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W.W.Harritt

Exhibit "B"

1--See maps attached to Exhibit 1A " 10 b.

2--No production from Eagle Section since last war. Smelter returns from that time photostated and copies attached.

3 Product contracted to Phelps Dodge smelter Clarkdale Ariz.

Trucking to R.R.--\$ 3.00

R.R. freight-- \$ 1.40 minimum to 2.10 for 15.00 ore.

Smelter charge-base \$ 3.50 on 15.00 ore with 10% of metal content above 15.00 to a maximum of 6.00. 10% reduction from 15.00 to minimum of 2.75 (8 to ten lbs of copper deducted, pay for balance at .9275 ceiling rate. Pay for 100% of gold at 32.1195)

4a--\$ 4.00 per ton for mining and sorting. From 6 to 8 dollars per foot for lateral development, 12 to 16 dollars for sinking.
4b See 3

5a Approximately 120 HP.

5b Approx 4 miles.

5c Power rate schedules attached, cost of extending line, about 2000.00 per mile.

5d None used but two other properties could be served with the extension if constructed. These properties old producers and now working.

5e Gas at present-cost about 17.00 per day based on Mafgrs rating of 1/10 of gal per HP per hour, at .185 per gal F.O.B. Parker

6a- Yes, Men here are either too old or physically unfit for large mines or have their own ranches or prospects, and will not leave for larger centers.

6b-10 to 14

6c--Wages are from 7.00 to 7.40 per day with time and half after 40 hrs.

6d Have five houses and mess hall if needed. Most men would rather stay in Parker or vicinity. Camp is livable with new paper roofs and some bracing up the only necessary repairs. Three have been repaired by applicant, and three others are habitable now, the drawback being a water supply. (There are two camps). Three ~~more~~ houses in one and five in the other.

7--No claim filed.

8 This title was cleared in May and all questionable clauses in contract removed. See Docket NO. ND-8174

Colorado River Indian Irrigation Project.
Electric energy rate schedule.

6.0 cents per kwh for first 25 kw of maximum demand

2.0 cents per kwh for next 100 kw of maximum demand

1.5 cents per kwh for all additional kwh.

Demand discount.

Less than 10 kw	0
10 kw and less than 15 kw	4 %
15 " " 20	6
20 " " 25	8
25 " " 32	10
32 " " 40	12
40 " " 48	14
48 " " 58	16
58 " " 70	18
70 " " 85	20
85 " " 100	22
100 " " 125	24
125 " " 150	26
150 " " 175	28
175 " " 210	30
210 " " 245	32
245 " " 295	34
295 " " 360	36
360 " " 600	38
600 kw demand and over	40 %

Report

THE EMPIRE ARIZONA COPPER MINES

LOCATION:

The property of the Arizona Empire Copper Mines Co is located in Yuma County, Arizona, about eight miles north of Parker, and three miles inland from the Colorado River, in what is known as the Seneca Mining District, The main workings are from 500 to 700 feet above the river.

PROPERTY:

The property consists of the Eagle, Belcher, Carnation and Cyclone Groups, a total of thirty six contiguous claims with an approximate area of 720 acres, all of which claims are held by the performance of annual assessment work.

In addition to the above claims the company owns 160 acres of ranch land along the Colorado River, including Eagle Landing, at which point the company has erected a large five room house.

HISTORY:

The present workings on the property were mostly started by a French company, the original owners, who freighted the ore to the river and then shipped by steamer to Swansea Wales. Even yet piles of high grade ore can be found covered with debris at the river landing. In the early days of Arizona the property passed through many hands, but has been mostly owned by people who were too poor to handle it on the scale that the present showing demands.

GEOLOGY:

There are several series of large strong veins on the property in addition to innumerable smaller gash veins, all of which lie in gray limestone formation and generally at the contact with porphyry or occasional schist belts. The combination of the older schists and

LIMESTONE with the later eruptive rocks makes the property attractive from a geological standpoint, There has been a great amount of erosion and the outcrops of the various veins are plainly marked, often projecting above the surface for several feet and heavily stained with copper carbonate in the form of malachite.

In general the geological conditions are very similar to those that the Clara Consolidated and Planet Mines, the former a large producer.

There are two systems of veins on the property, one consisting of quartz vein filling the schist, impregnated with malachite and copper oxide, the other series are fissure and gash veins in limestone with a hematite vein filling impregnated with malachite and some copper oxide, The hematite, when barren of copper often carries as high as \$5.00 in gold.

DETAILED DESCRIPTION OF
VEINS AND WORKINGS :

On the American Eagle claim there is a 300 ft shaft sunk on one of the cross stringers or feeders leading into the Gray Eagle vein and about 400 feet to the west of said vein. This shaft is on a 70 degree incline and follows 2 to 4 feet of vein matter to the 180 foot level where a 30 foot drift shows 8 feet of 6 % copper ore, with \$2.00 in gold

At this point in the shaft it leaves the vein as it is on a steeper incline than the vein, and the bottom of it is in a porphyry dyke, which forms the foot wall side of the vein.

Eagle Group:

On the Gray Eagle claim on what is known as the Gray Eagle War Eagle vein, the vein ~~cut~~ crops almost continuously for 3,000 feet and is from 5 to 50 feet wide; there is a 100 foot tunnel driven on the vein which shows copper ore for entire distance, assaying from 2 to 10% copper and from \$1.00 to \$5 in gold. About 50 ft above this tunnel there

is an other ~~xxxxxx~~ tunnel in the same vein about 250 feet long; the first 20 feet is along the vein and shows an average value of 5% copper in an iron and lime gangue. About 100 feet northwest and 200 feet above the tunnel/ mouth is an old open cut 15 feet wide, 25 feet long and 12 feet deep. The walls of this cut are impregmated with carbonates and iron oxides carrying small gold values. The general mass of vein matter at this point is a leached rotten iron and lime gossan carrying 40 to 60 % combined iron and lime. A sample across 10 feet of vein matter at this point showed 4% copper and \$2.80 in gold.

About 50 feet below and 25 feet southwest of the above work there is a 50 foot tunnel in ore for the entire distance, it being a decomposed iron lime gossan. At the mouth of the tunnel there is a 30 ton dump of 15% copper ore that has been sorted and piled there.

250 feet to the northeast and 200 feet above the first tunnel there is a 70 foot incline shaft sunk on the vein, a sample across 8 feet close to the collar of the shaft shows 3% copper and \$.80 in gold; a sample across 7 feet of ore in the bottom of the shaft returned 5% copper and \$7 in gold. There is a dump of 40 tons of assorted ore from this shaft which will average 10% copper in addition to several dollars in gold.

About 300 feet northeast and 75 feet above this last named 70 foot shaft, there is a 30 foot shaft showing 6 feet of ore that will carry from 4 to 5% copper and \$1.50 in gold. From the first above mentioned tunnel to this point a distance of 600 feet, there is a continuous outcrop showing ore ~~about 450 feet~~ that will carry from 2 to 3 and up to 10% copper ore across 5 feet, there is about 450 feet of work on this outcrop and by continuing the lower tunnel and the first mentioned one in this report to a point directly under the last mentioned 30 foot shaft a very large tonnage of 3 to 6% copper ore would be developed that would carry \$2 to \$3 in gold.

There are many other workings on the above mentioned vein but I was unable to examine all of them, confining my time to the more important and larger openings.

On the double Eagle Claim is found the largest and most continuous outcrop or any of the Eagle claims, This outcrop is from 25 to 50 feet in width and shows on the Aloha, and Golden Eagle and the Double Eagle claims or for a continuous distance for 3,000 feet, This outcrop lies between lime and schist, and shows a great deal of oxide of iron with copper stain all through it, A tunnel has been driven into it following the course of the vein for 50 feet and then a diagonal crosscut for 50 feet and then a 30 foot drift, The ore developed shows an average of 4% copper and \$ 2 in gold, There is a considerable ore here that could be sorted to run 15% copper and \$2 in gold. The above outcrop is one of the largest on the entire property.

On the Eagle's Nest claim and 400 feet to the East of the Double Eagle claim is another large outcrop, This outcrop is from 7 to 50 feet wide and shows two upraises, 30 and 50 feet, all show workable ore, A sample taken from several hundred tons of the waste dump showed 3% copper and \$.80 in gold. There are several small stopes in this tunnel from which 4,000 tons of ore was shipped returning 18% copper and \$ 4.00 in gold.

The above two veins are about 400 feet apart and could be easily developed by one shaft,

The Eagle group of ten claims has the three veins described and is to the west and adjoining the Carnation group of fourteen claims.

CARNATION GROUP:

The ores on this group are in a silicious schist,

On the Omega claim there is a 300 ft incline shaft sunk on the foot wall side of this silicious outcrop which shows on the surface for 2,000 feet and is 50 feet wide, At the 200 foot level the vein is shown to be 50 feet wide, by a crosscut driven to the hanging wall. A drift along the vein for 60 feet at the 200 foot level has disclosed a large tonnage of ore that will average \$12.50 in gold and copper. On the hanging wall is a schist belt 250 feet long and shows a much more leached and open vein

wide that shows disseminated copper carbonates for ~~1/2%~~ its entire width but in small quantities,

On the 300 foot level the crosscut to the hanging wall is 50 feet long and shows much more leached and open vein matter than on the 200 foot level. This entire crosscut will average from 1 to 5 % copper and \$ 2 to \$ 4 in gold.

CYCLONE GROUP:

Adjoining the Varnation group just described and to the south are the 12 claims of the Cyclone Group. These claims cover a large porphyry outcrop 500 to 600 feet wide and 2,000 feet long. This outcrop is heavily impregnated with oxide of iron and shows considerable copper stain and in spots shows small bunches of copper ore running as high as 10 %

There is a 120 foot, well timbered, two compartment shaft on this outcrop, 4'x8' in the clear, showing a great deal of iron scattered through the porphyry with some copper. This outcrop presents a very ~~1/2~~ favorable opportunity for prospecting with churn or diamond drills.

BELCHER GROUPS :

Adjoining the Cyclone Group and to the north west is the five claims of the Belcher group. This group has an aggregate of 500 to 600 feet of development work, principally in shallow surface workings, all of which show good copper ore averaging from 3 to 5% copper and \$1.00 to \$4.00 in gold across workable widths from 5 to 20 feet.

There are six or eight places on the property where work can be started on ore at a depth of 100 feet and from most of these places sorted ore can be handled at a profit,

At present time there is from 70,000 to 100,000 tons of ore partly or wholly developed that will average from 3 to 7% copper and from \$1.00 to \$20 in gold. Considerable of this ore can be sorted to produce a good grade of shipping ore that could be handled immediately; and in fact there is from 100 to 200 tons of ore already sorted on various dumps that could be shipped with a little resorting.

EQUIPMENT :

In the past all work has been done by hand and shaft sinking by windlass and whim. In addition to windlasses and whims there is little or no equipment on the property, with the exception of a few ore cars track wheelbarrows, forges and small tools. There are several /house tents close to the main workings supplied with ranges and cooking utensils.

ROADS:

From the railroad at Parker to Eagle landing, a distance of eight miles, there is a good wagon road with but very few steep pitches and with a very small expenditure this road could be put in fine shape. From the landing to the main workings a distance of three miles, there is a splendid road, ditched on both sides.

WATER:

It would be necessary to go to the river for water until such time as water could be developed in the deeper workings. With the proper equipment however water could be pumped to the mines by power derived from the river itself. In addition the river affords a cheap means of transportation of ore and supplies to and from the railroad.

CONCLUSION:

In conclusion I wish to state that this property offers a splendid opportunity for present production both for mill ore and sorted ore that can be shipped, in addition to a prospective future that will place it among the foremost mines in the State, when properly developed and equipped with the necessary machinery,

There is such an immense tonnage of ore partly or wholly developed by the present working, none of which has reached a greater depth than 300 feet, that it is difficult to conceive the immense possibilities in this property,

The marked similarity to the Planet Mines both of which have large carbonate deposits, gives ample assurance that below these large bodies of oxidized ores there will be found bodies of enriched sulphides of

great size after the development of which it would only be necessary to supply coke or smelting operations as there is ample fluxing material on the ground.

A large amount of the present development work will be of use to future operations, this work that will be of value represents an expenditure of at least \$50,000.00.

Considering the fact that shipments of sorted ore can be started immediately and also the large tonnage of low-grade ore developed, I believe this property is the most attractive one in the State for the investment required.

The following list of assay returns will give a general idea of the size of ore bodies and their values, In addition to this list I have seen returns from over 200 other samples taken from the property that will average as well as the following; The list of assays following are from average samples I have taken on the property and will give some idea of the extent of the workings and size of the ore bodies as well as grade of ore.

1 Carnation
Au .64 Cu. 1.2%
Total Value Per
Ton \$5.00

In shaft on south end Omega Claim
at 200 feet level and represents
first ten feet of footwall.

#2 Carnation
Au .06 Cu. 4%
Total Value per
Ton \$ 16.90

Same as #1 Carnation but second ten
feet of vein

#6 Carnation
Au. .30 Cu 5.5%
Total value per
Ton \$25.25

Across 6 feet of ore from open cut
on Alpha claim 300 feet northeast
from Omega shaft where #1 and #2
were taken

#8 Carnation
Au, .14 Cu 8.8
Total value per ton
\$33.60

Across 12 feet in Walters tunnel on
Alpha claim, this tunnel has vertical
depth of 228 ft and is 450 ft long

#9 Carnation
Au .04 Cu 1.2%
Total Value per
Ton..... \$ 4.30

From open cut near center of Omega
Claim cropping 30 feet wide.

#10 Carnation
Au . 60 Cu 1.4%
Total value per
Ton \$15 .90

Near center of Alpha claim is an open
cut across 15 feet of ore, This vein
is and extention of the Double Eagle

#1 Eagle
Au 15 Cu 1.4%
Total value per
Ton \$22.10

Near center of Eaglesnest claim on
this claim is an old tunnel 450ft long
100 ft from the mouth is an old stope
and sample was taken across 20 ft of
iron in northeast end of stope.

Assay report continued

#2 Eagle
Au .02 Cu 2.7
Total value per
Ton..... \$7.65

#3 Eagle
Au .36 Cu 7.5
Total Value per
Ton\$25.70

#4 Eagle
Au .40 Cu 1.8
Total value per
ton\$ 8.15

#5 Eagle
Au .04 Cu 2.1
Total value per
Ton\$ 8.15

#6 Eagle
Au 1.12 Cu 4.7
total value per
ton ... \$ 38.69

7 Eagle
Au .04 Cu 5.7
Total Value per
Ton \$20.75

#8 Eagle
Au .08 Cu 6.9
Total Value Per ton
.....\$26.25

#9 Eagle
Au .08 Cu 1.5
Total Value per ton
.....\$ 6.85

10 Eagle
Au R Cu 2.0%
Total value per
ton.....\$7.00

11 Eagle
Au R Cu 2.0 %
Total Value per
ton.....\$44.10

#12 Eagle
Au .08 Cu 14.0%
Total value per
Ton\$55.60

#13 Eagle
Au .12 Cu 3.2%
Total value per
ton \$13.50

Same as #1 Eagle only 20 ft further
in the tunnel, a general sample of
ore left in stope at this point.

From an old Mexican shaft on Royal Eagle
claim partly filled with water showing
4 ft of ore close to water level, Sample
taken from 10 sacks of ore found in offse
of shaft.

From an old Mexican shaft on Royal Eagle
claim 200 ft northeast from shaft where
#3 was taken, ore 4 ft wide 60 ft deep

From vein #2 Double Eagle claim across 20
ft of ore near northwest end of claim in
an old tunnel and incline winze, the sur-
face cropping is from 50 to 60 ft wide
and two claims long.

From vein #2 Double Eagle Claim across 15
ft of ore near southwest end of claim and
300 ft north west from #3 Eagle in an old
Mexican shaft 35 feet deep.

Across 4 ft or ore on surface near Golden
Eagle Claim

In tunnel near southwest end of Gray Eagle
claim tunnel following vein and 80 ft
from mouth has a depth of 300 ft. The
sample was a general average of ore and
iron in tunnel, cropping 40 ft wide at
mouth of tunnel

From a 50 ft tunnel following the vein
250 ft above the #8 Eagle sample on same
vein and across 9 feet

From an old Mexican stope 50 ft above
#9 sample on same vein and is a general
average of ore and iron left in stope
width of 10 feet

Across 7 ft of ore in shaft 70ft deep and
250 ft north from stope where # 10 was
taken on same vein, ore still shows in
walls of shaft cropping 10ft wide

Across 10 ft or ore in open cut near north
end of Gray Eagle claim and from same vein
that #11 was taken

From 30 ft shaft on southwest end of War
Eagle claim across 5 feet of ore and iron

#14 Eagle
Au .28 Cu none
Total value per
ton\$ 5.60

15 Eagle
Au .02 Cu 9.1 %
Total value per
ton \$32.25

17 Eagle
Au .68 Cu 4.7%
Total value per ton
.....\$ 30.05

From near center War eagle claim same vein as # 13 but from solid iron showing ft wide in tunnel 50 ft long. The iron is ideal fluxing material and the sample was taken to see if there was enough gold to pay for hauling same to smelter

Across 7 ft on surface on southwest end of Bird Eagle claim, a surface cropping sample

From a shoot 4 feet wide near southwest end of American Eagle Claim the shoot is a strong one and goes to the main vein on Gray Eagle claim

Respectfully submitted

W.V De CAMP E.M.
GEN MGR PACIFIC COPPER CO
CROWN KING ARIZONA

(note)

#10 and # 11 apparently a typographical error in the original report.

