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R. A. PEREZ CO.

"PRECISION CHEMISTS"

ASSAYERS - ENGINEERS - METALLURGISTS

ESTABLISHED 1895
PHONE VANDIKE 6897
BEDFORD MCNEILL CODE

OTTO ELLERMAN, E. M.
MANAGER

INVESTIGATION AND PROCESSES
FOR UNUSUAL METALLURGICAL PROBLEMS

120 NORTH MAIN STREET

Assay and Analysis Certificate

LOS ANGELES, CALIF., June 26, 1934

I HEREBY CERTIFY THAT THE SAMPLES OF _____ RECEIVED FROM J. F. Burkhard

GAVE THE FOLLOWING RESULTS:

SAMPLE NO.	OWNERS MARK ON SAMPLE	FIRE ASSAY				WET	WET	WET	WET	
		OZS. PER TON OF 2000 LBS.		VALUE PER TON		PER CENT LEAD	PER CENT COPPER	PER CENT ZINC	PER CENT	
		GOLD	SILVER	GOLD	SILVER					
				AT <u>60</u> CTS. PER OZ.						
				\$	\$					
29017	Sample #1	0.10	2.20	3.50	1.32	0.10				Gold + Silver Total 4.90
29018	" #2	0.01	0.45	0.35	---					.64
29019	" #3	0.08	14.10	2.80	8.46	0.15				11.80
29020	" #4	0.01	0.40	0.35	---					.61
		Gold at \$35.00 per ounce								
		<i>From Cashier Property, Colorado, Ariz.</i>								
	DUPLICATE									

CHARGES, \$ 6.50

ALL ASSAYS MADE IN DUPLICATE.

Otto Ellerman
ASSAYER AND CHEMIST

ALVIN B. CARPENTER
CONSULTING MINING ENGINEER
1211 PACIFIC MUTUAL BUILDING
LOS ANGELES
MUTUAL 8258

MINE RECORD

NAME OF MINE: Cashier Mine

OPERATED BY: J. Truitt

LOCATION: Southwest portion T.23 N., R.17 W.

MINING DISTRICT: Wallapai

COUNTY: Mojave County, Arizona

ORE PRODUCTION: Two to three carload shipments of lead, silver, gold ore by owners or leasers in past several years, from superficial work and from lower tunnel vein.

TYPE OF PRODUCT: Complex sulphide ore. Galena, pyrite, sphalerite, chalcopryrite, with gold and silver values, in quartz gangue.

UNDER OPTION CONTRACT: to J. B. Truitt

OWNERS: Rose, Abelman and wife

PROPERTIES CONSIST OF: Panama, New Years, Cashier, Cashier Extension, Cashier No. 1. Claims are held by location.

EQUIPMENT: At shaft - small prospect hoise and light head frame, portable forge, cable and bucket.
At tunnel - compressor house from which all equipment has been removed.

EXAMINED BY: Alvin B. Carpenter
Date: June 21-22-23, 1934

GEOLOGY

The geological formation on these claims, as noted, consists mainly of a granite porphyry considered to be of late Cretaceous age that was intruded in the pre-Cambrian granites and gneisses. The granite porphyry is blocky and easily decomposed along joint planes. This characteristic has produced a number of parallel veins on which the original rock has been more or less decomposed and dissolved, forming fissures that have been filled with quartz through partial or whole replacement by quartz.

These fissures have formed lines of weakness in the formation on which movement has occurred, causing rather persistent narrow veins often showing some folding or varying dips and making ore in lenses which, as observed on this property in the superficial workings that are now open, are of very limited extent.

The apparent lengths of such lenses as observed in the Cashier shaft and in the Adelman tunnel were less than 20 feet; the best width not more than 20 inches and the vertical dimension not determined except that it can be presumed that pinches may be expected at most any time.

The available geological data on the formations and veins of the Gerbat Range is found in U.S.G.S. Bulletin No. 397, by Schader.

From the descriptions of the veins of the district it is noted that most of those that have been worked

successfully have been contact veins where the granite porphyry has been intruded by small dykes of diabase or lamprophyre. None of these dykes were observed adjacent to the veins noted on the Cashier property where both walls showed granite porphyry.

THE CASHIER MINE

Veins and Outcrops

There are two recognized outcrops of veins that are noted on these claims.

At the top of the mountain is a prominent outcrop known as the "Alpha" vein. This shows as a somewhat siliceous iron and manganese stained replacement of the granite porphyry formation, shows quartz and large crystals of feldspar, with small cusps that show brown and yellow stains indicating former crystals of pyrite and galena. The width of this outcrop on the New Year claim was from 4 to 6 feet. ^{2' wide sample given 7.61} The strike is N. 60° W. with an apparent dip of from 60 to 70 degrees to the south. On the adjoining Alpha claim, this outcrop is 20 feet wide, shows less replacement, and appears to dip north.

A shaft said to be 80 feet deep, on the adjoining Alpha property, shows heavy sulphide ore on the dump carrying galena, pyrite and sphalerite. It is probable that the best ore also carried proustite. The gangue is a grey quartz with included feldspar. The ore from this property is reported to have been of shipping grade, but no very extensive work appears to have been done here. It is also stated that this work was

stopped because the better grade ore raked into the New Year claim of the Cashier group. This, however, I was not able to confirm.

The Cashier vein.

