



## **CONTACT INFORMATION**

Mining Records Curator  
Arizona Geological Survey  
1520 West Adams St.  
Phoenix, AZ 85007  
602-771-1601  
<http://www.azgs.az.gov>  
[inquiries@azgs.az.gov](mailto:inquiries@azgs.az.gov)

The following file is part of the

Arizona Department of Mines and Mineral Resources Mining Collection

## **ACCESS STATEMENT**

These digitized collections are accessible for purposes of education and research. We have indicated what we know about copyright and rights of privacy, publicity, or trademark. Due to the nature of archival collections, we are not always able to identify this information. We are eager to hear from any rights owners, so that we may obtain accurate information. Upon request, we will remove material from public view while we address a rights issue.

## **CONSTRAINTS STATEMENT**

The Arizona Geological Survey does not claim to control all rights for all materials in its collection. These rights include, but are not limited to: copyright, privacy rights, and cultural protection rights. The User hereby assumes all responsibility for obtaining any rights to use the material in excess of "fair use."

The Survey makes no intellectual property claims to the products created by individual authors in the manuscript collections, except when the author deeded those rights to the Survey or when those authors were employed by the State of Arizona and created intellectual products as a function of their official duties. The Survey does maintain property rights to the physical and digital representations of the works.

## **QUALITY STATEMENT**

The Arizona Geological Survey is not responsible for the accuracy of the records, information, or opinions that may be contained in the files. The Survey collects, catalogs, and archives data on mineral properties regardless of its views of the veracity or accuracy of those data.

11/29/85

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: BLACK PRINCE MINE

ALTERNATE NAMES:

PIMA COUNTY MILS NUMBER: 251

LOCATION: TOWNSHIP 14 S RANGE 1 E SECTION 13 QTR. NE  
LATITUDE:N 32DEG 12MIN 24SEC LONGITUDE:W 112DEG 13MIN 20SEC  
TOPO MAP NAME: QUIJOTOA MTS - 15 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

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

BIBLIOGRAPHY:

AZBM BULL. 189, P. 140, 1974  
ADMMR BLACK PRINCE FILE  
MINES HANDBOOK 1922  
A.M. JOURNAL 6/1918, P. 35  
QUIJOTOA MINING DISTRICT GUIDE BOOK BY  
BASCOR A. STEPHENS, 1884 - GEOLOGY FILE

BLACK PRINCE MINE

PIMA COUNTY

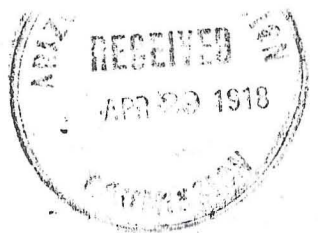
HM WR 4/22/88: Don Anderson reports that Desert Eagle Mining Group Inc, P O Box 801710, Dallas, TX 75380 has purchased the Copper Bell Mine, Cochise County, aka Black Prince (file). Walt Gunneson in Bisbee is the groups agent. Copper, silver and gold mineralization is said to occur along a wide band at a limestone- granite contact.

---

REPORT

on

BLACK PRINCE GROUP OF MINING CLAIMS.



A. ROOS, E.M.

Location & Description.

The Black Prince Group of mining claims is situated in the Quijotoa Mining District in the central portion of Pima County, Arizona, and about forty (40) miles easterly from Ajo, and two and one-half (2½) miles north of the Indian Village of Poso Blanco, and on the flats close to the foothills of the southeast end of the Sierra Blanca Range. To the northeast is the well-known Brownell copper mine, and distant about seven (7) miles, while the Penn-Arizona is westerly about six (6) miles where drilling has recently been done.

The group consists of fifteen (15) unpatented mining claims, three (3) of which are old locations with workings on them, reported to be as much as eighty (80) years old, while the rest are recent locations taking in ground of potential value, as well as springs of water.

The country is flat and largely covered with wash, making the location of the contents of the different formations uncertain except in the few places exposed. Trees are scarce, but in the arroyos are enough mesquite and palo verde to provide fuel for camp use and props and lagging for mine uses.

Water:

~~Water sufficient for mill purposes as yet has not~~  
been developed, although the water shaft on the Agua, which, at the time of this examination was being sunk with favorable prospects of getting an increased supply. This shaft was about six (6) feet deep and sunk in granite at the junction of a diorite intrusive body and at present gives pure drinking water to supply a large camp for domestic purposes.

\*



The development of an increased water supply is of the utmost importance, and should not be neglected. This spring is at an elevation of more than one hundred (100) feet above the camp and the main workings, and can easily be piped down, and by using a syphon no pump will be necessary.

It is probable that water will be encountered in the mine workings as depth is attained.

Transportation.

The nearest railroad station is Ajo, distant forty (40) miles, over a level country with no hills except small dips at cross arroyas, and I believe ore can be contracted to be delivered at Ajo for \$10.00 a ton or less.

Ownership.

