

#### **CONTACT INFORMATION**

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PRINTED: 12/17/2002

#### ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: CASHIER

ALTERNATE NAMES:

WEDGE

ABLEMAN TUNNEL

**HASYAMPA** 

MOHAVE COUNTY MILS NUMBER: 112A

LOCATION: TOWNSHIP 23 N RANGE 17 W SECTION 31 QUARTER SE LATITUDE: N 35DEG 20MIN 15SEC LONGITUDE: W 114DEG 07MIN 45SEC

TOPO MAP NAME: CERBAT - 7.5 MIN

**CURRENT STATUS: PAST PRODUCER** 

COMMODITY:

GOLD LODE LEAD SULFIDE SILVER SULFIDE ZINC SULFIDE COPPER SULFIDE

#### **BIBLIOGRAPHY:**

ADMMR CASHIER MINE FILE ADMMR MOHAVE CUSTOM MILL PROJECT ADMMR ALPHA MINE FILE ADMMR MAPS - UPSTAIRS IN DRAWER 6 - FLAT FILE CASHIER MINE MOHAVE COUNTY

Earl Baier, 12813 N. 30th Dr., Phoenix and Roy Montague have the Jamison and Cashier Mines. Cashier reportedly has 51,000 tons of silver, lead, gold ore that will assay \$127.00/ton (hearsay).

FTJ WR 1/7/66

See: Nighthawk Mine (file) Mohave - article from Mohave County Miner dated 9/5/74

NAME: CASHIER

COUNTY: MOHAVE

DISTRICT: WALLAPA!

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Mineralization: Cupben Aury

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Type Operation:

Production:

AEC microfilm; cupping file

Mohave Cty Card File

# DE. ARTMENT OF MINERAL RESOURCES STATE OF ARIZONA

#### **OWNERS MINE REPORT**

Date

1.	Mine	Cashier
		OCIDATE

- 2. Mining District & County Wallapai
- 3. Former name
- 5. Owner Bert Abelman, J. A. Bell, A. A. Rose
- 7. Operator
- 9. President
- 11. Mine Supt.
- 13. Principal Metals Gold, silver, lead
- 15. Production Rate
- 17. Power: Amt. & Type
- 18. Operations: Present

- 4. Location 10 miles S. of Chloride
  6 miles E. of Boulder Dam
  highway.
  15 miles N. of Kingman.
- 6. Address (Owner)
- 8. Address (Operator)
- 10. Gen. Mgr.
- 12. Mill Supt.
- 14. Men Employed
- 16. Mill: Type & Cap.

- 19. Operations Planned Crosscut 1000 feet to cut every vein on surface
- 20. Number Claims, Title, etc. Five Cashier, Cashier #1, Cashier Extension, Panama, New Year.

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i Svaka Maraji domi i Švištik i vek kem iz

- 21. Description: Topography & Geography
- 22. Mine Workings: Amt. & Condition 1000 feet crosscut. June 1st was in good condition.

23.	Geology & Minera	lizat 1d		le de reception de la la	
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29.	Special Problems,	Reports Filed	idialid e a de distri		at the grant to the
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30.	Remarks			· At an a co	
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31.	If property for sale	e: Price, terms and	l address to negotiate	e. \$50,000 Bond and Terms to suit by	

32. Signed.....

33. Use additional sheets if necessary.

#### DELARTMENT OF MINERAL RESOURCES STATE OF ARIZONA OWNERS MINE REPORT

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District Wallafaar	Location 10 ml So, of chloris 6 ml Ent of Builder
Former name	6 th Earl of Building
Owner Bed ablimacing	Address Address Gen. Mgr. Mill Supt.
Operator President  Mine Supt	Address 15 mm 700 05
President	Gen. Mgr.
Wille Supt.	Mill Supt.
Principal Metals Light. William Jan	Men Employed
Production Rate	Mill: Type & Cap.
Power: Amt. & Type	
Operations: Present	in the second se
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Geology & Mir	neralization
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Ore:	Positive	&	Probable,	Ore	Dumps,	Tailings
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Mine, Mill Equipment & Flow Sheet

Road Conditions, Route Old Mint game and Road Season Seaso
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Water Supply Land of results from tunned
Brief History  Hand Hand Civil Hy and Sold silver
Special Problems, Reports Filed
Special Problems, Reports Filed
Remarks
Remarks
If property for sale: Price, terms and address to negotiate.
If property for sale: Price, terms and address to negotiate.

Signed....

Use additional sheets if necessary.

DEPARTMENT OF MINERAL RESOURCES STATE OF ARIZONA FIELD ENGINEERS REPORT

MC-42 SPECIAL

Mine V Cashier

Date . July 29, 1940

Tistrict Wallapai, Mohave County, Ariz.

Engineer Elgin B. Holt P.O. Box 288

bub ject:

Kingman, Ariz.

#### SYNOPSIS REPORT

OWNERS: Bert Abelman, J. A. Bell and A. A. Rose. Bert Abelman, Agent, Chloride, Arizona.

LOCATION: Property is located on the west side of the Cerbat range at an approximate

elevation of 4,500 feet.

METALS: Gold, Silver, Lead, Zinc and Copper; Silver and Gold predominating.

GEOLOGY: The rocks of this area are essentially of the pre-Cambrian complex, consisting of granite, gneiss and dark schists. These older rocks are intruded

by younger masses of granite-porphyry.

AREA: The Cashier group consists of 5 mining claims, covering three or four prominent veins, including the Alpha vein, which traverses the Cashier claim for 1,500 feet; this claim being the northwest extension of the Alpha mine.

DEVELOPMENT WORK consists of a crosscut tunnel 1,000 feet in length, the object of which was to cut the Cashier, Alpha, Summit, and many other veins. The tunnel was driven many years ago; but was never completed. About 75 feet from face of tunnel a vein was intersected, which may or may not be the Cashier vein. This vein is 5 feet wide and an 18-inch pay streak from which less than a carload of ore was shipped, assaying \$23 per ton in gold and silver.

By driving the Cashier tunnel an additional 250 feet it should intersect the Alpha vein 800 feet below the surface and at a point 50 feet northwest of the northwest end of the Alpha claim. Also, should this tunnel be continued about 2,200 feet beyond the Alpha vein, the Summit vein should be cut at a depth of approximately 2,000 feet from the surface, Also there are a number of undeveloped ore-bearing veins between the Alpha and Summit veins. Hence if this tunnel could be driven an additional distance of 2,500 or 3,000 feet a vast amount of commercial ore should be exposed in the various veins it would open up.

Work on surface outcrop of the Cashier vein consists of open cuts, showing vein to be 3 feet wide, from which 3 lots of ore were shipped, assaying as follows: One car of 30 tons, \$48 per ton; 1/2 car of 20 tons, \$64 per ton; 1/2 car of 20 tons, \$51 per ton; two other cars were shipped; but the assay results of these are not available. This data was furnished by Mr. Abelman.

WATER now flowing from the Cashier tunnel fills a 1.5-inch pipe. It is believed that after the Alpha and other veins are cut by this tunnel a great deal more water will be encountered sufficient to supply a large milling plant which could be located directly below the portal of said tunnel.

NOTE: As the Alpha vein traverses Cashier ground for 1,500 feet, as above set forth, a brief description of the Alpha property is submitted, as follows:

The ALPHA MINE is located on the west side of the Cerbat range, at an elevation of 5.300 feet, more or less, at a point about 2,200 feet south-southwest of the Summit property. It was worked up to 1939 by the Alpha-Keystone Mines, Inc., and ore produced, averaging around \$12 per ton in gold and silver alone, was hauled to the Keystone mill for treatment.

The Alpha property is opened by tunnels on vein, striking south 30 deg. east. The croppings are a prominent reef of black iron and manganese stained quartz. The vein ranges from 4 to 20 feet wide and ore contains silver sulphide, assaying up to 1,000 ounces silver to the ton. Iron pyrite, galena, zinc blende and chalcopyrite are also present in the ore. Hence all values can readily be recovered by selective flotation.

The mine has been an excellent producer of shipping and milling ores through the years and a great deal of money has been made out of it by various owners.

According to F. C. Schrader (1909): "A consignment of 400 tons of ore, shipped from Alpha mine, is reported to have netted \$125 per ton.

In Conclusion, the Cashier property is recommended to anyone looking for an attractive development setup on which to spend some money, with the end in view of opening up a large amount of mill tonnage out of which considerable money should be made. However, any company taking over the Cashier group should also secure, if possible, both the Alpha and Summit properties.

(SIGNED) Elgin B. Holt.

#### MC-42

# DEPARTMENT OF MINERAL RESOURCES STATE OF ARIZONA OWNERS MINE REPORT

Date

Mine Cashier

Mining District & County - Wallapai Dist.

Mohave County

Former Name

Owners - Bert Abelman, J. A. Bell,
A. A. Rose

Operator

President

Mine Supt.

Principal Metals - Gold, Silver, Lead

Production Rate

Power: Amt. & Type

Operations: Present

Location - 10 miles S. of Chloride 6 miles E. of Boulder Dam highway. 15 miles N. of Kingman.

Address - Chloride, Arizona

TOTALISH . MICHAEL OF . VIORENCE & G. LEGELL . .

Address

Gen. Mgr.

Mill Supt.

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Men Employed

Mill: Type & Cap.

APRANT ANTI ESTALLIZO TERRETA \* THOSES ES

Double through the de

Operations Planned - Cross cut 1000 feet to cut every vein on surface.

Number Claims, Title, etc. - Five claims - Cashier, Cashier No. 1, Cashier Extension,

. Di Tib - Light. Les rothis, servet ared indiregió independend medianit in establica

Description: Topography & Geography

Mine Workings: Amt. & Condition - 1000 feet crosscut. June 1, was in good condition.

Additional parallel transport of the Color

Geology	&	Mineralization	-	Gold,	Silver,	Lead.

Cre. Positive & Probable, Ore Dumps, Tailings

rusus di la Caralda () Sociali di la sello di la como con

Voin Width, Length, Value, etc.

Mine, Mill Equipment & Flow Sheet

Road Conditions, Route - Old Kingman road south 7 miles, 3 miles east. Good condition.

The second

Water Supply - Plenty of water from tunnel

Brief History - Jennison on west side line has been heavy producer. Night Hawk on south line high grade gold -silver. Alpha Co. east line has been heavy producer. Summit east line heavy producer.

Special Problems, Reports Filed

Remarks

If property for sale: Price, terms and address to negotiate - \$50,000 Bond and Lease Terms to suit buyer.

(SIGNED)

Bert Abelman, Agent.
Chloride, Arizona

	News Items
	Date 7/30/40
	Mine CASHIER MINE
7	Location / CERBAT MOUNTAINS - MOHA
•	Owner BERT ABELMAIN - J.A. BELL
4	Address & A.A. MOSE ALL OF KINGMAN
-	Operating Co. LEASE TAKEN BY
4	Address J.E. DIETRICH OF
_	SUNLAND - CALIF
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	Signed V-C

Kingman, Arizona, July 30, 1940.

To:

J. S. Coupal, Director.

From:

Elgin B. Holt

Subject:

Cashier Mine - Cashier Tunnel

The inclosed data is all about the Cashier Mine, or more particularly about the Cashier Tunnel, which I looked over carefully when I was making the Smelter examinations.

You will no doubt remember that Forest V. Phillips, former Gen. Manager of Alpha-Keystone Mines, Inc., had a long term option on all this property, including the Cashier Tunnel and claims, the Alpha mines, the Summit, Jamieson and all the Stockton Hill properties.

In fact, Phillips had the right idea - he wanted to build a large mill below the Cashier tunnel in order to work ores from all that country. Of course, he expected to drive the Casher Tunnel forward in order to cut the Cashier, Alpha, Summit and a score of other veins. So much for the history.

Harry Lennox asked me to call on Bert Abelman, one of the owners of the Cashier group and tunnel. It did so and found this property was open for a deal for the first time in some years.

A day or two later, J. E. Dietrich came along looking for properties. I took him to Chloride, introduced him to Abelman and he now has an option on the property in question.

The object of this memo is this:

Kindly keep this data in your active files so that in case Dietrich fails to make a deal, you can present it to some live wire who might be interested in taking property over with a view to carrying out the plans Phillips had in mind.

C PH.

Examinations, Survey Appraisals, Assays Confidential Reports

Residence-Office 431 E. Spring Street Telephone SK 3-2097

Registered Professional Engineer No. 257, Arizona Registered Land Surveyor No. 3065, Arizona Licensed Land Surveyor No. 2641, California and Mohave County Engineer P. O. Box 1107

Kingman, Arizona

Refer: By 217, Ollarche

Property of Mrs Eur James Mintage

Extracts From 1955 E. Ross Housholder's Mining Report Cashier Mine Wallapai Mining District Mobare County, Arizona

Note: Photographs & Maps Fill Odignal Report Are Availa BLUSPOT BACKETWE PRISTOCALURA

TERMINOLOGY: Standard terms used in this report follow definitions of those relating to the metal mining industry obtained from "A Glossary of the Mining and Mineral Industry by Albert H. Fay, published 1920, by the U. S. Bureau of Mines.

"Ore" Page 475 Bull. 95, Bur. of Mines, Dept. Int.

A natural mineral compound, of the elements of which one at least is a metal. The term is applied more loosely to all metalliferous rock, though it contain the metal in a free state, and occasionally to the compounds of non-metallic substances, as sulphur ore. (Raymond).

Also, material mined and worked for nonmetals, as pyrite is an

ore of sulphur (webster).

A mineral of sufficient value as to quality and quantity which may

be mined with profit. Ihlseng).

A mineral, or mineral aggregate, containing precious or useful metals or metalloids, and which occurs in such quantity, grade, and chemical combination as to make extraction commercially profitable. (Robert Peele, Min. & Met. Soc. of America, Bull. 64, p. 257)

A metalliferous mineral, or an aggregate of metalliferous minerals, more or less mixed with gangue, which from the standpoint of the miner, can be won at a profit, or from the standpoint of a metallurgist can be treated at a profit. The test of yielding a metal or metals at a profit seems to me, in the last analysis, to be the only feasible one to employ. (J. F. Kemp, Trans., Canadian Min. Inst., 1909, p. 367).

Ore blocked out" - P. 476
Ore exposed on three sides within a reasonable distance of each other. (H. C. Hoover, p. 17)

"Ore developing" - P. 476
Ore exposed on two sides. See Probable ore. (H. C. Hoover, p. 17)
First class, blocks with one side hidden; second class, blocks with
two sides hidden; third class, blocks with three sides hidden.
(Philip Afgall, Min. and Met. Soc. of Am., Bull.64, p. 250)

"Probable ore" P. 540
Any blocked ore not certain enough to be "in sight" and all ore that is exposed for sampling, but of which the limits and continutity have not been proved by blocking. Also, it includes any undiscoved ore of which there is a strong probabliity of existence. Ore that is exposed on either two or three sides. Whether two or three sides be taken as a basis will depend on the character of the deposit. (Min. and Met. Soc. of Am., Bull. 64, pp. 258 and 262).

"Ore developed" P. 476
Ore exposed on four sides in blocks variously prescribed.

Show Housholder

The term mineral deposit or one deposit, is arbitrarily used to designate a natural occurrence of a useful mineral one in sufficient extent and degree of concentration to invite exploitation. (Raymond)

"Exploitation" p. 255
The watraction and utilization of ore. Often confused with exploration." (Richard)

"Exploration" p. 255
The work involved in locking for ore. Often confused with "exploitation". (Richard)

"Exploring mine" p. 255
(Scot.) A working place driven ahead of the others to explore the field. (Barrosman) Prospect.

"Prospect" p. 540
To examine land for the possible occurrence of coal or valuable minerals by drilling holes, ditching, or other work. (Steel)

Prospect hole p. 540
Any shaft, pit, drift, or drill hole made for the purpose of prospecting the mineral-bearing ground.

"Prospecting" p. 540
Searching for new deposits; also, preliminary exploration to test
the value of lodes or placers already known to exist.

"Development" p. 214

Work done in a mine to open up ore bodies, as sinking shafts and driving levels, etc. (Skinner).

#### and

"Resources"

(Re. S. G. Lasky, (with U.S. Geol.Surv.) p. 15, Vol. 23, No. 8, Aug. 1955, Western Mining)

"Resources include" all material in the ground, discovered or undiscovered, usable at present, or not, rich or lean, considered within the context of all factors -- that may influence its conversion into a reserve."

