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THE KING OF ARIZONA PROPERTY

KOFA, YUMA COUNTY, ARIZONA

Data by Arthur Houle, E. M.
1303 East Fifty Street, Tucson, Arizona

The following report is a summary of data compiled from reports to the management and directors of the old King of Arizona Mining Company which began its operations in the Kofa District of Arizona early in 1897 and carried on successful gold mining operations until February 1910.

The King of Arizona Mining Company was headed by Epes Randolph as President of the company, and, who was long prominent in Southern Pacific Railroad management in the Southwest and Mexico.

State Senator E. S. Ives was the Manager of the King of Arizona.

Reports to the management were made by the local Mine Superintendents in the following sequence:

J. R. Gilbert		1900 to April 1902
W. A. Pomeroy	April 16,	1902 to August 15, 1903
Horace V. Pomeroy	August 15,	1903 to August 15, 1908
M. M. Mendenhall	August 15,	1908 to February 10, 1910

Mining operations were discontinued February 10, 1910.

Reports to the management were supplemented by a complete assay record of the mine and mill samples, taken during the entire operating period. A complete file of the Mint returns from 1901 to February 10, 1910 have been checked and are a part of this record. The authentic mine maps drawn on a scale of 20 feet equals one inch, also a map tracing on a scale of 50 feet equals one inch, have been used in compiling the data. Assay plans of each level were mapped out from data supplied in the management reports and the assay record. In judgement of the writer these plans with assays give the record of what has been extracted from the mine workings. The assay plan shows what is now available as residual ores and tailings, which might be mined and milled in the future as a result of the increase of the value of gold from $20.67 to $35.00 per ounce.

The King of Arizona was optioned to Arthur Houle in June, 1941. A partnership agreement on equal basis has been entered into between Arthur Houle and C. S. Bronson to investigate, explore, sample and assay the ores and tailings and to make tailings tests to determine the soundness of rehabilitating the King of Arizona holdings.

The examination of the King of Arizona holdings by Houle and Bronson began by a preliminary examination of tailings possibilities

COPY

Report on Investigation of Water Development Possibilities for the King of Arizona Mine, Kofa Mountains, Arizona

Introduction

During the period from January 20 to January 25, 1944, the writer, accompanied by Eldred D. Wilson of the Arizona Bureau of Mines, made an examination of geological features on the south flank of the Kofa Mountains in the vicinity of the King of Arizona Mine and in the adjoining valley to the south. The purpose of this study was to determine the most favorable place for drilling in order to obtain a supply of water sufficiently great to allow efficient operation of the King of Arizona mine. Special consideration was given those rock structures of the area that might serve to control or to trap subsurface water, and to the size and extent of the accumulation basins.

Rock Types

There are three main groups of rocks in the immediate vicinity of the King of Arizona mine. Each is distinctive in type and each affects the problem of subsurface water in a different manner. For this reason the character and distribution of the rocks is briefly described here.

The high southwestern front of the Kofa Mountains is made up almost entirely of volcanic rocks. These include a thick series of light-colored lava flows, mostly porphyritic andesites and rhyolites, that are resistant to erosion, together with considerable deposits of less resistant, pyroclastic materials that form cavernous beds of tuff. All of these volcanic rocks are relatively old compared with the basaltic lavas farther east in the Kofa range and in other parts of the region. They have tentatively been assigned to the Tertiary period.

A narrow belt of foothills in the vicinity of the North Star and King of Arizona mines is formed of metamorphosed sediments believed, on lithologic grounds, to be of Cretaceous age. These are mostly schists or phyllites, although locally original sedimentary character is unchanged and normal sandstones and mudstones appear. The rocks in these outcrops are cut by a series of thin, roughly parallel dikes that dip at low angles in a southerly direction. They have a dark grey color and are composed of monzonite porphyry.

The great valley southwest of the Kofa Mountains, and also numerous small valleys extending from it into the mountains, are filled to varying depths with unconsolidated detrital sediments derived from erosion of the surrounding mountains. This material has been accumulated by streams in the same manner that waters are spreading out similar deposits in the valley today. It consists largely of gravels, sands, muds, and clays, and of mixtures of all of them. Coarse materials naturally are dominant near the valley margins, and finer materials toward the center, but undoubtedly there are lenses of conglomerate extending across many portions of the valley floor at some levels.

Geologic Structure

The geologic structure of the Kofa Mountains appears to be relatively complex with many faults that break the lavas into blocks of various sizes and cause them to dip in numerous directions. Certain of these faults clearly have an important bearing on the movement and accumulation of subsurface waters.

The dominant fault affecting the western portion of the Kofa Mountains is one that parallels the northeastern border of the range, striking NW-SE. It apparently determines this margin of the main block. The exact line of the fault cannot be located along most of the mountain front for it is buried by alluvium, but evidence of its presence is found in the northwest corner of the range where lava outcrops are essentially continuous across the pass to the

Seventh: Between ore shoots mined out from surface to the sixth level by early operations the probable ore remaining will furnish a large tonnage workable at $35.00 gold price.

Eighth: Footwall and hanging wall exploration should be carried out in all sections of the mine workings. This development is recommended as a result of mapping the assay plan of each level.

Ninth: Profit will result from retreatment of tailings, if, and when, water can be developed and piped to the mine and milling plant.

The writer believes that an ample supply of water is the most serious development effort which must be solved to permit future profitable operations.

The Report follows:-

THE KING OF ARIZONA PROPERTY

Location

Ninety miles northeast of Yuma, Arizona.
58 Miles from Ralls, on S.P.R.R.

ACCESSIBILITY

Good automobile highways from Yuma, Arizona, the first twenty-five miles north of Yuma is oil paved and the remaining sixty-five miles is a graded gravelled road maintained by the Arizona State Highway Department.

CLIMATIC CONDITIONS

Desert area surrounding the mining property with hot summer weather from June to September, scant rainfall followed by ideal weather from October to May inclusive.

ELEVATIONS

Surface outcrops of the King of Arizona vein structure occur at varying elevations from 2060 to 2246 feet above sea level.

Collar of the King of Arizona main shaft is exactly at 2000 feet above sea level.

THE MINING PROPERTY

The mineral area is covered by four patented mining claims and ~~seven~~ six claims not patented and held by doing annual assessment work.

The Patented Mining Claims include:

The King of Arizona	20.18 acres
The Last Hope	19.88 "
The Homestake	16.42 "
The Mucho Bueno	20.66 "

The above claims form Lot 1275, were located February 15, 1897, surveyed for patent December 27 - 31, 1897, and title was issued November 12, 1900.

Unpatented Mining Claims

The Red Contact	Recorded	Yuma	Co.	Book	29	Page	29
Red Contact #1	"	"	"	"	29	"	224
Red Contact #2	"	"	"	"	29	"	225
The Eagle	"	"	"	"	30	"	151
The Goldrock	"	"	"	"	24	"	334
The Kingtail	"	"	"	"	26	"	358
~~The Clipper~~	"	"	"	"	31	"	246

OWNERSHIP

Colonel William A. Otis, Box 34, Colorado Springs, Colorado.

OPTIONED

June 2, 1941 to Arthur Houle.

MINE PRODUCTION RECORD

Operations started November 1897

1897 - 1900 Rich gold ores were hauled by wagon teams, thirty-five miles to a small mill on the Gila River near Mohawk, Arizona. The ores were treated by amalgamation, later these amalgamation tails were treated by cyanide. During this period a new mill was built at the mine, a dry crushing plant of 200 tons daily capacity for sand leaching by cyanide. The new plant was placed in operation in November 1900, and was kept in continuous operation for nearly ten years.

Mint Receipts 1901 to February 1910	$2,725,379.20
Estimated Mine Returns 1897 to 1901	800,000.00
Total Production	$3,525,379.20

10,370 @ 35.00

Average mill heads for entire period 1897 to February 1910 was $6.50 per ton with gold at $20.67 per ounce.

The King of Arizona Company estimated the mill recovery at 93% of the gold content.

The tonnage milled during 1901 to 1910 was in excess of 600,000 tons.

Cost of mining, milling and overhead was $4.00 per ton.

Daily output varied from 125 to 225 tons per day.

THE KING OF ARIZONA GOLD VEIN

The gold values are found in a stringer lode or vein cutting through andesite flow rocks. The vein strikes N 50°W and is marked by strong surface outcrops for nearly a mile in length. The footwall is marked by a strong slip which dips south at 60°.

The hanging wall is not so well marked, particularly between surface outcrops and the third level. In general it is thought that the hanging wall dips south at 45°. In the productive area two veins were mined so that the mapping shows two stope sections, footwall and hanging wall stopes.

The mined width of each vein varied from four feet to twenty feet. The average mineable width was twelve feet.

In one ore shoot the ground between footwall and hanging wall carried enough gold to permit mining the entire width up to 60 feet of gold bearing material. This ore showing was mined between the second and fourth levels above the #2 footwall winze in the best ore shoot.

The mining method used for ores found above the tunnel level was glory hole mining operations. In low grade sections east and westof the glory holes, pillars were left in place, to safeguard against wall collapse.

Below the Tunnel level, the ore bearing vein was mined by shrinkage stoping.

Three important ore shoots were found in 1600 feet of the explored vein, beginning from the center of the Homestake claim on the east end, and from there westward to the center of the King of Arizona claim.

Beyond the ore vein developed above, the outcrop continues strong showings to the center of the Last Hope claim. Many samples have been taken of the undeveloped outcrop and the assay returns indicate further ore development possibilities. Both on the west end and on the east end the ground will again prove productive.

MINE DEVELOPMENT

The King of Arizona vein was first exposed in a gulch on the west end of the Homestake claim. At this point the Discovery shaft was sunk to a depth of 150 feet, and produced ores averaging $30.00 per ton. Ores from this section were hauled to a mill on the Gila River, thirty-five miles from the mine.

Early in 1899 a crosscut tunnel was started 300 feet east of the Discovery shaft. The crosscut tunnel encountered the vein 150 feet north of the portal and then drifts were run to follow the vein eastward and westward. The tunnel taps the vein 200 feet vertically under the surface outcrop, and followed the vein structure east and west a total length of 2300 feet. Good mill ore was found in three well defined ore shoots, and two winzes were put down on the

footwall below the tunnel level developing strong ore showings.

The work was followed by sinking the main shaft. The shaft is located on the north end line of the Mucho Bueno claim, about 94 feet southeast of the mouth of the crosscut tunnel.

The main shaft is a vertical three compartment shaft started at 2000 feet elevation on the hanging wall side of the vein. The vertical shaft was sunk 300 feet vertically, cut through the vein and from there was changed to an inclined 60° shaft. The shaft sinking was stopped temporarily on December, 1901 at the Fourth Level at a vertical depth of 357 feet below the collar.

At this point development work by drifting was advanced westward and connections were made with drifts which had been run eastward from winzes sunk from the tunnel and Second levels.

In later years the main shaft was sunk to the Seventh level and connections made to all winze workings on the Fifth and Sixth levels. The shaft is bottomed at 760 feet, reaching that depth in September, 1908.

It is important to remember that the development of the King of Arizona vein in depth was first gained by sinking winzes on the footwall of the vein in the developed ore lenses. From these footwall winzes drifts were run east and west to open up the footwall of the vein. After proving up ore from the winzes, the main shaft was sunk; and drifts were run westward from the shaft at the proper level to make connections with the winze drift going eastward.

While this type of mine development was expensive and a large tonnage of ore was mined under bad air conditions, and much extra expense in hoisting upeard from winze shafts, it was a sure method of opening up the ore showings. "Follow the ore" both in depth and in lateral development was the principle followed at the King of Arizona property.

ORE SHOOTS

The King of Arizona production was mined from three important lenses of ore or shoots of ore in a distance 300 feet east of the shaft and 900 feet west of the shaft to #1 winze.

Number One ore shoot, under the Discovery Shaft, was the most productive both in tons and value. Its maximum length was nearly 500 feet and the width averaged nearly 16 feet from surface to the fifth level.

Halfway between the Fourth and the Fifth levels, the footwall and hanging wall veins diverged at a rapid rate, each vein was 15 or more feet wide. On the Fifth level the two veins are 100 feet apart.

On the Sixth level the two veins are separated by 210 feet of barren andesite. The length of the ore shoots in each vein was about one half of the length shown on the Fifth level. The footwall stopes on the Sixth level carried an assay value of $4.00 per ton. The hanging wall stope, 160 feet long, averages about $4.00 per ton. Vein widths 15 to 20 feet.

Pomeroy, on October 18, 1907, estimated the ore bodies on the Sixth level would produce 80,000 tons of ore assaying $4.50 to $5.00 per ton.

Below the Sixth level a winze was sunk on each vein 113 feet to the Seventh level. The values averaged less than $4.00 per ton, therefore, below working cost and no further development was undertaken on the bottom level after May, 1909.

All of this ground on the bottom level would be profitable at the present price of gold in 1941, and the veins warrant further exploration.

Water was encountered on the Seventh level, amounting to 5000 gallons per 24 hours.

Number One ore shoot can be quickly and easily explored to greater depth by diamond drilling from set-ups in the 210 foot long crosscut connecting the two veins on the Sixth level.

The assay plans of the Sixth level justify a positive statement that the ore values on the bottom developed level warrant deeper exploration to the Tenth level at least.

Number Two ore shoot was developed for a length of 400 feet, beginning 250 feet east of the shaft and extending westward 150 feet west of the main shaft. This block of ground, according to the available data, will produce, again, a large tonnage of $5.00 to $6.00 ore. It includes:

First: The area east of Number One Glory Hole from surface to the Second level.

Second: The hanging wall vein vertically under #1 Glory Hole down to the Sixth level. This vein has not been developed.

In my judgement, not less than 30,000 tons of $6.00 to $7.00 ore will be mined east of the shaft from surface to the Second level.

Third: There is a large tonnage, possibly of $5.00 ore, between the Second level and Sixth level for a distance of 200 feet west of the main shaft.

NUMBER THREE ORE SHOOT

This ore body was found between the King Shaft West, #3 Glory Hole and King Shaft East beginning at a point 800 feet west of the Main Vertical Shaft. The ore body was more than 400 feet long and the footwall vein was mined out from surface to the Third level. There are several pillars of good ore left at the Winze Station on the Tunnel level where #1 winze on the footwall was sunk to the Third level. The hanging wall vein for this ore shoot has been only partially explored above the Third level, therefore, justifies serious study and exploration.

Below the Third level, this ground is virgin territory which warrants further development effort. It is reasonable to expect this area will again produce millable ores.

FUTURE PROBABLE ORE DEVELOPMENT

EAST END

Surface to Sixth level under and east of #1 Glory Hole. Above the Tunnel level there is at this time 30,000 of $6.00 to $7.00 ore indicated. The hanging wall vein, second level to sixth level in this section, will produce a large tonnage.

The assay plan shows that the footwall vein from the Fourth level to the Sixth level might be expected to develop 50,000 tons of millable ore.

EAST CENTER SECTION

Between #1 and #2 ore shoots, there is a block of ground with 600 feet of inclined vein, 200 feet in length, vein width 12 feet where 100,000 tons of ore can be a possibility.

WEST CENTER SECTION

Between #1 and #3 ore shoots, there is an unexplored block of ground on the footwall 200 feet long, 500 feet of vein depth 6 feet wide in which there is a possibility of developing 50,000 tons of good ore.

The hanging wall vein in this section offers just as good possibilities.

WEST END ORE ZONE

This block of ground, 500 feet long beginning on the west end line of the King of Arizona and extending eastward shows strong croppings of a vein 16 to 50 feet wide. The tunnel level was driven under this block in 1901 by Supt. J. R. Gilbert, but did not succeed in finding ore good enough to mill at the $20.00 gold price.

In September 1908 Supt. Mendenhall trenched and sampled 400 feet of the west end outcrop at 10 and 20 feet intervals, beginning at the west end line of the King Claim, obtaining good gold values and recommended a newdevelopment program for this section.

A hanging wall shaft was sunk, and carefully sampled as the sinking progressed. The average assay of all samples was better than $3.00 per ton (gold at $20.00 per ounce.)

Mendenhall reported to the directors March 27, 1909 as follows:

"The work done on the outcrop shows the West end of the King Claim to be better than anyone supposed. As stated March, 9, 1909 there is 400 feet of outcrop which will average better than $3.00 per ton." Mendenhall advised sinking a shaft to connect with the west end of the tunnel level, and this was done later.

Mendenhall reported June 8, 1909: "The hanging wall shaft was sunk 100 feet, and 20 samples average $3.46 at $20.00 gold." And Mendenhall added that 39 samples of the outcrop averaged $3.56 at $20.00 gold.

The report says: "There has not yet been sufficient work done to determine whether this body of ore can be worked in the present plant, but the showing has materially increased the value of the property."

In 1935 many samples were taken in the same ore zone by Dayton Consolidated Mines Company and assay results confirm and check the sampling and assaying done in 1908 - 1909.

The west end of the King Claim gives much promise of opening up a new orebody which could be mined and milled at the present price of gold and make $2.00 per ton profit.

There is now indicated a possible tonnage of upwards of 50,000 tons of ore assaying between $6.00 and $7.00 per ton.

DEVELOPMENT PROGRAM - FIVE POINTS

FIRST — Reopen the Tunnel Level.

SECOND — Explore the west one half of the King of Arizona Claim from surface to the Tunnel Level.

THIRD — Explore the west one half Homestake Claim, surface to the Second Level.

FOURTH — Rehabilitate the main shaft to the Seventh Level and then explore both foot and hanging wall vein by diamond drilling. If results are favorable from diamond drilling, the shaft should be sunk to develop both ore and water.

FIFTH Develop water in sufficient quantity to mill not less than three hundred tons of ore per twenty-four hours.

TAILINGS

There are more than 600,000 tons available for retreatment.

Sixty samples have been taken. Assays run from .017 oz. gold to 0.62 oz. gold.

A composite sample assayed 0.35 oz. gold.

The per ton value at $35.00 gold is $1.225.

Milling tests indicate that 80% of the gold content or $0.98 can be recovered using Chapman Charcoal absorption process.