W.W.Harritt-Application for additional Loan.

Docket NO.ND-8174

Exhibit "A" (1)

Empire Mine (file)

1- Applicant is an individual.

2a-None

2b-Copies of lease, assignment of lease, subordination of agreement, assurance by Parent Company etc, now on file with RFC Washington D.C. See W.W.Harritt Docket NO.ND 8174.

2c- Married-living with wife.

3a- See page 3 of application.

3b-No litigation, no creditors, no liens.

4-Applicant in mining since 1906-In Arizona 1912 to 1919. Small properties, copper, silver, gold, molybdenum, non-metallics all branches of work, construction, mine and industrial plants, mucker, miner, hoistman, master mechanic, foreman supt. Mill and sample plant supt. Custom ore sampling and buying.

With Empire, as Supt of diamond drilling program 1926, 1927 1928. Took lease in 1941 on property, rehabilitated Carnation Leo area, new roads, bins equipment etc. Shipped by May 1942 956 tons of siliceous ores containing 44,195 lbs copper-188 fine ounces gold. Shut down by labor shortage at time of construction of Poston Relocation Center. During this period subleased to E.R. Sandau et al who are still shipping from this area, (just shipped the 15th car.)

After labor shortage over, obtained 5000.00 rehabilitation loan from RFC and cleaned out some of the old workings in the Eagles Nest and Grey Eagle Area, sampled the old Eagle shaft section and am now ready for equipment and payroll funds to go on production. Maps and assays of recent work herewith.

Do not contemplate any more "dead work" or great development program. Am ready to start shipping at once. In fact have some 3 to 4 cars ready to go as soon as loading bins are constructed. Do expect to carry on one development project that will produce from the start but may not be great tonnage. High copper-gold. Muck sample from shaft started by me, shows 6.90 copper, 2.30 ozs gold. This area can be reached by drifting from Eagles Nest 100 level, probably on small ore streak.

5a- See 2b and files on ND 8174.

5b- " " " " " " " " Have no other copies of lease or other instruments.

5c- Photostatic copies of recording data herewith.

W.W.Harritt

6a- Located in Seneca Mining Dist. Secs 16-17-20 and 21-T 10 N R 18 W.

6b No patented claims, map herewith

6c- All claims recorded in Yuma. Names etc- photostatic copies herewith. Chain map herewith.

7 Shafts, tunnels open pits. All dry except one shaft which is caved below operating level and above water level. (Eagle Shaft).

8- See reports by Walter Val de Camp of 1915, Frank W. Royer 1916 and 1919. Assays with both reports herewith. Assays by Edw. W. Chaffey of 1923. Since 1926, a diamond drilling program was carried out in the Eagle Shaft in search for sulphide ores, without success. At that time no consideration was given carbonate ores or the prospect of shipping as copper was too low to allow profitable operation. The main object being to find sulphides for our own smelter program. In 1941 applicant took lease for 5 years with renewable clause and shipped 956 tons of high silica ores containing 44,196 lbs copper and 188 fine ozs gold. Forced to close owing to labor shortage during construction of Poston Relocation Center, subleased at this time the Carnation Leo Area to E.R. Sandau who is shipping from that section at this time.

Obtained RFC loan to clean out some of the old workings which had been filled by leasers, cloudbursts and surface caving. This is finished, the workings sampled and mapped. Sample map herewith.

8a- Maps and assays of samples taken herewith.

8b See above

8c- One 60 HP Western Gas Hoist good condition. 1- Western 60 HP power engine belted to 9 x 10 IR Type ten compressor all good condition, but parts not available now. No water for circulating cooling system.

8d- Roads to Parker in need of repair. From main camp to other parts of property are almost impassable. Application for access road now pending.

8e- See exhibit 8 above.

9- Water supply at small cost one mile from main camp.

10- Work proposed is to put property on full production, this ~~will~~ should not require more than 30 days. Have already cleaned out all workings necessary by RFC loan, Ore on 100 level 200 level and surface tunnels of Eagles Nest ready to start stoping at once and there two to three cars ready to ship in this section. Ore bins to construct, portable units to purchase, Fuel and ammunition to purchase, and shipping will begin at once.

10b Blocked ore in Eagle shaft sketched and sampled, results herewith.

10c No pumping or unwatering.

10d Gas power at present;

10e \$10,000.00

Location dates prior to 1916. Amended locations as given. Many claims have been dropped since the reports of Val de Camp.

EAGLE GROUP	Book and page of Mines Records of Yuma County Ariz
American Eagle Claim-----	Book Q Page 343
Black Eagle "-----	Book Q Page 344
Golden Eagle-----	Book Q Page 345
War Eagle "-----	Book Q Page 346
Grey Eagle "-----	Book Q Page 347
Bald Eagle "-----	Book Q Page 349
White Eagle "-----	Book Q Page 348
Double Eagle "-----	Book Q Page 350
Eagles Nest "-----	Book Q Page 351
Royal Eagle "-----	Book Q Page 352
Alpha "-----	Book Q Page 353
Alcha also called Alamo-----	Book Q Page 355
Huron "-----	Book Q Page 362
Utica "-----	Book Q Page 360

Carnation Group

Elmyra Claim-----	Book Q Page 356
Leo "-----	Book Q Page 359
Trenton "-----	Book Q Page 361
Olympia "-----	Book Q Page 363
Omega "-----	Book Q Page 364

The above are all the claims retained by Empire Ariz Mining Co since about 1930. The others and the ranch mentioned in Val de Camps report having been turned back to Govt ownership.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine **EMPIRE, Cu., SiO₂** Date **March 13, 1943** (C)
District **Cienega (Herein called Seneca)** Engineer **Earl F. Hastings**
Subject: **Reconstruction Finance Corporation
Mining Loan.**

Docket No. Phoenix C - 160
Date Application Received March 12, 1943
Date of Examination February 24, 1943
Date of Report March 13, 1943

1. Name and address of applicant (correspondent):
W. W. Harritt, P. O. Box 1868, Parker, Arizona.
2. Character of project and estimated cost thereof:
Cu., SiO₂. Rehabilitate American Eagle shaft, Eagle Nest shaft and tunnel, Double Eagle tunnel, and Treasure Hill tunnel. \$5,000.00.
3. Location of property:
Cienega (or Seneca) Mining District, 11 miles NE of Parker, Yuma County, Arizona.
4. Applicant's interest in or ownership of property:
Applicant has a sublease on certain portions of the property on a sliding scale royalty. This lease is further discussed below.
5. Loan requested:
\$5,000.00.
6. Loan recommended:
\$5,000.00. (Subject to revision of lease).
7. Comments:
(A) Added to the docket is a brief report by Elgin B. Holt, Field Engineer, Department of Mineral Resources, dated February 24, 1943.

(B) The property obviously has merit as a small but consistent producer of siliceous copper ore. Most of the proposed accessibility projects appear worthy in the light of the docketed evidence and should produce appreciable amounts of commercial ore. Conditions are such that this production could be obtained and marketed at low cost.

A brief summary of the docketed evidence is as follows:

- 1 - American Eagle shaft.
 - a. A 300 ft. shaft on a 70 degree incline, to be reopened to the 180 foot level.
 - b. W. V. DeCamp states shaft is on a 2 to 4 foot vein to the 180 ft. level, at which point a 30 ft. drift shows 8 ft. of 6% copper ore.
 - c. At 180 ft. level shaft leaves vein and bottoms in a porphyry dyke.

March 13, 1943

- 2 - Eagles Nest Tunnel.
 - a. A 350 ft. tunnel with 2 raises and an 80 ft. winze.
 - b. Val DeCamp's sample of waste dump shows $\frac{3}{8}$ copper.
 - c. Shipments attributed to the area assay 18.7% and 21.13% copper.
 - d. Eagles Nest shaft to be rehabilitated to 25 ft. for connection with tunnel.

- 3 - Double Eagle Tunnel.
 - a. A tunnel along the course of the vein thence a diagonal crosscut 50 ft. long, thence 30 ft. of drifting.
 - b. Val DeCamp reports ore developed shows an average of 4% copper and can be sorted to 15%.

- 4 - Treasure Hill Tunnel.
 - a. It is not clear from the docketed material what the object of this work is, and in what manner it will affect quarry area operations.

(C) Definite recommendation cannot be made however, as the applicant does not have under lease any of the locations upon which it is proposed to expend the proceeds from such a loan.

The original lease from owners to Royer reverses, according to the map and logical reasoning, the location of the Utica and Alpha claims. This is important as the latter is a part of the sub-lease. Description of the premises in both original and sub-lease places the Alpha claim in the Eagle Group and the Utica claim in the Carnation Group--the map reverses these locations.

The applicant's lease, a sub-lease is interpreted to include the Carnation vein alone; and that only in the northeastern half of the Omega and Alpha (map location) claims. Thus none of the work proposed by the applicant falls within the boundary of his lease.

(D) It is concluded that there is ample evidence of ore occurrence and production possibilities to support recommendation of this loan; and that upon clarification of lease boundaries funds should be advanced to a valid applicant for the prosecution of accessibility work similar to the program outlined in this application.

DEPARTMENT OF MINERAL RESOURCES

Earl F. Hastings
Projects Engineer

Empire Mine (file)

REPORT ON THE HOLDINGS OF THE
ARIZONA-EMPIRE CONSOLIDATED MINING COMPANY

April 22nd, 1919.

By Frank W. Royer

LOCATION:

In the Sonoa Mining District, Yuma County, Arizona.

About 8 miles in air line north east of Parker, Arizona, the nearest railway point. The distance of the mine from the Colorado River is here about 2.5 miles due east. The elevation of the Colorado River is here about 400 feet and the mine workings are from 600 feet to 1000 feet above the elevation of the River.

Parker is a division point on the main line of the Santa Fe Railway connecting California points with Prescott and Phoenix, Arizona.

ACCESSIBILITY:

From Parker the Main camp of the Empire Group is reached by wagon road approximately 13 miles long. This road for 7 miles follows the east bank of the Colorado River, on a nearly level grade except for steep pitches of several hundred feet in length in places; in other places this road is sand for short distances. The greater part of this distance is level and hard and the sandy part and steep grades can be done away with by a little work. Where the road leaves the river for the main camp, six miles, is over a well graded wagon road 16 feet wide with heavily constructed bridges over gulches. From the Main camp to the various workings are well graded wagon roads.

From Los Angels to Parker, Arizona, requires about 11 hours ride on the train. From Parker the mine can be reached in an automobile in about three-quarters of an hours.

Ore from the mine and supplies to the mine are hauled over this road by auto trucks.

CONDITIONS FOR ECONOMIC WORKINGS:

WATER: The nearest large water supply is the Colorado 2.5 miles due west of the camp and at about 600 feet lower elevation. About two miles from the mine on the road to the Colorado River the company has installed a pumping plant at a well and water for domestic purposes is pumped to tanks above the main camp and to the main workings.

FUEL AND POWER:

A small amount of wood can be obtained from the surrounding hills for domestic purposes. Fuel for power purposes, either coal or crude oil, would have to be hauled from Parker.

CLIMATE:

Dry and warm. During the summer months the temperature ranges from 100 to 120 degrees in the shade during middle of the day. The nights and mornings being cold, as a rule. The balance of the year the climate is ideal.

LABOR:

Miners for small operations are plentiful and prior to war were receiving from \$3.50 to \$4.00 per day. At present the wage scale is about \$1.00 higher. Surface labor, road making, etc., is usually done by Mexicans and Mojave Indians, who are good workers and are paid \$2.50 per day.

TRANSPORTATION:

From the mine to the railway station of Parker is a distance of 13 miles over a good wagon road, with the grade mostly toward the railway. The charge for hauling at present is from \$3.00 to \$4.00 per ton.

From Parker to the various smelting plants the freight charge in car load lots is:

Parker to Humbelt	\$1.50
Parker to Clarkdale	1.75
Parker to Hayden	3.25
Parker to Sasee	3.25
Parker to Douglas	4.25

The above prices could be shaded a little if several cars a day were shipped. The price given is for ore of low valuation.

METALLURGICAL TREATMENT:

The ore exposed by the workings of these various ore deposits are of two different compositions, both of which are of a smelting nature.

The Carnation workings and outcrop expose a silicious ore containing the copper as a silicate or carbonate. This ore is high in silica and is a desirable flux for some of the smelters in this section.

The Eagle group of claims produce an ore containing the carbonates of copper with values in gold, the gangue rock of which is high in iron and low in silica.

Except for the absence of sulphur, these ores have all the chemical constituents necessary to permit smelting on the ground. Sulphides will probably be encountered in depth.

HISTORY:

Ore from this property was mined in early days, said to be in 1872 by a French company, who shipped the ore to Swansea, Wales, by floating it in barges down the Colorado River and then by steamer to England.

At this time and until about 7 years ago the nearest railway connection was at Needles, California, and all supplies were brought down the river, a distance of about 90 miles by boat.

Some 16 years ago one of the present owners received word from a friend that a railway was to be built between Prescott and Cadiz, California. He at once outfitted at Needles and came down the river by boat and

and after several months looking around, took up some of the claims of this group. Later he purchased some of the claims and took up others until he acquired the present group. Little work was done until about 7 years ago when the railway was built. About this time the property became involved in litigation, which was not cleared up until a little over three years ago, at which time I examined the property. Since my examination of this property in 1916, several hundred thousand dollars has been spent in building roads and equipping the various shafts and establishing a camp. Some ore was mined and shipped and some 1000 feet of work has been done in sinking a shaft and work outside the vein. Practically no development work of any sort has been done on the veins or ore bodies for many years.

PROPERTY:

Consists of a contiguous group of claims 37 in number, making an area of about 700 acres. Lately some ten or fifteen claims more have been purchased, so the group as it at present stands has an area of about 1000 acres.

Those claims have been surveyed by a U. S. Deputy Mineral Surveyor, who has placed all the corner monuments etc. so this ground is ready to be patented.

In addition to the above claims the company owns 160 acres of ranch land along the Colorado River including Eagle landing.

EQUIPMENT: (See Photograph in back.)

During the past three years the property has been equipped in the following manner:

CAMP: A camp consisting of a boarding house, director's house assay office, office and ten bunk houses for men, with three four room houses for families, has been constructed. The houses are supplied with water, flush closets and baths. This camp can with ease accomodate 40 men.

CARNATION SHAFT: The Carnation Shaft is equipped with a 60 horse power hoist.

and a 50 horse power compressor, both driven by gas engines.

EAGLE SHAFT: At the Eagle Shaft is located a 60 horse power hoist. Two compressors, one of 200 cubic feet capacity, and one of 250. Only one of these is in use, which is driven by a 60 horse power engine.

Tools of all kinds and several wall trucks make up the main equipment.

Except for pumping equipment with which to take care of the water encountered in the Eagle shaft, the equipment and tools are sufficient for a force of about 40 men.

GEOLOGY: (See map attached)

Surrounding this property for many miles to the southeast and north, are flows of late volcanic lavas. At this property the lava has been eroded away, exposing beds of massive limestone, upturned to an angle of fortyfive degrees from the horizontal. Intercollated bodies of porphyry schists and porphyry divided the limestone into relatively narrow widths. The limestone is brown in color and quite massive. The porphyry and schist porphyry is light in color and in places is so finely laminated and altered that it can be classed as a mica schist. This rock appears to have been made up of quartz and feldspars with little or no ferro-magnesium minerals. The feldspars are altered to kaoline or white mica.

ORE DEPOSITS:

For convenience I will divide the ore deposits into three classes, as follows:

The Carnation Section which includes the Treasure Hill and Carnation mine in which the ore is high in silica containing low values in gold;

The EAGLE SECTION in which the copper ore is found in a gangue high in iron. The veins in this section are the Eagle's Nest, Double Eagle and Grey Eagle;

The CYCLONE, or Porphyry, is that which contains no known

deposits of commercial ore, but is supposed to be valuable on account of the possibility of finding disseminated ores on drilling.

CARNATION VEIN TREASURE HELL, etc (see map)

The Carnation vein outcrops a length of about 3000 feet. strikes N. 45° E. to N 60° E. Dips from 55° to 70° to the southeast.

The width of this vein as exposed along the outcrop is from 8 to 20 feet, and good values are exposed everywhere where work has been done,

The most southern work on this contact is the Carnation shaft, 300 feet deep on the incline.

The crosscut on the 200 foot level exposes a vein on the contact which has a width of 15 feet of quartz containing copper and gold. Three large samples were taken from this level when I examined the mine in January, 1916, These samples gave an average of 2.92% Copper 0.08 gold over a width of 12 feet.

Since January 1916 the only work done here has been the mining of several hundred tons on the 200 foot level, This ore was sorted and shipped to the smelter.

The dump at this shaft was measured and sampled by me,

The tonnage shipped was:

344 Tons	Copper 5.64	Gold 0.268
600 Tons sorted dump	" 1.07	" 0.08

Average value of 944 tons mined from the 200 foot level is copper 2.42% Gold \$2.74, Iron 6.2% Lime 4.0 Insoluble 72%

The 200 foot crosscut is the deepest point where ore is exposed on this property the remaining 100 feet of depth being inaccessible.