"Reserves" (Re. A. P. Butler, Jr. (with U.S.Geol.Surv), p. 15, Vol. 23, No. 3, Aug. 1955 Western Mining.

Apply to known deposits that have aspects of usability within a specified set of economic and technological conditions.

ERoso Housholder

"Positive oro" P. 530 Bull. 95

Ore exposed on four sides in blocks of a size variously prescribed.

See "Ore developed," also "Proved ore." (B. C. Hoover, p.17)

Ore which is exposed and properly sampled on four sides, in blocks of reasonable size, having in view the nature of the deposit as regards uniformity of value per ton and of the third dimension, or thickness. (Min. and Met. Soc. of Am., Bull. 64, p. 262)

"Proved ore". p. 541

Ore where there is practically no risk of failure of continuity (H. C. Hoover, p. 19). See also Positive ore.

"Possible ore" p. 531

Ore which may exist below the lowest workings, or beyond the range of actual vision. (Min. and Met. Soc. of Am., Bull. 64, p. 262).

"Ore expectant" p. 476

The whole or any part of the ore below the lowest level or beyond the range of vision. See Possible ore, also Prospective ore. (H. C. Hoover, p. 17). The prospective value of a mine beyond or below the last visible ore, based on the fullest possible data from the mine being examined, and from the characteristics of the mining district. (Phillip Argall, Min. and Met. Soc. of Am., Bull. 64, p. 260)

"Prospective ore" p. 540

Ore that cannot be included as proved or probably, nor definitely known or stated in terms of tonnage. See Possible ore, also Ore expectant. (H. C. Hoover, p. 19)

"Low grade" p. 409

A term applied to ores relatively poor in the metal for which they are mined; lean ore.

"Ore faces" p. 476

Those ore bodies that are exposed on one side, or show only one face, and of which the values can be determined only in a prospective manner, as deduced from the general condition of the mine or prospect. (Min. and Met. Soc. of Am., Bull. 64, p. 255)

"Ore partly blocked" p. 1,77

Those ore bodies that are only partly developed, and the values of which can be only approximately determined. (see Probable ore)

"Ore in sight" p. 477, Bull. 95

A term frequently used to indicate two separate factors in an estimate, namely

(a) Ore blocked out, that is, ore exposed on at least three sides

within reasonable distance of each other;

(b) Ore which may be reasonably assumed to exist, though not actually blocked out; these two factors should in all casesbe kept distinct, because

(a) is governed by fixed rules, while

(b) is dependent upon individual judgment and local experience. The expression "ore in sight" as commonly used in the past appears to possess so indefinite a meaning as to discredit its use completely. The terms Positive ore, Probable ore, and Possible ore are suggested. (lin. and Met. Soc. of Am., Bull. 64, pp. 258 and 261)

ElPoso Housholder

TRANSPORTATION & SUPPLIES

A good mine road of easy down grade leads from the present workings of the Cashier mine, connecting with the Arizona State oil cake paved U.S. 93 highway which is about 2-3/4 miles westerly from the property, thence 13 miles over paved highway to Kingman, the chief distributing center for northwestern Arizona, where ample supplies of all kinds needed in mining are kept in stock.

OL IMATE

The district has a healthful climate with mild winters which permits good working conditions the year around. The vegetation is typical of semi-arid mountain regions. The rainfall is about 10 to 12 inches per year.

WATER SUPPLY

Domestic water can now be secured from several good spring on the property. Water from the present and erground workings is a excess of any development requirements, and as development proceed it is believed sufficient water will be obtained for other purpose.

TOPOGRAPHY

The district ranges in elevation from 3,000 feet in the foothills on the west to 5,000 feet on the east, at the crest of the Cerbat Mountain Range. Lane Springs, along which the Cashier mine is located, is a short, de-ply out side valley situated northeast of Todd Basin and the Bolconda Mine, from which it is separated by a prominent ridge extending northwestward from the axis of the range. Lane Springs canyon empties into Long wash the principal drainage of the immediate section, which leads northward and westward into Sacramento Valley. The mountain sides on either slope of Lane Springs canyon has a steep pitch. These slopes are deterial covered but permit the ready construction of trails and roads to all parts of the group.

ORE DEPOSITS OF THE DISTRICT

The ore deposits of this district contain principally lead, zinc, silver and gold, and sometimes copper. They occur in fissure veins which have a generally northwesterly trend and a steep northeasterly dip. Those situated north of Cerbat Wash including Lane Springs canyon section contain principally lead, zinc, silver and gold. The gangue is mainly quartz and the values assaily favor the handing wall. The principal minerals are pyrite, chalcopyrite, galena, spaalerite, stibnite, and native gold. Near the surface native silver, argentite, and ruby silver appear, together with free gold, but the water level is often less than 80 feet, and subsequently primary ores come in at relatively slight depth.

GRODOM OF THE LANE SERVING BECTION

The country rock is the pre-Cambrian granite, gneiss, and schist complex. It is intruded by dikes of minette, granite, granite porphyry, rhyolite and other rooks, some of which are associated with workable veins and are too greatly sericitized for determination. The complex is also flanked on the west by masses of Tertiary volcanic rocks, principally rhyolite.

The veins for the most part are regular and persistent wi well defined walls. They occur chiefly in the pre-Cambrian graniti fiscures. Oxidation has altered the upper part to a depth ranging from 50 to 300 feet, and this oxidized zone changes to the primary ore within a vertical range of 10 to 40 feet. At the present time operators utilize the sulphide ores. The old time miners were unable to market the sulphide ores at a profit such as has been mine during the past several decades in the district. Only the oxidized and secondary enriched ores were they able to treat and ship. Ther fore today there are mines being developed which may be capable of important production. The veins have suffered great erosion, and their mode of occurrence leads to the belief that they were deposited at comparatively great depths by hot circulating waters.

GROLOGY AND VEINS OF THE CASHIER GROUP

The geology of the Cashier group corresponds to that of the district. The country rock is pre-Cambrian gneiss, extensively intruded by granite porphyry. In the shallow underground workings the granite porphyry saems to be associated with the veins and is finer grained than the outerops. There are evidences of five asjor veins on this property, together with smaller ones that will bear investigation as the development of the mine proceeds.

CASHIER VIIN The Cashier vein is in the central part of the group. It might be well to here record that wert Ableman, a former of oner of this mine group in 1927 told me personally that "a good tonnage of heavy lead ore has been extracted from its workings, especially from the 85 foot shart, known as the Cashier shaft," which is within 500 feet of the westerly endline of the Night dowk mine, and from the Alleman tunnel. This vein has a northwestward Strike and the similar dip as the Night Hawk voin, of which it is anscattedly the western extension. It is a large vein dipping to the northeast between 70 and 80 degrees. It contains sulphide ores of load, silver, zine and gold, and in places carrying some copper, home of the present workings are many feet below the grass roots. The ore shoots that have been exposed. I believe however, have promise to become producers, following an intelligent development program. Based on his office records in 1927, Bert Ableman told he personal. that "the ores thus far shipped from the Casaler vein ranged betse: \$48 and \$200 per ton."

E ROSS HOUP'S LDER, E. M.

RESISTERED PROPERS. ALL ENGINEER

BOCKETY OF AMERICAN MAITARY ENGINEERS AMERICAN ASSOCIATION OF ENGINEERS AMERICAN OCCUETY OF ENGINEERS

KINGMAN. ARIZONA.

July 18, 1927

WE HEREBY CERTIFY THAT THE SAMPLES ASSAYED POR

Camiler Line, Kingwa, Arizona.

GAVE THE POLLOWING RESULTS:

OWNERS MARK SQ. PER TON VAL. PER TON	BILVER SOLD AND SILVER OZ. PER TON VAL. PER TON DOLLARS CENTS	COPPER PER CENT	LEAD PER CRNT	Zinc ner cent
ore from Sedge vein 10.70674/9 seer face 0.68 10.42	\$.44 \$4.99@90\$/g \$5.59	0.6%	5.21	13.44%
Select ere Ableman tunnel #25.605. Aump 0.76 al6.71	35.72	2.5%	44.0%	3.32%
elect ere eahier shaft 1/2.60035/1 0.36 \$9.44	23.00 \$20.70/90/py \$32.30	0.885	41.40	7.615
re from kain tunnel  100 feet from portal  10.700 25/2  0.112 \$0.42	3.82 \$3.69	0.75	1.3/3	3.25%

GOLD AT 689.67 PER OUNCE.

SILVER AT

PER OUNCE.

CHARGES 8

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#2

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E ROSS HOUP LOER, E. M

POCIETY OF AMERICAN MILITARY CHOIMENS
AMERICAN ASSOCIATION OF ENGINEERS
AMERICAN OCCUTY OF ENGINEERS

KINGMAN. ARIZONA.

July 16, 1927

WE HEREBY CERTIFY THAT THE SAMPLES ASSAYED FOR

Cashier Hipe, Kingwa, Arizona.

MAYE THE POLLOWING RESULTS:

0re from Vedge Vein L.70@ %/ey near face 0.68 \$0.42 5.44 \$4.99@90 /2, 5.59 0.6% 5.2% Select ore Ableman tunnel \$25.60@ %/ey 416.71 35.72 2.5% 44.0%	
	3.32%
1000 ore 172.60035/63 \$20.70/901/63 \$32.30 0.36 \$8.44 23.00 0.885 41.45	

SOLD AT 889.67 PER OUNCE.

SILVER AT

PER OUNCE.

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WE HAVE ASSAYED YOUR SAMPLES AND FIND TO CONTAIN AS FOLLO CES. GDLD PER TON PER CENT PER DENT PER CENT VALUE OF BO PER FON lenging Jall 30 in 126-5 3.70 p-Cachier Cross 126-6 0-45 6.25 Cashier 30 ft. free 26-7 0.4 350

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REMARKS

CHARGES & 1G-00

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#### OUTCRUP OF TAN ALPHA VALL.

Looking southeast from the center of the New Years claim of the Cashier group, along the outerop of the Alpha vein, showing the dumps of the Alpha mine in the central background from which many theasunds of dollars worth of ore have been mined and shipped from this same vein necording to production records published concerning this mine I believe and expect this vein will be cut by the proposed Cashier development tunnel.

#### ALPHA VAIN

The Alpha vein is about 400 feet northerly from the Cashier vein and practically parallels it although trends more to the north, almost directly across the strike of the preLembrian gnoise complex. ("compings are both prominent on the Cashier property and the patented Alpha estate to the east, as can readily be noticed in the above photograph. This vein the can readily be noticed in the above photograph. This vein the stained quartz. The vein varies in width from 4 to 50 feet. And consists principally of a sangue in which the one occurs. The consists principally of a sangue in which the one occurs. The contains silver salphide, sprite and chalcopyrite. Another almospharellel vein to this Alma vein entereds a couple humaned them northerly which has the same general character as this one, bein have a scoop din to the northernt. The latter vein apparently enters the old Sugmit property.

The wedge or Main working tunnel has been driven about 900 feet, of which 375 feet has been on the wedge vein itself, exposing ore of a possible milling grade. The wedge vein has a west northwest strike with a dip ranging between 75 and 86 degrees to the northeast. This vein is several hundred feet southwesterly from the Ableman tunnel on the Cashier vein.

According to the observed strike and dip of the wedge vein it is expected that it will coincide with the Cashier vein upon the Cashier property near its easterly endline, not far from the boundary of the Might Hawk mine.

A short distance from the Cashier shaft to the southwes there is a marked quartz stringered blowout on the wedge vein the would lead me to believe that there could be an ore body beneath the surface at this point. The present face of the main working tunnel is now in what is believed by me to be of a grade that will probably make milling ore and it just entering beneath this widehed cortion of the voin which would bear out the supposition mentioned above. An assay taken from this ore gives 5.44 cunces silver, 5.2% lead and 15.44% zinc together with a low percentage of copper. The ore is encountered over the whole face of the dri in three parallel streaks varying in width between 6 inches to a feet, with streaks of gangue material between 3 to 6 inches wide Mach water has been encountered at this place which is typical ore, bodies in the sulphide zone, in this district.

Between the Cashier voin and this wedge vein there is another vein that outcross prominently but on which there has been little prospecting.

#### DEVELOPMENT & ORE EXPOSORES

The present working tunnel. A 500 foot crosscut has been started toward the Jashier and Alpha veins as is recorded in the accompaning map. One hundred feet from the portal there has been some zimple or exposed. This ore occurs in a lense about 60 feet long, and varying from d inches to 22 feet in width carrying from 2 to 6 per cent zine and a few cances in silver according to mine record In places lend occurs in appreciable quantities. The ore shoot at the face of the tunnel has already been exposed for 40 feet carrying values in lead, zine, silver and copper. There is a marked increase in the silica or martz content where the ore occurs in this vein.

The Ableman tunnel on the Cashier vein has been driven about 60 feet in a southeasterly direction along the vein at a shallow depth. Bert Ableman, the locator of this group, after whom this tunnel is nomed, made a shipment during December 1924, that had according to Mr. Ableman's records shown to me in 1927 and my belief "a gross value of wald her ton from an underhand atome in the heading of this tunnel. The following month he made another small shipment that had a gross value of \$64 per ton. The shipments were sent to the sampling works at Kingman. French and

Winters, two contractors and leasors, shipped 8 tons from this tunnel in the spring of 1925 that brought them \$51 per ton. The values were in lead, silver, gold, and zinc." A selected sample from ores left on the dump gave assay returns of 35.72 cunces in silver, \$16.71 in gold, 2.5% copper, 44.0% lead and 3.32% zinc, which checks the reported value of the shipments made from this tunnel.

One noticeable feature of the ore deposits in this tunn was that a horizontal bedding or "floor" of mice schist was four above each of the lead ore shoots.

Then there is the Cashier chaft on this same vein asver hundred feet to the southeast that is 85 feet deep. Jack Connell who owned this claim between 45 and 55 years ago told me persons in 1924 that he sunk this shaft, from which he shipped a carload of ore that brought him \$48 per ton even with an exceedingly low price for lead. The claim was then known as the Hasyampa. The companion claim which is now partially covered by the New Years claim, being the westerly extension of the Alpha vein was then known as the han Yan. There is today a 16 inch exposure of lead sulphide ore at the bottom of this shaft contained in a 3-1/2 foot face of lower grade ore of milling grade. A selected sample from the old damp gave in 1927 returns of \$6.44 in gold, 23.00 ounces silver, 0.8% copper, 41.4% lead and 7.61% zinc.

For the most part the other openings on the property consist of location and assessment holes on the various veins wh have uncovered considerable ore of varying grade. In general the Cashier group lies in the heart of a mineralized area from which much ore has been extracted, but the development of the group itself has been neglected in the past, for the superficial work that has been done thus far has only scratched the veins. The showings thus far made have been good and the property, I believe has much promise in a mining way.

#### SHIPPING ORES TO CUSTOM PLANTS SUGGESTED

Until the time arrives when the development of the Cashi mining property uncovers an extent of ore of sufficient size to justify the expenditure necessary for constructing and equipping a milling plant of its own on the estate itself, it is preferable to mine, sort or select, and ship to custom milling plants or custom smelters, even though the ore responds to milling treatment at a reasonable cost per ton. With present competition for ores a smelting plants and the more efficient operation of large custom milling plants as compared to small size plants, it will figure to your adventage to ship to those plants rather than consider the erection of a small plant on the Cashier mine group at this time.

#### ADVARIANCE OF SHIPPIES TO CUSTOM FRANT

Advantages to be gained by shipping rather than constructing a small constitution or mill treatment plant on the Cashier mine group, may be summarized as follows:

(1) a large developed hody of ore is not initially required.

(2) Initial plant cost, including development of considerable amounts ater, is not necessary.

(3) The risk involved in the proposition as a whole when no mill treatment plant or smalter is erected at the mine itself, i not as great, due to the smaller investment necessary.

#### ORE VALUE DETERMINED BY SHIPPING RETURNS

Note: C. D. (Blackie) McGovern, was mine superintendent in charge of underground operations at the Cashier mine during the 1938 activity and on the fifth of September 1955, personally told me that "the ore, taken from a 35 to 40 foot wing in the Cashier tunnel at about 740 feet from the portal, where they out the Cashier Vein and the ore shoot uncovered above near the surface (see sketch map) in the Ableman Funnel, contained an average of wood in gold (Ac), and silver (Ag) and 5 to 6 per cent lead (Ab) and from 2 to 4 per cent copper (Cu). On the Cashier tunnel level at this point they drifted in one to the northwest on the Cashier vein about 35 to 40 feet. They also, at that time drifted southeast about 25 to 30 feet. The shipping grade ore average (according to McGovern) about 18 inches in width, although in places the width dropped to 4 and/or 5 inches in width. The mill grade ore varied from 26 inches to 38 inches in addition to the width of the shipping ore."

