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Report

on

"La Azteca" and "La Verde" Copper Claims.

"La Azteca" and "La Verde" Copper Claims are situated about ten miles, in a direct line, S. 75° E. from the City of Alamos in the State of Sonora, Mexico; or about fourteen miles by the present road. The ranch on which they are found is called Potrerillos; its Geographical position being, very nearly, 27° 12'. North Latitude and 9° 33'. Longitude, West of the City of Mexico.

The Altitude at the ranch is about 1200 ft. above sea level. It is about sixty (60) miles by wagon road from Agiabampo, the nearest Sea Port. The nearest running stream is the Cuchujaqui arroyo, four miles to the West and two hundred ft. (200) lower, where the road crosses it. Potrerillos is situated among the first group of scattering foot-

hills, going East from the Coast; and Consequently, easily accessible by either railroad or wagon road. The highest hills in the vicinity are not over 2,000 feet above sea level. From its Geographical position one will readily see that the climate will be almost semi-tropical; which, with its altitude, guarantees a climate that leaves little to be desired as a place of residence. The Seasons are two: The Rainy and the Dry. The rainy season Commences about July first and Continues till October first to fifteenth. From October to July is called the dry season; through the Winter, rains can usually be counted on, for fifteen to twenty days, some time between December fifteenth and February fifteenth. The Climate from October first to May first leaves nothing to be desired; the extreme temperatures being about 40° and 80° Far.. From May first to October first the extremes in temperatures are about

50° and 100°; this latter being much tempered during July, August and September by the rains. The average annual rain fall is about twenty inches.

Mosquitoes and other troublesome insects are scarce and rarely bothersome; the proof being, that one never sees a Mosquito-bar in the country. The surrounding country consists of low rolling hills separated, for the most part, by narrow valleys. The hills increase to mountains to the East; and run into low rolling "mesas" (tables) to the West.

The formation, for the most part, consists of Tertiary Lavas and Tufas and altered Andesites. The drainage all leads to the West into the Alamos arroyo ten Miles away; and through it, South, into the Fuerte river.

The general aspect in the vicinity of Potrerillos is anything but inviting, especially during the dry season. There is little soil

covering the rocks, consequently pasturage is scarce.

The vegetation consists, in the main, of underbrush among scattering trees. These latter belong to the "Tierra Caliente" belt, as the Oak belt is not reached here. The Tierra Caliente trees most abundant, that would furnish fuel, are, Brazil, (Logwood), Mauto, Mesquite, Amapa and several others; but those most noticeable are those named, and in the order named. The Mesquite is found along the arroyos (creeks and runs), but the Brazil is found (somewhat scraggy) even on the Barren rocks. Though the Country is fairly well covered with vegetation, still fuel, in the immediate vicinity of the claims, is very scarce. However, the Country can be drawn on for miles around, by means of good wagon roads; especially in a Westerly and Southerly direction. The wood, though small in size, is of the hard varieties and makes good fuel

The Potrerillos ranch occupies a basin about one mile long by one-half mile wide; the long axis being East and West and the short North and South. The main inlet drainage is the Plomosos arroyo, coming from the N.E. and from the main foot-hill range, some ten miles away; draining, in its route, several similar basins. The outlet of the Potrerillos basin is in the N. W. side, through a narrow Cañon; where a retaining dam could be built, 100 ft. high if desired, on solid rock, about 40 ft. wide on the bottom and, not exceeding, 500 ft. wide on the top. The Azteca ledge cuts across the South-Easteren side of the basin, throughout its entire length, or nearly a mile. Creston 1., Creston 2. and Cerro de la Cruz (see map) sticking up above the brush and markedly visible from the ranch house near the Cañon, half a mile away. The Cerro de la Cruz is particularly noticeable, due to being highly impregnated with Copper stains; Green and blue. From a

distance it looks like a bluff or crest of pure copper ore. The Surveyor took it to be such and included it in section 14 (see map). The fact is though, that here the ledge being less hard has eroded and crumbled away; and the Cerro de la Cruz is simply the foot wall; which, being much broken up, readily admitted the copper solutions to penetrate the fractures and precipitate the copper contained in them. Though seeming at a cursory glance, to be rich copper ore, in reality it is of little value. In fact, after examining it very carefully, I considered it of so little value that I did not take a sample.