Treasure Hill;

About 400 feet to the northeast of the Carnation shaft and at an elevation approximately 100 feet higher, the tops and sides of a hill 300 feet long and 200 feet wide show copper ore in many places, On the northeastern slope of this hill a quarry has been started exposing silicious copper ore for a length of about 200 feet and to a depth of about 80 feet, with several streaks of barren limestone separating the streaks of ore.

In 1916 six large samples were cut here giving the following results:

On top of the hill about 200 feet southwest of the quarry-

5 foot cut -----	Copper 1.3	Gold 0.02 oz.
30 foot cut -----	" 1.1	Gold 0.12 "

On the quarry face the following samples were cut from the different breasts exposed:

<u>Width in feet</u>	<u>Copper</u>	<u>Gold</u>
7	2.5 %	trace
15	3.3	0.19 oz
20	1.9	0.02
20	4.1	0.09

Width sampled 62 feet, averaged Copper 3.02% Gold 0.09 ounces

These samples were cut from faces that had been worked to obtain shipping ore and undoubtedly the work was done where the ore showed the best,

Prior to 1916 there was shipped from this quarry four cars of ore to Douglas, Arizona, for treatment. It is claimed that this ore was shipped without sorting,

SHIPMENTS

<u>TONS</u>	<u>COPPER</u>	<u>GOLD</u>
31.86	4.9%	0.18 ounces
36.69	5.2	0.16
56.80	3.51	0.10
66 43.21	4.5	0.16
Av Total Value	4.37%	.144 Oz insoluble 75%

From May 1916 there was mined and shipped to the smelters at Hayden, or Sasco, Arizona, the following tonnage of ore:

Dry Tons -----	1,106.33
Av Copper -----	5.54%
" Gold -----	0.19 ounces
" Iron -----	6.2
" Lime -----	4.0
" Insoluble -----	72.0

It was estimated by me that the dumps containing the rejects from the sorting contained 2,000 tons, which sampled 1.84% copper and 0.08 in Gold.

This would make the average of the ore mined from this quarry:

Copper 3.18% --- Gold \$2.40

It would be nearly impossible to sample this hill and quarry and get correct results, for much of this ore was mined by leasers who quit as soon as a place became poor and started mining in another place.

About 600 feet to the northeast of the quarry are some shallow workings along the contact of the limestone and porphyry, This is a continuation of the same contact as exposed by the workings of the Carnation shaft about 1200 feet to the southeast, At this place the outcrop is exposed for 350 feet toward the quarry, and shows widths of from 15 to 27 ft Several large samples were cut out from this outcrop in places which were accessible and about equal distances apart with the following results:

	<u>WIDTH IN FEET</u>	<u>COPPER %</u>	<u>GOLD OZ</u>
	12.0	3.0	0.31
Hanging wall)	10.0	5.9	0.04
	5.0	2.1	trace
Foot-wall)	12.0	2.9	1.12
	4.0	3.6	0.06
	<u>15.0</u>	<u>1.5</u>	<u>0.02</u>
average	11.6	3.14	0.31

At a depth of 50 feet under ground, in what is known as the Walters shaft, the northeast end of this outcrop was sampled. One sample cut over a width of 5 feet from the breast of a drift gave Copper 0.80%, Gold 0.44 oz

From the Walters shaft to the end lēne of the Leo Claim a distance of 1500 feet and more the vein is exposed on the side of the mountain and I judge from appearances will assay 3.0% Copper or better, At the extreme northeast end of the vein leasers have exposed the vein for a width of 15 feet, the values are claimed, and the ore looks as if it will run about 5.0% copper, The gold values are said to be high, This point of the outcrop is about 300 feet higher than the collar of the Carnation shaft.

GENERAL:

Length of outcrop 3000 feet, width from 8 to 20 feet, depth if deepest workings below highest point of outcrop about 500 feet.

Values indicated by sampling and by shipments, Copper 3.0% Gold \$ 2.40

No tonnage is figured, though there is a large tonnage probable.

Due to the costs of mining, hauling to railway station, railway haul and smelter treatment and deductions, this ore cannot be handled at a profit,

In event of opening up sulphide ores in other portions of this property, where large bodies of iron ore containing some copper is shown this ore would become very valuable as a flux and could be mined and treated at a good profit.

Eagle Section (see map attached)

Three contacts between limestone and ~~pothry~~ pothry occur about one mile to the northwest of the Carnation. These contacts strike northeast and southwest, and two of them, the Eagles Nest and Double Eagle dip from 55° to 70° to the Northwest or opposite to the dip of the Carnation vein.

Ore occurs along these contacts and can be followed continuously for distances of from 2500 to 3000 feet.

The ore occurring in these veins is carbonates and oxides

of copper containing gold, in gangue being hematite and specular hematite.

On the surface and to a shallow depth underground large bodies of specular hematite occur containing practically no copper and from a few cents to four or five dollars per ton in gold. The analysis of several samples of specular hematite from these large bodies gave 63.5% iron, 9.4 insoluble,

EAGLES NEST AND DOUBLE EAGLE: The Eagle's Nest vein and the Double Eagle vein are about 500 feet apart, The strike is about parallel to the Northeast and the dip to the northwest.

There has been shipped mainly from the Eagle's Nest during the years 1917 and 1918 the following tonnage of ore:

<u>TONS SHIPPED</u>	<u>COPPER</u>	<u>GOLD</u>	<u>IRON</u>	<u>LIME</u>	<u>INSOLUBLE</u>
<u>820.5</u>	<u>16.0 %</u>	<u>0.32 oz</u>	<u>14.5%</u>	<u>5.0%</u>	<u>37.0%</u>

The outcrop of these veins is very strong and can be followed for several thousand feet, The outcrop material is nearly solid iron either as hematite or specular hematite containing in places bunches of high grade copper as carbonate or oxide. The width is from 10 to 50 feet.

Prior to 1916 and up to the present time practically no development work has been done on these claims with the exception of a 700 foot shaft and several cross-cuts run to the vein. This work will be spoken of later.

On the Eagles Nest a tunnel 300 feet long has been run along the course of the vein exposing in places small bodies of ore which were mined and shipped, the entire length of the tunnel being in heavy iron ore containing copper. The only work done on this property for years is that done by leasers who are granted the privilege of mining the ore wherever they find it; no requirements are made regarding development work of any kind consequently a leaser will mine ore for a few days on the surface and when his workings look a little poor he will begin to flack for a better place.

Later another leaser may clean out the old workings left by

his predecessor and extract several tons to a car load of ore before he in turn abandons same.

The surface of both the Double Eagle and Eagle's Nest has many shallow holes showing copper over widths of from five to ten feet. In places samples of from three to five percent copper can be obtained.

As a rule, from the showings left by the leasers the size of the ore bodies so far extracted have been small and widths of over 20 feet are found in only a few places.

EAGLE'S NEST SHAFT: Since January, 1916 the company, realizing that the value of this mine depended entirely upon the opening up and development of bodies of sulphides decided to sink a shaft to water level and then crosscut the Eagle's Nest and Double Eagle vein.

A two-compartment shaft has been sunk 680 feet. A crosscut was run to the Eagle's Nest vein on the 100 foot level and the vein prospected for a distance of about 300 feet. The vein is about 15 feet wide and is composed of specular iron with high grade copper showing in places. Some copper was mined and shipped from this level. On the 200 ft level a crosscut was run to the vein and the vein exposed for a width of 18 feet. No drifting was done.

As the shaft started to make water at about 650 feet it was decided to run a crosscut at the 630 feet point to the vein in hopes that at this level secondary ores would be found.

When the vein was encountered the water increased to about 50 gallons per minute and it required 20 hours to hoist the water so that little work could be done, this caused the company to close down.

The sinking of this shaft to a depth of 1000 feet and the diamond drilling or crosscutting the vein from that point will, if the vein is found to contain sulphide ores of a commercial grade, make this mine a big property.

The shaft is well equipped and requires only the installation of pumping machinery of a capacity of from 100 to 200 gallons per minute.

GREY EAGLE: The Grey Eagle workings are about 2000 feet to the north-west of the Eagles Nest workings.

The vein strikes about parallel to the Eagle's Nest vein but the dip to the southeast as in the Carnation.

Much good ore is exposed on the outcrop of this vein which can be followed for three thousand feet, The workings are entirely shallow surface workings made by the leasers, there are many places that will sample from 3.0 to 5.0 percent copper over widths of from 5 to 15 feet, This ore is more silicious than the Eagle's Nest ore, but less so than the Carnation.

No attempt was made to sample the ore exposures here though much ore is exposed. A sample taken from a dump from one of the workings gave 4.66% Copper and 0.07 Gold.

Several learners are working on this property at present and are making shipments from time to time. The shipments run about as follows:

<u>TONS</u>	<u>COPPER</u>	<u>GOLD</u>	<u>IRON</u>	<u>LIME</u>	<u>INSOLUBLE</u>
14,268	14.84%	0.28 oz	16.2%	3.4%	42.2
31.28	12.38	1.00	12.38	2.9	54.4
13.26	10.27	1.03	15.2	1.6	52.6
27.02	10.88	0.13	12.0	6.1	47.5
12.86	14.20	0.50	10.0	1.2	56.5

GENERAL: The Eagle's Nest, Double Eagle and Grey Eagle veins show all the peculiarities of limestone veins, and while the surface showings are strong and the evidence of high grade ore shows at many places it is doubtful if any appreciable tonnage of good ore could be estimated by making a more thorough examination. There is undoubtedly a large tonnage of ore in the upper parts of the mines above the water levels that would make high grade pay ore in case smelting could be done on the ground. The grade of ore that could be expected from these veins would be from 5% to 10% copper analyzing considerably higher in iron than the average of the ore so far shipped.

Cyclone --(Porphyry Area)

To the west of the Carnation workings is an area of porphyry which has been covered by seventeen claims making a total of 340 acres.

This porphyry is highly mineralized by the salts of iron and considerable specular iron is shown in places. In some localities considerable gypsum is found in the seams of the rock. Small streaks and bunches of copper are found in places through this area.

This porphyry area is worthy of intelligent study and will probably pay to drill to determine the existence of copper in depth. I do not consider the chances here are sufficient to warrant the drilling unless the other sections of the mine are on a paying basis.

GENERAL:

The location of this property is in a part of Arizona which, until a few years ago, was 90 miles to the nearest railway and could only be reached by wagon or boat.

This section has been overlooked and has not been given the attention the surface showings warrant. The method of working this property by giving the leasers the privilege of mining ore wherever they please and requiring no development work, presents the property in the poorest possible condition.

The ores showing while large and of a good grade are practically valueless unless sulphide ores are encountered below the water level.

The presence of the large bodies of hematite and specular iron found in the Eagle's Nest and Double Eagle would indicate that sulphide bodies of large size would be encountered.

In case large bodies of commercial grade ore be encountered at water level, a railway could easily and cheaply be constructed to Parker.

A custom smelter located at Parker would be well located strategically. The nearest copper smelter to the west and north would be at

Salt Lake; to the east Clarkdale or Humbolt. A plentiful water supply would be obtainable from the Colorado River. The government has two dams projected to elevate the waters on the Colorado River, 21 feet above ~~its~~ its present level. The location of these dams is several miles to the north of Parker. It is probable that power will be developed at these dams.

CONCLUSIONS:

As a development proposition this property offers some unusually good chances to make a big mine with a comparatively small amount of money.

The work necessary to prove or disprove the existence of sulphide ore at depth is the equipping of the plant with pumping machinery and the sinking of the Eagle Shaft to a distance of 320 feet to the 1000 foot level and the diamond drilling or crosscutting from that point.

Detailed sampling of the outcrop and workings now open is not advisable at the present time, for unless sulphides are encountered the ores sampled and measured will be of little or no value.

Yours very truly,

signed Frank W. Royer

CERTIFICATE OF ASSAY

Empire, Arizona, -----1916

Lot No.	Samples From	Au	Cu	Insol	Fe	CaO
140	Grey Eagle	0.10	--			pillar in Wat. stope
141	"	0.10	--			16"wd. roof Wat. stope
131	Gold "	2.60	7.54			sorted ore in gulch from M.T.
134	Grey ""	0.48	1.70			30"wd.E.end Wat.stope
135	"	0.44	1.85			grab broken ore Wat. stope
136	"	2.00	1.10			bottom Wat. stope E. of crosscut
118	"	1.20	0.10			1'wd.center W. face tope Wat.shaft.
120	"	0.90	2.50			blue qrtz Wat. dumps
126	"	0.06	32.90			black oxide spec. Wat. dump
132	Gold "	0.08	--			2'wd.qrtz streak 50' W.portal M.T.
133	Grey "	11.96	1.10			qrtz. Wat. dumps
142	"	0.36	4.40			rejects from Reed-Roberts lease
143	"	0.04	9.80			sorted ore raise 2 M.T.
144	"	0.06	5.9			unsorted " " " "
145	"	0.06	1.20			red qrtz as above
146	"	0.20	6.90			grab after blast Raise 1 M.T.
147	"	0.32	3.55			sorted as above
148	Gold "	2.40	2.45			sorted W. Chafey lease
149	"	0.06	--			black lime under ore W.Chafey lease
150	"	0.08	0.40			lime&schist under ledge Pritt wrk's
151	Grey "	0.08	0.90			qrtz Wat. dumps
152	"	0.20	0.70			3'wd. qrtz in hole 100'N.gold work'g
153	"	0.10	2.10			20"wd. qrtz lst. Tun.S.W.iron T.
154	"	0.14	--			4'wd.S.end stope 3rd. Tun S.W. iron T
155	"	0.12	1.10			blue qrtz raise M.T.
156	"	0.10	7.70			grab after blast raise 2 M.T.
157	Gold "	0.18	1.00			finer W. Chafey lease
158	"	0.46	1.30			doubtful ore W. Chafey lease
160	"	0.06	3.08			20"wd.qrtz. in gulch 50'S.W.port.M.T.
161	"	0.08	0.30			finer from cut 100'S.port M.T.
162	"	--	--			10'wd Hw side as above
163	"	0.06	--			2'wd as above
164	Grey "	--	--			16"streak in tun. across gulch 162
165	"	0.54	7.50			grab after blast raise 2 M.T.
166	"	0.18	--			qrtz from above
167	"	0.26	--			" Wat. dumps
168	"	0.04	9.90			from hole 150'N.Wat.shaft
169	Gold "	1.32	3.60			sorted ore W.Chafey lease
170	Grey "	0.08	4.10			" " E.Wat. dump
171	"	0.12	4.60			" " M.Wat. dump
172	"	0.70	0.35			grab after blast raise 2 M.T.
173	Gold "	0.12	4.20			sorted by Pritt top of hill
174	"	0.08	2.50			" " Chafey W. side hill
175-	"	0.08	3.20			check on above
176	"	0.06	--			brown qrtz. W. side hill

CERTIFICATE OF ASSAY

Empire, Arizona,.....1916

Lot No.	Samples From	Au	Cu	Insol	Fe	CaO
177	Gold Hill	same as 175 W.				Chafey ore W.side hill
178	"	0.04	2.60			sorted from Pritt work'gs
179	Grey Eagle	0.84	1.07			grab after blast raise 2 M.T.
180	"	0.68	4.07			sorted on track M.T.
181	"	0.68	0.60			middlings Wat.dump 1/2"
182	"	0.20	1.20			finer from above
183	"	0.28	2.60			center streak top of cut W.side Wat st
184	"	0.06	1.07			3'wd.hw streak as above
185	"	0.08	--			center streak W.face as above
186	"	0.20	5.20			sorted by Pritt.Reed& RobertsL
187	"	0.12	7.20			10"streak raise 2 M.T.
188	"	0.12	--			qtz raise 2 M.T.
189	"	0.14	3.20			grab after blast raise 2 M.T
190	Gold "	2.56	1.20			16"streak W. Chafey lease
191	Grey "	0.24	1.30			grab after blast raise 2 M.T
192	" "	0.16	0.80			grab after blast raise 2 M.T
193	Gold "	0.12	--			red qtz W.Chafey lease
194	" "	0.14	0.50			contact W.side of hill
195	Grey "	0.28	--			grab after blast raise 2 M.T
196	" "	0.08	7.10			sorted ore old camp shft.
197	" "	0.60	0.70			qtz from old work'gs N.E.end
198	" "	0.56	xxxx			20"streak qtz 1st.tun SW iron tunn
199	" "	0.52	3.90			12"streak qtz 100'NE gold stope
200	" "	0.24	5.90			copper-stained iron 30'NE G""""
201	" "	0.14	8.00			streak in gold stope
202	" "	0.12	--			qtz on Wat.dump
203	" "	1.06	3.20			-1/2"Wat.dump screenings
204	" "	0.08	2.07			rejects from assay office
205	" "	0.20	0.80			16"wd inroof Wat.stope
206	" "	0.06	4.20			grab muck under raise gold stope
207	" "	0.04	5.05			3/8'wd.collar raise ""
208	" "	1.90	--			3/8'wd.10'W.of207
209	" "	0.12	--			20'Wof207
210	" "	0.04	4.30			copperstained iron 50'E " "
211	" "	0.04	2.60			" " lime " " " " "
212	" "	0.12	3.80			2'wd.roof upper tunn No.7 lease
213	" "	0.50	1.09			finer&middlings W.Wat.dump
214	" "	0.24	0.90			" " as above
215	" "	0.30	--			grab after blast M.T
216	" "	0.22	1.00			" " " portal MT
217	Gold "	0.24	--			16"streakW.Chafey lease
218	Grey "	0.40	0.90			grab after blast raise 2 M T
219	Gold "	0.36	1.20			doubtful ore W.Chafey lease
220	Grey "	0.80	1.90			finer Wat.dumpx
221	" "	0.36	9.08			sorted Wat.dumps
22	Gold "	1.82	1.07			general samp/sorted W.Chafey lease

