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File "Neel Plac
Circulate Wells
ALSO DOROTHY B PLACERS

INVESTIGATIVE REPORT

OF

"DOROTHY B" AURIFEROUS GRAVEL AND BLACK SAND

located in

GRAHAM COUNTY, ARIZONA

UPDATED APRIL, 1981

BY

MAX VANDINE

Properties owned by

Edwin H. and Dorothy S Braatelien

Need Placers (file) KA

MAX VAN DINE (C)

RESEARCH REPORT

OF

"DOROTHY B" PLACER CLAIMS

LOCATED IN

GRAHAM COUNTY, ARIZONA

MAY, 1983

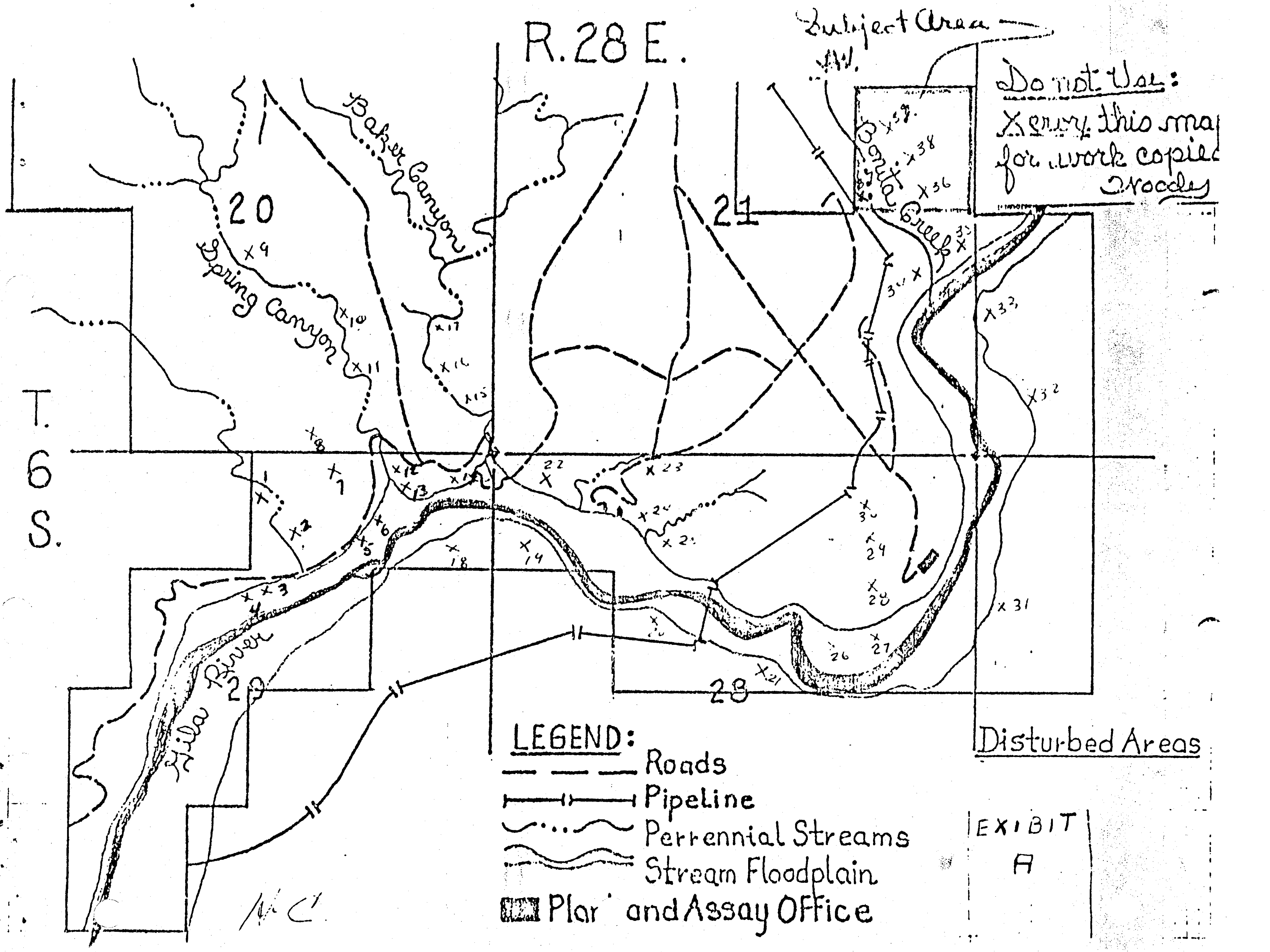
BY

HELENE CHARBONNEAU OF
SAFFORD

PROPERTY OWNED BY

EDWIN H. AND DOROTHY S. BRAATELIEN

RECEIVED ADMR
3-6-84 NN


R. 28 E.
T. 6 S.
Subject Area
Do not Use:
20
21
29
28
Baker Canyon
Spring Canyon
Gila River
Bonita Creek
LEGEND:
Roads
Pipeline
Perrennial Streams
Stream Floodplain
Plar' and Assay Office
Disturbed Areas
EXIBIT
A

Extensive research has been done on the "DOROTHY B" mining claims, this research has been done over a period of two (2) years. The claims are unpatented mining claims located in Graham County, Arizona in Township 6 S, Range 28 East.

I am an electronic engineer, have been around mining all of my life. I do not hold a certificate , and not registered as an assayer in the state of Arizona, however, in March and April, 1981 I assisted, and worked with Max Van Dine, and have personal knowledge of and kept the records of test made by us at that time.

This report shall cover all test taken in my presence, that was used to make up the Van Dine Report of April 1981, also other research done on the black sands, methods used, flux and results of black sand analysis.

Black Sands will vary from area to area, not all the sands can be treated alike, as no one standard assay can or will bring out the true value of ore processed. Hundreds of assays have been made and samples taken from many areas. When the ore sample will not fuse, then the flux is wrong and steps were taken to correct this and to find out why. When ore samples did not come up to expectance, other methods were used to bring out the values.

After over two years, I believe that I am qualified to report on the experiences that I have had personally in dealing with this property and the results of the research that I have done.

Exibit A is map showing the location of the test holes done in 1981. I shall not attempt to prove locations of later test as they are covered by the numbers 1 thru 39 of exibit A, or they are in that general location.

N C.

It is necessary here to show exactly how the test were made by Mr. Van Dine, who in my opinion knew what he was doing and did a good job to the best of his ability. He used a 2" galvanized pipe 4½ feet long, into this pipe he placed a long bolt or rod with a cross bar welded to the top. This made driving the pipe down in to the earth easier, and protected the open pipe. The pipe also had small holes drilled ever foot, or 4 drill holes. When driving into the ground he rotated the pipe turning and shaking in such a way that to remove pipe full of ore, did not create a problem, and the holes would show the depth of the sample. When the pipe was pulled, he used a round stick to push the ore into sample bags noting the depth, as from 3 to 4 feet or from 2 to 3 feet in depth, as could be seen thru the holes in the pipe. Below is the standard assay used by Mr. Van Dine, you will note the difference on later research as some of these assays, properly done could increase up to 70%.

STANDARD ASSAY

31.1 grams of ore or material
31.1 grams of P.O.B. (Litharge reagent grade)
40.0 grams borax
40.0 grams soda ash (dense)
10.0 grams lime
3.0 grams Silica
4.0 grams flour

AVERAGE RESULTS

.0592 free gold
14. gold in black sands
.30 Silver
.10 Platinum

The following information refers to the records on hand showing the test made in my presence, there were more taken, but I refer only to the ones I personally helped with. The gold area was determined to run from North West to South east. (See map exibit A)

test hole	Gold per ton	Silver per ton
1.	3.	1.33
2.	2.	trace
3.	3.	2.
4.	5.	2.
5.	8. black sand	trace
6.	2. black sand	trace
7.	12.	trace
8.	9.	3.
9.	10.	3.
10.	9.	trace
11.	2.	trace
12.	5.	trace
13.	7.	1.
14.	6.	2.
15.	3.	trace
16.	3.5	trace
17.	3.	trace
18.	1.	3.
19.	1.	1.
20.	3.5	2.
21.	4.5	3.
22.	3.	1.
23.	3.	1.

L/n

Continued test holes (exibit A)

test hole	gold per ton	Silver per ton
24.	3.5	Trace
25.	2.	2.
26.	14.5	9.
27.	13.2	9.5
28.	10.	7.5
29.	12.5	8.
30.	11.	9.
31	9.	2.
32.	7.	5.
33.	5.	4.
34.	9.	8.
35.	14.	9.
36.	21.	7.
37.	19.	10.
38.	18.	5.
39.	8.	4.5

Number 27 as tested:

Bank run Material	Gold	6.5
Non Magnetic black sand	Gold	7.
MAGNETICS black sand	Gold	13.2

This is to prove that values are lost in separation, since the bank run was 6.5 ounces per ton, and concentrates did not come to that figure, also it is usual that the Non Magnetics will carry the greater values, which in this case the magnetics are almost double the non magnetics

The following will explain the research done in 1981, 1982, and 1983 and the results obtained by such research.

The black sand concentrates have averaged not less than 70 ounces of gold per ton on an overall average, some of the Gila Conglomerate has tested at over 200 ounces per ton and upward, however this does not represent the average but mentioned as shall later be explained. some of the last assays done are listed below for reference.

name	no.	gold	silver	sample
Flying J	1.	98.04	3.98	Black sand concentrate
Flying J	2.	105.16	14.31	Black sand concentrate
Flying J	3.	5.65	6.94	Tails
Gila #4	1.	43.5	56.5	Black sand cons fine
Gila #4	2.	66.5	43.5	Same
Gila #4	3.	41.5	49.5	Same
Gila #4	4.	59.5	49.5	Same

It has been found that the charge listed below has the best results, however it will also vary according to the properties found in the test sample. Such as in some cases Silicon is the major constituent, while in other samples it is the intermediate constituent, and Iron being major.

Method of assay

29.166 grams of ore or material sample
45 grams of litharge
30 grams soda ash
20 grams borax glass
10 grams lime
7 grams silica
5 grams niter
3 four penny nails for fusion

Sample must be well mixed with items listed, and weight must be correct. Place in crucible and have furnace at 1950 degrees. leave in furnace 10 minuets at 1950, furnace will cool when door is opened, so let furnace heat to 1950 degrees again and wait ten minuets, cool furnace to 1850 and leave for 20 minuets. Remove crucible and pour charge. Temperature is important, as the fine gold can be lost if you do not watch your furnace.. This should be cupeled at 1650 degrees F. You must be careful of temperature as to the cupel also, as your gold can be lost with the lead.

Before beginning a test or assay, the sample should be examined under a microscope to determine what you will use to get the best results. The Magnetic black sands, if a good deal more magnetics than non magnetics will give off a blue hue, in this event then you will use the 5 grams of niter, omit the flour and oxalic acid.

In the event that you have a good deal more brown sand than you have black sand, then omit the Niter and flour and use 4½ grams of Oxalic acid. especially if visable gold is showing.

If sample shows a lot of Silica and visable gold, then omit the niter and Oxalic acid and use 6 grams of flour.

In the spring Creek and bakers canyon area and near there it is necessary to prewash the materials, it is well to wash all samples but expecially so in the Spring Creek and Baker canyon area. Use 3 parts pure Ammonia 1 part caustic soda and 15 parts water. Rinse this well, dry, and proceed with fire assay.

Some of the other materials will require a different bath, such as the river sand, use 1 cup or ore or material, prewash in lemon juice. Heat to 110 degrees for 20 min. Strain, wash with dis water.

After sample has been washed or rinsed in distilled water, then dry and fire as usual. The results in most cases is about 70% more gold than before treatment.

The black sands were tested with what is known as C L S leach mostly in samples No 28, 29 and 30. It was determined after many trials, that the C L S leach simply will not work, and the idea was discarded.

CYANIDE: This method will remove about 90% of the values, when pretreated, as Ammonia and caustic soda this will nullify the arnesic contents and allow the cyanide to work. Cyanide soultion was used at 1 to 30. If the ore is not treated cyanide is fouled, and becomes inactive. Carbonaceous materials, ranging from living matter in water thru spilled lubericants, to graphite in ore tends to consume cyanide to form complex ions which renders the cyanide substantially in active. Unless treated the solution will turn to sludge and properties are lost. Number 29 Sample was used as an experiment, and the results were as follows:

Gold	Silver
10 ounces per ton	7.5 ounces per ton
11 ounces per ton	9. ounces per ton

Several months was spent in the testing of the 40 acres , known as the "Dorothy B" #24. This 40 acres lies to the North, and is the North bank of Bonita creek. (see map) It begins near the picnic tables at bonita creek, on the high bluff above the tables samples were taken. This area has proven to be very high in both silver and gold. No's 34, 35, 36, 37, 38, and 39. In the cut above the tables samples were taken about 10 feet from the top of the cliff in the Gila Conglomerate(No 36 on Map) these samples show 150 ounces per ton.

About 10 feet below ground is a strata about 6' but it was not determined if this strata runs the full length of the property, it is in the Gila conglomerate and gold run in the area at 150 ounces per ton.

See # 38, 20 ft from the top of the bluff and in that same cut the conglomerate contained 37 ounces of Gold and 26 ounces of Silver, done by fire assay. There is much Arsenic and must be prewashed, for the values to show. (Ammonia and caustic soda)

See # 39 Along the slope where the old road is and about 400 ft North of #36, rocks in the conglomerate show silver at 150 ounces per ton, more or less. Depending upon the method used and treatment. Gold was not as high as quoted in #36, #37.

On the top of the bluff, or where the level ground begins several holes have been made, and samples taken, on these tests two feet below the surface shows gold at 60 ounces per ton and Silver at 78 ounces per ton. All test made on this 40 acres have been exceptional.

Some of the blacks sands are known as complex ore, or as locked in gold, where fine gold particles are sandwiched between two grains of black sand. We refer to it as being locked in a bond. In order to break this bond and recover from the black sands, ore must be ground to 400 fine, and the results would surprise you.

The sands in this area are a great deal different to the ordinary sands, both the black sands and the brown sands and must be analysed, and treated in a different manner to bring out their true value, as has been proven in this report.

I, have designed and manufacture the H & B Recovery table. I, began testing this table in September of 1980. The testing and the demonstrations of this table has been done almost exclusivly with sands from the "Dorothy B" placer property.

A coating was perfected for this table, designed to remove the inpurities from the gold as it passes upon deck, and enable it to adhere to the silver plated, mercury treated plates. This table is ten feet long, has five drops, each drop is nine inches wide, and drop is about ¼ inch. Two of the drops (top and bottom) have a mesh and mat cover, the three center drops carry the Silver plated, mercury treated plates.

In some areas the content of Arsenic is very high, as stated and the materials should be prewashed, it is a known fact that a very high arsenic content will cause skins to form over the mercury resulting in loss of mercury and low recovery. Any Sulphide irons when abundant will cause sickness of the mercury, which means to turn black, flour or form skins. The worst offenders are Arsenic, antimony, and Bismuth.