The Azteca has a strike of N. 42° 30' E. It dips to the N. W., being almost vertical; having a dip of about 80°. It is a true fissure vein undoubtedly, though the surface indications would lead one to believe it a contact. For the most part the gangue is a pure quartz; though

at the "Pozo Verde", Section 1., and Cerro de la Cruz, Section 14, (see map) the gangue is composed of mineralized lava and general country rock, with some quartz in Section 14. The width at Pozo Verde cannot be estimated. The gangue is a lava impregnated with Carbonate of Copper. It is much broken up transversely. Between the transverse seams are encountered streaks of pure sulphide ore from one to two inches thick. A general sample of the seam uncovered, some 4 ft. wide, assayed 10 2-9 % copper. A general sample from ore, much poorer, from what seemed to be a wall, assayed 2 1/2 %. None of the rich ore from a streak was taken.

From Pozo Verde to Creston 1. the ledge is covered with Tufa, and only comes to the surface in a prominent crest, just over the Divide, in Section 3, marked Creston No 1. on map. Here the hanging-wall has

decomposed and been washed away, leaving the ledge stripped and sticking in the air some 40 ft., in the highest part. The immediate hanging-wall is a volcanic Conglomerate or Tufa, though a later flow of lava covers this and runs almost up to the ledge here. The foot-wall is a very much altered andesite. The gangue is solid quartz carrying copper and iron. In section 3, on top, the ledge is from 10 to 15 ft. wide, but seems to widen; and must be some 30 ft. wide at foot of bluff in same section. In Section 4. it reduces to about 10 ft. again. The quartz on the foot-wall, for 6 or 8 ft., carries a large per cent. of iron and only about 2% copper (assay 4). I took a general sample of the purely copper rock and another of the lower grade; and as the two represented about equal parts of the ledge, leaving out the distinctively iron quartz, I mixed them. This assayed 4½%

(assay No 3.), and is a fair average sample of 10 ft. of the ledge on top. I broke about a ton of rock from the ledge at foot of bluff which, with many tons lying around, will assay somewhat higher; being much more highly impregnated. I hardly think it will run less than 7% or 8%. Though I brought samples, I did not have them assayed. The character of the ore here is a silicate of copper; and I have some specimens of this ore that suggest 50% copper. In Section 5 the ledge disappears on the surface; but breaks out strong in Section 6, or Creston No 2. Here, as in Creston 1., the hanging-wall has disappeared and the ledge is stripped for a couple of hundred feet with its strike; and for 50 ft. vertically. Here the ledge is fully 50 ft; but, is mostly pure quartz. Though copper is apparent throughout the whole, still a large proportion

of the ledge would assay very low. However, a seam of blue carbonate ore that can be estimated as 6 feet wide, in South end of Section 7, assays in copper, about 8% (see assay No 5). From Section 7 on throughout Section 9, the ledge crops out strong on the surface some 10 ft wide. From Section 7 to 14 (Each Section represents a Mexican Mining Claim, 100 X 100 metres square = 247 acres) the country is quite level. Altitude about 1300 ft. In Section 14, at foot of Cerro de la Cruz, I took a sample of what appeared to be a very much altered country rock slightly stained with Copper Carbonate. This assayed 1 54/100 % in Copper

From 14 to 21 the ledge does not appear on the surface. At the point B, (see map) between Sections 18 and 19, a strong ledge crops to the surface. Its strike is nearly North and South with dip to the E. about 75°. It only comes to the surface

in this one place and is about 8 ft. wide. The ore is a carbonate and sulphide of copper impregnated with ferric oxide. Little or no quartz gangue excepting a streak on the foot-wall. A sample taken across the ledge at this place assayed 6 27/100 % Copper (See assay No 1.).

"La Verde" — This ledge lies about 125 metres to the N. E. of the North end of "La Azteca". It crops out strongly on the surface in Sections 5 and 1. (See map). It is about four feet wide on the surface; but indications suggest that it widens going down. Its strike is N. 31° 30' E. Astronomic, with its dip to the East about 70°. The walls are volcanic conglomerate or Tufa. Its gangue consists of a breccia carrying Carbonate and Sulphide of Copper. A thorough general Sample from about Middle of Section 1. assayed 8 57/100 % in Copper. From a blast put in on

surface, about the line between 1 and 2, I procured specimens of sulphide ore that will assay, apparently, 30% in Copper. As near as I can judge, little or no timbering will be required.

