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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: JACKRABBIT PROPERTY

ALTERNATE NAMES:

AGWA MS 2441, PATENTED
KEYSTONE MS 2441, PATENTED
SAHUARRO MS 2441, PATENTED
CASA GRANDE CU AND AU MNG. CO.
TUBA CITY MNG. & MLG. CO.
JACK RABBIT SILICA

PINAL COUNTY MILS NUMBER: 668A

LOCATION: TOWNSHIP 9 S RANGE 5 E SECTION 31 QUARTER NE
LATITUDE: N 32DEG 36MIN 22SEC LONGITUDE: W 111DEG 53MIN 27SEC
TOPO MAP NAME: SILVER REEF MTS - 15 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

SILVER
GOLD
SILICON
LEAD

BIBLIOGRAPHY:

ADMMR JACK RABBIT FILE
SEE ADMMR TURNING POINT FILE
SEE ADMMR DESERT QUEEN MINE FILE
ADMMR U FILE, PINAL AG10
TENNEY, JAMES, HISTORY OF MINING IN AZ.
1927-29, P. 337-338
BLM MINING DISTRICT SHEET 252 & 256
USAEC PRELIM. RECONN. RPT. 172-488, 1953, P. 8
HAMMER, DONALD F., GEOLOGY AND ORE DEPOSITS
OF THE JACKRABBIT AREA, PINAL CO. AZ.,
MS UOFA 1961
TENNEY, J.B., ECONOMIC GEOLOGICAL RECONN. OF
CASA GRANDE MINING DISTRICT, AZBM 1934,
P. 22-23

JACKRABBIT MINE

PINAL COUNTY

RRB WR 12/11/81: Visited Jackrabbit Mine, Section 31, T9S R5E, Pinal
County - no activity.

NJN WR 10/30/87: Alan Sangster, from Candian Geological Survey, reported that
he saw Ferber Mining Company's (file) equipment on the Jack Rabbit (file) Pinal
County.

JACKRABBIT MINE

PINAL

See: Casa Grande (Mines File) Casa Grande History Report



REASON CHECKED
Unclaimed.....Refused.
Unknown.....
For better address.....
Moved, left no address.....
No such office in state.....



~~Tube City Mining & Milling Co.
McKeesport
Pennsylvania~~

A SHORT STORY OF THE DESERT.

In southwestern Arizona, between Tucson and Ajo, there is more than 10,000 square miles of arid Desert country with innumerable smaller mountain ranges rising abruptly out of the Desert plain. Volcanic action and igneous flows and intrusions of a former geologic period are in evidence everywhere. Mineralization has occurred in many places and outcrops of gold, silver, copper and lead ores are numerous. Owing to the scarcity of water throughout this area prospecting and development of these mineralized section has heretofore been difficult.

Out on this Desert, in Pinal County, some 60 miles west of Tucson and 22 miles south of Casa Grande, there is such a mineral district, gold and silver, covering approximately one square mile. The first discovery was made in the 80's, and the earliest mining in this district occurred 35 to 40 years ago.

The principal mines are the "Turning Point," "Jack Rabbit" and "Desert Queen," all adjoining and practically forming one large group, embracing some 25 claims or approximately 500 acres. About one-half of these claims are patented. The "Jack Rabbit" produced some 400,000 ounces of silver from the older workings; the ore in this mine is a silver chloride, with some gold. The ores in the "Turning Point" and the "Desert Queen" are principally gold bearing; the earlier production from these two mines is probably \$100,000 in gold. Quite a number of years ago attempts were made by the respective owners to operate these properties and make them pay by sorting out and shipping the high grade ores only, leaving the lower grade ore material on the dumps and in the stopes underground. But there was not sufficient high grade ore to work the mines profitable under that system. In the "Jack Rabbit" they encountered a heavy flow of water which at that time they were not able to cope with; the owners became discouraged and quit. Work on the "Turning Point" and "Desert Queen" was likewise discontinued. For years these mines have been lying dormant and apparently passed up as "dead ones," having the stigma of a "black eye."

