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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: GREENBACK

ALTERNATE NAMES:

PINAL GRANDE MINING CO. PROP.
SILVER QUEEN GROUP
VINDICATOR GOLD MNG. CO. PROP.
HINSHAW PROPERTY
PINAL SHAFT
BLACK DIAMOND GROUP
GOLDEN KING
GARNET GROUP
LONDON GROUP
BULLION GROUP

PINAL COUNTY MILS NUMBER: 693

LOCATION: TOWNSHIP 10 S RANGE 2 E SECTION 33 QUARTER NW
LATITUDE: N 32DEG 31MIN 03SEC LONGITUDE: W 112DEG 09MIN 48SEC
TOPO MAP NAME: VEKOL MOUNTAINS - 15 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

GOLD
COPPER
TELLURIUM
BISMUTH
VANADIUM
ZINC
SILICON

BIBLIOGRAPHY:

TENNEY, JAMES, HISTORY OF MINING IN AZ,
1927-29, P. 340-341
TENNEY, J.B., ECONOMIC GEOLOGICAL RECONN. OF
CASA GRANDE MINING DIST. AZBM 1934
ADMMR PINAL COPPER & URANIUM CORP. FILE
ADMMR GREENBACK FILE
ADMMR "U" FILE PINAL 41
ADMMR GREENBACK COLVO FILE

GREENBACK MINE

PINAL COUNTY

Pinal Copper & Uranium Corporation (file)

MILS Pinal County Index #693

AKA: Pinal Grande Mining Co Property, Silver Queen Group, Vindicator Gold Mng Co Property, Hinshaw Property, Pinal Shaft, Golden Kng, Garnet Group, London Group, Bullion Group, Black Diamond Group

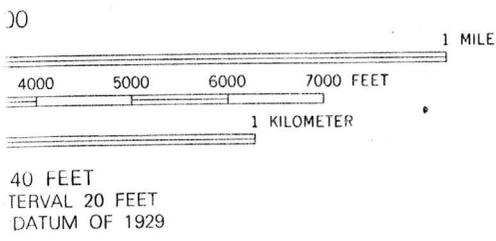
Tenney, James, "History of Mining in Arizona 1927-1929" p. 340-341 (Geology File)

Tenney, James "Economic Geological Reconnaissance of Casa Grande Mining District" 1934 (Geology File)

"U" File

USGS MF-931

Copperosity Hills 7.5' Topo (included in file)



ROAD CLASSIFICATION

Primary highway, hard surface	Light-duty improved
Secondary highway, hard surface	Unimprov
Interstate Route	U. S. Route

COPPEROSITY
SW/4 VEKOL MOUNTA
N3230-W1

MAP ACCURACY STANDARDS
ORADO 80225, OR RESTON, VIRGINIA 22092
SYMBOLS IS AVAILABLE ON REQUEST

Copperosity Hills 7.5'

GREENBACK MINE

PINAL COUNTY

Conference with Richard Clemans and Al Wilson at Casa Grande

These men reported that the Greenback property reportedly was leased to Edward Ogden of Oakland, California. No other data was available and no work was yet reported. According to Osborne of Newmont he had heard of no work there up to a week ago.

LAS Memo 5-18-66

This mine is now part of Pinal Copper property. Now leased to El Paso Natural Gas & Narragansett Wire Co. LP 9-1966

NJN WR 2/19/82: Rich Penn with Energy Reserves, 9525 Menul, Albuquerque, New Mexico called. He was interested in the Greenback Mine, Pinal County, more specifically two geology reports which the file contained. He had the file sent out and copied.

MG WR 1/30/87: Mr. Jeff Wirtz of Draco Mines reports that the Papago tribe is having a geologic appraisal with drilling done by Mr. Tom Patton (?) on the Greenback property (f - Pima County).

HINSHAW

PINAL COUNTY

Rare Ore (file)

HINSHAW PROPERTY

PINAL COUNTY

George Young - 912 E. Garfield - 252-2257 - working with Mr. Hinshaw as per LP 5-1968

Reference: Rare Oz (file)

3-11-58

From the desk of

FRANK P. KNIGHT

✓ Hinshaw Property

✓ Willemite

✓ Mr. Hinshaw and Mr. Walker *called.*

Report by Sweeney - Hinshaw has photo copy of it

Law enforcement uses willemite (synthetic) @
\$6/2 oz for detecting powder & would take 300
mesh natural product.

Tunnel 35-40 ft - face is willemite for full face

Can trace vein for 5-600 ft.

For paint, Hinshaw thinks they buy in 10 ton
lots.

Sheriffs office-man will grind & sell it for
\$3/2 oz. Would need concentration & grinding.

ARIZONA DEPARTMENT OF MINERAL RESOURCES
MINERAL BUILDING, FAIRGROUNDS
PHOENIX, ARIZONA

February 24, 1958

To the Owner or Operator of the Arizona Mining Property named below:

✓ HINSHAW ZINC
(Property) (ore)

We have an old listing of the above property which we would like to have brought up to date.

Please fill out the enclosed Mine Owner's Report form with as complete detail as possible and attach copies of reports, maps, assay returns, shipment returns or other data which you have not sent us before and which might interest a prospective buyer in looking at the property.

Frank P. Knight

FRANK P. KNIGHT,
Director.

Enc: Mine Owner's Report

DEPARTMENT OF MINERAL RESOURCES
State of Arizona
MINE OWNER'S REPORT

Date May 22, 1946

1. Mine: Hinshaw
2. Location: Sec. _____ Twp. _____ Range. _____ Nearest Town Casa Grande
Distance 26 Direction EN Road Condition Fair (truck only)
3. Mining District & County: Verde Pinal
4. Former Name of Mine: _____
5. Owner: Paul Hinshaw
Address: Casa Grande,
6. Operator: Same
Address: _____
7. Principal Minerals: Zn, (millenite) some Au
8. Number of Claims: _____ Lode. _____ Placer. _____
Patented. _____ Unpatented. _____
9. Type of Surrounding Terrain: _____

10. Geology & Mineralization: _____

11. Dimension & Value of Ore Body: _____
vein up to 4'-6" in width

M-5
P 1741

Zn Au

B B

46 ?

GREENBACK GOLD MINING COMPANY

Pinal County, Arizona

June 1, 1936

By: H. M. GUNN

1451 West 51st Place
L.A.

John W. Helmick,
414-418 Los Angeles Stock Exchange Bldg.,
Los Angeles, California.

Dear Sir:

Attached please find copies of reports as rendered by Frank W. Royer, C. W. Botsford and G. Montague Butler, covering the properties of the Greenback Mining Company and the immediate district surrounding the same. As you are aware, the first report rendered by Botsford was under date of April 3, 1926. It is from that point to the present time that I am attempting to fill in the gaps with information which I believe to be accurate and reliable, which of necessity I was forced to obtain from several different sources.

LOCATION

The location as set forth in the above mentioned reports remains the same, of course. However, the highway conditions have been greatly improved and this matter should be given serious consideration in the transportation of ore to the smelter as a through truck line now runs to El Paso, Texas.

PROPERTY

The claims at the present time show the following ownerships: The Greenback claims, ten in number, the Garnet Group of five claims comprising the East belt of the district. To the West we have seven claims of Paul Hinshaw, et al, covering the Big Vein. To the West we have the London Group of five claims, the Bullion Group of 2 claims as well as the Black Diamond Group comprising in all forty-three claims.

HISTORY

* A company was organized on the original group of claims known as the Greenback Mining Company. It is my understanding that this company was incorporated for five million shares, par value \$1.00 per share, and the sale of these securities turned over to a fiscal agent.

I further learned that from the first million shares the company received but twelve cents on the dollar with the understanding that from the second million shares the company was to receive thirty cents and from that point graduated up.

From the monies derived from the sale of the first million shares work was commenced upon the property and the Greenback shaft carried down to 112' and some cross-cutting

done to the East. Also the Pinal Shaft was carried down 700' and drifts run on the 150' - 300' and 500' levels. The drifts on the 500' was carried Eastward 300', and from surface indications, should be carried an additional 300' to intercept the veins showing on the surface 600' East of the present shaft. From the 500' to the 700' level the 52° incline shaft leaves the veins going down in a porphyry formation, but cross-cuts at the bottom and contacts the vein.