The retreatment cost is estimated at 65 cents per ton. To permit retreatment it is necessary to develop an ample supply of water, sufficient at least to permit handling and leaching not less than 200 tons of tailings daily.

Large scale tests must be made to verify the results we have obtained to this date.

WATER

During the ten year period of operations at Kofa, the King of Arizona water consumption was limited to a supply of 25,00 gallons of water daily. This small amount of water hampered the leaching treatment of the ores, and certainly did prevent thorough washing of the tailings.

The water supply was obtained from deep wells, 1060 feet deep, located 4½ miles south of the mine on the edge of the valley.

Each churn drill hole was drilled under contract at $1.25 per foot. Several wells were drilled and cased in thirty days time at a total cost of $3,700.00 each, including the casing. The triplex pump used to deliver water through a 3 inch pipeline was installed for $2,600.00.

The fuel used was iron wood for all operations at the mine, mill and pumping plant. The cost of wood for fuel was $6.00 per ton.

Water was lifted 1000 feet into tanks at the well, and then pumped to the mine tanks against a head of 700 feet.

A monthly cost sheet for supplying water shows for November, 1908 as follows:

Labor	$379.50	
Wood Fuel	563.30	
Supplies	126.56	
Distribution	48.70	
Total Cost	$920.66	or about $1.23 1000 gals.

Assuming that the average tons of ore milled was 5000 tons per month then the cost of water per ton mined and milled was 18.4 cents per ton.

The well casings wore out after four years of pumping. During the entire operating period, 1900 to 1910, seven bore holes were drilled and equipped for pumping water. Two wells were kept in commission constantly, one of which was pumping throughout 24 hours, and a second well on part time operation. The pumping log indicates occasional difficulty due to sand choking, at the bottom of the well.

For any future operation the problem of developing an ample supply of water will require careful study of the area surrounding the mine.

Domestic water for the district at present is obtained from a drill hole 200 feet deep owned by the Rob Roy mine, an adjoining property, This well is capable of furnishing only 15,000 gallons of water daily.

FINAL SUMMARY

Two sections of the King of Arizona property between surface and the Tunnel Level, namely the West End Ore Zone of the King Claim and the West One Half of the Homestake Claim can be reasonably expected to produce between 75,000 and 100,000 tons of ore containing an average gross value of $6.50 per ton.

Below the collar of the main shaft, there is indicated a large tonnage of millable ore at present value of gold. The stoped areas shown on the old mine maps probably do not give the complete record of ore extraction, therefore, any estimate of available tonnage would be a mere guess. Unquestionably footwall and hanging wall testing on all of the mine levels will develop a large tonnage of ore worth $5.00 to $6.00 per ton at present gold price.

There is, as yet, some speculative risk in attempting to reopen the workings below the shaft collar, with the expectation of uncovering new orebodies; however, the mine was producing not less than 200 tons per day throughout January 1910. The average head for that entire month was $4.09 per ton. January 1910 was the last full month of operation before the shutdown which occurred February 10, 1910.

The ore milled in January, 1910 would today have a gross value of over $7.00 per ton, and it is reasonably certain that the mine can produce upwards of 500,000 tons of ore which could be milled profitably at the present gold price between surface and the Seventh Level.

The cost of reconditioning the mine for full production to the Seventh Level should not exceed $50,000.00.

In my judgement, the ores above the Tunnel Level will be won cheaply and if water is made available then milling these ores will earn sufficient profit to pay for revamping the mine workings and for the cost of water development.

The future profit possibliities from underground mining, from tailings retreatment, and, from deep level development below the Seventh Level warrants risking the capital investment necessary to make a large profit possible.

Respectfully submitted,

Signed,
ARTHUR HOULE, E. M.

Tucson, Arizona
September 29, 1941

AH:aa

C O P Y 10-28-41

THE KING OF ARIZONA PROPERTY

KOFA, YUMA COUNTY, ARIZONA

SUMMARY OF DATA COMPILED FROM OPERATIONS

KING OF ARIZONA MINING COMPANY

November 1897 to February 1910

and

REPORTS ON RESULTS

of

EXAMINATIONS MADE FROM

May to October, 1941

by

ARTHUR HOULE

and

C. S. BRONSON

See Mr. W. H. Harvey on the job.

at Kofa in December 1938, followed by mill tests and four visits to the property between 1938 and May, 1941 by C. S. Bronson to check up sample and inspect mine workings.

After an option to purchase was obtained, C. S. Bronson, assisted by Roy H. Barnes, W. H. Harvey and other employees, was engaged in carrying out assessment work and making an examination of accessible mine workings of sample and assay important ore areas, and to perform a systematic job of sampling the area covered by 600,000 tons of mill tailings from sand leaching cyanide operations.

While operations outlined above were carried on at Kofa the writer checked and mapped the King of Arizona records. All of the data obtained from the activities described above has been supplemented by the reports of Bierce and Kennard, 1922; data furnished by Mudd and Wiseman; data furnished by Horace V. Pomeroy; data furnished by Dayton Consolidated, Virginia City, Nevada, July 28, 1941 by Homer L. Gibson of an examination made by A. J. Klampt, E. M. for Dayton Consolidated Mines Company; data furnished by the report of Hollis Bach, engineer, employed by Dr. Johnson, Pomona, California to carry out exploration during an option period 1938 to 1939; and finally personal interview with A. J. Klampt, E. M., in September 1941 to check up and give details of the sampling job of surface outcrops by Dayton Consolidated in examination 1935 to 1936.

The summary which follows presents our conclusions as to conditions now obtainable at the King of Arizona property and in our opinion a new development campaign should be carried out on a five point program. The outstanding facts are as follows:

First: The option to purchase the property either for cash or on a lease and bond basis has obtained, and we believe the purchase price now asked by the owners is a fair value for the property.

Second: Royalties requested under the option are not burdensome and all royalties paid apply on the purchase price.

Third: The time contract permits ample time to complete the development and rehabilitation.

Fourth: The King of Arizona property still has possibilities of extension of gold values to greater depth in the main ore shoot.

Fifth: The West end of the King Claim and the East end of the Last Hope Claim are worthy of additional extensive development effort. A good ore body will result from this exploration.

Sixth: The West end of the Homestake claim between the second level and surface outcrop now shows a large tonnage of mineable ores profitable at present price of gold.

Castle Dome Mountains. As this fault apparently forms the edge of the mountain block, probably the valley floor buried under the alluvium is much lower, and therefore, the alluvium far thicker southwest of this line toward the valley center than on the other side. (See figure 1.)

A structure of less magnitude but locally important in the problem of subsurface water is represented by a pair of nearly parallel faults striking approximately east-west and bounding a relatively small upraised block or horst of Cretaceous schist near the southwest base of the range. (See figure 2.) The North Star mine is located on one of these faults and the King of Arizona not far south of the other. The horst extends only a few miles east and west and is terminated on each end by a cross-fault. Its importance to the problem is found in that it intersects drainage channels leading from the mountains toward the main valley.

Physiographic Features

Three types of physiographic features found in the Kofa Mountain area have an important bearing on the problem of subsurface water. First, there is the size and shape of the catchment basins where precipitation must be accumulated in order to develop a supply of water. Second, there is the character and extent of the alluvial fans which constitute the chief channels of outward and downward movement of the water. Lastly, there is the development of a pediment or bevelled rock surface extending out from the mountain base an unknown distance as a bench beneath the alluvium and forming at its contact an important surface for the movement of water.

The main valley south and west of the Kofa Mountains obtains its supply of subsurface water from the accumulated rainfall of an area over 15 miles wide and at least 10 miles long (above a point in the valley opposite the mine). Along its axis it receives water from the runoff of mountains on each

Castle Dome Mountains. As this fault apparently forms the edge of the mountain block, probably the valley floor buried under the alluvium is much lower, and therefore, the alluvium far thicker southwest of this line toward the valley center than on the other side. (See figure 1.)

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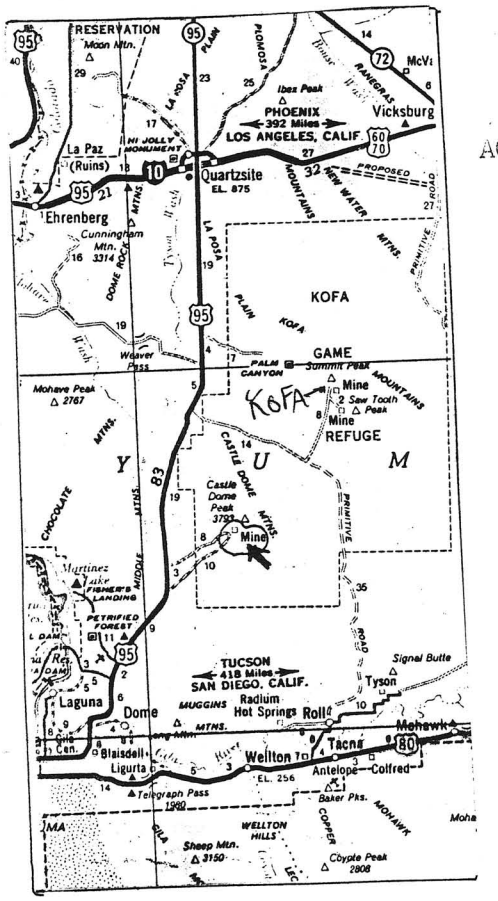
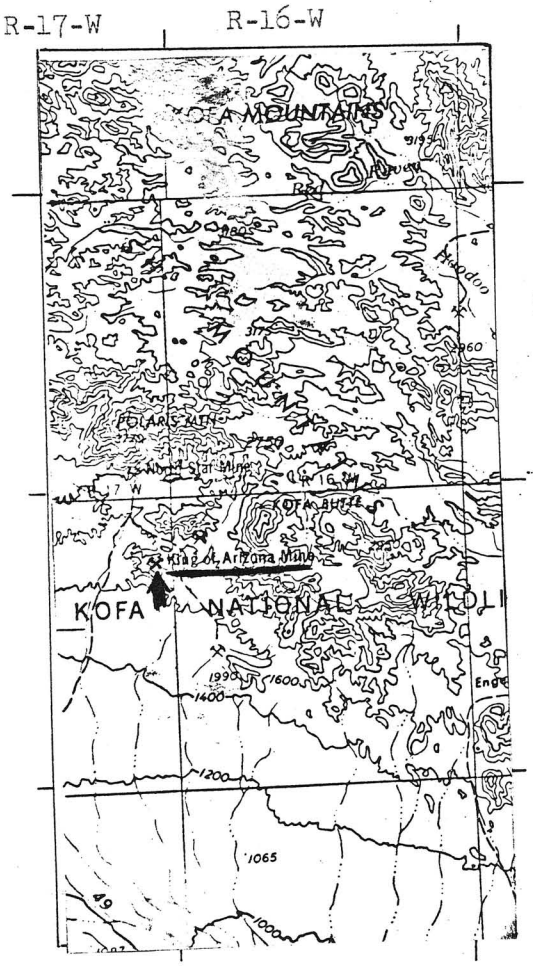
The main valley south and west of the Kofa Mountains obtains its supply of subsurface water from the accumulated rainfall of an area over 15 miles wide and at least 10 miles long (above a point in the valley opposite the mine). Along its axis it receives water from the runoff of mountains on each



ACCESS TO MINE AREA
Scale 1 in. ; 21 mi.



LOCATION OF KING OF ARIZONA MINE

1 : 250,000

side and at its head, as well as from rain reaching its surface directly, so even in this arid climate there should be a considerable supply. In contrast, the tributary valleys, including those in the vicinity of the King of Arizona mine, begin as narrow confined canyons with relatively impervious bedrock at or near the surface, thus favoring rapid surface runoff and small surface space for the accumulation of water. Even where natural traps are developed under the surface through geological processes, very large amounts of water should not be expected.

Alluvial fans have developed outward into the main valley from nearly all of the tributary canyons and doubtless have been responsible for filling most of the main valley. Because these fans are composed of poorly sorted sands, gravels, and other detrital sediments, they constitute the sponge which is responsible for absorbing most of the subsurface water in the area. This ground water drains slowly through and down the fans toward the axis of the main valley. Individual beds probably are too poorly sorted and too discontinuous to develop artesian conditions; nevertheless, most of the subsurface water moves through them.

Evidence in the form of small pinnacles and erosion remnants rising above the alluvium near the mountain front suggests that a bench or pediment has been developed from the present cliff base cut into the main valley for a distance of perhaps several miles in places. This pediment is the natural result of erosion under present climatic conditions and plays an important role in the development of subsurface waters. Its surface is at relatively shallow depths and it normally forms a good base for water to move along. Beyond the limits of this pediment, water apparently descends abruptly to much greater depths as found toward the center of the main valley (Fig. 1).

Favorable Sites in the Area

Starting with headwater drainage in the Kofa mountains above the King of Arizona mine and passing out into the main valley to the southwest, four sites suggest themselves as likely places for the accumulation of water. The possibilities and probable merits of each of these will be discussed in the following paragraphs.

Farthest upstream is a place where the east-west striking fault that forms the upper margin of the horst previously described intersects the small valleys about two miles northwest of the King of Arizona mine (Fig. 2). As the upthrow side of the fault is to the south, this structure may be expected to serve both as a check to downstream movement of subsurface waters and as a ready lateral passageway for such waters. Largely negating its value as a water trap, however, is the very limited extent of the drainage basin above, which under present climatic conditions* gives small promise of furnishing any large supply of water. The North Star mine which is located on this fault line, about one half mile west of the valley in question, should serve to test the value of the location as a trap for water since results of any appreciable accumulation and lateral movement of water along the fault ought to be reflected in the mine workings. Unfortunately no data are available, so far as the writer knows, concerning water encountered here. The fact that no mention of it is found in available reports on the mine suggests that no great amount was encountered.

In the upraised block or horst of Cretaceous (?) schist immediately south of the fault just discussed are numerous monzonite dikes that strike E - W and might logically be expected to form barriers or catchments to

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*C. P. Ross shows mean annual rainfall at Yuma, determined over an 8-year period, to be less than 3 inches.

downstream water flow, especially where the resistant tops of these dikes project into the alluvial filling of the valleys (see fig. 3). Owners of the Rob Roy mine have drilled in one such location immediately upstream from a dike and have obtained a limited amount of water said to be about 10 gallons per minute. The water is good for drinking purposes. One or more other wells might be located in reference to these dikes, though it is doubtful if the limited drainage basin above could supply to any of them water in appreciably greater amount than now obtained in the Rob Roy well. Furthermore, it seems likely that the Rob Roy well already gets most of the water in the small channel where it is located so further development would have to be in adjoining channels.

A third possible site for the development of subsurface water is at the confluence of the two principal drainage channels south of the North Star mine and about due west of the King of Arizona mine. The chief feature to recommend this site is the great increase in the amount of drainage area feeding into it, especially as compared to the sites above. At this point the drainage channel is still relatively restricted and the presence of a pediment below should serve to keep the water table high. No geologic structures that might serve as traps are known to occur under the surface in this area so the chances of getting any very large supply of water do not appear very favorable. This location presents a distinct possibility but few facts could be obtained to endorse it.

The axis of the main valley (about 7 miles southwest of the King of Arizona mine) is the one locality within reasonable distance that shows promise of producing enough water to meet the demands for operation of the King of Arizona mine. The area supplying water to this axis is sufficiently great to meet anticipated requirements. The chief problem is to locate with suitable

precision the position of the center of drainage for subsurface water which may or may not be the same as that on the surface. The horizon at which water occurs is almost certainly at a considerable depth (over 1000 feet) judging from the probable depth of the valley fill in this area and from the findings at Deep Wells located 2 miles to the north. Locally a "perched water table" formed by a conglomerate lense may occur at a higher level, but this could scarcely be expected to meet requirements for a large supply of water.

Although it is not possible with available data to demonstrate that the center of drainage on the surface corresponds to that followed by subsurface waters, such an assumption seems to represent a reasonable risk. In the first place, surface waters which are continually sinking down toward this level accumulate in greatest amount over the center. In the second place, experience in other large valleys of the region has shown that most large supplies of water are obtained from near the centers. An exact axis of surface drainage can not be located for it covers a belt about one mile wide as shown by vegetation. For this reason it may be desirable to place several test wells at intervals of about 1/4 mile across the axial zone.

Previous Well Development

Attempts to develop a water supply have been made with varying success at 3 sites in the vicinity of the King of Arizona mine. The most ambitious of these was the King of Arizona development known as Deep Well, located 5.5 miles (by road) out from the Kofa Mountain base toward the valley center. Seven bore holes were drilled here and water was reached at 1060 feet. During the period of mine operation two of these wells were kept in commission constantly, one being operated full time and the other part time, according to

reports. They are said to have supplied water at a rate of about 25,000 gallons per day (17 gal. per minute).

The plan of locating Deep Well far out in the main valley seems to be logical, but the center of present drainage, as indicated by arroyos and vegetation, was not used and it seems probable that the subsurface axis was missed because of this. Certainly the main subsurface channel for a valley of this size should produce far more water than was obtained.

The management of the North Star mine developed a well on the side of the valley about 3 miles (by road) from the mountain base, or 2.5 miles closer than the King of Arizona well. Unfortunately no data could be obtained by the writer concerning the depth of the well or the amount of water produced. It is assumed from the equipment installed at the site that some water was obtained, but what the site has to recommend it is not apparent. In the writer's opinion it is poorly located, being on a flat bench between two tributary drainage channels from the mountains and being far back from the center or main channel of the valley.

The writer has been unable to obtain any information on the type of rock encountered in drilling either the King of Arizona or the North Star wells. Descriptions of the former refer to "occasional difficulty due to sand choking at bottom" which suggests that it was still in unconsolidated alluvium at 1060 ft. where water was obtained. The position of this well far out in the valley likewise supports such an assumption, but only records of the drill cores can definitely show whether this is so or not.

Owners of the Rob Roy mine have drilled a hole 200 feet deep in the center of a small valley that dissects the Kofa Mountain foothills east of the North Star mine and northwest of the Rob Roy. This has produced water at the rate of 15,000 gallons per day (10 gal. per min.). The well seems to be

carefully located for it is at the intersection of a monzonite dike in a restricted valley and has the added advantage of being near and above the mine. No large amount of water can be expected from such a locality, however, for the watershed above is too small for any considerable accumulation in this arid climate.