Mr. McGovern also stated that "at 1,100 feet in from the tunnel portal the Alpha Vein was cut and a short drift run to the northwest about 18 feet, and about 12 feet to the scutheast. Gre was extracted from these drifts and some underhand stopping to make up a shipment to the Keystone mill, then operating at Mineral Fark, about 8 miles by road to the north of the Cashier a This ore contained \$64 in gold and silver, a little lead, some zinc and a small amount of copper. The vein was similar in width to that of the Cashier Mine, both as to the higher grade streak a the milling grade ore, which they were not interested in mining at that time." Mr. M. B. Maxwell who had worked in the Cashier mine agreed with the statement made by Mr. McGovern.

feet to the Cashier Vein corresponds closely with the 80 degree dip noted on the surface, although the recorded dip of the vein was 72 degrees at the point of contact. Also the 80 degree dip of the Alpha Vein would indicate that it would be encountered at near 1,100 feet from the tunnel portal (see sketches).

After derival calculations, and in keeping with the definitions of standard terms, rolating to the motel mining locates, I neve becalated too resulting inflormation, in the following tubio. Data daystably the terminology and temporal

Tommage excitation by E. Ross Houshalder, E. E., Sept. 1958

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	Cathler voin	Alpha vein		
relebie Ora (A)	1,040	760	1,640	
educk former blocked Reference (July)	₹ <b>,</b> ∂00	1,280	5,080	
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dditional decible ore	a,500	3,500	9,200	
total of ore In olate	19,640	4.550	16,200	

seard on the knowledge of the lead. The copper sulphide deposits carrying gold can silver values in this crea and sining eletrict and the existing characteristics in evilones at this lead-sina-copper with gold and silver simo property. I setimate and expect year fature development of these deposits, still researchly uncover an eductional topology, herety topolated.

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Cotal for ell Expectant ore	39,640	12,520	51,960

### AT THE FORTAL OF THE CASHIER TUNNEL

This shows a portion of the Lig dump at the main dorki Tunnel, and the track leading from the portal.

#### KOITAGEO GERARY & HOITACOL

The Cashier group is located in the southwest portion Township 23 Borth, Renge 17 Lest, in the Wallandi Mining Distrin the Corbat Mountain Range, Monave County, Arizona, at an elevation ranging between 4000 and 4500 feet above sea level. The group is 1-3/4 miles in an easterly direction by analogs r from the junction with Arizona State Highway U.S. 95 oil cake paved highway leading southeasterly into Mingman, the Monave County cost, on the main line of the Atchison, Topeka & Manua railroad; also the junction with Arizona State oil cake paved highway U.S. 66.

SU LIARY

After a careful preliminary examination of the six lode mining claims, comprising the estate of the Cashier group, located in the Mallapai Mining District, Mohave County, Arizons it would seem to me that the indications on the property; such as the prominent voin exposures, whose characteristics are similar to the production veins of the district, the same general strike and dip of the veins to those in the geological formations recognized as favorable in which to expect commercia ore deposits in the district, and to the discovery of ore, of commercial grade, carrying a mineral content; indicated by the assay and shipping records mentioned above, warrants further exploration and development to open up the ore bodies believed by me to exist on the group, especially those on the Wedge, Cashier and Alpha veins, that have already exposed ore at or near the surface.

Because the ores of this mine already show a value as indicated above supplemented by a development program to explore and determine their extent have the possibility to prove profitable to the owners.

In going over this property and examining the large vein having widths up to 40 feet, and obtaining samples carrying from a few dollars up to better than \$100 in values, supplemented by the favorable geological conditions. I was impressed with the possibilities of this property. It is my opinion that when these ore bodies have been opened up to several hundred feet in depth, supplemented with saitable lateral work, that it will prove to be one of the important mines of the district, as is attested by the persistent length and width of the outcrops and the type of deposition.

These veins are strong and well defined, and in my opinion there is no question as regards their permanency and continuity to a great depth. It can be expected that the base metals content will materially increase as the openings penetrat below the leached surface area. This has already been proven in the shallow on nings already made. Then too, samples taken from the various openings on these veins, all carry encouraging value This opinion is based also on my observation and knowledge of similar prospects that have become important producers in this area.



#### APPENDIX

A condensed description of ROCKS is here included, gleaned from pages 94 and 95 in Arizona Bureau of Miles Bulletin Vo;. VI, No. 6 (1935, by Dr. G. Montague Butler. In so far as any of these terms are used in this report, the definitions of such terms are intended to conform to the following data,

E. W.S. HOUSHOLDER, M.M. Registered Professional Engineer #2

#### ROCKS

Five classesof rocks are generally recognized, namely: igneous clastic, chemical precipitates, organic, and metamorphic. Each class may be briefly defined and described as follows:

#### IGNEOUS ROCKS

Igneous rocks are formed by the solidification of once molten earth material--magma. Three subdivisions of igneous rocks may be recognized, namely: plutonic, minor intrusive, and extrusive. Most igneous rocks are very hard when fresh.

PLUTONIC ROCKS: Such igneous rocks have usually cooled slowly far below the surface where the pressure is very high. They ordinarily occur in masses of great size, although relatively narrow dikes of some plutonic species, such as pegmatite, are common in some localities. Plutonic rocks are compact, composed of interlocked grains large enough to be seen with the unaided eyes, which consist of two or more ingredients each of which may be readily recognized by a mineralogist, and, with very rare exceptions, the more plentiful ingredients do occur in well-formed crystals.

MINOR INTRUSIVE ROCKS: Such igneous rocks are formed from magma that has risen toward the surface of the earth through cracks (forming dikes) or has spread between layers of earth material (forming sills, etc.) Part, at least, of the ingredients are forced to crystallize with relative rapidity when the magma comes in contact with cool earth material (resulting in fineness of grain and, although the pressure on the solidifying magma averages less than on plutenic magmas, it is still relatively great, so the resulting rock is compact. All of the ingredients of some of the minor intrusive rocks are so small that none of them may be identified or even seen with the unaided eyes, but, typically, these rocks show well-formed crystals of one or two minerals embedded in a finer groundmass.

EXTRUSIVE ROCKS: Such igneous rocks have solidified on or relative ly close to the surface of the earth and occur typically in surface flews, volcanic nocks, and dikes. Otherwise, but the latter are frequently porous, are more commonly composed of lava glass (obsidian), and they are sometimes banded (show flow texture).

E kors Houspolder

#### CLASTIC ROCKS

Clastic rocks are composed of fragments of other rocks, produced by weathering or mechanical disintegration. The fragments may be several inches or feet in diameter (conglomerates and breccias), much smaller, but visible to the unaided eyes (arkose, grit, and sandstone), or microscopic (shale, clay, and some limestone). The fragments may be transported by wind and water and are usually stratified (laid down in distinct layers), especially if finally deposited in water, when they are called sediments or sedimentary rocks. The fragments are often eventually cemented together more or less firmly, but all degrees of hardness are found in clastic rocks. Such rocks contain shells or other remains of organisms (fossils).

#### CHEMICAL PRECIPITATE ROCKS

Chemical precipitate rocks are composed of material deposited by precipitation from water solutions, usually as the result of evaporation. The precipitate rocks are commonly interbedded with sediments that were washed into the evaporating body of water. Rock salt and gypsum are illustrations of this type of rock.

#### ORGANIC ROCKS

Organic rocks are composed of

- (1) Material secreted or deposited by animals or plants, or
- (2) Made up of animal or plant remains.

Illustrations are some limestone and coal.

#### METAMORPHIC ROCKS

Metamorphic rocks are made up of other rocks that have been changed in appearance or composition, or both, by pressure, heat, or solutions that have percolated through them. Two types are recognized, namely: regional or dynamometamorphic rocks and contact or thermometamorphic rocks.

REGIONAL OR DYNAMOMETAMORIBIC ROCKS: Such rocks are composed of earth material that has been deeply buried and, therefore, subjected to enormous pressure and some heat. Such rocks are often banded, hard, and composed of interlocked grains visible to the unaided eyes. They cometimes contain well-formed crystals. Illustrations are mica schist, gneiss, slate, quartzite, and some marble.

CONTACT OR THERMOMETAMORPHIC ROCKS: Such rocks are composed of material that has been changed and often baked by the heat of intrusions of molten magma and by the chemically active solutions expelled by such magma as they cool. Illustrations are garnet and epidote rocks.

E.Roso Housholder

## DESCRIPTION OF ROCK SPECIES MENTION D IN THIS REPORT

ALASKITE: A granular plutonic igneous rock composed almost entirely of the relatively light colored minerals, quartz and feldspar. Like granite (which see), but lacking dark colored constituents.

ANDESITE: An extrusive igneous rock that usually contains glassy, light colored, plagicclase feldspar crystals in a darker colored, fine-grained groundmass. Does not contain visible quartz, but may contain black hornblends or black augite pyroxens crystals. The groundmass may be porous and the rock then has a very rough texture.

BASALT (MALPAIS): An extrusive igneous rock that often contains small, black crystals of pyroxene or wark green or brown crystals of olivine in a somewhat lighter colored groundmass in which may be imbedded, however, numerous small, very slender, glassy plagioclase feldspar crystals. Usually very dark colored and relatively heavy and frequently decidedly porous.

BRECCIA: A clastic rock that is composed of angular broken fragments of other rock, more or less fielly cemented together. The fragments are often large, and must exceed 1/8 inch in diameter.

CONGLOMERATE: A clastic rock that is composed of large, rounded fragments of other rock more or less firmly cemented together; otherwise like a breccia (which see).

DIABASE: A minor intrusive igneous rock that shows numerous slender, dull or stony lustered, usually white plagioclase feldspar crystals, pointing in all directions, imbedded in a dark colored (often black on fresh surfaces) groundmass that is composed of pyroxene.

DIORITE: A plutonic igneous rock like granite (which see) in texture, but it contains no visible quartz and is usually predominantly composed of white plagiculase feldspar and black hornblende.

GABERO: A plutonic igneous rock like granite (which see) in texture, but it contains no quartz and is usually predominantly composed of dark colored pyroxene and lesser amounts of white or light green plagioclase feldspar.

GNEISS: A regional metamorphic rock usually associated with other schists and much like granite (which see) in composition. In fact small specimens cannot always be distinguished from grante, but the rock is plainly banded when seen in the field, and white mica (muscovite) is a very common constituent.

GRANITE: A plutonic igneous rock that consists essentially of pinkish to white orthoclase feldspar and quartz, but mica, expecially black mica (biotite), is a common constituent and other and other minerals may be present in subordinate amounts.

ERoss Housholder

LIMESTONE: A rock composed essentially of carbonate of lime which dissolves with the emission of bubbles when a drop of dilute or concentrated muriatic acid is placed upon it. Depending upon its origin it may be either a clastic or an organic rock or a chemical precipitate. Most limestones are finely granular and light colored. They are often flint-like in appearance when freshly broken. They may contain fossils which are usually composed of quartz.

MARBLE: A regional or contact metamorphic rock that is formed from limestone and has the same composition as limestone, but it is rather coarsely granular so that the individual grains, which are usually glassy, and have the perfect cleavage of calcite (which see) are visible to the unaided eyes.

MANZONITE: A plutonic igneaur rock like diorite (which see), but it contains both orthoclase (often pinkish in color) and plagio-clase (often white or greenish in color) feldspar.

PEGMATITE: A plutonic igneous rock that occurs in dikes and is much like granite (which see) in texture and composition, but the individual grains or crystals are very large (often several inches long, or larger), and white mica (muscovite) is a much commoner constituent than black mica (biotite). May contain beryl, topaz, tourmaline, and even rarer minerals.

PERIDOTITE: A basic plutonic rock that is usually dark colored and relatively heavy. It contains no feldspar or quartz. Dark brown or green pyroxene (hypersthene, enstatite, or diallage) and olivine are the most plentiful ingredients, but it may also contain magnetite, chronite, and pyrrhotite.

PHONOLITE: An extrusive igneous rock, sometimes has a somewhat greasy luster, occurs in various tints of dull green, gray, and brown, and shows few easily identifiable minerals other than small, scanty crystals of glassy feldspar and, sometimes, numerous very thin, slender black crystals of aegerite pyroxene. One peculiarity of these rocks is that thin slabs, when suspended or held in proper way and struck with a haumer or pick, ring like a bell, hence the name, from two Greek words meaning "sound" or "tone" and "stone." Usually formed when the phonolite breaks as a molton lava up through crater fillings, and quickly solidifies in the form of dikes. Phonolite can rarely be recognized with certainty by other means than a microscopic examination of a thin section. Its presence does not necessarily indicate the near presence of any particular metal or mineral.

PORPHYMY: A minor intrusive igneous rock that, typically, shows well-formed crystals of light colored, stony lustered orthoclase foldspar, and, more rarely, quartz in a dense, fine-grained ground-mass.

QUARTZITE: A regional metamorphic rock formed from sandstone. The openings between the grains in the sandstone have been filled with quartz and the resulting rock is very dense.

E. Ross Donaholder

SANDSTONE: A clastic rock that is composed of grains of other substances, usually largely or almost entirely quartz, which are more or less firmly cemented by silica, calcium carbonate, iron oxide, or some other substance. The individual grains are visible to unaided eyes and are of the size of coarse granulated sugar, or smaller.

SCHIST: A regional metamorphic rock that has, typically, a banded (schistose) texture and often breaks readily along the bands. There are many varieties, such as mica schist, tremolite schist, etc., each being usually named by prefixing the name of the most prominent mineral or minerals.

SERPENTINE: A rock formed by the alteration of very basic igneous rocks like peridotite (which see). It is usually soft enough to be easily scratched with a knife, has a somewhat waxy or greasy luster feels smooth, breaks with a smoothly curving fracture, is most often some shade of green (commonly dark) in color, and light may frequently be seen through thin edges.

SHALE: A clastic rock made of layers (often as thin as cardboard, or thinner) or particles, too small to be visible to unaided eyes, of various hydrous aluminum illicates (of which kaolinite is one), quartz and other impurities. It is usually soft, smells like clay, especially when moistened, and breaks along the layers. The color is usually brown or gray.

SLATE: A regional metamorphic rock like shale in composition but much harder. It breaks into strong, thin sheets perpendicular to the pressure that produced it and the color is most frequently black

SYENITE: A plutonic ignoous rock like grante (which see), but it contains no visible quartz and black hornblende is more often present than is black mica.

RHYOLITE: An extrusive igneous rock that is usually light colored and relatively light in weight. It often contains glassy, colorles or white orthoclase feldspar crystals and, less frequently, quartz crystals imbedded in a fine grained groundmass that often feels rough. It sometimes shows flow texture (is banded) and may be glassy (obsidian). When it is very finely porpus and contains no grains of minerals visible to unaided eyes, it is called pumice.

TRACHYTE: Exactly like rhyolite (which see), but no quartz, or practically none, is visible even in thin sections under the compounicroscope. It cannot usually be distinguished from rhyolite in the field.

TUPF: Composed mostly of the fine material (particles of volcanic glass) called volcanic ash that is thrown into the air during volcanic eruptions. It is usually white or light tinted, porous, light in weight, and soft. It feels rough and commonly contains angular fragments of extrusive rocks.

VOLCANIC B ECCIA: A breccia (which see) that contains numerous angular fragments of extrusive rocks.

S.P. Housholder

#### References to publications

The following list of publications and sources of information, used as part of the references in compilling this report, is here included for the information of those who may be interested.

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July 30, 1940

P. O. Box 286. Kingman, Ariz.

Subject: Contar Mine

Mr. J. E. Dietrich, 10547 Whitegate St., Sumland, Calif.

Dear Mr. Dietrich:

Referring to the Cashier Mine, on which you secured an option from Mr. Bert Abelman, of Chloride, Arizone, on July 27th, per your request I am herewith inclosing a copy of a brief report on this property by myself, which may be of some assistance to you in presenting this property to your clients.

