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REPORT

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ON THE

“Candelaria,” “Montaña de Oro”

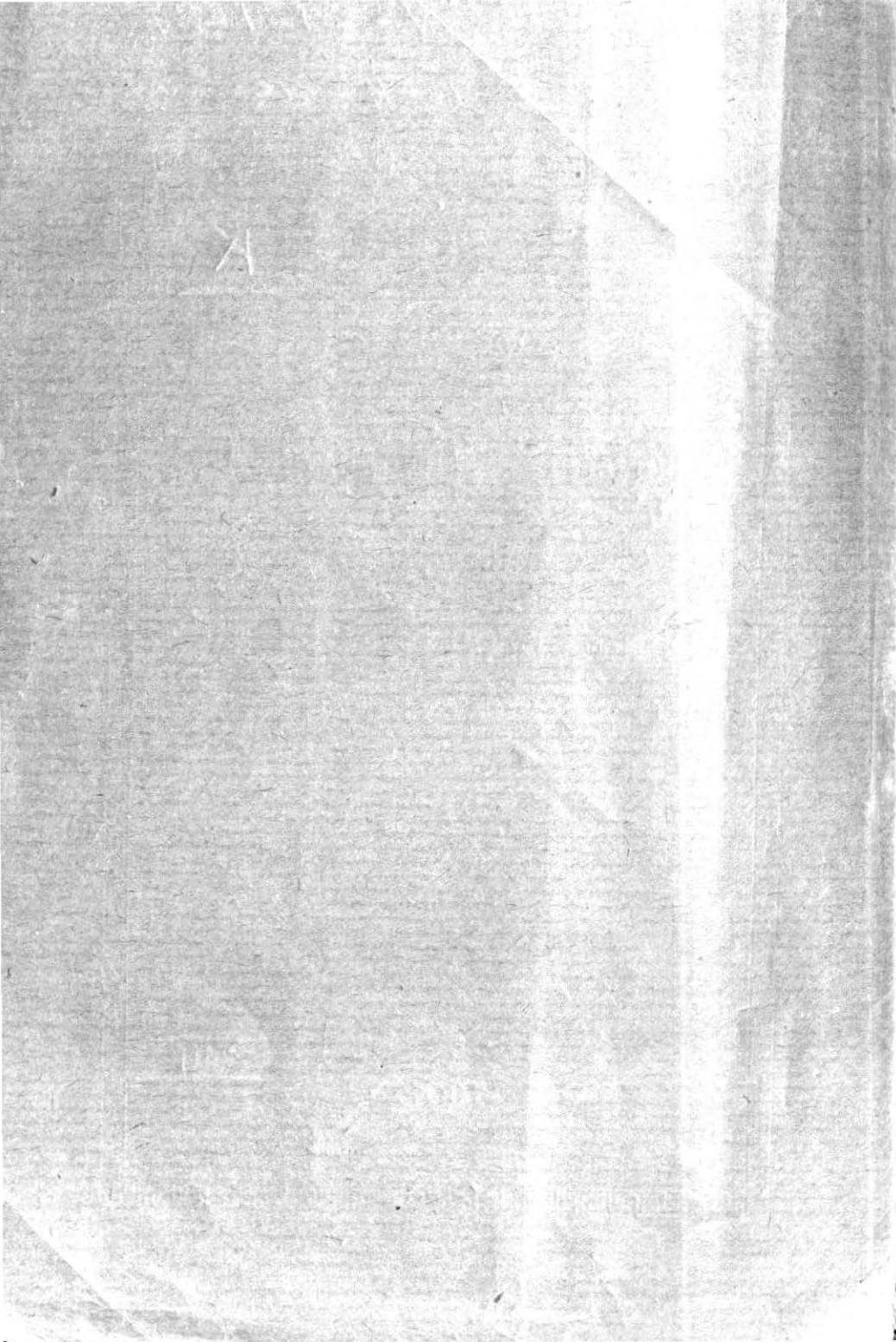
Y ANEXAS, (S. A.)