Tarnished gold will not amalgamate readily, coated gold will not amalgamate at all. Temperature is an important factor in the amalgamation process. If the water is too cold the mercury tends to harden and become crumbly, heat will increase the catch, but also increases the solubility of the ore salts and the base metals in the mercury. It also softens the amalgam and increases the weeping and scouring loss. The proper temperature is around 80 degrees.

Heavy sulphides and black sands must be run slowly and carefuly as they tend to form banks and shields the plates from access of gold.

The "Dorothy B" properties carry a great deal of micron size gold. In some areas the free gold will run upward to 2½ ounces per ton, while in others it will run micron to invisable. The gold is found in flake and flour in most cases, there are a few of what is known as nugget size. The fact that no visible gold is showing does not mean that the values are not there. Below is an example of black sand concentrates. The sample was done for William Sutherland and was taken from the Dorothy B Number 2A, or the lease known as Gila #4. This sample had little if any visable gold and was done on April 16, 1983.

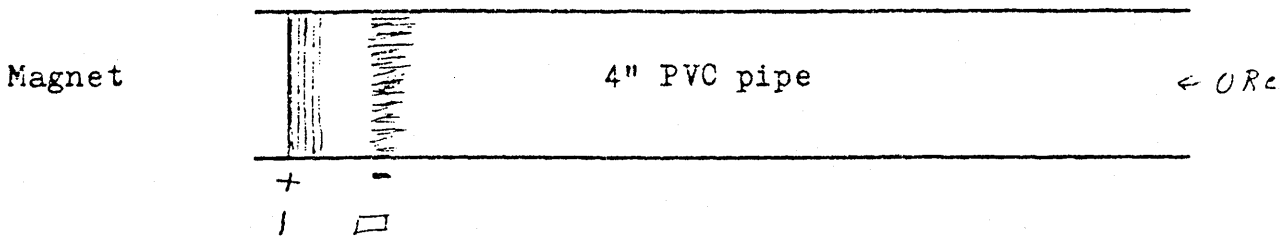
Black sand as received	No. 1	100 ounces per ton gold.
	No. 2	120 ounces per ton gold.
	No. 2A	85 ounces per ton gold.

Preroasting is sometimes done, depending on the character of the ore, either for clacination of arsenical gold ore, or to render them magnetic, whichever the case may be. It may be well to add here, that lead or litharge added to arsecic bearing pulp, will sometimes prevent sickness of the mercury.

The black sand concentrates are about 66% magnetic, however a great deal more of this sand is borderline magnetic, such as titanium and other borderline ions. By ionization or bombardment of the positive-negative charge the magnetics shall be greatly increased. The ionization changes the molecular structure of the ions and turns them in the right direction, as all magnetics have a tendancy to head to the north. When the molecular structure has been re-arranged or put in order, or aline the molecular structure, then the increase in magnetics is seen.

EXIBIT B

Use 20 Gauge bare copper wire need 600 feet



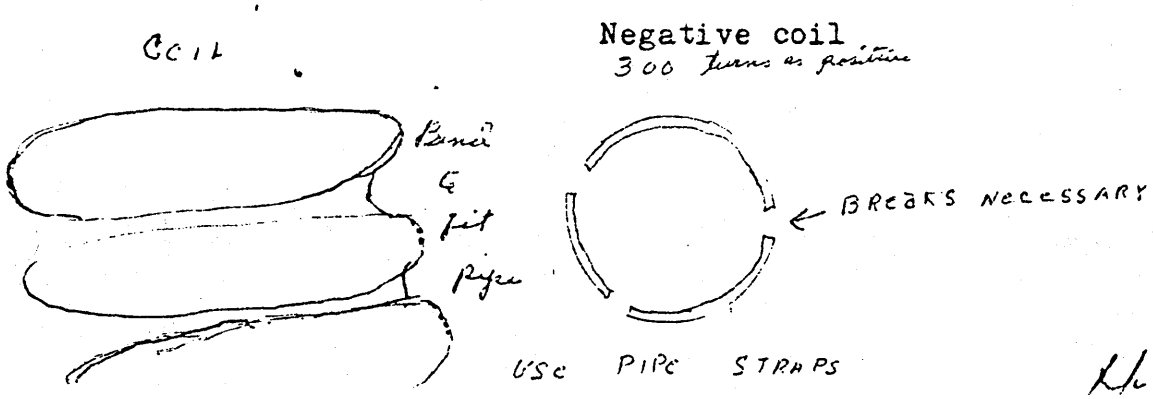
Shelac pipe well before placing wire outside pipe

Place positive wire near magnet make 100 turns shelac well and let dry then make 100 more turns shelac, then 100 more shelac well each time to prevent short. Do not cut wire.

Positive wire is places 111, negative wire ---
Positive wire is placed not less than 4" from negative and not more than 12" separates the positive and negative coils.

Positive Coil

Use a 12 volt 200 amp battery attach Negative coil to - post attach Positive coil to + post.



H. C.

When using Aqua Regia solution which is 3 parts Hydrochloric acid, and 1 part Nitric acid the easiest way to recover both the gold and the silver is stated below.(use hot distilled water)

FOR GOLD: use four tablespoons of Bisulphite to one cup of distilled water. Add slowly to the aqua regia, gold will fall to the bottom in a brown powder like substance, which must be cupeled before it will look like gold.

FOR SILVER: Silver recover can be done by adding a brine solution to Aqua Regia. Mix 1 cup of rock salt with three cups of distilled water, and pour slowly into the solution. First test solution for copper. Put a few drops of Sulphuric acid into the aqua regia, if it turns cloudy or forms curds, do not use salt untill you have added enough sulphuric acid for it to stop curdling. Strain test again with sulphuric acid, if nothing happens then add the salt solution to drop silver. The silver will look white and will settle to the bottom to be strained and be ready to process.

Most assays show a good amount of Platinum, also there is pure platinum in the raw ore, a lot is wire size to larger solid pieces. The gold itself is known to carry about 6% platinum, also both high and low groups show, as palladium, osmium, iridium, all these are present.

I have taken some test that do not show on the exibit A, and will mention that the area across the river from the site of the present operations, in the canyon known as Dead Man's Canyon has tested out quite well, as a matter of fact, better than some of the other locations, and it would be well to make a few test there.

W. C.

To test for Platinum, use 4 tablespoons of Ammonium chloride in one cup of hot distilled water.

Platinum will melt and fuse at 3400 degrees, making it hard to do a real test for platinum, or to bring it to metal form.

It stands to reason that in doing assays, that in the event that you are doing materials that have a lot of lime in the material itself, that you would not add as much lime as in materials that are free of lime. The lime added to the assay is to add heat to your cruciple, now if the same amount of lime is added to the assay containing lime, then it stands to reason that your gold and silver would be burned up and show little or nothing.

On May 11, 1983, John Murphy one of the general partners of the Gila Mining limited partnership, did assays by himself and for himself and Gila Mining Co. Using the assay listed below:

29.166 grams of black sand
45. grams of red Litharge
30. grams soda ash
20, grams borax
10. grams lime
8. grams flour
7. grams silica
2. ten penny nails.
0. ten penny nails in assay #3

Sample #1. Black sand, treated with ammonia and Caustic soda pulverized and used Nails

Sample #2. Black sand, same as above except not treated

Sample #3. not treated, not pulvirized, no nails virgin black sand as came from plant.

11 /1

Results of assays

	wt. of lead	initial wt of bead	gold per ton	Silver per ton
1.	41.1 gr	54. mg		
2.	40.8 gr	53. mg		
3.	41.6 gr	1. mg		

1 assay ton = 29.166 grams, Each Milligram of precious metal taken from an assay ton equals a troy ounce per ton.

Mr. Murphy did take the bead, so that he could find out for himself the amount of gold and platinum, and silver. These reports are not available at this time, but will add them to the report at a later date. NOTE the difference in No. 3.

Mr. Murphy shall drop the above bead into Nitric acid, heat untill the solution no longer gives off bubbles, then weigh the bead again, the difference between the original weigh and the weight after nitric will be the silver content.

The treatment used was:

50 Milliliters caustic soda (lye)

60 Milliliters pure ammonia

750 Milliliters of distilled water

This sample was washed with distilled water, the arsenic was apparant, it had turned to white flakes and was washed out. arsenic if present will inhibit other metals, change the properties of the lead, and sometimes left with a mass that will not fuse.

The usual amount of magnetics in this black sand is about 66%, after heating to dry, Mr. Murphy found that the Magnetics were 90%.

Continuation of the JOHN MURPHY TESTING:

Ten pounds of bank run material from the large cut, on the Gila Number one, or the property now being tested by Flying J. mining Company, just west of the road leading to the Gila #4 plant, was processed, with the following results.

Bank run material screened thru a 1/16" screen, over 50% was screened out, leaving four pounds of screened materials. This was passed over the H & B recovery table, since there was no flake gold it was allowed to amalgamate on the plate. This was processed, and he determined that, the values were as follows.

$10.00 per cubic yard in Gold
25.00 per cubic yard in silver
$35.00 per cubic yard bank run material

This was processed as usual, mercury and gold was placed in a Nitric solution of 1 to 6 and heated untill the mercury was consumed, the gold left in the container was then placed in Aqua Regia, allowed to stand untill it was melted into the Aqua regia, then dropped out with the Bisulphite solution, the silver was droped out with the rock salt solution.

In closing, I will say that there is so many things that can be learned, by a study of your materials, and using common sense and good judgement and thru trial and error learn the best way to process it.

I would also commend the Gila properties on the property that is west of the pipeline, and below the white post on the side of the hill from there to bakers canyon, in the misquete flat that runs to the west. That property is very good I am sure you will find.

111

There are other areas around spring creek, bakers canyon and toward the north that are very good, and this includes the area known as misquete flat west of the spring creek hill.

Returning to the assays done May 11, 1983 by John Murphy. In the event that these had been sent for a standard fire assay then, all three would have been in the range of one ounce per ton to under an ounce per ton.

The treatment of No 1 sample did bring out 1 ounce per ton more, or 54 ounces per ton in gold and silver.

No. 2 sample was not treated but was pulverized as was No.1 the nails were used for fusion and the sample showed 53 ounces per ton in gold and silver.

It is seen at once that to pulverize this ore is a must to bring out the true values in the black sands.

Helene Charbonneau

HELENE CHARBONNEAU

REPORT ON THE DOROTHY B MINE

LOCATED IN GRAHAM COUNTY,

ARIZONA

BY MAX VAN DINE

OWNERS ARE

DOROTHY S. BRAATELIEN

AND

EDWIN H. BRAATELIEN

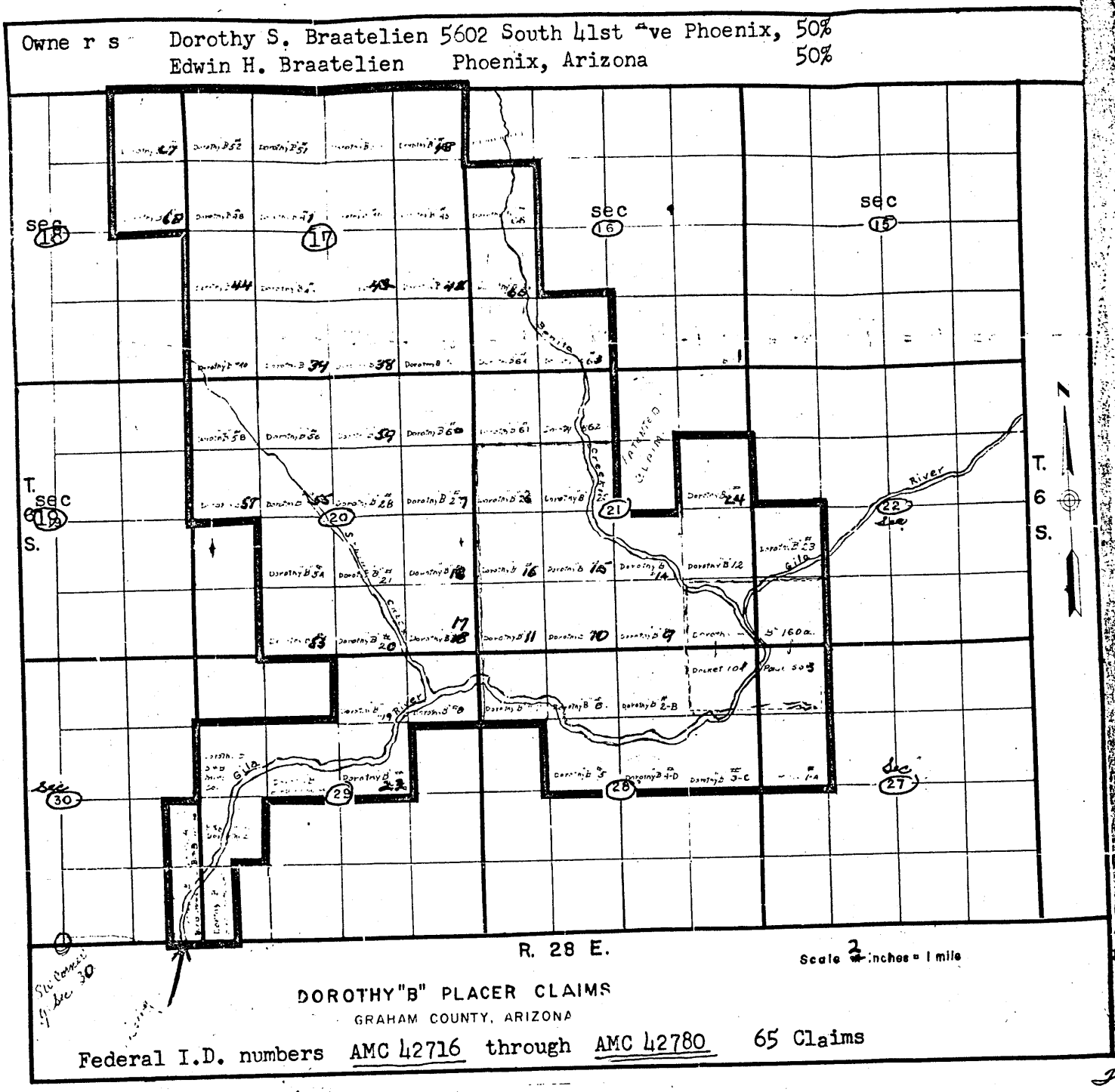
REFERENCES:

Investigative report of the Neal Gila River auriferous gravel deposits Dated January 6, 1930, and Signed by F.H. Vahrenkamp Consulting Engineer.