I believe if you can find the money with which to drive the Cashier tunnel forward to the Alpha and other veins, you can make considerable money out of this enterprise. However, as stated in the report mentioned, you should arrange, if possible, to secure at least the Alpha group, on which there is considerable ore opened up.

Adjoining properties are the Summit, located on top of the Corbet mountains and which property is now in ore, the Night Heak, Mint and Jamieson. Suggest you look some of these mines over, when you examine the Cashier. Also the road leading from Highway 35 to the Cashier mine is County maintained the year round. This road leads on over the mountain to Stockton Hill, where there are a mamber of mines, some of which are being operated and shipping ore. Hence, if you had a good sized flotation mill located below the Cashier Tunnel, you could get considerable customs ore, and be in line also to pick up the better properties.

The Cashier Tunnel is a splendid but all around - not only because a goodly emount of milling ore is now already indicated in that are; but also because this tunnel produces will water, which is a source article in that nack of the woods. The Alpha mine workings struck considerable water mainly in a winze sunk from the lower tunnel of that property; so when the Alpha wein is cut, the present water now flowing from the portal of the Cashier Tunnel will be more than doubled. I hardly think there is any doubt of this. All weins in the Carbats carry water.

With kind personal regards, I am

Very sincerely yours,

Elgin B. Holt. Field Engineer. Mr. Bert Abelman Chloride, Arizona

Dear Mr. Abelman:

L. S. Hackney, 132 North Kenmore Avenue, Los Angeles, California, has expressed an interest in your Cashier Mine and we have sent him your name and address. You will no doubt hear from him.

If you do make a contact with him that results in business done, we would appreciate your advice for the records of the department.

Hoping that you will hear from him further, I

Yours very truly,

Chairman, Board of Governors Arizona Department of Mineral Resources

CFW:LP

am

#### DEPARTMENT OF MINERAL RESOURCES STATE OF ARIZONA OWNERS MINE REPORT

1 & 0.	Date
Mine Carhiela District Wallafrance	Location 10 mil So. of Chlorid 6 mil East of Bouldes
Owner Best ableman	Address Bank ho, of
Operator , Q. a. Bell	Address 15 ml no. of
Operator President A. A. Rose Mine Supt.	Gen. Mgr. Kingman
Mine Supt.	Mill Supt.
Principal Metals Gold. Nilon Lad	Men Employed
Production Rate	Mill: Type & Cap.
Power: Amt. & Type	Water Supply
Operations: Present	
	feet to cut wery
	, Cachier #1, Cachier
Extension, Panama, 9	rew year.
Description: Topog. & Geog.	
	if property for sale: Price, terms and address to regon
Mine Workings: Amt. & Condition	t cross cut
gune 1st was in	a good condition

(over)

Geology & Mineralization Ore: Positive & Probable, Ore Dumps, Tailings

Mine, Mill Equipment & Flow Sheet

Road Conditions, Route Old Kingman Road routh 7 mil
3 mi Ent Spool Condition
Water Supply Like of water from turnel and
a sufficient
Brief History Producer might Hawk on Has Sin Heavy Producer might Hawk on
Special Problems, Reports Filed Alpha Las Earthing / Kon bins
heavy produces. Summit East lines  Heavy Produces Summit East lines  Heavy Produces of the Product of the State of the Sta
Remarks Remarks Producer

If property for sale: Price, terms and address to negotiate.

Towns to Suite Buy

Signed....

Use additional sheets if necessary.

W6-42

#### DEPARTMENT OF MINERAL RESOURCES STATE OF ARIZONA OWNERS MINE REPORT

Date

1. Mine Cashier

2. Mining District & County Wallapai

3. Former name

5. Owner Bert Abelman, J. A. Bell, A. A. Rose

7. Operator

9. President

11. Mine Supt.

13. Principal Metals Gold, silver, lead

15. Production Rate

17. Power: Amt. & Type

18. Operations: Present

4. Location 10 miles S. of Chloride
6 miles E. of Boulder Dam
highway.
15 miles N. of Kingman.

Tenant word total to what a day of men trans

23. Coology W. Wiggerstrett,

6. Address (Owner)

8. Address (Operator)

10. Gen. Mgr.

12. Mill Supt.

. moistagoo acco . jage selim &

heavy producer. Summit east line heavy producer.

34. If property to ealer Price terms and address to regotiate. 220,000 Send and Loade

14. Men Employed

16. Mill: Type & Cap.

19. Operations Planned Crosscut 1000 feet to cut every vein on surface

20. Number Claims, Title, etc. Five - Cashier, Cashier #1, Cashier Extension, Panama,
New Year.

Jornison on work side line has been heavy producer. Might Hawk on south line high grade rold milver. Alpha Co. east line has been

21. Description: Topography & Geography

22. Mine Workings: Amt. & Condition 1000 feet crosscut. June 1st was in good condition.

23. (	Geology & Mineralizat	, Silver , Lead.		
		ERS MAN REPORT		
24 (	Ore: Positive & Probable, Ore Dump	os Tailings		
44. <b>(</b>	Ole: I ositive & I lobable, Ole Bump	pa, raminga	Aime Cosbier	.1
	objected to .C. selim Ol .com	4. Locar	Mining Distinct & County Welland	, <u>1</u> ,
peg	6 miles S. of Roulder		Former name	
24-A	A Vein Width, Length, Value, etc.			
	(psewO) eso	dpp. 0	Owner Bort Abelman, J. A. Rell, A. A. Rose	
	ces (Operator)	8 Addu	- WHEEPOP	7
25. 1	Mine, Mill Equipment & Flow Sheet	(10. Gan.	Prosisions	.(1)
		INVEST	, Mine Supi.	15
	Banglayed	anWalth Was	Panequal Metals Gold, stilver, leed	.E.I
24	D. L.C. IV. D. MARTINE	Military and a second of the	Predection Rate	15.
26. Road Conditions, Route Old Kingman Road south 7 miles east. Good conditions			. 💎 1	
			Operations: Present	
27.	Water Supply Plenty of water	from tunnel		
			Operations Planned beauty another to	61
28	D. CII.		JUST AGET ATTREMENTA	
20.	south line high		heavy producer. Night Hawk on Alpha Co. east line has been eavy producer.	
29.	Special Problems, Reports Filed	, Cashler #1, Cash	Annber Claims, Title, etc. Fiye - Jeshiro New Yes	30.
30.	Remarks		odganyna X 8 vilourgosoff inortgessasO	1.0
31.	If property for sale: Price, terms and	address to negotiate.	50,000 Bond and Lease	
			Terms to suit buyer	1. 28

32. Signed.....

(1940)

33. Use additional sheets if necessary.

DEPARTMENT OF MINERAL RESOURCES STATE OF ARIZONA SPECIAL FIELD ENGINEERS REPORT

MC-42

Cashier Date July 29, 1940

Cistrict

Wallapai, Mohave County, Ariz. Engineer Elgin B. Holt P.O. Box 288

oubject: J bolued am

one bas soul sealM encisyeM-chqiA add yd 9891 ed qu Kingman, Ariz. egfrogeng

Acyatano mill for treatment.

As the Alpha voin traver

## SYNOPSIS REPORT

Bert Abelman, J. A. Bell and A. A. Rose. OWNERS: The Alpha property is opened by tunne Bert Abelman, Agent, Chloride, Arizona. ald to took frontmerq a ore saniggers

LOCATION: Property is located on the west side of the Cerbat range at an approximate ounces silver to the tone elevation of 4,500 feet.

Gold, Silver, Lead, Zinc and Copper; Silver and Gold predominating.

GEOLOGY: The rocks of this area are essentially of the pre-Cambrian complex, consisting of granite, gneiss and dark schists. These older rocks are intruded by younger masses of granite-porphyry. According to F. C. Schrador (1909):

The Cashier group consists of 5 mining claims, covering three or four AREA: prominent veins, including the Alpha vein, which traverses the Cashier claim for 1,500 feet; this claim being the northwest extension of the Alpha mine robianco delde le sue ogsanes ilim le suvema ogral a qu galacque othe ac quios inempoleveb evidentia

DEVELOPMENT WORK consists of a crosscut tunnel 1,000 feet in length, the object of which was to cut the Cashier, Alpha, Summit, and many other veins. The tunnel was driven many years ago; but was never completed. About 75 feet from face of tunnel a vein was intersected, which may or may not be the Cashier vein. This vein is 5 feet wide and an 18-inch pay streak from which less than a carload of ore was shipped, assaying \$23 per ton in gold and silver.

> By driving the Cashier tunnel an additional 250 feet it should intersect the Alpha vein 800 feet below the surface and at a point 50 feet northwest of the northwest end of the Alpha claim. Also, should this tunnel be continued about 2,200 feet beyond the Alpha vein, the Summit vein should be cut at a depth of approximately 2,000 feet from the surface, Also there are a number of undeveloped ore-bearing veins between the Alpha and Summit veins. Hence if this tunnel could be driven an additional distance of 2,500 or 3,000 feet a vast amount of commercial ore should be exposed in the various veins it would open up.

> Work on surface outcrop of the Cashier vein consists of open cuts, showing vein to be 3 feet wide, from which 3 lots of ore were shipped, assaying as follows: One car of 30 tons, \$48 per ton; 1/2 car of 20 tons, \$64 per ton; 1/2 car of 20 tons, \$51 per ton; two other cars were shipped; but the assay results of these are not available. This data was furnished by Mr. Abelman.

WATER now flowing from the Cashier tunnel fills a 1.5-inch pipe. It is believed that after the Alpha and other veins are cut by this tunnel a great deal more water will be encountered sufficient to supply a large milling plant which could be located directly below the portal of said tunnel.

NOTE: As the Alpha vein traverses Cashier ground for 1,500 feet, as above set forth, a brief description of the Alpha property is submitted, as follows:

The ALPHA MINE is located on the west side of the Cerbat range, at an elevation of 5.300 feet, more or less, at a point about 2,200 feet south-southwest of the Summit property. It was worked up to 1939 by the Alpha-Keystone Mines, Inc., and ore produced, averaging around \$12 per ton in gold and silver alone, was hauled to the Keystone mill for treatment.

The Alpha property is opened by tunnels on vein, striking south 30 deg. east. The croppings are a prominent reef of black iron and manganese stained quartz. The vein ranges from 4 to 20 feet wide and ore contains silver sulphide, assaying up to 1,000 ounces silver to the ton. Iron pyrite, galena, zinc blende and chalcopyrite are also present in the ore. Hence all values can readily be recovered by selective flotation.

The mine has been an excellent producer of shipping and milling ores through the years and a great deal of money has been made out of it by various owners.

According to F. C. Schrader (1909): "A consignment of 400 tons of ore, shipped from Alpha mine, is reported to have netted \$125 per ton.

In Conclusion, the Cashier property is recommended to anyone looking for an attractive development setup on which to spend some money, with the end in view of opening up a large amount of mill tonnage out of which considerable money should be made. However, any company taking over the Cashier group should also secure, if possible, both the Alpha and Summit properties.

Sica al act to CS, salveses ; bogg Ma asw (SIGNED) Elgin B. Holt.

By driving the Cashier tunnel an additional 250 feet it should intersect the Alpha vein 800 feet below the surface at a paint 50 feet northwest the first the alpha claim. Also, should this tunnel be under a feet beyond the Alpha vein, the Summit vein about 5,200 feet beyond the Alpha vein, the Summit vein about a feet at a depth of approximately 2,000 feet from the surface. Also there are a number of undeveloped or preside the driven as additional distance of 2,500 feet a vein a this tun of could be driven as additional decapated be driven as additional or should be exposed to the veins to veins the vein of could open up.

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Verk on surface outerop of the Cashier weln consists of open cuts, shoulng vein to be 3 feet wide, from which 3 lots of one were shipped, asseying as follows: One car of 30 tens, 348 per ten; 1/2 car of 20 tens, 364 per ten; 1/2 car of 20 tens, 351 per ten; two other cars were shipped; but the assay requits of these are not swallable. This data was furnished

ATER now flowing from the Cashier tunned fills a 1.5-inch pipe. It went gained the Lack the tunned a great deal that the plant to an opply a large mailting plant to ancountered sufficient to apply a large mailting plant which rough be located directly below the pareit of the rough.

MC-42

#### DEPARTMENT OF MINERAL RESOURCES STATE OF ARIZONA 12 blcD - ncitarilaronim & vacicoo OWNERS MINE REPORT

Date

Mine Cashier oro. Positivo & Frobable, Ore Dumps, Tailings

Mining District & County - Wallapai Dist.

Mohave County

Former Name

Location - 10 miles S. of Chloride 6 miles E. of Boulder Dam highway. 15 miles N. of Kingman.

Owners - Bert Abelman, J. A. Bell, A. A. Rose

Address - Chloride, Arizona

Operator

Address

President

Gen. Mgr.

Mine Supt.

Principal Metals - Gold, Silver, Lead

Mill Supt. I a dremptup I IIII . on M.

Men Employed

Production Rate

Mill: Type & Cap.

Power: Amt. & Type

Road Conditions, Route - Old Kingman road south 7 miles, 3 miles east

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Operations: Present

Mater Supply - Plenty of Mater from tunnel

Operations Planned - Cross cut 1000 feet to cut every vein on surface,

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Number Claims, Title, etc. - Five claims - Cashier, Cashier No. 1, Cashier Extension, √ Panama New Year.

Special Problems, Reports Filed

Description: Topography & Geography

Mine Workings: Amt. & Condition - 1000 feet crosscut. June 1, was in good condition. one smiot solra teles not wiregon il Torns to suit buyers

> Bert .belman. Agent. Chlorido, Arizona

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Cro. Positive & Probable, Ore Dumps, Tailings

Haing District & County - Vallagel Dist. Location - 10 miles S. of Chloride

highway. 15 miles N. of Kingman.

Vein Width, Length, Value, etc.

Addross

(None Mgr.

Mine, Mill Equipment & Flow Sheet

poverdum now

Mill: Type & Cap.

Road Conditions, Route - Old Kingman road south 7 miles, 3 miles east.

Good condition.

Water Supply - Plenty of water from tunnel

Brief History - Jennison on west side line has been heavy producer. Night Hawk on south line high grade gold -silver. Alpha Co. east line has been heavy producer. Summit east line heavy producer.

Sperations Flanned - Cross out 1000 foot to out overy voin on surface.

Panama, New Year.

Osners - Bort Abelmon, J. A. Bell,

Frincipal Motals - Gold, Silvor, Load

escH .A .A

Mino Supt.

Special Problems, Reports Filed

Remarks

If property for sale: Price, terms and address to negotiate - \$50,000 Bond and Lease Terms to suit buyer.

(SIGNED)

Bert Abelman, Agent.

Chloride, Arizona

MC-42

# DEPARTMENT OF MINERAL RESOURCES STATE OF ARIZONA OWNERS MINE REPORT

Date

Mine Cashier

Mining District & County - Wallapai Dist.

Mohave County

Former Name

Owners - Bert Abelman, J. A. Bell,

A. A. Rose

Operator

President

Mine Supt.

Principal Metals - Gold, Silver, Lead

Production Rate

Cro. Positive & Probable, Ore Dumps, Tailings

Location - 10 miles S. of Chloride

6 miles E. of Boulder Dam highway. 15 miles N. of Kingman.

Address - Chloride, Arizona

Address

Gen. Mgr.

Mill Supt & F. F. F. F. Sullim

Men Employed

Mill: Type & Cap.

Power: Amt. & Typess selim & miles & solim V diuos been namenin blo - otuca ancidibno beca

Operations: Present

Water Supply - Plenty of water from tunnel

Operations Planned - Cross cut 1000 feet to cut every vein on surface.

Number Claims, Title, etc. - Five claims - Cashier, Cashier No. 1, Cashier Extension, Panama, New Year.

Special Problems, Reports Filed

Description: Topography & Geography

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Mine Workings: Amt. & Condition - 1000 feet crosscut. June 1, was in good one base base base 000,000 - stationer condition. Base sames colff teles for vireyout it

(SIGNED)

Bort ., beliang Agent,
Chloride, Artzone

Ore: Positive & Probable, Ore Dumps, Tailings

Location - 10 miles 8. of Ohloride

Making District & County - Wallaged Dist.

Owners - Bort Abelman, J. A. Bell,

6 miles E. of Boulder Dem highway. 15 miles M. of Kingman.

Vein Width, Length, Value, etc.

"cdereg 0

Gon. Mar.

Mine, Mill Equipment & Flow Sheet

Principal Matala - Gold, Silver, Load

Mill: Type & Cap.