The "Azteca" titles call for 23 Mining Claims and "La Verde" for 5; the two making a total area of 69.16 acres. There are other copper ledges in the vicinity. While I was directing the breaking of the rock to take the sample of La Verde, I sent a miner to prospect the ridge to the South. He returned in about two hours with samples from a ledge, that I judged would assay from 6% to 8% in Copper. He also found a piece of float-Carbonate and sulphide Copper ore - that would assay at least 30%.

I was told of other ledges across the range, about two miles to the South, at a place called "Tepehuages". Some three

miles to the N. E., accessible to a wagon road, are large lead ledges, at a place called "Plomosos".

The roads to Potrerillos, both from Alamos and the Coast, are in a native state; but a few thousand dollars would put them in a transitable condition. The road from "Agiabampo" the Sea Port, whether wagon or rail, would follow about the same route and be about the same length. The general direction would be a little E. of North. From Agiabampo the route would be about N. E. for 25 miles, across almost a level country, to the "Capitahuasa" Pass; from here, N. down to the Alamos arroyo, a little below San Vicente, for about 5 miles. Along the course of the Alamos arroyo, on the present main wagon road, a little W. of N., for about 20 miles to Jerocoa.

From Jerocoa, across Country, almost N. for ten miles, to Potrerillos or "La Azteca". A good wagon road from the Coast to "La Azteca" would cost, one mile with another, about $300.00 silver per mile. A narrow gauge Railroad between the same points would be all of 60 miles long and would cost, at a rough estimate, equipped, $14.000.00 gold per mile. 1½ % would be the maximum grade; and the mean, about ½ of 1%. The safety of general travel can not be equalled in the the United States.

A Company working these mines would draw its Labborers, Miners, etc. from neighboring Alamos, one of the largest mining towns on the Coast. General laborers can be had for one dollar silver per day; Miners from $1.75 to $2.00 silver; native Carpenters, Masons and Blacksmiths for $3.00 maximum per day, in silver.

Samples and Analysis of the Los Brounces Coal - Sonora, Mexico, - 200 miles North of Topolobampo.

Samples were taken from the clean faces of Coal, at or near the headings of the various workings examined and were carefully tested, with the following results:-

	Sample from Entry H.	Sample from Entry G.	Sample from Entry F.	Sample from Entry B.	Sample from Entry A.	Sample from dump on South side of Gulch.
Water -	7,550%	7.60%	7.825%	9.375%	10,025%	5.00%
Volatile Combustible matter	4.565	4.495	3.393	8,029	4.515	4.331
Fixed Carbon	76,740	79,020	82.292	76,554	78.940	85,270
Ash -	10,925	8.525	6.175	5.600	6.250	5,060
Sulphur -	0,220	0,360	0,315	0,542	0.27	0,339
Phosphorus -	0.083	0,069	0,021	0,051	0,148	0,234

The coal burns freely on grate with natural draught, with short flame and no smoke and its physical qualities, especially that of the Coal from the South side of the gulch,

are such as to bear considerable handling.

An average of several determinations gives specific gravity 1,74.

The quality of the coal, as shown by the analysis, varies slightly, but an average of all the analysis of coal from South side of arch, gives the following:

Water	7.600
Vol. Comb. Matter	4.260
Fixed Carbon	80.453
Ash	7.387
Sulphur	300
	100.000
Phosphorus	.131

Pennsylvania anthracite from the Lackawanna regions analyses, as follows:

Water	3,421
Vol. Comb. Matter	4.361
Fixed Carbon	83.268
Ash	8.203
Sulphur	.727
	100.000
Phosphorus	0.010

List of persons who put up $250.000., in April 1895. to buy an Onyx Mine and short piece of Railroad in Mexico. but could not get them:

Hon. Charles F. Crisp - Ex Speaker - Americus, Georgia

Hon. Joseph D. Sayres - Ex Governor - Bastrop, Mass.

Hon. James D. Richardson, Murfreesborough, Tenn.

Hon. Jacob Le Fever, New Paltz, New York.