GEOLOGY

"MORENCI AND CLIFTON QUADRANGLE" BY

WALDERMAN LINDGREN PROFESSIONAL PAPER #43



Claims

Dorothy B
Dorothy B 37 Thru 68
Borothy B 1A,2B,3C,4D.
Dorothy B 5 thru 28
B&B mining co
B&B

Page and docket

160 ac Docket 104 Page 503
1280 Ac Docket 108 Pages 347-378
160 Ac Docket 107 Pages 682-685
920 ac Docket 108 Pages 291-313
180 Ac Docket 111 Pages 617-620
Docket 112 Page 73

The Gila River Flows thru the eastern and northern boundries, Bonita creek thru the east corner and Spring creek thru the western protion, Located in Sections 16,17,18,20,21,28,29,30. T 22 as recorded in the county recorders office in Safford, Arizona T S 6 S range 28 EAST

All of Section 17, E½ of the ne¼ of sec 18, S½ of the sw¼ of sec 16, nw¼ of the sw¼ of sec 16. SW¼ of

REPORT OF THE

DOROTHY B PLACER CLAIMS

PROPERTY OF

DOROTHY S AND EDWIN BRAATELIEN

LOCATION OF PROPERTIES

The Dorothy B placer deposits are located in Township 6 South, Range 28 East, of the Gila River and salt river base and meridian, in the county of Graham, State of Arizona. The Gila River flows through the Eastern and southern boundary of the property; Bonita creek, a tributary of the Gila River, flows through the northeast corner of the property; Spring creek, or Spring canyon is near the western boundary, as shown on map.

The property is located at an elevation of 3382 feet above sealevel. following are listed the various claims. area and status of title:

The status of the following mining claims are held under U.S. government possessory title, and on U.S. Government lands, The annual assessment required under the U.S. mining laws, in order to hold title has been duly performed by owners every year since the date of location, and notice of such yearly work is of record in the Graham county court house, in the office of the County recorder, All Record References refer to the records of the U.S. Department of the Interior, Burea of Land management, at Phoenix, Arizona.

261-3706

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
ARIZONA STATE OFFICE
2400 VALLEY BANK CENTER
PHOENIX, ARIZONA 85073

IN REPLY REFER TO
A MC 42716 thru
A MC 42780 (952)

June 7, 1979

Dorothy S. Braatelien
Edwin H. Braatelien
5602 S. 41st Ave.
Phoenix, Arizona 85041

Dear Mr. & Mrs. Braatelien:

This letter is to identify the serial numbers we have assigned to your mining claim location notices filed in this office on May 29, 1979.

Serial Number	Name of Claim
A MC 42716	Dorothy B
A MC 42717	Dorothy B #1-A
A MC 42718	Dorothy B #2-B
A MC 42719	Dorothy B #3-C
A MC 42720	Dorothy B #4-D
A MC 42721 thru A MC 42728	Dorothy B #5 thru #12
A MC 42729 thru A MC 42743	Dorothy B #14 thru #28
A MC 42744 thru A MC 42759	Dorothy B #53 thru #68
A MC 42760	1 - Dorothy B #37
A MC 42761	2 - Dorothy B #38
A MC 42762	3 - Dorothy B #39
A MC 42763	4 - Dorothy B #40
A MC 42764	5 - Dorothy B #41
A MC 42765	6 - Dorothy B #42
A MC 42766	7 - Dorothy B #43
A MC 42767	8 - Dorothy B #44
A MC 42768	9 - Dorothy B #45
A MC 42769	10 - Dorothy B #46
A MC 42770	11 - Dorothy B #47
A MC 42771	12 - Dorothy B #48
A MC 42772	13 - Dorothy B #49
A MC 42773	14 - Dorothy B #50
A MC 42774	15 - Dorothy B #51
A MC 42775	16 - Dorothy B #52

Serial Number	Name of Claim
A MC 42776	B & B Minning Co. 1
A MC 42777	B & B 2
A MC 42778	B & B Minning Co. 3
A MC 42779	B & B 4
A MC 42780	B & B Minning Claim 5

Please refer to the claim names and the respective serial numbers in any future correspondence.

Enclosed is a chart showing requirements for filing affidavits of assessment work or notice of intention to hold mining claims.

Sincerely yours,

Robert L. Peterson

Chief, Branch of Records
and Data Management

Enclosure

Form 4–954
(October 1962)

SERIAL REGISTER PAGE

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Legal Reference	File Code	Serial Number
Mining Claim Location P.L. 359	28.0	035332

Name and Mailing Address

Edwin H. Braatelien
c/o Atlas Plumbing & Heating Co.
1725 W. Van Buren
Phoenix, Arizona

Description of Land

T. 6 S., R. 28 E.,
Sec. 21

Dorothy B Placer Mining Claim

DATE OF ACTION	ACTION TAKEN
Oct. 25, 1965	Location notice filed.
OCT 29 1965	REPORTS REQUESTED FS/FC.
JAN 10 1966	REPORTS RECEIVED
Jan. 24, 1966	Claimant notified mining operations permissible.
Dec. 27, 1968	Claimant notified power site withdrawal revoked and no need to submit statement of assessment work. Closed.
MAY 15 1969	FRC DENVER Acc. # 69A782 Gr. # 49 Box # 741982

Form 1274–2
(March 1965)
(formerly 4–954)

SERIAL REGISTER PAGE

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Legal Reference	File Code	Serial Number
Mining Claim Location P.L. 359	28.0	035712

Name and Mailing Address

Edwin H. Braatelien Sr.
Dorothy S. Braatelien

Phoenix, Arizona

Description of Land

Gila Mining District, Graham County, Arizona

	T. 6 S., R. 28 E.,
Dorothy B #1-A Placer	Sec. 27: SW¼NW¼
Dorothy B #2-B Placer	Sec. 28: NW¼NE¼
Dorothy B #3-C Placer	Sec. 28: SW¼NE¼
Dorothy B #4-D Placer	Sec. 28: SE¼NE¼

DATE OF ACTION	ACTION TAKEN
March 3, 1966	Notice of Mining Location filed.
MAR 7 1966	...ING REQUESTED 5-10
May 23, 1966	Claimant advised placer mining operations permissible.
Dec. 27, 1968	Claimant notified power site withdrawal revoked; no need to submit statement of assessment work. Closed.
MAY 15 1969	FRC DENVER Acc. # 69A-755 Gr. # 29 Box # 74981

Form 1274-2
(March 1965)
(formerly 4-954)

SERIAL REGISTER PAGE

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Legal Reference	File Code	Serial Number
Mining Claim Location P.L. 359	28.0	035762

Name and Mailing Address

Edwin H. Braatelien Sr.
Dorothy S. Braatelien

Phoenix, Arizona

Description of Land

Gila Mining District, Graham County

T. 6 S., R. 2S E.:

Sec. 17: SE¼SE¼
17: SW¼SE¼
17: SE¼SW¼
17: SW¼SW¼
17: NE¼SE¼
17: NW¼SE¼
17: NE¼SW¼
17: NW¼SW¼
17: SE¼NE¼
17: SW¼NE¼
17: SE¼NW¼
17: SW¼NW¼

(cont. page 1-A)

Placer Claims:
1-Dorothy B #37
2-Dorothy B #38
3-Dorothy B #39
4-Dorothy B #40
5-Dorothy B #41
6-Dorothy B #42
7-Dorothy B #43
8-Dorothy B #44
9-Dorothy B #45
10-Dorothy B #46
11-Dorothy B #47
12-Dorothy B #48

DATE OF ACTION	ACTION TAKEN
Mar. 23, 1966	Notices of mining locations filed.
MAR 25 1966	REPORTS REQUESTED - 3 C., List 4.
Apr. 4, 1966	District 4 report received.
MAY 31 1966	REPORTS RECEIVED 3 PC.
June 2, 1966	Claimant notified placer mining operations permissible.
Dec. 27,1968	Claimant notified Power site withdrawal revoked and no need to submit statement of assessment work. Closed.
MAY 15 1969	FRC DENVER Acc. # 69A785 Gr. # 49 Box # 74981

Form 4–954 a
(October 1962)

SERIAL REGISTER CONTINUATION SHEET

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Mining Claim Location P.L. 359	Page 1-A	Serial Number 035762

DATE OF ACTION	ACTION TAKEN
Mar. 23, 1966	

Gila Mining District, Graham County

T. 6 S., R. 28 E.:		Placer Claims:
Sec. 17:	NE¼NE¼	13-Dorothy B #49
17:	NW¼NE¼	14-Dorothy B #50
17:	NE¼NW¼	15-Dorothy B #51
17:	NW¼NW¼	16-Dorothy B #52
Sec. 20:	SE¼SW¼	Dorothy B #53
20:	NE¼SW¼	Dorothy B #54
20:	SE¼NW¼	Dorothy B #55
20:	NE¼NW¼	Dorothy B #56
Sec. 16:	SW¼NW¼	Dorothy B #57
Sec. 20:	NW¼NW¼	Dorothy B #58
20:	NW¼NE¼	Dorothy B #59
20:	NE¼NE¼	Dorothy B #60
Sec. 21:	NW¼NW¼	Dorothy B #61
21:	NE¼NW¼	Dorothy B #62
Sec. 16:	SE¼SW¼	Dorothy B #63
16:	SW¼SW¼	Dorothy B #64
16:	NW¼SW¼	Dorothy B #65
Sec. 20:	SW¼NW¼	Dorothy B #66
Sec. 18:	NE¼NE¼	Dorothy B #67
18:	SE¼NE¼	Dorothy B #68

ACCESSIBILITY

The property is accessible by automobile over a good road (graveled) following the Gila river valley, distance twelve(12) miles from the town of Solomville, Arizona,-a railroad Station on the southern Pacific Railroad.

The distance by automible from Phoenix to Solomonville, over U. S. National Highway Nos. 70 and 180 is 189 miles. The Southern Pacific Railroad makes connection at Bowie, Arizona, with main line trains from Phoenix, los Angeles, San Francisco, and all points west, and El Paso, New Orleans and all points east.

CLIMATE

Climatic conditions are favorable for hydraulic operation throughout the entire year, being moderate and agreeable, except in the months of June, July and August, when the sun becomes very warm during the day, although not oppressive, with pleasant, cool evenings. Much more endurable than the heat of eastern cities.

GEOLOGY

The geology of this region is fully described in proffessional paper no. 43 "Morenci and Clifton Quadrange", by Waldermar Lindgren. It being so through and painstaking that it seems of little use to revamp any of its contents. I therefore shall quote excerpts from his report.

GENERAL CHARACTER AND DISTRIBUTION, "The boulders of the conglomerate are of local origin, and their derivation from particular mountain flanks is often indicated by the slopes of the beds. Its cement is calcareous. Interbedded with its layers of lightly coherent sand and of trass and sheets of basalt; The latter, in some cliffs, predominating over the conglomerate. Beginning at the mouth of Bonita Creek below which point their distinctive character are lost, they follow the Gila River for more than one hundred miles toward its source. Below Bonito Creek it merges insensibly with the detritus of Pueblo Viejo Deseet. It is, indeed, one of the "Quaternary Gravels" of the desert interior, and is distinguished from its family

only by the fact that the water-courses which cross it are sinking themselves into it and destroying it instead of adding to its depth The material of the Gila River formation consists almost exclusively of coarse subangular gravels, appearing more or less distinctly stratified by non-persisting streaks of lenses of sand, and containing fragments of all of the older rocks of the mountains. In most places Basalts and rhyolites predominate, as is natural when we consider that at the time when these deposits were being accumulated, a much larger part of the quadgangle was covered by volcanic flow than at present. Other rocks may, however, locally predominate; thus, for instance, below the area of porhyry, a few miles southwest of Morinci, where the gravels consist almost exclusively of coarse diorite-porphyry, often indeed, difficult to distinguish from the deeply weathered outcrops of the same rock, Along the lower part of Eagle Creek Volcanic rocks are extreamely abundant in the Gila conglomerate, and the dividing line between this and the underlying basaltic and rhyolitic tuffs in places become indistinct. Along the Gila River from the mouth of Bonita Creek to the mouth of Spring Creek, the erosion has in many places produced steep or nearly perpedicular bluffs of Gila Conglomerate usually pitted by reason of the gradular weathering out of the larger pebbles. Where volcanic rocks predominate, the conglomerate is often well cemented. The color of the Gila Conglomerate is reddish to grayish white, especially in places where long-continued exposure has had opportunity to oxidize the iron.

Mode of Deposition. --- The Gila conglomerate is unquestionable of fluviatile origin, and was deposited during an epoch in which the lower reaches of the river gradually lost their eroding and transporting powers, while disintergation progressed rapidly in the mountains. Especially was it active among the loose masses of lava, which then covered so much of the quadrangle, from which internittently torrential streams brought down vast masses of crumbling rocks. The climatic conditions were then probably very similar to what they are at present. The volcanic outbursts of the tertiary took place under conditions of active erosion, the different flows being often deeply dissected before the eruption of the next mass. This epoch of erosion doubtless continued for a short time after the close of the ingenous activity, for we find the Gila conglomerate on an uneven, and in places, deeply dissected surface. As far as is known, the Gila Conglomerate has not been warped or dislocated by faulting in this area, though studies extended over a wider field may vary possibly modify this conclusion.

TERRACE GRAVELS

Between Bonita and Spring Creek (see Map) on the northwest side of the Gila river from 50 to 200 feet above the stream in its lower course, we find a large acreage of auriferous gravel, deposited in four distinct terraces. The deposition of the gravel in terraces would indicate a temporary check in the erosive power of the stream, much later than the Gila Conglomerates.

CHARACTER AND SOURCE OF TERRACE GRAVELS

The terraces gravels are of auriferous origin, deposited by erosive agents, and, being a much later flow than the Gila conglomerate.. These gravels no doubt are part of a remnant of an old ancient river channel. The channel may be traced by its exposed rim in several palces. All boulders and stratas of gravel have a slight dip of 10 degrees to the northwest, where as the Gila conglomerate dips 20 degrees southwest. These gravels indicate a temporary check in their erosive power, due no doubt to the erosion gradually declining in intensity, thus forming the many terraces. The Gold being of ancient origin, being derived from disintergration of the immeasurable gold-bearing quartz veins in the ingenous rocks of post-paleozoic age.

The gravels consists of average size boulders, from the size of a bucket to that occasionally of a large barrel, and sand of a very loose nature, all washed smooth and well rounded. No pipe clay or cemented gravel is to be found of any consequence, except, occasionally now and then I observed a thin layer of about two feet in thickness of gravel cemented by some corbonate of lime with oxide of iron which, when coming in contact with water disintergrates instantly.

The Gravels, as shown deposited by an old ancient river channel in the form of terraces, never eroded into the bed of the Gila river. The old river channel makes a swing northwest along the north bank of spring creek, thence disappearing underneath a heavy wash. The gravels in the Gila river bed are largely composed of detritus materials and of rocks found in the Gila conglomerate.

****

I, have refered to the geology and character of the gravels, as reported in the F.H. Vahrenkamp report of 1930, and agree with his findings. In reference to the work done by him, I also agree with him on the work and testing done by him. I do point out that the positive yardage will differ slightly as he is known to be conservative in the extreme.