About a year ago when copper mining was looking blue, we were scouting and scouring over the Desert in an effort to find something worth while taking hold of in the way of gold or silver, and by force of circumstances came across these abandoned properties. It was observed at once that the geological formation of the district could not be better for ore deposition---carboniferous limestone and quartzite with intrusions of rhyolite and andesite---with the presence of strong fissure veins and contact deposits of of gold and silver ores. Several weeks were spent in sampling and testing old ore dumps and underground workings, and a lot of metallurgical tests were made. The results obtained proved that the ores could be treated economically and profitably by a simple process of milling. The respective owners of the properties were located and communicated with and negotiations started to secure them either under lease or by purchase. The "Turning Point" was acquired under contract to purchase, it being the logical point for installing the required mill, and also because of its large tonnage of payable gold ore. The "Desert Queen" and "Jack Rabbit" groups were secured under lease. A sufficient tonnage of payable gold and silver ores was thus secured to justify the construction of a 40 to 50-ton plant. A condensed statement of the estimated tonnage of ore ready for treatment, its assay value, percentage of recovery and net earnings, follows.

*Property of Denver & Folsom
H. H. Mann
Tucson, Ariz.*

ORES ON DUMPS:

5000 tons, assay value	\$ 8.00 per ton, 80% recovery--	\$ 6.40, total--	\$32,000.00
300 tons, assay value	\$20.00 per ton, 80% recovery--	\$16.00, total--	4,800.00
2000 tons, assay value	\$ 5.00 per ton, 80% recovery--	\$ 4.00, total--	8,000.00
2500 tons, assay value	\$ 5.00 per ton, 80% recovery--	\$ 4.00, total--	10,000.00

ORE EXPOSED IN MINE:

8000 tons, assay value	\$8.00 per ton, 80% recovery--	\$ 6.40, Total--	51,200.00
<u>17,800 tons.</u>			<u>\$106,000.00</u>
	Operating cost per ton: \$3.00		
17,800 tons x \$3.00.....			\$ 53,400.00
		Net Yield.....	<u>\$ 52,600.00</u>

In addition to the above properties, a ten years' lease was also secured on a gold property consisting of seven claims, called the "O.M.C." group, situated some three miles south of "Turning Point" mill. These claims are not developed to any great extent, but there are good showings of free milling gold ore near surface and a considerable tonnage may be developed. It is the intention to sublease this property to practical miners, and haul the ore to the "Turning Point" mill for treatment.

A small "pool" or syndicate was formed for the purpose of getting sufficient funds together to construct the required mill. None of the half dozen men interested were wealthy and money was scarce. By pure determination, faith in the enterprise and making one dollar do two dollars' worth of work, the mill is now more than three-fourths completed. Up to date \$10,000.00 has been expended in machinery, material, construction and labor. About \$5,000.00 more is needed to finish construction and get on a producing basis. To facilitate raising this additional money it has been decided to incorporate, and transfer all properties, leases and equipment to the corporation, (Turning Point Mining Company.) The individuals who have already invested their money will receive stock in this company at the rate of 50 cents a share; that is, for the \$10,000.00 already invested and expended, 20,000 shares of stock will be issued. It is proposed to raise the needed \$5,000 on the same basis. In other words, to provide this additional capital 10,000 shares will be offered at 50 cents a share. There is no "promotion stock" or rake-off in the proposition; no one will be asked to take less for his money than those who are already interested. From the estimates made there is sufficient ore on the various dumps and exposed in the Turning Point mine to pay back, within two years time the total investment of \$15,000.00 plus a 200% profit.

To provide ore for future operation beyond the tonnage now available it will be necessary to do some development. A system of such work has been worked out by which this can be done without any expense to the company. There are some twenty or more openings with good ore showings on these properties, where leases will be given to practical miners on a basis that will enable them to make better than regular wages; the company will mill their ores at a small profit and receive a reasonable royalty on the output. By this method a future ore supply can be provided and the business will gradually develop itself. Nothing has been said herein regarding the possibility

*Property of Denver F. Forbes
414 N. Main Tucson, Ariz*

of striking bodies of high grade ores, and no promises are made that such will happen, but it can be consistently stated that the chances are exceedingly good that we may do so. There are streaks and spots of high grade ores there now, assaying up to \$300.00 a ton. Our estimates show a profit on \$6.00 to \$8.00 ore, the average mine run. Deeper developments, below water level, may greatly increase these values. Water level was reached in the "Turning Point" and "Jack Rabbit" mines at 200 feet below surface. All ores developed so far is above that horizon, in the oxidized zone.