This vein is down the mountain from the Alpha vein and is indicated by a line of shallow caved and partially filled open cuts between the Cashier shaft and the Abelman tunnel. Sample No. 2 was taken in a face of ore in one of these cuts showing 20 inches of vein material running ^{#0.64} per ton.

The Cashier shaft.

This shaft is a small inclined working on a well defined slip. The slip has a dip of 78 degrees to the north for the first 25 feet in the shaft. From this point to the bottom the narrow vein rolls somewhat with an average dip of 52 degrees.

A short drift at 25 feet shows a very partial replacement of the porphyry along the slip with some limonite. No stoping was done and the ore, if such there is, is of doubtful value.

Below this short drift and at the present bottom of the shaft at a depth of 65 feet the slip shows a short lenze of quartz carrying sulphides of iron, lead, and zinc in a quartz gangue. The length of this lenze cannot be considered as more than 20 feet. The ore pinches to 4 inches some 12 feet above the floor of the present bottom of the working, and the fissure shows no ore in either end. The bottom of this

working shows a width of 12 inches of ore, a sample from which gave an assay result of 0.10 Au. 2.2 Ag. 0.10% Pb. \$4.90 in Au + Ag.

The Abelman tunnel

About 100 yards northwest of the Cashier shaft and 50 feet below is a tunnel that has been run in a distance of 80 feet on the Cashier vein. No ore was encountered in this tunnel in the first 50 feet of drivage, at which point a 4 foot winze shows some ore in the bottom. At the end of the tunnel a lenze of ore was encountered from which a shipment is said to have been made. This lenze appears to have had a length of about 20 feet and was stoped some five feet below the level. The ore is a hard quartz replacement of porphyry with a heavy sulphide mineralization in the seams. As the heaviest mineralized portion is softer than the quartz portion of the vein, the assay result of my sample most probably is high. The result of this sample gave 0.08 oz gold, 14.00 oz. silver, and 0.15 % lead, or a gold and silver value of \$11.80 per ton.

The Lower tunnel

Some four years ago the Cashier property was bonded to a group of people who undertook to explore the ground some 375 feet below the Cashier vein outcrop. A tunnel was driven a distance of 380 feet on a vein known as the Wedge vein. From a point 350 feet in from the portal of this tunnel, a crosscut was started with the intention of cutting the Cashier vein and driven a distance of 450 feet. The work was stopped before the Cashier vein was reached.

This tunnel and crosscut are not at present accessible as the ground has caved at various places and the following information was obtained from Mr. Abelman, one of the present owners of the property who it is understood was acting superintendent of the work when the tunnel was run.

Mr. Abelman states that although the Cashier vein was not reached, the tunnel cut a vein at a point about 70 feet short of the present face on which a drift had been run towards the northwest for a distance of 225 feet. He states that although this vein where first cut was but a 6 inch stringer in a blocky granitic rock that ran \$100.00 per ton, after drifting 50 feet the vein widened to 14 inches, made a short turn nearly at right angles, and for a distance of 12 feet showed very high grade ore. At this point a great deal of water was encountered.

From this point Mr. Abelman states there is 160 feet of drift to the face that shows a vein 30 inches wide that consistently assayed \$36.00 per ton. The vein has a dip of 80 degrees, and was further developed by a 40 foot raise that showed ore of the same width and value.

Ore on the tunnel dump that is said to have come from this vein was sampled by Mr. Truitt with the result of 0.50 oz. gold, 36.54 ozs. silver, and 41.3% lead.

Although such values in the above described vein are encouraging for further work at this point, the fact that the nature of the ground in which the tunnel is run may possibly be such that it will be difficult to keep the tunnel open

should have due consideration. An additional fact that the attempt to carry a drift on this vein to the southeast was abandoned due to caving ground, would lead to the presumption that bad ground may be encountered at any time, that will limit the occurrence of ore and the possibility of economic work.

CONCLUSION

The possibility for high grade production in the Cashier ground is considered to be exceptionally good as the extension of the "Night Hawk" vein which in the latter property has produced bonanza ore.

Although the outcrop of the Cashier vein at the top of the mountain appears to be in line with the Night Hawk workings on the opposite side of the canyon, there does not seem to be any old workings down the side of the mountain in line with the Night Hawk vein that would indicate the extension of such vein on this property. The Cashier vein in the shaft has a much flatter dip than the Night Hawk vein. The Night Hawk vein lies in a gulch which would be indicative that it was a well pronounced fault fissure or a fissure in a shear zone, while the hill on the Cashier property shows no such sheared or faulted ground, and the veins appear to be more on localized slips in the formation.

The ore occurrences where noted on the Cashier property were restricted to very small lenses that cannot be considered as commercial in a large sense.

The more favorable prospect on the property lies in what may be deduced from hearsay regarding the showings made from the development on the lower tunnel level where it may be presumed there is at present a length of 160 feet of ore 30 inches in width that is said to have a value at present prices of about \$40.00 per ton in gold, silver, and lead.

To exploit this ore, however, it will be necessary to maintain from 900 to 1000 feet of tunnel, a considerable portion of which is in swelling ground.

This more favorable aspect that is lent on the basis of unconfirmed reports is hardly sufficient to offset the doubtful showings for ore bodies made in the other parts of the property.

Alvin B. Carpenter E. M.

June 27, 1934