Inferences based on survey of southwestern Arizona wells

Available data on wells in southwestern Arizona are few but those logs that have been put on record bring out several pertinent facts concerning the general distribution and amount of subsurface water. Especially helpful are the compilations of Dr. Kirk Bryan published in Water Supply Paper 499 of the U. S. Geological Survey. Other information is available in the report by Clyde P. Ross in Water-Supply Paper 498 of the U. S. Geological Survey, and in records furnished through the courtesy of Mr. Edwin Mills of Salome, Arizona.

Wells drilled near the margins of valleys throughout the region have indicated that in such places, for the most part, alluvium forms only a thin film concealing an eroded rock floor. In a large number of recorded wells from near the mountain borders, water has been obtained at shallow depths - one or two hundred feet - but always in small quantity. In contrast, wells near the centers of main valleys show the alluvium to have a very considerable thickness and the water level to be deep in nearly every case. "Perched water tables" are encountered locally. Nearly all large valleys tested have produced considerable water in their centers.

Volcanic rocks of the area have furnished water locally and, under exceptional conditions as at Ajo, where a flow-breccia with a matrix of finely

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THE KING OF ARIZONA MINE

YUMA COUNTY, ARIZONA

Edwin A. Stone

Truman H. Kuhn

March 1, 1945

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GEORGE M. FOWLER
CONSULTING GEOLOGIST
JOPLIN NATIONAL BANK BUILDING
JOPLIN, MISSOURI

March 1, 1945

Eagle-Picher Mining and Smelting Company,
430 Pearl Street,
Joplin, Missouri.

Attention Mr. Elmer Isern

Gentlemen:

Re: The King of Arizona Mine, Yuma County, Arizona.

A preliminary examination of this property was made late in January, 1945, by Edwin A. Stone and Truman H. Kuhn in order to familiarize themselves with the mine and the region around it. From the report and other data gathered from various sources it seems clear that very little ore remains in the King of Arizona property which can now be worked at a profit. Also, it seems evident that any ore that may be found below several hundred feet from the surface will be very low grade. This condition is a characteristic that appears to be general in many of the mines in Yuma County. It is deemed best to suspend any further investigations that may be made in and around the King of Arizona Mine until next winter or some later date as it will be almost impossible to work in the region during the summer months.

A first requisite in examining mines and prospects in Yuma County is a suitable base map. It is probable that such a base map could be prepared from aerial photographs. An attempt is being made at this time to determine whether or not this part of Arizona has been covered by aerial photographs on some Government project. If the area has been flown photographs will be obtained as a basis for the mine examination work.

The literature contains abundant information regarding numerous mines and prospects which were worked in the past in Yuma County. The region extends northerly and southerly 100 miles or more on the eastern side of the Colorado River. "So far as can be learned from the literature and other sources, the ore in all of these mines was found near the surface and nearly barren formations were encountered only a few hundred feet below the surface." Since the region in general is difficult to prospects on account of the lack of water and roads, other properties may remain to be discovered but it would seem that they will be relatively small.

Very truly yours,
G. M. Fowler.

George M. Fowler-
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KING OF ARIZONA MINE

By E. A. Stone and T. H. Kuhn

Location:

Fifty-five miles southeast of Quartzite, Arizona.

Eighty-seven miles northeast of Yuma, Arizona.

In the Kofa Mining District, Yuma County, Arizona.

Roads:

Gravel road (No. 95 - Yuma-Quartzite Highway) passes within 20 miles of property. There is a desert road from the Highway to the property.

Power:

Power may be available from Parker Dam-Yuma line.

Take off on Highway 95 about 16 miles direct line from mine.

Railroad:

The three closest railroad points are: Growler, 35 miles southeast over a poor desert road, on the Southern Pacific; Dome, approximately 65 miles, on the Southern Pacific; and Vicksburg, 85 miles, on the Santa Fe.

Water:

There is no water available. An old well (1,000 feet deep) five miles from the mine must be rehabilitated or new wells drilled. The old well is reported to be capable of supplying water for 200 tons a day.

Professor McKee of the University of Arizona made a water survey for Eagle-Picher and his report is on file in Tucson.

Workings:

There is one working shaft 750 feet deep on the east end of the orebody. This shaft is vertical from 0 to 252 feet and inclined 60 degrees south from 252 to 750 feet. The manway is closed at 252 feet apparently by rock on a bulkhead. The condition of the shaft below is unknown although the hoisting compartment, as far as can be seen, is open.

Workings (cont.)

The 175, 232, and Adit (at shaft collar elevation) levels west of the shaft are closed by cave within 100 feet of the shaft. The east workings on floor levels 117 and 232 are open but outside the orebody.

Stope maps indicate that lower levels may be open or readily re-opened.

The water is reported to flow at the rate of 5,000 gallons daily. Water may stand in shaft at a lower elevation.

Stopes:

From the surface (approximately 200 feet above shaft collar) to the 117 foot level the vein has been stoped almost continuously for a distance of 1,200 feet. Stoping is mostly west of the shaft. Pillars have been robbed down to the 117 foot level thus causing the hanging wall to slump. On the surface wide cracks have developed in the hanging wall as much as 50 feet from the stopes. The amount of work necessary to reopen these old workings through stoped area down to the 232 foot level will be prohibitive.

Geology:

The vein strikes N 60°-70°W and dips 55°-65° S. Near the surface the hanging and footwalls appear to be 10 to 15 feet apart in the major stoped areas; however, with depth the walls diverge until on the 660 foot level they are separated by 200 feet of low-grade material.

On the 117 foot level some stoping was noted on a fault striking N 60° E and dipping 70° S. This may be a split off the main vein.

The vein is cut by cross faults. One system trends N 30° E and dips 70°-90° S. Calcite, manganese oxide and galena are associated with this system. The lead was noted only at one point - one-half mile north of the King orebody on the Rob Roy claims. The spacing and location of the

Geology (cont.)

N 30° W fault system suggest a possibility of pre-ore influence. These faults are prominent, numerous and closely spaced in the big stoped area of the King. Another strong system of faults - N 10°-W - 75 E has displaced the vein.

The rocks exposed in the immediate King area are volcanics which, in places, strike and dip parallel to the King of Arizona vein. The surface rocks in the vicinity of the King vein are intensely shattered. North of the King area schist, intruded by granitic dikes, apparently underlies the southward dipping volcanic flows. Still farther north, toward the North Star Mine, the schist gives way to shale or slate and at the North Star the shale is overlain by andesite breccia. The North Star vein follows the east-west trend of the shale-andesite contact and dips 60° N.

Production:

Production - Arizona Bur. Mines Bul. 137	-	$3,500,000
Old reports and other sources indicate	-	600,000 to 700,000 tons
Average recovery	-	$5.00 to $5.85 per ton
Tailings - From old assay map	-	$1.15 per ton
Indicated average gross value	-	$6.15 to $6.98 per ton

These values are based on $20.00 gold.

KING OF ARIZONA MINE - 5

Distribution of Ore:

The following is estimated from longitudinal section. Assuming uniform vein width throughout mine:

Ore produced above adit level	-	45 percent (Apx.)
Adit level to 117 foot level	-	21 " "
117 to 232 foot level	-	11 " "
232 to 357 foot level	-	9 " "
357 to 485 foot level	-	9 " "
485 to 660 foot level	-	5 " "
Below 660 foot level	-	0 " "

Distribution of Values (From old sample records)

Surface - 1200 foot stope length. 20 samples-Average - $21.79 Gold

Shipped from 4 holes " - 62.62 "

Adit level - 1200 foot stope length. 8 samples " - 20.16 "

117 foot level - 1100 foot stope length. 118 samples Average - 4.12 "

232 foot level - 450 foot stope length. 138 samples Average - 6.78 "

Outside stope area. 101 samples Average - 1.91 "

357 foot level - 500 foot stope length. 203 samples Average - 3.96 "

Outside stope area. 87 samples Average - 1.37 "

458 foot level - 300 foot stope length. 114 samples Average - 4.35 "

Outside stope area. 146 samples Average - 1.80 "

660 foot level - 275 foot stope length. 142 samples Average - 2.67 "

(no difference in value between stoped and unstoped area.)

Area between footwall and hanging wall. 47 samples Average - 0.91 "

Above averages based on gold valued at $20.00

Distribution of Values (cont.)

Much higher values are reported to have been mined near the surface and this is indicated by sample assays, however, mill heads from this area were not extremely high as would be expected. Since approximately 45 percent of the ore is from this upper area and average heads mined were little above the general average, it appears that part of the mined vein was marginal in value. The 45 percent of tonnage produced from the upper areas probably accounts for at least 50 percent or more of the total value produced.

Apparently as values decreased downward the stopes were drawn in to conform more closely with the ore shoots and, while less tonnage was mined, the heads were maintained at only a little below the average for the upper ores. More selective mining was then continued downward until values decreased within the ore shoots to such an extent that the ore became unprofitable.

Costs:

It is reported in Arizona Bureau of Mines Bulletin 137 that in later years a cost of $2.80 per ton was maintained; this included development, mining, milling, taxes and general overhead. This cost probably came from Mr. Ives, secretary to Mr. Epes Randolph, who directed the financial business of the company during the period of operation and should be very accurate. During the same period, Mr. Horace G. Pomeroy was general manager of the operation and a very efficient operator.

Summary:

The King of Arizona Mine was visited on January 23 and 24, 1945, for the purpose of making a preliminary examination.

The property was mined primarily for gold and only the gold value is taken into consideration in the above discussions. Silver production is recorded at 82,000 ounces or about one-eighth of the total value.

Summary (cont.)

Samples indicate that much higher values occurred near the surface. Analysis of assay and stope maps suggests an average head of $5.00 to $10.00 above the 117 foot level. To account for this it may be assumed that the ore shoots were sufficiently high in value to permit mining of marginal ores and still maintain a commercial head. This may account for the long stope and the large percentage of total tons mined from the upper section.

As values decreased in depth the operators were forced to confine mining to the ore shoots to maintain a profitable head. Progressive decrease in values continued in depth to the 660 foot level where the ore shoots became unprofitable.

The King of Arizona Mine is a shallow deposit. Values rapidly decreased from the surface and became very low grade on the lower levels.

Ore shoots, which extended from wall to wall, in the upper levels, with depth tend to localize on the foot and hanging walls making two separate ore zones. The diverging walls separate the ore zones as much as 200 feet on the 660 foot level. The material between walls, in the lower levels, appears to be very low grade (0.91 cents). This would discount the possibility of a large low grade tonnage.

A considerable tonnage is indicated from various sources to average $4.00 per ton. This is not consistent with records of operations and old assay maps. It seems unlikely that any quantity of ore in excess of $3.00 in value was left behind. It is quite probable that everything was mined down to a grade of $2.80, which was the cost.

Summary (cont.)

It appears that a future operation must be based on a gold value of $2.67 per ton ($20.00 gold) or less even if values continue to diminish downward.

In terms of $35.00 gold the $2.67 value is increased to $4.67 which with the silver content will be approximately a $5.00 gross value. This $5.00 gross value must cover the per ton charge for rehabilitation, development, water supply, and capital cost for mine, mill, and camp as well as direct operating costs which probably will exceed $2.80.

There is no reason to expect any increase in values with depth but the gradual decrease may continue. A rather extensive development program should be completed to determine the extent of the values before any operation is considered. The deposit does not appear to justify the risk in initial expenditure for development on the tenor of ore indicated.

EDWIN A. STONE

TRUMAN H. KUHN

February 1, 1945

Report on

THE NEW KING OF ARIZONA MINING COMPANY

Prepared by

Frederic W. Horton

From the reports and examinations made by

Oscar A. Knox, E. M. of Los Angeles
W. M. MacDonald, Esq. of New York,

United States Geographical Survey Bulletin 620-H

PROPERTY AND LOCATION

The New King property is located in the Kofa Mining District, about 50 miles north and east of Dome station on the Southern Pacific Railroad. The town of Yuma is about 75 miles southeast.

The Kofa Mining District is in the southern part of the range known as the Kofa mountains, an isolated mountainous area in the central part of Yuma County, Arizona.

The property under consideration consists of eight lode mining claims, comprising about 160 acres and covering the gold bearing mineral zone for a distance of over 6,000 feet.

Four claims, generally known as the King of Arizona group, are held by United States patent while title to the remaining four is held by location and possessory right under the United States mining laws.

The claims are contiguous and are known by the following names:

Moscow
King Extension
Tuxedo No. 1
Tuxedo No. 2

(King of Arizona Group)
Mucho Bueno
Homestake
King of Arizona
Last Hope

HISTORY PRIOR TO NEW KING REGIME'

Although southwestern Arizona had been prospected for many years, especially in the early sixties, this particular section received little attention until the discovery of the King of Arizona orebody in 1896.

The King of Arizona mine produced ore and gold and silver bullion continuously from the date of opening to the summer of 1910. The surface ore was extremely rich much of it being worth $1 a pound

or $2000 a ton. Ore of this grade was packed or hauled to Kohawk on the Gila River, 45 miles away, and there treated in a small cyanide mill at a big profit.

In 1899, a 225 ton milling plant was built at the mine and was operated until the property closed down. The total value of the production, taken from only a small section of the mineralized zone on the Homestake and eastern part of the King Claims, amounted to over $4,000,000.

Various stories are told as to why the property closed down but I put the most emphasis on the following:

Active development work in an exploratory way was not kept up and consequently as no new orebodies were opened it was obvious that work must be discontinued. There were two seperate operating companies--one mining and the other milling--and naturally the more ore sent to the mill the greater the return accruing to the milling company. To keep the mill at capacity it was impossible to block out ore reserves ahead of production.

By the end of 1910 cost of water and fuel had reached a terrific figure and new and cheaper sources for both were needed. Some idea of the tremendous cost can be had taking into the consideration the fact that the power plants were driven by steam-engines, the fuel for which was desert wooded hauled for miles and purchased by the ton.

Water or lack of it, was the most serious factor. The supply for camp and mill was pumped from wells 1,000 feet deep sunk in the plain five miles distant and 600 feet lower in elevation. It is said to have cost nearly $15,000 a month to supply the mill with water alone.

Even had the owners decided to change to the use of fuel oil it is a question whether operations would have been profitable on account of the water problem. Then, too, changing to oil fuel would have meant remodeling the power plants both at the water pumping station and the mine. Other alterations at the mill necessitated because of worn out machinery, would have made the capital expenditures very heavy. The owners apparently preferred to keep their profits rather than lay out further funds in investment.

GEOLOGY AND ORE DEPOSITS

Conditions under which the ore occurs could not be better from a geological viewpoint. The region is composed in general of igneous and metamorphic rocks and on the New King property these are cut by a large dyke-like intrusion of andesite in which the orebodies occur.

The ore is found in a quartz vein occupying a fissure within the andesite intrusion. The breaking down of the earth's surface left vents through which the water percolated hollowing out great caverns the latter being again filled with a crushed mass of quartz and country rock through which the ascending mineralized solutions penetrated depositing their gold values. The veins vary in width from one to twenty feet. In the main they stand nearly vertical with well-defined walls and the pay ore occurs in strong shoots of considerable length and thickness.

There has been some slight faulting subsequent to ore deposition but nothing which makes for complicated mining conditions. There are no great irregularities nor abrupt cutting off of the ore bodies.

The main vein has a general east and west trend. It is strong with uniform values and, in some places, has spectacular specimen ore which will assay $6,000 to $10,000 a ton. There is in the west end of New King development at least 2,000 feet of the unworked vein awaiting intensive development.

DEVELOPMENT

The old workings in the eastern end of the King of Arizona claim and the Homestake claim are very extensive. There is a working shaft sunk about 750 feet with four working horizons opened by levels. In all there is approximately 15,000 feet of lateral development and stoping. While there is still a large tonnage of ore available in the unworked portions of the vein which will average between $10 and $20 a ton, present development is and will be confined to the New King or western end of the property.

The recent underground work has brought gratifying results

in opening up what is apparently the bonanza vein worked in the earlier days of the mine. The main tunnel level, the 200 foot horizon, has been driven through and connected by an upraise with shaft No. 2 at the extreme west end of the King claim thus affording a clear haulage-way and open ventilation for over 2,000 feet. This tunnel, therefore, directly connects shaft No. 2 with the ore bins at the mill.

Three crosscuts have been driven from the tunnel, to intersect the vein. Two have intercepted the ten foot vein of $25 to $30 ore which has been opened on the surface outcrop for a distance of over 150 feet. Ore of the same and higher grade has been opened in both shafts Nos. 1 and 2. Shaft No. 1 is about 200 feet east of shaft No. 2 but has not been connected with the tunnel level. Nearly 1,000 feet east of shaft No. 2 the same vein has been opened in surface prospecting.

It is apparent therefore, that a large orebody is practically blocked out and proved in the territory above the 200 foot level and for 1,000 feet east of the old King. The eastern development showed ore persistent to a depth of over 500 feet and it is reasonable to expect similar conditions to obtain in the new development.

ORE RESERVES

No systematic sampling has been done in the old King workings and an accurate estimate of the ore possibilities in the old workings is, therefore, impossible. There is without doubt, however, a large tonnage of high grade ore available with only minor development.

In the New King development careful sampling shows an average tenor of $25 a ton. There is probably at least 100,000 tons of ore partially blocked out now which will average about $25 a ton in value. This is unquestionably conservative and further development latterly and at depth should increase this estimate quickly.

SAMPLING AND ASSAYS

Some of the representative results obtained by Mr. Knox in

his sampling of the New King development at the western end of the King claim are given as follows:

No. Sample	Location					Value Per ton
1	New King #1	"	across	west end	1.6'	$33.38
2	"	"	"	east "	3.5'	7.85
3	"	"	"	vein	5.0'	37.20
4	"	"	#2	"	6.2'	7.85
5	Open cut		#4	east face	1.0'	89.45
6	"	"	#3	" "	1.0'	31.01
7	"	"	#2	" west "	0.5'	48.78

An average analysis of these samples shows that the average value per foot sampled is $25 a ton. This is very high grade for free-milling gold ore.

