FILE COPY
SURNAME:

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

June 4, 1951

Mr. Juan Mariano Velasco
Edific. Gildemeister 409-410
Casilla 576
Lima, Peru

Dear Mr. Velasco:

This will acknowledge receipt of your letter of May 25, 1951, referring to Tintaya Copper Mine, DMA 784.

As requested in your letter, we are enclosing the Report on the Tintaya Copper Property by Everett H. Graff, DMA 784.

Very truly yours,

Thomas C. Baker gad

T. C. Baker, Chief
Foreign Division

Enclosure (DMA 784)

TCBaker:gad

Copy to: Mr. Strobel
Mr. Pehrson
Mr. Johnston, Room 4211, G.S.Bldg.
Admin. Reading File

Baker

Juan Mariano Velasco

Abogado

EDIFIC. GILDEMEISTER 409-410
TELEFONO 31792
CASILLA 576

DEPARTMENT OF INTERIOR
DEFENSE MINERALS ADMINISTRATION
RECEIVED
MAY 28 1951
LANDON F. STROBEL
EXECUTIVE SECRETARY

Lima, May 25th, 1951

Mr. T. C. Baker
Chief of Foreign Division
Defense Minerals Administration
Department of Interior
Washington 25, D.C.

DMA-784
Tintaya Copper - Peru

Dear Mr. Baker:

I have received your letter of April the 10th refering to my proposition on my copper property Tintaya.

I appreciate very much the attention that you have kindly given to my proposition, and I hope that in a near future this matter will merit a new consideration of the Defense Minerals Administration, either because of a new law authorizing the government of the United States to give financial aid for the development of mining properties in foreign countries, or because my copper property have already been developed.

Meanwhile I will appreciate very much to have Mr.Graff's report returned to me.

Hoping to have some day the opportunity of treating this matter again with you, I remain,

Yours very truly

Juan Mariano Velasco

FILE COPY
SURNAME:

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

J. K. Richards

April 10, 1951

Memorandum

To: Chairman, Copper Commodity Committee

From: Director, Foreign Division

Subject: Tintaya Copper Deposit - Southern Peru. DMA Docket No. 784

Reference is made to your memorandum of March 29, 1951 from the Tintaya Copper Deposit. The Foreign Division is in agreement with the conclusions regarding ore reserves presented therein and believes that without further investigation the proposal must be denied because it does not fall into any category rendering it eligible for Government assistance.

Consequently, a letter of denial has been addressed to Director Velasco. A copy is appended for your information, particularly with reference to the reasons given for the denial.

Thomas C. Baker
T. C. Baker

Attachment

WWTamplin:hc

Copy to: Files
Admin.Rdg. File
Exec. Secy. Strobel
E. W. Pehrson
W. B. Johnston
T. C. Baker
W. W. Tamplin
Chron File (Blue)

DMA 784

858

FILE COPY
SURNAME:

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

April 10, 1951

Dr. Juan Mariano Velasco
Edificio Gildemeister 409-410
Apartado 576
Lima, Peru

Re: DMA 784
Tintaya Copper Deposit - Peru

Dear Sir:

Your proposal for the exploration, development and exploitation of the Tintaya Copper Deposit, together with the supporting data which you submitted, after having received due consideration from the Bureau of Mines and the Copper Commodity Committee of the Defense Minerals Administration, has been transmitted to this Division for appropriate action.

The consensus is that there is not sufficient assurance of a tonnage of proven ore to justify this proposed loan for the provision of production facilities. A large amount of exploration and development work would have to be accomplished to enable satisfactory determination of the exploitation facilities which eventually might be required. The loan proposed by you for this purpose could not be granted because the United States Government has made no provision for financial assistance for the exploration, prospecting and development of foreign mineral deposits other than in E.C.A. countries, a fact that was not clearly defined on the occasion of the early conversation regarding your proposal.

Will you kindly advise us if you wish the copy of Mr. Graff's report returned to you.