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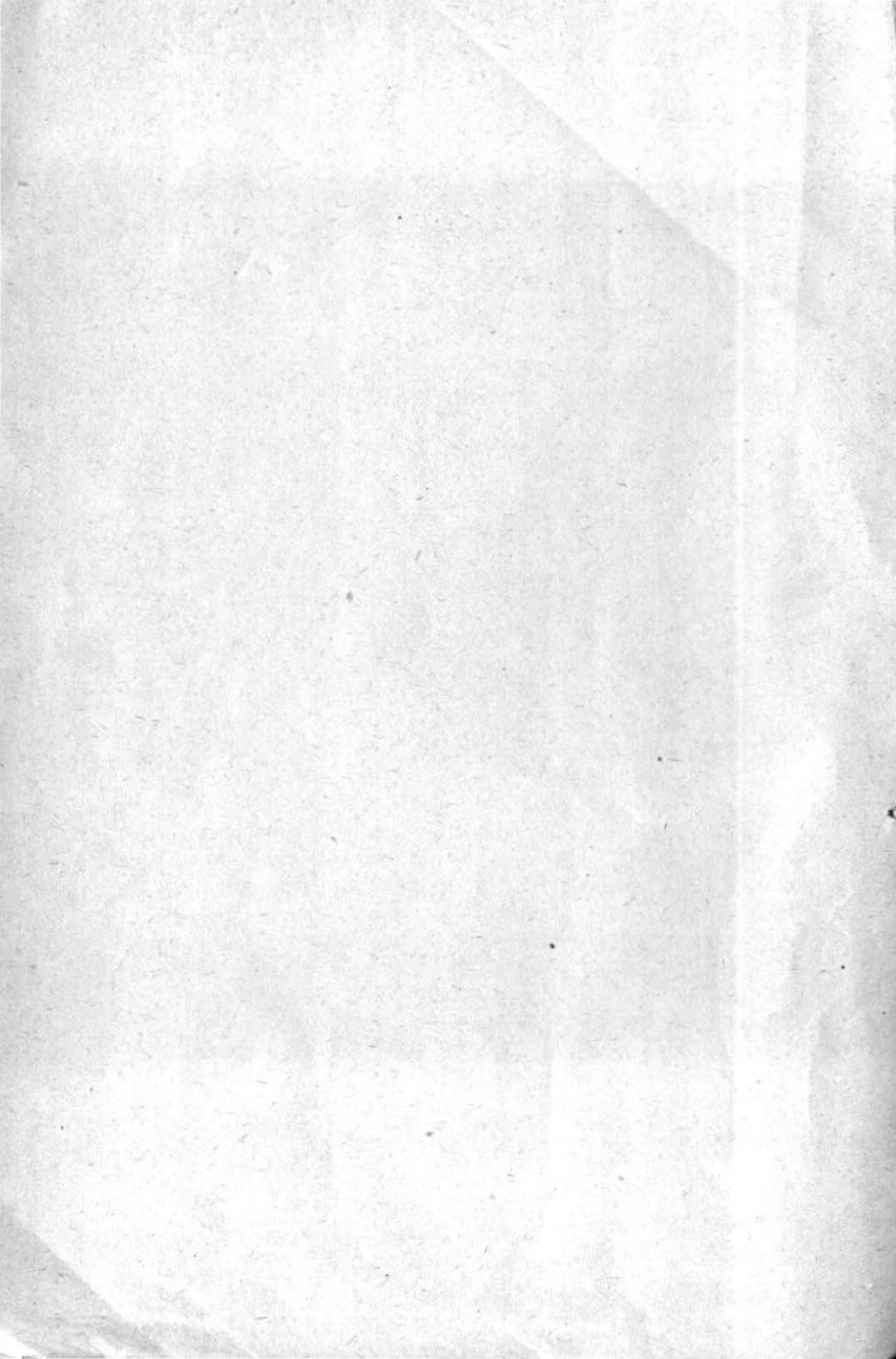
Aguirre, Olmado



1901.



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3.—Are the mines being worked and if so since when?