Road Conditions, Route - Old Kingman road south 7 miles, 3 miles east. Good condition.

Water Supply - Plenty of water from tunnel

Operations Flanned - Cross out 1000 foot to out every vein on surface.

Brief History - Jennison on west side line has been heavy producer. Night Hawk on south line high grade gold -silver. Alpha Co. east line has been heavy producer. Summit east line heavy producer. I am all radmy Fanama, New York.

Special Problems, Reports Filed

Remarks

Mine Workingst Amt . & Condition - 1000 foot erosecut. June 1, was in good If property for sale: Price, terms and address to negotiate - \$50,000 Bond and Lease Terms to suit buyer.

(SIGNED)

Bert Abelman, Agent. Chloride, Arizona

DEPARTMENT OF MINERAL RESOURCES STATE OF ARIZONA FIELD ENGINEERS REPORT

MC-42 SPECIAL

NOTE: As the Alpha voin traverses Cashier ground for 1,500 feet, as above Set Mine awol Cashier boddindus at grouperq and IA ont TDate of Truly 29, 1940 direct

District Wallapai, Mohave County, Arize only Engineer Elgin B. Holt AHLIA of fimmut ont ic travalucation for COS, S tucks thick a ta P.O. Box 288 to 1008, d

Subject: orc bas asoni santayex-addia od tyd 8891 ct qu Kingman, Ariz. aytrogeng

Loystone mill for treatment.

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OWNERS: Bert Abelman, J. A. Bell and A. A. Rose. Bert Abelman, Agent, Chloride, Arizona, ennut vd benege al viregera adalA enT

eroppings are a prominent reef of black iron and managenese stained quartze LOCATION: Property is located on the west side of the Cerbat range at an approximate cals ers elevation of 4,500 feet als assess estroy norT and eds of review assess

METALS: Gold, Silver, Lead, Zinc and Copper; Silver and Gold predominating.

GEOLOGY: The rocks of this area are essentially of the pre-Cambrian complex, consisting of granite, gneiss and dark schists. These older rocks are intruded by younger masses of granite-porphyry. According to F. C. Schrador (1909): "A consignment of 400 tons of ores shipped from

The Cashier group consists of 5 mining claims, covering three or four prominent veins, including the Alpha vein, which traverses the Cashier AREA: claim for 1,500 feet; this claim being the northwest extension of the to welv Alphaemine dilw . Youcm omca buoga et foldw ne quios inemgeleveb evijonite

DEVELOPMENT WORK consists of a crosscut tunnel 1,000 feet in length, the object of which was to cut the Cashier, Alpha, Summit, and many other veins. The tunnel was driven many years ago; but was never completed. About 75 feet from face of tunnel a vein was intersected, which may or may not be the Cashier vein. This vein is 5 feet wide and an 18-inch pay streak from which less than a carload of ore was shipped, assaying \$23 per ton in gold and silver.

By driving the Cashier tunnel an additional 250 feet it should intersect the Alpha vein 800 feet below the surface and at a point 50 feet northwest of the northwest end of the Alpha claim, Also, should this tunnel be continued about 2,200 feet beyond the Alpha vein, the Summit vein should be cut at a depth of approximately 2,000 feet from the surface, Also there are a number of undeveloped ore-bearing veins between the Alpha and Summit veins. Hence if this tunnel could be driven an additional distance of 2,500 or 3,000 feet a vast amount of commercial ore should be exposed in the various veins it would open up.

Work on surface outcrop of the Cashier vein consists of open cuts, showing vein to be 3 feet wide, from which 3 lots of ore were shipped, assaying as follows: One car of 30 tons, \$48 per ton; 1/2 car of 20 tons, \$64 per ton; 1/2 car of 20 tons, \$51 per ton; two other cars were shipped; but the assay results of these are not available. This data was furnished by Mr. Abelman.

WATER now flowing from the Cashier tunnel fills a 1.5-inch pipe. It is believed that after the Alpha and other veins are cut by this tunnel a great deal more water will be encountered sufficient to supply a large milling plant which could be located directly below the portal of said tunnel.

NOTE: As the Alpha vein traverses Cashier ground for 1,500 feet, as above set forth, a brief description of the Alpha property is submitted, as follows:

DEPARTMENT OF MINERAL RESTU

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Work on surface outersp of the Cashier vaim consists of spen outs, showing voim to be 3 feet wide, from which 3 lots of ore were shipped, assaying as follows: One car of 50 tens, \$46 per ten; 1/2 car of 20 tens, \$51 per ten; two other cars were shipped; per ten; 1/2 car of 20 tens, \$51 per ten; two other cars were shipped; but the assay results of these are not available. This data was furnished by Mr. Abelman.

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less that the Alpha and other veins are out by this tunnel a great deal
that after the Alpha and other veins are to supply a large military plant
more water will be encountered sufficient to supply a land tunnel.
which could be located directly below the portal of said tunnel.

MC-42

## DEPARTMENT OF MINERAL RESOURCES STATE OF ARIZONAIZ . blod . acits: ilstonim & vacicoo OWNERS MINE REPORT

Mine Cashier

Cro. Positivo & Probablo, Oro Dumps, Teilings

Mining District & County - Wallapai Dist. Former Name

Mohave County

Location - 10 miles S. of Chloride 6 miles E. of Boulder Dam highway. 15 miles N. of Kingman.

Owners - Bert Abelman, J. A. Bell,

A. A. Rose

Address - Chloride, Arizonal Bill Glov

Operator

Address

President

Gen. Mgr.

Mine Supt.

Mill Suptroll & Juenqiue E III soniM

Principal Metals - Gold, Silver, Lead

Men Employed

Production Rate

Mill: Type & Cap.

Good conditions

Power: Amt. & Type solin & geolin V dives beer namenil blo - ejuch encijibned bech Operations: Present

leanus meri rosev to vineia - viqque respect

Operations Planned - Cross cut 1000 feet to cut every vein on surface.

Brisf History - Jannison on west side line has been heavy producer, Night Hawk on south line high grade gold \*silver\* Alpha Co. east line has been

Number Claims, Title, etc. - Five claims - Cashier, Cashier No. 1, Cashier Extension, Panama, New Year.

Special Problems, Reports Filed

Description: Topography & Geography

Mine Workings: Amt. & Condition - 1000 feet crosscut. June 1, was in good condition.

DEPARTMENT OF MINERAL RESOURCES Geology & Mineralization - Gold, Silver, Lead.

Ore. Positive & Probable, Ore Dumps, Tailings

Location - 10 miles S. of Chloride 6 miles E. of Boulder Dem

Maing District & County - Wallapai Dista

highway. 15 miles N. of Kingman.

Vein Width, Length, Value, etc.

Owners - Bort Abelmon, J. A. Boll,

Gen. Mar.

Mine, Mill Equipment & Flow Sheet

Mill: Typo & Cap.

Road Conditions, Route - Old Kingman road south 7 miles, 3 miles east. Good condition.

Water Supply - Plenty of water from tunnel

Operations Flanned - Cross out 1000 foot to out every vein an surface.

Brief History - Jennison on west side line has been heavy producer. Night Hawk on south line high grade gold -silver. Alpha Co. east line has been acianotta total heavy producer. Summit east line heavy producer. Panama, Now Yours

Special Problems, Reports Filed

Remarks

If property for sale: Price, terms and address to negotiate - \$50,000 Bond and Lease

(SIGNED)

Bert Abelman, Agent. Chloride, Arizona

DEPARTMENT OF MINERAL RESOURCES STATE OF ARIZONA FIELD ENGINEERS REPORT

MC-42 SPECIAL

as , jook 008, I tel babers reidesD secrevers alov sigil end al Mine Cashier Date of Date of July 29, 1940

Tistrict Wallapai, Mohave County, Ariz. Engineer Elgin B. Holt

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Movetone mill for treatment.

subject: To has good asnill enclayed and IA out yo edel of go Kingman, Ariz.

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OWNERS: Bert Abelman, J. A. Bell and A. A. Rose. Bert Abelman, Agent, Chloride, Arizona. amus ya bonego ak wanagong adala ada

estroup beninje economica bac acri monid to lear inemiscra a one LOCATION: Property is located on the west side of the Cerbat range at an approximate elevation of 4,500 feet. is analy as my novi

METALS: Gold, Silver, Lead, Zinc and Copper; Silver and Gold predominating.

GEOLOGY: The rocks of this area are essentially of the pre-Cambrian complex, consisting of granite, gneiss and dark schists. These older rocks are intruded by younger masses of granite-porphyry.

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Work on surface outcrop of the Cashier vein consists of open cuts, showing vein to be 3 feet wide, from which 3 lots of ore were shipped, assaying as follows: One car of 30 tons, \$48 per ton; 1/2 car of 20 tons, \$64 per ton; 1/2 car of 20 tons, \$51 per ton; two other cars were shipped; but the assay results of these are not available. This data was furnished by Mr. Abelman.

WATER now flowing from the Cashier tunnel fills a 1.5-inch pipe. It is believed that after the Alpha and other veins are cut by this tunnel a great deal more water will be encountered sufficient to supply a large milling plant which could be located directly below the portal of said tunnel.

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The ALPHA MINE is located on the west side of the Cerbat range, at an elevation of 5,300 feet, more or less, at a point about 2,200 feet south-southwest of the Summit property. It was worked up to 1939 by the Alpha-Keystone Mines, Inc., and ore produced, averaging around \$12 per ton in gold and silver alone, was hauled to the Keystone mill for treatment.

The Alpha property is opened by tunnels on vein, striking south 30 deg. east. The croppings are a prominent reef of black iron and manganese stained quartz. The vein ranges from 4 to 20 feet wide and ore contains silver sulphide, assaying up to 1,000 ounces silver to the ton. Iron pyrite, galena, zinc blende and chalcopyrite are also present in the ore. Hence all values can readily be recovered by selective flotation.

The mine has been an excellent producer of shipping and milling ores through the years and a great deal of money has been made out of it by various owners.

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(SIGNED) Elgin B. Holt.

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## ARTMENT OF MINERAL RESOUF STATE OF ARIZONA OWNERS MINE REPORT

Date

Mine Cashier

Mining District & County - Wallapai Dist.

Mohave County

Location - 10 miles S. of Chloride 6 miles E. of Boulder Dam

Former Name

highway. 15 miles N. of Kingman.

Owners - Bert Abelman, J. A. Bell, A. A. Rose

Address - Chloride, Arizona

Operator

Address oulev dianal dibit mov

President

Gen. Mgr.

Mine Supt.

Mill Supt.

Principal Metals - Gold, Silver, Lead

Men Employed

Production Rate

Mill: Type & Cap.

Power: Amt. & Type

Operations: Present

Road Conditions, Houte - Old Kingman road south 7 miles, 3 miles of egoldibacs beeb

Operations Planned - Cross cut 1000 feet to cut every vein on surface.

Number Claims, Title, etc. - Five claims - Cashier, Cashier No. 1, Cashier Extension, Panama, New Year.

Special Problems, Reports Filed

Description: Topography & Geography

Mine Workings: Amt. & Condition - 1000 feet crosscut. June 1, was in good condition.

Hort .dolman. Agonte

If oroperty for sale: Frice, terms and ad ross to negotiate = 250,000 Bond and Leaso except the ct sand?

Ore. Positive & Probable, Ore Dumps, Tailings

Vein Width, Length, Value, etc.

Mine, Mill Equipment & Flow Sheet

Road Conditions, Route - Old Kingman road south 7 miles, 3 miles east.

Good condition.

Con. Mer.

Water Supply - Plenty of water from tunnel

Brief History - Jennison on west side line has been heavy producer. Night Hawk on south line high grade gold -silver. Alpha Co. east line has been heavy producer. Summit east line heavy producer.

Owners - Berland J. A. Bell, A. Rose

Special Problems, Reports Filed

Remarks

If property for sale: Price, terms and address to negotiate - \$50,000 Bond and Lease Terms to suit buyer.

(SIGNED)

Bert Abelman, Agent.
Chloride, Arizona

bine beridness Art. & Capittion . 1000 feet areaseut, June 1, was in good

DEPARTMENT OF MINERAL RESOURCES STATE OF ARIZONA FIELD ENGINEERS REPORT

MC-42 SPECIAL

Mine Cashier July 29, 1940

District Wallapai, Mohave County, Ariz. Engineer Elgin B. Holt

P.O. Box 288

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somethness bac next would be been facalment LOCATION: Property is located on the west side of the Cerbat range at an approximate elevation of 4,500 feet.

METAIS: Gold, Silver, Lead, Zinc and Copper; Silver and Gold predominating.

GEOLOGY: The rocks of this area are essentially of the pre-Cambrian complex, consisting of granite, gneiss and dark schists. These older rocks are intruded by younger masses of granite-porphyry.

AREA: The Cashier group consists of 5 mining claims, covering three or four AREA: prominent veins, including the Alpha vein, which traverses the Cashier claim for 1,500 feet; this claim being the northwest extension of the to well Alpha mine with yourn once broge of forthe no quice inempoleveb evijosition

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> By driving the Cashier tunnel an additional 250 feet it should intersect the Alpha vein 800 feet below the surface and at a point 50 feet northwest of the northwest end of the Alpha claim. Also, should this tunnel be continued about 2,200 feet beyond the Alpha vein, the Summit vein should be cut at a depth of approximately 2,000 feet from the surface, Also there are a number of undeveloped ore-bearing veins between the Alpha and Summit veins. Hence if this tunnel could be driven an additional distance of 2,500 or 3,000 feet a vast amount of commercial ore should be exposed in the various veins it would open up.

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od Longus sids blucks call amislo chall ons to bno salwhiten ons to continued about 2,200 feet beyond the Alpha vein, the Summit vein should be out at a depth of approximately 2,000 feet from the surface, Also beacque ed blucks ere isteremmes to favous Japv a deel 000, or 000, S to and mode places at sures sucressed out ut

Morris voin. This voin is 5 feet wide and an 18-inch pay stronk from

ATAR now Mowing from the Cashier tunnel fills a 1.5-inch pipe. It is believed that after the Alpha and other voins are out by this tunnel a great deal

CASHIER MINE MOHAVE COUNTY

Earl Baier, 12813 N. 30th Dr., Phoenix and Roy Montague have the Jamison and Cashier Mines. Cashier reportedly has 51,000 tons of silver, lead, gold ore that will assay \$127.00/ton (hearsay).

FTJ WR 1/7/66

See: Nighthawk Mine (file) Mohave - article from Mohave County Miner dated 9/5/74

## DEPARTMENT OF MINERAL RESOURCES STATE OF ARIZONA

#### **OWNERS MINE REPORT**

RESERVED

JAN 25 1941

Date

1. Mine Cashier

2. Mining District & County Wallana!

3. Former name

5. Owner Bert Abelman, J. A. Bell, A. A. Rose

7. Operator

9. President

11. Mine Supt.

13. Principal Metals Gold, silver, load

15. Production Rate

17. Power: Amt. & Type

18. Operations: Present

4. Location 10 miles S. of Chloride
6 miles R. of Boulder Dam
highway.
15 miles N. of Kingman.

6. Address (Owner)

8. Address (Operator)

10. Gen. Mgr.

12. Mill Supt.

14. Men Employed

16. Mill: Type & Cap.

19. Operations Planned Crossout 1000 feet to cut every vein on surface

20. Number Claims, Title, etc. Five - Cashier, Cashier #1, Cashier Extension, Panana, New Year.

. And the control of the second of the control of t

21. Description: Topography & Geography

22. Mine Workings: Amt. & Condition 1000 feet crosscut. June 1st was in good condition.

## DEPARTMENT OF MINERAL RESOURCES STATE OF ARIZONA

For Abelman

FIELD ENGINEERS REPORT

Mine

CASHIER

Date July 20. 1340.

District

Bellopei, Mohave County, Aris.

Engineer

ligan B. Isla. P. O. Post Pol

Subject:

Kingma Ariz

### STHOPSIS REPORT

GREERS: Dert Abelman, J. A. Bell end A. A. Rose. Bert Abelman, Agent, Chloride, Arizona.

LOCATION: Property is located on the west side of the Cerbat range at an approximate elevation of 4,500 feet.

NEGALS: Cold, cilver, lead, sine one copper; cilver and gold predominating.

GENERAY: The rocks of this eres are essentially of the pre-Cashrian complex, consisting of granite, gasiss and dark schists. These older rocks are intruded by younger masses of granite-porphyry.