I, recommend that extensive exploratory work be done before a positive yardage and evaluation of the property in its entirety can be established. Shafts would be the most practical, since the depth should reach up to 200 feet in place, to determine the depth to bedrock, and if or not the "Gravels" do reach to that depth.

When, we accept the yardage determined by F.H. Vanhrenkamp, which are verifiable, we find,and I Quote, " The terrace 50 feet above the water level of the Gila River, covering 640 acres of mining ground, and containing a total of 17,017,000 cu. yards of gravel.

The second terrace 90 feet above the water level containing approximately 480 acres of minning ground, and approximately 58,905,000 cubic yards of gravel. The balance of the 960 acres containing 45,760,000 cubic yards of undetermined values" End Quote..

There is also an additional 620 acres in The Dorothy B properties not taken into or reported on the Vanhrenkamp report that should have research and exploratory work done on them to establish the value and yardage.

As per the Vanhrenkamp report:

17,017,000 cu yds positive
58,905,000 cu yds "
75,922,000 cu yds "

45,760,000 cu yds @ estimated value

Plus another 620 acres which has not been taken into consideration at this time.

The yardage, as described totals to a grand total of 121,682,000 cubic yards.

The 45,760,000 cubic yards is potential gravel, that must have futher work done to determine its true value. However, I am certain that it will be equal or, at least one fourth the value found in the positive gravel and therefore, include the ¼ price in the following computations. I feel the one fourth is quite conserative.

Using the Vahrenkamp figures and adapting to days Gold price, the following gives a conservative value for the above listed properties.

Using $480.00 per troy ounce of Gold as our price standard, we find that each cubic yard of gravel has a "FREE GOLD" value of $23.00 per cubic yard.

We have found that the Gold has assayed at 81 percent purity, there is silver and platinum in with the Gold. Using the 81 percent purity our value is $388.88 per troy ounce.

One cubic yard weighs approximately 2600 lbs and yields approximately 0.0592 troy ounces of Gold

$480.00 X 81 percent purity equals $388.80 per troy ounce

$388.80 X 0.0592 Equals $23.01696

In addition to the above "Free Gold" I have found that the Black Sands carry approximately fourteen (14) troy ounces of Gold per ton of black sand that must be extracted by a method or methods other than the normal Amalgamation process. The fourteen ounces is also a conservative figure.

In addition to the above Free gold and the fourteen ounces of gold that cannot be seen, they also contain other high values in the following.

Platinum, Iridium, Osmium, Zircon, Monasite, Titanium, Silicon, Silver, Magnesium, and other metals or metal oxide.

The values of these metals have not been determined to date. However the gold alone represents a vast dollar amount. This calculation is done on the basis of 200 pounds of black sand per cubic yard of gravel as follows;

10 cubic yards of gravel produces one ton of Black sand. Thus; 10 cu. yds. X200 lbs equals 2,000 lbs of black sand. or one ton.

BLACK SAND

One ton of Black Sand equals 14 troy ounces gold.

14 troy ounces per ton X $388.80 = $5,443.20 per ton.

Or 5,443.20 divide by 10 cu yds equals $544.32 per cubic yard of gravel. Therefore the positive gravels have a value of $544.00 plus free gold of $23.00 or a total value of $567.00 per cubic yard in gold alone.

75,922,000cu yds. X $567.00 equals	$43,047,774,000.00
45,760,000 cu yds @ one fourth or $141.75 estimated value	6,486,480,000.00
Total Value	$49,534,254,000.00

Plus the values of the other metals and/or metal oxides in the black sands.

These figures are based upon the F.H. Vahrenkamp report, and the research work done by myself in the month of April, 1981.

TESTING OF GRAVEL AND SAMPLING

Having ascertained the approximate yardage, and the character of the gravel, the next important phase is the values in free gold per cubic yard. The only method of testing and sampling gravel property is by rocker, the pan, or the sluce. I employed all three methods in my sampling. The best locations for my sampling was to start on the different pits, shafts, old and new, open cuts, group them, and find the average.

The gravel was taken at different heights, all along the top of the FIRST TERRACE in open pits and shafts from six (6) to thirty (30) feet in depth, and all along the face of banks in cuts from six (6) feet in width to thirty (30) feet in height, were cut vertically in the different strata.

From three (3) to twelve (12) pans were taken in each pit and shaft; and from one half ($\frac{1}{2}$) cubic yard to as many as two (2) cubic yards of gravel were taken from pits, shafts, and cuts, and washed by rocker or sluiced, exclusive of bedrock. All samples were taken in a box Measuring one cubic yard or 3'x9' x1'. This box was filled with gravel and boulders; allowance being made for the volume of the boulders; then washed either by rocker or through the sluice box containing riffles. The free gold was then separated by amalgamation from the "black sands", weighed on special gold scales, and values calculated, using for unit value per milligram the fineness of the gold as per mint reciepts. The acreage has been determined by measurements, spaced and the average of which has been found to be as follows.

Approximate length --11,220 feet
" width -- 1,820 feet
" depth--- 30 feet

According to these figures, we find the deposit on the second terrace contains approximately 58,905,000 cubic yards of gold bearing gravel, having a gold value as previously stated. THIRD TERRACE, not enough work has been done to determine any positive or probable value of this ground. The same methos should be adopted in prospecting by shafts,pits and cuts; my time being limited, it could not be done. I nevertheless "panned" and "rocked" in many places, the results obtained were the same, as on the FIRST and Second terraces, and in several places I obtained as many as forty-three (43) colors to the pan, and from the size of the colors the value of the ground , should be more than the original figure. Although I can not include it as pay gravel, therefore will place it in the Doubtful column untill such time when it has been fully prospected. In the event it should be found that the nine hundred and sixty (960) acres contain pay gravel throughout, it adds an additional 45,760,000 cubic yards. I have every reason to believe it will.

"BLACK SANDS

In addition to free gold, many of the ancient river beds carry "black Sand" concentrates which contains considerable quantities of Platinum, Iridium, Osmium, Zircon, Monasite, and other metals or metalic oxides. In former years of hydraulic placer mining and dredge mining, these were thrown away with the tailings; whereas; the "black sand" and sand products would in many cases be of much value.

In order to thoroughly sample a large body of gravel to asertain the exact amount of "black sand" concentrates to the cubic yard of gravel, is a very

Difficult problem, due to the great variation of the deposit. Near the surface the metal content usually is exceedingly low,and becomes richer as we near the bedrock; therefore, the metal content has to be gauged by mechanical separation of large samples. It must be remembered that, roughly speaking, a drill sample will only represent something like one part in 200,000 to one part in 1,000,000 of the body of material to be worked. (Dredging for Gold in Calif. by D'Arcy weatherbe.)

The sampling of tailings is even more difficult. The difference of opinion on the subject is an added proof of the well known difficulties of correct sampling and of the great variation of the personal equations in this work.

I do not consider that sufficient or detailed tests have been made to form a definite conclusion as to the Gold values per ton of "Black Sands" concentrates available per cubic yard of gravel, untill a more complete working test on a larger scale has been made. The purpose of my examination is merely to obtain data as to the advisability of saving the "Black Sand concentrates; and judging from test made, and from past experiences on similar gravel deposits, the Black Sand concentrates found in this property represents a by-product of considerable value.

The results of the tests are most surprising. The total weight of "BLACK SAND" concentrates recovered by sluicing and rocker test amount to two hundred (200) pounds of black sand per cubic yard. The "Black Sand" in this location are extremely rare of their kind. I mention them as they are of great commercial importance.

The losses in precious metals in the metallurgical end of the placer mining is unknown. In many cases, the Gold is so extreamely fine that much of it is lost, even under the most favorable conditions possible, under the old Gold saving devices.

I, find that the "Free Gold" on the Dorothy B Claims runs from microscopic to flakes one eighth inch wide. A few larger nuggets have been found.

Other samples ranged from 750 Pounds of black sand to as little as 5 pounds. Black Sands equal about 200 pounds per cubic yard of auriferous gravels. The Black sand contain approximately eight and one half (8½) ounces of free Gold per ton, with an additional fourteen (14) ounces per ton of complex Gold. Also by testing along the Gila River test samples were taken at 1 foot, 2 feet, 3 feet, 4 feet, and 5 feet, and included gravel, sand and black sands. The results were as follows:

1ft. depth.. trace of gold
2ft. depth..3 Ounces gold per ton
2½ ft. depth.10 ounces gold per ton
3 ft. depth. 5 ounces gold per ton
4 ft. depth 3 ounces gold per ton
5 ft. depth 5 ounces gold per ton from bank area.

The above samples were taken out of the high water area and are obviously new wash materials and not a part of the ancient deposit.

Test with the H.&B. table on the tailings from the previous operations .....

500 lbs of black sand tailings = 0.1 oz free gold.

In my opinion the H & B table should be an integral part of any placer operation.

METHOD OF ASSAY

1. Fire assay

31.1 grams of ore
31.1 grams of p.b.o. (Litharge reagent grade)
40.0 grams borax
40.0 grams of soda asn (dense)
10.0 grams of Lime Ca o
3.0 grams silica
4.0 grams flour

2. Atomic Absorption

3. Wet Assay.. using Auqa Regia and percipitating with Oxolic Acid

4. amalgamation

Emission Spectometry to ascertain other metals and metal oxides.

The above assay methods resulted in the following:

	GOLD (au) Free	0.0592	oz per cu. yd. (average)
BLACK SAND	Gold (au)	14	oz per ton
	Silver	0.30	oz per ton
	Platinum	0.10	oz per ton

However, the platinum increases nearer bedrock as does the gold.

Sampling and testing in April, 1981 was conducted as follows:

Using the H & B "gold recovery table", approzimately 2.5 ton of black sands were passed across the H & B table resulting in a recovery of 86 grams of gold silver and platinum, ranging in size from 100 minus to 20 plus.

The placer materials tested as follows:

Gold (au) @ 81% pure	78.15	%
Silver (ag) @ 90.0 fine	16.0	%
Platinum (pt) @ 87% pure	4.85	%
Non metalic	1.0	%

METHOD OF OPERATION

Due to advanced tecniques since Mr. Vahrenkamp's report we shall consider methods other than Hydraulic mining.

EQUIPMENT FOR RECOVERY
of metals

1. Dragline or hydrahoe with 3 yard bucket
2. Grizzly
3. Trommel
4. Micronizer (mill) capable of reducing to 250 minus for floatation.
5. Sluice
6. Hopper
7. Conveyors
8. Amalgamators
9. Concentrating tables and finishing tables
   (A) Floatation cells for the flow and sub-micron sized gold.
10. Dryers
11. Storage area for concentrated black sand after free gold has been removed held for futher disposition.

This equipment can be leased or purchased. Since the gold found in the auriferous gravels run from invisible to sub-nicron particles several inline methods will have to be employed for the greatest metal recovery.

Water can be taken out of the Gila River, used in the mining operation then run into settling ponds and recycled. This will eleminate silt running back into the Gila. There are water rights that are assigned to the mining claims. Safford municipal water is on the property and could be used either for domestic or for mining.

There is no power lines to the property, therefore, privately owned generating units would have to be brought in.

The property is only 15 miles from the City of Safford Arizona where adequate housing, food, and work forces are available

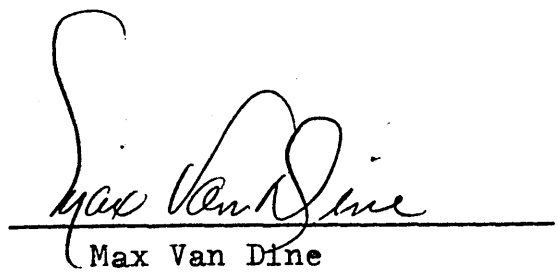
CONCLUSION:

More testing must be done to determine the values of the questionable yardage, in particular, 960 acres containing 45,760,000 cubic yards of gravel, plus the additional 620 acres not reported in the Vahrenkamp report.

These properties are rich in minerals and are rare in their kind.

These gravels contain all natural advantages for economical operation, ease of access, and will pay good dividends under competent management.

This property in my opinion is worthy of capital investment.



Max Van Dine
Mining Engineer
P.O. Box 1329, Safford, Arizona
May 14, 1981

SKYLINE LABS, INC.
P.O. Box 50106 • 1700 West Grant Road
Tucson, Arizona 85703
(602) 622-4836

JOB NO. UAJ 001
PAGE 1

ITEM NO. SAMPLE NO.
1 = GUPATA NOW-MAG
2 = GUPATA MULE CREEK
3 = GUPATA BLACK SAND
(4) = D.B. BLACK SAND

ITEM	1	2	(3) Non-Mag granite	(4) D.B. Blacksand Magnetic
ELEMENT				
Fe	5%	1%	>20%	>20%
Ca	1%	.2%	.15%	1.5%
Mg	.7%	.3%	.7%	.7%
Ag	<1	<1	1	1
As	<500	<500	<500	<500
B	<10	<10	30	15
Ba	300	300	30	70
Be	<2	<2	<2	<2
Bi	<10	<10	<10	<10
Cd	<50	<50	<50	<50
Co	10	<5	200	70
Cr	<10	<10	200	70
Cu	15	<2	100	150
Ga	<10	<10	<10	<10
Ge	<20	<20	<20	<20
La	<20	<20	<20	<20
Mn	300	150	700	1000
Mo	<2	<2	7	7
Nb	20	<20	50	70
Ni	15	<5	300	150
Pb	<10	<10	<10	30
Sb	<100	<100	<100	<100
Sc	<10	<10	15	20
Sn	<10	<10	70	70
Sr	150	<100	<100	<100
Ti	3000	1500	10000	10000
V	150	<10	1000	500
W	<50	<50	<50	<50
Y	<10	<10	15	70
Zn	<200	<200	300	200
Zr	100	100	150	700

Charles E. Thompson
Arizona Registered Assayer No. 9427

William L. Lehmbeck
Arizona Registered Assayer No. 9425

James A. Martin
Arizona Registered Assayer No. 11122

Arizona Testing Laboratories

815 West Madison · Phoenix, Arizona 85007 · Telephone 254-6181

My Grand daughter took it over for me.

L

For: Mr. Charles Caswell
3626 North 37th Street, #4
Phoenix, Arizona 85018

Date: November 5, 1980

Lab. No.: 8623

Received: 11-3-80

Marked: No Mark

Submitted by: same

taken from tails from table

REPORT OF QUALITATIVE SPECTROGRAPHIC EXAMINATION

ELEMENT	APPROXIMATE PERCENT	
Boron	0.01	
Silicon	Intermediate Constituent	
Aluminum	2.0 40 lbs x .75	30.00
Manganese	0.08	
Magnesium	0.4 8 lbs x 125.00	1,000.00
Chromium	0.01	
Copper	0.04	
Iron	Major Constituent	
Beryllium	0.001	
Calcium	0.5 10 lbs	
Sodium	1.0	
Vanadium	0.01	
Zinc	0.5 10 lbs	
Titanium	0.7 14 lbs x 10.00 =	140.00
Zirconium	0.5 10 lbs	
Potassium	0.05	

Silver cont. about 4 oz per ton @ 20.00 = 80.00

Respectfully submitted,

ARIZONA TESTING LABORATORIES

Claude E. McLean, Jr.