The Candelaria mine was worked (July-1896) by the Company, upon a part of the ledge discovered by them, last year, in the month of february, but the work is limited to simply opening up and exploring the vein. Pay ore has been taken out from the surface, and all through the extension of the work done.—The Montaña de Oro—The Montaña de Oro—consists of 8-pertenencias— [one pertenencia is equal to 10.000 square meters] and the Candelaria” mine has also 8-pertenencias—making 16 pertenencias [1600 meters with in the boundary lines of the locations of both the mines together. The San Francisco Mine” and “Mina Vieja” have not been worked by the actual Company. There is a gold placer”—which has been formed from the many out croppings of the “Candelaria and “Montaña de Oro” mines—It has settled in a cañon”—known as Gegito creek.” These “placers” have been worked for a number of years, of which there is no record as to when they were commenced and are still allowed by the owners to be worked upon a small scale.

4—What has been the product of these mines since the work commenced?

No work has been undertaken to operate the mines except that required to open them up. All the work has not been on paying ore, but in mineralized rock. There has been extracted in paying ore from the Candelaria and Montaña de Oro mines only about 300 cargas of 300 lbs each to the carga from each mine with a value of from— $\frac{1}{2}$ oz. to 1 & $\frac{1}{2}$ to the carga” in Gold. Regarding the San Francisco and Mina Vieja mines, assays have been taken from the surface

only, of the San Francisco mine which yielded from 12 to 70 ozs per "carga" as to the Mina Vieja mine, the works are all under water and work is in progress to drain it. The work of this mine was commenced on a ledge 2 meters wide, bearing Galena, containing Blend, sulphide and Carbonates of Copper with a variation of from 1 meter to 2 meters wide according to the location on the surface.—Samples taken from the dump show traces up to 70 ozs. silver per carga, assay value.

5.—By what process has the work been executed. What machinery if any and how many laborers are employed?

The work of opening the mines by hand drillers, working for wages and also by contract, paying —\$ 8.00 cvs.— a running meter 7 feet high by the width of the vein—No machinery of any kind exists.—The number of laborers are varied according to the amount of work desired.

6.—What is the distance from a Capital, City, town or village?

From the municipal village known as Huajicori it is 12 kilometers: from the town of Acaponeta which is the County seat it is 32 kilometers and from the city of Tepic, Capital of the Territory is 200 kilometers N—E—

What is the altitude of these Mines?

The mouth of the Candelaria mine is 270 Meters or—877 feet above sea level.

7.—What distance from a railroad?

There is no railroad in this region or on this Coast, but there are some prospects of a R. R. passing through Acaponeta later on. At a distance of 40 kilometers from the town of Acaponeta, near the mouth

of the Acaponeta river, is a small sea port known as "La Lima" where vessels from San Francisco California, and Mazatlan port, deliver freight, machinery, & c. for all neighboring points. From the mines it is 72 kilometers.—The undersigned, during the two years in which he was employed by the Motaje Mining Company, had a very good opportunity of seeing the mode of transporting machinery on two wheeled carts drawn by oxen—He has seen pieces weighing as much as three tons drawn on cart with the greatest of facility.

The cost of transportation or freight from the port of "La Lima" to the of Acaponeta costs—\$ 1.00 cvs. per carga of 300 lbs—and from Acaponeta to the mines for—\$ 1. cvs 00 per carga, making the freight from la "Lima" the mines—\$ 2. cvs.00 per carga—or —\$ 13. 66 cvs per ton of—2000 lbs.

8.—Is water for domestic purposes abundant?

All the surrounding creeks have plenty of good pure water, among which is the stream known as "Colomos" situated about 600 meters from the "Candelaria mine, which on the 25th of last february measured 840 running liters per minute and it has water the year around also another good stream known as "Santa Rita" located about 3 kilometers from the former, the bed of which crosses the "San Francisco ledge hardly ever dries, except at the every end of the dry season.—Both streams could be adapted for motive power with a very moderate cost, owing to their heavy present fall. The "Colomos" stream can be counted upon for motive power mine months out of the year, and the "Santa Rita" stream from five to six months out of the year.

9.—Is labor abundant?—There are a number of

large mining camps in the vicinity, known as "Rosario", Plomosas, Sinaloa La Lima and Coliamastita" which are adjoining state of Sinaloa, also "Motaje, Mojocuatla, Teponahuasta and Zopilote, in the Territory of Tepic, besides various other ranches, villages and towns, from which could be gotten 200 pair of drillers or more, besides any amount of common labor.—The District of Acaponeta, has.....inhabitants.