CERTIFICATE OF ASSAY

Empire, Arizona, _____ 1916

Lot No.	Samples From	Au	Cu	Insol	Fe	CaO
223	Grey Eagle	034	1.30	grab after blast raise 2 M T		
224	Gold "	004	0.80	qrtz 40'W.portal M T		
225	Grey "	016	---	roof Wat.stope		
226	"	016	5.00	2'wd roof upper tunn No7 lease		
227	"	1.40	0.40	3'wd 10'W of raise gold stope		
228	"	064	1.60	3'wd.surface of pillar " "		
229	"	008	--	gouge over ore " "		
230	Trenton	022	0.60	3'wd 100'E watertank Pritt wkgs		
231	"	012	1.50	2'wd 250'Ne wwater tank		
232	"	--	0.50	4'wd.same as above		
233	"	004	1.00	float 350'E water tank		
234	Omega	012	4.00	tunnel 200'N Carnation shft		
235	"	008	4.60	surface 50'N of 234		
236	"	008	4.10	" 200'N "		
237	Grey "	072	2.10	grab after blast raise 2 M T		
238	Omega	044	7.90	sorted in tunn 200'N Carnation Shf		
239	"	054	5.40	same as above winze		
240	Treasure Hill	016	1.60	finer from stope N glory hole		
241	"	032	6.10	sorted 200'W Walter shft		
242	Gold "	008	10.60	" W.Chafey new lease		
243	"	028	3.20	second grade		
244	"	044	0.50	W.Chafey lease		
245	"	008	0.80	XX " " "		
246	"	1.20	1.09	general smap/W.Chafey old lease		
247	Treasure Hill	008	7.08	check'on 238		
248	" "	004	6.10	sorted on surface 50'N 247		
249	"	006	6.30	2'streak 300'N 247		
250	Grey "	032	1.70	grab after blast M T		
255	Gold "	008	4.06	18" streak W.Chafey new lease		
256	"	004	0.70	15'NW 255		
251	Grey "	004	5.00	sorted gold stope		
252	"	004	5.20	muck pile gols stope		
253	"	--	9.50	sorted old camp shft		
254	"	026	0.50	grab after blast raise 2		
257	Gold "	024	4.01	sorted contact W side hill		
258	"	004	4.07	2'wd.W.Chafey new lease		
259	"	006	4.03	1'wd 20'S above		
260	Grey "	010	0.90	grab after blast M T		
261	"	004	1.30	W end gods stope 2'wd		
262	"	004	--	lime under ledge as above		
263	"	082	--	red streak hw gold stope		
264	"	006	--	honeycomb qrtz over 263		

EMPIRE-ARIZONA
COPPER COMPANY

CERTIFICATE OF ASSAY
From March 24th., to May 1st. 1925

Empire, Arizona,.....1916

Lot No.	Samples From	Au	Cu	Insol	Fe	CaO
754	Grey Eagle Claim	0.12	3.45	Watson shaft dump	sorted ore	
755	" " "	0.08	3.50	" " "	finer	
756	Gold Eagle	0.06	2.10	West side of hill	sorted	
757	" " "	0.04	1.00	North " "	#	
838	Grey Eagle	0.56	6.55	Ree-Roberts grab	of sorted ore	
839	" " "	0.24	8.40	" " "	" " "	
840	" " "	1.20	5.80	" " "	" " "	
841	Gold Eagle	0.04	0.95	Rejects from W. Chafey	sorted ore N.e	
842	" " "	-	-	Red quartz	" " No.end.	
850	Grey Eagle	-	2.00	2ft.wide felt side portal	main tun	
843	Gold Eagle	0.16	1.85	All quartz	No.end top of hill	
844	" " "	1.36	2.65	Sorted ore W. Chafey	lease	
845	" " "	0.08	1.85	quartz	No. end top of hill	
846	Grey Eagle	0.08	4.40	iron ore	M.T.dumps	
847	" " "	0.14	4.55	sorted from	Watson dumps	
848	" " "	0.06	5.50	" " "	small Watson dumps	
849	" " "	0.10	4.90	grab " "	Watson "	
758	Treasure Hill	0.06	2.95	rough sorted	under road	
759	" " "	0.12	5.10	" " "	on "	
760	Omega	0.64	9.05	200'N.Carnation shaft		
761	" " "	0.24	0.95	quartz	" "	
762	Gold Eagle	0.16	3.70	sorted	W.side hill	
763	" " "	0.12	5.7	" " "	by Pritt top of hill	
764	Grey Eagle	1.36	4.40	" " "	On plat. M.T.	
765	" " "	6.00	1.35	6'wide W.side Watson	shaft, top incl	
766	" " "	0.20	6.25	sorted by ritt	" " on plat.	
767	" " "	0.48	7.70	" " "	No. 7 lease	
768	" " "	0.06	2.70	unsorted ore	dump No.7 lease	
769	" " "	0.06	8.10	sorted ore	small dump below Wat.shft.	
770	" " "	0.16	-	oxidized qz.	E. Wat. shft.	
771	" " "	0.14	6.80	sorted ore	Watson sft. dump	
772	Gold Eagle	1.12	2.50	" " "	N.end W.Chafey lease	
773	" " "	0.54	2.30	On contact	W.side hill	
774	Grey " "	0.12	1.85	specimens	by Manson	
775	Gold Eagle	0.06	0.10	" " "	N.end W, Chafey lease	
4	Grey " "	0.12	-	--	--	
776	Gold " "	0.12	4.30	sorted ore	by Pritt top of hill	
777	Grey " "	0.16	1.35	raise 1	M.T.	
778	" " "	0.03	14.50	" " "	2""	
779	" " "	0.03	1.05	" " "	3""	
780	" " "	0.12	0.40	E. face vertical	Watson Shaft	
781	" " "	1.32	3.75	W. " " "	" " "	
782	" " "	0.36	3.20	grab broken ore	" stope	
783	" " "	--	--	18"bottom	Watson incline shaft	
784	" " "	--	2.70	half way down	" " "	

.....
Assayer.

S TATEMENT OF ORE SHIPMENTS

<u>DATE OF SHIPMENT</u>	<u>FROM</u>	<u>TONS</u>	<u>VALUE PER TON</u>		<u>TOTAL</u>	<u>NET SMELTER RETURNS</u>
			<u>GOLD</u>	<u>COPPER</u>		
		45.6	\$7.61	\$25.07	\$32.68	\$1,040.28
		43.7185	8.19	22.61	30.80	912.82
		36.299	8.00	23.30	31.30	775.76
5-20-16		29.411	5.85	20.19	26.04	499.40
5-27-16		26.037	4.48	21.30	25.78	424.81
6- 3-16	Eagles Nest	29.522	1.17	38.70	39.87	939.67
6- 9-16	Carnation	28.0565	3.80	21.31	25.11	446.16
6- 5-16	"	31.8775	4.58	22.61	27.19	559.09
6-22-16	"	28.349	4.78	21.20	25.98	476.41
7- 6-16	"	36.907	4.29	19.37	23.66	539.94
8-30-16	"	37.9135	3.31	19.55	22.86	523.63
10-13-16	Grey Eagle	33.741	5.26	92.86	98.12	2,932.54
11-21-16	"	35.6335	5.07	78.17	83.24	2,581.41
12-11-16	Treasure Hill	46.217	7.20	23.05	30.25	1,005.75
12-17-16	"	28.5575	3.60	26.75	30.35	625.42
12-24-16	"	51.613	2.60	18.38	20.98	678.38
12-12-16	"	43.3785	2.60	26.38	28.98	892.84
1- 4-17	"	49.0355	3.00	15.22	18.22	515.43
1-11-17	"	44.544	2.70	18.84	19.54	528.89
1-18-17	"	24.3495	2.10	21.23	23.33	376.00
1-20-17	"	24.0015	1.28	15.01	16.29	206.76
1-24-17	Eagles Nest	29.8115	6.80	80.78	87.58	2,307.32
1-24-17	Treasure Hill	49.6585	1.40	18.14	19.54	590.81
1-30-17	"	31.044	1.60	17.76	19.36	363.75
1-31-17	Eagles Nest	28.731	4.80	92.66	97.46	2,510.04
2- 4-17	Treasure Hill	53.7085	2.20	18.53	20.73	690.77
2- 7-17	"	50.137	2.00	19.79	21.79	697.72
2-26-17	"	43.5505	4.00	23.36	27.36	824.37
3- 4-17	"	50.487	4.80	24.32	29.12	1,046.41
3- 5-17	Grey Eagle	17.0575	9.20	98.03	97.23	1,398.98
3- 6-17	Treasure Hill	18.633	3.40	26.13	29.53	353.73
3-13-17	"	45.129	3.60	21.92	25.52	771.55
3-20-17	"	39.8275	4.00	23.19	27.19	748.90
3-30-17	"	49.627	4.00	21.68	25.68	857.86
4- 2-17	"	38.3865	2.20	21.09	23.29	594.42
4-10-17	"	44.4865	2.80	21.15	23.95	718.51
4-23-17	"	47.014	2.20	16.63	18.83	529.32
4-27-17	"	39.3205	3.20	19.31	22.51	578.45
5- 6-17	"	46.679	4.00	20.88	24.88	797.48
5-15-17	"	36.951	4.00	25.28	29.28	771.77
5-15-17	Grey Eagle	27.0245	9.20	44.78	53.98	1,204.96
5-26-17	W. E.	33.5545	7.60	73.48	81.08	2,406.57
6- 5-17	Treasure Hill	40.490	6.20	19.72	25.92	901.22
7- 9-17	"	44.944	5.80	22.18	27.98	880.29
7- 9-17	Eagles Nest	37.12	3.20	37.57	40.77	1,167.80
7-23-17	W. E.	31.0365	9.20	49.01	58.21	1,552.15

STATEMENT OF ORE SHIPMENTS - continued

<u>DATE OF SHIPMENT</u>	<u>FROM</u>	<u>TONS</u>	<u>VALUE PER TON</u>			<u>NET SMELTER RETURNS</u>
			<u>GOLD</u>	<u>COPPER</u>	<u>TOTAL</u>	
8-18-17	W. E.	27.730	1.40	65.60	67.00	1,615.24
9-10-17	Utica	29.082	7.00	56.86	63.86	1,595.01
9-10-17	W. E.	5.598	5.40	40.53	45.93	205.71
10-17-17	Utica & E. N. ✓	29.7545 ✓	3.00	55.15	58.15	1,485.05
11-22-17	"	36.285 ✓	2.80	40.52	43.32	1,279.25
12-13-17	"	27.2025	2.60	37.39	39.99	843.25
12-29-17	"	25.2525	1.60	59.21	60.81	1,322.81
12-29-17	Utica & E.N. } car	16.170	12.00	50.85	62.85	872.53

Empire Arizona Copper Co.

Sasco

To. M v/ton Credits Preshippin

Mine

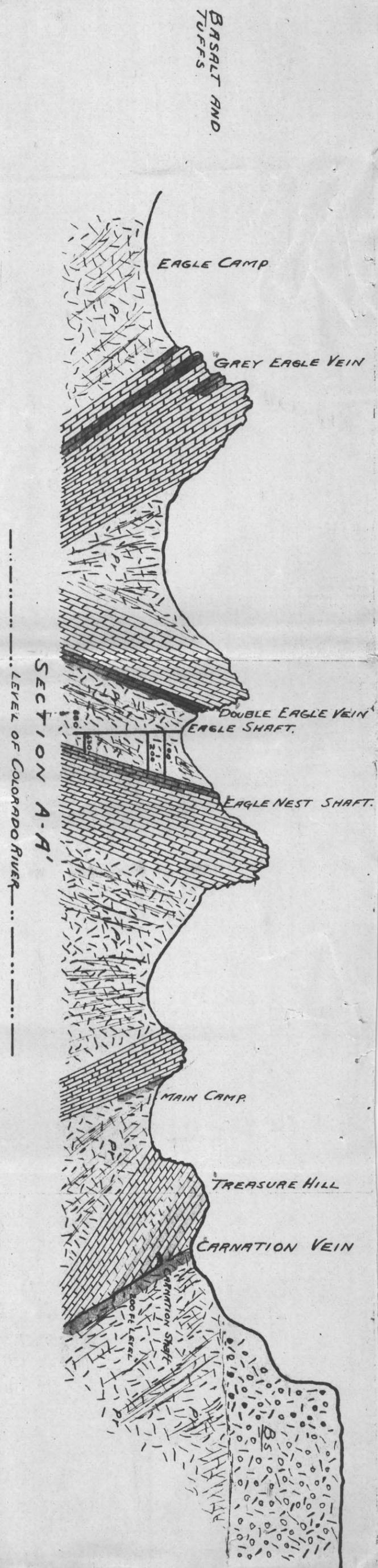
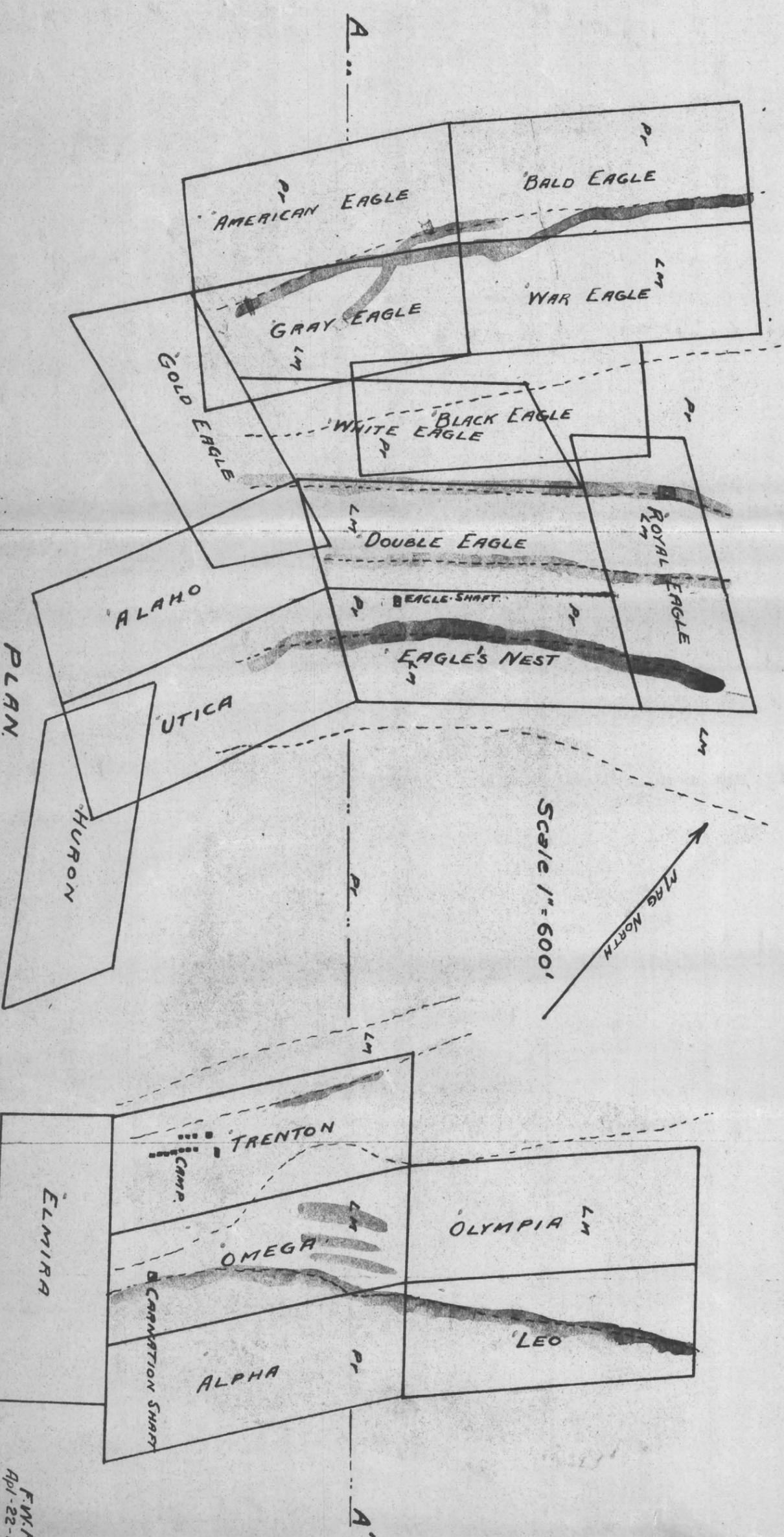
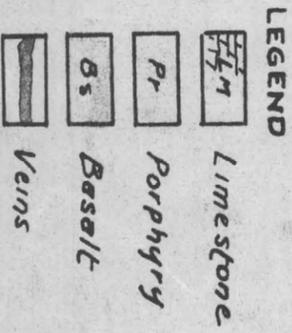
		cu	cu	Fe	CaO	Imp.	Tons					
Jan 25, 1917	6-150	.135	4.54	6.0	6.5	67.8	44.544	19.54	658.51	528.89	Treasure Hill	
Feb 6 "	9-306	.34	18.70	16.0	3.8	32.4	29.8115	87.59	2495.22	2307.32	Eagle Nest	
" 13 "	11-352	.24	21.12	15.7	3.7	20.0	28.731	97.46	2691.52	2510.04	" "	
April 14 "	13-800	.20	4.18	6.3	4.7	72.0	49.627	25.48	1038.69	857.86	Treasure Hill	
" " "	14-834	.11	4.86	5.9	5.2	71.2	38.3865	23.29	711.69	594.42	" "	
" 24 "	15-918	.14	5.04	6.6	3.8	73.0	44.4865	23.95	854.14	718.51	" "	
May 4 "	16-999	.11	4.56	6.7	3.8	71.8	47.014	18.83	661.96	528.32	" "	
" 31 "	20-1201	.46	10.70	17.2	2.6	49.3	27.0245	53.98	1330.96	1215.38	Grey Eagle	
June 5 "	21-1268	.38	17.70				33.5545	81.08	2611.55	2406.57	War "	
Aug 7 "	22-1673	.46	13.70				31.0365	58.21	1705.77	1552.15	" "	
" 28 "	23-1849	.07	17.20	17.8	5.7	27.5	27.730	67.00	1762.24	1615.24	" "	
Oct 30 "	24-2313	.15	16.02				29.7545	58.15	1633.52	1485.05	Utter's Eagle Nest	
Dec 1 "	25-2524	.14	11.77	21.2	1.8	41.2	36.285	43.32	1439.06	1279.21	" "	