It is a peculiar fact that many bonanza camps, most of them in fact, were discovered then abandoned and again "re-discovered" before they became famous. Gripple Creek, Tonopah, Goldfield, and more recently Randsburg, Calif., were all discovered and forgotten years before they finally made good. Whether or not we will open up a bonanza in this stance remains to be learned. If we do, we also will become famous; if we don't we will make a little money anyway.

We want to make this a local company. We don't need much more money to make this thing a paying business. The exact facts have been given in this brief statement. We are neither promoters nor stock salesmen, and we take this means of inviting you to come in and help finish the job.

Mr. Frank H. Hereford, Attorney, of Tucson, has been engaged to attend to all legal matters pertaining to the company, its incorporation, titles, contracts and leases, and will be a director and secretary of the company.

The Arizona National Bank of Tucson will be the depository for the company. Reservations may be sent direct to this bank pending completion of incorporating, when the number of shares subscribed for will be issued.

When the 10,000 shares are sold we can complete construction of the mill and have the wheels turning in thirty days.

With a total capital of 30,000 shares outstanding against a definitely estimated net yield of more than \$50,000.00 from present resources, (with the additional speculative feature of striking larger and richer ore bodies) the possibility of losing has been eliminated as near as it is humanly possible to do so.

MARTIN FISHBACK,
Mining Engineer.

Tucson, Arizona,
February 26, 1923.

Property of Denver F. Fisher
417 N Main
Tucson, Ariz

The Jack Rabbit Group of Mines.

The present condition of the property as compared with conditions that existed at the date of my last statement submitted July 26th, 1905, are as following:

The present value of the property has been increased full 50% by the development of the last fifteen months.

The development accomplished during the last period of operation is about 1500 lineal feet, which consists of the following work also its location.

The new shaft	260	feet	depth	Good	Development	
First level New Shaft 160 foot level	380	"	length	Question	in part	1
Second level " " 250 " "	225	"	"	"	" "	2
Upraise " " between 1 & 2	40	"	"	Good	Development	
Incline Shaft sinking	55	"	depth	Good	Development	
Drift north old shaft drifting	35	"	length	Good	Development	
" south " " "	20	"	"	Good	Development	
Cross-Cut 160 ft. level incline west	30	"	"	Good	Development	
Upraise at same point	20	"	"	Question		3
Drift south same level 160	40	"	"	Good	Development	
Winze sunk end same drift level 160	30	"	depth	Good	Development	
Upraise of winze same point level 160	20	"	length	Question		4
Cross-Cut east same level	30	"	"	Question		5
Cross-Cut west 120 foot level	80	"	"	Question		6
Connection between New Shaft & Incline Shaft	100	"	"	Necessary		
Development on 6 outside claims	70	"	"	"		

In my report of July 26th, 1905, it was stated that enough development had been done above the 167 foot to prove that the ore bodies were large and that they went down and carried values. I also stated that there were many places above the 167 foot level where more cross-cutting should be done and where more ore no doubt would be found, I did not contemplate cross-cutting the ground above the 167 foot level in the old incline Shaft until more work had been done in sinking the shaft on down. A great mistake was made when the incline shaft was abandoned, as the vein or ore zone was left and a very large amount of the development has been done off of the vein. In following down the vein by sinking the old incline shaft all of the development would have been confined to the vein where the work should have been done and as much known of the value of the property for much less funds than have been expended. The new development from the new shaft or the 250 foot level is only about fifty feet below the bottom of the incline shaft. The sinking of the incline shaft was not attacked in the way it should have been, in the first place it was not timbered up right. The new shaft is first class in every respect and will be used to the best advantage in the future. The total development at the new shaft 260 in depth, 380 on the 1st level and about 100 on the second level total 740 feet plus the timber and timbering could have been saved by sinking the incline shaft on down about fifty feet in depth and putting the old incline shaft in proper shape to work through.

The future development should be confined to the vein or ore zone, with

intelligent cross-cutting at the proper points and not haphazard methods as in the past. The property must be under the care of a competent engineer if the best results are to be had in the future. The development on the 250 foot level has cut the vein and every thing points to the fact that it is a true fissure vein. By developing the vein on this level, I expect to be able to find shipping ore which should assist in the development of the property, also to block out milling ore of considerable tonnage, and in that way enhance the value of the property to a great extent.