Very truly yours,

Thomas C. Baker

T. C. Baker, Chief
Foreign Division

WWTamplin:dak

cc: Chairman, Copper Commodity Committee
Adm. Reading File
L. F. Strobel, Exec. Secty
E. W. Pehrson
W. D. Johnston
Files

FILE COPY
SURNAME:

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

Holt
Johnson

March 29, 1951

Thos. C. Baker

Memorandum

To: Director, Foreign Branch

From: Chairman, Copper Commodity Committee

Subject: Tintaya Copper Deposit, Southern Peru.

We have reviewed the reports and other data submitted on the Tintaya copper deposit, Southern Peru, with results as follows:

Conclusions

The reports and maps submitted do not give a clear, detailed and convincing picture of the tonnage and grade of ore reserve. The adits and drill holes shown on maps, (excepting adit number 10, which is not shown in detailed maps or sections) are all located in areas shown as mineralized at the surface, with no exploratory workings in intervening areas covered by overburden, although the assumption is made that the garnetized and mineralized areas probably join beneath overburden. Such is not a safe assumption, particularly in contact metamorphic deposits, where the garnetized areas, being more resistant to weathering, often stand up as knobs, while the intervening rocks, without garnet, are often softer and weather more rapidly, forming depressions, covered with overburden.

The ore reserve claimed, 24,000,000 tons of 3 percent indicated (probable) copper ore is computed on the assumption that the known outcrops of garnetized rock in the central zone are ore. Detailed maps and sections of the adits, particularly adits Numbers 2, 3, 4 and 7, do not appear to support the claim that the ore will average 3 percent or better in copper. It is also stated that assays varying from 0.33 to 0.96 percent copper have been obtained from samples of porphyry in the mineralized zone.

The problem of mining separated masses of garnetized ore would be difficult. Perhaps careful detailed sampling would show a reserve which includes both garnet ore and mineralized

Bureau 784

856

porphyry, the total tonnage being much greater than claimed by applicant, but the grade much lower. The mining of such ore would be easier than trying to mine the garnetized ore separately.

Information and maps furnished show too few, and too widely scattered samples to justify calling the ore reserve "Indicated" (probable). It should be classed only as "Inferred" (possible) ore.

The applicant should be required to secure for the D.M.A., or authorize the D.M.A. to request from the Anaconda Copper Mining Company, complete reports with maps and detailed sample records, showing the work done by Andes Exploration Company in 1917 -1918, and the Anaconda re-examination, by March and Podesta, in 1947. The question of why Andes should drop the property after spending a million dollars on it in 1917-18, then Anaconda not be interested after its 1947 re-examination, is one that should be settled before more money is spent there.

If the proposal still appears favorable after checking the above points, the first money advanced should be spent for careful detailed drilling and sampling, doing a job thorough enough to prove tonnage and grade of ore reserve, before any decision is made as to the size and cost of plant needed to mine the deposit.

The above conclusions are based on the following information, taken from Graff's report:

Abstract of Report by Graff, May, 1950

Location: The mine is located 7 miles from the nearest highway, 9 miles southeast of Yauri, Province of Espinar, Department of Cusco, southern Peru.

Transportation: From the nearest port, Matarani, to Vincocaya, there is a standard gauge railroad 280 kilometers long. From Vincocaya there is road, not hard-surfaced, 130 kilometers long, to the mine. It is proposed to replace this road with a railroad.

Elevation and Climate: Elevation at the mine is 13,120 feet. The climate is mild, with heavy rains and light snows from November through March. During the winter season, from April to November the days are warm and sunny, the nights cold.

Water and Power: Abundant water power for mining and milling can be developed on the Apurimac River, a few miles north

of Yauri, the best sites being about 20 miles north of that town. A domestic water supply, with limited power, can be developed on the Rio Salado a few miles east of Yauri.

Previous Development: Andes Exploration Company, a subsidiary of the Anaconda Copper Mining Company, drilled four churn drill holes and drove mine adits into the central part of the ore zone in 1917-1918, at a cost reported to have been $1,000,000. No work has been done on the property since that time, excepting examinations and sampling by Graff, by W. S. March and D. J. Podesta for Anaconda in 1947, and by others.