A camp was established in a favorable location, the seven or eight buildings still being in good repair. A drill hole was put down some years ago to the south and west of the camp was carried down 600' as a water well. The present equipment is only capable of pumping thirty-five gallons per minute, but I have been assured that the well has been pumped constantly twenty-four hours per day and that the water supply seems to hold up.

The valley below the property to the North will furnish an abundant water supply at from 200' to 300' according to the logs of several government wells drilled on the reservation.

At the time the Pinal shaft was carried to the 700', due to improper financial management, as I have been informed, on the part of the fiscal agent, they were forced to suspend operations for a lack of capital. The record of stockholders reads like a directory of all prominent mining men of the Southwest, and naturally when financial troubles of this nature overtook the venture, these men immediately withdrew their support.

Of the stockholders left only one man, a Mr. Fickert, stayed with the proposition. He loaned money to the company, taking back a mortgage on the equipment, and for several years carried the assessment work on the ten claims immediately surrounding the shaft with his own funds. Some four years ago he paid for this work and the parties presuming to have completed the same accepted his money and then jumped the claims for themselves. In the meantime, others had located the surrounding claims.

Fickert's mortgage recited that it was without power of redemption. However, the courts held that this clause was void and that he would have to comply with the Arizona laws in this respect. This mortgage has now been foreclosed and the time of redemption has passed. Also all adverse claims of the jumpers have been bought up, leaving the title clear and sound. The surrounding locations are all carrying clear titles as to location and work requirements.

PRESENT PROPERTY CONDITIONS

To the west of the Pinal shaft Hinshaw, et al, are working on a large body of porphyry-

quartz ore that from present surface indications is at least 60' wide running North and South, hitching West at approximately 30° - the writer obtained several samples from the surface cross to the hanging wall side, consolidated the same with the result of \$1.05 gold per ton. From several pits 60' East on what appears to be to foot wall side, the returns show a gold value of \$15.75. There are five men working at the present time opening up the ground for further examination.

On the London group of claims at the discovery pit where some very high grade ore was removed, I obtained a sample of quartz remaining on the foot wall which assayed \$219.98. On the Bullion group drifts in some 50' on the vein fail to show much value. However, in a 30' wind, 21" of ore which is just coming in returned \$17.50. From the surface indications, it is very apparent that the West end of the property carries massive veins of an apparently North-South trend with numerous smaller parallel and cross veins, making it a difficult situation property to set forth in the limited time permitted.

GEOLOGY

The geology in the district as set forth by such authorities as mentioned in the above reports would establish those facts beyond question. However, I believe that were the writers to view the present surface developments to the West, they would find an even more interesting condition than uncovered in the Greenback and Pinal shafts.

In the hurried check that was necessary for me to make I can only state that, from Mr. Botsford's report under date of April 3, 1926, the property today has borne out every statement made and that the new work on the West end of the property in my opinion doubles, at least, the values of the claims in question and the possibilities of a larger operation. I am satisfied that the Greenback vein as well as the Pinal vein will more than justify the statements of the above authorities upon a close check at the present time. It is my belief that the biggest part of the district both in tonnage and values are to the West of the Pinal shaft.

This district to the West requires more development work at least upon the surface to properly show out the vein system and structure. I believe that the work would develop ore in practically every location mentioned. Also, as previously set forth, there are a number of parallel and cross veins on all which appear to carry commercial values from a milling standpoint. This preliminary work should be done at once. The entire property should be combined under one management and direction, and when this work has been accomplished, I believe you will find the greatest undeveloped mining district in the country.

It will be of great interest to me to watch the development of the ground as I am

certain it will justify every statement made by Butler, Royer, Botsford and the writer.

Very respectfully,

(Signed) H. M. GUNN

1451 West 51st Place
Los Angeles, California.

Equipment Inventory - Pinal shaft

Chicago Pneumatic Portable 220 cubic foot compressor, gasoline engine.
Shaft house, blacksmith shop and hoist room - corrugated iron building in good repair.
400' cubic foot Chicago Pneumatic hothead compressor.
Single drum hoist - semi-diesel driven.
Complete assay office and equipment.
Power driven crushers and grinders including balances.
5 camp buildings in good repair.
600' well-casing, engine, rods and pump jack.
Surface pipe lines from well to Pinal shaft.
Miscellaneous fuel oil tanks, water tanks and some small equipment.

It will be necessary to inventory this equipment more carefully as this was done hurriedly at the time of my visit, and also look into the condition of the two compressors and hoist. However, I believe them to be in very fair condition. I also understand the balances for the assay office are in storage at Casa Grande.

HMG.

Assay report from John Herman Laboratories, May 28, 1936, made for H. M. Gunn.

	Gold oz.	\$ value	Silver Oz.	\$ Value	Total
Bullion #1	0.50	17.50	trace	...	17.50
London #2	6.23	218.05	2.5	1.92	219.97
#3	0.43	15.75	trace	...	15.75
#4	0.03	1.05	"	...	1.05

(on gold quoted at \$35.00 per oz and silver at \$0.77)

EXHIBIT C

Inspiration, Arizona
April 3, 1926

Greenback Mines Company
506 Stock Exchange
Los Angeles, California

Dear Sirs:-

In accordance with your instructions I have examined your property and herewith submit the following report. This information was obtained from a week's study of the situation. In general, developments are progressing very favorable and there is every indication that this will become a profitable mine. This examination has shown little that is new but generally corroborates Mr. Royer's conclusions.

GENERAL

The property is located 42 miles southwest of Casa Grande on the northeastern slopes of the Cimarron Hills at an elevation of about 2600 feet. The Company has 70 claims which cover all of the most promising portion of the vein system of the district. The shafts and camp are well equipped for development purposes and all are connected by good roads with each other and with Casa Grande on the railroad. All working conditions in the district are excellent. The eastern half of the claims and the most important veins are shown on the attached map.

*
GEOLOGY

The country rocks of the district are Pinal schists which have been intruded by a magma having the average composition of quartz monzonite porphyry. On the northern half of the property the porphyry outcrops due to the removal of the schist by erosion. On the

southern half, the porphyry is still covered by the schists which originally formed the roof of the intrusion. The schists are pre-Cambrian and the porphyry of Tertiary Age.

PINAL SCHISTS. These are very variable in character, some being reddish sericite schists, others soft mica schists and still others greyish, quartz schists. All are probably of sedimentary origin and originally shales and impure sandstones. No particular study of these rocks was made as they have no immediate bearing on the ore-deposits. The schist area extends several miles further south and the average strike is about N-70-E with steep dips to the south.

THE PORPHYRY. This rock is very variable in composition and character due to differentiation near the upper contact. Over half of the area exposed is rather typical monzonite porphyry with varying amounts of quartz and biotite. This is cut by many dikes and masses of more acid phases of the intrusion varying through granitic rocks, aplites, pegmatites, and quartz vein-dikes. No preference of the ore to form in relation to any of these different rocks or even in the schist could be detected.

The western half of the high ridge on the Silver Queen claims is a hard, dense porphyry and is probably a local neck through which the magma entered. The surrounding schists are intensely silicified showing that this was the channel through which the magma entered. The surrounding schists are intensely silicified showing that this was the channel through which much later silica entered and probably the ores as well.

The general shape of the upper surface of the intrusion was that of the dome and the veins are located near the top. The portions

of the schist roof remaining show that the present vein outcrops are probably in the upper part of the horizon of ore deposition and therefore, that the ores may be expected to extend to considerable depths.

BASIS DIKES:

In the eastern part of the district many small dikes are found often following the vein fissures. These are younger than the veins and in no case contain any mineralization. They are basalt in composition and probably Quaternary in age.

VEIN SYSTEM

The vein system is of the well-known branching type and is characteristic of fissure systems formed at shallow depths. Twelve or more principal veins have been opened to some extent and many other branching and connecting veins are known. Most of the veins strike either N - 70 E or N - 70 W and dip from 45 to 50 degrees to the south. On the western part of the system a large vein strikes about N - 10 - 2 and seems to limit the others. A few other veins strike north and south. All of these contain values and do not differ much in appearance. The most important of these veins are shown on the attached map.