This group of fifteen (15) claims is in the possession of J. B. Johnston, P. H. Finn and E. W. Oakley, of Tucson, Arizona, twelve (12) claims being owned outright, and three (3), the Arizona Queen, Black Prince and Silver King, being held under a three year lease and bond.

Geology.

The Sierra Blanca Range, which has a general northerly and southerly direction, and whose lower slopes are on the western part of this group of claims, is made up of coarse grained granite, a large part of which is pegmatitic with orthoclase and muscovite crystals, often as much as an inch and a half in length. This granite is in contact, as shown on the accompanying map, on the True Blue, Black Prince, and Silver King, with a wide belt of decomposed, red shaley material of doubtful origin. While there are no crystals in this material which would give any indications of its nonsedimentary nature, I believe it to be igneous. While it is shaley in all sections, it is highly lamellar in some places as between the two lime belts on the Black Prince. This belt of shaley metamorphosed material will average at least 1000 feet in width, while to the east and extending for an unknown distance is an area of decomposed eruptive material which is possibly altered rhyolite. As the

\*

country here is deeply covered with wash and the rock is only rarely exposed, the line of contact is uncertain and is known only to take a general northeasterly direction. cutting both the granite and the shale are a number of diorite dikes. As they are in evidence only as occasional outcrops in the wash, the size, dip and even the direction of strike is uncertain except at the water hole on the Agua where one is exposed cutting the granite.

From an economic standpoint the most important formation is the limestone exposed at many places on this property. This rock is shown in red on the accompanying map and is the locus of the ore bodies which have been prospected here and may all be considered more or less as potential ore. This limestone has been profoundly faulted, metamorphosed, brecciated and penetrated by other materials until now it has lost almost all resemblance to its original nature. In places it has been silicified and on the Black Prince it has been crushed together with the shwley material until the two are so mixed that no line of demarkation exists. While hard on the surface, the workings which have penetrated it, show that a few feet from the surface it is highly altered and fractured in every direction. There are two distinct bodies of this limestone on the Black Prince, separated by a highly lamellar body "I" about 100 feet wide. The limestone showing at "P" on the southern end of the Silver King no doubt is a continuation of the most westerly body. On the Copper Queen at "A" is a similar limestone belt taking a northerly and southerly course. No development work has been done here and it should not be neglected.

\*  
Ores.

The ores found on the Black Prince Group are in the order of their importance, silver, lead, copper and gold. The lead is mostly in the form of sulphide, while the copper is mixed sulphides and carbonates, in the shallow work-



ings where developed. The galena is very fine grained, resembling in texture fractured cast iron. It is to be noted that the silver values go with the copper rather than with the lead, which is rather unusual.

The lead sulphides are rather lumpy with almost pure galena found in spots over a foot across and well scattered through the ore zone. The copper seems to be more evenly distributed in the zones in which it is found.

Size of Ore Bodies.

Assuming that all the limestone is potential ore, as is evinced by its widespread mineralization wherever found, the most easterly block on the Black Prince is approximately 40 feet wide and exposed a distance along the strike of about 80 feet. On the north it probably continues beneath the gravel and wash which covers it, while on the south it is partly cut off by a wedge of shaley material which narrows down the vein to 8 feet south of the fault at "J", but here shows increased copper values. This is a most promising block of mineralized ground, and will give approximately 325 tons of ore to each vertical foot. There has not been enough work done here to permit sampling of this block with any degree of accuracy and enough data is not available to state what this block of ore will average in lead and copper content, but the lead can be hand sorted up to almost any grade, depending upon the closeness and care with which it is picked over. Evidently there is exposed a considerable tonnage of milling lead ore which might average 8% lead. The depth to which this ore body will persist is of course unknown, but it is reasonable to believe that it will go to considerable depth, and as it is soft and considerably altered, a secondary enrichment may have taken place at a lower horizon and richer ore found at depth. The main workings in this block at "K" on the western boundary shows lime-

\*

stone in contact with the shaley material, and I would recommend that this shaft be continued down at a 70 degree incline with cross cuts to the east.

About one hundred feet west of this block of ore is another wider but less well defined and apparently less faulted and more favorable to copper and silver. This zone also takes a northerly southerly course and is developed by a number of shallow workings all showing both good copper and lead ores. The side lines are not well defined because of the covering of wash, but all the pits show excellent ore. Some shipments of copper ore is reported to have been shipped from the workings here and a pile of about 4 tons of screenings and seconds from which the higher grade has been sorted and shipped gave the following assay from a sample taken by the writer:

Copper -3.42 %      Silver 28.2      Lead not assayed for.