General Geology: The ore deposit is of the contact-metamorphic type, formed by tertiary quartz-diorite porphyry intruded into Mesozoic limestone. The intrusive appears to be the cupola of a batholith, but also occurs as dikes and sills. Mineralization is associated with garnetized zones in the contact area.

The limestone is intensely folded, with some minor faulting, into an anticline, broken along the axis, with intrusive forced through to form a pear-shaped body, 5 miles long, over 2000 feet wide, with the widest section at the northeast end.

The garnetized, metamorphosed and mineralized limestone occurs in scattered outcrops at the south end of the zone. These outcrops may join beneath the overburden and talus to form a fairly continuous ore zone. The mineralized area strikes east-west, is over 8,000 feet long and 1200 feet wide. The east belt strikes north-south, is about 2,000 feet long and 260 feet wide. Other outcrops may connect with main ore bodies under talus. Individual outcrops range from a few hundred to over 50,000 square feet in area.

Ore Occurrence: Ore is brochantite, with minor chalcocite and chrysocolla. The primary ore probably is chalcopyrite, pyrite and bornite. There is evidence of secondary enrichment, but the depth and thickness of the enriched zone is not known, nor is there clear evidence as to the character and grade of the primary ore.

Reserve: Area of mineralized outcrops is given as 200,000 square meters, and ore is assumed to extend to an average depth of 60 meters. Using a factor of 3 tons per cubic meter of rock, and assuming that 2/3 of the

mineralized rock is ore, the reserve of indicated (probable) ore is reported as 24,000,000 tons. Its grade, computed from assays of cut samples and samples from drill holes, with several large bulk samples cut from adits, and assuming minimum cut off of 1.75 percent, is over 3 percent copper. Reports attached do not include a list of samples and assays from which the reported average grade can be checked.

Reserves of inferred, or possible ore are stated to be probably several times larger than the reserve of indicated ore, but no figures are given to support the statement.

Owners Proposal

The owner, Juan Mariano Velasco, plans to secure a loan from D.M.A. to build a mill, capacity 7,000 tons of ore per day, to explore and develop the ore body, and to build a hydo-electric power plant and 130 kilometers of railroad. Estimated cost of the mill is $14,000,000 and cost of exploration and development is $10,000,000 not including the cost of power plant and railroad.

Tom Lyon

Tom Lyon, Chairman
Copper Commodity Committee

SPHolt:bm

Copy to Copper Commodity Committee
Files

FILE COPY
SURNAME:

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

March 29, 1951

Thos. C. Baker

Memorandum

To: Director, Foreign Branch

From: C. H. Johnson, Copper Commodity Committee

Subject: Reports on Tintaya Copper, Peru.

S. P. Holt and I have reviewed the subject reports, and Holt prepared the attached abstract and comments. This doesn't represent Copper Committee action or opinion, as the Survey members and Chairman were not consulted. I'm sorry to have taken as long to get it back to you. The reports are returned herewith.

C. H. Johnson

Attachments

C.H.Johnson:ba

Copy to Copper Commodity Committee
Files

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LANDON F. STROBEL

dma 784

MAR 6 1951

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

March 5, 1951

Memorandum

To: Mr. L. S. Strobel
Office of the Executive Secretary

From: Mr. Howard Steidle
Foreign Minerals Region

Subject: Data on Transvaal Copper Mining Co. and Tintaya Copper Deposits

Transmitted herewith are the supporting data covered by the memorandums to Mr. Sam Williston, through Mr. E. W. Pehrson, dated February 12, 1951, on the Tintaya Copper Deposits, and to Mr. Williston, through Mr. Probert, dated February 20, 1951, on the Transvaal Copper Mining Co.

Howard Steidle

Howard Steidle
Latin American Division
Foreign Minerals Region

Enclosures 2

a. E.C.

June 4, 1951

Mr. Juan Mariano Velasco
Edifio. Gildemeister 409-410
Casilla 576
Lima, Peru

Dear Mr. Velasco:

This will acknowledge receipt of your letter of May 25, 1951, referring to Tintaya Copper Mine, BMA 784.

As requested in your letter, we are enclosing the Report on the Tintaya Copper Property by Everett H. Graff, BMA 784.