The water has been very expensive to handle in the past but quite a large percentage of this expense has been from lack of experience of the labor, the equipment also the exposed condition of the boilers and the steam line. The volume of water the mine was producing at the time I was at the property was 350 gallons per minute but the mine had been flooded for some time and I am under the impression that this amount is in excess of the amount were the ground drained, and kept pumped down for any length of time. The battery of small boilers are very expensive to run as the heating space and surface is so very small. The equipment of pumps is sufficient for the present but have been abused from the lack of employing proper labor.

The heavy consumption of fuel has been from the exposed condition of the boilers and steam line also the battery of three small boilers worked to the limit is far from true economy. The work should be done with proper conditions with a consumption of less than one third of what has been used. Wood such is now delivered at the property at \$3.50 per cord is the best fuel to use but the company must have a supply of fuel oil on the property at all times in order to be protected should this wood supply fail as in the past, as all flooding of the property is very expensive and must be avoided.

The property should be equipped at once for further development with 200 horse power boiler or two 100 H.P. and a 75 H.P. Hoist. This will have to be done in order to carry on the development with economy. The present equipment will all be used in the future development. The small hoist can in the future be of use in the underground work sinking winzes also on the surface at points where development will be done. The battery of small boilers was a mistake to buy but the conditions have changed from time to time and as the requirement has called for more power it has been added too in a small way until the company have a very expensive plant, also very weak. The showing of the property is sufficient and justify the outlay for the equipment at once.

The vein as shown on the 250 foot level is very strong and four samples taken in the cross-cut exposing it gave returns of good values. The vein at this point is seven feet in width and shows permanency.

Sample No.	3	Quartz	Gold	\$11.00	Silver	242 ounces	2 Ft.
"	"			1.20		44.6	2 "
"	"			1.40		42.8	1 "
"	"			1.40		2.00	2 "

Not enough work has been done at this point to demonstrate how large the ore body is at this point and whether shipping ore can be had until more development has been done by drifting both ways on the vein. The indications are very good. The vein is very strong and conditions more than likely for shipping ore.

The property in the future must have more sampling and assaying done. The property should be equipped with a good assay office and the work done on the ground as much of the formation is hard to tell from the ore and if the tests are not made the good grade of ore may many times become mixed with the waste and good ore overlooked.

The development in the future should be done with true economy, the cost of the work must be reduced. Expenses in all of the work must be watched and cut down wherever possible and more work must be delivered by the help employed for the wages paid. The total leakage of supplies and material used on the property has been entirely too much and should be stopped.

The management has been more than faithful, the support from the help as a whole has not been what it should have been and enough effort to push the work has not been or if made was not well directed. Conditions are shown by the costs which are excessive in the extreme.

I would advise the expenses of the company be curtailed as close as possible until a line of operation is laid out by the company. The purchase of a boiler or boilers and hoist should be gone into with whom you have in charge of the property.

Conclusion. The development of the last fifteen months has proved the vein is a true Fissure vein and that the values do go down. The present value of the property is very much increased by the last outlay of funds, far in excess of the funds expended. The development at the present time is at a point where good results are to be looked for and should be carried on. The conditions for increasing the value of the property and the indications that shipping ore can be found are now much better than at any time in the history of the company. The further development on the 250 foot level will no doubt increase the tonnage of milling ore of the mine to a great extent. I am very anxious to drift on the vein both ways especially to the south and open the vein where the largest ore chutes have been found in the upper works. I would not advise the sinking of the shaft for the present until more is known of this level. It is also possible that by the time we are ready to sink the water may decrease by constant pumping and the upper ground drained. I would advise the further development of the property on lines of; Confine all development to the vein or ore zone, and not mistake will be made, far less funds required to find or expose the values.

Respectfully Submitted

M.E.

April 20nd, 1908

JACK RABBIT, TURNING POINT, DESERT QUEEN, AND ORIZABA MINES

History and Production.

These four silver-gold deposits in the Paleozoic sediments at the north end of the mountain were discovered in the early eighties. The first to be exploited was the Jack Rabbit where a little carefully sorted 300-ounce silver ore was shipped in 1883 and the mine had by then been developed to a depth of 90 feet. The following year the Orizaba reported to the Director of the Mint the shipment of 5 tons netting \$2000 in silver and that about 600 tons of \$5 to \$100 ore lay on the dump. After the exhaustion of the richer outcropping ore little further work was done until about 1892 when the Jack Rabbit mine^{was} acquired by the Casa Grande Copper and Gold Mining Company financed from Denver. The mine was developed intermittently in the succeeding ten years during which time the demonitization of silver and the consequent drop in the price to a level of less than 60 cents and ounce were discouraging factors. The ore shoot was developed to a depth of 200 feet at which depth a large flow of water was encountered. A cyanide plant was built in 1901 which was not a financial success.