These fissures all show some movement but no large faulting was indicated in any case. The most southerly vein on Hilltop Nos. 4 and 5 dips about vertically and may mark the limit of the vein system in this direction and also possibly the limit of the intrusion.

ORE DEPOSITS

* All the veins carry large quantities of quartz and localized along them are found the ore-shoots. The principal values are in gold but considerable silver is showing in the lowest levels. The silver is apt to increase with greater depth. The exact cause of the localization of the ore-shoots could not be determined but it is probable that

further development will make this clear. At some points the values increase at the intersections, but at others this is not certain.

MINERALS.

The gold is free near the surface but deeper is in part in tellurides. Black silver minerals are found and probably small amounts of bismuth and vanadium. Some oxides of manganese and iron and traces of copper and zinc are found to the lowest level reached. The gangue is quartz and silicified, brecciated country rock. Some veins younger than the gold deposition, contain calcite and quartz and a few still younger veins contain manganiferous calcite and a little barite.

SEQUENCE.

The following tables show the sequence of geological events from the older up to the more recent.

Erosion to the present surface.
 Basalt dikes and some small faults.
 Erosion and long period of time.

Manganiferous
 Calcite
 Barite, etc.

Period of
 Vein
 Formation

Faulting
 and
 Brecciation

Quartz

Calcite

Quartz
 Vein dikes

Silver

Sold

Pegmatities
 Aplite dikes
 Grenite dikes
 Quartz Monzonite Porphyry magma

The period of gold deposition was short and intense and some very small high grade veins and replacements of the country rock were formed. These were brecciated and included in later lower grade quartz. For this reason careful watch should be kept especially along the vein-walls for such high-grade deposits. The present scheme of drilling both

to determine the size, value and continuity of the ore-shoots. The 300' level in the Pinal shaft especially should be continued east, as is now being done, as it is about to enter ground which shows a large vein with good values on the surface. The 150' level west is also good development.

PROPOSED DEVELOPMENT

SHAFTS

A shaft is proposed on the Greenback No. 1 about 1200' east of the Pinal shaft. This is a good location as the surface values are good and the veins look good and are large.

Several veins can be developed from this location with short crosscuts. This seems the most important work proposed.

Another shaft is also proposed about 1200' west of the Pinal shaft near the intersections of veins on the Silver Queen No. 3. This area shows very good values on surface and several veins can be reached with a minimum of cross-cutting. This is excellent development and fully warranted by the surface showings.

TUNNELS.

It is also proposed to develop under the hill on the Silver Queen claims by tunnels. This is very promising ground and 300' to 400' of depth can be obtained in a short distance. The veins are large and show good values on surface and this work should put ore in sight quickly and cheaply. A tunnel west on Hilltop No. 3 and another east, 100' higher, on the Silver Queen No. 3 on a vein which lies south of the preceding would develop the country to the best advantage.

In all this proposed work, both tunnels and shafts should be started at such elevations and locations as will fit a future transportation system to the best advantage.

feet and hanging walls for samples is a very good one.

As far as development has proceeded the better values are found and the most quartz is seen where the veins cross the ridges. This is due to greater silicification in these localities and consequent greater resistance to erosion. It follows that the intensely silicified zone which surrounds the porphyry core on the silver Queen claims should be a promising area to explore. This is especially so as the veins show good values where sampled and the topography affords natural tunnel sites.

PINAL SHAFT AND VEIN

The shaft is down 475 feet with levels at 150 and 300 feet. Two ore-shoots have been opened. One extends from the surface down to 50' where it left the shaft raking downwards to the west. The 150' level is not far enough to reach this.

The other shoot was found at 325' in the shaft and at 15' east on the 300' level. Good ore was followed for 50' and was succeeded by 40' of poorer material. The drift is in about 100' and is improving at this date. In this type of vein the ores are always found in shoots alternating with barren materials.

GREENBACK SHAFT AND VEIN

* The vein shows good values and some very high-grade ore on surface for 350' east of the shaft. The vein is covered to the west. The shaft is down 112' to the main level. High grade ore went down to the 70' level and is cut off by a fault dipping slightly flatter than the vein. The main level is apparently in the gap between the faulted segments. Work is now in progress to find the extension of the vein below the fault.

PRESENT DEVELOPMENT

The present shafts are well located and the development now in progress cannot be improved. This consists in sinking and drifting

SUMMATION

The general conditions in the district are the Pinal schists intruded by a dome-shaped mass of quartz-monzonite porphyry. A branching fissure system developed near the top of this dome in both the porphyry and schist. This was mineralized with quartz which at one intermediate stage carried gold and silver values which deposited in the present ore-shoots. Erosion has removed part of the schist exposing the veins and development has been begun on the most favorable showings. Results have been good to date and further work is projected.

The present and future plans for development cannot be improved and the work at present under way is being done to the best possible advantage. The work to date has been very encouraging and there is every likelihood that this property will develop into a profitable mine.

Respectfully submitted,

C. W. BOTSFORD.

(COPY)

*

MINE PRODUCTION RECORD

791-A

Name of Mines: GREENBACK GOLD INC.

Operated by: PAUL HENSHAW, Casa Grande, Arizona

Located: 41 miles southwest of Casa Grande. Pinal County

Type of Production: GOLD

REMARKS:

April - 1924

Examined by:
C. L. Beckwith

CONCLUSION: Andesitic and porphyritic rocks cut by well-defined and easily traceable quartz veins varying in thickness from a few inches up to five or more feet. Generally the outcrops are barren and practically no gold values are found until a depth of five or more feet have been reached.

At the Greenback shaft situated at the easterly end of the prospected vein considerable high grade ore has been taken out with several tons averaging as high as \$75.00 per ton in gold. This high grade shoot extends to the 50-ft. level where it was faulted by an intrusive dike and they have not been able to find continuation of ore below the fault.

At the Pinal shaft situated near the westerly end of the prospected vein the ore shoot pitched to the west and out of the shaft at a depth of 35 feet and has not been reached on lower level drift to the west, but is expected to be reached in a few more feet of drifting. The ore shoot near the collar is said to average \$21.60 per ton gold.

There is not enough development work to estimate the tonnage or grade of ore.

This is a splendid looking gold prospect and is worthy of further development, particularly at the Pinal shaft where they are at present drifting west along the strike of the vein on the 150-ft. level.

* LOCATION: By auto road 41 miles southwest of Casa Grande.

PROPERTY: 12 unpatented locations owned by the Greenback Gold Mining Company, a corporation divided into two million shares and organized under the laws of Arizona. There are approximately one million four hundred thousand shares (1,400,000) closely held by officers and directors of the company and six hundred thousand

shares (600,000) in the treasury.

The adjoining property on the south is the Hill Top and the Mogul.

EQUIPMENT: Gasoline hoist on Pinal shaft. No equipment on Greenback shaft.

This property is not on the market with the exception of possible procuring a block of the principal owner's stock, the proceeds to be used for further development.

COOPY

*

GREENBACK MINE

History

The original discovery in the camp was made in the nineties when the brightly-stained oxidized copper veinlets at the site of the camp were discovered. Little work was done until 1916 when ten claims were located by Humphrey, which were purchased in the following year by Paul Hinshaw of Casa Grande. Seventeen more claims were added to the group by location. In 1918, 20 claims known as the Greenback group, covering the greater part of a system of prominent quartz veins were located by Howard Snyder, and these were also purchased by Hinshaw. The Pinal Grande Mining Company was then organized to exploit the copper claims, and, in 1919, a 289-foot churn drill hole was sunk to water level, which was sunk throughout in low grade copper-bearing material, the copper being in the form of veinlets of chrysocolla and carbonates. All work ceased after the break in the market in 1920.

Early in 1921, John Anneshfky, who had been left as caretaker, located three claims known as the Silver Queen group, covering a part of the quartz vein system, and discovered an outcrop of gold ore said to have assayed \$20 a ton. This group was then optioned to the Vindicator Gold Mining Company of Cripple Creek, which company sank a 96-foot shaft on the showing. The values ceased at a depth of about 50 feet and the option was surrendered.