AREA: The Cashior group consists of 5 mining claims, covering three or four prominent veins, including the Alpha vein, which traverses the Cashier claim for 1,500 feet; this claim being the northwest extension of the Alpha Mins.

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by criving the Cachier tunnel an additional 250 feet it should intersect the Alpha vein 500 feet below the surface and at a point 50 feet northvest of the northwest and of the Alpha elsim. Also, should this tunnel be continued about 2,200 feet beyond the Alpha vein, the Sussit vein should be out at a depth of approximately 2,000 feet from the surface. Also there are a number of undersloped ore-bearing veins between the Alpha and Sussit veins. Hence if this tunnel could be driven an additional distance of 2,500 or 5,000 feet a vest amount of conservatel one should be exposed in the verious voins it would open up.

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the local vite are also present in the own. Lender all vites on recally be rec
trace by selective flatation.

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July 29, 1940.

DEPARTMENT OF MINERAL RESOURCES

FIELD ENGINEERS REPORT

Mine CA

CASHIER

Date July 29, 1940.

District

Wallapai, Mohave County, Ariz.

Engineer Elgin B. Holt,

P. O. Box 288,

Subject:

Kingman, Ariz.

### SYNOPSIS REPORT

OWNERS: Bert Abelman, J. A. Bell and A. A. Rose. Bert Abelman, Agent, Chloride, Arizona.

LOCATION: Property is located on the west side of the Cerbat range at an approximate elevation of 4,500 feet.

METALS: Gold, silver, lead, zinc and copper; silver and gold predominating.

GEOLOGY: The rocks of this area are essentially of the pre-Cambrian complex, consisting of granite, gneiss and dark schists. These older rocks are intruded by younger masses of granite-porphyry.

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Elgin B. Holt.

Cashier Mine

Page #2

the a maken of motors open and the for veins

July 29, 1940.

News Items			AL RESOURCES
	ea	Date	7/30/40
Mine CASH	IER	MINE	
Location / CE	RBAT	MOUN	TAINS - MOHA
Owner BERT	ABELN	1AN - 7	T.A. BELL
Address & A.A.	Rosi	ALL.	OF KINGMAN
Operating Co. LE	455 "	TAKEN	87
		TRICH	
	LAN.	-	741F
Genl. Mgr.  Mine Supt.  Mill Supt.	OM	HOLI	FOLLOW - UP.
rincipal Metals	V-A9	- Cu-7	B.ZN.
en Employed			N OPTION
roduction Rate	an experience	Augustations	
ill, Type & Capacit	y	MAGISON ASSOCIAÇÃO	
PLAN TO	EXTE	ND CH	SHIER TUNNEL
ower, Amt. & Type			
Signo		50	

Kingman, Arizona, July 30, 1940.

To:

J. S. Coupal, Director,

From:

Elgin B. Holt

Subject:

Cashier Mine - Cashier Tunnel

The inclosed data is all about the Cashier Mine, or more particularly about the Cashier Tunnel, which I looked over carefully when I was making the Smelter examinations.

You will no doubt remember that Forest V. Phillips, former Gen. Manager of Alpha-Keystone Mines, Inc., had a long term option on all this property, including the Cashier Tunnel and claims, the Alpha mines, the Summit, Jamieson and all the Stockton Hill properties.

In fact, Phillips had the right idea - he wanted to build a large mill below the Cashier tunnel in order to work ores from all that country. Of course, he expected to drive the Casher Tunnel forward in order to cut the Cashier, Alpha, Summit and a score of other veins. So much for the history.

Harry Lennox asked me to call on Bert Abelman, one of the owners of the Cashier group and tunnel. It did so and found this property was open for a deal for the first time in some years.

A day or two later, J. E. Dietrich came along looking for properties. I took him to Chloride, introduced him to Abelman and he now has an option on the property in question.

The object of this memo is this:

Kindly keep this data in your active files so that in case Dietrich fails to make a deal, you can present it to some live wire who might be interested in taking property over with a view to carrying out the plans Phillips had in mind.

Mit.

Examinations, Surveys Appraisals, Assays Confidential Reports

CR WMAN CORP.

## E. ROSS HOUSHOLDER

Residence-Office 431 E. Spring Street Telephone SK 3-2097

Registered Professional Engineer No. 257, Arizona Registered Land Surveyor No. 3065, Arizona Licensed Land Surveyor No. 2641, California and Mohave County Engineer P. O. Box 1107

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Buf The Chris

Extracts From 1955 E. Ross Housholder's Mining Report Cashier Mine Wallapai Mining District Mohave County, Arizona

Note: Photographs & Maps From Orignal Report Are Available REPORTS & BLUTPUST BARCET WIR PRINTING CHAPLE COUNTY MAPS

TERMINOLOGY: Standard terms used in this report follow definitions of those relating to the metal mining industry obtained from "A Glossary of the Mining and Mineral Industry by Albert H. Fay, published 1920, by the U. S. Bureau of Mines.

"Ore" Page 475 Bull. 95, Bur. of Mines, Dept. Int.

A natural mineral compound, of the elements of which one at least is a metal. The term is applied more loosely to all metalliferous rock, though it contain the metal in a free state, and occasionally to the compounds of non-metallic substances, as sulphur ore. (Raymond).

Also, material mined and worked for nonmetals, as pyrite is an

ore of sulphur (webster).

A mineral of sufficient value as to quality and quantity which may

be mined with profit. Ihlseng).

A mineral, or mineral aggregate, containing precious or useful metals or metalloids, and which occurs in such quantity, grade, and chemical combination as to make extraction commercially profitable. (Robert Peele, Min. & Met. Soc. of America, Bull. 64, p. 257)

A metalliferous mineral, or an aggregate of metalliferous minerals, more or less mixed with gangue, which from the standpoint of the miner, can be won at a profit, or from the standpoint of a metallurgist can be treated at a profit. The test of yielding a metal or metals at a profit seems to me, in the last analysis, to be the only feasible one to employ. (J. F. Kemp, Trans., Canadian Min. Inst., 1909, p. 367).

"Ore blocked out" - P. 476 Ore exposed on three sides within a reasonable distance of each other. (H. C. Hoover, p. 17)

"Ore developing" - P. 476 Ore exposed on two sides. See Probable ore. (H. C. Hoover, p. 17). First class, blocks with one side hidden; second class, blocks with two sides hidden; third class, blocks with three sides hidden. (Philip Afgall, Min. and Met. Soc. of Am., Bull.64, p. 250)

"Probable ore" P. 540 Any blocked ore not certain enough to be "in sight" and all ore that is exposed for sampling, but of which the limits and continuity have not been proved by blocking. Also, it includes any undiscove ed ore of which there is a strong probablility of existence. Ore that is exposed on either two or three sides. Whether two or three sides be taken as a basis will depend on the character of the deposit. (Hin. and Met. Soc. of Am., Bull. 64, pp. 258 and 262).

"Ore developed" P. 476 Ore exposed on four sides in blocks variously prescribed.

ERos Housholder

The term mineral deposit or ore deposit, is arbitrarily used to designate a natural occurrence of a useful mineral ore in sufficient extent and degree of concentration to invite exploitation. (Raymond)

"Exploitation" p. 255
The watraction and utilization of ore. Often confused with exploration." (Richard)

"Exploration" p. 255
The work involved in locking for ore. Often confused with "exploitation". (Richard)

Exploring mine" p. 255
(Scot.) A working place driven ahead of the others to explore the field. (Barrosman) Prospect.

"Prospect" p. 540
To examine land for the possible occurrence of coal or valuable minerals by drilling holes, ditching, or other work. (Steel)

Prospect hole p. 540
Any shaft, pit, drift, or drill hole made for the purpose of prospecting the mineral-bearing ground.

"Prospecting" p. 540
Searching for new deposits; also, preliminary exploration to test
the value of lodes or placers already known to exist.

Work done in a mine to open up ore bodies, as sinking shafts and driving levels, etc. (Skinner).

#### and

"Resources"
(Re. S. G. Lasky, (with U.S. Geol.Surv.) p. 15, Vol. 23, No. 8, Aug. 1955, Western Mining)
"Resources include" all material in the ground, discovered or undiscovered, usable at present, or not, rich or lean, considered within the context of all factors -- that may influence its conversion into a reserve."

"Reserves" (Re. A. P. Butler, Jr. (with U.S.Geol.Surv), p. 15, Vol. 23, No. 3, Aug. 1955 Western Mining.

Apply to known deposits that have aspects of usability within a specified set of economic and technological conditions.

ERoss Housholder

"Positive oro" P. 530 Bull. 95

Ore exposed on four sides in blocks of a size variously prescribed.

See "Ore developed," also "Proved ore." (B. C. Hoover, p.17)

Ore which is exposed and properly sampled on four sides, in blocks of reasonable size, having in view the nature of the deposit as regards uniformity of value per ton and of the third dimension, or thickness. (Min. and Met. Soc. of Am., Bull. 64, p. 262)

"Proved ore". p. 541

Ore where there is practically no risk of failure of continuity (H. C. Hoover, p. 19). See also Positive ore.

"Possible ore" p. 531

Ore which may exist below the lowest workings, or beyond the range of actual vision. (Min. and Met. Soc. of Am., Bull. 64, p. 262).

"Ore expectant" p. 476

The whole or any part of the ore below the lowest level or beyond the range of vision. See Possible ore, also Prospective ore. (H. C. Hoover, p. 17). The prospective value of a mine beyond or below the last visible ore, based on the fullest possible data from the mine being examined, and from the characteristics of the mining district. (Phillip Argall, Min. and Met. Soc. of Am., Bull. 64, p. 260)

"Prospective ore" p. 540

Ore that cannot be included as proved or probably, nor definitely known or stated in terms of tennage. See Possible ore, also Ore expectant. (H. C. Hoover, p. 19)

"Low grade" p. 1:09

A term applied to ores relatively poor in the metal for which they are mined; lean ore.

"Ore faces" p. 476

Those ore bodies that are exposed on one side, or show only one face, and of which the values can be determined only in a prospective manner, as deduced from the general condition of the mine or prospect. (Min. and Met. Soc. of Am., Bull. 64, p. 255)

"Ore partly blocked" p. 1:77

Those ore bodies that are only partly developed, and the values of which can be only approximately determined. (see Probable ore)

"Ore in sight" p. 477, Bull. 95

A term frequently used to indicate two separate factors in an estimate, namely

(a) Ore blocked out, that is, ore exposed on at least three sides

within reasonable distance of each other;

(b) Ore which may be reasonably assumed to exist, though not actually blocked out; these two factors should in all casesbe kept distinct, because

(a) is governed by fixed rules, while

(b) is dependent upon individual judgment and local experience. The expression "ore in sight" as commonly used in the past appears to possess so indefinite a meaning as to discredit its use completely. The terms Positive ore, Probable ore, and Possible ore are suggested. (Nin. and Net. Soc. of Am., Bull. 64, pp. 258 and 261)

ERoss Dousholder

TRANSPORTATION & SUPPLIES

A good mine road of easy down grade leads from the present workings of the Cashier mine, connecting with the Arizona State oil cake paved U.S. 93 highway which is about 2-3/4 miles westerly from the property, thence 13 miles over paved highway to Kingman, the chief distributing center for northwestern Arizona, where ample supplies of all kinds needed in mining are kept in stock.

OLIMATE

The district has a healthful climate with mild winters which permits good working conditions the year around. The vegetation is typical of semi-arid mountain regions. The rainfall is about 10 to 12 inches per year.

WATER SUPPLY

on the property. Water from the present and erground workings is in excess of any development requirements, and as development proceed it is believed sufficient water will be obtained for other purpose

TOPOGRAPHY

The district ranges in elevation from 3,000 feet in the foothills on the west to 5,000 feet on the east, at the crest of the Gerbat Mountain Range. Lane Springs, along which the Cashier mine is located, is a short, de-ply cut side valley situated northeast of Todd Basin and the Jolconda Line, from which it is separated by a prominent ridge extending northwestward from the axis of the range. Lane Springs canyon empties into Long wash the principal drainage of the immediate section, which leads northward and westward into Sacramento Valley. The mountain sides on either slope of Lane Springs canyon has a steep pitch. These slopes are deterial covered but permit the ready construction of trails and roads to all parts of the group.

ORE DEPOSITS OF THE DISTRICT

The ore deposits of this district contain principally lead, zinc, silver and gold, and sometimes copper. They occur in fissure veins which have a generally northwesterly trend and a steep northeasterly dip. Those situated north of Cerbat Wash including Lane Springs canyon section contain principally lead, zinc, silver and gold. The gangue is mainly quartz and the values usually favor the handing wall. The principal minerals are pyrite, chalcopyrite, galena, spaslerite, stibnite, and native gold. Near the surface native silver, argentite, and ruby silver appear, together with free gold, but the water level is often less than 80 feet, and subsequently primary ores come in at relatively slight depth.

-7-

GEOLOGY OF THE LANE SPRINGS SECTION

The country rock is the pre-Cambrian granite, gneiss, and schist complex. It is intruded by dikes of minette, granite, granite porphyry, rhyolite and other rocks, some of which are associated with workable veins and are too greatly sericitized for determination. The complex is also flanked on the west by masses of Tertiary volcanic rocks, principally rhyolite.

The veins for the most part are regular and persistent wit well defined walls. They occur chiefly in the pre-Cambrian granitic fiscures. Oxidation has altered the upper part to a depth ranging from 50 to 300 feet, and this oxidized zone changes to the primary ore within a vertical range of 10 to 40 feet. At the present time operators utilize the sulphide cres. The old time miners were unable to market the sulphide ores at a profit such as has been mined during the past several decades in the district. Only the oxidized and secondary enriched ores were they able to treat and ship. Therefore today there are mines being developed which may be capable of important production. The veins have suffered great erosion, and their mode of occurrence leads to the belief that they were deposited at comparatively great depths by hot circulating waters.

GROLOGY AND VAINS OF THE CASHIAR ORGUP

The geology of the Cashier group corresponds to that of the district. The country rock is pre-Cambrian gneiss, extensively intruded by granite porphyry. In the shallow underground workings the granite porphyry seems to be associated with the veius and is finer grained than the outerops. There are evidences of five asjor veins on this property, together with smaller ones that will bear investigation as the development of the mine proceeds.

CASHIER VIIN

The Cashier vein is in the central part of the group. It might be well to here record that pert Ableman, a former of this mine group in 1927 told me personally that "a good tonnage of heavy lead ore has been extracted from its workings, especially from the 85 foot shaft, known as the Cashier shaft, " which is within 500 feet of the westerly endline of the Night Hawk mine, and from the Allesan tunnel. This vein has a northwestward strike and the similar dip as the Night Hawk voin, of which it is undoubtedly the western extension. It is a large vein dipping to the northeast between 70 and 80 degrees. It contains sulphide ores of load, silver, zine and gold, and in places carrying some copper, home of the present workings are many feet below the grass roots. The ere shoots that have been exposed, I believe however, have promise to become producers, following an intelligent development program. Based on his office records in 1927, Bert Abloman told he personally that "the ores thus far shipped from the Casaler vein ranged between \$48 and \$200 per ton."

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E. ROSS HOUSE LDER, E. M

ASSISTERED PROPERSIONAL ENGINEERS

PACIETY OF AMERICAN MILITARY ENGINEERS
AMERICAN ASSERTATION OF ENGINEERS
AMERICAN GOCIETY OF ENGINEERS

KINGMAN. ARIZONA.

July 18, 1927

WE HEREBY CERTIFY THAT THE SAMPLES ASSAYED POR

Castier line, Kingo'n, Arizone.

dave the pollowing results:

ONLESS: MARK OG. PER TON VAL. PER TON OZ. PER TON VAL. PER TON DOLLARS CRITE	COPPER PER CENT	LEAD PER CENT	Zing
221958 GARD sear sace som \$0.42 8.44 \$499@904/2, \$5.59	0.6;	5.27	13.44%
Select ere Ableman tunnel #25.6085/2 #33.15@901/2   58.74 Aunu	2.5;;	44.0%	3.32%
Select ere Gr. 60035/19 \$20.70/901/09 \$32.30	0.885	41.4%	7.615
Ore from Lain tunnel 100 feet from portal 100.70@sfay 42.11@404/03 \$3.69 0.02 \$0.42 3.32	0.7%	1.3/3	3,25,5

GOLD AT 689.67 PER OUNCE.