In 1908 the Jack Rabbit mine passed into the hands of the Tube City Mining and Milling Company of McKeesport, Pennsylvania. The main shaft was sunk by this company to a depth of about 400 feet against a very heavy flow of water, and a little rich sorted ore was sacked and shipped until the abandonment of the mine in 1910.

The Turning Point mine adjoining the Jack Rabbit on the west, located on a probable continuation of the Jack Rabbit lode was probably found at the same time as the Jack Rabbit. The first development work was done in 1898 when it was reported that a mill to treat the ore blocked was to be erected. Work was suspended until 1902 when a 10-stamp mill was built which treated a small tonnage, after which the mine was closed. A little high grade ore was stoped in 1911 and shipped.

The Desert Queen, adjoining the Jack Rabbit to the south was first worked from 1905 to 1907 by the Desert Queen Gold Mining Company. Considerable shallow development work was done and a Tremain steam stamp mill of 4 stamps was erected. Amalgamation and concentration methods were employed. After a short run the mine was abandoned.

The Orizaba Mine, about two miles North 50 degrees West from the Jack Rabbit is located in one of several low hills in the much dissected ridge between the Silver Reef and Slate Mountains. After the first work in the early eighties, little was done until about 1915 when the property was developed by a deep vertical shaft, and was equipped with a small mill. Since that time, lessees have stoped a little rich lead-silver ore from shallow depths, chiefly in 1923 and 1925.

The total production of the four mines has been small. Accurate figures are not available. It is probable that at least \$20,000 in silver and silver-lead ore was produced in the eighties, chiefly from the Jack Rabbit and Orizaba. The production since then has not been over an equal amount.

Geology and Ore Occurrence.

The ore bodies of the Jack Rabbit, Turning Point, and Desert Queen mines at the northern end of Slate Mountain are replacements of Pennsylvanian limestone in strong fault zones, at or near the contact with dikes of porphyry classified in the field as diorite porphyry. At the Jack Rabbit and Turning Point, the ore is found in a strong fracture striking North 20

COMMODITY INFORMATION

COMMODITIES PRESENT C10 AG, P.B., AU, CU, ZN
 ORE MINERALS C30 GALENA WITH GOLD AND SILVER, CERARGYRITE, NATIVE SILVER, CERUSSITE, SPHALERITE
 COMMODITY SUBTYPES C41
 GEN. ANALYTICAL DATA C43
 COM. INFO. COMMENTS C50

* SIGNIFICANCE

	PRODUCER	NON-PRODUCER
MAJOR PRODUCTS	MAJOR <u>AG, P.B., AU, CU, ZN</u>	MAIN COMMODITIES PRESENT C11
MINOR PRODUCTS	MINOR <u>P.B., AU, CU, ZN</u>	MINOR COMMODITIES PRESENT C12
POTENTIAL PRODUCTS OCCURRENCES	POTEN <u>ZN, AU, CU, P.B.</u>	OCCURRANCES OCCUR

* PRODUCTION

	PRODUCER	NON-PRODUCER
PRODUCTION <input checked="" type="radio"/> (circle)	PRODUCTION SIZE <input checked="" type="radio"/> SMALL <input type="radio"/> MED <input type="radio"/> LG (circle one)	PRODUCTION UNITS <input type="radio"/> NO (circle one)

* STATUS

EXPLORATION OR DEVELOPMENT

	PRODUCER	NON-PRODUCER
STATUS AND ACTIVITY A20	<u>Y</u>	<u>L</u>

DISCOVERER L20 AL ROBARD
 YEAR OF DISCOVERY L10 1881 NATURE OF DISCOVERY L30
 YEAR OF FIRST PRODUCTION L40 1885 YEAR OF LAST PRODUCTION L45 1937
 PRESENT/LAST OWNER A12 TUBE CITY MINING CO. (1961)
 PRESENT/LAST OPERATOR A13 RAMONE ANDRADE (1937)
 EXPL./DEV. COMMENTS L110 PREVIOUS OWNERS AND OPERATORS INCLUDE JOHN D. WALKER, W.C. SMITH AND JOHN MORALI (1890), CASA GRANDE COPPER AND GOLD MINING CO. (1892), TUBE CITY MINING AND MILLING CO. (1904), F. AND RAMONE

