, and from the north the same as the King Placer Consolidated Company, which has recently developed such very rich placers value at and below a false bedrock The placer itsself consists of the usual loose gravel on the surface with the lower gravel in a semi-cemented condition. The gravk is about 50% alluvial. The lower portion of the placer is therefore not so hard as the La Chola and Plomosa placers, because the lime has been largely leached away after deposit. This is worthy of note, as it will lessen costs of treatment by two cents per yard when it comes to be worked when compared with the La Chola and other properties. This reduction, of course, being in the excavating process.

GALENA:

On the southern side of this property, notably on Claim No. 9 Galena is found in the placer in rounded nuggets. I have made no exact determination of the quantities to be found as inseperable difficulties prevented. The value of the Galena itsself is about $116.00 per ton, and the value of the Galena per yard of placer might be guessed at the rate of 10 cents.

Scheelite Or Calcium Tungstate:

This is found on the property in nodules and in finely divided particles in considerable quantities. It has not been deffinitely determined as to exactly how much there is of it, but it is an additional and valuable asset of the total mineral value of this placer. Being of a specific gravity of 6, it will be entirely recovered by the concentration processes now used for the recovery of the gold from these placers. It will be retained by the tables where the black sand is held. From samples obtained the scheelite runs runs about one half to one per cent in the sands and gravels.

BLACK SAND:

There is another by-product of this placer, and consists of magnetite and hematite. There is no value in the magnetite and hematite, but the hematite carries high values in fine gold. These values run from $10.00 to $500.00 per ton of black sand, and vary considerable in quantity and values. On the avreage about 20 lbs. of black sand is found to be in the cubic yard of placer.

HISTORY OF THE ORO FINO PROPERTY:

The name Oro Fino, means "Fine Quality" of gold, and does not

mean that the gold is small, for exactly the contrary is true. The gold here is coarse and some large nuggets have been found. The value per ounce of this gold is $19.10 (old price) on the average. This placer has been worked since the early sixties almost contiuously, but in a small way. By hand dry washers only. The amount of gold extracted, large tho it has been in the past, bears a VERY small relative proportion to that remaining, and it may be considered a negligible qunatity. It is certainly but a small part of the 1% of the total values.

RESULTS OF EXAMINATION:

As above stated the actual values of the galena, scheelite and black sand have not been daffinitely measured. Only the gold actually found by sampling has been accounted for in the following tables of values. These tables have been arrived at by taking one acre as a basis, and ascertaining the average value for the ascertained average depth. It should be pointed out here that in many places values in gold have sunk into the bedrock where seams were soft enough to permit this, and care will have to be taken in operation that these values are not lost.

CLAIM NO.1. (160)

Intrusion of bedrock effects this claim to the extent of 120 acers as only 40 acres was found worth checking.

Top	3ft contains	4829 cu yds per acre, values		.46
Next	6"	2 " 9678 " " " " "		.74.
"	6	" " " " " " "		.53
Bedrock	6	" " " " " " "		2.66
				1.09 Av.

Total yardage for Claim No. 1. is 1.354. 920 Cuyds
Value $1.612.320.00

Claim No. 2 (160) acres: Here again the bedrock intrusion affects 50 acres and 110 acres have values as follows:

Top	4ft contains	6452 cu yds, per acre values		$1.62
Next	5	8065		1.12
Next	5	8065		.37
Next	5	8065		.48
				$121. Av.

Total yardage of Claim No. 2 $.258.320 cu yds,
Value $5.152510

Claim No.3 (160) acres. Total area included and values as follows:

Top	6ft contains	9678 cu yds	Value	$159.
Next	5	8065		1.40
Next	5	8065		1.05
Next	5	8065		.78
Bedrock	4.	6452		1.33
				$1.24.

Total yardage for Claim No. 3 is 6.462.000 cu yds, Value $8.000.320.

CLAIM NO.4 (160acres) of this area 20 acres are excluded because of high bedrock and 140 acres are valued as follows.

Top	4ft contains	6452 cu yds	$1.21
Next	5	8065	.78.
Next	5	8065	.47.
Bedrock	4	6452	2.04
			$1.07.

Total yardage for claim No. 4, 4.064.760 values $4.349.240

CLAIMS NO. 5 & 6 I have no deffinite knowledge of the values. They contain placer of unknown depth and value.

Claims Nos 7 &8 320 acres. Of these claims also I have no exact data, but I have such data for the ground to its immediate south (property of the La Chola Placer Mines Co) It contains galena and scheelite with the usual gold content, that I have entirely excluded this in my totals. I am alos inclined to put a total value of seven million dollars on these claims, but I feel that I not quite entitled to do so.

Claims No's, 10-11-12-13(640 acres): Beyond working over these claims and ascertaining that they contain placer, I regret to say that I cannot speak definitely and therefore they are not included in this report.

GENERAL REMARKS:

In the compilation of the above average values it should be understood that many samples showed values of over $40.00 per cubic yard in coarse gold, and that only the general average was given and no high assays were included. These have all been made on the loose cubic yard, and the solid, would of course be higher. The method adopted was by measure of the cubic foot, and then screening thru a one half inch screen. The over size representing about 50% of the original. Only the gold so found by hand dry-washer has been included. It must be remembered that the hand dry-washer machine only saves about 80% or less of the values.

RECAPITULATION:

This is equal to an average of $1.12 per cubic yard for the area measured up. In addition to this 7 & 8 (given as pobable value) show ten million yards valued at ten million dollars, the GROSS VALUE of the property (in round numbers) can safely be taken at $26.000.000.00 and the NET VALUE (deducting costs of operation and treatment losses) at $21.000.000.00

LIFE OF PROPERTY:

This figures out at 40 year if only one plant of 2.000 cu,yds, daily capacity is used, and shows a yearly profit of one half million dollars. It is obvious , therefore, that two units should b be used, and the life reduced to 20 years, with an annual profit of one million dollars.

As the gold is free in the gravel, the dry process could be used when that process is perfected. Water can be developed near Quartzite in quantity sufficient and reservoirs built for storage above the placers, but I have made no survey of the water question, and perfer that that matter would be refered to an reported on by qualified men as a special study. The bringing of water from the Colorado River, is also worthy of practical consideration and should be looked into.

From the report on these placers it will be seen that they

are VERY VALUABLE and it is my opinion that the values and the conditions are such that they warrant the expenditure of a large sum of money in the developement of the property on a productive or commercial basis.

Yours very trul,
(Signed- Geo D. Stonestreet M. E.
(Formerly Inspector of Mines for the British
Government in South Africa.)