The claims were then bought by the Pinal Grande Mining Company. After driving a short drift at the bottom of the pocket, work again ceased. A second high-grade shoot of gold ore was found in 1922 at the Greenback shaft, about 2000 feet to the east of the original discovery. Considerable interest in the district resulted and in 1924, Hinshaw and Frank Royer of Los Angeles organized the Greenback Gold Mining Company to take over all assets of the Pinal Grande Mining Company.

The Greenback shaft was sunk to a depth of 100 feet, but as values ceased at 50 feet, and the vein itself proved hard to follow, work was again transferred to the original discovery. The 96-foot shaft known as the Pinal shaft was sunk to a depth of 475 feet, and drifts were run on the 150 and 300-foot levels. Occasional small pockets of low grade ore were found but no ore bodies of commercial grade. Work was also done at the Greenback shaft where several hundred feet of drifting was done on the 100-foot level with negative results. The Pinal shaft was then sunk to a depth of 688 feet. Water was encountered a few feet below the 500-foot level and a small pump installation became necessary. A little work was done on the 600-foot level, and the last work was done on the 500-foot level. On the depletion of the company funds in December, 1926, the mine was closed and left in the hands of James Megson as caretaker. Assessment work for 1927 was done by sinking a winze on the 500 foot level. In 1932, the group was relocated by Wesley Oates of Casa Grande, on the grounds that no assessment work had been done for 1929 and 1930. His rights were acquired shortly afterwards by Frank M. Leonard of Casa Grande.

Location and Mining Property

The Greenback Mine is on the northwest slopes of the Cimarron Hills, about two miles southeast of the Papago Mine. It is reached by a fair desert road from the Jack Rabbit Mine, which is connected to Casa Grande by 29 miles

of partially-graded county road. The total distance from Casa Grande is about 41 miles.

The group consists of 60 claims covering an area of 1190 acres, all unpatented and held by location.

Mine Development

The principal work is at the Pinal shaft, about half a mile southeast of the camp site. This shaft was sunk to a depth of 688 feet on an inclination of about 50 degrees, the bottom 160 feet being now under water. Levels were driven east and west on the 50, 150, 300, and 500-foot levels, aggregating about 700 feet. The most extensively developed level is the 500 foot level where 370 feet of drifting was done together with a 40-foot winze.

About 2000 feet east of the Pinal shaft, the Greenback shaft was sunk to a depth of 100 feet on a 40 degree incline. A short level was run at 50 feet, and about 380 feet of drifting to the east and west was done on the 100-foot level.

In addition to this work, a number of open cuts and shallow shafts were driven between the two main shafts.

At the camp site, a 289-foot churn drill hole was sunk, which supplies the camp with water. The camp is supplied with half a dozen small frame buildings, and a large boarding house and store.

Geology and Occurrence

The basal complex on which the lava rests at the Greenback mine consists of a series of large intrusive masses of porphyry varying in composition from diorite to quartz monzonite. These igneous rocks have been intruded into Pre-cambrian schist, small remnant outcrops of which are found west of the Pinal shaft. Resting on a partially planned surface of these basal rocks is a thick series of basic lava flows and volcanic breccias, which have been tilted at slight angles to the northeast. The range is a typical basin-range ridge, much modified by erosion into a series of low rugged hills. The basal complex underlying the lava has been exposed by erosion in the piedmont slopes of the hills.

* The mineralization is all pre-lava and was probably closely related to the porphyritic intrusives. Two types of mineralization are found. In the first type the magma after solidification and partial shattering, was invaded by solutions containing potash, alumina and sparse silica, together with salts of copper. The fractures were filled with veinlets of sericite and metallic sulphides and the fragments between fractures were partly impregnated. Subsequent oxidation has left a limonite-stained, kaolinized slightly copper-stained mass containing veinlets of chrysocolla. It was an outcrop of this type at the camp site that first attracted prospectors and on which the first locations were made.

In the second type of mineralization, which probably followed the first type, the porphyry was invaded along a major north 70 degree west fault zone, by intensely siliceous solutions carrying a little iron and copper sulphides and a small amount of erratically distributed gold. This type of mineralization has been left as a network of quartz veins which strike northwest in a zone of intensely brecciated porphyry. Parts of the veins are somewhat stained with limonite, a little green copper carbonate and silicate, and sporadic pockets rich in free gold occur. The total length of the zone is about 3000 feet and the width varies between 50 and 200 feet. The general dip of the zone is about 60 degrees to the south and the thickness of individual veins varies from a foot to over 50 feet. A last phase in this type of mineralization was the filling of post quartz fracture with calcite associated with minor amounts of iron and manganese salts. It is on the veins of the second type of mineralization that the Greenback and Pinal shafts were sunk on outcrops rich in gold. In the work done on both outcrops, the gold-rich pockets in the veins proved small. There is a possibility that they may be the tops of definite shoots, but insufficient work has been done to demonstrate this. The bottom of the ore in the Pinal shaft was reached at 50 feet and no further pockets or shoots were encountered. At the Greenback shaft the bottom of the ore was at about 35 feet. At 50 feet the character of vein filling changed, and the vein was probably cut off by a fault. The 100-foot level drifting was driven entirely in country rock cut by numerous calcite veins dipping at various angles.

At the Pinal shaft the vein dips about 50 degrees to the south and was continuous to the bottom of the shaft with an average thickness of about six feet. At the water-level about 520 feet below the outcrop, occasional grains of rusty pyrite occur in the quartz and on the walls of the vein, and assays have shown the pyrite to be frequently gold bearing. Equally high samples have been obtained from limonite-stained portions of the vein on the 150 and 300-foot levels. The outcrop at the surface on which the shaft was started was more heavily stained with limonite than elsewhere. This condition was also true at the rich outcrop at the Greenback shaft. The vein filling is very dense quartz almost devoid of vugs or fractures. It is highly improbable that sufficient ground water movement has existed in the past to have allowed for transportation and subsequent enrichment of the gold.

At the surface outcrops the quartz has been much reworked by surface waters, with the development in the few feet of surface skin of much chalcidonic quartz containing vugs lined with quartz crystals. Sampling of surface outcrops is said to be an unreliable index of values below. It is possible that any gold present may have been removed in the weathering process.

Between the Pinal and Greenback shafts are many vein outcrops, in the network of veins, more heavily limonite-stained than the two portions of the vein system prospected at depth.

In the work done at the Pinal shaft the greater part of the vein consisting of massive white quartz, was virtually barren of gold.

Possibilities

The scattered sampling done on the property suggests the association of

much of the gold with iron. Work concentrated on the more heavily limonite-stained parts of the vein may develop high grade shoots, or the values may be sufficiently disseminated to constitute a profitable low grade ore. Conditions at that part of the Papago vein, which is much stained with limonite, suggests that similar conditions may exist at the Greenback vein network in those parts more highly impregnated with iron.

*

Inspiration, Arizona
April 3, 1926.

Greenback Mines Company,
506 Stock Exchange Bldg.,
Los Angeles, California.

Dear Sirs:

In accordance with your instructions I have examined your property and herewith submit the following report. This information was obtained from a week's study of the situation. In general, developments are progressing very favorably and there is every indication that this will become a profitable mine. This examination has shown little that is new, but generally corroborates Mr. Royer's conclusions.

GENERAL

THE property is located 42 miles southwest of Casa Grande on the northeastern slopes of the Cimarron Hills, at an elevation of about 2600 ft. The company has 70 claims which cover all of the most promising portion of the vein system of the district. The shafts and camp are well equipped for development purposes and are all connected by good roads with each other and with Casa Grande on the railroad. All working conditions in the district are excellent. The eastern half of the claims and the most important veins are shown on the attached map.

GEOLOGY

The country rocks of the district are Pinal schists which have been intruded by magmahaving the average composition of quartz monzonite porphyry outcrops due to the removal of the schist by erosion. On the southern half, the porphyry is still covered by the schists which originally formed the roof of the intrusion. The schists are pre-Cambrian and the porphyry of tertiary age.

PINAL SCHISTS - These are very variable in character, some being reddish sericite schists, other soft mica schists, and still other greyish quartz schists. All are probably sedimentary origin and originally shales and impure sandstones. No particular study of these rocks was made as they have no immediate bearing on the ore-deposits. The schist area extends several miles further south and the average strike is about N-70 E with steep dips to the south.