DESCRIPTION OF DEPOSIT

DEPOSIT TYPE(S) C40 VEIN AND REPLACEMENT
 DEPOSIT FORM/SHAPE M10
 DEPTH TO TOP M20 UNITS M21 MAXIMUM LENGTH M40 UNITS M41
 DEPTH TO BOTTOM M30 UNITS M31 MAXIMUM WIDTH M50 UNITS M51
 DEPOSIT SIZE M15 SMALL MEDIUM M15 LARGE (circle one) MAXIMUM THICKNESS M60 UNITS M61
 STRIKE M70 NE DIP M80 70 SE
 DIRECTION OF PLUNGE M100 PLUNGE M90
 DEP. DESC. COMMENTS M110 MISTLY VEINS, SOME SMALL REPLACEMENT BODIES

DESCRIPTION OF WORKINGS

Workings are: SURFACE M120 UNDERGROUND M130 BOTH M140 (circle one)
 DEPTH BELOW SURFACE M160 420 UNITS M161 FT OVERALL LENGTH M190 450 UNITS M191 FT
 LENGTH OF WORKINGS M170 2000 UNITS M171 FT OVERALL WIDTH M200 300 UNITS M201 FT
 DESC. OF WORK. COM. M220 3 INCLINED SHAFTS; 1 VERTICAL SHAFT OF 420 FT, STOPING AT 165 FT, COMING OFF OF THE 3 INCLINED SHAFTS; EXTENSIVE DRIFTING AND CROSS CUTTING AT 250 FT, COMING OFF OF 1 OF THE INCLINED SHAFTS.
 OVERALL AREA M210 135000 UNITS M211 CG FT

GEOLOGY

AGE OF HOST ROCK(S) K1 M.I.S.S.
 HOST ROCK TYPE(S) K1A LIMESTONE
 AGE OF IGNEOUS ROCK(S) K2 T.E.R.T.
 IGNEOUS ROCK TYPE(S) K2A ANDESITE PORPHYRY HORNBLAND-BIOTITE
 AGE OF MINERALIZATION K3 T.E.R.T., MIDDLE TERTARY
 PERT. MINERALS (NOT ORE) K4 QUARTZ, PYRITE, MANGANESE OXIDES, LIMONITE
 ORE CONTROL/LOCUS K5 NE STRIKING NORMAL FAULT, CONTACT BETWEEN LIMESTONE AND PORPHYRY
 MAJ. REG. TRENDS/STRUCT. N5 BEDDING OF LIMESTONE; ENE STRIKE, 25 NW DIP
 TECTONIC SETTING N15
 SIGNIFICANT LOCAL STRUCT. N70 FAULT CONTACT WITH ANDESITE ON S, DOWNTHROWN SIDE, LIMESTONE ON N, UPTHROWN SIDE
 SIGNIFICANT ALTERATION N75
 PROCESS OF CONC./ENRICH. N80
 FORMATION AGE N30 M.I.S.S.
 FORMATION NAME N30A ESCAPROSA LIMESTONE
 SECOND FM AGE N35
 SECOND FM NAME N35A
 IGNEOUS UNIT AGE N50
 IGNEOUS UNIT NAME N50A
 SECOND IG. UNIT AGE N55
 SECOND IG. UNIT NAME N55A
 GEOLOGY COMMENTS N85

GENERAL COMMENTS

GENERAL COMMENTS GEN

Excerpt from Economic Geological Reconnaissance
of Casa Grande Mining District
By J. E. Tenney

U.S. 31, 95, 5E
JACK RABBIT, TURNING POINT, DESERT QUEEN, AND ORIZABA MINES

History and Production.