Arizona Testing Laboratories

817 West Madison · Phoenix, Arizona 85007 · Telephone 254-6181

For: Universal Mining Company
Mr. Bill Cotten
Post Office Box 1017
Safford, Arizona 85546

Date: November 5, 1980

Lab. No.: 8627

Sample: ore

Marked: see below

Received: 11-4-80

Submitted by: same

REPORT OF LABORATORY TESTS

Sample	Gold, troy oz/ton
Black Sand	3.0
Black Sand	4.6
Black Sand	4.0
Brown Sand	trace
Brown Sand	trace
Brown Sand	nil
Brown Sand	nil
Brown Sand	0.29
Brown Sand	trace
Brown Sand	trace
Brown Sand	trace
Brown Sand	nil
Brown Sand	trace
Slimes	trace
Slimes	nil

Respectfully submitted,

ARIZONA TESTING LABORATORIES

Steven Hankins

Steven Hankins

Arizona Testing Laboratories

817 West Madison · Phoenix, Arizona 85007 · Telephone 254-6181

For: Universal Mining
Post Office Box 1017
Safford, Arizona 85546

Date: October 31, 1980

Lab. No.: 8554

Sample: Ore

Marked: see below

Received: October 29, 1980

Submitted by: Mr. Bill Cotton

REPORT OF LABORATORY TESTS

Results of Assays

Sample	Gold, troy oz/ ton
#1 Black sand, as received	3.9
#2 Black sand, as received	2.6
#3 Black sand, as received	3.2
#1 Residue, pulverized to -200	0.35
#2 Residue, pulverized to -200	0.34
#3 Residue, pulverized to -200	0.40

Note: All analyses were performed after a digestion in aqua regia. The black sand samples which were digested as received were partially dissolved by the acid, the amount dissolved being 23%, 15% and 15%, respectively.

Recovery of the gold in the as-received samples may have been higher had smaller samples been used in the digestion, as the aqua regia solution may have been depleted by dissolving the bulk of the sample, which was iron. The recovery is approximately 90% according to these analyses.

Respectfully submitted,

ARIZONA TESTING LABORATORIES

Steven Hankins

Steven Hankins

Black Lead Concentrates @ 35.00 per oz. to-day 758.00
Silver @ 1.29 per oz to-day 28.00.

Robert E. Craig

767-2681
369-0613

MINING CONSULTANT

11844 ART STREET
SUN VALLEY, CALIF.

Black Sand Assays

Analysis No. 6894

July 10, 1966

Samples submitted by;
W. J. Mason
3900 E. Freemont St.
Las Vegas, Nevada.

Au - Gold 2.788 oz. per ton
Ag - Silver .47 oz. per ton

Sample No. #1 Non-Magnetic

= $97.58 per ton
= 61¢ per ton

Au - Gold .984 oz. per ton
Ag - Silver .33 oz. per ton

Sample No. #1 Magnetic

= $34.44 per ton
= 43¢ per ton

Au - Gold 3.043 oz. per ton
Ag - Silver .85 oz. per ton

Sample No. No 2 Non-Magnetic

= $106.51 per ton
= $1.10 per ton

Au - Gold .601 oz. per ton
Ag - Silver .20 oz. per ton

Sample No. No. 2 Magnetic

= $21.04 per ton
= 26¢ per ton

Gold @$35.00 per oz.
Silver @$1.29 per oz.

Analysis and report by

Robert E. Craig

Robert E. Craig

(NOTE) Platinum Group Metals present in sample No. #2 Non-Magnetic.

W. E. HAWLEY

ASSAYERS
CHEMISTS

HAWLEY & HAWLEY

W. E. HAWLEY, MANAGER

F. L. HAWL

SHIPPERS' REPRESENTATIVE
ORE BUYERS

DOUGLAS, ARIZONA
537 12TH ST. BOX 151

EL PASO, TEXAS
1014 PROSPECT AVE. BOX 4

We hereby certify that the following results were obtained from samples of Mr. E. W. Hartman

OFFICE NO.	MARKED	GOLD OZS.	SILVER OZS.	COPPER PER CENT	LEAD PER CENT		GOLD VALUE	SILVER VALUE	TOTAL VALUE
				Silica	Iron	Platinum			
74505	1-Fine	.28	trace	3.6	64.6		$5.60	---	
74506	2-Medium	.04	trace	6.2	58.6		0.80	---	
74507	3-Coarse	.01	trace	28.8	49.2		0.20	---	
74508	4-Black Sand	.64	trace	8.2	52.6	none	12.80		
74509	5- " " Conc's	29.26	4.0				585.20	2.29	Plus
74510	Composite Nos 1, 2 and 3					none			

METAL QUOTATIONS:

Gold $20.00 per oz. *Copper.....c per lb.*

Silver,.....per oz. *.....per lb.*

Charges: $.....Paid.....

Date.....4/17/28.....

HAWLEY & HAWLEY

Per W. E. Hawley *Assayer*

WALTER L. GIBSON

SUCCESSOR TO

FALKENAU ASSAYING CO.

ASSAY OFFICE

ANALYTICAL AND TECHNOLOGICAL LABORATORY

824 WASHINGTON ST.

ELEPHONE OAKLAND 8989

OAKLAND, CAL. May 30.1928.

Received from Straub Mfg. Co.

IDENTIFICATION	Assay No.	Gold Troy oz. per ton	Value @20.6718 per oz.	Silver Troy oz. per ton	Value @	Total Gold and Silver Value	OTHER EL
			$		$	$	
M Heads	691	0.10	2.06				
Material foom riffles	692						
Screen 20 mesh plus		2.72	56.22				
" 20-40 plus		13.04	269.51				
" 40-		6.60	136.42		avarage of the 8	$ 153.79	
Overstrum Conc C	683	0.12	2.48				
Tailings	684	0.01	.20				

The Oakland Assay Offices.

John A. Bayerque

Copy

May 24, 1928

Mr. E. W. Hartman,
Safford, Arizona.

Dear Mr. Hartman:

We received the samples and soon commenced work on the raw material, as we believe that the problem should be attached from the base. There was not really enough of this material to make conclusive tests as assays on placer sand are very misleading.

Examination under the microscope shows that the gold is in an exceedingly fine state of subdivision, but we suspect that the coarse material ranging from 1/8th mesh up to 3/8th carries very high values. This idea is borne out by the subsequent assays, and it is for the purpose of checking the idea that we require additional material.

So far, our results appear to point out that it will be advisable, to screen all of this material and discard all of the find sands and the coarse rocks, taking out only the value carrying sizes and treating same by amalgamation. This would require a simple milling process and as a comparatively small amount of high grade material would have to be handled, this will be an easy matter. However, we are not expressing any definite recommendation at present, and can do so, until the other tests are made.

We hope that the samples you are sending us are truly representative of the entire deposit containing the same proportions of gravel and rocks, as our figures will be based on this sample.

We made a preliminary table concentration by first preparing the material by screening out all gravel over No. 8 mesh, and passing the residue over the Overstrom Table. We concentrated this sand 30 tons into one ton and produced a concentrate worth $2.06 per ton, and a tailing of 82¢. It is therefore apparent that this method would not do.

We then had the Frank S. Morgan Company make concentration tests using their Mat of Gold system to be followed by simple amalgamation. Their head assays all were 41¢ per ton. The entire material was milled to 60 mesh and the ratio of concentration was 37½ tons into 1-ton of concentrate. The value of the concentrate was $10.23 per ton, giving an extraction of 67%. This plan is not feasible, as too much material would have to be handled, and the value of the concentration is not high enough to warrant further treatment.

material was milled to 40 mesh and gave a head assay of 81¢ per ton. The amalgamation process saved 71¢ per ton and the losses were 10¢ per ton, giving an extraction of approximately 78%. As this system looked much more favorable we then made amalgamation tests on the over sized material. This apparently is extremely valuable running $144.69 per ton. The amalgamation process saved $124.02, giving an extraction of approximately 85% as the value of the tailings is still approximately $20. per ton. These are well worthy of further treatment and for which the proper process would have to be worked out.

After reading the above you will readily see why we believe the values are in the coarse material, and it certainly looks good enough to warrant further experiments.

However, as above stated placer samples are dangerous as the presents of even one small sized nugget in a relatively small sample may cost a very grave error. It is for this purpose that we request extreme care be taken in making up a sample, and which should be a real true sample of the entire property. We would suggest taking about 50 lbs from say 40 different places on the property, mixing this thoroughly together, and then quartering it down on a clean floor, until about 200 or 300 lbs is left, and which should be a true representation of the contents. If you have not made the last sample in this manner we suggest that you wire us at once to stop work on this second sample and wait until we receive the proper samples.

We will rush this work thru as quickly as possible, and you no doubt realize considerable work is attached to making these tests, and we want them to be right. We are enclosing copies of some of the outside assay work, and which will be of interest.

With kindest regards, we are

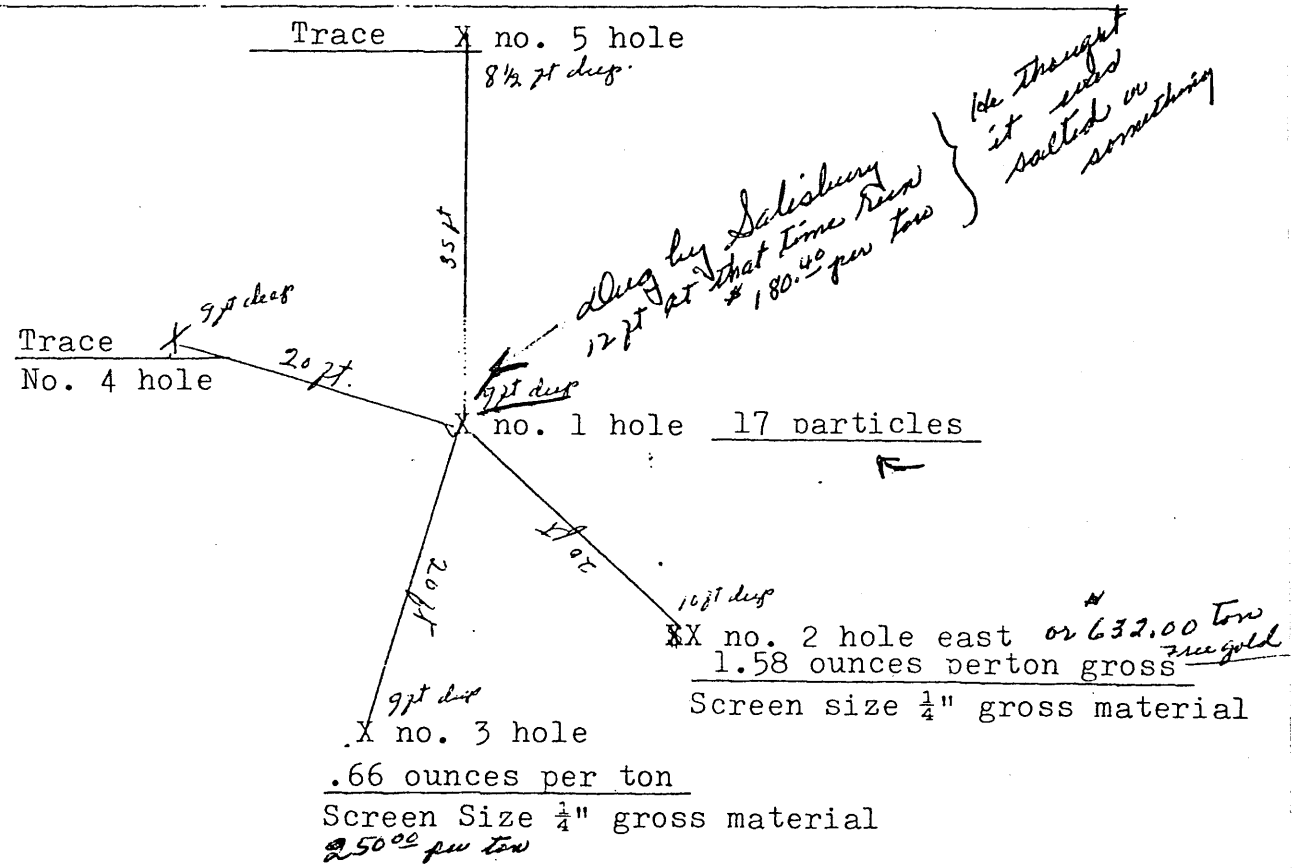
Yours very truly,

STRAUB MANUFACTURING CO. INC.

H & B

Site Location north of hose bib at top of spring creek hill (West)

Free Gold recovered by the H & B Recovery Table February 1, 1982
Material as dug from the holes and screened to ¼"



Number two and three holes are much lower as 4 and 5 are on an incline, would have to go down at least 10 feet deeper to reach the same level as 2 and 3. No. one was worked to 12 ft depth previously, and hoe could only go nine to ten feet deep.