10.—What is the daily wages earned?—The drillers earn from 62 cts to \$ 1. per day and the common labour 50 cts. per day for 10 hours labour. The prices for contracts are calculated from these figures.

11.—When was the discovery of these mines?—The veins of the Candelaria and Montaña de Oro mines were discovered in the month of february of last year.—The "San Francisco mine was discovered eight years ago, the owners of the mine at that time opened a vertical shaft 15 meters deep on the hanging wall and finally had to suspend the work for want of working capital.—Mina Vieja, judging from its dump was worked on a larger scale but no record exists as to when the mine was discovered.

What is the running direction of the ledges?—The ledges of the Candelaria and Montaña de Oro" mines, having a location of 16-pertenencias—run N-14 degrees-30 E—stands vertical, the ledge is discovered for a length of 980 meters and has a width of from 30 inches to 36 inches and about 1600 meters of a flat ledge running from North-east and widening to the South west. It commenced on the surface with a width of 4 inches—and has gradually increased on the following order: width on surface 10 centimeters

or 4 inches—These are the principal gold out-croppings; the works done on these mines consist of two tunnels—one being driven 20 meters and the other 43 meters long.—The San Francisco vein—being located with 8 pertenencias—running N-E to S W with a slight inclination or dip to the south and having a width of 40 meters at the point known as “Tiro del Muerto”—near which this same point known as “La Bermeja” ledge, having a width of 2 meters up to date. This vein has not been explored or worked.—The San Francisco ledge with its enormous width, show several mineralized parts and on the foot wall, well and perfectly defined vein of from 10 to 40 centimeters wide or from 4 to 16 inches—Regarding “Mina Vieja” I have referred to same in answer to question—num 4.

13.—What form has the shaft?—There is but one shaft and it is at the San Francisco mine; it was sunk on the hanging wall cutting same at a depth of 12 meters and from there to the bottom of the ledge, there are bunches of ore and very fair conditions, the shaft is 15 meters deep.

14.—What do the drifts and lower levels indicate?—In the Candelaria and Montaña de Oro mines, there are three horizontal levels; they measure 2 meters high by 1 & $\frac{1}{2}$ wide; the two of them have been driven 20 meters and the other is 43 meters long; they have been driven on the vein known as the “Porvenir” also another short level of 8 meters long, having a cross-cut of three meters long, and a continuation of eight meters on the flat ledge known as “La Esperanza” the first two, levels mentioned carry ordinary ore and the last two on the flat lode, have a width of from 20 to 50 centime-

ters or 8 to 19 inches, whose values has been already stated.

15.—What is the formation of the veins and country rock?

The country rock is in parts of a volcanic rupture. The flat vein is enclosed in masses of hornblend, andesite, which has undergone change in Ferruginous products, causing the rock to assume red and violate colors; the vein matter is composed of quartz, serpentine, sulphate of lime rock and brownish auriferous clays.—The mountain in which the "San Francisco and Mina Vieja" veins are situated appear to be Dacite. The first mentioned-vein is composed of Quartz and Calcite with sulphides of Lead, Antimony, Silver, Gold and Iron.—The second is composed of Quartz with sulphides of Lead, Zinc, Iron, Copper and bicarbonates of argentiferous copper.—The third is as before mentioned and intouched vein and contains Quartz with oxide of iron and argentiferuos pyritis. The value of which have already been given.

16.—Does water exists in the mines?

In the Candelaria and Montaña de Oro there are a few springs which will not produce over 2 liters per minute to each one, they have a natural drainage through the addit of the flat ledge. In the San Francisco Mine, the stringer of rich ore is well marked and lies partly in the bed of a small stream, having a small portion of it been explored where the vein is comenced. On the San Francisco Mine, the ledge runs strait into the mountain; in the shaft known as "Tiro del muerto there are small out spurts of water which probably do not give more than a liter a minute. In Mina Vieja"—it is more than likely that there is no water, owing to the level of same.

17.—Does any Tunnels exist?—See answer to question num-14 out side of these, there are no tunnels.

18.—What do the Placers resemble?