These four silver-gold deposits in the Paleozoic sediments at the north end of the mountain were discovered in the early eighties. The first to be exploited was the Jack Rabbit where a little carefully sorted 300-ounce silver ore was shipped in 1883 and the mine had by then been developed to a depth of 90 feet. The following year the Orizaba reported to the Director of the Mint the shipment of 5 tons netting \$2000 in silver and that about 600 tons of \$5 to \$100 ore lay on the dump. After the exhaustion of the richer outcropping ore little further work was done until about 1892 when the Jack Rabbit mine was acquired by the Casa Grande Copper and Gold Mining Company financed from Denver. The mine was developed intermittently in the succeeding ten years during which time the demoralization of silver and the consequent drop in the price to a level of less than 60 cents and ounce were discouraging factors. The ore shoot was developed to a depth of 200 feet at which depth a large flow of water was encountered. A cyanide plant was built in 1901 which was not a financial success.

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The Desert Queen, adjoining the Jack Rabbit to the south was first worked from 1905 to 1907 by the Desert Queen Gold Mining Company. Considerable shallow development work was done and a Tremain steam stamp mill of 4 stamps was erected. Amalgamation and concentration methods were employed. After a short run the mine was abandoned.

The Orizaba Mine, about two miles North 50 degrees West from the Jack Rabbit is located in one of several low hills in the much dissected ridge between the Silver Reef and Slate Mountains. After the first work in the early eighties, little was done until about 1915 when the property was developed by a deep vertical shaft, and was equipped with a small mill. Since that time, lessees have stoped a little rich lead-silver ore from shallow depths, chiefly in 1923 and 1925.

The total production of the four mines has been small. Accurate figures are not available. It is probable that at least \$20,000 in silver and silver-lead ore was produced in the eighties, chiefly from the Jack Rabbit and Orizaba. The production since then has not been over an equal amount.

Geology and Ore Occurrence.

The ore bodies of the Jack Rabbit, Turning Point, and Desert Queen mines at the northern end of Slate Mountain are replacements of Pennsylvanian limestone in

strong fault zones, at or near the contact with dikes of porphyry classified in the field as diorite porphyry. At the Jack Rabbit and Turning Point, the ore is found in a strong fracture striking North 20 to 30 degrees East dipping 60 degrees to the East, at the contact of a 100-foot wide dike of porphyry and Pennsylvanian limestone, the porphyry forming the footwall of the fault. The ore consists of heavily limonite-stained sheared limestone with a little copper silicate and carbonate stain. The better ore is said to have averaged about \$18 in silver and gold. The shafts of both the Jack Rabbit and Turning Point are caved and inaccessible. The total length exposed by surface trenching between the two shafts is about 2000 feet.

A heavy flow of water was encountered in the Jack Rabbit shaft at a depth of 200 feet.

At the Desert Queen, the ore occurs in a strong fault striking North 60 degrees East dipping 50 to 80 degrees to the south, cutting Pennsylvanian limestone. Southeast of the fault and paralleling it is a dike of diorite porphyry ten to 20 feet thick. The ore consists of limonite-stained quartz and calcite with some chrysocolla stain. Most of the stoping was done in a single outcropping ore shoot 50 feet long and 80 feet deep. The fault vein has been opened at intervals by pits and cuts for a distance of about 1500 feet along the strike. The porphyry contacts are usually barren. A little lime garnet has been developed sporadically. The ore is said to have contained values in silver.

At the Orizaba Mine, two miles North 50 degrees West from the Jack Rabbit, the ore is associated with a fracture zone 50 feet wide striking north and dipping 60 to 75 degrees to the west, at the contact of Cambrian quartzite to the east and Pennsylvanian limestone to the west. The Pennsylvanian limestone is highly crushed and occurs as a block thrust over the quartzite. The eastern boundary of the block is the north-south fault zone in which the ore occurs. The contact extends to the north a distance of about 500 feet from the valley fill, and then swings to the west. The quartzite beds dip north 50 degrees East 30 degrees. The ore consists of limonite and chrysocolla-stained quartzite with seams of silver-bearing lead carbonate partly replacing the bedding and partly replacing fault gouge. The zone has been opened by shallow pits, stopes and open cuts for a total length of 300 feet on the strike of the fault zone. A vertical shaft was sunk 200 feet southeast of the zone, from which considerable work was done, judging from the size of the dump. The shaft is caved and water stands 75 feet below the surface. A second zone of fracturing within the quartzite occurs 300 feet north of the shaft. This zone strikes North 72 degrees East and dips 70 degrees to the south. It also has been extensively prospected by shallow pits and open cuts. The mineralization in this zone is similar to that in the main workings and it has been followed for a distance of about 200 feet to the northeast from its junction with the north-south zone. Altogether several thousand feet of work has been done on the property.