All material retained did show gold present, a few small particles, Number 2 and number 3 shows excellent results.-

Too bad Salisbury was so afraid of being cheated, or the material being ~~salted~~ salted (as he put it) Since there is a vast amount of gold on this property

Dorothy B

APPROX. 40% of gross over ½" screened out

Over all Report

Oz ~~concentrated~~ oz 29.166 gram

No. 1 Hole Lbs.	Free gold	AUton	per ton	Fire assay	Au ton	Leach	AU ton @ 400.00
9 FT depth				-o-			
gross 50 mesh	Trace						
Magnetic black sand							Trace
TOTAL							
NO. 2 Hole							
10 feet deep	.8030 gram	1.58	55.5				$632.00
Screened to 1/4" Gross							
gross 50 mesh				.53575	53.75		
Mag. black sand				.1905	1.905		
TOTAL							
NO 3 Hole							
9 feet deep	.3477 g	.66	23.18				$264.00
Screened to 1/4"							
gross 50 mesh				.012115	12.11		
Mag. black sand				.00230	.230		
TOTAL							
NO. 4 hole							
9 ft (30)	TRACE						trace
gross 50 mesh				.05320	5.32		
Mag. black sand					.095		
TOTAL							
NO. 5 Hole -							
9½ ft deep (30)	Trace			-o-			trace
screened to 1/2" Gross							
mag. black sand					.070		
TOTAL							
TOTALS ALL HOLES							

fire assay grams this hole was worked to 12 ft depth

HOSANNA MINING AND ENGINEERING

P.O. BOX 1396
SPRINGERVILLE, ARIZONA 85938
TELEPHONE (602) 333-4573

MESSAGE SERVICE
(800) 824-7888 EXT. A3614

CALIFORNIA & HAWAII
(800) 824-7919 EXT. A3614

May 14, 19 81

Received from Dorothy Braatelien of the Dorothy B mine safford, Arizona the sum of $2,000.00 for the investigative and update of the Dorothy B claims.
CK # 131-

Mat Landrine
Safford Office

4/1/81 CK # 131 2,000.00
4/15/81 CK # 495 Skyline Lab. 64.70
4/29/81 CK # 146 350.00
$2,414.70

Total Checks Written $2,414.20

H+B taken from bottom of H+B-#2 hole Feb 1983
New Hole drlg #6

Arizona Testing Laboratories

817 West Madison · Phoenix, Arizona 85007 · Telephone 254-6181

For Ms. Dorothy S. Braatelien
Post Office Box 584
Safford, Arizona 85546

Date February 3, 1983

ASSAY CERTIFICATE

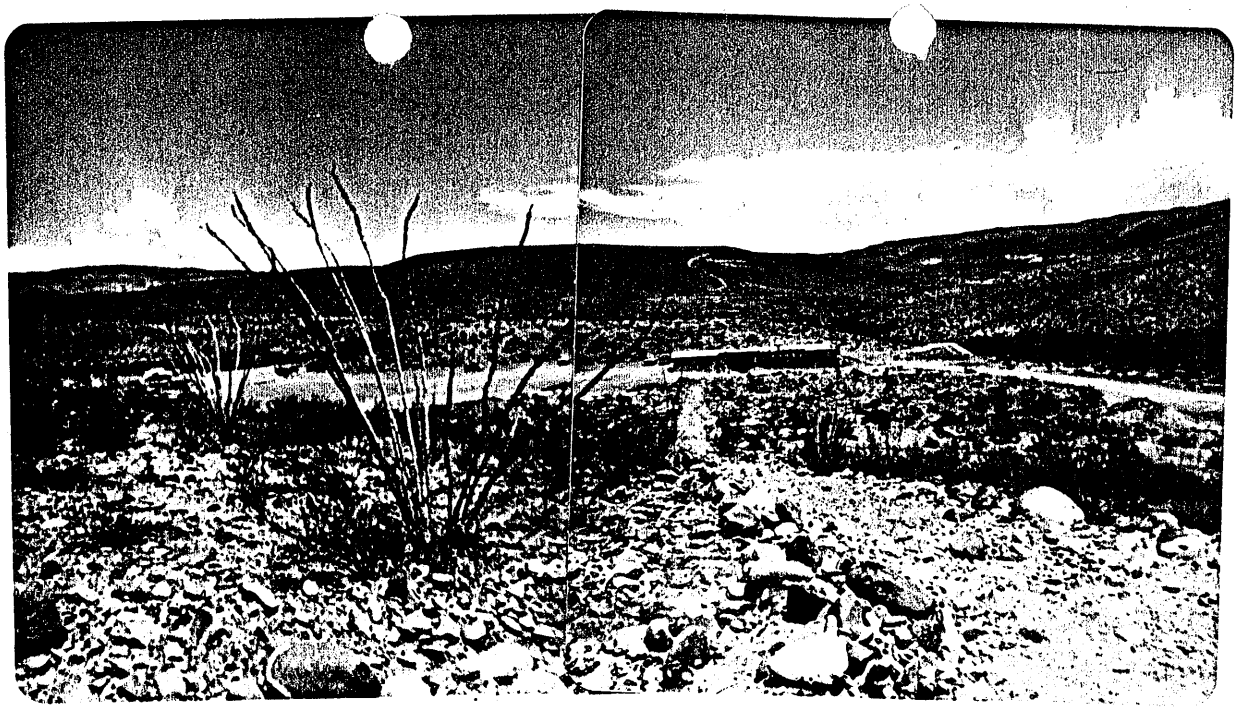
LAB NO.	IDENTIFICATION	OZ. PER TON		PERCENTAGES		
		GOLD	SILVER	COPPER	Gold	silver
					@500.	@14.
9801	Dorothy B. Mines					
	#6-1	0.11	0.30			
	6-2	Trace	0.10	6-1	55.00	4.20
				6-2	—	1.40
	H & B #2-1	0.38	1.6			
	H & B #2-2	0.10	1.7	2-1	190.00	22.40
				2-2	50.00	23.80
	B #6	Nil	0.85	B#6	—	11.90

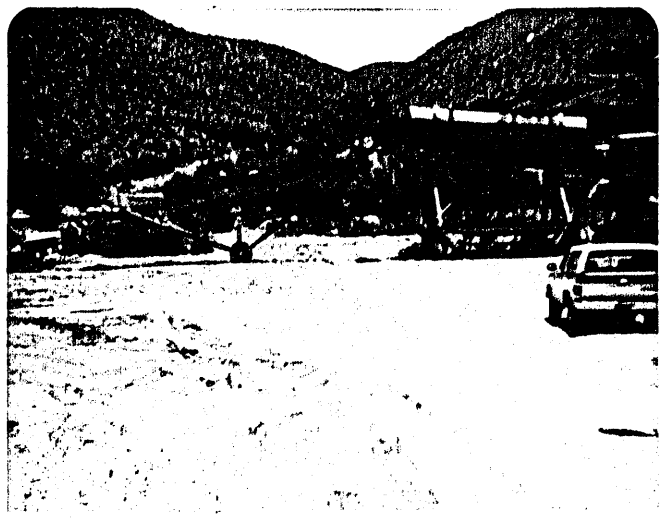
Spectrograph to following approximately 2/9/83

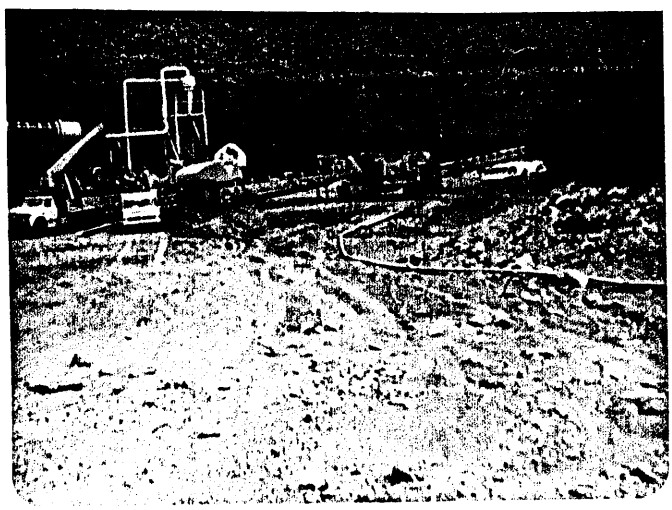
Respectfully submitted,
ARIZONA TESTING LABORATORIES

Claude E. McLean, Jr.

Registered Assayer
Certificate No. 6258
Claude Eugene McLean, Jr.
Date Signed 2/11/83
Arizona, U.S.A.







INVESTIGATION AND REPORT

ON

"NEAR GILA RIVER" AURIFEROUS GRAVEL DEPOSITS

Located in

GRAHAM COUNTY, ARIZONA

Properties Owned

by

A gentleman loaned Ted Johnson a poor zerox copy but think most of the figures, assays, etc are clear in this photocopy. No maps or photostats were with the report we copied.

lp 4-26-66

Present owner:
Ed H. Braatelien, 1312 W. Flower, Phoenix.

INDEX

REPORT ON THE
NEEL-GILA RIVER PLACER DEPOSITS
PROPERTY OF THE

LOCATION OF PROPERTIES

The Neel-Gila River Placer Deposits are located in Township 6 South, Range 28 East, of the Gila and Salt River Base and Meridian, in the County of Graham, State of Arizona. The Gila River flows through the eastern and southern boundary of the property; Bonita Creek, a tributary of the Gila River, flows through the Northeast corner of the property; Spring Creek forms the western boundary of the property (see Map No. 1).

The property is located at an elevation of 3332 feet above sea level. Following are listed the various mining claims, areas and status of title:

CLAIM NAME	AREA	STATUS UNPATENTED
GOLD SPOT # 1	160 Acres	160 Acres
GOLD SPOT # 2	160 "	160 "
GOLD SPOT # 3	160 "	160 "
GOLD SPOT " 4	160 "	160 "
GOLD SPOT # 5	160 "	160 "
GOLD SPOT # 6	160 "	160 "
GOLF SPOT # 7	160 "	160 "
GOLD SPOT # 8	160 "	160 "
GOLD SPOT # 9	160 "	160 "
GOLD SPOT # 10	160 "	160 "
GOLD SPOT # 11	160 "	160 "
GOLD SPOT # 12	160 "	160 "
GOLD SPOT # 13	160 "	160 "
BANNER	20 "	20 "
BONNY	20 "	20 "
RED BIRD	20 "	20 "
GOLD NUGGET	20 "	20 "
	2160 "	2160 "

STATUS OF TITLE

The status of title of the mining claims are held under U. S. Government possessory title, located on unsurveyed U.S.Government lands, to legal subdivision. The annual assessment work required under the U.S.Mining Laws, in order to hold title has been duly performed by the owners every year since the date of location, and notice of performance of such yearly work by the owners having been duly filed for record, as required by law, in the County Recorder's office at Safford, the County Seat of Graham County, State of Arizona.

ACCESSIBILITY

The property is accessible by automobile over a good graveled road following up the Gila River valley, distance twelve (12) miles from the town of Solomonville, Arizona, - a railroad station on the Southern Pacific Railroad.

The distance by automobile from Phoenix to Solomonville, over U. S. National Highway Nos. 80 and 180, is 189 miles. The Southern Pacific Railroad makes connection at Bowie, Arizona, with main line trains for Phoenix, Los Angeles, San Francisco, and all points west, and El Paso, New Orleans and all points east.

CLIMATE

Climatic conditions are favorable for hydraulic operations throughout the entire year, being moderate and agreeable, except in the months of June, July and August, when the sun becomes very warm during the day, although not oppressive, with pleasant, cool evenings. Much more endurable than the heat of eastern cities.

GEOLOGY

The geology of this region is fully described in Professional Paper No. 43, "Morenci and Clifton Quadrangle", by Waldemar Lindgren. It being so thorough and painstaking that it seems of little use to revamp any of its contents. I therefore shall quote excerpts from his report.

General Character and Distribution. "The boulders of the conglomerate are of local origin, and their derivation from particular mountain flanks is often indicated by the slopes of the beds. Its cement is calcareous. Interbedded with it are layers of lightly coherent sand and of trass and sheets of basalt; the latter, in some cliffs, predominating over the conglomerate. Beginning at the mouth of Bonito Creek below which point their distinctive characters are lost, they follow the Gila River for more than one hundred miles toward its source. Below Bonito Creek it merges insensibly with the detritus of Pueblo Viejo Desert. It is, indeed, one of the "Quaternary Gravels" of the desert interior, and is distinguished from its family

only by the fact that the water-courses which cross it are sinking themselves into it and destroying it instead of adding to its depth * * The material of the Gila River formation consists almost exclusively of coarse subangular gravels, appearing more or less distinctly stratified by non-persisting streaks or lenses of sand, and containing fragments of all of the older rocks of the mountains. In most places basalts and rhyolites predominate, as is natural when we consider that at the time when these deposits were being accumulated, a much larger part of the quadrangle was covered by volcanic flows than at present. Other rocks may, however, locally predominate; thus, for instance, below the area of porhyry, a few miles southwest of Morenci, where the gravels consist almost exclusively of coarse diorite - porphyry, often indeed, difficult to distinguish from the deeply weathered outcrops of the same rock. Along the lower part of Eagle Creek volcanic rocks are extremely abundant in the Gila conglomerate, and the dividing line between this and the underlying basaltic and rhyolitic tuffs

in places becomes indistinct. * * Along the Gila River from the mouth of Bonita Creek to the mouth of spring creek, the erosion has in many placed produced steep or nearly perpendicular bluffs of Gila conglomerate usually pitted by reason of the gradual weathering out of the larger pebbles. Where volcanic rocks predominate, the conglomerate is often well cemented . The color of the Gila conglomerate is reddish to grayish white, especially in places where long-continued exposure has had opportunity to oxidize the iron.

Mode of Deposition.- - The Gila conglomerate is unquestionably of fluviatile origin, and was deposited during an epoch in which the lower reaches of the rivers gradually lost their eroding and transporting powers, while disintegration progressed rapidly in the mountains. Especially was it active among the loose masses of lava, which then covered so much of the quadrangle, from which intermittently torrential streams brought down vast masses of the crumbling rocks. The climatic conditions were then probably very similar to what they are at present. The vol-

canic outbursts of the Tertiary took place under conditions of active erosion, the different flows being often deeply dissected before the eruption of the next mass. This epoch of erosion doubtless continued for a short time after the close of the igneous activity, for we find the Gila conglomerate deposited on an uneven, and in places, deeply dissected surface. As far as known, the Gila conglomerate has not been warped or dislocated by faulting in this area, though studies extended over a wider field may very possibly modify this conclusion."

TERRACE GRAVELS

Between Bonito and Spring Creeks (See photo and Map No. 1), on the northwest side of the Gila river from 50 to 200 feet above the stream in its lower course, we find a large acreage of auriferous gravel, deposited in four distinct terraces. The deposition of the gravel in terraces would indicate a temporary check in the erosive power of the stream, much later than the Gila conglomerates.

CHARACTER AND SOURCE OF TERRACE GRAVELS

The terrace gravels are of auriferous origin, deposited by erosive agents, and, being a much later flow than the Gila conglomerate, the Gila conglomerate forms the bed-rock or stratas of gold concentration. These gravels no doubt are part of a remnant of an old ancient river channel. The channel may be traced by its exposed edges and rims in several places. All the boulders and stratas of gravel have a slight dip of 10 degrees to the northwest, whereas the Gila conglomerate dips 20 degreess southwest. These gravels indicate a temporary check in their erosive power, due no doubt to the erosion gradually declining in intensity, thus forming the many terraces. The gold being of ancient origin, being derived from disintegration of the immeasurable gold-bearing quartz veins in the igneous rocks of post-paleozoic age.

The gravel consists of average size boulders, from the size of a bucket to that occasionally of a large barrel, and sand of a very loose nature, all washed smooth and well rounded. No pipe clay or cemented gravel is to be found of any consequence, except, occasionally now and then I observed a thin layer of about two feet in thickness of gravel cemented by some carbonate of lime with oxide of iron

which, when coming in contact with water, disintegrates instantly.

The gravels, as shown deposited by an old ancient river channel in the form of terraces, never eroded into the bed of the Gila River. The old river channel makes a swing northwest along the north bank of Spring Creek, thence disappearing underneath a heavy wash. The gravels in the Gila river bed are largely composed of detritus material and of rocks found in the Gila conglomerate. The writer drilled three (3) test holes in the bed of the Gila river to determine this factor. The depth to bedrock in each hole was twenty (20) feet where the drill entered the Gila conglomerate, and at a depth of thirty-two (32) feet encountered hot water. A few colors of free gold were found in each hole throughout the twenty feet of gravel, this no doubt having come out of the Gila conglomerate, as the Gila conglomerate contains a little free gold throughout, but not in commercial quantity.