The Placers that are known have been worked from time unknown; they are formed in the gravel of the creek known as "Gegito" creek which joins the stream known as "Santa Rita"—creek over which passes the ledges of the San Francisco mine, Mina Vieja and La Bermeja ledges. There is above the creeks a reddish gold bearing hill, but so far it has not been determined where the Placers originate from. In the Santa Rita creek, from the Candelaria mine or the Colomos creek, both of which join the "Gegito" creek.

19.—What is produced from these mines?

From the Candelaria and Montaña de Oro mines and from the Placers,—Pure native Gold!—is taken—See answer in question-15 as to formation; and from the same, the conclusion is that the ores from the Candelaria and Montaña de Oro mines, are soft and susceptible of being able to crush 29 tons in 24 hours through a 5 stamp Battery with a 60 mesh screen; stamps weighing-850 lbs—and dropping-95-drops per minute and the ore from the "San Francisco Mine" and Mina Vieja" under the same conditions can crush-10 tons a day.

20—What is the expenses per week? This varies according to the workmen employed at the wages indicated in question num-10-and according to the amount of work required. The cost cannot be calculated to any certainty on account of the mines not being well opened up.

21.—What is the average value of the ores?

The average value of the out croppings of the Candelaria and Montaña de Oro is from 6 to 8 adarmes or 6/16 to 1||2 Oz. gold to the carga of 300lbs-and at the deepest part of the works which is 8 meters, the ore assayed according to the result made by different assayers, amongst them being the Assay Office of the Zopilote Mining Company" which gave an average of-1-Oz to the carga of 300 lbs.

22.—What facilities for fuel, Lumber, & & exist in the surrounding country?

The surrounding mountains are covered with virgin forest timber such as--Oak--Tepemezquite-Tepeguaje-Mahogany, Amapa, Parota.-& & all of which exist in abundace and are, as can be seen, the best quality of hard wood timber for fuel and for timbering amognst them being "Tepeguaje"—one of the best hard wood timbers known for mining purposes, the quantity of which may be estimated from the fact that a beam of-10 X "9" long costs-37 cts. and 100 timbers for lagging-9 ft. long for \$ 8. cts 00; the other class of timber are equally abundant, the surrounding lands for a considerable distance, is Government lands, and can be easilly obtained as property at reasonale price --\$ 2. 50 cts. per hectara--(an hectara is equal to -2. 47 acres.)

23.—What about food and water?

Articles mostly needed by the working class are plentiful in the surrounding farms and towns of Huajicori and can be had for very moderate prices. The drinking water is plentiful in the streams already referred to, besides a number of springs on the mount tains sides, by which the water can be taken without any cost.

24.—Is there a Reduction Work?

There has been commenced a Reduction works, commenced with the object of testing the ores on a small scale—It consist of 4 "tahonas" of the old style run by water power with a capacity of—one ton per day, each one.

25.—What is the cost of freighting ores?

From the Candelaria and Montaña de Oro mines, the freight costs from the mines to the Reduction works,—ten cents per carga of—300 lbs. carried on mule backs but should cost less judging from the distance which is not over 600 yards; from the San Francisco and Mina Vieja" mines, the distance to the Reduction works is 3 Kilometers and costs 30 cents per carga of 300 lbs.

26.—What has been the total output of the mines?

Owing to the fact that the work has been done, was only to prospect the mines, the output naturally has been small; some of the work has been done on the veins and some in other parts in order to examine stringers. The total output from work done in the veins by sinking, drifting, gives a total of 300 cargas"—of 300 lbs per carga—with the value given in the 21 st, answer.

27.—What work seems advisable?

On the flat vein of the Candelaria and Montaña de Oro, it is essential and in my opinion economical, to run several successive levels without regard to strait lines, carrying the vein above as stoping ground from these tunnels, each to be a distance, one from another of 50 meters—opening drifts along the vein as they raise, communicating them together as they go, leaving the necessary pillars and working

economically, this being a very easy matter owing to the softness of the ground, and its position which permits easy and clean stoping, in opening up the tunnel, timbering will be necessary, but in stoping out the ledge, the waste will prove sufficient to fill up the cavity from which the ore is taken and at the same time, the mine will be drained by the tunnels in case the water should increase and will not have to be extracted by mechanical appliance.