THE PORPHYRY - This rock is very variable in composition and character due to the differentiation near the upper contact. Over half of the area exposed is rather typical monzonite porphyry with varying amounts of quartz and biotite. This is cut by many dikes and masses of more acid phases of the intrusion varying through granitic rocks, splites, pegmatites and quartz vein-dikes. No preference of the ore to form in

relation to any of these different rocks or even in the schist could be detected.

The western half of the high ridge on the Silver Queen claims is a hard, dense porphyry and is probably a local neck through which the magma entered. The surrounding schists are intensely silicified, showing that this was the channel through which much later silica entered and probably the ores as well.

The general shape of the upper surface of the intrusion was that of a dome and the veins are located near the top. The portions of the schist roof remaining show that the present vein outcrops are probably in the upper part of the horizon of ore deposition and, therefore, that the ores may be expected to extend to considerable depths.

BASIS DIKES - In the eastern part of the district many small dikes are found often following the vein fissures. These are younger than the veins and in no case contain any mineralization. They are basalt in composition and probably Quaternary in age.

VEIN SYSTEM

THE vein system is of the well known branching type and is characteristic of fissure systems formed at shallow depths. Twelve or more principal veins have been opened to some extent and many other branching and connecting veins are known. Most of the veins strike either N-70-E or N-70-W and dip from 45 to 50 degrees to the south. On the western part of the system a large vein strikes about N-10-W and seems to limit the others. A few other veins strike north and south. All of these contain values and do not differ much in appearance. The more important of these veins are shown on the attached Map.

These fissures all show some movement but no large faulting was indicated in any case. The most southerly vein on Hilltop Nos. 4 and 5 dips about vertically and may mark the limit of the vein system in this direction and also possibly the limit of the intrusion.

ORE DEPOSITS

All the veins carry large quantities of quartz and localized along them are found the ore-shoots. The principal values are in gold, but considerable silver is showing in the lower levels. The silver is apt to increase with greater depth. The exact cause of the localization of the ore-shoots could not be determined, but it is probable that further development will make this clear. At some points the values increase at the intersections, but at others this is not certain.

MINERALS - The gold is free near the surface but deeper is in part in tellurides. Black silver minerals are found and probably small amounts of bismuth and

GREENBACK SHAFT AND VEIN

The vein shows good values and some very high grade ore on surfaces for 350' east of the shaft. The vein is covered to the west. The shaft is down 112' to the main level. High grade ore went down to the 70' level and is cut off by a fault dipping slightly flatter than the vein. The main level is apparently in the gap between the faulted segments. Work is now in progress to find the extension of the vein below the fault.

PRESENT DEVELOPMENTS

The present shafts are well located and the development now in progress cannot be improved. This consists in ~~xxxx~~ sinking and drifting to determine the size, value and continuity of the ore-shoots. The 300' level in the final Pinal shaft especially should be continued east, as is now being done, as it is about to enter ground which shows a large vein with good values on the surface. The 150' level west is also good development.

PROPOSED DEVELOPMENT

SHAFTS - A shaft is proposed on the Greenback No. 1 about 1200' east of the Pinal shaft. This is a good location as the surface values are good and the veins look good and are large. Several veins can be developed from this location with short crosscuts. This seems the most important work proposed.

Another shaft is also proposed about 1200' west of the Pinal shaft near the intersections of veins on the Silver Queen No. 3. This area shows very good values on the surface and several veins can be reached with a minimum of crosscutting. This is excellent development and fully warranted by the surface showings.

TUNNELS - It is also proposed to develop the hill on the Silver Queen claims by tunnels. This is very promising ground and 300' to 400' of depth can be obtained in a short distance. The veins are large and show good values on surface and this work should put ore in sight quickly and cheaply. A tunnel west of ^{Hilltop} No. 3 and another east, 100' higher, on the Silver Queen No. 3 on a vein which lies south of the proceeding, would develop the country to the best advantage.

In all this proposed work, both tunnels and shafts should be started at such elevations and locations as will fit a future transportation system to the best advantage.

SUMMATION

* The general conditions in the district are the Pinal schist intruded by dome-shaped mass of quartz-monzonite porphyry. A branching fissure system developed near the top of this dome in both the porphyry and schist. This was mineralized

with quartz which at one intermediate stage carried gold and silver values which deposited in the present ore-shoots. Erosion has removed part of the schist exposing the veins and development has been begun on the most favorable showings. Results have been good to date and further work is projected.

The present and future plans for development cannot be improved and the work at present under way is being done to the best possible advantage. The work to date has been very encouraging and there is every likelihood that this property will develop into a profitable mine.

Respectfully submitted,

(Signed) C. W. BOTSFORD

RECORD OF SAMPLES

<u>Date</u>	<u>Ounces Gold per ton</u>	<u>Dollars per ton</u>	<u>Description</u>
12-23-20	0.64	12.80	Greenback shaft.
	5.28	105.60	" "
1-31-21	0.10	2.00	Foot wall Greenback east
	0.76	15.20	Next three feet
	0.02	.40	Foot wall Greenback west.
	6.34	126.80	One foot footwall east side Pinal
	5.88	117.60	" " west " "
2-2-21	4.20	84.00	Red quartz Greenback
	2.04	40.80	Hanging wall Greenback
	0.60	12.00	Full shaft "
2-10-21	.10	2.00	Wagon shaft 9' deep, 4' wide, from footwall
	2.40	48.00	John Hole, #1, 14 inches from footwa wall 4 ft. deeper
	0.88	17.20	John Hole #1, 22½ ft. from the 14" sample #1 to the hanging wall 4' deeper.
2-17-21	0.14	2.80	Pinal shaft #1
	0.30	6.00	" #2
	2.84	56.80	" 3
	0.32	6.40	" 4
	1.00	20.00	" 5
Time elapsed in getting crowd to perfect organization.			
8-7-22	0.02	.40	Sample surface vein showing.
	0.08	1.60	" "
	21.40	428.00	Average sample of best ore at Green- back shaft 100 lb. sample
9-26-22	9.72	194.40	Cut sample across Greenback shaft
9-23-22	0.52	10.40	Grab sample at dump on Greenback
	4.88 4.88	97.60	Grab from 5 to 7 ton on ore pile at Greenback
	2.08	41.60	2 ft. cut from footwall at west end of G. B. shaft.
	0.88	17.60	3 ft. cut from footwall streak east end of G.B. shaft.
	3.40	68.00	Average sample from shaft after shots were put in
	0.12	2.40	Specimen samples from G.B. bottom
	0.56	11.20	338 west end of shaft hanging wall streak
	0.44	8.80	36' east end of shaft hanging wall streak
	0.08	1.60	Sample of hanging wall rock
	2.48	49.60	4' sample of quartz to east of G.B. shaft beyond seams.
	0.40	8.00	2' cut hard quartz 300 ft. east of G.B. shaft.
	0.12	2.40	Surface sample 50' east of G.B.
11-13-22	2.84	58.70	2½' cut across bottom of G.B.
	1.00	20.67	Soft material to east of slip.
11-17-22	0.25	5.16	Cut as made 300' east of G.B.
11-22-22	5.232	108.14	Grab from bucket about 2½' at 15' deep in G.B. next footwall
*	2.28	47.12	Cut sample in G.B. across 3 ft next to footwall 15' deep.
	0.312	6.44	Across 3' east end in soft lime
	0.38	7.85	300' east of shaft across 3' at 9 ft. deep
	0.16	3.30	300' east same as above only in hanging wall
	0.024	0.49	Outcrop of vein on claim south of G.B. shaft
11-24-22	1.20	24.80	Shovel sample from both rounds broke 5' at 17' deep G.B.