MINING METHODS AND COSTS

The location and form of occurence of the New King orebody naturally makes the method of mining simple and the cost very low. The ground above the 200 foot or tunnel level can be stoped out quickly and cheaply by driving upraises at regular intervals and then breaking the ore down to the stope floor by top slicing and overhead stoping. The ore goes direct to the cars through the chutes in the stope floor by gravity. No rehandling or hoisting is necessary as the ore cars can be trammed direct to the ore bins at the mill. The tunnel portal is within 300 feet of the mill.

The only timbering necessary is the stulls, lagging and chutes which form the floor of the stopes. Many of the old stopes have stood open to a depth of several hundred feet for years without supports of any kind. The walls of the veins are very solid and firm. The mine is practically dry and no pumping is required.

On the basis of the present scale of wages -- $3.50 a day for muckers, trammers and laborers and $4.75 to $5.25 for miner's, blacksmith, foreman, etc. -- it should not cost more than $3.50 a ton to deliver 100 tons of ore daily to the mill. This cost also takes into consideration a charge for development of ore reserves ahead of production. It is the policy of the management to add at least one ton of ore to the reserves for each ton milled.

MILLING METHODS AND COSTS

It is quite apparent that the simplest kind of mill treatment

will yield the best results. A very good extraction could be obtained by simple amalgamation for the ore is practically free-milling. The method to be used, however, gives an extraction as high as 95 per cent at a very low cost.

The treatment by cyanidation as outlined is extremely simple, no complicated or expensive methods of fine grinding and concentrating being necessary. After being dry-crushed through jaw-crushers and rollers to pass 18 by 20 mesh the crushed ore is loaded into vats of 100 tons capacity and there leached for a period of nine days. The strength of the solution is about 4.5 pounds of cyanide per ton of water. The gold is then precipitated in zinc boxes and the precipitate smelted into bullion ready for shipment.

The cost of milling 100 tons of ore daily should not exceed $1.50 a ton. This estimate is based on the results of actual tests and former operation records. The most important reductions in cost were brought about by obtaining a cheap water supply from the Company's reservoir and by using oil as fuel in place of wood.

FUEL

The use of coal or wood as fuel is out of the question. Both are extremely difficult and costly to obtain. On the contrary, however, California crude oil "tops" can be delivered at Dome station for less than ten cents a gallon. The cost of converting the present equipment to the use of fuel oil will be quickly made up by the saving in operating costs. Fuel formerly cost the King about $100 a day as against an estimate of $25 daily as a maximum figure using fuel oil instead of wood.

WATER - THE NEW KING RESERVOIR

There is a vast difference between pumping a water supply five miles against a 600 foot head and having it flow by gravity from a reservoir which will hold, at one time, sufficient for several year's supply.

The construction of the New King reservoir is the outstanding development completed by the company during the year. A thirty foot masonry dam was built across the mouth of a long two-forked canyon located about three miles northeast of the mine and 200 feet above it.

There is now more than 5,000,000 gallons of water in this reservoir. After the seasonal rains, the supply should be doubled.

The water mains are now being laid from the reservoir to the mill. Within the very near future an ample supply of water should be available at the New King. Several neighboring properties are making preparations to open up again as soon as the New King will contract to furnish water.

Where formerly the cost of an adequate water supply was over $15,000 monthly, New King will now actually have a net revenue from this source in addition to supplying its own needs completely.

TRANSPORTATION

Dome station on the Southern Pacific Railroad, situated about 50 miles southwest of Kofa, is the supply and shipping point for the New King. An excellent desert road suitable for motor truck hauling at all seasons of the year connects the mine and railroad center.

EQUIPMENT

The property is unusually well equipped both on the surface and underground. Three commodious bunk houses and a large boarding house provide quarters for 50 to 60 men. A general store and hospital will be maintained by the company for the convenience and welfare of the employees. Two bungalows are provided for the superintendent and storekeeper.

At the main shaft there are large ore bins and hoisting equipment with a capacity of 250 tons daily from a depth of 500 feet. The hoist is not in use at the present time as all underground work is being directed from the tunnel level. Near the shaft headframe are the foreman's office, blacksmith shop, powder house and storage facilities for supplies, water, etc.

The mill when completed will be in four sections or divisions: the power plant, orebins and crushing department, cyanide leaching tanks, and the refinery including the precipitating room and smelting furnace. The alterations necessary in the mill are new engines to permit the use of fuel oil in the power plant, new leaching tanks and crushing machinery. All the shaftings, pulleys, piping, etc. are ready

to turn over when the alterations are completed.

Underground equipment is complete with drills, drill steel, air pipelines, trackage, ore cars, etc.

COSTS, PRODUCTION AND EARNINGS

With the mill ready to run on 100 tons daily, the total cost a ton should not exceed $5.25 divided as follows:

Mining (including development)	$3.50
Milling (" superintendence)	1.50
Overhead and general (incl. taxes, etc.)	.25
Total cost	$5.25

On the basis of a daily mill run of 100 tons, the net annual profits should be $540,000.

Average value of ore as sampled in the mine is about $25 a ton.

Total gross value of ore sent to mill daily	$2500
Net Value recovered (93% extraction)	2325
Total daily cost at $5.25 a ton	525
Net daily profit	$1800
Net annual profit (300 working day year)	$540,000

An annual profit of $540,000 means 60 cents a share on the outstanding capitalization. Of course when tonnage is increased later profits will be greater.

CONCLUSION

Mr. MacDonald, in concluding his report, makes the following statement:

> "Taking all points into consideration from the discovery of the mine down to the present time, it seems but fair to assume that with the ore in sight and the wonderful possibilities for a further great tonnage to be opened up, that given a clear-headed systematic business administration, this mine should again take its rightful place among the dividend-payers."

New King is a "made" mine in the full sense of the word. In every step since the Company was organized the management has shown unusual foresight and engineering ingenuity.

The Old King mine with its vast underground workings and exploratory tunnels give New King development and prospecting work that would cost nearly one-half million dollars should it become necessary to do it now. The tunnel on the 200 foot level connecting shaft No. 2 at

the most westerly point on the King claim with the ore bins at the mill provides a clear haulage way for over 2,500 feet. This work could not be duplicated for less than $200,000. The equipment, surface buildings, machinery, etc. adds a very substantial amount ot the capital assets.

To be sure the value of the old mine is of importance but the New King discoveries in the western end of the property far overshadow any values formerly found. It is conservatively estimated that 100,000 tons of $25, ore are blocked out above the 200 foot level while the bonanza vein of high grade ore has been opened at various points for a distance of over 2000 feet in virgin territory. There should be, therefore, an increasingly large tonnage of high-grade free-milling gold ore developed quickly.

It should be remembered that the reservoir built by the New King company absolutely solves the water problem. This provides an ample supply of water for the mill and a source of additional income. It has been the one big factor which has made the New King the mine it is today.

Personally, I believe New King can be placed on a dividend-paying basis early next spring. Within a few months the mill will be finished and operating. Earnings at the rate of 60 cents a share annually should be expected which would certainly warrant dividends of at least two and one-half cents a share monthly - 30 cents a share annually.

Expectations of early dividends should be an added factor in keeping New King stock above the $2 level in the market.

Frederic W. Norton

MacDonald
Rex

REPORT ON NEW KING OF ARIZONA MINE, YUMA COUNTY, ARIZONA.

W. J. Johnson, Esq.,

Dear Sir:

In accordance with your request I visited the mine during my recent trip to Arizona and herewith submit the following report:

PROPERTY AND LOCATION:

Consisting of four mining claims held under Patent from the U. S. Government, and four additional claims under location rights and subject to patent after the sum of $500 has been expended on each claim is located in Yuma Couma County, Arizona, fifty miles north of Dome Station on the Southern Pacific Railroad, and is reached by a good auto road.

Titles to the claims are in perfect order.

HISTORY:

The property was located in 1897 and was under active operation for a period of thirteen years. Various tales have been told as to why the mines suspended, but the writer having been a resident of Arizona during its greatest prosperity, puts more credence in the report of the miners employed, i.e., that active development work in an exploratory way was not kept up and consequently as no new ore bodies were opened, it was obvious that work must be discontinued.

It is known that there were two separate operating companies, one mining the ore and the other milling it and naturally the more ore or tonnage of rock sent to the mill the greater the return accruing to the milling company.

Fuel was a most important factor, wood for steam purposes being hauled for miles and purchased by the ton, and the nature of this desert wood is such that after being piled in the yard for a short time, it would deteriorate almost 50%.

Water, or the lack of it, was another serious problem and the supply was pumped from the so-called "Deep Wells" up to the mine at an enormous expense.

Had the old company exhibited the foresight shown by you and built the dam now under construction from whence water for all purposes can be delivered on the ground by gravity, this history would have been different.

I consider the securing of this dam site a very diplomatic move, and one which will tend to materially lessen your general costs.

At the time of my visit the Face was up fifteen feet insuring at that height sufficient amount of water for a fair sized milling plant.

P O W E R:

This should be generated from engines burning Tops a low gravity oil from the California fields which should be landed at Dome Station at a price not to exceed 10¢ per gallon.

From what you have stated about the size of the first mill unit you intend installing, plus the amount needed for your hoisting engine, your fuel costs in the maximum should not exceed $25.00 per day, against $100 and over for wood under the old regime.

LABOR:

There is no shortage of labor.

The native Arizona Mexican is a good miner and wages should range from $2.00 to $3.00 per day for ordinary labor and mining up to say $5.00 for skilled machanics such as carpenters, blacksmiths, engineer and millman.

Eight hours constitute a working day in Arizona and the climate is such that work can be carried on the year around.

GEOLOGY:

Conditions under which the ore occurs could not be better from a geological viewpoint. The prevailing rocks being Andesite and Rhyolite.

The ore is found in a quartz vein varying in width from one to twenty feet, occurring in sheer zones in the Andesite.

The breaking down of the earth's surface left vents through which the water percolated hollowing out great caverns the latter being again filled with a crushed mass of quartz and country rock through which the ascending solutions penetrated depositing their gold value.

This great action was so strong that in one place the contents of a cavern 80 feet across were mined out and milled.

At the time of my visit work was being carried on in the main tunnel, the principal objective being to connect these workings with the West shaft which no doubt has been finished, and which connection will prove invaluable in that it will not only afford a fine ventilation, but will more thoroughly demonstrate your ore.

You have ahead of you in the West end approximately two thousand feet of unproven ground.

The vein is strong, the values uniform and in some place spectacular, and I see no reason why this section should not prove equal in production to that already mined, and from which a sum around $5,000,000 was handled by the company while rumor has it that at least one million additional was diverted to other channels.

The vein having an East and West trend there is plain evidence of a faulting on the Eastern end, but this I consider merely local, and would not reach any great depth, and while the East End was neglected by the original owner, I know of no reason why large ore bodies should not also be found here.

From long experience in Arizona gold and silver properties, the writer expects that at depth the vein will be more compact and confined between well defined walls with more regular and higher values.

EQUIPMENT:

At the time of my visit a firm was hauling away the old machinery, your company having reserved for its own use anything needed for the time being.

The small fortune in timber in the mine and buildings will make unnecessary any purchases in this line for some time to come, and it is well to note in this connection that due to the extreme dryness of the climate all timber and lumber are in excellent condition.

RECOMMENDATION:

The ore is very free and amenable to straight amalgamation, the simplest form of recovery in which line of work one can obtain very comprehensive knowledge of his ore by panning in a gold pan, and we worked up several batches of the rock which yielded very gratifying returns.

My idea would be to continue work on the ore as exposed in paying shoots at many points and block out the same against the erection of the mill. And in this connection permit me to say, please, that I would not handicap the mine with a large plant at the outset, but would erect one unit of the type I intended installing and so arrange my foundation that additional equipment could be added as the development of new ore bodies warranted.

Summed up the situation is this, you have a vein several thousand feet long from which one portion has been cut and milled yielding the large results above mentioned.

There is on the West end of the old workings at least 2000 feet of unbroken ground carrying this vein and showing fine values, and there is every indication that the same condition will obtain here as in the old section. While the East end shows the same ores.

Erosion has washed down the hills and several Mexicans are making a good living by washing gold from the sand in the flats below your workings in primitive machines called Drywashers.

Taking all points into consideration from the discovery of the mine down to the present time, it seems but fair to assume that with the ore in sight and the wonderful possibilities for a further great tonnage to be opened up, that given a clear headed systematic business administration this mine should again take its rightful place among the dividend payers.

Yours respectfully,

(signed) W. A. MacDONALD

REPORT ON THE PROPERTY

ON THE

NEW KING OF ARIZONA COMPANY

YUMA COUNTY, ARIZONA

OSCAR A KNOX, E. M.

Los Angeles, California

The property under consideration is generally known as the King of Arizona mine and is situated in the Southern part of Yuma County, Arizona, about fifty miles in a Northerly direction from the Southern Pacific Railroad. The shipping point is Dome Station, with which the property is connected by an exceptionally good desert road, suitable for motor truck haulage at all seasons of the year, with the exception of a short period when high water in the Gila River may cause inconvenience. This condition, however, lasts but a short time.

CLAIMS & AREA:

The property consists of eight lode mining claims, comprising approximately 160 acres and covering the mineral zone for a distance of about 6,000 feet. There is comprised within the boundaries of the property the necessary site for mill and camp purposes.

TITLE:

Title to four of the claims comprised in the group is held by United States patent and title to the remaining four claims by location and possessory right under the United States mining law.

HISTORY:

The King of Arizona mine was originally located in 1897 and was worked continuously from that time until 1910 as a low grade gold proppsition. At that time the mill and mining machinery being practically worn out the then owners suspended operations. At the time that these operations were under way wood was used for fuel and steam driven machinery utilized throughout. Wood became increasingly scarcer and consequently more expensive and to have continued operations would have necessitated the erection of entirely new plants, utilizing internal combusiton engines or some other cheaper form of power than the old steam plant. All this would have necessitated a large investment and

1933

the then owners evidently preferred to keep the profit which they had made from their operations rather than to re-equip the property so that it could be economically operated under the conditions.

FACILITIES:

As previously stated, the property is about fifty miles from railroad transportation and conditions for hauling to and from the railway are very fair.

Power for future operations will necessarily be generated by internal combustion engines, as fuel for the generation of steam power is no longer obtainable.

During previous operations, water for milling and domestic purposes was pumped from wells about five miles distant from the mine entailing a large expense. The present plan, however, contemplates the erection of a storage dam in a canyon about three miles from the mine. Water sufficient for all purposes under the plan of operations contemplated can be brought from this dam site to the mine by gravity, greatly reducing the cost of operation as compared to the plan of obtaining water which was formerly in vogue.

The country adjacent to the property is bare of timber and timber for mining and building purposes would be obtained from the Pacific Coast; however, there is on hand amoung the other equipment left by the former operators, a very large amount of lumber and timber, probably sufficient for the needs of the mine for some years to come.

Labor is fairly plentiful and the prevailing wages for white miners and mill men are from $4.50 to $5.00 per day of eight hours. Mexicans can probably be obtained for common labor at about $3.00 per day.

The climate is that typical of the desert regions of the South-west. Operations can be carried on at all seasons of the year without any interference from climate conditions.

TOPOGRAPHY:

The property is situated in the Short Horn Range of mountains,

just at the edge of the comparatively flat desert country. The topography on the property itself is fairly rugged, but as heretofore stated there are reasonably good camp and mill sites included within the boundaries.

GEOLOGY:

The region is composed in general of igneous and metamorphic rocks and on the King of Arizona property these are cut by a large dyke-like intrusion of andesite in which the ore bodies occur. The higher mountains are capped by rhyolite tuffs and other extrusives.

The ore occurs as a wide vein of quartz occupying a fault fissure within the andesite intrusion. There has been some slight faulting subsequent to ore deposition, but nothing which makes for complicated mining conditions, or either irregularity or abrupt cutting off of the ore bodies.

In the main the vein stands nearly vertical with well defined walls and the pay ore appears to occur in well-defined shoots of considerable length and thickness.

EQUIPMENT:

There is a large amount of old equipment on the property, but practically all of this is worn out and of no present value. The present plans contemplate the re-equipment of the property with more modern machinery, enabling work to be carried on a more economical scale than could have been possible with the old equipment.

DEVELOPMENT:

The old workings on the property are very extensive and are comprehensively shown in the large map which you now have in hand.

The present plans contemplate the opening up of new ore bodies outside of the old workings and it is not contemplated to mine from the old workings, at least at the present time.

MILLING:

The valuable metal in the ore is gold and is practically free milling. There is no doubt but that a very high recovery can be made by simple amalgamation.

PRODUCTION:

The property has produced from the gold workings about $4,500,000. This was represented by approximately 1,000,000 tons of ore, averaging approximately $4.50 per ton. There are now on the property enormous tailing dumps representing these former operations.

SAMPLING:

Inasmuch as operations of the immediate future do not contemplate utilizing the old workings, these were not sampled. A number of representative samples were taken from the ore bodies on the West end of the King of Arizona claim known as the New King workings. These gave results as follows:

#1	"New King" #1 Across West end of cut 1.6'	$36.38
#2	"New King" #1 Across East end of cut 3.5'	7.85
#3	"New King" #1 Across vein 5.0' wide	37.20
#4	"New King" #2 Across 6.2' including cross vein	7.85
#5	Open cut on #4 vein "King of Arizona" 12" across East face	69.45
#6	Open cut on #3 vein "King of Arizona" 12" across East face	31.01
#7	Open cut on #2 vein "King of Arizona" 6" across West face	48.78

An analysis of the above sampling shows that the average value per foot sampled is $25.00, a very high grade showing for a free milling gold ore.

FUTURE EQUIPMENT & DEVELOPMENT:

The plans at present under consideration include the development of the New King ore shoot, from which the above samples were taken, by means of extending the old King of Arizona tunnel a distance of thirty-five feet to a connection with shaft #2 shown on the plan attached to this report. This will provide ventilation for that part of the mine and transportation to the mill site through the King of

Arizona tunnel. In addition to this it is proposed to extend the South crosscut from the King of Arizona tunnel a distance of about fifty feet to the ore shoot as proved in the shafts above and to raise on the ore to a connection with shaft #1 thus blocking out the ore body between shafts Nos. 1 and 2, and above the tunnel level, as will be s en by reference to the longitudinal section accompanying this report.