—There is room for several of these tunnels as the veins run along the mountain side, which has a very heavy pitch or slope, the creek being below.—The San Francisco is, according to my opinion, best sink the shaft known as the “Tiro del muerto,” then to cross the vein from the hanging to the foot wall, also crosscut rich-stringers which are visible in the bed of the creek and probably you will strike rich veins and they can be worked without any danger of freshets or rains that run in the creek affecting the work. It is probable that this work would increase the amount of water in the mine, but it must be taken in consideration that the vein is hard and solid and that from the shaft num-2—at a distance of 40 meters it is joined by the “Bermeja” ledge and from the shaft, south-east at a distance of 70 meters, it is joined by the “Mina Vieja ledge.”

This seems to be the most interesting section owing to the enormous size of the vein and the general formation and value of its ledges leaving the shaft as a working center, besides the old workings of Mina Vieja-Mine” there are 60 meters above the mouth of the shaft, and the great abundance of ores at that height, is an excellent sign for the lower workings

It is impossible to state the size of a Mill to

treat the future product from these unknown grounds or ground slightly explored, but from all indications and judging from the water available in the "Colomos"-creek, it is visible that sufficient power can be taken to move a large plant with pans, settlers &. &. handled by the "Boss Process and by this means will have a good economical reduction works for the Ores from the Candelaria an Mina Vieja" mines, also the silver ores from the "San Francisco and Mina Vieja mines, specially during the rainy season, then the Colomos stream can be used for motive power also for washing the gravel in the "Gegito" creek, also the Santa Rita" stream can be used.

Labourers are allowed the liberty of working the Placers" and are now being worked to advantage by some prospectors.

Santiago Ixcuintla, Marzo 1896.

Amado Aguirre.

M. 2.



Adition to the Report on "La Candelaria,
Montaña de Oro and Anexas, S. A."
Tepic, México.

After the Mining Engineer, Mr. Amado Aguirre, presented his report on the "Candelaria Mines" a Joint Committee of the Board of Directors of the Company, appointed Mr. Alejandro Agraz, a very intelligent gentleman, and an expert Mining Engineer, who was then General Manager of the "Zopilote Mining Company" to make another examination of the "Candelaria, San Francisco, Montaña de Oro and Mina Vieja Mines" Mr. Agraz was accompanied to the mines by one of the owners, Capt. Leopoldo Vázquez Mellado, and after investigating the tunnels and drifts of which Mr. Aguirre refers in his report, and after a carefull examination, similar to those practiced by Mining Engineers,—He informed the Company that the Gold bearing vein known as the Candelaria was well defined, having a good formation and that its dip was well marked having solid hanging and foot walls—This examination was made all through the—43—meters of tunneling—He also made a visit to "Cañon corto"—which has its shaft

above the level of the other works and upon examination, he found that the Gold is encountered in the form of seams and not in surface pockets or deposits—He also states that the vein has very good prospects as the small bodies of ore continue and is rendered perceptible by the fact that the stream carry the gold deposits away from the mountains where the mines are discovered—He also examined the San Francisco Mine following the vein for over four kilometers and found that it is strong and well defined vein having the density as load as expressed by the report of Mr. Aguirre. The samples analyzed by Mr. Agraz will be found with the results further along. It is clear that the San Francisco vein with the proper machinery will yield a most flattering result, the surrounding circumstances tend to show that although the vein of "La Candelaria is not wide on the surface, but it may develop to a good width at the expiration of a well sunken shaft.—The San Francisco ore is rebellious and requires a powerful and up to date plant of Machinery to get O. K. results.

The average depth in which good ore is found in the "San Francisco" mine, is 39 meters and same distance from the mother lode, so the Engineer thought it was advisable to push on the same work, that is to take all the matter out of the workings in order to ascertain the direction of the good ore and after carefully following this orders we found that we were 40-meters- from the main vein and that this vein was just 43 meters wide from wall to wall. Such a surprising discovery could not help attracting the attention of those present, who by the Engineer express orders, repeated the experiment, giving as a result a complete confirmation of the first.