Hayden

3-8-17	434	.20	5.05	6.1	4.6	70.2	43.5305	27.36	984.68	824.37	Treasure Hill
3-9-17	519	.46	18.90	12.4	1.0	47.2	17.0575	97.23	1577.48	1398.98	Grey Eagle
3-17-17	587	.18	4.93	6.5	4.3	72.6	45.129	25.52	937.33	771.55	Treasure Hill
3-10-17	520	.17	5.65	6.6	3.3	73.6	18.633	29.53	461.73	353.73	" "
3-8-17	492	.24	5.30	6.0	3.7	72.8	50.487	29.12	1236.37	1046.41	" "
3-22-17	616	.20	5.18	5.6	2.8	74.0	39.827	27.19	893.73	748.90	" "
7-16-17	1432	.16	9.20	10.5	2.9	58.2	36.749	40.77	1323.70	1167.80	Eagle Nest
5-18-26	1-436	.34	16.60				26.495	39.30	908.78	778.28	Treasure Hill Eagle Nest

Addition Eagle Nest shipments

6-27-16		.06	9.22				29.522		34.37	
2-23-18		.08	10.41				22.522		33.75	
5-11-18		.13	9.05				8.529		29.84	
10-3-18		.22	15.80				15.986		63.73	
11-1-18		.18	19.07				18.306		76.33	
12-6-18		.15	26.80				27.136		106.99	
10-31-19		.24	24.18				2.499		79.73	
10-31-19		.28	22.66				19.481		75.43	



325 Heard Building
Phoenix, Arizona
January 28, 1944

Empire Mine (pa)

TULLY - Ass't Chief - Mining Section RFC - Washington, 25, D. C.

Re: W. W. Harritt - Docket No. ND-5928

I enclose the original and one copy of my report covering applicant's application for an additional loan of \$12,000. Also is enclosed the original of applicant's application with supporting data which includes:

1. three pages of data pertaining to Exhibit A
2. one page of data pertaining to Exhibit B
3. report by Frank W. Royer
4. report by W.V. DeCamp
5. twenty-one photostatic copy of settlement sheets
6. ten sheets of assay data and shipment records
7. three assay maps

CAR
CHARLES A. RASOR
Supervising Engineer

CAR:dem
Encs. as listed above

RECONSTRUCTION FINANCE CORPORATION
MINING DIVISION
REPORT OF SUPERVISING ENGINEER

Docket No. - ND-5928
ND-8174

W. W. Harritt

Date Author. for Exam. Rec'd - Jan. 17, 1944

Date of Examination - Jan. 22, 1944

Date of Report - Jan. 28, 1944

On March 29, 1943, the captioned application was considered by this Corporation, but favorable action was not taken because it appeared to the Engineer Examiner that the applicant did not have a lease upon the ground on which he proposed to do work with loan funds. Later it appeared the applicant had a lease on the property and a loan of \$5,000 was granted to retimber and rehabilitate the shafts and some of the underground workings of applicant's copper mine. This report considers applicant's request for an additional \$12,000.

I was taken to the property by the applicant, but was unable to ascertain just what the applicant had done with the \$5,000. Certainly he had not spent very much on the underground workings. The shaft remains caved or plugged a few sets down from the collar and apparently no attempt was made to place the collar and head frame in shape for operation. Neither was there any evidence of equipment, shovels, picks, pipe, compressor or any other material used to reopen the mine. The dump did not show any evidence of new material cleaned out from supposedly caved areas. Neither did the underground show any evidence of recent work except for a new chute that contained some ore. Thus it is this engineer's belief, but supported only by visual evidence, that the underground workings were in little worse shape than they are now. What the applicant did, namely sampling, could have been done for much less than \$5,000. Of course, the applicant could have spent most of the money on road work or other parts of the property which he did not show me. He was not much interested in showing me the upper tunnel where he had sampled, for it was obvious that he had done little work, except to mark places where he supposedly has taken samples. I noted all the places which he had marked with a number, but could not see that he had taken a channel sample. However, the samples do not represent much as they were taken of isolated pillars in an open stope which are at most only a few feet below the surface. Samples were not taken in the floor, but none could be taken because of waste fill. Hence the samples do not mean much, although they average 5% across 16 inches. My opinion of the applicant, of course, is not very high for in addition to the poor showing in the mine, he uses the automobile bought with loan funds to haul wood to his ranch house from the Indian Reservation and has obtained three new pre-war tires to ride on smooth roads.

The applicant has a position of Construction Foreman with the W.R.A. and as such he probably has not been able to devote much time to his mine. He told me a Japanese at the Relocation Center drew the map and prepared copies in the Government blue print shop. He wanted to work the Japanese on his property, but was prevented from doing so by the Army.

Although the applicant claims he spent the money on the holes examined, the physical evidence does not substantiate it. As the property consists of 19 unpatented claims, he could have spent the money on a number of holes of which we would have no knowledge. It is also known that the applicant sub-leased part of the property to E. R. Sandau who has been shipping ore, part of the money could have been spent there.

The applicant has submitted maps of the areas which he sampled and which he proposes to mine with the additional loan funds. I am using his samples as a basis for evaluating the property, although I took a few samples in the same places he did for check purposes.

1. NAME AND ADDRESS OF APPLICANT

W. W. Harritt
Box 1868
Parker, Arizona

Correspondent

Same

2. CHARACTER OF PROJECT

To mine presently available copper ore from applicant's copper mine.

3. LOCATION OF MINE

In the Cienega (or Seneca) Mining District, Yuma County, Arizona - about 11 miles from Parker, Arizona, the nearest railway shipping point.

4. APPLICANT

Applicant is a construction foreman for the War Relocation Authority Project at Poston, Arizona.

5. LOAN REQUESTED

\$12,000.00

6. DESCRIPTION OF PROJECT

A. General Features

1. No mine workings, mill or other necessary appurtenances which are not confined within applicant's ownership.
2. Project would comply with State compensation or safety-first statutes.
3. No apparent legal discrepancies not covered.
4. No impeded right-of-way facilities.
5. No surface or sub-surface trespass.

B. Existing Development

1. Tunnel and shaft mine

- a. Applicant's maps are accurate enough for the purposes of this report. Although some of the bearings are not the same as plotted on the map, the length of mineralization and relative position of the samples are correct.

b. Sampling and Assay Data

Applicant has submitted all the assay data on maps accompanying his application. Samples were taken every five feet across the mineralization. I took three samples. Sample No. 183 corresponds with his no. 1. Sample No. 184 with his no. 4, and Sample No. 185 with his no. 6.

c. Underground mine workings are accessible but not through the shaft. Mining of ore cannot be started until the shaft is placed in condition and equipment bought, namely, hoist, compressor and drills.

d. General features of deposit

The ore occurs at and near the contact between folded and faulted limestone beds and igneous rocks. Both limestone and igneous rocks are of pre-Cambrian age. Mineralization consists of copper carbonates and specularite. Copper mineralization varies from a few inches to five feet in width. Specularite is abundant and varies up to 40 feet in width.

Although the shaft is supposed to be 740 feet deep, only the upper level, which is not connected with the shaft, and the 100 foot level, were examined. It is this part of the mine which the applicant proposes to mine.

ORE RESERVES

Assay Value

100' Level Eagle Shaft

No.	Width	Os. Au.	Width x Au	% Cu	Width x Cu
1	2'	.02		1.80	3.60
9	2'	.02		4.00	8.00
2	4'	.03	Not	2.70	10.80
10	3'	tr		3.85	11.55
3	4'	.03	Sufficient	2.20	8.80
11	2'	tr		1.60	3.20
4	3'	.03	Gold	3.25	9.75
12	2'	tr		1.80	3.60
5	2'	.02		4.70	9.40
13	4'	tr		1.00	4.00
6	<u>5'</u>	.02		1.45	<u>7.25</u>
	33'				79.95

$$\text{Average Width} = \frac{33}{11} = 3 \text{ feet}$$

$$\text{Average Grade} = \frac{79.95}{33} = 2.42\% \text{ Cu}$$

Upper Level of Eagle Nest

No.	Width	Oz. Au	Width x Au	% Cu	Width x Cu
18	16"	.45	7.2	7.40	118.40
19	16"	.04	.64	7.70	123.20
20	16"	.02	.32	5.12	81.92
21	16"	.54	8.64	2.20	35.20
22	20"	.04	.80	1.85	3.70
23	16"	.04	.64	5.00	80.00
24	16"	.03	.48	5.30	84.80
25	16"	.02	.32	5.00	60.00
26	16"	.02	.32	2.16	34.56
27	16"	.06	.96	1.20	19.20
28	16"	.04	.64	2.90	46.40
29	16"	.16	2.56	7.25	116.00
32	16"	.02	.32	13.30	212.80
33	16"	tr	.00	tr	0.00
34	16"	.02	.32	1.65	26.40
35	16"	.02	.32	12.60	201.60
36	16"	tr	.00	.95	15.20
37	<u>16"</u>	.02	<u>.32</u>	11.80	<u>188.80</u>
292			24.80		1468.18

$$\frac{24.80}{292} = .085 \text{ Oz Au}$$

$$\frac{1468.18}{292} = 5.03\% \text{ Cu}$$

On the 100 foot level, the ore is very friable and can be broken with a hand pick. There are a number of two foot samples as well as a few four foot samples. Although the average width of the ore calculates to 3 feet, on mining this ore there will be some dilution. To be reasonable, I have taken 10 per cent of the assay value. Thus, the grade of the ore represented on the 100 foot level will be

$$2.42 \times 10\% = 2.42 - .24 = 2.18\% \text{ Cu.}$$

In the upper tunnel, the ore which the applicant sampled represents remaining pillars. Samples in the floor could not be taken. Nevertheless, by accepting the applicant's samples, there is obtained an average grade of 5.03% copper across 16 inches. Since the average stoping width is accepted as 36 inches, there will be a dilution of 20 inches of waste.

Thus the average grade of ore would be calculated as follows:
 18 samples x 36 inches equals a total of 648 inches.

$$\frac{24.80}{648} = .038 \text{ ounces gold}$$

$$\frac{1468.18}{648} = 2.27\% \text{ copper}$$

Tonnage

Length of the mineralization on the 100 foot level is 60 feet and on the upper level 100 feet. If the mineralization is continuous between the levels, the tonnage calculates as follows:

50 feet up from 100 level

$$\frac{\frac{60 \times 80}{2} \times 50 \times 3}{12} = 875 \text{ tons}$$

50 feet down from upper level

$$\frac{\frac{100 \times 80}{2} \times 50 \times \frac{1}{3}}{12} = 500 \text{ tons}$$

Value

875 tons x 2.18% Cu = 1135.00

500 tons x 2.27% Cu = 1907.50

1375 tons x 2.21% Cu = 3042.50

The 500 tons of .038 gold, if diluted with 875 tons of no gold, will bring the total tonnage as having not enough gold for valuation purposes.

At the Clarkdale Smelter, the value of this ore calculates as follows:

2.21% Cu = 44.2 lbs. copper per ton

44.2 lbs - 8 lbs = 36.2 lbs x .9275 cents = \$ 3.36

Bonus = 44.2 x 97% = 42.9 lbs x 5 cents = ~~2.15~~

Total Value..... \$ 5.51

Deductions:

Smelter Treatment	\$2.75
R.R. Freight	1.40
Trucking to R.R.	3.00
Taxes	<u>.15</u>
	\$7.30

Net Loss Before Mining..... \$1.79

COMMENTS OF SUPERVISING ENGINEER

It is recommended that the applicant not be considered for an additional loan because:

1. The ore is too low grade to break even.
2. The project would not be advantageous to the national defense.
3. Apparently the applicant has spent both money and time in a dilatory manner and did not accomplish the purpose of the first loan.
4. There is a lack of equipment on the property for a sustained mining operation and shaft is not open for mining operations.

cap
CHARLES A. RASOR
Supervising Engineer

Attachment - Assay Certificate

No. 236 Ra

CHAS. A. DIEHL

Jan. 24, 1944

Phoenix, Arizona,

ARIZONA ASSAY OFFICE

Phone 3-4001

815 North First Street

P. O. Box 1148

Wt. in Grains That samples submitted for assay by

Mr. C. A. Rabor.

contain as follows per ton of 2000 lbs. Avoir.

No.	MARKS	Width	SILVER		GOLD		TOTAL VALUE Of Gold and Silver	PERCENTAGE		REMARKS
			Ounces	Tenths	Ounces	Handfuls		COPPER	IRON	
183		24"			Trace			1.91		
184		36"			.03	\$1.05		4.65		
185		6'			Trace			.40		
(Comps 183, 184, 185)								19.82	10.14	54.92

Charges \$ 10.60

Assayer ARIZONA ASSAY OFFICE

AMERICAN SMELTING & REFINING COMPANY

HAYDEN PLANT

Hayden, Arizona, May 26, 1926

Bought of Pritt & Burns

Shipping Point Parker, Arizona.

Smelter Lot 436

Classification _____ Grade _____

Shipper's Lot 1

CAR		WEIGHT IN POUNDS					N. Y. QUOTATIONS	
Number	Initial	Gross	Tare	Net	H ₂ O	Dry Weight	Date	
51213	AT	91560	37100	54460	2.7	52990	5-18-26	
			Tons	27.23		26.495	E. & M. J.	5-15-26
							Copper	.13583
							Less	.0265
							Net	.10933

PAYMENT FOR METALS								Value	
Elements	Assay Per Ton of 2000 Lbs.	% Deducted	Net Assay	Equiv. in Lbs.	% Paid For	Net Paid For	Rate	Amount per Ton	Total Amount
Gold	.34 oz.				100	.34 oz.	19.50	6 63	
Silver									
Lead									
Copper	16.60 %	10%	14.94	298.8	100	298.8 Lbs.	10933	32 67	
Total Payment for Metals									39 30

Charges and Credits							Debits	Credits
BASE CHARGE F. O. B. HAYDEN PLANT							5 00	
Analysis	Deduction	Net	Rate					
Insoluble	%		%	@		Cts.		
Silica	%		%	@		Cts.		
Alumina	%		%	@		Cts.		
Zinc	%		%	@		Cts.		
Sulphur	%		%	@		Cts.		
As Sb Bi	%		%	@		Cts.		
Iron	%		%	@		Cts.		
Lime	%		%	@		Cts.		
Total Deductions								5 00
Net Value per Ton								34 30



				Debits	Credits
Total Value on	26.495	Dry Tons @	34.30 per Ton		
Less Freight on	27.23	Wet Tons @	4.35 per Ton	130 50	908 78
Less Switching					
Less Sampling					
Less Umpire Charges					
Balance Due Shipper				778 28	

1 1/2 tons,

Comation Treason Hill + Eagles mt

MADE BY **BRE**

CHECKED **JJB**

CORRECT

APPROVED

JAS. H. ATKIN

PHONE A 5706

W. S. MCRAE

ACCURACY GUARANTEED
SAMPLES NOT KEPT OVER 30
DAYS EXCEPT BY REQUEST
SAMPLES SENT US BY MAIL
WILL RECEIVE PROMPT
ATTENTION
CYANIDE TESTS

CERTIFICATE OF ASSAY FROM LABORATORY OF
ATKIN & MCRAE
ASSAYERS, CHEMISTS & METALLURGISTS
1008 SOUTH HILL STREET

ANALYSIS OF ORES, METALS
GASES, OILS, WATERS
GASES, SOILS, FERTILIZERS
CEMENTS, PAINTS
COMPOUNDS, ETC.
FLOTATION TESTS

MR. Empire Arizona Con. Copper Co.

LOS ANGELES, CAL. Jan. 12, 1922.