11-24-22	2.64	54.57	Grab sample from bucket at 18'
	4.66	96.32	Bucket sample at 17' broke about 3' next to footwall G.B.
	25.22	521.29	Sample broken off of large pieces at 18' deep G.B.
12-5-22	2.70	55.81	Grab sample from bucket 20-22' deep broke 3' next to footwall
	0.28	5.78	Across 3' at east and next to footwall very soft at 25' deep
	1.20	24.80	Across 3' in center of shaft, next to footwall soft, at 25' deep
	1.34	27.69	Across 3' at west and next to footwall, hard at 25' deep.
	0.032	0.66	Across vein from hanging wall at east end about 6" wide
	8.80	181.89	Best ore from bottom at west end at 25' deep
	1.44	29.76	Grab sample from dump figured 20-25' deep
	3.28	67.79	Grab sample from pile ore on Mogul #3 about 6" vein
	0.48	9.92	Grab sample from pile ore on Mogul Ext. #1 vein about 6" wide
12-21-22	0.08	1.67	Grab sample from bucket of hanging wall 28' deep G.B.
	9.78	16.26	Grab sample from bucket footwall broke 3' at 28'.
	0.48	10.00	Same as above only fines
	7.66	151.37	Best ore at 28 ft.
	0.52	10.84	Grab sample from bucket at 29'
	0.44	9.17	Same as above only fines
6-13-22	0.42	8.40	Best ore from bucket west drift 50' deep 10' in.
	0.17	3.40	Same as above only cut across 3' face west drift 10' in
	0.05	1.00	Sample next to footwall west drift as 70 ft.
	0.06	1.20	Cut across 3' next to footwall east drift 70 ft.
	0.05	1.00	Cut sample across 3' of vein next footwall east drift at bottom
	0.07	1.40	300' west of Pinal shaft next to cut across 6' next to hanging wall
	0.04	0.80	Same as above only 2' next hanging wall
6-13-22	0.06	1.20	Next 2' cut sample to above
	0.12	2.40	Same as above only 4 ft. deep at bottom
	0.02	0.40	Same as above only hanging wall
	0.14	2.80	300' west of Pinal shaft 2' sample next footwall west side G.B. 25' deep
	0.70	14.00	Best ore next to footwall west drift across 2' G.B.
	0.17	3.40	300' west of Pinal shaft 2' next footwall east side G.B. 25' deep
*	0.18	3.60	West drift shall fact 14' in west drift
	0.71	14.20	Same as above, check.
	3.34	66.80	Best ore from bucket west drift

7-17-22	2.66	53.20	Cut sample 3½' G.B. shaft
	8.10	162.00	Average in bottom of shaft
	0.68	13.60	Cut sample 3½' to hanging wall
12-14-22	0.34	6.80	Grab sample from bucket broke 4'
	0.74	14.80	next footwall 30' deep G.B.
	0.30	6.00	Cut sample across 3½' next footwall
			west end 32' deep G.B.
			Cut sample across 3½' next footwall
			east end 34' deep G.B.
12-9-22	0.028	0.57	Hanging wall at 25'
	3.82	78.96	Best ore at footwall 27'
	0.46	9.50	Soft dump from E½ shaft at 26'
	0.64	13.23	Across 3' next to footwall west ½
			at 27'
12-18-22	0.36	7.44	Grab sample from bucket broke 4'
	0.232	4.79	next to footwall at 34'
	0.416	8.59	Grab sample from bucket broke 4'
	0.18	3.72	next to footwall at 38'
	1.263	26.12	Grab sample from bucket broke 4'
	0.136	2.80	next to footwall at 40'
			Cut sample across 5' east end next
			to footwall 40' G.B.
			Cut sample across 4' west end next
			to footwall 40' G.B.
			Cut sample across 2½' east end next
			footwall 40' G.B.
1-30-23	0.08	1.65	Sample next hanging wall in west
	0.036	0.74	drift 8' back 70' drift
	0.047	0.99	Sample in east drift 7' back 70'
			best looking ore
			Sample across 2' next footwall as
			above
	0.024	0.49	Sample across 2' hanging wall as
			above
	10.28	212.48	Best ore from bottom of shaft 10'
	0.032	0.66	deep at 700 ft. west shaft
			Sample from cut east end G.B. claim
			#1
2-9-23	0.01	0.20	Sample of cut 4' deep 200' north of
	0.02	0.41	700 ft shaft footwall
	0.016	0.32	Same as above - cut across 4' of vein
	0.02	0.40	" only east end of shaft
2-3-23			Sample of cut 2' deep 200' north 700'
			shaft
	0.13	0.60	Sample next to footwall 9' back
	0.01	0.20	in east drift at 70'
			Sample 200' east of 700' about 9'
			deep east end next to footwall

*

G. MONTAGUE BUTLER
Geologist and Mining Engineer
Tucson - Arizona

Some observations on the property of the

GREENBACK MINING COMPANY

Situated Southwest of Casa Grande, Arizona

SUMMARY

I consider that the property of the Greenback Mining Company constitutes a very promising prospect. I believe further an extensive development to be abundantly justified by the showing already made, and feel that there is a good chance that intelligent work will develop ore of such amount and grade as may be mined profitably.

GEOLOGY

The country rock consists mainly of large inporphyritic material which is probably a monzonite porphyry, with schists to the south. These intrusions are traversed by dikes which are usually of an andesitic nature and such dikes form, at least in part of the property, one of the vein walls. Higher hills in the vicinity of the property are capped by basalt flows.

The gold deposits are in the form of numerous large, strong, easily traceable quartz veins. Most of these veins are more or less closely crowded with fragments of the country rock, usually more or less silicified, and a very few fragments of rock not now exposed in the area, such as marble, are enclosed in the quartz. The fragments of country rock appear to be suspended in the quartz, the latter often surrounding the fragments in concentric layers of different density or tint, and varying in color from gray through brown and yellow to white. Free gold (both fine and coarse) is visible in the quartz taken from a number of points on the property and it is evident that some of the ore seen, especially that taken from the greenback shaft, is of very high grade. A very little fine-grained pyrite was observed in the Pinal Shaft, but as a whole the ore is remarkable for its freedom from any metallic minerals other than gold. Even iron oxide is relatively scanty, and most of the ore is too dense as to indicate that sulphides will probably not be plentiful below the zone of oxidation. Gold is present both disseminated through solid quartz and along joints in the same. It is also visible, at least at one point, along joints in the country rock a foot or two from the contact.

Some calcite (carbonate of lime) occurs with the quartz in the workings connected with the Greenback shaft, but it appears to be free from gold, and to represent a period of deposition later than that which produced the gold-bearing quartz.

In general, the veins strike east to west and have a southerly dip. Thicknesses of at least two or three feet are common, and some of the veins are several times that thick. It is notable that the gold values in the veins do not appear to come to the surface. The outcrops are almost invariably barren, and practically no gold is found until a depth of from five to ten feet has been attained. This statement applied even to the outcrop of the vein directly above the very high grade ore-shoot exposed in the Greenback shaft. I can suggest no reason for this condition, since the absence of any considerable amount of manganese and iron oxides and the presence of calcite would prevent the dissolving of the gold by the only common solvent with which geologists are familiar. Sufficient work has been done, however, to show that the gold has been leached out of the outcrops in some way, and no estimate of the value of any of the veins should be attempted by surface sampling.

PROBABLE CONTINUITY AND PERSISTENCE OF THE DEPOSITS

The veins are of a deep type which may be expected to extend to great depths along the dip. While faulting is to be expected and has, indeed, already been encountered in the Greenback shaft, it is not probable that the displacements will be great or will interfere seriously with operations. No faulting has yet been encountered in the thick vein upon which the Pinal shaft has already been sunk to a depth of 96'.

I do not believe that there is any probability that a secondary enrichment of the gold will be encountered at depth. Such enrichments have been found where plenty of manganese and iron oxides occur and calcite is absent, but such conditions do not exist on the property. Furthermore, the vein material in most places appears too compact to have been subjected to much leaching. The higher grade ore will certainly be found in ore-shoots, but they will be of primary character and not the result of any rearrangement of the values after the deposits were formed. Such shoots have already been encountered in both the Greenback and the Pinal shafts and in both cases they pitch to the west.