SILVER AT

PER OUNCE.

CHARGES 8 Paid

3 1

GOLD 838 Pen Cunes Gilven 89 Cente Pen Gunes lon L Kan

TO SONTAIN AS FOLLOWS

OIL 100 ON 100

CRISMON & NICHOLS

SEC-SOL BOUTH WEST TEMPLE STREET

P. C. BOX 1709

REPORT OF ASSAY

BALT LAKE DITY, UYAH JELY 5. 1955

WE HAVE ASSAYED YOUR SAMPLES AND FIND TO CONTAIN AS FOLLOW OSS. GDLD OZB. BILVER PER CENT PER CENT INGOL, PER CENT PER CENT VALUE OF BO FER TON PER CENT Hanging Jall 30 in 126-5 0.03 17.89 6.70 3090 8 3.05 Dany-Cachier Cross 126-6 0.06 0.45 6.25 8 2,20 Cashier 30 ft. free126-7 0.40 0.0 0.60 0.60 Dono 350

BANG CH

REMARKS

BACRIVE I

SILVER SO CENTS PER OUNCE

CHARGES & 16000

Baseranza Etning Co.

CRIBNOS MATIOLS

PIGE.	OWNER'S MARK	GOLD. PER TON		SILVER, PER TON		TOTAL VALUE	COPPER	LEAD	WARAS
Unpun	JANE GARAGO	OUNCES	VALUE	OUNCES	VALUE	GOLD & SILVER	PER CENT	PER CENT	PER C
27	Panama #3 ft wall loft portal lo wide floor	.03		1.6			.4	1,51	. 0
6	Portal 30ft wide-hunging wall	Trace		18.0		.5	3 9	<b>5</b> 0	
9	Cashier #6 dump at cross cut	.02		.7,			2	7.25	j
8O :	Cashier #7 30ft portal cross cut	Trace		Trace			Trace	. ن	
231	Upper Shaft	.02		8.0		i			AWA.
52	Panama #1 picked sample	Trace	n 2 9.	34.8			0.0	13.76	
<b>B</b> 5	aug. 10, 1955 Cashier cross-cut 50 ft in	Trace		50					
86	Cashier cross-cut 50 ft in	.lo,		7.50			.1	4.0	4.

## OUTCROP OF THE ALPHA VALL.

Looking southeast from the center of the New Years claim of the Cashier group, along the outerop of the Alpha vein, showing the dumps of the Alpha mins in the central background from which many thousands of dollars worth of ore have been mined and shipped from this same vein according to production records published concerning this mine I believe and expect this vein will be cut by the proposed Cashier development tunnel.

## ALPHA VAIN

Cashier vein and practically parallels it although trends more to the north, almost directly across the strike of the pre-Cambrian gnoise complex. Crospings are both prominent on the Cashier property and the matented Alpha estate to the east, as can readily be noticed in the above photograph. This vein teing for the most part a prominent reef of black from and administrate stained quartz. The vein varies in width from 4 to 30 feet, and consists principally of a mangue in which the ore occurs. The or contains silver sulphide, pyrite and chalcopyrite. Another almost parallel vein to this Alone vein outcross a couple hundred feet northerly which has the same general character as this one. Both have a steep din to the northerst. The latter vein apparently enters the old Summit property. The wedge or Main working tunnel has been driven about 900 feet. of which 375 feet has been on the Jedge vein itself. exposing ore of a possible milling grade. The wedge vein has a west northwest strike with a dip ranging between 75 and 86 degrees to the northeast. This vein is several hundred feet southwesterly from the Ableman tunnel on the Cashier vein. According to the observed strike and dip of the wedge vein it is expected that it will coincide with the Cashier vein upon the Cashier property near its easterly endline, not far from the boundary of the Might Hawk mine.

A short distance from the Cashier shaft to the southwest there is a marked quartz stringered blowout on the wedge vein that would lead me to believe that there could be an ore body beneath the surface at this point. The present face of the main working tunnel is now in what is believed by me to be of a grade that will probably make milling ore and it just entering beneath this widened cortion of the vein which would bear out the supposition mentioned above. An assay taken from this ore gives 5.44 cunces silver, 5.2% lead and 15.44% zinc together with a low percentage of copper. The ore is encuntered over the whole face of the drift in three parallel streaks varying in width between 6 inches to z feet, with streaks of gangue material between 3 to 6 inches wide. Much water has been encountered at this place which is typical of ore, bodies in the sulphide zone, in this district.

Between the Cashier vein and this dedge vein there is another vein that outcross prominently but on which there has been little prospecting.

# DEVELOPMENT & ORE EXPOSURES

The present working tunnel. A 500 foot crosscut has been started toward the Cashier and Alpha veins as is recorded in the accompaning map. One hundred feet from the portal there has been some zinc ore exposed. This ore occurs in a lense about 60 feet long, and varying from 8 inches to 2½ feet in width carrying from 2 to 6 per cent zinc and a few cances in silver according to mine records In places lead occurs in appreciable quantities. The ore shoot at the face of the tunnel has already been exposed for 40 feet carrying values in lead, zinc, silver and copper. There is a marked increase in the silica or martz content where the ore occurs in this vein.

The Ableman tunnel on the Cashier vein has been driven about 60 feet in a southeasterly direction along the vein at a shallow depth. Bert Ableman, the locator of this group, after whom this tunnel is named, made a shipment during December 1924, that had according to Mr. Ableman's records shown to me in 1927 and my belief "a gross value of allower ton from an underhand atome in the heading of this tunnel. The following month he made another small shipment that had a gross value of ab4 per ten. These shipments were sent to the sampling works at Kingman. French and

Winters, two contractors and leasors, shipped 8 tons from this tunnel in the spring of 1925 that brought them \$51 per ton. The values were in lead, silver, gold, and zinc." A selected sample from ores left on the dump gave assay returns of 35.72 cunees in silver, \$16.71 in gold, 2.5% copper, 44.0% lead and 3.32% zinc, which checks the reported value of the shipments made from this tunnel.

One noticeable feature of the ore deposits in this tunne was that a horizontal bedding or "floor" of mica senist was found above each of the lead ore shoots.

Then there is the Cashier chaft on this same vein asvera hundred feet to the southeast that is 85 feet deep. Jack Connelly who owned this claim between 45 and 55 years ago told me personal in 1924 that he sunk this shaft, from which he shipped a carload of ove that brought him \$48 per ton even with an exceedingly low price for lead. The claim was then known as the Hasyampa. The companion claim which is now partially covered by the new Years claim, being the westerly extension of the Alpha vein was then known as the Fan Yan. There is today a 16 inch exposure of lead sulphide ore at the bottom of this shaft contained in a 3-1/2 foot face of lower grade ore of milling grade. A selected sample from the old dump gave in 1927 returns of \$6.44 in gold, 23.00 ounces silver, 0.8% copper, 41.4% lead and 7.61% zine.

For the most part the other openings on the property consist of location and assessment heles on the various veins which have uncovered considerable ore of varying grade. In general the Cashier group lies in the heart of a mineralized area from which much one has been extracted, but the development of the group itself has been neglected in the past, for the superficial work that has been done thus far has only scratched the veins. The showings thus far made have been good and the property, I believe has much promise in a mining way.

## SHIPPING ORES TO CUSTOM PLANTS SUGGESTED

Until the time arrives when the development of the Cashin mining property uncovers an extent of ore of sufficient size to justify the expenditure necessary for constructing and equipping a milling plant of its own on the estate itself, it is preferable to mine, sort or select, and ship to eastom milling plants or custom smelters, even though the ore responds to milling treatment a reasonable cost per ton. With present competition for ores by smelting plants and the more efficient operation of large custom milling plants as compared to small size plants, it will figure to your adventage to ship to those plants rather than consider the erection of a small plant on the Cashier mine group at this time.

# ADVARIANCE OF SHIPPING TO CUSTOM ITART

Advantages to be gained by shipping rather than constructing a small consting or mill treatment plant on the Cashier mine group, may be summarized as follows:

(1) a large developed body of one is not initially required.

(2) Initial plant cost, including development of considerable amounts water, is not necessary.

(3) The risk involved in the proposition as a whole when no mill treatment plant or smelter is erected at the mine itself, is not as great, due to the smaller investment necessary.

## ORB VALUE DETERMINED BY SHIPPING RETURNS

C. D. (Blackie) McJovern, was mine caperintendent in charge of underground operations at the Cashier mine during the 1938 activity and on the fifth of September 1955, personally told me that "the ore, taken from a 35 to 40 foot wing in the Cashier tunnel at about 740 feet from the portal, where they cut the Cashier Vein and the ore shoot uncovered above near the surface (see sketch map) in the Ableman Tunnel, contained an average of god in gold (Au) and silver (Ag) and 5 to 6 per cent lead (Fb) and from 2 to 4 per cent copper (Cu). On the Cashier tunnel level at this point they drifted in one to the northwest on the Cashier vein about 35 to 40 feet. They also, at that time drifted southeast about 25 to 30 feet. The shipping grade ore average (according to McGovern) about 18 inches in width, although in places the width dropped to 4 and/or 5 inches in width. The mill grade one varied from 26 inches to 38 inches in addition to the width of the shipping ore."

Mr. McGovern also stated that "at 1,100 feet in from the tunnel portal the Alpha Vein was cut and a short drift run to the northwest about 18 feet, and about 12 feet to the scutheast. Cre was extracted from these drifts and some underhand stopping to make up a shipment to the Keystone mill, then operating at Mineral Fark, about 8 miles by road to the north of the Cashier hi This ore contained \$64 in gold and silver, a little lead, some zinc and a small amount of copper. The vein was similar in width to that of the Cashier Mine, both as to the higher grade streak in the milling grade ore, which they were not interested in mining at that time." Mr. M. B. Maxwell who had worked in the Cashier mine agreed with the statement made by Mr. McJovern.

feet to the Cashier Vein corresponds closely with the 80 degree dip noted on the surface, although the recorded dip of the vein was 72 degrees at the point of contact. Also the 80 degree dip of the Alpha Vein would indicate that it would be encountered at near 1,100 feet from the tunnel portal (see sketches).

After dereful calculations, and in keeping with the definitions of standard terms, rolating to the motel mining locatety, I neve teculated the resulting information, in the following table. I the derefully the termination and temperature.

Tonnage extimates by E. Ress Housholder, E. Z., Sept. 1958

'ero : ora		Alpha vein	20201
relebie Ora (A)	1,040	760	2,640
duch insul showed	3,000	1,260	<b>5</b> ,080
oral Proved Ore (5,2,2)	5.740	1,930	7,720
idee not imperging ske to he votale	**	***	<b>4 %</b>
Edditional Courtble ore	5,200	2,500	9,200
robal of ore	10 640	and by many and a standard or property of the standard or property or property of the standard or property of the standard or property of the standard or property or property or property or property of the standard or property or	and the second of the second o

Sead on the knowledge of the lead. The copper sulphide deposits carrying gold and silver values in this area and sining district and the existing characteristics in evidence at this lead-sina-copper with gold and silver sino-property. I satisfied and expect your fature development of these deposits, still researchly uncover on additional topology, herety topolated.

idditicadi ora expected	97,000	୫,୯୦୦	85,000
Cotal for all	39,640	12,590	51,960

## AT THE PORTAL OF PHR CASHIER TUNNEL

This shows a portion of the Eig dump at the Main Workin Tunnel, and the track leading from the portal.

# LOCATION & TRANSPORTATION

The Cashier group is located in the southwest portion of Township 23 Borth, Range 17 west, in the Wallapai Mining District in the Carbat Mountain Range, Monave County, Arizona, at an elevation ranging between 4000 and 4500 feet above sea level. The group is 2-3/4 miles in an easterly direction by healage refrom the janeticn with Arizona State Highway U.S. 95 oil care paved highway leading southeasterly into Kingman, the Mohave County seat, on the main line of the Atchison, Topeka & Manta E railroad; also the junction with Arizona State oil cake paved highway U.S. 66.

After a careful preliminary examination of the six lode mining claims, comprising the estate of the Cashier group, located in the sallapai wining District, Mohave County, Arizona, it would seem to me that the indications on the property; such as the prominent voin exposures, whose characteristics are similar to the production veins of the district, the same general strike and dip of the veins to those in the geological formations recognized as favorable in which to expect commercial ore deposits in the district, and to the discovery of ore, of commercial grade, carrying a mineral content; indicated by the assay and shipping records mentioned above, warrants further exploration and development to open up the ore bodies believed by me to exist on the group, especially those on the wedge, Cashier and Alpha veins, that have already exposed ore at or near the surface.

SULIARY

Because the ores of this mine already show a value as indicated above supplemented by a development program to explore and determine their extent have the possibility to prove profitable to the owners.

In going over this property and examining the large veins having widths up to 40 feet, and obtaining samples carrying from a few dollars up to better than \$100 in values, supplemented by the favorable geological conditions. I was impressed with the possibilities of this property. It is my opinion that when these ore bodies have been opened up to several hundred feet in depth, supplemented with suitable lateral work, that it will prove to be one of the important mines of the district, as is attested by the persistent length and width of the outcrops and the type of deposition.

These veins are strong and well defined, and in my opinion there is no question as regards their permanency and continuity to a great depth. It can be expected that the base metals content will materially increase as the opinings penetrate below the leached surface area. This has already been proven in the shallow on nings already made. Then too, samples taken from the various openings on these veins, all carry encouraging values This opinion is based also on my observation and knowledge of similar prospects that have become important producers in this area.



#### APPENDIX

A condensed description of ROCKS is here included, Bleaned from pages 94 and 95 in Arizona Bureau of Miles Bulletin Vo; VI, No. 6 (1935, by Dr. G. Montague Butler. In so far as any of these intended to conform to the following date:

E. TOS HOUSHOLDER, E.M. terms are used in this report, the definitions of such terms are

Registered Professional Engineer #25

### ROCKS

Five classesof rocks are generally recognized, namely: igneous, clastic, chemical precipitates, organic, and metamorphic. Each class may be briefly defined and described as follows:

#### IGNEOUS ROCKS

Igneous rocks are formed by the solidification of once molten earth material -- magma. Three subdivisions of igneous rocks may be recognized, namely: plutonio, minor intrusive, and extrusive. Most igneous rocks are very hard when fresh.

PLUTONIC ROCKS: Such igneous rocks have usually cooled slowly far below the surface where the pressure is very high. They ordinarily occur in masses of great size, although relatively narrow dikes of some plutonic species, such as pegmatite, are common in some localities. Plutonic rocks are compact, composed of interlocked grains large enough to be seen with the unaided eyes, which consist of two or more ingredients each of which may be readily recognized by a minoralogist, and, with very rare exceptions, the more plentiful ingredients do occur in well-formed crystals.

MINOR INTRUSIVE ROCKS: Such igneous rocks are formed from magma that has risen toward the surface of the earth through cracks (forming dikes) or has spread between layers of earth material (forming sills, etc.) Part, at least, of the ingredients are forced to crystallize with relative rapidity when the magma comes in contact with cool earth material (resulting in fineness of grain) and, although the pressure on the solidifying magna averages less than on plutonic magmas, it is still relatively great, so the resulting rock is compact. All of the ingredients of some of the minor intrusive rocks are so small that none of them may be identified or even seen with the unaided eyes, but, typically, those rocks show well-formed crystals of one or two minorals embedded in a finer groundmass.

EXTRUSIVE ROCKS: Such igneous rocks have solidified on or relatively close to the surface of the earth and occur typically in surface flows, volcanic necks, and dikes. Otherwise, but the latter are frequently porous, are more commonly composed of lava glass (obsidian), and they are sometimes banded (show flow texture).

E Koss Honefolder

#### CLASTIC ROCKS

Clastic rocks are composed of fragments of other rocks, produced by weathering or mechanical disintegration. The fragments may be several inches or feet in diameter (conglomerates and breccias), much smaller, but visible to the unaided eyes (arkose, grit, and sandstone), or microscopic (shale, clay, and some limestone). The fragments may be transported by wind and water and are usually stratified (laid down in distinct layers), especially if finally deposited in water, when they are called sediments or sedimentary rocks. The fragments are often eventually comented together more or less firmly, but all degrees of hardness are found in clastic rocks. Such rocks contain shells or other remains of organisms (fossils).