Very truly yours,

Thomas C. Baker

T. C. Baker, Chief
Foreign Division

Enclosure (BMA 784)

TCBaker:gad

Copy to: Mr. Strobel
Mr. Pehrson
Mr. Johnston, Room 4211, G.S.Bldg.
Admin. Reading File

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

April 10, 1951

Dr. Juan Mariano Velasco
Edificio Gildemeister 409-410
Apartado 576
Lima, Peru

Re: DMA 784
Tintaya Copper Deposit - Peru

Dear Sir:

Your proposal for the exploration, development and exploitation of the Tintaya Copper Deposit, together with the supporting data which you submitted, after having received due consideration from the Bureau of Mines and the Copper Commodity Committee of the Defense Minerals Administration, has been transmitted to this Division for appropriate action.

The consensus is that there is not sufficient assurance of a tonnage of proven ore to justify this proposed loan for the provision of production facilities. A large amount of exploration and development work would have to be accomplished to enable satisfactory determination of the exploitation facilities which eventually might be required. The loan proposed by you for this purpose could not be granted because the United States Government has made no provision for financial assistance for the exploration, prospecting and development of foreign mineral deposits other than in E.C.A. countries, a fact that was not clearly defined on the occasion of the early conversation regarding your proposal.

Will you kindly advise us if you wish the copy of Mr. Graff's report returned to you.

Very truly yours,

T. C. Baker, Chief
Foreign Division

WWTamplin:dak

cc: Chairman, Copper Commodity Committee
Adm. Reading File
L. F. Strobel, Exec. Secty
E. W. Pehrson
W. D. Johnston

Files

April 10, 1951

Memorandum

To: Chairman, Copper Commodity Committee

From: Director, Foreign Division

Subject: Tintaya Copper Deposit - Southern Peru. IEA Docket No. 76h

Reference is made to your memorandum of March 29, 1951 from the Tintaya Copper Deposit. The Foreign Division is in agreement with the conclusions regarding ore reserves presented therein and believes that without further investigation the proposal must be denied because it does not fall into any category rendering it eligible for Government assistance.

Consequently, a letter of denial has been addressed to Director Velasco. A copy is appended for your information, particularly with reference to the reasons given for the denial.

Thomas C. Baker

T. C. Baker

Attachment

WTamplin:ha

Copy to: Files
Admin.Mdg. File
Exec. Secy. Strobel
E. W. Fehrson
W. B. Johnston
T. C. Baker
W. W. Tamplin
Chron File (Blue)

BL

June 4, 1951

Mr. Juan Mariano Velasco
Edific. Gildemeister 409-410
Casilla 576
Lima, Peru

Dear Mr. Velasco:

This will acknowledge receipt of your letter of May 25, 1951, referring to Tintaya Copper Mine, DMA 784.

As requested in your letter, we are enclosing the Report on the Tintaya Copper Property by Everett H. Graff, DMA 784.

Very truly yours,

T. C. Baker, Chief
Foreign Division

Enclosure (DMA 784)

TCBaker:gad

Copy to: Mr. Strobel
Mr. Pehrson
Mr. Johnston, Room 4211, G.S.Bldg.
Admin. Reading File

Final - per Mr. Adams - 10/11/51

Juan Mariano Velasco
Abogado

Edific. Gildemeister 409-410
Telefono 31792
Casilla 576

C
O
P
Y

Lima, May 25th, 1951

Mr. T. C. Baker
Chief of Foreign Division
Defense Minerals Administration
Department of Interior
Washington 25, D. C.

Dear Mr. Baker:

I have received your letter of April the 10th refering to my proposition on my copper property Tintaya.

I appreciate very much the attention that you have kindly given to my proposition, and I hope that in a near future this matter will merit a new consideration of the Defense Minerals Administration, either because of a new law authorizing the government of the United States to give financial aid for the development of mining properties in foreign countries, or because my copper property have already been developed.

Meanwhile I will appreciate very much to have Mr. Graff's report returned to me.