It is not materially significant where the gold comes from found so abundantly in the gravel, or how it was deposited - but, it is important, and very essential, to fix the value of the gravel, the

positive and probable yardage of the deposit, the best working methods, water supply, handling of debris, and other data pertaining to economic and successful operation.

I therefore, in order to arrive at my conclusion, will study separately each item, group them, and deduct my conclusion accordingly.

GRAVEL
of
POSITIVE YARDAGE

The first terrace (se photo and profile map No. 2), fifty (50) feet above water level of the Gila river, covers an acreage of approximately six hundred forty (640) acres of mining ground out of the twenty-one hundred sixty (2160) acres of land owned by the company. This acreage having been determined by measurements, open cuts and pits, to contain approximately the following yardage of POSITIVE gravel:

	Feet
Approximate length between extreme points	11,220
" width " " "	1,820
" depth of pits and cuts - - - - -	30

According to these figures, the importance of the deposit approximates a POSITIVE average of gold bearing, auriferous gravel, allowing 25 per cent for boulders and shrinkage, a total of 17,017,000 cubic yards.

GRAVEL

of

PARTIALLY ASSURED YARDAGE

The second terrace (see photo and profile map No. 2) ninety (90) feet above water level of the Gila river, covers an acreage of approximately four hundred eighty (480) acres of mining ground out of the twenty-one hundred sixty (2160) acres of land owned by the company.

This acreage has not been fully determined by the writer as POSITIVE GRAVEL, however, PARTIALLY assured. While many tests were made and the values appear to be the same as on the lower terrace, several shafts seventy (70) feet in depth must still be sunk to fully determine if the gravel extends to bedrock, the Gila conglomerate, before pronouncing it definitely POSITIVE gravel. Nevertheless, I am fully convinced in my own mind that the entire acreage to bedrock is pay gravel of the same character and value

as the first terrace of six hundred forty (640) acres below; as along Bonita and Spring creek beginning of terrace the bed-rock Gila conglomerate is clearly visible. This acreagre contains the following estimate of yardage:

		Feet
Approximate	length between extreme points - -	11,220
"	width " " "	2,700
"	Depth of Gravel - - - - - - - - -	70

According to these figures the approximate yardage, allowing 25 per cent for boulders and shrinkage, would be a total of 58,905,000 cubic yards.

GRAVEL

of

DOUBTFUL YARDAGE

The balance of nine hundred sixty (960) acres are thus far doubtful, as no work, i.e. sinking of shafts or open cut work, has been done. In order to determine fully the extent of the gravel deposited upon this acreage, several shafts should be sunk to bed-rock, to a depth of one hundred twenty (120) feet. The entire acreage is covered with gravel of the same character as that of the other two terraces below; and along Bonito and Spring creeks the conglomerate bed-rock is visible, indicating that the whole acreage may contain pay gravel throughout. I made many tests by pannings, which all showed gold of the same value as the other ground.

nevertheless I will have to include this acreage as DOUBTFUL. In the event we find this ground to contain pay gravel in its entirety, it will add an additional yardage of approximately 45,760,000 to what we already have. The measurements of the acreage are as follows:

	Feet:
Approximate length between extreme points - -	5,280
" width " " "	2,600
" depth of gravel - - - - - - - - - -	120

TESTING OF GRAVEL AND SAMPLING

Having ascertained the approximate yardage, and the character of the gravel, the next important phase is the values in free gold per cubic yard. The only method of testing and sampling a gravel property is by rocker, the pan or sluice. I employed all three methods in my sampling. The best location for my sampling was to start on the different pits, shafts, old and new, open cuts, group them, and find the average.

On Plate No. 1 will be found the plan of shafts, pits and cuts, showing the ensemble of sampling of first terrace. The gravel was taken at different heights, all along the top of the first terrace in open pits and shafts from six (6) to thirty (30) feet in depth, and all along the face of the bank in cuts from six (6) feet in width to thirty (30) feet in height, were cut vertically in the different strata.

From three (3) to twelve (12) pans were taken in each pit and shaft; and from one-half (½) cubic yard to as many as two (2) cubic yards of gravel were taken from pits, shafts, and cuts, and washed by rocker or sluiced, exclusive of the bed-rock. All samples were taken in a box measuring one cubic yard, or 3'x9'x1'. This box was filled with gravel and boulders, allowance being made for the volume of the boulders; then washed either by rocker or through the sluice box containing riffles. The free gold was then separated by amalgamation from the "black sands", weighed on especial gold scales, and values calculated, using for unit value per milligram the fineness of the gold as per mint receipts. The results thus obtained being sixty cents (60¢) per cubic yard for the entire six hundred forty (640) acres. This acreage has been determined by measurements, spaced by myself, the average of which has been found to be as follows:

Approximate	length - - -	11,220 feet
"	width - - -	1,820 "
"	depth - - -	30 "

According to these figures, the importance of the deposit approximates 17,017,000 cubic yards of POSITIVE gold bearing auriferous gravel, or, in round figures, sixty cents (60¢) per cubic yard, a POSITIVE value of

$10,210,200.00 in dollars and cents.

The method employed to determine the average value per yardage is what we call the "method of compensation", which means that the surplus average taken of cut, shaft, or pit, is applied to the deficiency of the other, and by proceeding in the same manner from top to bottom, the general average can be determined with some accuracy (provided enough prospects are taken to cover the whole of the area).

On Plate No. 2 will be found the ensemple of sampling of second terrace. The same method of sampling being employed as in the first terrace. The results being the same, sixty (60¢) cents per cubic yard. None of the shafts located on the second terrace are down to bedrock; more work should be done. The value of the gravel appears to average the same as on first terrace, and the character of the gravel is the same; and I am confident this acreage contains pay gravel throughout, of the same value as first terrace; however, I will call it PARTIALLY assured gravel. The acreagre determined by measurements has been found to be as follows:

Approximate	length - - -	11.220 feet
"	width - - -	2,700 "
"	depth - - -	40, "

According to these figures, we find the deposit on the second terrace contains approximately 58,905,000 cubic yards of gold bearing gravel, having a PARTIALLY assured gross value of $35,343,000.00 in dollars and cents.

On Plate No. 2, third terrace, not enough work has been done to determine any POSITIVE or PROBABLE value of the ground. The same method should be adopted in prospecting by shafts, pits and cuts; my time being limited, it could not be done. I nevertheless "panned" and "rocked" the many places, as shown marked"PP" on the Plate. The results obtained were the same, as on first and second terrace, and in several places I obtained as many as forty-three (43) colors to the pan, and from the size of the colors the value of sixty (60) cents is conservative for this acreage, although I can not include it as pay gravel, therefore will place it in the DOUBTFUL column until such time when it has been fully prospected. In the event it should be found that the nine hundred sixty (960) acres contains pay gravel throughout, it adds an additional 45,760,000 cubic yards. I have every reason to believe it will.

Amount of Gold. I am confident from all the prospects taken that my figure of sixty (60) cents per cubic yard is very close to the reality, and that I have not overestimated the value in free gold of the deposit, and therefore will adopt it in my calculations. Having the yardage and the value, the amount of free gold in the two terraces is:

First terrace - - - -	$10,210,200.00
Second Terrace - - - -	35,343,000.00
	45,553,200.00

BLACK SANDS

In addition to free gold, many of the ancient river beds carry "black sand" and concentrates containing considerable quantities of Platinum, Iridium, Osmium, Zircon, Monasite, and other metals or metallic oxides. In former years of hydraulic placer mining and dredge mining, these were thrown away with the tailings; whereas, the "black sand" and sand products would in many cases be of much value.

In order to thoroughly sample a large body of gravel to ascertain the exact amount of "black sand" concentrates to a cubic yard of gravel, is a very difficult problem, due to the great variation of the deposit. Near the surface the metal content usually is exceedingly low, and becomes richer as we near the

bed-rock; therefore, the metal content has to be gauged by a mechanical separation of a large sample. It must be remembered that, roughly speaking, a drill sample will only represent something like one part in 200,000 to one part in 1,000,000, of the body of material to be worked. (Dredging for Gold in California, by D'Arcy Weatherbe.)

The sampling of tailings is even more difficult. The difference of opinion on the subject is an added proof of the well known difficulties of correct sampling and of the great variation of the personal equation in this work.

I do not consider that sufficient or detailed tests have been made to form a definite conclusion as to the gold value per ton of "black sand" concentrates available per cubic yard of gravel, until a more complete working test on a larger scale has been made. The purpose of my examination is merely to obtain data as to the advisability of saving the "black sand" concentrates; and judging from tests made, and from past experience on similar gravel deposits, the "black sand" concentrates found in this property represent a by-product of considerable value.

The results of the tests are most surprising. The total weight of "black sand" concentrates recovered by sluicing and rocker tests amounts to two hundred (200) pounds to a cubic yard, having an assay value from twelve dollars ($12.00) up to as much as forty-eight dollars ($48.00) per ton in gold.

Accepting, therefore, the lowest assay value per ton, of twelve dollars ($12.00) it would add an additional value of $1.20 to every cubic yard. The total yardage available in the two terraces being 75,922,000 cubic yards. This would amount to $91,106,440.00. These figures appear staggering; nevertheless, they are to a certain extent true. The gold bearing "black sands" in this locality are extremely rare of their kind. I shall not include them as POSITIVE value until further tests on a larger scale have been concluded. I merely mention them as they are of great commercial importance.

The losses in precious metals in the metallurgical end of placer mining are unknown. In many cases, the gold is so extremely fine that much of it is lost, even under the most favorable conditions possible, under the old gold-saving devices.

In the State of California, the gold dredges are now recovering 92 per cent of all platinum found in the state, and California produces 82.5 per cent of all platinum mined in the United States. Heretofore the platinum was washed away with the "black sands" in the tailings.

METHOD OF OPERATION

Hydraulic Mining. The term "hydraulicking" is applied to excavation of gravel banks by streams of water thrown under pressure from nozzles. (Economic Paper 3, Department of Commerce, U.S. page 6, 1929.) "Hydraulic mining was started in 1852 in Nevada City, California. In 1865, this method of placer mining was well established, and the years 1866 to 1876 were notable for their gold yield from hydraulic mines." "The size of the gravel is not so important in hydraulic mining, large boulders can be handled, providing there is room for their disposal. Gravels of 600 feet or even greater depth have been worked - other things being equal, the smaller and looser the gravel, the higher will be the duty of the water." (Bulletin 92, C.S.M.B. 1923.)

Next to the question of gold contents, the determining factors in the employment of this type of

mining are the presence of an abundance of water that can be brought to the mine under pressure, and the existence of sufficient grade for the disposal of the tailings. For hydraulic mines are so situated that a full head of water is obtainable throughout the year.

The "Neel-Gila River" auriferous gravel deposits may be economically and profitably worked by hydraulic method. The climatic conditions are such as to permit continuous work throughout the year. An abundant water supply is available under high pressure the year around. The "terrace" gravels are unusually well situated as regards dump room for stacking of tailings to carry on extensive hydraulic operations at a very low cost.

The duty of water, in cubic yards per miner's inch, varies from one to ten, and depends upon the character of gravel, the facility for disposal of tailings, the amount and head of water available.

After the equipment and installation of a hydraulic property, the question of labor is not a serious one, as but few skilled men are required. Three (3) pipers, six (6) sluice men, and a good blacksmith, and perhaps a winchman, are all that are required on a mine of moderate size, handling from

two thousand (2000) to five thousand (5000) cubic yards of gravel per day; twenty-four (24) hours.

The chief advantages that hydraulic mining has over any other form of mining is as follows:

FIRST: It is not so greatly affected by the cost of railroad transportation of supplies and materials.

SECOND: Small turnover of labor.

THIRD: Excessive low cost of operation for the amount of material (yardage or tonnage) handled.

FOURTH: Practically absolute elimination of speculation of ore bodies. Surface gravel deposits are unlike to underground ore bodies - being lost, due to faulting or vein distortion, or losing their values with depth.

FIFTH: Auriferous surface gravels, in their extent, depth, breadth, and length, may be accurately had and determined by correct measurements, without guessing.

SIXTH: The gold content in auriferous gravel deposits are usually evenly distributed - very seldom occur in spots or bunches. In the "Heel-Gila River" deposits the gold content is evenly distributed, from the very surface to bed-rock.

SEVENTH: Placer mining offers but very little risk to capital invested. Success is dependable entirely upon its management.

EIGHTH: In placer mining for gold, we are dealing with a commodity unlike any other commodity produced in the world. There are no fluctuating prices in the sale of gold - the price is always the same, whether you have one ounce or one hundred thousand ounces.

STATISTICS OF COSTS OF WORKING

HYDRAULIC GRAVELS

(Hydraulic Mining in California, pp. 277, 1885, by Aug. J. Bowie, Jr.) The resume of work done by the "LA GRANGE" Company, Stanislaud County, California, June 1st, 1874, to September 30, 1876, gives the following results:

Average yield of gravel per cubic yard - -	10.19 cents
Cost per cubic yard - - - - - - - - - - -	08.00 "
PROFIT E R CUBIC YARD - - - - -	01.19

The "NORTH BLOOMFIELD" Company, Nevada County, California (Table XLVIII, by Aug. J.Bowie, pp. 276, 1885), over a period of three (3) years, on four (4) per cent grades, high banks, and with great hydrostatic pressure, the average yield of gravel per cubic yard, in gold, was much less than the LA GRANGE, as follows:

Average yield of gravel cubic yard,1874-1875 - 03.00 cts
Cost per cubic yard - - - - - - - - - - - - - -02.[illegible]
PROFIT PER CUBIC YARD - -- - - - - 01.[illegible]

Average yield of gravel cubic yard,1875-1876 - 06.00
Cost per cubic yard - - - - - - - - - - - - - - - 03.[illegible]
PROFIT PER CUBIC YARD - - - - - - 03.[illegible]

Average yield of gravel cubic yard,1876-1877 - 12.00
Cost per cubic yard - - - - - - - - - - - - - - - 06.[illegible]
PROFIT PER CUBIC YARD - - - - - - - 06.[illegible]

The "FRENCH HILL" hydraulic mine, in Stanislaus County, California, over a period of three years, 1874-1875, 1876 (Table LI, by Aug. J. Bowie, Jr. pp. 285, 1885) shows tabular statement of costs, as follows:

Average yield of gravel cubic yard - - 13.00 cents
Cost per cubic yard - - - - - - - - - - - - 06.00 "
PROFIT PER CUBIC YARD - - - - - - - 06.[illegible] "

The statistics quoted from Aug. J. Bowie, Jr. Tables, reports, and disbursements, are absolutely accurate. I quote them for the sole purpose of arriving as nearly as possible to the actual costs of operating a hydraulic mine.