CONDITIONS AT THE GREENBACK SHAFT

Most of the development work done on the property has been at the Greenback incline shaft where a high grade ore-shoot was encountered a few feet below the surface. Several tons of ore taken out in sinking this shaft lie on the dump and it is claimed that it will run \$200 a ton. So much free gold is visible in the ore that this claim does not appear to be extravagant. In fact, specimens can easily be collected which will probably run a \$1,000 a ton or more. The lower limit of the high grade shoot crossed the shaft diagonally from east to west, and disappeared in the

western wall of the shaft a little above the 50' level. A short drift to the west was driven where this ore shoot entered the western wall, but although it contains some ore of fair grade, it has penetrated beyond the shoot itself.

Shortly below the 50 ft. level a fault was encountered. Where exposed in the shaft it appears to be decidedly irregular but to dip to the south considerably more steeply than the vein. Faulting parallel to the vein was also noted.

Near the 70 ft. level, where some drifting has been done, vein material was again encountered, but it lies somewhat flatter than the vein above the 50 ft. level and I believe it to be a difference vein. I base this belief upon difference in detail in the vein matter, and more particularly upon the fact that the calcite in the vein above the 50 ft. level is crystallized in an entirely different habit from that found below the 50 ft. level and down to the lowest workings. It is inconceivable that the habit of crystallization of the calcite should have changed so completely and suddenly within a few feet, but it is quite possible that, conditions being somewhat different in parallel veins, the calcite should crystallize differently in them. It seems probable that the rich ore-shoot encountered near the top of the shaft will be cut off by the first fault mentioned but, as stated previously, I do not believe that the displacement has been great, and I think that a careful study of conditions will make it possible to pick up the extension of the ore-shoot below the fault, without great expense or difficulty.

CONDITIONS AT PINAL SHAFT

THE Pinal shaft on Silver Queen No. 1 claim has been sunk as an incline on a vein that strikes N.72 E., and has an average dip of 55° to the south. The full thickness of the vein has not been exposed in the shaft, which is 96 ft. deep, although six feet of vein matter is exposed on the 50 ft. level, where some drifting has been done, and at the bottom.

The vein is a strong one, easily traceable on the surface for some distance, and shows no indication of faulting to the depth already reached. It has been thoroughly sampled by reputable engineers of experience and a shoot of fairly good ore has been found pitching diagonally from near the top of the shaft westerly across the 50 ft. level.

Two comparatively small samples were taken at the bottom of the shaft merely to make a rough check upon the sampling done by others. Sample No. 1 was cut across three feet on the northerly or foot wall side of the vein. It is composed of almost pure, hard, white quartz and previous sampling is said to show that it ran from

a dollar to two dollars per ton. The average of two assays on material taken by me shows that it runs \$1.20 in gold and 1/10th of an ounce of silver per ton.

Sample No. 2 cut across three feet of vein matter on the southerly or hanging wall side of the vein was composed mostly of quartz, but contained more included rock fragments, was more or less copper stained, and was comparatively soft and porous, especially near the hanging wall. Samples taken at the same point are reported to have run from \$2.20 to \$2.40 per ton. The average of two assays made on the material obtained by me gave a figure of \$2.50 in gold and 85/100 of an ounce of silver per ton.

Sample No. 3 was taken 12 ft. from the shaft in the west drift on the 50' level. It was cut across three feet of typical vein matter but neither wall was exposed. Previous sampling is said to show that it was taken at the eastern edge of the ore-shoot previously mentioned, and samples are said to have yielded from \$8 to \$35 per ton. The average of two assays on the material I secured gave a figure of \$5.40 in gold and 25/100 of an ounce silver per ton.

Sample #4 was cut across six feet of vein matter exposed in the same drift eight feet west of sample No. 3. The average of two assays made on this material gave a figure of \$3.70 in gold and 3/10 of an ounce of silver per ton.

CONDITIONS IN OTHER OPENINGS

Numerous other shallow trenches or shafts exist on the property, and free gold was evident in several of them. As already stated, the values do not appear to come clear to the surface anywhere and it is doubtful if useful figures could be obtained by sampling in these openings, so nothing along that line was done. However, they suffice to prove the continuity of the veins and the free gold seen on the samples taken by others show that the veins are gold bearing at many points.

SAMPLING DIFFICULTIES

The grade of no type of ore deposit is more difficult to obtain than of quartz veins containing free gold like the ones found on the property of the Greenback Mining Company. The values are so irregularly distributed through the veins that one sample may run very low whereas another sample cut directly beneath the first may run very high. Furthermore, different portions of any one sample will not usually check each other very closely. While it is generally true that in all types of deposits the larger the sample the more dependable the results obtained, this statement applies especially to the type of deposit under consideration, and no reliable figures need be expected unless the samples weigh fifty to one hundred pounds or more. Even then,

samples should be taken close together and some fluctuation should be expected. While, by working in this way, fairly dependable results may be secured, figures that will be even more reliable can be obtained from taking large samples from the buckets as development work is done. I understand that competent, reliable engineers have taken numerous large samples from the workings connected with the Pinal shaft, and that samples have also been taken from the buckets in the manner mentioned. For these reasons it seems inadvisable to spend several days cutting numerous large samples. It was hoped that a few small samples would suffice to prove the presence of gold in the deposit and, especially, roughly to check the results already secured by others. I feel that this end was satisfactorily accomplished and would call attention to the fact that Sample #2 runs somewhat better than the highest results that are reported to have been obtained by others, at the particular point sampled. As a possible reason why higher values were not found anywhere sampled, even where a good ore shoot is believed to exist, I may mention that the gold seems to be included within the harder and denser portions of the quartz. In taking a small sample, it was hard to prevent the cutting of an excess of the softer material, which would tend to reduce the grade of the sample.

RECOMMENDATIONS

I believe that the work of the Company should be concentrated on the Pinal shaft, that this shaft should be sunk several hundred feet and that drifts should be run both to the west and to the east, but especially to the west at 50 ft. intervals. The vein is so wide that it seems very likely that a large amount of ore of commercial grade may be developed that way.

If the company wishes to do some work deepening other workings on the property, it might be wise to do so but such work should not be done at the expense of thorough development of the vein exposed in the Pinal shaft.

I should not do much more work at the Greenback shaft at present, but it would probably be wise to sink directly on the rich ore-shoot and extract such high grade ore as is easily obtainable before moving the equipment from that shaft. This ore should not be shipped now, since the cost of haulage will be high. If a mill is subsequently installed to treat the Pinal ore, the rich Greenback ore may then be treated profitably. Since much of this rich ore is now being ^{re} moved by visitors to the property, I should recommend that it either be sacked or placed under cover at an early date.

CONCLUSIONS

The property of the Greenback Mining Company is not a developed mine in which it is possible to compute the available ore, or even to estimate closely the

the probable grade of such ore as may be developed. It is purely a prospect but the size and character of the veins and the work already done make it a very attractive prospect. In fact, I do not remember ever to have examined a gold property in which the indications appear more favorable.

Any one investing in the property should realize that there is a certain element of risk involved, but that the possible returns on the investment are so great as to make the proposition an exceedingly attractive one. Good management will serve to reduce the risk to a minimum and that will doubtless be provided. While profits from a developed mine may be more certain than from an incompletely developed prospect, they can never be as great. If any one is seeking the large profits that will doubtless be made if the development of the property reveals the existence of such conditions as the work already done lead one to expect, they would hardly hope to find a property more promising than that owned by the Greenback Mining Company.

Very respectfully

(Signed) C. M. BUTLER

Tucson, Arizona
November 6, 1923.

Frank W. Royer,
1212 Hollingsworth Bldg.,
Los Angeles, Calif.

R E P O R T

- on the -

GREENBACK GOLD MINING COMPANY

Pinal County, Arizona.

October 24, 1923.

By: Frank W. Royer.

LOCATION (See Map)

The Greenback Gold property is located at the edge of a small range of hills, about 40 miles to the south of the railway station of Casa Grande, Arizona. Casa Grande, Ariz. is located on the main line of the Southern Pacific Railroad, connecting New Orleans with Los Angeles, California.

From Casa Grande the mine is reached over a nearly level wagon road or automobile road, passable the year around except after a severe rain storm. About two hours time is required to reach the mine by automobile. Freight charges are about \$8.00 per ton.

PROPERTY (See Map attached).

Consists of seven mining claims and two fractions in one group. These claims are held by location titles, and the annual assessment work has been done.