Hon. Charles D. Haines, } Kinderhook, N. Y.
Hon Lafayette Pence, }

Hon. Moses T. Stevens, North Andover, Mass. (Republican)

Hon. J. Frank Aldrich, Chicago, Illinois. (Republican)

My dear Mr. Owen:

I hand you over a report by Mr. Juan Fleury, M. E. of the State Dep't. of Fomento on the Tacambaro Mng. Zone which comprises 96 claims or an area of 237 acres of mineral ground.

The mines of the Tacambaro Mng. Zone are not opened up much and the old workings are partially caved in; they require therefore some development work to show them properly up, but the mines being on the same formation and on the same range of mountains as the Inguaran mines as can be seen by the outcroppings, their value will undoubtedly be very large after a small expense is made to develop them. A report on the Inguaran mines by the same Mng. Engineer, Mr. Fleury is accompanying the Tacambaro Mng. Zone as they are virtually of the same character.

As you are aware, the Inguaran mines have been sold lately to the Rothschilds of Paris who are to organize a Company with a Capital of 30 million Francs, and are already locating a railroad from their mines to connect with the Mexican Central and Mex. Nat. Railway System and

with The Coast. This road will benefit very largely our Mng. Zone and give to it an immense value as transportation has been the only cause of leaving this mineral region undeveloped for such a long time.

My proposition to your friends will be on the following basis:

1st. Your friends to pay $2.000 U.S. currency for a working bond of one year, provided they do work for not less than $3.000 U.S. currency during said period, to open up more fully the different mines.

2nd. Your friends to pay $3.000 U.S. currency for a working bond of 2 years, provided they do work for not less than $5.000 U.S. currency during said period to open up more fully the different mines.

3rd. In either case, if they decide to buy the mines, they are to pay the sum of $20.000 U.S. currency and 40% of the stock on transfer of the property. The Company to have the right to pay $50.000 U.S. currency in lieu of the 40% of stock.

Memorandum.

Tepustete Iron Mine.

Analysis of Ore and statement of one of the largest English Furnaces you already have.

The Tepustete Iron ore is superior to the ores for which Eastern works send to Cuba, and England sends to Spain, for blends. It is the only ore for this purpose on the Pacific Coast, and superior to any that has been found elsewhere. The ore can be loaded from the mine into ships by ledger-wood cable at rate, if desired, of 500 tons per hour. There are 1.200.000 tons engineers estimates, actually in sight, and the mine is stronger at the deep working than on the surface. At the request of the Japanese Government I have just sent on statement of price at which ore could be delivered to them either at San Diego or at mines. With their estimated freight rates the ore can be laid down in Japan for less than than they have offered for Iron Atlantic sea board. The Japanese Commissioner, Sho

Nemoto, who visited me lately to get particulars, states that his government will use an enormous quantity of the Tepustete ore as they are going largely into a manufacture of iron and their own ores are valueless without this for a blend. They took over a quantity of Tepustete ore one year ago for experiment and used it for this purpose. The ore can be delivered here at San Diego for $3.00 per ton. The freight rate to Japan is $3.00. The price for imported ore seven units poorer than Tepustete, at New York was, three years ago, $6.50. The Japanese estimate their own ore costs $2.00. Four tons of it $8.00. The one ton of Tepustete for blend $6.50. Total $14.50 for the five tons or less than $3.00 per ton for what makes first class pig. At Seattle they are now making good coke for furnace use for four dollars. Previous to the Bryan scare they were negotiating for Tepustete ore ~~[illegible]~~ to use there. A minimum net profit on Tepustete ore wherever it might be sent would be one dollar per ton and with better markets double that.

The main vein at several hundred feet depth is ten feet thick in good walls. There are three other veins on the ground, and one vein of manganese which runs fifty-two per cent. and $4 gold and silver. I have lately had a letter from the Carnegie Company offering to take all of the latter unshipped at the mine. As manganese is eagerly sought for this would sell at the mine for at least $6.00 per ton. In the experimental cutting I have taken out eight hundred tons. The vein is strong and well defined. It will take about $25.000. to equip the mine to load directly into vessels, break up the ore, etc. If the estimates of both foreign and American engineers are correct the mine will yet pay better than any gold mine on the Coast.