#### CHEMICAL PRECIPITATE ROCKS

Chemical precipitate rocks are composed of material deposited by precipitation from water solutions, usually as the result of evaporation. The precipitate rocks are commonly interbedded with sediments that were washed into the evaporating body of water. Rock salt and gypsum are illustrations of this type of rock.

## ORGANIC ROCKS

Organic rocks are composed of

- (1) Material secreted or deposited by animals or plants, or
- (2) Made up of animal or plant remains.

Illustrations are some limestone and coal.

# METAMORPHIC ROCKS

Metamorphic rocks are made up of other rocks that have been changed in appearance or composition, or both, by pressure, heat, or solutions that have percolated through them. Two types are recognized, namely: regional or dynamometamorphic rocks and contact or thermometamorphic rocks.

REGIONAL OR DYNAMOMETAMORITHIC ROCKS: Such rocks are composed of earth material that has been deeply buried and, therefore, subjected to enormous pressure and some heat. Such rocks are often banded, hard, and composed of interlocked grains visible to the unaided eyes. They cometimes contain well-formed crystals. Illustrations are mica schist, gneiss, slate, quartzite, and some marble.

CONTACT OR THERMOMETAMORPHIC ROCKS: Such rocks are composed of material that has been changed and often baked by the heat of intrusions of molten magma and by the chemically active solutions expelled by such magma as they cool. Illustrations are garnet and epidote rocks.

E.Roso Dousholder

# DESCRIPTION OF ROCK SPECIES MENTION D IN THIS REPORT

ALASKITE: A granular plutonic igneous rock composed almost entirely of the relatively light colored minerals, quartz and feldspar. Like granite (which see), but lacking dark colored constituents.

ANDESITE: An extrusive igneous rock that usually contains classy, light colored, plagicclase feldspar crystals in a darker colored, fine-grained groundmass. Does not contain visible quartz, but may contain black hornblends or black augite pyroxene crystals. The groundmass may be porous and the rock then has a very rough texture.

BASALT (MALPAIS): An extrusive igneous rock that often contains small, black crystals of pyroxene or wark green or brown crystals of olivine in a somewhat lighter colored groundmass in which may be imbedded, however, numerous small, very slender, glassy plagioclase feldspar crystals. Usually very dark colored and relatively heavy and frequently decidedly porous.

BRECCIA: A clastic rock that is composed of angular broken fragments of other rock, more or less fielly cemented together. The fragments are often large, and must exceed 1/8 inch in diameter.

CONGLONERATE: A clastic rock that is composed of large, rounded fragments of other rock more or loss firmly cemented together; otherwise like a breccia (which see).

DIABASE: A minor intrusive igneous rock that shows numerous slender, dull or stony lustered, usually white plagioclase feldspar crystals, pointing in all directions, imbedded in a dark colored (often black on fresh surfaces) groundmass that is composed of pyroxene.

DIORITE: A plutonic igneous rock like granite (which see) in texture, but it contains no visible quartz and is usually predominantly composed of white plagicclase feldspar and black hornblende.

GABERO: A plutonic igneous rock like granite (which see) in texture, but it contains no quartz and is usually predominantly composed of dark colored pyroxene and lesser amounts of white or light green plagicalse feldspar.

GHEISS: A regional metamorphic rock usually associated with other schists and much like granite (which see) in composition. In fact small specimens cannot always be distinguished from grante, but the rock is plainly banded when seen in the field, and white mica (muscovite) is a very common constituent.

GRANITE: A plutonic igneous rock that consists essentially of pinkish to white orthoclase feldspar and quartz, but mica, expecially black mica (biotite), is a common consistment and other and other minerals may be present in subordinate amounts.

Eloss Honoholder

LIMESTONE: A rock composed essentially of carbonate of lime which dissolves with the emission of bubbles when a drop of dilute or concentrated muriatic acid is placed upon it. Depending upon its origin it may be either a clastic or an organic rock or a chemical precipitate. Most limestones are finely granular and light colored. They are often flint-like in appearance when freshly broken. They may contain fossils which are usually composed of quartz.

MARBLE: A regional or contact metamorphic rock that is formed from limestone and has the same composition as limestone, but it is rather coarsely granular so that the individual grains, which are usually glassy, and have the perfect cleavage of calcite (which see), are visible to the unaided eyes.

MANZONITE: A plutonic igneaur rock like diorite (which see), but it contains both orthoclase (often pinkish in color) and plagioclase (often white or greenish in color) feldspar.

PEGMATITE: A plutonic igneous rock that occurs in dikes and is much like granite (which see) in texture and composition, but the individual grans or crystals are very large (often several inches long, or larger), and white mica (muscovite) is a much commoner constituent than black mica (biotite). May contain beryl, topaz, tourmaline, and even rarer minerals.

PERIDOTITE: A basic plutonic rock that is usually dark colored and relatively heavy. It contains no feldspar or quartz. Dark brown or green pyroxene (hypersthene, enstatite, or diallage) and olivine are the most plentiful ingredients, but it may also contain magnetite, chronite, and pyrrhotite.

PHONOLITE: An extrusive igneous rock, sometimes has a somewhat greasy luster, occurs in various tints of dull green, gray, and brown, and shows few easily identifiable minerals other than small, scanty crystals of glassy feld#par and, sometimes, numerous very thin, slender black crystals of aegerite pyroxene. One peculiarity of these rocks is that thin slabs, when suspended or held in proper way and struck with a haumer or pick, ring like a bell, hence the name, from two Greek words meaning "sound" or "tone" and "stone." Usually formed when the phonolite breaks as a molton lava up through crater fillings, and quickly solidifies in the form of dikes. Phonolite can rarely be recognized with certainty by other means than a microscopic examination of a thin section. Its presence does not necessarily indicate the near presence of any particular metal or mineral.

PORPHYRY: A minor intrusive igneous rock that, typically, shows well-formed crystals of light colored, stony lustered orthoclass foldspar, and, more rarely, quartz in a dense, fine-grained ground-mass.

QUARTZITE: A regional metamorphic rock formed from sandstone. The openings between the grains in the sandstone have been filled with quartz and the resulting rock is very dense.

E. Ross Donaholder

SANDSTONE: A clastic rock that is composed of grains of other substances, usually largely or almost entirely quartz, which are more or less firmly cemented by silica, calcium carbonate, iron oxide, or some other substance. The individual grains are visible to unaided eyes and are of the size of coarse granulated sugar, or smaller.

SCHIST: A regional metamorphic rock that has, typically, a banded (schistose) texture and often breaks readily along the bands. There are many varieties, such as mica schist, tremolite schist, etc., each being usually named by prefixing the name of the most prominent mineral or minerals.

SERPENTINE: A rock formed by the alteration of very basic igneous rocks like peridotite (which see). It is usually soft enough to be easily scratched with a knife, has a somewhat waxy or greasy luster, feels smooth, breaks with a smoothly curving fracture, is most often some shade of green (commonly dark) in color, and light may frequently be seen through thin edges.

SHALE: A clastic rock made of layers (often as thin as cardboard, or thinner) or particles, too small to be visible to unaided eyes, of various hydrous aluminum ilicates (of which kaolinite is one), quartz and other impurities. It is usually soft, smells like clay, especially when moistened, and breaks along the layers. The color is usually brown or gray.

SLATE: A regional metamorphic rock like shale in composition but much harder. It breaks into strong, thin sheets perpendicular to the pressure that produced it and the color is most frequently black

SYENITE: A plutonic ignoous rock like grante (which see), but it contains no visible quartz and black hornblende is more often present than is black mica.

RHYOLITE: An extrusive igneous rock that is usually light colored and relatively light in weight. It often contains glassy, colorless or white orthoclase feldspar crystals and, less frequently, quartz crystals imbedded in a fine grained groundmass that often feels rough. It sometimes shows flow texture (is banded) and may be glassy (obsidian). Then it is very finely porpus and contains no grains of minerals visible to unaided eyes, it is called pumice.

TRACHYTE: Exactly like rhyolite (which see), but no quartz, or practically none, is visible even in thin sections under the compoun microscope. It cannot usually be distinguished from rhyolite in the field.

TUFF: Composed mostly of the fine material (particles of volcanic glass) called volcanic ash that is thrown into the air during volcanic eruptions. It is usually white or light tinted, porous, light in weight, and soft. It feels rough and commonly contains angular fragments of extrusive rocks.

VOLCANIC B ECCIA: A breccia (which see) that contains numerous angular fragments of extrusive rocks.

S. Ross Housholder

#### References to publications

The following list of publications and sources of information, used as part of the references in compilling this report, is here included for the information of those who may be interested.

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MOHAVE CO. MILS

NUMBER: 112A NAME: CASHIER ALTERNATE NAMES:

WEDGE

ABLEMAN TUNNEL

HASYAMPA

CURRENT STATUS:PAST PRODUCER MAP NAME:CERBAT- 7.5 MIN
LATITUDE:N 35DEG 20MIN 15SEC LONGITUDE:W 114DEG 07MIN 45SEC
TOWNSHIP:23 N RANGE:17 W SECTION:31 QTR.:SE
COMMODITY:

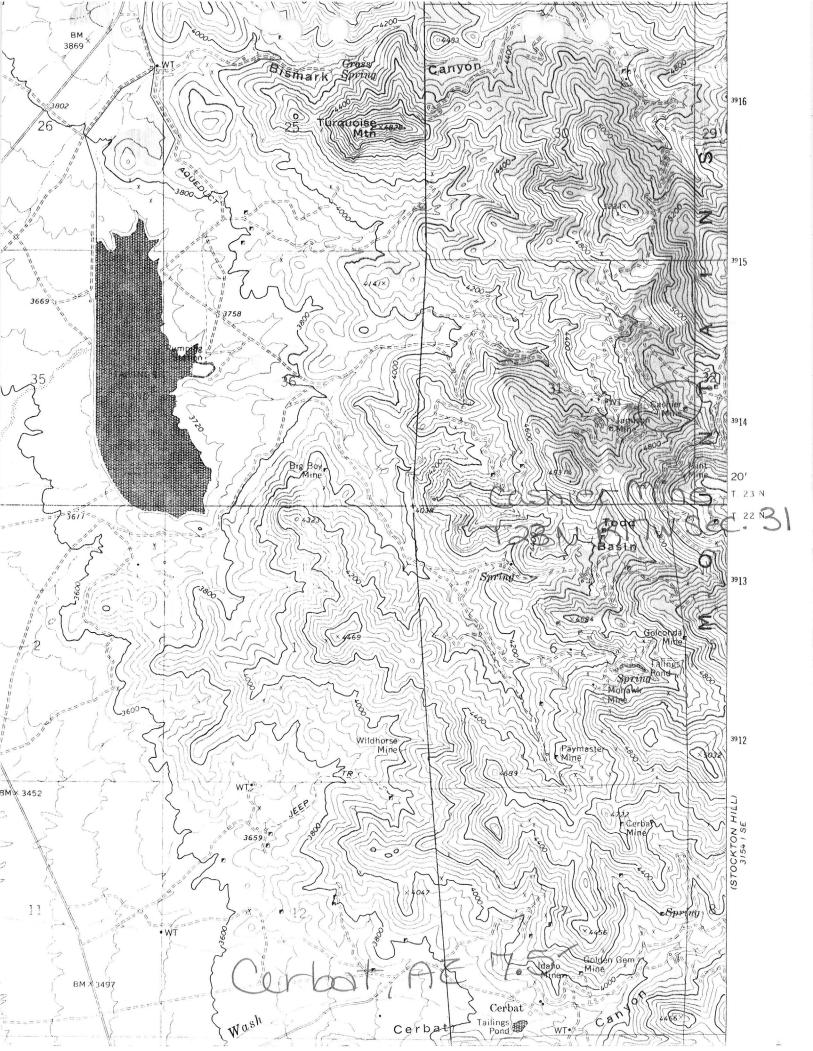
GOLD-(M) LODE-PRIMARY
LEAD-(M) SULFIDE-PRIMARY
SILVER-(M) SULFIDE-COPRODUCT
ZINC-(M) SULFIDE-BYPRODUCT
COPPER-(M) SULFIDE-BYPRODUCT

**BIBLIOGRAPHY:** 

YSGS CERBAT QUAD ADMR MOHAVE CUSTOM MILL PROJ. CARD FILE ADMR MOHAVE CARD FILE

ADMR MOHAVE CARD FILE ADMR CASHIER MINE FILE ADMR ALPHA MINE FILE

ADMR-MAPS UPSTAIRS IN DRAWER 6 - FLAT FILE



September 15, 1941

Mr. Bert Abelman Chloride, Arizona

Dear Mr. Abelman:

L. S. Hackney, 132 North Kenmore Avenue, Los Angeles, California, has expressed an interest in your Cashier Mine and we have sent him your name and address. You will no doubt hear from him.

If you do make a contact with him that results in business done, we would appreciate your advice for the records of the department.

Hoping that you will hear from him further, I

Yours very truly,

Chairman, Board of Governors Arizona Department of Mineral Resources

CFW:LP

am

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#### July 30, 1940

P. O. Box 288, Kingman, Ariz.

Subject: Cashier Mine

Mr. J. E. Dietrich, 10347 Whitegate St., Sunland, Calif.

Dear Mr. Districh:

Referring to the Cashier Mine, on which you secured an option from Mr. Bert Abelman, of Chloride, Arizona, on July 27th, per your request I am herewith inclosing a copy of a brief report on this property by myself, which may be of some assistance to you in presenting this property to your clients.

I believe if you can find the money with which to drive the Cashier tunnel forward to the Alpha and other veins, you can make considerable money out of this enterprise. However, as stated in the report mentioned, you should arrange, if possible, to secure at least the Alpha group, on which there is considerable ore opened up.

Adjoining properties are the Summit, located on top of the Cerbet mountains and which property is now in ore, the Night Hawk, Mint and Jamieson. Suggest you look some of these mines over, when you examine the Cashier. Also the road leading from Highway 93 to the Cashier mine is County maintained the year round. This road leads on over the mountain to Stockton Hill, where there are a number of mines, some of which are being operated and shipping ore. Hence, if you had a good sized flotation mill located below the Cashier Tunnel, you could get considerable customs one, and be in line also to pick up the better properties.

The Cashier Tunnel is a splendid betall around - not only because a goodly amount of milling ore is now elready indicated in that area; but also because this tunnel produces mill water, which is a scarce article in that neck of the woods. The Alpha mine workings struck considerable water mainly in a winze sunk from the lower tunnel of that property; so when the Alpha wein is cut, the present water now flowing from the portal of the Cashier Tunnel will be more than doubled. I hardly think there is any doubt of this. All weins in the Cerbats carry water.

With kind personal regards, I am

Very sincerely yours,

Elgin B. Holt, Field Engineer. July 30, 1940

P. O. Box 200, Kingman, Aris.

Subject: Cashier Mine

Mr. J. E. Dietrich. 10547 Whitegate St., Sunland. Calif.

Dear Mr. Dietrich:

Referring to the Gashier Mine, on which you secured an option from Mr. Bert Abelman, of Chloride, Arizons, on July 27th, per your request I am herewith inclosing a copy of a brief report on this propcrty by myself, which may be of some assistance to you in presenting this property to your clients.

I believe if you can find the money with which to drive the Cashier tunnel forward to the Alpha and other veins, you can make considerable money out of this enterprise. However, as stated in the report mentioned, you should arrange, if possible, to secure at least the Alpha group, on which there is considerable ore opened up.

Adjoining properties are the Susmit, located on top of the Cerbet mountains and which property is now in ore, the Night Hawk, Mint and
Jamieson. Suggest you look some of these mines over, when you examine
the Cashier. Also the road leading from Highway 93 to the Cashier mine
is County maintained the year round. This road leads on over the mountain
to Stockton Hill, where there are a number of mines, some of which are
being operated and shipping ore. Hence, if you had a good sized flotation
mill located below the Cashier Tunnel, you could get considerable customs
ope, and be in line also to pick up the better properties.

The Cashier Tunnel is a splendid bet all around - not only because a goodly amount of milling ore is now already indicated in that area; but also because this tunnel produces mill water, which is a scarce article in that neck of the woods. The Alpha mine workings struck considerable water mainly in a winze sunk from the lower tunnel of that property; so when the Alpha wein is cut, the present water now flowing from the portal of the Cashier Tunnel will be more than doubled. I hardly think there is any doubt of this. All weins in the Corbats carry water.

With kind personal regards, I am

Very sincerely yours,

Elgin B. Holt, Field Engineer.