Hoping to have some day the opportunity of treating this matter again with you, I remain,

Yours very truly

/s/ Juan Mariano Velasco

Juan Mariano Velasco

Mr. Baker

DEFENSE MINERALS ADMINISTRATION

Referral of Applications for Government Aid

Docket No. DMA-784

Commodity: copper

Name of Applicant: Juan Mariano Velasco

Address of Applicant:

Name of Property: Tintaya Copper Deposit

Location of Property: Southern Peru

Nature of Application:

Action Dates

Application:

Received:

Acknowledged:

Referred to _____ Committee:

Dina. 784 (Gen)

To [illegible]

Subject [illegible]

856

Report on the
Tintaya Copper
Property - returned
to Mr Baker 6-4-51
for transmittal to owner

dma 784
FOREIGN MINERALS REC
S.M. Anderson

February 12, 1951

Memorandum
To: Mr. S. H. Williston
Through Mr. E. W. Pehrson
From: Mr. S. M. Anderson

Subject: Tintaya Copper Deposit, Southern Peru

On February 2, 1951 the owner of the Tintaya Copper Deposit Señor Juan Mariano Velasco, and his representatives conferred with Bureau of Mines officials regarding government aid for exploration, development, and exploitation of this potential source of strategic metal.

The attachment contains summarized information derived from this interview and subsequent abstracting of a report now in our files.

Salient data are:

1. Deposit is of contact-metamorphic type, located in southern Peru.
2. Ore reserves estimated by Consulting Mining Geologist as 24,000,000 metric tons of 3% copper ore probable.
3. The area is accessible, about 7 kilometers from an existing highway, but about 130 kilometers of railroad should be built for optimum transport.
4. The owner's plans are to undertake further exploration and to mine about 7,000 metric tons daily by open-cut methods, beginning in about 1½ to 2 years. Ore is to be concentrated and shipped to U. S. via port Matarani, southern Peru.
5. An investment of at least $25,000,000 would be required to initiate an annual production of about 60,000 metric tons of copper metal annually.

Disposition:

1. Señor Velasco will enter a loan application through Director James Boyd of Defense Minerals Administration.
2. Velasco has been provided with a list of basic information required on the property.
3. He is to estimate, as best as he can, his mining and transportation costs; he will submit this data with his application.

SUMNER M. ANDERSON

WBNelson:erc

PERU COPPER TINTAYA

Conference - Friday, 2 February with:

Dr. Juan Mariano Velasco, (owner?) Apartado 576, Lima Peru
Mr. F. Velasco, his son (petroleum geology degree, University of Oklahoma 1950)
Mr. Logan, Wilmington, Delaware
Mr. Walram von Schoeler, Wilmington, Delaware (?)
Mr. Henry Dudley, Attorney, Barr Building, Washington
Mr. Sumner M. Anderson, USBM
Mr. Charles H. Johnson, USBM
Mr. William B. Nelson, USBM

TINTAYA Copper Property May 1950 Report by Everett H. Graff

Present Status No production; no equipment 9 adits open; 5 churn drill holes.

Consulting Mining Geologist
Pl.San Martin
166-212, Lima

Ownership: Dr. Velasco owns key claims (5 concessions), and requested Graff's summary.

Location: Southern Peru, Department of Cusco, Province of Espinar, District of Yauri. Reached by car in 7 hours from Arequipa or Cusco. 9 miles south east of Yauri. Mine 7 kilometers from highway.

Transportation: Railroad (Southern railroad of Peru) from port of Matarani to Vincocaya - 280 Km. Road from Vincocaya to Tintaya - 130 Km. Road is not hard-surface or all-weather. Considerable work necessary before running heavy trucks; terrain is favorable to inexpensive road building (plateau). Railway is standard gauge with enough rolling stock for heavy traffic. A branch railroad line from Vincocaya to Tintaya (130 kilometers) is contemplated.

Most direct route for property examination: plane Lima to Cusco (2hours); Cusco to Yauri by car, 6-7 hours. Yauri to mine - 14 kilometers. Distance can be reached from Lima in one day. Road Ayavira (on railroad) to Tintaya equals 90 kilometers.