Surface investigation discloses the fact that 100 meters from the first claim and workings, another very powerfull vein joins the San Francisco vein whose breath we have been unable to discover due to the fact that it run directly over a very steep and lofty precipice, making us believe that a breath of more than-80-meters of ore exists where the two veins cross and on account of the colour of the metals of this vein, we gave it the name of "Vermillon" and we examined it to a distance of 6 kilometers encountering the width allways on par with that of the surface.

Various metals of San Francisco vein were taken from the surface exploring the stream for over 2000 meters and not being able to go further on account of the risks being too great, but the vein goes on, encreasing and enlarging in size for more than 3 kilometers, then it crosses and mixes itself with many other veins, which can be found in various directions on the slope of the mountain known as "Las Grullas"

In January of-1898—a Mining Engineer from Los Angeles, California, Mr. A. M. Ellsword visited the Candelaria and Montaña de Oro and after a detailed examination peculiar to those of his profession, he was agreeably surprized with the good grade of gold.

He likewise examined the debris from a cave which had fallen inclosing the entrance of the mine and found that the ore that saves from above, carried the same richness as in the other parts that he examined.

He formed an excellent opinion of the whole concern and stated that if properly handled with the proper kind of machinery that it would turn out a very profitable investment.

The reason that the present Company has, not worked the mines on a larger scale, is because the system they use in reducing the ores, do not save over half the gold, they have hoped to be able to place the properties with some Company that is able to and capable of putting the necessary machinery, similar to that used by the Zopilote Mining Company and some others, concentrating Plants.



*Copy of Assays which says:—"Compañia
Minera El Zopilote" July 5 th, 1895."
Assay made from samples of ore sent by Captain
Leopoldo Vazquez Mellado from the
town of Santiago Ixcuintla. Tepic, Mexico.*

SAMPLES:-	MARCOS-
Num-1-Hanging wall to every-300 lbs-Value in	Marcos 0. 02
„-1-Foot „ „ „ „ „	0, 02 & $\frac{1}{2}$
„-2-Hanging „ „ „ „ „	0, 02
„-2-Foot „ „ „ „ „	0, 07
„-2-Hanging „ „ „ „ „	0, 10
„-3-Hanging „ „ „ „ „	0, 02 & $\frac{1}{2}$
„-3-Foot „ „ „ „ „	0, 02 & $\frac{1}{2}$
„-4-Hanging „ „ „ „ „	0, 02 & $\frac{1}{2}$
—Concentration—	Marcos—7. 25. (One marco is equal to -8- ounces.)

The samples sent to Mr. Alejandro Agraz, Superintendent of the Zopilote Mining Company, were taken from the tunnels of the Gold Mine "La Candelaria.



**Assays made from samples sent by "Candelaria
Mining Company." "La Candelaria"**

Silver-I-Kilo	0 56	grams.	to the ton of 1000 Kilos.—	B. Bony Mazatlán, (Sinaloa,
Gold-0,	385	grams	„ „	B. Bony-Mazatlán. (Sinaloa,
Gold-0,	43	„ „	„ „	Heckelmann & Mc (Cann. Mexico
Gold-0,	45	„ „	„ „	Phil. Decker Mon- (terrey, N.L.
Gold-0,	61	„ „	„ „	S. D. Bridge, Mon- (terrey, N L.

“Montaña de Oro” ore—

Silver-I kilos	038	grams—to the ton of 1000 kilos	(H. M. Stanley, Mexico. D. F.
Gold 0,	40	„ „	„ „ H. M. (Stanley, Mexico. D. F.
Silver-0,	40	„ „	„ „ Seck (back & Co, Mexico.
Gold 0,	05	„ „	„ „ Seck— (back & Co, Mexico.
Silver 0,	140	„ „	„ „ Phil. (Decker. Monterrey, N.-L.
Gold 0,	120	„ „	„ „ Phil.
—Iron—	7, 8	⊖	—Copper 5/10.—

“San Francisco ore.

Silver-110 kilos-700	grams—to the ton	Phil. (Decker. Monterrey, N-L.
Cold 0, „ 1	„ „	Phil. (Decker. Monterrey, N-L.

Lead—6 g.—Iron—9 g.—Copper—1-7/10.—10. g
(Phil. Decker. Monterrey, N-L.

LIC. ELIAS GALINDO,

Secretary.