HISTORY

Some eight years ago some 52 claims were taken up adjoining the claims of the Greenback Gold, upon which there is a copper showing of magnitude, and during these eight years considerable work was done at various times on the copper showing. Two years ago several men working for the copper company, not having much to do, as all work was stopped, started prospecting on the hills adjoining and uncovered a vein eleven feet wide which showed free gold. A large number of claims were taken up and a little prospecting done. The prices asked for claims at this time were very high and it was next to impossible to get a satisfactory deal. A mining company came in and took an option on the original gold strike, consisting of four claims marked in yellow on the accompanying map. A 96 ft. shaft was sunk and a drift of 30 ft. long was driven to the west at the 50 ft. point. This shaft started in ore and re-

mained in ore for the full width of the shaft, to a depth of 22 ft. on one side and 35 ft. on the other, the ore chute raking to the west. At the 50ft. level the ore was encountered a distance of seven feet west of the shaft. The ore exposed here is from 5 to 8 ft. wide and will average one ounce of gold per ton, or \$20 per ton. As satisfactory arrangements could not be made with the owners and a payment was due, the Mining Company quit work about one and one-half years ago, though since that time they have made several attempts to get the property back.

The failure of this company to proceed naturally caused the holders of the various claims, who did not have money and did not care to work, to modify their prices, so within the past six months the claims owned by this company were obtainable under reasonable terms.

During the past two years considerable work has been done by myself and associates in studying the geology and nature of these deposits.

Several months ago, when these claims were acquired and the titles were in a satisfactory shape, a shaft was started on a place which was picked out several months previously, and ore was atonce opened up.

GEOLOGY

The country rock in which these veins are found is an andesite in places and in other places is an andesite schist. The veins, of which there are three on this property, strike nearly east and west and dip about fifty degrees to the south. The outcrop of these veins are very prominent and can be easily followed.

The veins are from five to twelve feet wide, of white to brown quartz, in places braccitated and re-cemented with a jasper quartz containing gold. Both hanging and foot wall are well marked, and at the greatest depth obtained, 96 ft. the vein is as strong and walls are as regular as upon the surface.

VEINS AND ORE BODIES

* On the Greenback Claim at the location marked "Rich Gold Strike" in red, a prospect shaft was started early in July, 1922 and after one round of shots high grade ore was broken into. This shaft was continued until about July 18th when work was stopped, as the results were so good it was thought best to close all work until company was formed and financed.

This shaft is seven feet long and five and one-half ft. wide and is down a distance of 8 ft. The foot wall is well exposed but there is still ore toward the hanging wall.

All assays taken from this shaft to date are:

No. 1. - over width of 3.5 ft.....	\$ 53.20
No. 2. - average of entire shaft, 6 ft. deep.....	162.00
No. 3. - gouge matter supposed N.G.....	13.60

The above samples were taken by men who have the property and did the work.

Writer visited the property early in September and sampled these workings carefully with the following results:

No. 1 - Sample from west dump at new strike	\$ 10.40
No. 2 - " " 6-ton ore pile	97.60
3 - Two foot cut in west end shaft	41.60
4 - Three foot cut in east end of shaft	17.60
5 - Large average sample of shaft after shots	68.00
6 - 3½ ft. west end hanging wall streak	11.20
7 - 3½ ft. east end shaft hanging wall streak	8.80
8 - Four feet friable quarter east of shaft	49.60

Picked samples of the ore broken assayed \$428.00, \$1094.90 and \$194.40.

Along the outcrop about 300 feet to the east of the shaft is an old open cut that was made years ago, and a number of samples taken there during the past year show a 6 inch streak on one side that assays from \$400 to \$600 per ton; the other side sampled at various times gave values of \$8, \$14 and \$16 over a width of three feet. The vein here is 12 feet wide.

Several holes were put in between the open cut and new shaft to expose the vein to see if it carried gold, and in every case good pannings were obtained at a depth of from 6 in. to one foot below the surface.

To the west, a distance of 300 ft. a prospect hole sunk about one year ago showed considerable specimen gold and an assay of \$20 per ton was obtained here.

The above small amount of work indicates an ore shute of from 400 to 600 ft. along the course of the vein, or wherever prospected within this distance pay ore has been encountered. The vein in the discovery shaft is formal with good walls and the ore is of such a nature that it is expected to be permanent and go down; furthermore, the "Queen" shaft on the Pinal Gold property shows a formal vein and good wall at a depth of 96 feet and the same condition can be expected here.

* I estimate that the shaft on this gold strike is making 1½ tons of \$100 ore for every foot it goes down; furthermore, every round of shots shows more gold and a greater width of high grade ore. There is at present six tons of \$100 rock on the dump and probably that much more is scattered over the hillside. If this ore continues down the shaft, with the grade and width as shown, there will be obtained 150 tones of ore to a depth of 100 ft. having a gross value of \$15,000 from sinking the shaft.

As shown on the map, there are two other veins crossing this property from east to west, having about 3000 ft. of each within the limit of these claims. A little prospecting done on these veins shows considerable gold in the pan and assays of \$15 were obtained from a shallow shaft.

ECONOMIC CONDITIONS

LABOR - For small and large operations is plentiful and due to the nearness of the property to the Mexican border, a smaller wage is paid than in other camps. On large operations it is not expected that great difficulty would be experienced in getting labor.

WATER - At present water for camp purposes is hauled a distance of about two miles. In the valley several miles from the mine a large flow of water is obtained at a depth of about 200 feet, and a plentiful supply of water is assured for all purposes.

FUEL - For domestic use is obtained from the surrounding hills, there being plenty for small operations. For larger operations, power could be obtained, or coal or oil would have to be hauled in from the railroad.

POWER - Power for small operations is by gasoline or oil engines. For large operations power could be obtained by building a power line from the railroads where hydro-electric power is available. (40 miles).

TRANSPORTATION - At present all supplies are hauled to the property by trucks or by wagons over a level wagon road about 41 miles long. For large operations a railroad could be built in from Maricopa, a distance of 40 miles over a level country without any rock work, so the cost would probably not exceed \$10,000 per mile. The survey for the El Paso & Southwestern Railroad passes about 12 miles to the south of the property and a connection would be over level ground where a railroad could be easily built.

RECOMMENDATIONS AND CONCLUSIONS

* Three large veins cross this property from east to west and fully 8000 ft. of vein is within the boundaries of this group. The veins outcrop prominently and can be followed easily. The wall rock is mainly andesite, and the walls are well defined and formal. Wherever prospected gold has been found and in the case of the late strike a width of from two or three feet of high grade ore has been uncovered.

Prospecting along the surface of the vein, where the strike has been made, indicates that an ore chute fully 600 ft. in length can be expected, though it may be longer as no prospecting has been done beyond these limits.

The vein showing at the bottom of the 95 ft. hole, which is the deepest workings in this section, show the vein and walls to be strong and formal at that depth, and it is reasonable to assume that the vein and ore body at the strike on the Greenback will go down as strong and be fully as rich as now shown on the surface. At the present depth of 8 ft. the ore showing is very good, both ends of the shaft and bottom being in ore of a shipping grade, the bottom averaging about \$100 per ton for a width of two ft. or more. Should that value continue to a depth of 100 ft., \$15,000 worth of ore would be obtained. To ship this ore to the railroad would cost \$8. The cost of railroad freight and treatment \$17 would leave a net profit of \$75 per ton, or a total net profit of \$11,250.00.

An ore body of this grade of ore 600 ft. long, 100 ft. deep and 8 ft. wide would contain 10,000 tons of ore, having a gross value of \$1,000,000.

The ore already mined can be sorted easily into a high grade shipping ore running \$500 per ton and better, and a lower grade of ore of about \$20 per ton value, so it will be possible to ship a small tonnage of high grade ore and accumulate a larger tonnage of milling ore.

Taking into consideration the geology of this section, the character of the vein material and the distribution of the gold values through the rock, this is without exception the most interesting gold deposit that I have ever examined, and on further development it promises to become an important and profitable gold mine.

Yours very truly,

(Signed) FRANK W. ROYER

*

KICK BACK GROUP

PINAL COUNTY, ARIZONA

SCALE 1IN. = 600FT.