OFFICE NUMBER	OWNER'S MARK	GOLD		SILVER		TOTAL VALUE GOLD AND SILVER	COPPER PER CENT	LEAD PER CENT	ZINC PER CENT
		OUNCES	VALUE	OUNCES	VALUE				
31147	# 1 From face Golden Bagle, opposite Gray Bagle tunnel	5.68	113.60				3.2		
31148	# 2 From face Golden Bagle lower down also opposite Gray Bagle tunnel	0.02					12.2		

GOLD \$20. PER OUNCE
SILVER " " "

CHARGES \$ 4.00

Atkin and McRae

ASSAYERS

EAGLES NEST SHIPMENTS

<u>DATE</u>		<u>CAR</u>	<u>TONS</u>	<u>VAL TON</u>	<u>Cu</u> †	<u>Au</u>
6-27-16		33406	29.522	‡ 34.37	9.22	.06
2-6-17	AT	43153	29.811	83.70	18.70	.34
2-13-17	GCSP	4589	28.731	93.68	21.12	.24
12-1-17	AT	81218	36.285	39.66	11.77	.14
2-23-18	AT	80395	22.522	33.75	10.41	.08
5-11-18	CN	3247	8.525	29.84	9.05	.13
10-3-18	PL	807534	15.986	63.73	15.80	.22
11-1-18	AT	81627	18.306	76.33	19.07	.18
12-6-18	AT	84328	27.136	106.99	26.80	.15
10-31-19	LSMS	88357	2.499	79.73	24.18	.24
10-31-19	..	88357	19.481	75.43	22.66	.28

GRAY EAGLE SHIPMENTS

			<u>TONS</u>	<u>VAL TON</u>	<u>Cu %</u>	<u>Au</u>
10-13-16	A.T	44086	33.741	\$91.31	20.97	.27
11-21-16	..	48727	35.833	76.06	16.76	.26
3-19-17	..	34812	17.057	92.58	18.90	.46
5-31-17	..	31130	27.024	49.25	10.70	.46
12-19-17	M.C	47658	27.202	35.77	10.86	.13
3-21-18	CMS	87202	31.282	57.87	12.38	1.00
5-11-18	CN	3247	13.026	51.20	10.27	1.03
7-19-18	CBQ	118588	4.335	84.96	21.07	.48
12-16-18	AT	82737	14.268	60.07	14.84	.28
1-6-19	..	82817	19.787	61.13	31.94	.02
3-6-19	..	82817	12.859	32.89	14.20	.50
4-17-19	..	81825	25.990	39.62	18.36	.35
4-17-19	..	81825	4.450	31.84	17.96	.05
6-14-19	..	83611	18.748	32.66	13.25	.38
6-14-19	..	83611	9.330	43.39	17.04	.45

AMERICAN SMELTING & REFINING CO.

SASCO PLANT

Sasco, Ariz., Dec. 1, 1917., 191

Bought of EMPIRE ARIZ. CU. CO.

Shipping Point PARKER ARIZ.

Smelter Lot 2524

Classification ORE

Shipper's Lot 25

4618 A.P.C.

CAR		WEIGHT IN POUNDS						NEW YORK QUOTATIONS
NO	INIT	GROSS	SACKS		WET WEIGHT	MOIS. TURE	DRY WEIGHT	
			NO.	WEIGHT				
	81218	AT.			73900	1.8	72570	Date <u>11/22/17.</u> Silver c per oz. E. & M. J. Copper <u>.2350</u> c per lb. Lead \$ per 100 lbs. London Lead per 2240 lbs. £ S. D. Freight and insurance £ S. D. Exchange, N. Y. Exchange, Mex.

ASSAY AND ANALYSIS PER TON OF 2000 LBS		RATE OF PAYMENT				VALUES	
						PER TON	TOTAL
Gold	.14	Ozs.		@	20.00	2.80	
Silver		Ozs.	%	@			
Lead		% =	Lbs. @	% =	Lbs. @		
Copper	11.77	% =	235.4 Lbs. @	90 % =	211.86 Lbs. @	.19125	40.52
Iron	21.2	%		@			
Lime	1.8	%		@			
		%		@			
					Total Payments		43.32
DEDUCTIONS		SASCO SMELTER					
Treatment Charges f. o. b.						3.25	
BRICKING							
Insoluable	41.2	% Less	23.0 %	18.2 %	10% -- 8.2 %	@	.05
Silica		% Less	% =	%		@	
Alumina		% Less	%	%		@	
Zinc		% Less	% =	%		@	
Sulphur		% Less	% =	%		@	
As Sb Bi		% Less	% =	%		@	
					Total Deductions		3.66
					Value Per Ton		39.66
Total Value	36.285	Tons @ \$			39.66		
Less Freight	@ 4.20	Per Ton					
Less Switching							
Less					3% Acc. Gov't.		
Less Sampling							
	<i>W. H. F. N.</i>	Balance Due					
						155.19	1439.06
						4.66	
						1279.21	
						1439.06	1439.06

MADE BY **JMN.**

CHECKED *JMN*

CORRECT

APPROVED

THE AMERICAN SMELTING & REFINING COMPANY

SASCO PLANT

Sasco, Arizona, Aug. 28, 1917

Bought of EMPIRE ARIZ. COPPER CO.

Shipping Point PARKER ARIZ.

Smelter Lot 1849

Classification ORE

Shipper's Lot 23

CAR		WEIGHT IN POUNDS						NEW YORK QUOTATIONS	
NO.	INIT.	GROSS	SACKS		WET WEIGHT	MOIS-TURE	DRY WEIGHT		
			NO.	WEIGHT					
	<u>47112</u>	<u>AT.</u>			<u>58440</u>	<u>5.1</u>	<u>55460</u>	Date	<u>8/18/17.</u>
								Silver	c per oz.
								E. & M. J.	<u>.2625</u>
								Copper	<u>.211875</u> per lb.
								Lead, \$	per 100 lbs.
								London Lead per 2240 lbs.	
								£ S. D.	
								Freight and Insurance	
								£ S. D.	
								Exchange, N. Y.	
								Exchange, Mex.	

ASSAY AND ANALYSIS PER TON OF 2000 LBS.		RATE OF PAYMENT				VALUES	
						PER TON	TOTAL
Gold	<u>.07</u>	Ozs.		@	<u>20.00</u>		
Silver		Ozs.	%	@		<u>1.40</u>	
Lead		% =	Lbs. @	% =	Lbs. @		
Copper	<u>17.20</u>	% = <u>344</u>	Lbs. @ <u>90</u>	% = <u>309.6</u>	Lbs. @ <u>.211875</u>	<u>65.60</u>	
Iron	<u>17.8</u>	%		@			
		%		@			
Lime	<u>5.7</u>	%		@			
		%		@			
					Total Payments		<u>67.00</u>
DEDUCTIONS							
Treatment Charge f. o. b.		SASCO SMELTER					
						<u>3.25</u>	
BRICKING							
Insoluble	<u>27.5</u>	% Less	<u>23.5</u>	%	<u>4.0</u>	@	<u>.05</u>
Silica		% Less	% =	%		@	
Alumina		% Less	% =	%		@	
Zinc		% Less	% =	%		@	
Sulphur		% Less	% =	%		@	
As Sb Bi		% Less	% =	%		@	
					Total Deductions		<u>3.45</u>
					Value Per Ton		<u>63.55</u>

Total Value		Tons @ \$		DEBIT	CREDIT
	<u>27.730</u>				
Less Freight	@ <u>4.90</u>		<u>63.55</u>	<u>147.00</u>	<u>1762.24</u>
Less Switching					
Less					
Less Sampling					
				<u>1615.24</u>	
				<u>1762.24</u>	<u>1762.24</u>

Balance Due

Wm. Cash

MADE BY JMN.

CHECKED

Wm

CORRECT

APPROVED

THE AMERICAN SMELTING & REFINING COMPANY

SASCO PLANT

Sasco, Arizona, Aug. 7, 1917., 191

Bought of EMPIRE ARIZONA MG. CO.

Shipping Point PARKER ARIZ.

Classification ORE

Smelter Lot 1673

Shipper's Lot 22

CAR		WEIGHT IN POUNDS					NEW YORK QUOTATIONS
NO.	INIT.	GROSS	SACKS NO.	WEIGHT	WET WEIGHT	MOIS- TURE	
		32866 AT.			62700	1.0	62073
<div style="float: right; width: 100%;"> <p>Date <u>7/27/17.</u></p> <p>Silver c per oz.</p> <p>E. & M. J. <u>.2450</u></p> <p>Copper <u>.19875</u> per lb.</p> <p>Lead, \$ per 100 lbs.</p> <p>London Lead per 2240 lbs.</p> <p>£ S. D.</p> <p>Freight and Insurance</p> <p>£ S. D.</p> <p>Exchange, N. Y.</p> <p>Exchange, Mex.</p> </div>							

ASSAY AND ANALYSIS PER TON OF 2000 LBS.		RATE OF PAYMENT		VALUES	
				PER TON	TOTAL
Gold	.46	Ozs.	@ 20.00	9.20	
Silver		Ozs.	%		
Lead		% =	Lbs. @		
Copper	13.70	% =	274 Lbs. @ 90 % = 246.6 Lbs. @ .19875	49.01	
Iron		%	%		
Lime		%	%		
		Total Payments			58.21
DEDUCTIONS					
Treatment Charge f. o. b.		SASCO SMELTER		3.25	
BRICKING					
Insoluble	% Less	%	%	@	
Silica	% Less	% =	%	@	
Alumina	% Less	%	%	@	
Zinc	% Less	% =	%	@	
Sulphur	% Less	% =	%	@	
As Sb Bi	% Less	% =	%	@	
		Total Deductions			3.25
		Value Per Ton			54.96
Total Value				DEBIT	CREDIT
Less Freight	@ 31.0365	Tons @ \$	54.96	153.62	1705.77
Less Switching	@ 4.90	Per Ton			
Less					
Less Sampling					
Balance Due				1552.15	1705.77
				1705.77	1705.77

MADE BY JMN.

CHECKED BY hm

CORRECT

APPROVED

W. Eagle

THE AMERICAN SMELTING & REFINING COMPANY

SASCO PLANT

Sasco, Arizona, May 31, 1917 191

Bought of EMPIRE ARIZ. COPPER CO.

Shipping Point PARKER ARIZ.

Classification ORE

Smelter Lot 1201

Shipper's Lot 20

60462

CAR		WEIGHT IN POUNDS						NEW YORK QUOTATIONS
NO.	INIT.	GROSS	SACKS		WET WEIGHT	MOIS-TURE	DRY WEIGHT	
			NO.	WEIGHT				
	<u>31130 AT.</u>				<u>55040</u>	<u>1.8</u>	<u>54049</u>	Date <u>5/19/17.</u> Silver <u>129</u> c per oz. E. & M. J. <u>.29</u> Copper <u>.2325</u> per lb. Lead, \$ per 100 lbs. London Lead per 2240 lbs. £ S. D. Freight and Insurance £ S. D. Exchange, N. Y. Exchange, Mex.

ASSAY AND ANALYSIS PER TON OF 2000 LBS.		RATE OF PAYMENT				VALUES	
						PER TON	TOTAL
Gold	<u>.46</u>	Ozs.		@	<u>20.00</u>	<u>9.20</u>	
Silver		Ozs.	%	@			
Lead		% =	Lbs. @	% =	Lbs. @		
Copper	<u>10.70</u>	% = <u>214</u>	Lbs. @ <u>90</u>	% = <u>192.6</u>	Lbs. @ <u>.2325</u>	<u>44.78</u>	
Iron	<u>17.2</u>	%		@			
Lime	<u>2.6</u>	%		@			
		Total Payments					<u>53.98</u>
DEDUCTIONS		SASCO SMELTER					
Treatment Charge f. o. b.						<u>3.25</u>	
BRICKING							
Insoluble	<u>49.3</u>	% Less	<u>19.8</u> % <u>29.5</u> %	@	<u>.05</u>	<u>1.48</u>	
Silica		% Less	% = %	@			
Alumina		% Less	% = %	@			
Zinc		% Less	% = %	@			
Sulphur		% Less	% = %	@			
As Sb Bi		% Less	% = %	@			
		Total Deductions					<u>4.73</u>
		Value Per Ton					<u>49.25</u>

Total Value 27.0245 Tons @ \$ 49.25
 Less Freight @ 4.20 Per Ton
 Less Switching
 Less
 Less Sampling

Guy Eagle

Balance Due

DEBIT	CREDIT
<u>115.58</u>	<u>1330.96</u>
<u>1215.38</u>	
<u>1330.96</u>	<u>1330.96</u>

MADE BY JMN. CHECKED JMN. CORRECT APPROVED

AMERICAN SMELTING AND REFINING CO.

SASCO PLANTS

Sasco, Arizona, Apr. 14, 1917. 191

Bought of EMPIRE ARIZ. COPPER CO.

Smelter Lot 834

Shipping Point PARKER ARIZ.

Shipper's Lot 14

Classification ORE

CAR		WEIGHT IN POUNDS						NEW YORK QUOTATIONS	
NO.	INIT.	GROSS	SACKS		WET WEIGHT	MOIST-URE	DRY WEIGHT		
			NO.	WEIGHT					
	79462 AT.				78180	1.8	76773	Date	4/7/17.
								Silver	c per oz
								E. & M. J.	.31
								Copper	c per lb.
								Lead, \$.2475 per 100 lbs.
								London Lead per 2240 lbs.	
								£ S. D.	
								Freight and Insurance	
								£ S. D.	
								Exchange, N. Y.	
								Exchange, Mex.	

ASSAY AND ANALYSIS PER TON OF 2000 LBS.		RATE OF PAYMENT		VALUES	
				PER TON	TOTAL
Gold	.11	Ozs		@ 20.00	2.20
Silver		Ozs	%	@	
Lead				@	
Copper	4.86	%	97.2 Lbs. @ 13# % = 85.2	Lbs. @ .2475	21.09
Iron	5.9	%		@	
Lime	5.2	%		@	
		%		@	
				Total Payments	23.29
DEDUCTIONS					
Treatment charge f. o. b.		SASCO SMELTER			3.25
Bricking					
Insoluable	71.2	% Less	11.1% -- 60.1	@ .05	1.50 Max.
Zinc		% Less	% =	@	
Sulphur		% Less	% =	@	
As-Sb-Bi		% Less	% =	@	
Silica		% Less	% =	@	
Alumina		% Less	% =	@	
				Total Deductions	4.75
				Value per Ton	18.54
				DEBIT	CREDIT
Total Value	38.3865	Tons @ \$	18.54		711.69
Less Freight From				117.27	
Less Excess Freight					
Less Mexican Federal Duties					
Less Sampling				594.42	
Balance Due				711.69	711.69

Jessie Hill

MADE BY JMN.

CHECKED

CORRECT

APPROVED

AMERICAN SMELTING AND REFINING CO.

SASCO PLANTS

Apr. 14, 1917.

Sasco, Arizona,-----

191

Bought of EMPIRE ARIZ. COPPER CO.

800

Shipping Point

PARKER ARIZ.

Smelter Lot

13

Classification ORB

Shipper's Lot

CAR		WEIGHT IN POUNDS						NEW YORK QUOTATIONS	
NO.	INIT.	GROSS	SACKS		WET WEIGHT	MOIST-URE	DRY WEIGHT		
			NO.	WEIGHT					
	81146	AT.			100460	1.2	99254	Date	4/3/17.
								Silver	c per oz
								E. & M. J.	.31
								Copper	.2775
								Lead, \$	per 100 lbs.
								London Lead per 2240 lbs.	
								£ S. D.	
								Freight and Insurance	
								£ S. D.	
								Exchange, N. Y.	
								Exchange, Mex.	

ASSAY AND ANALYSIS PER TON OF 2000 LBS.				RATE OF PAYMENT				VALUES		
								PER TON	TOTAL	
Gold	.20			Ozs		@	20.00	4.00		
Silver				Ozs	%	@				
Lead						@				
Copper	4.98			% = 99.6	Lbs. @ 12#	% = 87.6	Lbs. @ .2475	21.68		
Iron	6.3			%		@				
Lime	4.7			%		@				
				%		@			25.68	
Total Payments										
DEDUCTIONS										
Treatment charge f. o. b. SASCO SMELTER									3.25	
Bricking										
Insoluable	72.0	% Less	11 % 61	%		@	.05	1.50	Max.	
Zinc		% Less	% =	%		@				
Sulphur		% Less	% =	%		@				
As-Sb-Bi		% Less	% =	%		@				
Silica		% Less	% =	%		@				
Alumina		% Less	% =	%		@			4.75	
Total Deductions Value per Ton									20.93	
								DEBIT	CREDIT	
Total Value	49.627	Tons @ \$				20.93		180.83	1038.69	
Less Freight From										
Less Excess Freight										
Less Mexican Federal Duties										
Less Sampling								857.86		
Balance Due								1038.69	1038.69	

Jessie Hill

MADE BY

JMN.

CHECKED

KH

CORRECT

APPROVED

AMERICAN SMELTING AND REFINING CO.