There are several piles of ore here, aggregating possibly 12 tons, a general sample of which gave copper 10.39 and silver 39.4 (Sample #9). This is sorted ore. A general sample of the bottom at "N" four feet across gave copper 2.14% and silver 14.4 (Sample A-3). This is the metal content of the rock taken out at this point, without sorting. A sample taken across the north face at this pit and assayed for silver and lead gave 2.4 ozs. for the former, and 14.05% for the lead (Sample A-2). This zone is strongly mineralized with all three metals, and development work here should more than pay for its cost. North of here, on the Silver King, and close to the southern end line, about 750 feet distant, are some old workings, now partly filled with waste. These workings are about 50 feet deep and show that some ore stopping has been done, and from the remnants of old ore piles, considerable ore has come out of here in the past, and of a good grade. A



sample of what was once a considerable pile gave an assay of 96.2 ozs in silver and 4.28% copper (Sample A-1). As the shaft was partly caved and filled, but little ore was visible but I would advise cleaning it out and prospect for more, as if only a very small amount of this very high grade is found as is sure to be, the work will more than pay for itself, with the possibility of some very large and rich ore bodies being encountered. The outcrop here is bold and the vein strong and gives every promise of persistence. The vein is bounded on the east by what appears to be a strong well-defined fault, having a north-south strike and dipping into the east 60 degrees with the eastern side having dropped down. The scarp left by the fault has been filled by a conglomerate made up of fragments and pebbles of granite shaley material, limestone and diorite which is only partly consolidated into a coherent mass. Although the rest of the Silver King is covered with wash, there is evidence where the east and west arroyas cut out the wash, the same geological conditions hold through the full length of the claim.

Other  
potential  
ore bodies.

On the Copper Queen is what appears to me to be a most favorable prospect, although no work as yet has been done on it. About the middle of the claim and taking a northerly southerly direction is another limestone belt resembling that found on the Black Prince and showing the same kind of galena wherever the rock is broken. This whole claim being very level and covered with gravel and brush has escaped being prospected and it is only in a few small spots that the lead vein outcrops are <sup>exposed</sup> ~~expected~~, although numerous fragments of exceedingly rich ~~are~~ lead and copper ore are found strewn over the ground near the exposures of the limestone belt. The limestone here is very silicious and brecciated, but no doubt is softer away from the surface. I would not be surprised if this eventually

\*

proved to be the best part of the mine and I strongly advise that it be opened up at "A" where it is strongly exposed and near the diorite dyke is likewise shown here. I predict that development work here will lead to encouraging results.

There is another potential ore zone on this group and on which no work has been done whatever and about which nothing definite is known except that the geological conditions are present for mineralization. I am referring to that contact between the pegmatitic granite and the belt of red shaley material. As the wash and gravel is very heavy all along this belt and the actual contact is nowhere exposed, its exact location is not known within a hundred feet, but deep trenching will show its location. Fragments of mineralized float on the slope below this contact lead weight to the supposition that this is a potential ore zone and I would advise the prospecting of it first by trenching and later by pits and shafts after its location is defined.

#### SUMMARY AND CONCLUSIONS.

While the Black Prince ~~maxsilver~~ Group is not a developed mine and strictly speaking, no definite tonnage of ore or a specific grade being actually blocked out, it is a most attractive/<sup>prospect</sup> showing at least three wide mineralized areas with considerable straight shipping ore in sight in the numerous shallow workings, which are well scattered over two of the ore zones and in addition a much larger tonnage of lower grade ores adaptable for concentration. It is encouraging to note that there is hardly an instance in any of the many workings which do not show some shipping ore and more concentrating ore. The workings are all shallow, few exceeding 30 feet in depth, but it can be said that none of them show any signs of getting beyond



the mineralized zone and rather it can be said that they appear more favorable with depth.

There is a broad field open for extensive prospecting on the Black Prince Group and this should be done first and no thought be given for the present towards mill erection. On the four distinct mineral zones, only two have been in the lease prospected and then only on a very superficial way. I would urge the sinking of a shaft on the western ore zone on the Black Prince, preferably at "N" where both the copper and lead show strong and the silver values are high. I believe this block much the better of the two on the Black Prince because the copper is stronger and more widely distributed and it appears to be less cut off by faults, besides the silver values are most attractive. Of course the limestone belt on the Copper Queen must not be neglected as it appears most attractive on the surface with every favorable geological condition present to encourage development.

With development, care and good judgment, further prospecting on this group should approximately for itself and should certainly do so on the Black Prince Claim and possibly will do so on the Copper Queen, I would advise for the present that all ore be closely sorted to make a high grade straight shipping product and sort out a second grade to be eventually milled if future development work should warrant the erection of a mill.

\* The main and principal drawback is the distance from the railroad, but as ore can be hauled for less than \$10.00 and it does not take a very high grade to stand that, this is not a serious burden, and will be eliminated if the  $\frac{1}{2}$ ort Lobos Railroad is completed. This proposed railroad has been surveyed and will run within a few miles of this property.

Altogether, the Black Prince Group appears a very



attractive prospect and from all appearances a little more development work will make it much more so, and I predict that if well financed to permit the required additional prospecting, the efforts will be well worthwhile, and well rewarded. In general I was favorably impressed.

Respectfully submitted,

A. Roos,  
Mining  
Consulting/Engineer.

*A30 Mining Journal*

*6/1918 p. 36*

\*