Labor: Thickly populated, but no trained miners. Many inhabitants now migrate to Chile to work in Nitrate deposits. Wage scale is low - about $0.25 U. S. per day (1950)

Climate: Elevation of mine equals 13,120 feet.
Rolling hills and pampas.
Heavy rain and light snow - November through March
Winterseason (April to November): days warm and sunny; cold nights.

Water: Abundant water power could be developed on Apurimac River a few miles north of Yauri. Numerous power sites, best 20 miles north of Yauri and down stream.

Domestic water supply, limited power could be developed on Rio Salado, a few miles east of Tintaya.

History: No exploration since 1917-18, when Andes Exploration Co. (subsidiary of Anaconda Copper Mining Company) made 4 churn drill holes and exploration adits in central section of deposit. Not all this information available, and probably inconclusive. Spent $1,000,000. Reconnaissance examination by W.S.March Jr. and D.J. Podesta in 1946 (for A.C.M.)

Note: Anaconda apparently not further interested in Tintaya.
Kennecott not interested "at this time".
"Cerro de Pasco wants property, but will not pay enough" (Velasco)

General Geology: Mineralized zone is typical contact-metamorphic. Formed by tertiary quartz-diorite porphyry intruded into Mesozoic limestone. Intrusive apparently cupola of batholith, but also parallels limestone bedding and cuts bedding as dikes.

Contact area characterized by garnetized rock; mineralization is associated with these zones.

Sediments intensely folded; adits show some fault evidence, but no major displacement. Possibly batholith uplifted limestone into anticlinal fold, and where structural weakness developed along fold axis, upper intrusives forced through to form an elongated, pear-shaped body 5 miles long by over 2000 feet wide. General strike of body is northeast widest section on northeast end. Intrusive rock fresh to highly altered; pheno crysts mainly quartz and feldspars, with biotite and hornblende.

Garnetized, metamorphosed phase of limestone forms scattered outcrops at south end of zone, but subsurface pattern of mineralization may not be the same. Erosion and Talus may cover a fairly continuous mineralized area: drilling would test this. Mineralized zone in this section has east-west strike, is over 8000 feet long by 1200 feet wide. To the east, belt has north-south strike, and is about 2,000 feet long by 260 feet wide. Other outlying outcrops may connect with main orebodies under talus. Individual outcrops range from several hundred square feet to over 50,000 square feet.

Ore occurrence: Main mineralization confined to garnetite areas, but porphyry is locally mineralized, from 0.33 - 0.96% copper assayed.

Primary mineralization probably chalcopyrite, pyrite, and bornite. Oxidized zone contains brochantite, with minor chalcocite and chrysocolla. Also, residual limonite from copper sulphides suggests copper has migrated to form secondary sulphide zone, thickness not proven. Evidence of leaching and re-deposition of secondary copper minerals in the PULPERA zone, just east and about 100 meters lower than the central Tintaya sector. Even if secondary sulphide zone be of limited thickness, logically the better grade oreshoots of primary mineralization may continue in depth below zone of secondary enrichment.

Possibly there are more contact areas in depth than appear on the surface. Garnetized limestone formation is extensive, of considerable thickness. Mineralized outcrops have well-defined, steeply dipping contacts with unmineralized walls, may possibly be projected in depth, but must be proven by drilling.

Mapping of accessible adits, analysis of available drill records indicate assumption of 60 meter's depth is conservative for ore estimations.

Some churn drill holes not found (#5). Hole #2 does not go down on dip of garnetized formation; results are not indicative of grade.

Drilling preliminary only, did not explore most favorable areas (as zone to north of #1).

Adits # 2 and #3 give idea of geology and ore distribution. Adit #11 has good ore, proves extent of zone more than 4,000 feet east of central section.

Large bulk samples from main mineralized surface garnetite areas quartered, weighted assay 3.2% copper, 0.26 ounces silver, and 0.3 grams gold. Locally quartz stringers assay 4-17 grams of gold.

Garnetized limestone, altered porphyry occur in workings. Ore zones in adits average 3.6% copper; silver and gold about the same as for outcrops. Brochantite is main ore mineral in adits, locale lenses and pods of pyrite, chalcopyrite, chalcocite, and some native copper. Also, local cuprite.