It is proposed to erect a modern mill of approximately fifty tons daily capacity and to operate this mill on ore of approximately the grade indicated by the sampling referred to above, which can be done my mining the better portions of the ore bodies only, instead of mining on the large scale that was attempted by the old company which greatly diminished the average value of the ore milled.

It is proposed to erect a storage dam for water supply as previously mentioned in this report, thus doing away with the cost of pumping water a distance of five miles against a head of 500 feet; consequently lowering working costs.

CONCLUSION:

It is the writer's conclusion that the property when worked on the lines that have been outlined can be made to yield a handsome profit and that the cost of equipment can be held down to a very reasonable figure.

The writer recommends development of the property along the lines outlined herein.

Respectfully submitted,

(signed) OSCAR A KNOX

Form 1580

INTRA-COMPANY EAGLE PICHER CORRESPONDENCE

OFFICE Cardin, Oklahoma.

DATE January 2, 1958.

TO Mr. Claude O. Dale,

FROM D. C. Brockie.

SUBJECT King of Arizona Mine, Yuma County, Arizona.

O.K. to Reproduce no heading or signature, 1-72

INTRODUCTION:

At your request, I have reviewed the available data and this memo submits the pertinent points as I see them. My information was obtained by reading the following reports on the property by:

(1). Arthur Houle and C. S. Branson in Sept.,1941.
(2). Edwin A. Stone and Truman H. Kuhn in March, 1945 for The Eagle-Picher Company.
(3). George M. Fowler's letter of Feb.28,1947.
(4) Eldred D.Wilson in Arizona Bureau of Mines Bulletin #134 entitled, "Geology and Mineral Deposits of Southern Yuma County, 1933".

The above reports accompany this memo and the only available mine maps and sections are part of Stone's report.

It is obvious from reading Reports #1 and #2 that assay maps and records were available to the writers which are not available to me at this time.

The King of Arizona Mine was optioned to Arthur Houle (co-writer of Report #1) in June, 1941. It was his hope that they would be able to develop and put the mine in production. There is a possibility, then, that his views and opinions may be prejudiced.

I would refer you to Reports #1, #2 and #4 for general information on the property such as location, roads, geology, etc.

OWNERSHIP:

Apparently The Eagle-Picher Company owns a half-interest in this property, Mr. G.J.Duff owning the other half. The property consists of four patented and six unpatented claims. To date, our company has spent $13,493.27 doing the necessary assessment work to keep the unpatented claims in good standing.

ACCESSIBILITY OF WORKINGS:

According to Stone, the main working shaft manway is blocked, at 252-feet depth, by rock on a bulkhead. This would probably not be too difficult to clean out as the hoisting compartment appeared to be open below this point. The three upper drifts are caved approximately 50 to 100 feet from the shaft, both east and west. This would mean that most of the mine is inaccessible at this time unless work done subsequent to Stone's report has changed this condition, which I do not believe is the case. It is possible that the lower levels are in good condition.

Stone further states that pillars have been robbed, down to the 117-foot level, causing the hanging wall to slump and it would be prohibitive in cost to attempt to reopen these areas down to the 232-foot level. If we assume this to be correct, we will have to write off the ore reserves shown in this area by Houle.

It is also possible that water stands at some lower level in the shaft. Houle states that water was encountered on the 7th. level amounting to 5,000 gallons per day.

In Bulletin 134, a Mr. Jones is quoted, "At the time of the Writer's visit the mine had been closed for four years and the workings were in part inaccessible and generally in a bad state of repair below the 100-foot level".

DEVELOPMENT:

Since the King of Arizona Mining Company suspended operations in February, 1910, development work has been carried out by Dayton Consolidated of Virginia City, Nevada, and apparently others, without success.

Following this, our company has done assessment work each year on the unpatented claims.

PRODUCTION:

Both Houle and Stone are in essential agreement that somewhere between 600,000 and 700,000 tons of ore were mined from 1897 to 1910 with a value of between $6.00 and $7.00 ($20.67 gold) heads. The King of Arizona Mining Company estimated recovery at 93%. In addition, 82,000 ounces of silver were recovered.

In terms of $35.00 gold the ore would have had a value of $10.20 to $11.90 per ton. As Stone points out, the near surface ore was worth as much as $20.00 ($20.00 gold) while the lower level ore eventually became marginal or sub-marginal in grade at that time. Blake is quoted in Bulletin 134 as stating that a hanging wall layer

ran as high as $800.00 per ton ($20.00 gold).

Houle states that the cost of mining, milling and overhead was $4.00 per ton. Bulletin 134 states that in the last few years of operation a cost of $2.80 per ton was attained. It would seem reasonable to assume that all known ore would have been mined before the mine was closed down. Since at that time this would mean that any known ore running better than $3.00 could be mined at a profit, then we might also assume that any ore having a value greater than $5.00 ($35.00 gold) has already been mined. This ties in somewhat with Houle's statement that in January, 1910, the last full month of production, the average grade was $4.09, or approximately $7.00 ($35.00 gold).

Assuming the longitudinal section in Stone's report to be up to date, the lack of attempts at stoping on the lower levels can be noted.

HOULE AND BRONSON'S ORE RESERVES:

In their final summary, they state that two sections of the property, the west end ore zone of the King claim and the west half of the Homestake claim will produce between 75,000 and 100,000 tons of $6.50 ore above the tunnel level. I can only assume that they are referring to $20.00 gold. Today this ore would have a value of $11.00.

Below the tunnel level (collar of the shaft) they state that a large tonnage of $5.00 to $6.00 ($35.00 gold) is indicated or will be developed.

They estimate in their discussion on tailings that approximately 600,000 tons with an average gross value of $1.22 ($35.00 gold) is available for retreatment at a cost of $0.65 (1941).

CONCLUSIONS:

All the available data points to the fact that the King of Arizona Mine is an epithermal deposit having produced some very rich gold values from near surface ores, but that with increasing depth the values fell off to the point where the seventh level ore contained only approximately $3.00 ($20.67 gold) in gold.

Our main opportunity at this property would be to attempt to find more of the near surface rich ore along the strike, both to the east and west of the main mine area. However, Houle points out in his report that work was done in this regard and that only $3.00 to $4.00 ore ($20.67 gold) was found in the most likely areas to be prospected.

Bulletin 134 states, "about 200 feet east of the shaft strong cross fractures filled with calcite apparently limit the ore, for development has not proceeded beyond this point".

Stone also points out that the cross faults which occur in the main stoped area may have served to localize the ore at that particular zone in the main mineralized trend.

While there are very few points in favor of this property there are a number of important unfavorable points against it. The favorable factors are itemized as follows.

1). Favorable climate, although hot in summer, permits year round operations.
2). There is a slight chance that some rich near surface ore could be found with new development work.
3). The only water encountered in the mine was on the seventh level (bottom) and amounted to only 5,000 gallons per day.
4). There is a reported 600,000 tons of tailings averaging $1.22 ($35.00 gold).
5). The veins generally averaged 12-feet in width which should give good mining costs.

The unfavorable factors are as follows:

1). No water is available at the mine and a new source would have to be found or the old source rehabilitated.
2). The nearest source of electric power is 16 miles distant.
3). 35 miles to the nearest railroad.
4). Much of the upper part of the mine is believed to be caved and although the shaft appears to be in good shape the manway is blocked below the second level.
5). The gold values below the fifth level are less than $4.00 ($20.67 gold) per ton.
6). The near surface rich ores have been prospected to a certain extent to the west of the main mine with unfavorable results.
7). Very little chance that any quantity of ore averaging above $7.00 ($35.00 gold) remains in the old workings or stopes.

George M. Fowler states in his letter of transmittal, "So far as can be learned from the literature and other sources, the ore in all of these mines was found near the surface and nearly barren formations were encountered only a few hundred feet below the surface".

Since Stone wrote his report in 1945, Eagle-Picher has done assessment work each year until now. It is entirely possible that this work has uncovered new information especially since it would be on the unpatented claims and in previously unproductive areas.

Our files state that a report is on file in the Tucson

office. I suggest that before final disposition of the propert is made that we obtain this data, especially if there are assay maps of the property available, and in view of the possibility that new information may be available as a result of recent development work.

Respectfully submitted.

D.C.Brockie

DCB/tp.

cc: Mr. O.A.Rockwell.

MINING LEASE

THIS LEASE, made and entered into this _____ day of _____, 1983, by and between Dr. Philip A. Birdick, (hereinafter referred to as Lessor), and RJM Corporation, an Arizona Corporation qualified to transact and transacting business in the State of Arizona (hereinafter referred to as Lessee),

WITNESSETH:

WHEREAS, the Lessor owns the property hereinafter described and Lessee desires to lease the same from the Lessor for mining purposes, and the Lessor is willing to lease said premises to Lessee on the terms and conditions hereinafter set forth;

NOW, THEREFORE, for and in consideration of the mutual covenants, promises and conditions hereinafter set forth, the Lessor has given and granted, and by these presents hereby does give and grant to the Lessee the right and privilege to mine and remove minerals from the premises hereinafter described upon the following terms and conditions, to wit:

1. DESCRIPTION OF PROPERTY: Lessor represents that he is the owner of the lode mining claims, a full description of which appears in Exhibit A attached hereto and by this reference made a part hereof, which claims are hereinafter referred to as "Property", together with all water, water rights, and other rights appurtenant to said Property, or held, owned or used in connection therewith, and the right to use the same either on or off of said Property.

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2. POSSESSION - OPERATION. The Lessee is entitled to take possession of said premises to the extent necessary for the purpose of this lease, and to explore, sample and operate the same, and extract and ship ores therefrom, to extract by leaching, subject to the conditions herein set forth, from and after the effective date of this lease.

The Lessee may erect, construct, maintain, use and operate thereon and therein, buildings, structures, machinery and equipment. The nature, location and extent of such mining or mining operations, and the cessation and resumption thereof, shall be at the sole discretion of Lessee.

Lessee shall also have the right to use any of the personal property located on the premises in constructing the plants contemplated herein and in connection with mining operations. Lessee will maintain said property in its present state of repair less ordinary wear and tear.

All work done upon said premises by the Lessee shall be done in a good and workmanlike manner and after the manner of good mining, and shall comply with all laws, rules, regulations or orders of any local, state or federal agency. All workings where necessary or required by law or rules, regulations or orders or any state or federal agency, or where directed by the State Mine Inspector or his deputy, shall be timbered properly and substantially, and all safety requirements and precautions shall be observed. All mine openings shall be kept clear of obstruction and in a condition so that they can be entered,

except such openings as are not necessary for the future conduct of mining operations on the premises.

3. TERM OF LEASE. The term of this lease, unless sooner forfeited, cancelled, terminated or surrendered, shall be so long as, in the judgment of the Lessee, minerals can be produced from said Property, under the provisions of this Agreement.

4. ROYALTIES.

(a) Throughout the term of this lease, the Lessor reserves and Lessee agrees to pay a royalty as a rental for the use and possession of the property as follows:

i. At the time of signing of this agreement, Lessee shal pay to Lessor the sum of Ten Thousand Dollars ($10,000.00).

ii. On the first and second anniversary date of the Agreement, the Lessee shall pay to the Lessor the sum of Twenty Thousand Dollars ($20,000.00).

iii. On the third anniversary date of the lease agreement, the Lessee shall pay to the Lessor the sum of Twenty Thousand Dollars ($20,000.00) plus an amount equal to the price of One Troy Ounce of gold, as quoted on the New York Commodities Exchange on the anniversary date of the agreement.

iv. Every year thereafter for the term of the Lease, Lessee shall pay to Lessor, the amount paid in the preceding year, plus an amount equal to One Troy Ounce

of gold as quoted on the New York Commodities Exchange on the anniversary date.

v. In addition to the foregoing, Lessor shall reserve and Lessee agrees to pay a royalty of five percent (5%) of the net smelter returns or sale price received for ores extracted from said mining property by Lessee and shipped, smelted or otherwise disposed of, either in the form of direct smelting ores or concentrates to a smelter or sold as a refined metal product, other than to a smelter.

(b) "Net smelter returns" and "Sale prices" defined:

Net smelter returns within the meaning of this lease shall be the correct returns as shown by the liquidation sheets furnished by the smelter treating such ores or any mineral concentrates or precipitates after such smelter shall have made its deduction for handling and switching charges, treatment and usual smelting deductions.

Sale price within the meaning of this lease shall be the purchase price paid or actual amount for which any refined metal product is sold, less a deduction as follows: There shall be deducted from the sale price the charge for refining and freight to the refinery of the mineral product shipped from the upgrading or milling facility to the refinery for final processing.

In arriving at the net smelter returns or sale price, no deduction shall be made for hauling or any other charge of whatsoever character except as hereinabove expressly provided. The deduction and payment of royalties based on net smelter

returns shall be governed by smelter values per dry ton of ores of 2,000 pounds each.

(c) Settlements: In the event that the ores or concentrates or precipitates therefrom shall be disposed of to a smelter, the smelter treating such ores shall be instructed to remit to the Lessor, at P.O. Box 231, Yuma, Arizona 85364, the royalties hereinabove provided based on net smelter returns as above defined due from Lessee on account of ores, concentrates or precipitates smelted and purchased by said smelter. Such remittance, accompanied by three liquidation sheets for each lot number of shipments shall be made from week to week or from month to month, but not more than forty (40) days apart as may be agreed upon by the parties hereto and the smelter.

With respect to mineral products not sold to a smelter, Lessee shall remit to the credit of Lessor the royalties hereinabove provided based on sale price as above set forth and such remittance accompanied by three statements containing full and complete information regarding all ores produced from the property and further treated during the preceding month, including the quantities of ore removed and processed, the amount and grade of the products derived therefrom, and the selling price of the refined metal after deduction of refining costs shall be made at reasonable intervals, but not more than forty (40) days apart.

5. ASSESSMENT WORK. Lessee shall do all assessment

work on the unpatented claims of the Property on or before the first day of September of each year and shall file an affidavit of improvements made and labor performed upon said Property for each year that this agreement shall remain in effect in the office of the County Recorder.

6. TAXES. During the continuance of this lease, Lessee, at its own cost and expense, shall pay punctually before the same become delinquent, all taxes of any kind (other than taxes on or measured by income or profits of Lessor) levied or assessed upon or against any machinery, equipment or improvements, now or hereafter placed upon said premises, together with all production taxes, severance taxes, privilege sales taxes or similar taxes now or hereafter levied by the State of Arizona or California, or any subdivision thereof or the Federal Government on ores, concentrates, and minerals produced or shipped from said premiese by or on behalf of Lessee, including any interest or penalty in connection therewith; provided, however, that Lessee shall be under no obligation to pay any such taxes so long as such taxes are being contested in good faith and by appropriate legal proceedings and the nonpayment thereof does not adversely affect Lessor or any right, title or interest of Lessor in or to the said premises. The obligation provided in this paragraph shall continue so long as Lessee shall remain in possession of said premises pursuant to the terms of this lease.

In the case of taxes for the calendar year in which this lease may be terminated, if said property is being taxed as a producing mine because of Lessee's production therefrom,

Lessee shall bear the ad valorem taxes thereon for the entire calendar year, notwithstanding a part of the calendar year is not included in this lease. The Lessor shall in no event be responsible for any portion of any taxes on machinery, equipment or improvements placed upon the premises herein described by Lessee, unless such machinery, equipment or improvements shall be left upon the said premises and shall inure to the benefit of the Lessor.

7. SECURITY. Lessee shall provide security to the property at all times, a minimum requirement of which shall be the placement on the premises of one security person, to be a full-time guard.

8. MACHINERY REMOVAL. All machinery, equipment and personal property, together with all improvements (including houses and other structures) which may be or have been placed on said mining property by and at the expense of the Lessee, may be removed by Lessee at any time within thirty (30) days after the termination of this lease; provided, however, (a) that such right of removal shall not extend to replacements of other property now in or on said mining property, or to headframes, or to ladders, timbers, ties, tracks in place underground; (b) that no such property shall be removed at any time while the Lessee may be in default under any of the terms or provisions of this lease; (c) the removal shall be effected in such manner as to avoid injury or damage to the mine and improvements that are to remain thereon.

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9. INSURANCE; CERTIFICATES. Lessee will obtain and continue in full force and effect during the term of this Agreement, at its own expense, all insurance specified below. Each insurance policy to be obtained by Lessee hereunder shall provide that the policy shall not be cancelled or changed without thirty (30) days prior written notice by certified mail, given by the insurance company to Lessor at the address set forth in Paragraph 16 of this Agreement. The insurance to be obtained and continued in force by Lessee shall be the following:

(a) Worker's Compensation and Occupational Disease Disability Insurance as required by the laws of the State of Arizona.

(b) Employer's Liability Insurance, with a minimum coverage of $100,000.

(c) Comprehensive Automobile Liability Insurance with coverages of not less than Bodily Injury limits of $100,000 each person and $300,000 each accident, and Property Damage with a limit not less than $25,000 each accident.

(d) Comprehensive General Liability and Property Damage Insurance including Operations, Protective and Contractual Liability coverages of not less than Bodily Injury limits of $250,000 each person and $1,000,000 each occurrence, and Property Damage limits of $50,000 each occurrence and $100,000 aggregate operations, $200,000 aggregate Protective and $100,000 aggregate Contractual.

(e) Lessor shall be included as an additional insured on all insurance policies set forth in (d) above, and the insurance

company issuing this policy waives any right of contribution which it may have against any other insurance carried by Lessor.

10. LIENS. The Lessee shall not incur any debts or liens against said property or against any part thereof during the life of this lease, and shall indemnify and save harmless the Lessor and said property from any and all liens. All miners, laborers and other persons who may labor or furnish materials on or for said premises during the life of this lease, and to whom any sum may be due the Lessee for labor or materials, shall be promptly paid by the Lessee.