SETTLEMENT SHEET

Bought of *Procatt State* *Hayden, Arizona,*
Empire Ariz. Cons. Copper Co
 Address *Parker, Ariz.*
 Month *March* Classification _____

3/30 1917
 Lot *616*

Shipper's Lot _____

CAR		WEIGHT IN POUNDS					NEW YORK QUOTATIONS	
NO.	INIT.	GROSS	SACKS		WET WEIGHT	MOISTURE	DRY WEIGHT	Date
			NO.	WEIGHT				
<i>87151</i>	<i>A.P.</i>				<i>80460</i>	<i>1.0</i>	<i>79655</i>	<i>3-22-17</i>
			<i>Tons.</i>		<i>40730</i>		<i>39875</i>	Silver c per oz. E. & M. J. <i>3-17-17</i> Copper <i>.3175</i> c per lb. <i>.0200</i> <i>.2475</i> <i>.044375</i> <i>.253175</i>

ASSAY AND ANALYSIS PER TON OF 2000 LBS.			RATE OF PAYMENT		VALUES	
					PER TON	TOTAL
Gold	<i>.70</i>	Ozs.		@ <i>20.00</i>	<i>400</i>	
Silver		Ozs.		@		
Copper	<i>5.18</i>	% = <i>103.6</i> Lbs. @	<i>less 17%</i>	<i>91.6</i> Lbs. @ <i>.253175</i>	<i>2319</i>	
Iron	<i>5.6</i>	%		@		
Lime	<i>7.8</i>	%		@		
Total Payments						<i>2719</i>
DEDUCTIONS						
Treatment Charge f. o. b.			<i>Hayden Prank</i>		<i>375</i>	
Insoluble	<i>74.0</i>	% Less <i>8.4</i> % = <i>65.6</i> %		@ <i>5th Max</i>	<i>150</i>	
Zinc		% Less % = %		@		
Sulphur		% Less % = %		@		
As-Sb-Bi		% Less % = %		@		
Total Deductions						<i>475</i>
Value Per Ton						<i>2244</i>
Total Value	<i>39,877.5</i>	Tons @ \$ <i>44.44</i>				
Less Freight From	<i>Parker</i>	<i>40,730</i> Tons @ <i>3.60</i>			<i>147483</i>	<i>21973</i>
Less Sampling		<i>Treasure Hill</i>			<i>14890</i>	
Balance Due					<i>39373</i>	<i>89373</i>

MADE BY *[Signature]* CHECKED *RL Metcalf* Contract *[Signature]* APPROVED *[Signature]*

AMERICAN SMELTING AND REFINING CO.

SETTLEMENT SHEET

Bought of *State Bank of Prescott Ariz.*
Empire Ariz. Cons. Copper Co.
 Address *Parker, Ariz.*
 Month *JULY* Classification *crude*

Hayden, Arizona,

7-23-1917
 Lot *1432*
 Shipper's Lot

CAR		WEIGHT IN POUNDS						NEW YORK QUOTATIONS	
NO.	INIT.	GROSS	SACKS		WET WEIGHT	MOIST. URE	DRY WEIGHT	Date	Silver c per oz.
			NO.	WEIGHT					
<i>80337</i>	<i>A.T.</i>				<i>74240</i>	<i>1.0</i>	<i>73498</i>	<i>7-16-17</i>	
			<i>Tons.</i>		<i>37120</i>		<i>36749</i>	<i>E. & M. J. 7-14-17</i>	
								<i>Copper 3875 c per lb.</i>	
								<i>.0200</i>	
								<i>.2625</i>	
								<i>1035675</i>	
								<i>.226875</i>	

ASSAY AND ANALYSIS PER TON OF 2000 LBS.				RATE OF PAYMENT				VALUES	
								PER TON	TOTAL
Gold	<i>.16</i>	Ozs.				@	<i>20.00</i>	<i>320</i>	
Silver	<i>tr.</i>	Ozs.				@			
Copper	<i>9.20</i>	% =	<i>18 1/2</i>	Lbs. @	<i>90%</i>		<i>16.26</i>	<i>3757</i>	
Iron	<i>10.5</i>	%				@			
Lime	<i>2.9</i>	%				@			
Total Payments									<i>4077</i>
DEDUCTIONS				Treatment Charge f. o. b. <i>Hayden Plant</i>					<i>325</i>
Insoluble	<i>58%</i>	% Less	<i>13 1/4</i>	% =	<i>44.8%</i>	@	<i>5¢ Max</i>	<i>150</i>	
Zinc		% Less		% =		@			
Sulphur		% Less		% =		@			
As-Sb-Bi		% Less		% =		@			
Total Deductions									<i>475</i>
Value Per Ton									<i>3602</i>
Total Value	<i>36749</i>	Tons @	<i>36.02</i>						
Less Freight From	<i>Parker, Ariz.</i>	Tons @	<i>27.12</i>					<i>15590</i>	<i>137370</i>
Less Sampling									
Balance Due								<i>116789</i>	<i>137370</i>

MADE BY *[Signature]* CHECKED *[Signature]* CORRECT *[Signature]* APPROVED *[Signature]*

AMERICAN SMELTING AND REFINING CO.

SETTLEMENT SHEET

Hayden, Arizona, 3/8/17

Bought of Pavitt State Bank, Hayden, Ariz.
 Address Parker, Ariz.
 Month March Classification _____

Lot 492
 Shipper's Lot _____

CAR		WEIGHT IN POUNDS					NEW YORK QUOTATIONS	
NO.	INIT.	GROSS	SACKS		WET WEIGHT	MOISTURE	DRY WEIGHT	
			NO.	WEIGHT				
8-863	A.T.				107300	17	100974	Date 3-8-17
				Tons	51100		50487	Silver c per oz.
								E. & M. J. 3-3-17
								Copper .3250 c per lb.
								10720
								13050
								124675
								125375

ASSAY AND ANALYSIS PER TON OF 2000 LBS.		RATE OF PAYMENT		VALUES	
				PER TON	TOTAL
Gold	24	Ozs.	@ 20 ⁰⁰	480	
Silver		Ozs. %	Ozs. @		
Copper	5.30	% = 106.0 Lbs. @	Less 12% . 94 Lbs. @ 25875	2432	
Iron	6.2	%	@		
Lime	3.1	%	@		
Total Payments					2912
DEDUCTIONS					
Treatment Charge f. o. b. <u>Hayden Plant</u>				325	
Insoluble	72.8	% Less 9.7 % = 63.1 %	@ 5 ^t Max	150	
Zinc		% Less % = %	@		
Sulphur		% Less % = %	@		
As-Sb-Bi		% Less % = %	@		
Total Deductions					415
Value Per Ton					2487

		DEBIT	CREDIT
Total Value	50,487 Tons @ \$ 24.37		1229,415
Less Freight From	Parker, Ariz. 51,100 Tons @ 3.60	183,960	1,045,455
Less Sampling	<u>James Hill</u>		
Balance Due		104,641	1,045,455

MADE BY Kennedy CHECKED R. L. Metcalfe CORRECT APPROVED Howard Rock

AMERICAN SMELTING AND REFINING CO.

SETTLEMENT SHEET

Bought of Prescott State Bank - up Hayden, Arizona, 3/19/1917
Empire Arizona Cons. Copper Co.
 Address Parker, Ariz. Lot 520
 Month March Classification _____ Shipper's Lot _____

CAR		WEIGHT IN POUNDS						NEW YORK QUOTATIONS	
NO.	INIT.	GROSS	SACKS		WET WEIGHT	MOISTURE	DRY WEIGHT	Date	Silver
			NO.	WEIGHT					
617330	SE	60000	Min.	%	38340	2.8	37266	3-10-17	7550 c per oz.
		30	Tons.		19170		18633	3-3-17	E. & M. J.
									Copper 3380 c per lb.
									10200 3050 13250 75375

ASSAY AND ANALYSIS PER TON OF 2000 LBS.				RATE OF PAYMENT		VALUES	
						PER TON	TOTAL
Gold	.17	Ozs.	@	20.00		340	
Silver	103	Ozs.	@				
Copper	5.65	% = 113.9	Lbs. @	101	25.875	2613	
Iron	6.6	%	@				
Lime	3.3	%	@				
Total Payments							7953
DEDUCTIONS							
Treatment Charge f. o. b. <u>Hayden Plant</u>						325	
Insoluble	72.6	% Less 9.9	% = 63.7	@	5¢ Max	150	
Zinc		% Less	% =	@			
Sulphur		% Less	% =	@			
As-Sb-Bi		% Less	% =	@			
Total Deductions							475
Value Per Ton							2478
Total Value	18.633 Tons @ \$ 24.78						
Less Freight From	Parker, Ariz. 30.0 Tons @ 3.60					10800	46175
Treasure Hill							
Less Sampling						35373	
Balance Due						46175	116175

MADE BY Kennedy CHECKED Haward CORRECT Haward APPROVED W. B. Munn

AMERICAN SMELTING AND REFINING CO.

SETTLEMENT SHEET

Prescott State Bank

Hayden, Arizona,

319 191
519

Bought of Empire Mfg. Co., Copper Co.

Address Parker, Ariz.

Lot

Month March

Classification

Shipper's Lot

CAR		WEIGHT IN POUNDS						NEW YORK QUOTATIONS	
NO.	INIT.	GROSS	SACKS		WET WEIGHT	MOIST. URE	DRY WEIGHT	Date	Silver
			NO.	WEIGHT					
34817	W.	60000	Min	9/16	36600	24	34115	8-9-17	
		30	Tons		17950		170575	8-8-17	
								3200	c per lb.

ASSAY AND ANALYSIS PER TON OF 2000 LBS.

RATE OF PAYMENT

VALUES

PER TON

TOTAL

Gold	.46	Ozs.		@	20.00		
Silver	9.1	Ozs.	%	Ozs. @			
Copper	18.90	% = 37%	Lbs. @	90%	340.7	Lbs. @	25875
Iron	17.4	%		@			
Lime	1.0	%		@			

	920	
	8803	
Total Payments		1173

DEDUCTIONS

Treatment Charge f. o. b.

Hayden Profit

375

Insoluble	47.7	% Less	13.4	=	33.8	%	@	5 Max	150
Zinc		% Less		=		%	@		
Sulphur		% Less		=		%	@		
As-Sb-Bi		% Less		=		%	@		

Total Deductions

Value Per Ton

475
9248

Total Value
Less Freight From

17,0575 Tons @ \$ 92.48
Parker, Ariz. 30 Tons @ 5.95

DEBIT	CREDIT
17850	157748

Less Sampling

Balance Due

Gray Eagle

139898
157748 - 157748

MADE BY

CHECKED

CORRECT

APPROVED

Stemby

Howard Hock

R B Brown

AMERICAN SMELTING AND REFINING CO.

SETTLEMENT SHEET

Bought of *Empire Arizona Cons. Copper Co* Hayden, Arizona, *March 18* 191*7*
 Address *Phoenix Arizona* Lot *527*
 Month *March 1917* Classification *Cable* Shipper's Lot _____

CAR		WEIGHT IN POUNDS						NEW YORK QUOTATIONS	
NO.	INIT.	GROSS	SACKS		WET WEIGHT	MOIST-URE	DRY WEIGHT	Date	Silver c per oz.
			NO.	WEIGHT					
<i>13276</i>	<i>AT</i>				<i>92100</i>	<i>2.0</i>	<i>90251</i>	<i>2/18/17</i>	
				<i>Tons</i>	<i>4605</i>		<i>45129</i>		

E. & M. J. *3-17-17*
 Copper *.3175* c per lb.
.0200
.4975
.004375
.253125

ASSAY AND ANALYSIS PER TON OF 2000 LBS.				RATE OF PAYMENT		VALUES	
						PER TON	TOTAL
Gold	<i>.18</i>	Ozs.		@	<i>20.00</i>	<i>360</i>	
Silver		Ozs.		@			
Copper	<i>4.93</i>	% = <i>98.6</i>	Lbs. @ <i>12%</i>		<i>26.6</i>	<i>15815</i>	<i>2192</i>
Iron	<i>6.5</i>	%		@			
Lime	<i>4.3</i>	%		@			
Total Payments							<i>1552</i>
DEDUCTIONS							
Treatment Charge f. o. b. <i>Hayden</i>						<i>325</i>	
Insoluble	<i>72.6</i>	% Less	% =	% <i>mat</i>	@	<i>150</i>	
Zinc		% Less	% =	%	@		
Sulphur		% Less	% =	%	@		
As-Sb-Bi		% Less	% =	%	@		
Total Deductions							<i>475</i>
Value Per Ton							<i>2077</i>
Total Value	<i>45129</i>	Tons @ \$	<i>20.77</i>				
Less Freight From	<i>Parker Hwy to Hayden Hwy</i>	<i>4605 tons @</i>	<i>3.60</i>			<i>16578</i>	<i>93733</i>
<i>Summe Hill</i>							
Less Sampling						<i>77155</i>	
Balance Due						<i>93733</i>	<i>13733</i>

MADE BY *[Signature]* CHECKED _____ CORRECT *[Signature]* APPROVED *[Signature]*

AMERICAN SMELTING AND REFINING CO.

SETTLEMENT SHEET

Bought of Empire Ariz. Cons. Copper Co. Hayden, Arizona
 Address 90 Prescott State Bank, Parker, Ariz.

3-8 1917

Lot 434

Month _____ Classification _____ Shipper's Lot _____

CAR		WEIGHT IN POUNDS						NEW YORK QUOTATIONS	
NO.	INIT.	GROSS	SACKS		WET WEIGHT	MOISTURE	DRY WEIGHT	Date	Silver
			NO.	WEIGHT					
84739	A.T.				89060	22	87101	3-1-17	
				Tons	44530		435505		c per oz.
								E. & M. J.	2-24-17
								Copper	.3300
									c per lb.
									.0200
									.3100
									.0475
									.2625

ASSAY AND ANALYSIS PER TON OF 2000 LBS.			RATE OF PAYMENT			VALUES	
						PER TON	TOTAL
Gold	.20	Ozs.	@	20.00		400	
Silver	tr.	Ozs.	@				
Copper	5.05	% = 101.0 Lbs.	@	89. Lbs. @ .2625		2336	
Iron	6.1	%	@				
Lime	4.6	%	@				
Total Payments							2736
DEDUCTIONS							
Treatment Charge f. o. b. Hayden						375	
Insoluble	12.2	% Less 10.7% = 6.5%	@	5 Max		150	
Zinc		% Less % = %	@				
Sulphur		% Less % = %	@				
As-Sb-Bi		% Less % = %	@				
Total Deductions							475
Value Per Ton							2261

		DEBIT	CREDIT
Total Value	43.5505 Tons @ \$ 22.51		98468
Less Freight From	Parker, Ariz. 44.530 Tons @ 3.60	160.31	
Less Sampling			
Balance Due		82431	
		98468	98468

by Travis Hill
 Balance Due

MADE BY Hummel CHECKED Chas. H. ... CORRECT Thomas ... APPROVED ...

AMERICAN SMELTING AND REFINING CO.

SASCO PLANTS

Sasco, Arizona, Feb. 6, 1917. 191

Bought of EMPIRE ARIZ. COPPER CO.

Shipping Point PARKER ARIZ.

Classification ORE

Smelter Lot 306

Shipper's Lot 9

CAR		WEIGHT IN POUNDS						NEW YORK QUOTATIONS	
NO.	INIT.	GROSS	SACKS		WET WEIGHT	MOIST-URE	DRY WEIGHT		
			NO.	WEIGHT					
	43153	AT.			63160	5.6	59623		
								Date	1/31/17.
								Silver	c per oz
								E. & M. J.	.3000
								Copper	.06
								Lead, \$.2400
								c per lb. per 100 lbs.	
								London Lead per 2240 lbs.	
								£	S. D.
								Freight and Insurance	
								£	S. D.
								Exchange, N. Y.	
								Exchange, Mex.	

ASSAY AND ANALYSIS PER TON OF 2000 LBS.				RATE OF PAYMENT				VALUES	
								PER TON	TOTAL
Gold	.34	Ozs		@	20.00		6.80		
Silver		Ozs	%	@					
Lead				@					
Copper	18.70	% =	374 Lbs. @ 90	% =	336.6 Lbs. @ .2400		80.78		
Iron	16.0	%		@					
Lime	3.8	%		@					
		%		@					87.58
				Total Payments					
DEDUCTIONS									
Treatment charge f. o. b. SASCO SMELTER								3.25	
Bricking									
Insoluable	32.4	% Less	19.8	12.6	%	@ .05	.63		
Zinc		% Less	% =	%	@				
Sulphur		% Less	% =	%	@				
As-Sb-Bi		% Less	% =	%	@				
Silica		% Less	% =	%	@				
Alumina		% Less	%	%	@				
				Total Deductions Value per Ton					3.88
									83.70
								DEBIT	CREDIT
Total Value	29,811.5	Tons @ \$		83.70				2495.22	
Less Freight From		29.8	1187.9	16.30 per Ton			187.90		
Less Excess Freight			178.8						
Less Mexican Federal Duties									
Less Sampling									
Balance Due			910	894			2307.32		
							2495.22	2495.22	

MADE BY

JMN.

CHECKED

Eagle Nest

CORRECT

APPROVED

AMERICAN SMELTING AND REFINING CO.

SASCO PLANTS

Sasco, Arizona, Jan. 25, 1917. 191

Bought of EMPIRE ARIZ. COPPER CO.

Smelter Lot 150

Shipping Point PARKER ARIZ.