Tonnage Possibilities:

Additional sampling and mapping now justify ore reserves classification as probable.

Basis:

Approximate area of mineralized garnetite outcrops (based on mapping and calculations) is roughly 200,000 square meters; mineralized zones are assumed to project to 60 meters depth. (Considered conservative). Tonnage factor equal 3 tons per cubic meter. Ore cut-off is 1.7% copper. Locally irregular blocks of low-grade material are included with better ore, when the lower-grade could not be avoided in a normal mining operation. Two-thirds of mineralized rock assumed to be of ore grade.

Reserves estimated at 24,000,000 metric tons probable.
Average grade over 3% copper.

Possibility of much more ore in depth, beyond 60 meters. Contact phases in depth may be more extensive than surface showings indicate. Tonnage potentialities are several times the probable ore estimated.

Other Deposits in the Region:

(?) TINTAYA lies in same copper belt as FERROBAMBA, KATANGA, in Qibic area, and EUREKA in Llancacahua zone.

PERRORAMBA: considerable exploration work; known tonnage possibilities of 3.5+ % copper.

QUIVIO: 60 kilometers northwest of Tintaya, follows same contact zone. Mineralized zone 2,000 meters in north-south direction, by 50 meters wide. Drifts prove mineralization to 200 meters.

EUREKA: 50 kilometers southeast of Tintaya. Mineralization disseminated within volcanic flow near contact.

SUMMARY, by Graff, May 1950

"TINTAYA is a typical contact metamorphic deposit. The extensive mineralized garnetite area within the limestone near its contact with the intrusive offers the possibility of developing a large tonnage of better than 3.0% copper ore. No serious transportation problem is involved.

Neither the secondary sulphide nor primary ore zones have been proven. The deposit certainly justifies more thorough and intense exploration and development than has been undertaken to this date. The deposit lies within a copper belt and near other favorable prospects".

Velasco's plans:

1. Secure loan from D.M.A. (will enter application)
2. For plant to operate 10 years, to extract 80,000 tons metal annually. Needs Plant 7,000 tons ore per day $14,000,000
   Exploration and development 10,000,000
   Also, cost of branch railroad-130 kilometers
3. Because of apparently minor overburden, open-cut mining is contemplated.
4. Plans to concentrate at mine, ship concentrate via Matarani to U.S.A. To be paid current metal price, on board ship at U.S. port. Part of proceeds to be retained by Government to amortize loan.
5. Smelting probably not economical at mine, no coal. If smelting is practicable with imported coal, will probably be at port Matarani.

Report on the
Santaya Copper
Property - returned
to Mr Baker 6-4-51
for transmittal to owner

Mr. Baker

DEFENSE MINERALS ADMINISTRATION

Referral of Applications for Government Aid

Docket No. DMA-784

Commodity: copper

Name of Applicant: Juan Mariano Velasco

Address of Applicant:

Name of Property: Tintaya Copper Deposit

Location of Property: Southern Peru

Nature of Application:

Action Dates

Application:

Received:

Acknowledged:

Referred to _____ Committee:

Juan 784 (Peru)

To [illegible]

Subject [illegible]

856

dma 784

TRANSLATION
from Spanish

JUAN MARIANO VELASCO
Abogado
(Attorney - at - Law)
Edificio Gildemeister 409-410
Telf. 31792 - Apartado 576
Lima - Peru

Lima, January 7, 1951

Mr. Walram van Schoeler,
Wilmington, Delaware
U.S.A.

My dear friend:

I shall recapitulate below the things I have been informing you with reference to the Mintaya copper mines, with a view to their possibly being financed by the Government of the United States.

1. These are mines possessing copper of the type known as contact metamorphic deposits, that is to say, the kind of copper generally mined in the large mines that are operated as open pits and which provide the greater part of the copper which is produced in the United States (Arizona) and in Chile (Chuquicamata and Potrerillos).