11. LIABILITY FOR INJURIES. The Lessee hereby assumes any and all liabilities arising or to arise from accidents or injuries to its agents or employees, or any other person in or about the premises while the same are in the possession of the Lessee, except as to those persons who are on the premises with the authorization of the Lessor, and the Lessor shall be indemnified against any liability or responsibility for or on account of any such injuries, it being understood that the hazard of all such liability or liabilities is taken into considerations under this lease.

12. INSPECTION. The Lessor, through any duly authorized representative, shall have the right to enter upon said premises, or any part thereof, and to inspect the same at any time during the life of this lease, at its risk, and shall have the right to inspect the records of the Lessee insofar as the same cover or relate to shipments of ores or any mineral products derived from the premises, at any reasonable time, but without unreasonable inconvenience to the Lessee.

13. REPORT AND MAPS. The Lessee shall keep a full and complete record of all work carried on by the Lessee, and also deliver to the Lessor, on demand, all logs, assay results of any drilling or other development work performed, and all maps, records or blueprints which may relate to said mining premises that may be made by or for the Lessee.

14. DEFAULT. In the event the Lessee shall make default in any of the terms or provisions hereinabove contained, then the Lessor may terminate this lease upon thirty (30) days' notice to the Lessee of its intention to declare this lease at an end. If the Lessee shall fail within the said thirty (30) days to correct and made good any violations of the terms and provisions of this lease on account of which such notice of default has been given, then and thereupon this lease shall terminate; provided, however, that if the Lessee shall fail to pay royalties as and when hereinabove provided before commencing operations hereunder, the Lessor may terminate this lease forthwith and without notice.

15. TERMINATION. Lessee shall have the right to cancel this agreement at any time by giving Lessor thirty (30) days written notice of its desire to cancel and, thirty (30) days after said notice is mailed by certified mail, this agreement shall be of no further force and effect, and each of the parties shall be released from any further obligations to the other growing out of the execution of this agreement, except that Lessee shall remove no equipment, machinery or improvements to the property if Lessee is also in default on this agreement or the payment of any royalties due hereunder.

In the event of a termination of said lease for any cause, the Lessee shall forthwith deliver to the Lessor the peaceable possession of said premises, in good order and condition, with all shafts and tunnels and other passages leased to and operated by the Lessee thoroughly cleared of rubbish and drained, ready for immediate continued working and shall be relieved of any further liability hereunder; but in the event of the termination of this lease by either of said parties, the Lessee shall not be discharged from any obligation in favor of the Lessor that may theretofore have accrued under the terms hereof.

In the event of the failure of the Lessee to peaceably surrender the possession of said premises as aforesaid, the said Lessor, or his agent, may, without demand for possession, enter upon said premises and dispossess all persons occupying the same, with or without force, and with or without process of law, retaining attorneys for said purposes, whose fees in a reasonable amount Lessee agrees to pay, together with such other costs as may be incurred by the Lessor.

16. NOTICES. All notices herein provided for may be given by regular mail, except where specified herein, to the following addresses:

To Lessor: Dr. Philip A. Birdick
P.O. Box 231
Yuma, Arizona 85364

To Lessee: RJMCorporation
P.O. Box 27124
Tucson, Arizona 85726

17. LESSOR'S RIGHT TO OCCUPY AND MINE.

Lessor and Lessor's designees will be allowed to occupy the premises as long as such occupation does not materially interfere with activities of Lessee, and in that event, Lessee must give thirty (30) days notice that such occupance interferes.

Lessor and Lessor's designees will be allowed to extract for sale or otherwise any rocks or ores from the properties as long as such extraction does not materially interfere with Lessee's activities. Such extraction by Lessor or Lessor's designees, however, is limited to 500 tons per year.

Upon 30 days notice to Lessor, Lessor or his designees will remove any personal property from the premises so long as Lessee reasonably believes that the property is interfering with Lessee's activities.

18. OPTION TO PURCHASE. Lessee is hereby granted an option to purchase said Property and all of the other property of the Lessor mentioned herein for an amount equal to the price of 130,000 ounces of gold at a price quoted on the New York Commodities Exchange. If this option is not exercised and the payment of royalties to Lessor continues until the amount paid totals the value of One Hundred Thirty Thousand (130,000) ounces of gold at any given time, as quoted on the New York Commodities Exchange, then the title to said claims and property will be conveyed to Lessee by good and sufficient deeds and bill of sale free of all encumbrances.

19. TREATMENT OF FOREIGN ORES. Lessee shall have the rights to treat ores not derived from the Property in plants constructed on the Property.

20. KNOWLEDGE OF PROPERTY. It is understood that Lessor, who, by virtue of time and work expended on the Property, his extensive knowledge thereof, will make his knowledge available to Lessee, will consult with and advise Lessee, will do whatever he can within reason, to help Lessee in the development and operation of the Property.

21. MINIMUM WORK COMMITMENT. Lessee agrees to diligently pursue the exploration and development of the Property. To insure this diligent pursuit, Lessee agrees to perform the minimum work defined in Exhibit "B", attached hereto and made a part hereof.

22. ASSIGNMENT. The rights of the Lessee hereunder shall not be assigned, sublet or otherwise transferred, in whole or in part, without the written consent of Lessor, which consent shall not unreasonably be withheld as to any assignee having the financial and technical capabilities to assume the obligations of Lessee hereunder and to conduct workmanlike mining operations upon these claims. The provisions hereof shall inure to the benefit of and be binding upon Lessee and its permitted successors and assigns and upon Lessor and his successors and assigns, providing that no assignment permitted to be made by Lessee hereunder shall be binding upon Lessor until Lessor has been furnished a true or certified copy of the instrument evidencing such assignment.

23. MEMORANDUM. The parties to this Agreement agree to execute and record a Memorandum or short form of the Agreement in a form sufficient to consitute record notice to third parties of the rights granted hereunder, which may be recorded with

the appropriate County Recorder.

24. CONSTRUCTION; ENTIRE AGREEMENT. This Agreement shall be construed in accordance with the laws of the State of Arizona. The headings and subheadings used herein are for convenience only and shall not be deemed to be part of the Agreement for purposes of construction thereof. This Agreement embodies the entire agreement between the parties and may be modified in writing only.

THIS AGREEMENT, made and entered into the date first above written is hereby agreed to by both parties hereto.

LESSOR:

Dr. Philip A. Birdick

LESSEE:

RJM CORPORATION

RJM CORPORATION

By_____

EXHIBIT 'A'
PROPERTY

The lode mining claims described below make up the parcels of land defined herein as the Property. These claims are all located in Yuma County, Arizona.

PATENTED LODE MINING CLAIMS:

Name	USLM No.	Township	Range	Section
Muchobueno	1275	2S	17W	12
Homestake	1275	2S	17W	12
King of Arizona	1275	2S	17W	12
Last Hope	1275	2S	17W	12
San Carlos	2523	2S	17W	1
Frances H	2523	2S	17W	1
Nuggett	2523	2S	17W	1
St. Elmo	2523	2S	17W	1
Evelyn	2523	2S	17W	1
Commercial	2523	2S	17W	1
Commercial Addition	2523	2S	17W	1
Chicago	2523	2S	17W	1
		1S	17W	36

UNPATENTED LODE MINING CLAIMS:

Name	Township	Range	Section	Book	Page	BLM No. (AMC)
Queen of Arizona	2S	17W	12	15	561	76462
Queen of Arizona Extension	2S	17W	12	17	01	76463
Katy Ross	2S	17W	12	H	499	76466
Hub	2S	17W	12	24	95	76464
	2S	16W	7			
Gateway	2S	17W	12	24	213	76465
	2S	16W	7			

EXHIBIT B

MINIMUM WORK COMMITMENT

Lessee agrees to expend the following amounts of money on the Property as part of the Agreement. Said expenditures shall be in the form of exploration, engineering design, construction, mine development and operations.

1st Year	$50,000
2nd Year	$50,000
3rd Year	$50,000
4th Year	$100,000
5th Year	$100,000

ARIZONA DEPARTMENT OF HEALTH SERVICES

BRUCE BABBITT, Governor
LLOYD F. NOVICK, M.D., M.P.H., Director

NOTICE OF PROPOSED ACTION

by the

State of Arizona
Department of Health Services
Division of Environmental Health Services
2005 North Central Avenue
Phoenix, Arizona 85004

(602) 257-2270

RECEIVED
JUL 07 1
DEPT. OF MINES &
MINERAL RESOURCES

On Application for a Permit under the Water Pollution Control Permit System of the State of Arizona, Requirements for Facilities Affecting Groundwater Quality

The Arizona Department of Health Services (Department) is issuing the following notice of proposed action under the Arizona Compilation of Rules and Regulations (A.C.R.R.) Title 9, Chapter 20, Article 2.

The Department has received a complete application for a Groundwater Quality Protection Permit and has prepared tentative determinations regarding the permit.

On the basis of preliminary review of the requirements of A.C.R.R. Title 9, Chapter 20, Article 2 regulations, the Director proposes to issue a Groundwater Quality Protection permit to the following applicant subject to certain special and general conditions.

Public Notice No. 52-86-AZGW July 7, 1986

King of Arizona, ~~Barons Gold Inc.~~
Yuma County, Arizona
Township 2 South, Range 17 West, Section 12
Groundwater Quality Protection Permit No. G-0021-14

The applicant will operate a hydrometallurgical milling operation which will recover gold through a cyanide mill circuit with tailings being stacked by conveyor belt onto a impermeable lined pad with drainage back to mill circuit. The facility is designed with adequate overflow protection and will have a leak detection/collection system beneath the tailing pad. The facility is located approximately 25 miles southeast of Quartzsite at the base of the Kofa Mountain Range. The Closest groundwater source is over a mile away and shows depth to groundwater to be approximately 170 feet. Water will have to be trucked to facility. Monitoring of all mill solutions will be required daily.

The Administrative Record, which includes the application, draft permit conditions and other relevant documents, is available for public review Monday through Friday from 8:00 a.m. to 5:00 p.m. at the address below. A copy of the draft permit may be obtained by calling or writing to the address below. 7-24-86 SK

Persons wishing to comment upon or object to the proposed determinations or request a public hearing pursuant to A.C.R.R. Title 9-20-223.C should submit their comments or request in writing within thirty (30) days from the date of this notice, either in person or by mail to:

State of Arizona
Department of Health Services
Attn: OWWQM - Water Permits Unit
2005 North Central Avenue
Phoenix, Arizona 85004

Telephone: (602) 257-2270

All comments or objections submitted within thirty (30) days from the date of this notice will be considered in the formulation of the final determinations regarding the application. If the response to this notice indicates a significant degree of public desire for a public hearing, the Director shall hold one in accordance with A.C.R.R. Title 9-20-223.C. A public notice of such hearing will be issued at least thirty (30) days prior to the hearing. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

The Director will finalize a determination on the permit within thirty (30) days following the last date on which comments may be submitted.

Please bring the foregoing notice to the attention of all persons you know would be interested in this matter.

DKT 1742 PAGE 837

10244

State of Arizona
County of Yuma ss

I hereby certify that the within instrument was filed and recorded at the request of

Terry Kozak

Docket 1742
Page 837-846

Witness my hand and official seal the day and year aforesaid.

GLENYS E. SCHMITT
County Recorder

Deanna Kinney
Deputy Recorder

10.00
4.00
1.00

Terry K. Kozak
1325 16 St Suite #4
c/o Kiser Thompson
Yuma AZ 85364

STATE OF ARIZONA)
) ss
County of Yuma)

NOTICE AND CLAIM OF LIEN

TERRY K. KOZAK, being first duly sworn, upon oath deposes and says that:

1. I am the mine manager for KING OF ARIZONA JOINT VENTURE and I have personal knowledge of the facts hereinafter set forth.

2. TERRY K. KOZAK and MICHAEL HAROLD furnished labor for mining operations on that certain parcel of land situated in Yuma County, Arizona, and sought to be charged pursuant to A.R.S. §33-993, together with the improvements thereon, with the lien hereby claimed. The legal description for the said property is as follows:

CERTAIN PATENTED MINING CLAIMS IN SEC 1 & SEC 12 T.2S, R.17W, GSRB&M (See Exhibit A)

3. The owner or reputed owners of the above-described property are:

Philip A. Birdick

4. On March 1, 1990, TERRY K. KOZAK and MICHAEL entered into a contract with NORTH CONTINENTAL ENERGY, LTD. to manage and act as mining consultant with a copy of which attached hereto.

5. The person by whom TERRY K. KOZAK and MICHAEL HAROLD were employed or to whom they furnished materials, if not the owner or reputed owner was NORTH CONTINTENTAL ENERGY, LTD.

6. The labor, materials, machinery, fixture or tools were first furnished at the job site on March 1, 1990 to May 8, 1991, as agent for the reputed owner, pursuant to the above-described agreement. Claimant alleges upon information and belief that the labor and services on the above-described property were provided.

7. The demand of TERRY K. KOZAK and MICHAEL HAROLD for the labor and materials furnished, after deducting all just offset and credits, is $ 55,000.00 together with interest at the rate of 10% per annum from May 24, 1991, until paid.

8. TERRY K. KOZAK and MICHAEL HAROLD claim a lien upon the

above described real property and the structures and improvements thereon, and the benefits of the law of the State of Arizona relating to liens of mechanics, materialmen, laborers and others. for the sums due under the above described agreement, and for the purpose of fixing this lien, TERRY K. KOZAK and MICHAEL HAROLD have made this Notice and Claim of Lien, and deliver the original thereto to the county Recorder of Yuma County, Arizona, to be recorded as required by law, and shall cause executed duplicate originals thereof to be served upon the reputed owners, if they can be found within Yuma County, Arizona.

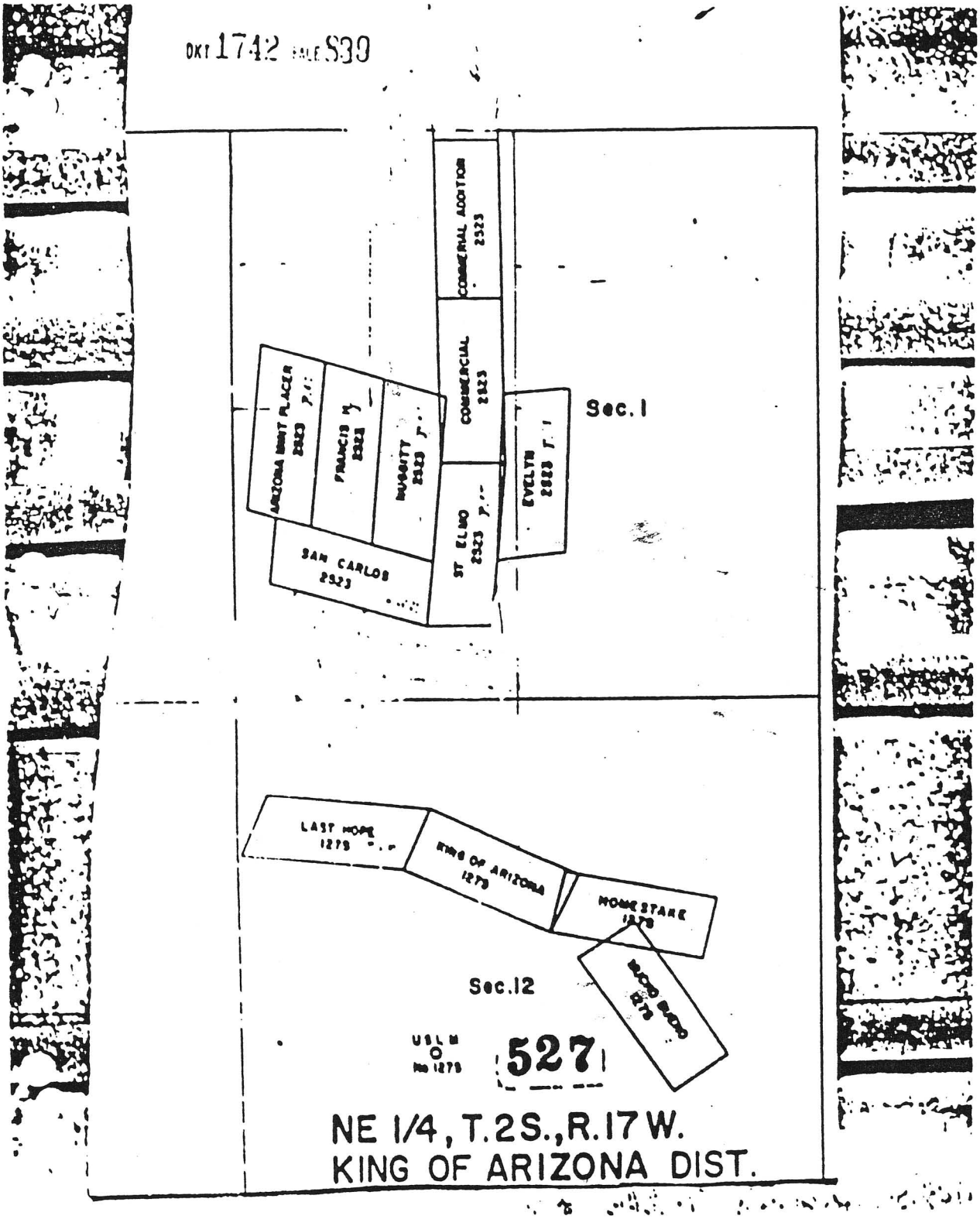
TERRY K. KOZAK

MICHAEL HAROLD

SUBSCRIBED AND SWORN to before me this 24th day of May, 1991.

Notary Public

My commission expires:


COMMERCIAL ADDITION
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FRANCIS M
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EVELYN
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SAN CARLOS
2323
Sec. 1
LAST HOPE
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KING OF ARIZONA
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HOMESTAKE
1279
MAGNOLIA
1279
Sec. 12
U.S.L.M.
No. 1279
527
NE 1/4, T.2S., R.17W.
KING OF ARIZONA DIST.

DKT 1742 PAGE 540

JOINT VENTURE AGREEMENT

THIS AGREEMENT made in duplicate and effective this 1st day of March, 1990.

BETWEEN:

NORTH CONTINENTAL ENERGY LTD., a body corporate under the laws of the Province of Alberta, with offices in the City of Lethbridge, in the Province of Alberta and registered to do business in the State of Arizona, U.S.A.