The "La GRANGE", "NORTH BLOOMFIELD", and "FRENCH HILL" hydraulic mines were among the largest of this type ever operated in the state of California, and their average yield in gole value per cubic yard, the very lowest. All three of these mines paid millions of dollars in dividends to their owners - prior to

legislative restrictions on disposal of tailings. Hydraulic mining is regulated and controlled in the state of California by the CALIFORNIA DEBRIS COMMISSION under Federal statute. Mine after mine was closed by injunction based upon this decision, and the Federal legislation passed in 1893 (the California Debris Act). Hydraulic mining in California is illegal if carried on in such manner that it injures the navigable channels of the SACRAMENTO or SAN JOAQUIN river system. In order to carry on hydraulic mining in California, a permit, subject to the approval of the DEBRIS COMMISSION is necessary before mining may be started. The State of Arizona has no such law, as the state of Arizona contains no navigable streams.

COST DATA - WORKING NEEL-GILA RIVER GRAVELS

The cost per cubic yard of gravel varies as to locality. In California, the costs vary from .02.08 to as much as 6.19 cents per cubic yard, and in Alaska, to 25 cents or more. Where gravels are cemented and the duty of the miner's inch is low, the costs necessarily increase. The duty of a miner's inch in hydraulicking is the cubic yard of gravel which can be broken down and sent through sluices by one miner's inch of water in twenty-four (24) hours. It varies

with height of bank, character of gravel and bed-rock, grade of bed-rock, amount and pressure of water, and with all the factors influencing sluice capacity.

The "Keel-Gila River" gravels will not cost over .05.00 cents per cubic yard to work. The gravel contains no pipe clay or cemented material. Low banks from thirty (30) to forty (40) feet, the duties of the miner's inch being high, under a head of three hundred (300) feet, the duty per miner's inch therefore should be approximately three (3) cubic yards per miner's inch of water.

Records of costs usually include only operating expenses, omitting capital charges, as the latter may be very high.

AVAILABLE WATER AND WATER RIGHTS

Few hydraulic mines are so situated that a full head of water is obtainable throughout the year.

The North American Dredging and Development Company owns two valuable water rights , as follows:

Application for two hundred (200) second feet of water in Section 31, Township 6 South, Range 29 East, G & S. R. B & M. County of Greenlee, State of Arizona, on the Gila River, has been filed upon with the Division

of Water Resources of the State of Arizona. Permit having been granted. The Gila River is the largest and longest river in the state, and during the lowest season of the year flows as much again the amount of water than what the application calls for at the point of diversion.

To carry on hydraulic operations throughout the year, it will be necessary to construct a pipeline approximately six (6) miles in length, to carry the source of water amounting to ten thousand (10,000) miner's inches to the point of use. The topography of the ground is of easy grade, and in the distance of six (6) miles we develop a head of three hundred (300) feet, vertically. The ten thousand (10,000) inches of water, under an effective head of three hundred (300) feet, will operate three (3) number nine (9) inch Kendy Hydraulic Giants, having a capacity of not less than 3320 cubic yards each, every twenty-four hours.

Another application for fifty (50) second feet of water, in Section 36, Township 6 South, Range 21 East, G & S. R. B. & M., County of Graham, state of Arizona, onBonito Creek, has been filed upon by the North American

Dredging and Development Company with the Division of Water Resources of the state of Arizona. Permit having been granted. This source of water supply is for the purpose of generating hydro-electric power, and for general culinary, camp, and residential use.

WOOD

There is sufficient timber in the immediate vicinity upon the property, along the Gila River and Bonita Creek, for fuel purposes. The timber consists of black walnut, box elder, sycamore, cottonwood, mesquite, black willow, and pin oak, of fairly good size trees.

Lumber for sluice boxes and for building purposes, i.e. Oregon pine, white pine, spruce, etc., may be had from the lumber dealers at Safford or Solomonville, twelve (12) to seventeen (17) miles distant.

LABOR

Plenty of labor is available at any time of the year. The mining towns of Clifton, Morenci are only sixteen (16) miles distant, and the copper mining camps of Miami and Globe are eighty-nine (89) miles away on the line of the Southern Pacific Railroad, and National U.S. Automobile Highways Nos. 80 and 180.

LABOR ESTIMATES OF THREE SHIFTS

HYDRAULIC OPERATIONS

Men		Monthly
1	- Manager	$ 500.00
1	- Superintendent	300.00
[illegible]	- Giant pipers @ $6.00 per shift	1,488.00
[illegible]	- Giant & Sluice tenders @ $5 per 8-hour shift	900.00
[illegible]	- Ditch tenders @ $4.00 per shift	240.00
1	- Blacksmith	250.00
1	- Blacksmith Helper	150.00
[illegible]	- Electrician	[illegible]00.00
[illegible]	- Carpenters	600.00
1	- Cook	180.00
1	- Cook Helper	100.00
	TOTAL MONTHLY PAYROLL	$4,948.00

ECONOMIC CONSIDERATIONS

In reviewing conditions at a placer property of this nature, it is essential that we obtain a balanced perspective with regard to the following points;

(1) Total extent, possibilities, and the gross and net value of the property;

(2) The economic limit of operations, viz: either minimum or maximum monthly output to obtain the best returns in proportion to a given capital outlay; so as to obtain practical working results.

(3) The net values of the gravels per cubic yard after deducting costs so as to visualize the dividend earning and capital refunding point of view.

(4) The type of equipment that will give practical working results, and insure saving the "values, and yet will not cost more for capital outlay than an amount within the capital expenditure admissible for this type and size of deposit.

For the present purpose of this economic estimate, we may consider that we have upwards of seventeen million, seventeen hundred thousand (17,017,000) cubic yards of POSITIVE gravel, - and fifty-eight million, nine hundred five thousand (58,905,000) cubic yards of PARTIALLY assured gravel available.

The working season is all the year around, with three (3) daily eight (8) hour shifts each. Average actual mining time about twenty (20) hours out of the twenty-four (24) per day. Normal daily capacity of plant from fifteen thousand (15,000) to twenty thousand (20,000) cubic yards per day.

Normal monthly output three hundred sixty thousand (360,000) cubic yards.

Normal annual output four million three hundred twenty (4,320,000) thousand cubic yards. It would therefore take approximately twenty (20) years to work out the deposits of <u>first</u> and <u>second</u> terraces.

CONCLUSION

In conclusion, I consider the POSITIVE and PARTIALLY assured gravel (situated within the boundaries of the property under consideration, estimated at 75,922,000 cubic yards) as unquestionable, and the gross average value of sixty (60) cents a cubic yard conservatively given.

If we place the average gross free gold yield at fifty (50) cents instead of sixty (60) cents a cubic yard, and allow liberal amounts for operating expenses, overhead, reserves, amortization, etc., of say, ten (10) cents per cubic yard, it leaves a capital value of the property at over $30,368,800.00.

The writer will say that an immense yardage of gold bearing gravel exists in this property, which is extremely rare of its kind, and contains all natural advantages for economical operation, and easy of access, that will pay good dividends under competent management over a long period of years.

I fully consider the venture one worthy of capital investment.

Respectfully submitted,

F. H. VAHRENKAMP

San Francisco, California. Consulting Engineer.
January 6th, 1930.

W. E. HAWLEY

ASSAYERS
CHEMISTS

HAWLEY & HAWLEY

W. E. HAWLEY, MANAGER

F. L. HAWLEY

SHIPPERS' REPRESENTATIVE
ORE BUYERS

DOUGLAS, ARIZONA
537 12TH ST. BOX 151

EL PASO, TEXAS
1014 PROSPECT AVE. BOX 4

We hereby certify that the following results were obtained from samples of Mr. E. W. Hartman

OFFICE NO.	MARKED	GOLD OZS.	SILVER OZS.	COPPER PER CENT	LEAD PER CENT		GOLD VALUE	SILVER VALUE	TOTAL VALUE
				Silica	Iron	Platinum			
74505	1-Fine	.28	trace	3.6	64.6		$5.60	---	
74506	2-Medium	.04	trace	6.2	58.6		0.80	---	
74507	3-Coarse	.01	trace	28.8	49.2		0.20	---	
74508	4-Black Sand	.64	trace	8.2	52.6	none	12.80		
74509	5- " " Conc's	29.26	4.0				585.20	2.29	Plain
74510	Composite Nos 1, 2 and 3					none			

METAL QUOTATIONS:

Gold $20.00 per oz. *Copper.....c per lb.*

Silver,.....per oz. *.....per lb.*

Charges: $.....Paid.....

Date.....4/17/28

HAWLEY & HAWLEY

Per W. E. Hawley *Assayer*

Phelps Dodge	Assay Gold ounces	Silver 9 — ounces
# 2 Concentrates	65-44	
# 1 Black Iron	1-8	

They say like sample No 1 should

Net me 16 30 fob Safford Per ton

W. S. Neil

PHELPS DODGE CORPORATION

COPPER QUEEN REDUCTION WORKS

DOUGLAS, ARIZONA

May 1, 1928.

File 90-H.

Mr. E. W. Hartman,

Safford, Arizona.

Dear Sir:-

Upon my return to the office, I find your favor of April 23rd, from which I note with a great deal of interest that you expect to be in position to ship black sand concentrates containing a good gold value.

I shall be very glad indeed to meet you here at Douglas as soon [illegible] convenient to come over this way and to have a better understanding of your plans for future production.

Yours very truly,

H. J. Brohon

Ore Buyer.

HJB/W

CONDITIONS

THE QUOTATIONS NAMED ON THIS SHEET AND ANY CONTINUATION SHEETS ATTACHED, ARE MADE ONLY SUBJECT TO THE FOLLOWING CONDITIONS:

1. THAT THESE QUOTATIONS MAY BE CANCELLED BY US WITHOUT NOTICE IN CASE OF STRIKES, FIRES OR OTHER DISTURBANCES TO OPERATIONS BEYOND OUR CONTROL.
2. THAT THESE QUOTATIONS ARE GOOD FOR 30 DAYS ONLY, UNLESS OTHERWISE SPECIFICALLY STATED.
3. THAT THE SMELTER WEIGHTS AND SAMPLING, SUBJECT TO SUPERVISION BY THE SHIPPER OR HIS REPRESENTATIVE, SHALL BE THE BASIS FOR SETTLEMENT, AND WE RESERVE THE RIGHT, ALWAYS TO DISPOSE OF THE ORE FOR SMELTING WHEN THE INITIAL SAMPLE IS TAKEN.
4. ASSAY DIFFERENCES WILL BE SETTLED BY UMPIRE MUTUALLY SATISFACTORY TO SHIPPER AND OURSELVES. THE RESULTS FOUND BY UMPIRE TO GOVERN AND LOSING PARTY TO PAY UMPIRE CHARGES.

Copy

May 24, 1928

Mr. E. W. Hartman,
Safford, Arizona.

Dear Mr. Hartman:

We received the samples and soon commenced work on the raw material, as we believe that the problem should be attached from the base. There was not really enough of this material to make conclusive tests as assays on placer sand are very misleading.

Examination under the microscope shows that the gold is in an exceedingly fine state of subdivision, but we suspect that the coarse material ranging from 1/8th mesh up to 3/8th carries very high values. This idea is borne out by the subsequent assays, and it is for the purpose of checking the idea that we require additional material.

So far, our results appear to point out that it will be advisable, to screen all of this material and discard all of the find sands and the coarse rocks, taking out only the value carrying sizes and treating same by amalgamation. This would require a simple milling process and as a comparatively small amount of high grade material would have to be milled, this will be an easy matter. However, we are not expressing any definite recommendation at present, and cannot do so, until the other tests are made.

We hope that the samples you are sending us are truly representative of the entire body carrying the same proportions of gravel and rocks, as our figures will be based on this sample.

We made a preliminary table concentration by first preparing the material by screening out all gravel over No. 8 mesh, and passing the residue over the Overstrom Table. We concentrated this sand 30 tons into one ton and produced a concentrate worth $2.06 per ton, and a tailing of 82¢. It is therefore apparent that this method would not do.

We then had the Frank S. Morgan Company make concentration tests using their Mat of Gold system to be followed by simple amalgamation. Their head assays all were 41¢ per ton. The entire material was milled to 60 mesh and the ratio of concentration was 37½ tons into 1-ton of concentrate. The value of the concentrate was $10.23 per ton, giving an extraction of 67%. This plan is not feasible, as too much material would have to be handled, and the value of the concentrates is not high enough to warrant further treatment.

We then prepared other samples for amalgamation tests, by screening out all material over No. 8 mesh. This

material was milled to 40 mesh and gave a head assay of 81¢ per ton. The amalgamation process saved 71¢ per ton and the losses were 10¢ per ton, giving an extraction of approximately 78%. As this system looked much more favorable we then made amalgamation tests on the over sized material. This apparently is extremely valuable running $144.69 per ton. The amalgamation process saved $124.02, giving an extraction of approximately 85% as the value of the tailings is still approximately $20. per ton. These are well worthy of further treatment and for which the proper process would have to be worked out.

After reading the above you will readily see why we believe the values are in the coarse material, and it certainly looks good enough to warrant further experiments.

However, as above stated placer samples are dangerous as the presents of even one small sized nugget in a relatively small sample may cost a very grave error. It is for this purpose that we request extreme care be taken in making up a sample, and which should be a real true sample of the entire property. We would suggest taking about 50 lbs from say 40 different places on the property, mixing this thoroughly together, and then quartering it down on a clean floor, until about 200 or 300 lbs is left, and which should be sent to us. If you have not made the last sample in this manner, we would suggest that you wire us at once to stop work on the second sample and wait until we receive the proper samples.

We will rush this work thru as quickly as possible, and you no doubt realize considerable work is attached to making these tests, and we want them to be right. We are enclosing copies of some of the outside assay work, and which will be of interest.

With kindest regards, we are

Yours very truly,

STRAUB MANUFACTURING CO. INC.

WALTER L. GIBSON

SUCCESSOR TO

FALKENAU ASSAYING CO.

ASSAY OFFICE

ANALYTICAL AND TECHNOLOGICAL LABORATORY

824 WASHINGTON ST.

EPHONE OAKLAND 8929

OAKLAND, CAL., May 30.1928. 19

ceived from Straub Mfg. Co.

IDENTIFICATION	Assay No.	Gold Troy oz. per ton	Value @20.67-18 per oz.	Silver Troy oz. per ton	Value @	Total Gold and Silver Value	OTHER ELEMENTS
			$		$	$	
M Heads	691	0.10	2.06				
Material foom riffles	692						
Screen 20 mesh plus		2.72	56.22				
" 20-40 plus		13.04	269.51				
" 40-		6.60	136.42	avarage of the 6		$ 153.79	
Overstrum Conc	683	0.12	2.48				
C Tailings	684	0.01	.20				

The Oakland Assay Offices.

John A Bayerdt