Furthermore, the mines are located in an area that is readily accessible by highway and rail. They are only seven kilometers away, over unobstructed terrain, from the main highway, and between 90 and 130 kilometers from the Southern railway (ferrocarril del Sur), which is standard gauge and takes its start in the modern port of Matarani, near the old port of Mollendo. If as a junction point we take a station located 130 kilometers from the mines, the total distance by rail from the mines to the port of embarcation would amount to about 410 kilometers. There is sufficient water available for operations in the mine and for generating of motor power. In addition, an [redacted]t and cheap supply of labor is available.

2. The outcroppings or exposures are immense and truly impressive. Thorough geological surveys have shown the great size of the mines and the exploration work still remaining, in which about a million dollars were invested in 1917, bear out the geologists' conclusions--although the exploration work done is far from enough to establish the true size of these mines.

The said surveys, carried on by one of the most competent American geologists in Peru (Mr. Graff, former geologist of the Cerro de Pasco Copper Corp.), taking into account the results of the aforementioned exploration work as well as the surveys and drawings made in 1947 by the geologists of the Anaconda Copper people, show the existence of at least 24,000,000 metric tons of ore as being "probable" and many times this tonnage as being "possible", with a pure content, on the average, of more than 3% copper, discarding, as not to be figured as ore, all material having less than 1.75%--notwithstanding the fact that in the United States mines yielding only 0.70 are in operation (Year Book of the American Bureau of Metal Statistics) and that the industrial minimum or cut-off for this type of mine runs as low as 0.51% (San Manuel, Arizona).

Accordingly, if in the mines in question it were intended to start with an average less than 3%, say, 1.5%, the tonnage, even on the basis of the present status of operations, would increase enormously. At Potrerillos, Chile, the Anaconda uses 1.47% ores (Year Book of the Amer.Bureau of M.S., 1949).

3. Although the new exploration and development work which has to be undertaken will, without shadow of doubt, reveal fresh runs of mineral deposit both horizontally and downward, if we take only the data available on the basis of investigations and work thus far carried out, namely, if we take a tonnage of 24,000,000 of 3% ore, we obtain 800,000 tons of metallic copper, in other words a production exceeded only by two mines in the United States: San Manuel and Copper Range, mines which have been explored and worked intensively over a period of many years, all of which has yet to be started in the Peruvian mines that we are discussing.

4. It is thus ascertained that these mines, properly developed and capitalized, aside from expanded results from the new work to be carried out, could yield a volume of copper greater than that produced in Cerro de Pasco throughout the latter's operating history. Working 2,400,000 tons of ore per annum, or, in other words, assuming that the new known tonnage were worked for a period of ten years, we would have an annual output of 80,000 tons of metallic copper, that is to say, a production three times that of the Cerro de Pasco Copper Corporation.

5. The Peruvian group, that will operate the mines, for all practical purposes has already been formed. In order to have it take definite shape all that remains is the assurance of financial assistance from the Government of the United States. At the present stage, it is not possible to determine the amount that will ultimately be needed, since all calculation of figures must remain pending subject to the new work of exploration and development to be done. A plant capable of ~~[illegible]~~ 7000 tons per day, in order to handle 2,400,000 tons per year, would cost approximately US$14,000,000. The explorational and developmental work would require some US$10,000,000. additional. Then, construction would have to be envisaged of a branch railway line extending 130 kilometers over even ground, as well as the cost of a hydroelectric plant. As a beginning, it is sufficient to provide the cost of the explorational and developmental work.

6. The geological surveys, management of the jobs to be done, installing of the ~~[illegible]~~ concentrator (molino), etc., would be placed in charge of specialized American firms, to be selected by the Government of the United States. All production would be sold at the prices prevailing on the day of delivery of the copper. Part of the proceeds would be retained in order to pay off or amortize the money advanced.

7. A prompt and definite decision is absolutely neecessary, so that the Peruvian group will not make arrangements locally, with a view to much smaller operations, and which would tie their hands as compared with the freedom of action they now possess to finance large-scale intensive operations that can go a long way toward meeting the urgent requirements of the Government and the industry of the United States of North America.

I await your advices and give you my best regards.

sgd: J. M. Velasco.-