Shipper's Lot 6

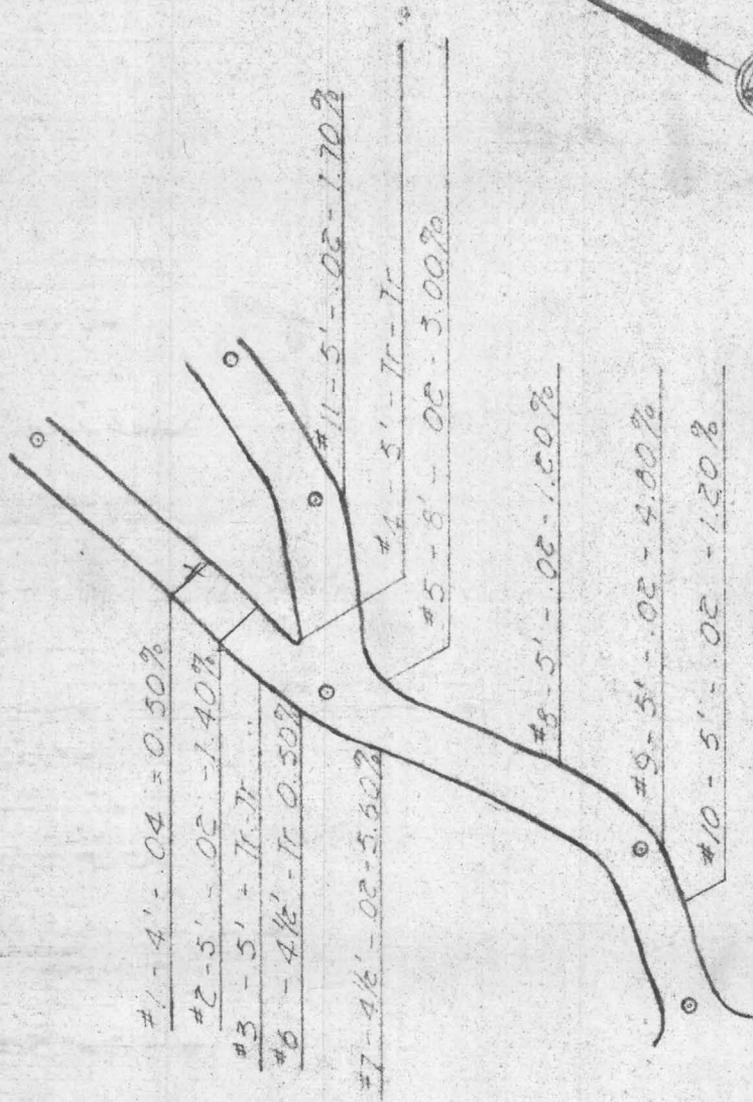
Classification ORB

CAR		WEIGHT IN POUNDS							NEW YORK QUOTATIONS	
NO.	INIT.	GROSS	SACKS		WET WEIGHT	MOIST-URE	DRY WEIGHT			
			NO.	WEIGHT						
81969	AT.				92800	4.0	89088	Date <u>1/16/17.</u> Silver c per oz E. & M. J. <u>.2650</u> Copper <u>.05125</u> c per lb. Lead, \$ <u>.21375</u> per 100 lbs. London Lead per 2240 lbs. £ S. D. Freight and Insurance £ S. D. Exchange, N. Y. Exchange, Mex.		

ASSAY AND ANALYSIS PER TON OF 2000 LBS.			RATE OF PAYMENT			VALUES	
						PER TON	TOTAL
Gold	<u>.135</u>	Ozs			@ <u>20.00</u>	<u>2.70</u>	
Silver		Ozs		%	@		
Lead					@		
Copper	<u>4.54</u>	% = <u>90.8</u>	Lbs. @ <u>127</u>	% = <u>78.8</u>	Lbs. @ <u>.21375</u>	<u>16.84</u>	
Iron	<u>6.0</u>	%			@		
Lime	<u>6.5</u>	%			@		
		%			@		<u>19.54</u>
Total Payments							
DEDUCTIONS			Treatment charge f. o. b. <u>SASCO SMELTER</u>			<u>3.88</u>	
Insoluable	<u>67.8</u>	Bricking	% Less <u>12.5%</u>	<u>55.3</u>	@ <u>.05</u>	<u>1.50 Max.</u>	
Zinc		% Less	% =	%	@		
Sulphur		% Less	% =	%	@		
As-Sb-Bi		% Less	% =	%	@		
Silica		% Less	% =	%	@		
Alumina		% Less	% =	%	@		
Total Deductions Value per Ton							<u>4.7</u>
							<u>14.79</u>

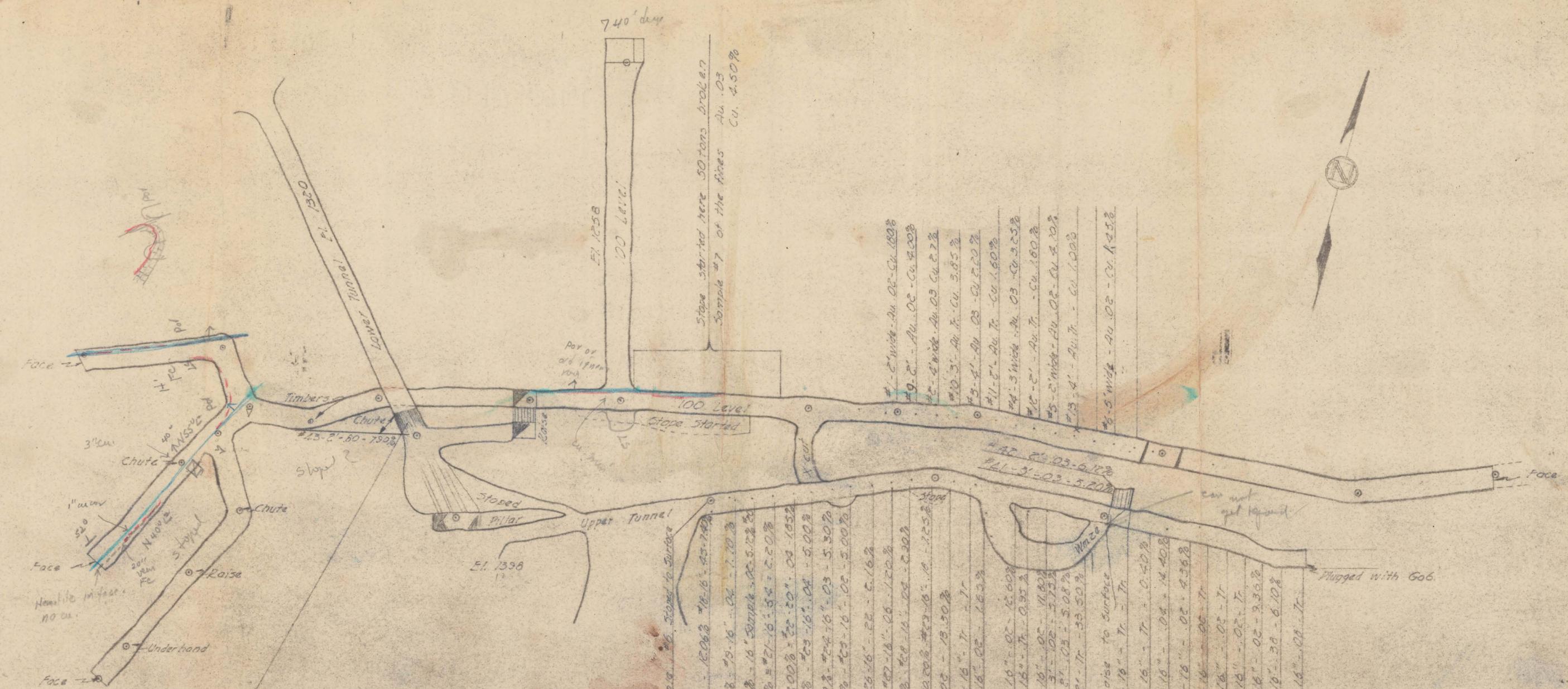
		DEBIT	CREDIT
Total Value	<u>44.544</u>		
Less Freight From		<u>129.92</u>	
Less Excess Freight			
Less Mexican Federal Duties			
Less Sampling		<u>528.89</u>	
Balance Due		<u>658.81</u>	<u>658.81</u>

MADE BY JMN. CHECKED JMN. CORRECT APPROVED



DOUBLE EAGLE TUNNEL.

Scale: 1" = 20'



This section stopped
to level of lower
Tunnel.
Shipped 538 tons
Total Volume
#10,57.55
At present prices
AU 32,185 - Cu 14,075.4

EAGLES NEST
Tunnels and 100' Level
Scale: 1" = 50'

Sample #1 - 16' - 03' - 12.06% Au - 16' - 04' - 7.70%
 #17.2" - 04' - 28.80% Au - 16' - 04' - 7.70%
 #18.5" - 04' - 30.60% Au - 16' - 04' - 7.70%
 #19.4" - 16' - 15.50% Au - 16' - 04' - 7.70%
 #20.5" Au - 03' - 27.00% Au - 22' - 20" - 04' - 10.52%
 #21.1" - 05' - 15.40% Au - 23' - 16" - 04' - 5.00%
 #22.6" - 04' - 19.40% Au - 24' - 16" - 03' - 5.30%
 #23.1" - 03' - 16.10% Au - 25' - 16" - 02' - 5.00%
 #24.2" - 05' - 07.0% Au - 26' - 16" - 22' - 5.16%
 #25.2" - 05' - 05.0% Au - 27' - 16" - 06' - 1.20%
 #26.3" - 04' - 10.20% Au - 28' - 16" - 04' - 2.30%
 #27.5" - 04' - 09.20% Au - 29' - 16" - 0 - 2.25%
 #28.16" - 05' - 13.50% Au - 30' - 16" - 17'
 #29.16" - 05' - 16.2% Au - 31' - 16" - 16.2%
 #30.16" - 05' - 16.60% Au - 32' - 16" - 16.60%
 #31.16" - 05' - 16.95% Au - 33' - 16" - 16.95%
 #32.16" - 05' - 17.30% Au - 34' - 16" - 17.30%
 #33.16" - 05' - 17.65% Au - 35' - 16" - 17.65%
 #34.16" - 05' - 18.00% Au - 36' - 16" - 18.00%
 #35.16" - 05' - 18.35% Au - 37' - 16" - 18.35%
 #36.16" - 05' - 18.70% Au - 38' - 16" - 18.70%
 #37.16" - 05' - 19.05% Au - 39' - 16" - 19.05%
 #38.16" - 05' - 19.40% Au - 40' - 16" - 19.40%
 #39.16" - 05' - 19.75% Au - 41' - 16" - 19.75%
 #40.16" - 05' - 20.10% Au - 42' - 16" - 20.10%
 #41.16" - 05' - 20.45% Au - 43' - 16" - 20.45%
 #42.16" - 05' - 20.80% Au - 44' - 16" - 20.80%
 #43.16" - 05' - 21.15% Au - 45' - 16" - 21.15%
 #44.16" - 05' - 21.50% Au - 46' - 16" - 21.50%
 #45.16" - 05' - 21.85% Au - 47' - 16" - 21.85%
 #46.16" - 05' - 22.20% Au - 48' - 16" - 22.20%
 #47.16" - 05' - 22.55% Au - 49' - 16" - 22.55%
 #48.16" - 05' - 22.90% Au - 50' - 16" - 22.90%
 #49.16" - 05' - 23.25% Au - 51' - 16" - 23.25%
 #50.16" - 05' - 23.60% Au - 52' - 16" - 23.60%
 #51.16" - 05' - 23.95% Au - 53' - 16" - 23.95%
 #52.16" - 05' - 24.30% Au - 54' - 16" - 24.30%
 #53.16" - 05' - 24.65% Au - 55' - 16" - 24.65%

740' deep
Elev. 1358
100 Level
Stope started here 50 tons broken
Sample #7 of the fines Au .03 Cu 4.50%

- #1 - 5' wide - Au .02 - Cu 1.80%
- #2 - 5' wide - Au .02 - Cu 1.80%
- #3 - 5' wide - Au .03 - Cu 2.7%
- #4 - 5' wide - Au .03 - Cu 3.5%
- #5 - 5' wide - Au .03 - Cu 4.2%
- #6 - 5' wide - Au .03 - Cu 5.0%
- #7 - 5' wide - Au .03 - Cu 5.8%
- #8 - 5' wide - Au .03 - Cu 6.6%
- #9 - 5' wide - Au .03 - Cu 7.4%
- #10 - 5' wide - Au .03 - Cu 8.2%
- #11 - 5' wide - Au .03 - Cu 9.0%
- #12 - 5' wide - Au .03 - Cu 9.8%
- #13 - 5' wide - Au .03 - Cu 10.6%
- #14 - 5' wide - Au .03 - Cu 11.4%
- #15 - 5' wide - Au .03 - Cu 12.2%
- #16 - 5' wide - Au .03 - Cu 13.0%
- #17 - 5' wide - Au .03 - Cu 13.8%
- #18 - 5' wide - Au .03 - Cu 14.6%
- #19 - 5' wide - Au .03 - Cu 15.4%
- #20 - 5' wide - Au .03 - Cu 16.2%
- #21 - 5' wide - Au .03 - Cu 17.0%
- #22 - 5' wide - Au .03 - Cu 17.8%
- #23 - 5' wide - Au .03 - Cu 18.6%
- #24 - 5' wide - Au .03 - Cu 19.4%
- #25 - 5' wide - Au .03 - Cu 20.2%
- #26 - 5' wide - Au .03 - Cu 21.0%
- #27 - 5' wide - Au .03 - Cu 21.8%
- #28 - 5' wide - Au .03 - Cu 22.6%
- #29 - 5' wide - Au .03 - Cu 23.4%
- #30 - 5' wide - Au .03 - Cu 24.2%
- #31 - 5' wide - Au .03 - Cu 25.0%
- #32 - 5' wide - Au .03 - Cu 25.8%
- #33 - 5' wide - Au .03 - Cu 26.6%
- #34 - 5' wide - Au .03 - Cu 27.4%
- #35 - 5' wide - Au .03 - Cu 28.2%
- #36 - 5' wide - Au .03 - Cu 29.0%
- #37 - 5' wide - Au .03 - Cu 29.8%
- #38 - 5' wide - Au .03 - Cu 30.6%
- #39 - 5' wide - Au .03 - Cu 31.4%
- #40 - 5' wide - Au .03 - Cu 32.2%
- #41 - 5' wide - Au .03 - Cu 33.0%
- #42 - 5' wide - Au .03 - Cu 33.8%
- #43 - 5' wide - Au .03 - Cu 34.6%
- #44 - 5' wide - Au .03 - Cu 35.4%
- #45 - 5' wide - Au .03 - Cu 36.2%
- #46 - 5' wide - Au .03 - Cu 37.0%
- #47 - 5' wide - Au .03 - Cu 37.8%
- #48 - 5' wide - Au .03 - Cu 38.6%
- #49 - 5' wide - Au .03 - Cu 39.4%
- #50 - 5' wide - Au .03 - Cu 40.2%
- #51 - 5' wide - Au .03 - Cu 41.0%
- #52 - 5' wide - Au .03 - Cu 41.8%
- #53 - 5' wide - Au .03 - Cu 42.6%
- #54 - 5' wide - Au .03 - Cu 43.4%
- #55 - 5' wide - Au .03 - Cu 44.2%
- #56 - 5' wide - Au .03 - Cu 45.0%
- #57 - 5' wide - Au .03 - Cu 45.8%
- #58 - 5' wide - Au .03 - Cu 46.6%
- #59 - 5' wide - Au .03 - Cu 47.4%
- #60 - 5' wide - Au .03 - Cu 48.2%
- #61 - 5' wide - Au .03 - Cu 49.0%
- #62 - 5' wide - Au .03 - Cu 49.8%
- #63 - 5' wide - Au .03 - Cu 50.6%
- #64 - 5' wide - Au .03 - Cu 51.4%
- #65 - 5' wide - Au .03 - Cu 52.2%
- #66 - 5' wide - Au .03 - Cu 53.0%
- #67 - 5' wide - Au .03 - Cu 53.8%
- #68 - 5' wide - Au .03 - Cu 54.6%
- #69 - 5' wide - Au .03 - Cu 55.4%
- #70 - 5' wide - Au .03 - Cu 56.2%
- #71 - 5' wide - Au .03 - Cu 57.0%
- #72 - 5' wide - Au .03 - Cu 57.8%
- #73 - 5' wide - Au .03 - Cu 58.6%
- #74 - 5' wide - Au .03 - Cu 59.4%
- #75 - 5' wide - Au .03 - Cu 60.2%
- #76 - 5' wide - Au .03 - Cu 61.0%
- #77 - 5' wide - Au .03 - Cu 61.8%
- #78 - 5' wide - Au .03 - Cu 62.6%
- #79 - 5' wide - Au .03 - Cu 63.4%
- #80 - 5' wide - Au .03 - Cu 64.2%
- #81 - 5' wide - Au .03 - Cu 65.0%
- #82 - 5' wide - Au .03 - Cu 65.8%
- #83 - 5' wide - Au .03 - Cu 66.6%
- #84 - 5' wide - Au .03 - Cu 67.4%
- #85 - 5' wide - Au .03 - Cu 68.2%
- #86 - 5' wide - Au .03 - Cu 69.0%
- #87 - 5' wide - Au .03 - Cu 69.8%
- #88 - 5' wide - Au .03 - Cu 70.6%
- #89 - 5' wide - Au .03 - Cu 71.4%
- #90 - 5' wide - Au .03 - Cu 72.2%
- #91 - 5' wide - Au .03 - Cu 73.0%
- #92 - 5' wide - Au .03 - Cu 73.8%
- #93 - 5' wide - Au .03 - Cu 74.6%
- #94 - 5' wide - Au .03 - Cu 75.4%
- #95 - 5' wide - Au .03 - Cu 76.2%
- #96 - 5' wide - Au .03 - Cu 77.0%
- #97 - 5' wide - Au .03 - Cu 77.8%
- #98 - 5' wide - Au .03 - Cu 78.6%
- #99 - 5' wide - Au .03 - Cu 79.4%
- #100 - 5' wide - Au .03 - Cu 80.2%