OF THE FIRST PART

- and -

KOZAK MINERALS U.S. INC., a body corporate under the laws of the State of Arizona, U.S.A., with offices in the City of Edmonton, in the Province of Alberta

OF THE SECOND PART

WHEREAS NORTH CONTINENTAL ENERGY LTD. (hereinafter referred to as "North Continental") is the Assignee of a certain Lease dated June 16th, 1984, copies of which have been circulated to all Parties hereto (which Lease is hereinafter referred to as the "Lease");

AND WHEREAS North Continental has carried on certain mining operations on the said Lease and is the owner of various items of equipment as set forth on Schedule "A" hereto;

AND WHEREAS KOZAK MINERALS U.S. INC. (hereinafter referred to as "Kozak") is the owner of certain equipment and has the rights to certain mining processes as outlined and described on Schedule "B" hereto;

AND WHEREAS the Parties wish to enter into a Joint Venture

Agreement for the purpose of mining gold and other minerals from the said Lease using the equipment and process owned by Kozak;

NOW THEREFORE, IN CONSIDERATION of the mutual covenant and conditions contained herein the Parties hereto agree as follows:

JOINT VENTURE

1. The Parties agree to enter into a Joint Venture to be known as The King of Arizona Project, effective the 1st day of March, 1990, upon the terms and conditions hereinafter set forth.

USE OF ASSETS

2. Each Party hereto agrees to contribute the use of the assets set forth in the above recitals to the use of the Joint Venture and each Party hereto represents and warrants that they have the right, title and interest in law and in equity to contribute the use of the said assets to the business of the Joint Venture free and clear of any claims or charges of any nature whatsoever except as may be expressly noted herein.

START-UP OF JOINT VENTURE

3. It is hereby agreed that, effective March 1st, 1990, Kozak shall, at their expense, provide all equipment and processes to the Lease property and shall pay all operating costs for the first sixty (60) days, at which time the equipment and process shall be set up and fully operational. All such expenses incurred by Kozak during the sixty (60) day period shall be repaid to Kozak from the revenues of the Joint Venture as set forth below and in particular, Kozak shall be entitled to SEVENTY-FIVE (75%) PERCENT of all monthly revenues of the Joint Venture until such time as the start-up costs have been repaid in full.

North Continental hereby agrees that, effective March 1st, 1990, Kozak shall have unrestricted use of the Lease and equipment. All equipment

owned by North Continental not required for the future operation of the mine shall be sold by Kozak as agent for North Continental and all proceeds of sale shall be paid to North Continental.

OWNERSHIP AND USE OF ASSETS

4. The Parties hereby agree that ownership of the assets as set forth on Schedules "A", "B" and "C" hereto shall remain the property of the Parties contributing the use of same. The Parties further agree that all assets hereafter acquired for the operation of the business of the Joint Venture shall be owned equally between the Joint Ventures and each Party to this Agreement shall be entitled to full use and enjoyment of all assets acquired for the Joint Venture provided such use is for the business and benefit of the Joint Venture.

All repairs, maintenance, fees or other costs required for the continued operation of the business of the Joint Venture, including, without limiting the generality of the foregoing, any license fees, royalties, regulatory approvals, lease payments or other charges shall be paid by the Joint Venture.

LIABILITIES

5. All Parties hereto agree that they will be liable for one-half of all indebtedness or liabilities incurred by the Joint Venture and each Party hereby agrees to indemnify the other Party to this Agreement in respect of such indebtedness or liabilities which any other Joint Venturer may pay on behalf of the Joint Venture.

SHARING OF PROFITS AND LOSSES

6. The Parties hereto agree that each year financial statements shall be prepared for the Joint Venture in accordance with generally accepted accounting principles by an accountant or accounting firm acceptable to the Joint Venturers. All revenues of every description shall be included in this financial statement and the Joint Venturers shall be responsible for payment

of all liabilities incurred in conducting the business of the Joint Venture, including all wages for labor and management. No depreciation shall be shown on the financial statements of the Joint Venture unless otherwise agreed to by all Parties hereto and, for income tax purposes, each Joint Venturer shall report and claim one-half of the income and expenses, allowances, tax credit or other similar deductions or credits in respect of the undivided one-half share of the assets of the Joint Venture owned by each particular Party. The net profit of the Joint Venture shall be shared equally among the Joint Venturers and each Party hereto covenants and agrees to contribute and pay for an equal share of all assets purchased by the Joint Venture, including any financing charges hereon.

MANAGEMENT COMMITTEE

7.1 The Parties agree that the Management Committee shall run the affairs of the Joint Venture, which committee is to be composed of Gordon Oliver, Donald Oliver, Mike Harold and Ron Mercer. The Management Committee shall conduct its affairs in the same manner as a Board of Directors and shall elect a chairman and keep minutes of its meetings. The Management Committee shall set policy and shall oversee and administer the operation of the Joint Venture Project.

MANAGEMENT

7.2 The Joint Venturers hereby agree that the initial manager of the mine shall be TERRY KOZAK. The duties and responsibility of the manager shall

- to see that books and records of the Joint Venture are maintained;
- to conduct all business relating to the day-to-day operations of the mine;
- to hire and fire all employees;
- to ensure that all matters pertaining to the proper conduct of the business of the Joint Venture are attended to; and

- to approve all expenditures on behalf of the Joint Venture, save and except that any expenditure in excess of $2,000.00 cannot be incurred without the approval of the Management Committee.

TERRY KOZAK shall be paid the sum of THREE THOUSAND ($3,000.00) DOLLARS (U.S.) per month and all expenses incurred by TERRY KOZAK in the conduct of his duties shall be reimbursed by the Joint Venture. The Management Committee may, from time to time, retain the services of Kozak Minerals U.S. INC. and North Continental for consulting and these Parties may bill the Joint Venture TWO HUNDRED ($200.00) DOLLARS (U.S.) per day plus expenses for the services provided. It is the intention of the Parties that MICHAEL HAROLD and GORDON OLIVER will be the actual individuals representing the Parties as consultants.

ACCOUNTING

7.3 The Joint Venture accounting shall be done by an Accounting Firm acceptable to the Management Committee, initially by Roger Thompson, CPA, with the supervision of the Management Committee. The duties of the Accountants shall include payroll, cash receipts and banking, Accounts Payable, tax returns, lease payments and royalty payments.

WORKING CAPITAL

8. The Joint Venture will retain, from revenues, sufficient cash to cover current operating costs and an additional TWENTY THOUSAND ($20,000.00) DOLLARS to be held in reserve for contingencies. This reserve shall be established from the revenues of the Joint Venture arising after the repayment of the start-up costs to Kozak have been repaid.

LIMITATION ON AUTHORITY

9. Unless unanimously agreed, no Party of this Agreement shall commit the Joint Venture to make any capital expenditure or incur any liability in excess of TWO THOUSAND ($2,000.00) DOLLARS (U.S.) unless such contract or liability is required on any emergency basis in order to provide for the day-to-day operations of the Joint Venture business. Any Party who

wrongfully exceeds this authority shall, unless the actions have been ratified by the other Party hereto, be responsible for any contract or liability improperly incurred.

CONFIDENTIALITY

10. The Parties hereto covenant and agree that the business of the Joint Venture between the Parties is to be conducted on the basis of utmost good faith and each Party shall keep all matters relating to the operation of the business of the Joint Venture, save and except for any public disclosures required by law, including all details concerning the Lease and processes used in the business of the Joint Venture, absolutely confidential between the Parties hereto and further agree that they will, on request, provide specific agreements respecting confidentiality and secrecy upon the request of the other Party in the form attached as Schedule "C".

TERMINATION OF THE JOINT VENTURE

11. The Joint Venture shall continue for an indefinite period of time and shall only be terminated upon the following events:

(a) Mutual consent of the Parties hereto;

(b) The expiration or termination of the lease; or

(c) In the event that either Party hereto becomes bankrupt or is liquidated or dissolved.

ASSIGNMENT

12. The Parties hereby acknowledge that they are both Canadian Corporations and it is specifically agreed that either Corporation may, at its option, assign its interests as a Joint Venturer to a wholly owned subsidiary of that Party, provided that such assignment shall not relieve the Assignor of any rights and obligations arising to or from the other Party pursuant to the terms of this Agreement. Save as specifically provided herein, no sale or

assignment of either Parties Joint Venture interest shall be permitted without the consent of the other Party hereto.

AREA OF MUTUAL INTEREST

13. The Parties agree that Yuma County, in the State of Arizona, U.S.A., shall constitute an area of mutual interest between the Joint Venturers. Either Party acquiring any interest in any property in this area shall offer FIFTY (50%) PERCENT interest in that property to the other party. The Agreement respecting the area of mutual interest shall be for a period of five (5) years or one (1) year after termination of this Agreement, which ever date shall occur last.

APPLICABLE LAW

14. This Agreement shall be governed by the laws of the Province of Alberta and the Parties hereto attorn to the jurisdiction of the Courts of the Province of Alberta.

HEADINGS

15. The heading in this Agreement are convenience only and shall not be construed to effect the meanings of the sections so headed.

NOTICE

16. Any notice, direction or other instrument provided to one Party in the conduct of the Joint Venture business may be given by delivering same or mailing same, by registered mail or by sending same by telegram, telex, telecommunications device or other similar form of communication to the head office of the Parties herto.

IN WITNESS WHEREOF the Parties hereto have executed this Agreement under the Corporate Seal by the duly authorized Officer in that regard this 11 day of MAY, A.D. 1990.

NORTH CONTINENTAL ENERGY LTD.

PER: _____

PER: _____

KOZAK MINERALS U.S. INC.

PER: _____

rec'd
5-21-90

JOINT VENTURE AGREEMENT

THIS AGREEMENT made in duplicate and effective this 1st day of March, 1990.

BETWEEN:

NORTH CONTINENTAL ENERGY LTD., a body corporate under the laws of the Province of Alberta, with offices in the City of Lethbridge, in the Province of Alberta and registered to do business in the State of Arizona, U.S.A.

OF THE FIRST PART

- and -

KOZAK MINERALS U.S. INC., a body corporate under the laws of the State of Arizona, U.S.A., with offices in the City of Edmonton, in the Province of Alberta

OF THE SECOND PART

WHEREAS NORTH CONTINENTAL ENERGY LTD. (hereinafter referred to as "North Continental") is the Assignee of a certain Lease dated June 16th, 1984, copies of which have been circulated to all Parties hereto (which Lease is hereinafter referred to as the "Lease");

AND WHEREAS North Continental has carried on certain mining operations on the said Lease and is the owner of various items of equipment as set forth on Schedule "A" hereto;

AND WHEREAS KOZAK MINERALS U.S. INC. (hereinafter referred to as "Kozak") is the owner of certain equipment and has the rights to certain mining processes as outlined and described on Schedule "B" hereto;

AND WHEREAS the Parties wish to enter into a Joint Venture

Agreement for the purpose of mining gold and other minerals from the said Lease using the equipment and process owned by Kozak;

NOW THEREFORE, IN CONSIDERATION of the mutual covenant and conditions contained herein the Parties hereto agree as follows:

JOINT VENTURE

1. The Parties agree to enter into a Joint Venture to be known as The King of Arizona Project, effective the 1st day of March, 1990, upon the terms and conditions hereinafter set forth.

USE OF ASSETS

2. Each Party hereto agrees to contribute the use of the assets set forth in the above recitals to the use of the Joint Venture and each Party hereto represents and warrants that they have the right, title and interest in law and in equity to contribute the use of the said assets to the business of the Joint Venture free and clear of any claims or charges of any nature whatsoever except as may be expressly noted herein.

START-UP OF JOINT VENTURE

3. It is hereby agreed that, effective March 1st, 1990, Kozak shall, at their expense, provide all equipment and processes to the Lease property and shall pay all operating costs for the first sixty (60) days, at which time the equipment and process shall be set up and fully operational. All such expenses incurred by Kozak during the sixty (60) day period shall be repaid to Kozak from the revenues of the Joint Venture as set forth below and in particular, Kozak shall be entitled to SEVENTY-FIVE (75%) PERCENT of all monthly revenues of the Joint Venture until such time as the start-up costs have been repaid in full.

North Continental hereby agrees that, effective March 1st, 1990, Kozak shall have unrestricted use of the Lease and equipment. All equipment

owned by North Continental not required for the future operation of the mine shall be sold by Kozak as agent for North Continental and all proceeds of sale shall be paid to North Continental.

OWNERSHIP AND USE OF ASSETS

4. The Parties hereby agree that ownership of the assets as set forth on Schedules "A", "B" and "C" hereto shall remain the property of the Parties contributing the use of same. The Parties further agree that all assets hereafter acquired for the operation of the business of the Joint Venture shall be owned equally between the Joint Ventures and each Party to this Agreement shall be entitled to full use and enjoyment of all assets acquired for the Joint Venture provided such use is for the business and benefit of the Joint Venture.

All repairs, maintenance, fees or other costs required for the continued operation of the business of the Joint Venture, including, without limiting the generality of the foregoing, any license fees, royalties, regulatory approvals, lease payments or other charges shall be paid by the Joint Venture.

LIABILITIES

5. All Parties hereto agree that they will be liable for one-half of all indebtedness or liabilities incurred by the Joint Venture and each Party hereby agrees to indemnify the other Party to this Agreement in respect of such indebtedness or liabilities which any other Joint Venturer may pay on behalf of the Joint Venture.

SHARING OF PROFITS AND LOSSES

6. The Parties hereto agree that each year financial statements shall be prepared for the Joint Venture in accordance with generally accepted accounting principles by an accountant or accounting firm acceptable to the Joint Venturers. All revenues of every description shall be included in this financial statement and the Joint Venturers shall be responsible for payment

of all liabilities incurred in conducting the business of the Joint Venture, including all wages for labor and management. No depreciation shall be shown on the financial statements of the Joint Venture unless otherwise agreed to by all Parties hereto and, for income tax purposes, each Joint Venturer shall report and claim one-half of the income and expenses, allowances, tax credit or other similar deductions or credits in respect of the undivided one-half share of the assets of the Joint Venture owned by each particular Party. The net profit of the Joint Venture shall be shared equally among the Joint Venturers and each Party hereto covenants and agrees to contribute and pay for an equal share of all assets purchased by the Joint Venture, including any financing charges hereon.

MANAGEMENT COMMITTEE

7.1 The Parties agree that the Management Committee shall run the affairs of the Joint Venture, which committee is to be composed of Gordon Oliver, Donald Oliver, Mike Harold and Ron Mercer. The Management Committee shall conduct its affairs in the same manner as a Board of Directors and shall elect a chairman and keep minutes of its meetings. The Management Committee shall set policy and shall oversee and administer the operation of the Joint Venture Project.

MANAGEMENT

7.2 The Joint Venturers hereby agree that the initial manager of the mine shall be TERRY KOZAK. The duties and responsibility of the manager shall be:

- to see that books and records of the Joint Venture are maintained;
- to conduct all business relating to the day-to-day operations of the mine;
- to hire and fire all employees;
- to ensure that all matters pertaining to the proper conduct of the business of the Joint Venture are attended to; and

- to approve all expenditures on behalf of the Joint Venture, save and except that any expenditure in excess of $2,000.00 cannot be incurred without the approval of the Management Committee.

TERRY KOZAK shall be paid the sum of THREE THOUSAND ($3,000.00) DOLLARS (U.S.) per month and all expenses incurred by TERRY KOZAK in the conduct of his duties shall be reimbursed by the Joint Venture. The Management Committee may, from time to time, retain the services of Kozak Minerals U.S. INC. and North Continental for consulting and these Parties may bill the Joint Venture TWO HUNDRED ($200.00) DOLLARS (U.S.) per day plus expenses for the services provided. It is the intention of the Parties that MICHAEL HAROLD and GORDON OLIVER will be the actual individuals representing the Parties as consultants.

ACCOUNTING

7.3 The Joint Venture accounting shall be done by an Accounting Firm acceptable to the Management Committee, initially by Roger Thompson, CPA, with the supervision of the Management Committee. The duties of the Accountants shall include payroll, cash receipts and banking, Accounts Payable, tax returns, lease payments and royalty payments.

WORKING CAPITAL

8. The Joint Venture will retain, from revenues, sufficient cash to cover current operating costs and an additional TWENTY THOUSAND ($20,000.00) DOLLARS to be held in reserve for contingencies. This reserve shall be established from the revenues of the Joint Venture arising after the repayment of the start-up costs to Kozak have been repaid.

LIMITATION ON AUTHORITY

9. Unless unanimously agreed, no Party of this Agreement shall commit the Joint Venture to make any capital expenditure or incur any liability in excess of TWO THOUSAND ($2,000.00) DOLLARS (U.S.) unless such contract or liability is required on any emergency basis in order to provide for the day-to-day operations of the Joint Venture business. Any Party who

wrongfully exceeds this authority shall, unless the actions have been ratified by the other Party hereto, be responsible for any contract or liability improperly incurred.

CONFIDENTIALITY

10. The Parties hereto covenant and agree that the business of the Joint Venture between the Parties is to be conducted on the basis of utmost good faith and each Party shall keep all matters relating to the operation of the business of the Joint Venture, save and except for any public disclosures required by law, including all details concerning the Lease and processes used in the business of the Joint Venture, absolutely confidential between the Parties hereto and further agree that they will, on request, provide specific agreements respecting confidentiality and secrecy upon the request of the other Party in the form attached as Schedule "C".

TERMINATION OF THE JOINT VENTURE

11. The Joint Venture shall continue for an indefinite period of time and shall only be terminated upon the following events:

(a) Mutual consent of the Parties hereto;

(b) The expiration or termination of the lease; or

(c) In the event that either Party hereto becomes bankrupt or is liquidated or dissolved.

ASSIGNMENT

12. The Parties hereby acknowledge that they are both Canadian Corporations and it is specifically agreed that either Corporation may, at its option, assign its interests as a Joint Venturer to a wholly owned subsidiary of that Party, provided that such assignment shall not relieve the Assignor of any rights and obligations arising to or from the other Party pursuant to the terms of this Agreement. Save as specifically provided herein, no sale or

assignment of either Parties Joint Venture interest shall be permitted without the consent of the other Party hereto.

AREA OF MUTUAL INTEREST

13. The Parties agree that Yuma County, in the State of Arizona, U.S.A., shall constitute an area of mutual interest between the Joint Venturers. Either Party acquiring any interest in any property in this area shall offer FIFTY (50%) PERCENT interest in that property to the other party. The Agreement respecting the area of mutual interest shall be for a period of five (5) years or one (1) year after termination of this Agreement, which ever date shall occur last.

APPLICABLE LAW

14. This Agreement shall be governed by the laws of the Province of Alberta and the Parties hereto attorn to the jurisdiction of the Courts of the Province of Alberta.

HEADINGS

15. The heading in this Agreement are convenience only and shall not be construed to effect the meanings of the sections so headed.

NOTICE

16. Any notice, direction or other instrument provided to one Party in the conduct of the Joint Venture business may be given by delivering same or mailing same, by registered mail or by sending same by telegram, telex, telecommunications device or other similar form of communication to the head office of the Parties herto.

IN WITNESS WHEREOF the Parties hereto have executed this Agreement under the Corporate Seal by the duly authorized Officer in that regard this 11 day of MAY, A.D. 1990.

NORTH CONTINENTAL ENERGY LTD.

PER: _____

PER: _____

KOZAK MINERALS U.S. INC.

PER: _____

SCHEDULE "A"

to Joint Venture Agreement between
NORTH CONTINENTAL ENERGY LTD. and
KOZAK MINERALS U.S. INC.
effective March 1, 1990

EQUIPMENT (needed)

4 Travel Trailers
6 Trucks:
- Toyota 1/2 Ton
- Ford 1 Ton Dual
- Chev. 3 Ton Tanker
- Mack Dump Truck
- Chev 1/2 Ton
- Studebaker with Welders

1 Aveling-Barford Loader
1 AC Road Grader
1 Electrical Trailer & Lab
3 Storage Trailers
1 Rake Agitator
1 Eimco Clarifier
Various Water & Fuel Tanks, pipe lines, valves, plumbing and water well equipment
1 D6 Cat (not working)
3 50 KW Generators
1 Feeder & Hopper
3 Conveyors
2 Magnetic Feeders
2 Small Hoppers
1 Steel Frame Building with Tarp
Miscellaneous pumps, motors, tools and electrical supplies

SCHEDULE "A" (Cont.)

to Joint Venture Agreement between
NORTH CONTINENTAL ENERGY LTD. and
KOZAK MINERALS U.S. INC.
effective March 1, 1990

EQUIPMENT (to be sold)

1 250 KW Generator (Caterpillar)
1 Eimco Belt Filter & Vacuum Pump
2 Small Generators 20, 30 KW
1 Conveyor Stacker
1 100ft. Conveyor
1 Electrolytic Cell
1 Carbon Stripper
2 Ton Used Carbon
Cyanide (new)
Cement (new)
1 Atomic Absorption (Assay Machine)
1 Agglomerator

CONSENT TO PROPOSED ASSIGNMENT AND MODIFICATION OF LEASE

DR. PHILIP A. BIRDICK, Lessor of those properties in the Kofa Mining District, under lease to BASIC GOLD, INC., Lessee, pursuant to a mining lease dated June 16, 1984, does hereby agree as follows:

1. DR. PHILIP A. BIRDICK hereby consents to the proposed assignment of said lease wherein BASIC GOLD, INC., A Nevada corporation, the name of which has been changed to Henrie-Lee Mining, Inc., will be the Assignor and HOWARD H.H. OLIVER, an individual residing in Lethbridge, Alberta, Canada, and THOMAS A. HENRIE, an individual residing in Orem, Utah, will be the Assignees. It is contemplated and agreed that Oliver and Henrie may, at such time as they determine appropriate, assign their interest in the lease as Assignees to a corporation yet to be formed in the State of Utah.

2. It is understood that DR. PHILIP A. BIRDICK shall be responsible for the assay and certification of all option or royalty payments made in gold at his own expense.

3. With the exception of the foregoing, the lease shall remain unchanged, it being understood that there are no oral representations or modifications not contained in the written document.

DATED this 7th day of Nov., 1985.

Philip A. Birdick
DR. PHILIP A. BIRDICK

STATE OF ARIZONA)
: ss.
COUNTY OF YUMA)

The foregoing instrument was acknowledged before me this 7th day of November, 1985, by Dr. Philip A. Birdick.

Elaine M. Mastnick
NOTARY PUBLIC

My Commission Expires:
December 10, 1986

Residing At:
Yuma, Arizona

ASSIGNMENT OF MINING LEASE

ASSIGNMENT of that certain Mining Lease concerning properties in the Kofa Mining District, State of Arizona, dated June 16, 1984 (hereafter the "Lease") from Basic Gold, Inc., a Nevada corporation, the name of which has been changed to Henrie-Lee Mining, Inc., (hereafter the "Assignor") to Howard H.H. Oliver, an individual residing in Lethbridge, Alberta, Canada, and Thomas A. Henrie, an individual residing in Orem, Utah (hereafter collectively referred to as "Assignee").

RECITALS:

A. Assignor is the "Lessee" under the lease dated June 16, 1984, wherein Dr. Philip Birdick leased the mining claims set forth and described in the Lease. A copy of the Lease is attached hereto as Exhibit "A", and the terms and conditions thereof are incorporated herein by this reference.

B. Assignee is desirous of acquiring the right title and interest of Assignor in and to the Lease.

C. The parties have agreed to the assignment by Assignor of its right, title and interest under the Lease to Assignee pursuant to the terms and conditions set forth herein.

AGREEMENT:

In consideration of these presents and the mutual promises and performances of the parties hereto, it is agreed as follows:

1. Assignment. Assignor hereby assigns its right, title and interest as Lessee under the Lease to Assignee, an undivided Seventy-Five Percent (75%) as to Howard H.H. Oliver and an undivided Twenty-Five Percent (25%) as to Thomas A. Henrie, who jointly comprise the Assignee.

2. Consideration. The consideration for the Assignment by Assignor of its interest in the Lease is as follows:

   a. Delivery of possession and title to Assignor of the 1981 Toyota pick-up presently in use by the Assignor.

   b. Payment of FIVE THOUSAND DOLLARS ($5,000.00) on the following schedule:

      (1) Five Hundred Dollars ($500.00) on the date of execution hereof.
      (2) Four Thousand Five Hundred Dollars ($4,500.00) within fifteen days of the execution hereof.

   c. Recission, cancellation and termination by Thomas A. Henrie of such stock transfer agreements or obligations as may be owed by the Assignor in favor of Henrie.

   d. Delivery by Thomas A. Henrie of a letter of resignation whereby Henrie withdraws as president of Assignor.

3. Royalty. In addition to the consideration outlined above in paragraph 2, Assignee shall also pay a royalty payment on or before November 1 of 1986 and each succeeding November 1 that the Assignee continues under the Lease pursuant to the following schedule. Assignee shall pay the royalty percentage amounts as set forth below, of the lesser of the "net smelter returns" or "sale price received" for ores extracted from the subject mining property by Assignee and shipped, smelted or otherwise disposed of, either in the form of direct smelting ores or concentrates to a smelter or sold as a refined metal product, other than to a smelter.

"Net smelter returns" and "sales prices" are defined as set forth in paragraph 3(b) of the Lease (see pp. 3 and 4 of the Lease).

a. Tailings Production (Tailings residue from "King of Arizona" mining operation):

Name	Royalty
(1) Vernon Estes . . . . . 225 Main Street P.O. Box 149 Canon City, CO 81212	One Half of One Percent Royalty
(2) Gary M. Lee . . . . . 445 East 200 South Suite 300 Salt Lake City, UT 84111	One Percent Royalty
(3) John J. Trepanowski . . . 6567 South Cyclamen Way West Jordan, UT 84084	One Percent Royalty
(4) Sandra Lausen . . . . . 516 Hawthorne Ave. Salt Lake City, UT	One Percent Royalty

b. Hardrock Production (All other ores and dumps):

Name	Royalty
(1) Vernon Estes . . . . . 225 Main Street P.O. Box 149 Canon City, CO 81212	One Half of One Percent Royalty
(2) Lee/Trepanowski/Lausen. . jointly (See above for addresses)	One Half of One Percent Royalty

4. Termination/Assignment. In the event Assignee has not commenced development of the Hardrock deposits on the subject property before the expiration of five (5) years from the date of execution hereof, the Assignee shall assign its interests under the Lease back to Assignor, its successors or assign and Assignor will assume the full obligation thereunder.

5. Representations and Warranties. Assignor hereby represents and warrants that Dr. Philip Birdick has consented to this assignment; Assignor represents and warrants that it has not by its actions or negligence encumbered or caused to be encumbered the property interest which is the subject of the Lease; Assignor represents and warrants that the Lease is in full force and effect and that there exists no default or defense to enforcement thereunder;** Assignor further represents and warrants that it is authorized to enter into this assignment with Assignee and that the execution hereof by Gary M. Lee is at the direction of the Board of Directors of the Assignor and is binding upon the Assignor, its officers, directors and shareholders. Assignor hereby indemnifies and holds Assignee harmless against any loss, damage, expense, or cause of action which may arise by virtue of a breach of these representations and warranties.

6. Inspection. The Assignor, through a duly authorized representative, shall have the right to enter upon the property which is the subject of the Lease, to inspect the same at any time during the life of the Lease, at its risk. Assignor shall also have the right, upon five (5) days prior written notice, to inspect the records of Assignee insofar as they relate to shipments of ores or any mineral products derived from the property which is the subject of the Lease.

7. Termination of Lease. In the event the Lease is terminated for any reason, including the exercise of the Purchase Option set forth in paragraph 17 of the Lease, Assignee

**A notice of default for failure to pay the full lease payment has been issued by Dr. Philip Birdick concerning the Lease. Upon receipt by the Assignee of the executed Consent to Assignment, Assignee shall cure said default by payment of $16,800.00 to Dr. Birdick.

shall have no further obligation whatever to Assignor or to the recipients of royalty payments.

8. Memorandum of Assignment. The parties hereto agree to execute within fifteen (15) days of the execution hereof, a short form memorandum, in recordable form, sufficient to put third parties on notice of the transfer of interest from Assignor to Assignee.

9. Miscellaneous.

   a. This agreement shall be construed in accordance with the Laws of the State of Utah.

   b. In the event of default hereunder, the defaulting party shall pay all costs of enforcement by the non-defaulting party, including a reasonable attorney's fee.

   c. This agreement embodies the entire agreement between the parties and may be modified in writing only, signed by both parties.

THIS AGREEMENT, made and entered into this 29th day of October, 1985.

ASSIGNOR:

HENRIE-LEE MINING, INC.
(formerly BASIC GOLD, INC.) a
Nevada corporation

by G M Lee
Gary M. Lee
Its Vice-President

ASSIGNEE:

Howard H H Oliver
HOWARD H.H. OLIVER

Thomas A Henrie
THOMAS A. HENRIE

CORPORATE ACKNOWLEDGEMENT

STATE OF UTAH)
: ss.
COUNTY OF SALT LAKE)

On the 29th day of October, 1985, personally appeared before me GARY M. LEE, who being duly sworn did say that he is the Vice-President of HENRIE-LEE MINING, INC. (formerly BASIC GOLD, INC.), a Nevada corporation, the corporation that executed the above and foregoing instrument, and that said instrument was signed in behalf of said corporation by authority of a resolution of its board of directors and said GARY M. LEE acknowledged to me that said corporation executed the same.

Carol Jean Metcalf
NOTARY PUBLIC

My Commission Expires:
~~4-20-85~~
9-10-89

Residing At:
~~Orem~~, Utah.
Salt Lake City

STATE OF UTAH)
: ss.
COUNTY OF SALT LAKE)

The foregoing instrument was acknowledged before me this 29th day of October, 1985, by THOMAS A. HENRIE.

Carol Jean Metcalf
NOTARY PUBLIC

My Commission Expires:
9-10-89

Residing At:
Salt Lake City, Utah

STATE OF Arizona)
: ss.
COUNTY OF Maricopa)

The foregoing instrument was acknowledged before me this 6th day of November, 1985, by Howard H.H. Oliver.

O. L. McCall
NOTARY PUBLIC

My Commission Expires:
My Commission Expires Sept 15, 1988

Residing At:
Mesa Az

EXHIBIT "A"

MINING LEASE

THIS LEASE, made and entered into this 16th day of June, 1984 by and between Dr. Philip A. Birdick (hereinafter referred to as LESSOR) and BASIC GOLD, INC., a Nevada Corporation which shall become qualified to transact business in the State of Arizona (hereinafter referred to as LESSEE).

WITNESSETH:

WHEREAS, the LESSOR owns the property hereinafter described and LESSEE desires to lease the same from the LESSOR for mining purposes, and the LESSOR is willing to lease said premises to LESSEE on the terms and conditions hereinafter set forth:

NOW, THEREFORE, for and in consideration of the mutual covenants, promises and conditions hereinafter set forth, the LESSOR has given and granted, and by these presents hereby does give and grant to the LESSEE the right and privilege to mine and remove minerals from the premises hereinafter described upon the following terms and conditions, to wit:

1. DESCRIPTION OF PROPERTY: LESSOR represents that he is the owner of the lode mining claims, a full description of which appears in Exhibit A attached hereto and by this reference made a part hereof, which claims are hereinafter referred to as "Property", together with all water, water rights, and other rights appurtenant to said Property, or held, owned or used in connection therewith, and the right to use the same either on or off of said Property. All dumps and tailings located on the premises shall be deemed part of the Property.

2. POSSESSION - OPERATION: The LESSEE is entitled to take possession of said premises to the extent necessary for the purpose of this lease, and to explore, sample and operate the same, and extract and ship ores therefrom, to extract by metallurgical means, subject to the conditions herein set forth, from and after the effective date of this lease.

The LESSEE may erect, construct, maintain, use and operate thereon and therein, buildings, structures, machinery and equipment. The nature, location and extent of such mining or mining operations, and the cessation and resumption thereof, shall be at the sole discretion of LESSEE.

LESSEE shall also have the right to use any of the personal property located on the premises in constructing the plants contemplated herein and in connection with mining operations. LESSEE will maintain said property in its present state of repair less ordinary wear and tear.

All work done upon said premises by the LESSEE shall be done in a good and workmanlike manner and after the manner of good mining and shall comply with all laws, rules, and regulations or orders of any local, state or federal agency. All workings where necessary or required by law or rules, regulations or orders of any state or federal agency, or where directed by the State Mine Inspector or his deputy, shall be timbered properly and substantially, and all safety requirements and precautions shall be observed. All mine openings shall be kept clear of obstruction and in a condition so that they can be entered, except such openings as are not necessary for the future conduct of mining operations on the premises.

3. TERM OF LEASE: The term of this lease, unless sooner forfeited, cancelled, terminated or surrendered, shall be ten (10) years, provided that so long as, in the judgment of the LESSEE, minerals can be produced from said property, under the provisions of this Agreement, LESSEE is granted the right to renew the lease for five (5) successive ten (10) year periods by filing a notice of such renewal in the office of the Yuma County Recorder no less than six months prior to each termination with a copy of said notice of renewal being mailed to the LESSOR by certified mail; provided, however, if LESSOR has not received a copy of said renewal notice within 30 days following the date this renewal is to be filed, LESSOR shall have 60 days to notify, by certified mail, that such notice of renewal has not been received. LESSEE then shall, within 30 days, properly file said notice of renewal

and furnish LESSOR with a copy of same or this lease will terminate, as provided, at the end of the current ten (10) year lease period.

(a) Throughout the term of this lease, the LESSOR reserves and the LESSEE agrees to pay a royalty as a rental for the use and possession of the Property as follows:

i. At the time of signing of this agreement, LESSEE shall pay to LESSOR the sum of Ten Thousand Dollars ($10,000.00), receipt of which is hereby acknowledged.

ii. Six months after the signing of this document, or no later than December 16, 1984, LESSEE shall pay to LESSOR the Sum of Ten Thousand Dollars ($10,000.00).

iii. On the 15th of June, 1985 and on the 15th of June, 1986, the LESSEE shall pay to the LESSOR the sum of Twenty Thousand Dollars ($20,000.00).

iv. On or before June 15th of each year thereafter for the term of the Lease, LESSEE shall pay to LESSOR the sum of Twenty Thousand Dollars ($20,000.00) plus an amount equal to the settlement price of One Troy Ounce of gold as quoted on the New York Commodities Exchange on the anniversary date of each year of the lease beginning on the third anniversary.

v. LESSEE shall pay an amount equal to Five Percent (5%) of the net smelter returns or sale price received for ores extracted from said mining property by LESSEE and shipped, smelted or otherwise disposed of, either in the form of direct smelting ores or concentrates to a smelter or sold as a refined metal product, other than to a smelter, less the amounts paid in that year as minimum royalties under articles i, ii, iii, and iv.

(b) "Net smelter returns: and "Sales prices" defined;

Net smelter returns within the meaning of this lease shall be the correct returns as shown by the liquidation sheets furnished by the smelter treating such ores or any mineral concentrates or precipitates after such smelter shall have made its deduction for handling and switching charges, treatment and usual smelting deductions.

Sale price within the meaning of this lease shall be the purchase price paid or actual amount for which any refined metal product is sold, less a deduction as follows: There shall be deducted from the sale price the charge for refining and freight to the refinery of the mineral product shipped from the upgrading or milling facility to the refinery for final processing.

In arriving at the net smelter returns or sale price, no deduction shall be made for hauling or any other charge of whatsoever character except as hereinabove expressly provided. The deduction and payment of royalties based on net smelter returns shall be governed by smelter values per dry ton of ores of 2,000 pounds each.

(c) SETTLEMENTS: In the event that the ores or concentrates or precipitates therefrom shall be disposed of to a smelter, the smelter treating such ores shall be instructed to remit to the LESSOR, at P. O. Box 231, Yuma, Arizona 85364, the royalties hereinabove provided based on net smelter returns as above defined due from LESSEE on account of ores, concentrates or precipitates smelted and purchased by said smelter. Such remittance, accompanied by a liquidation sheet for each lot number of shipments shall be made from week to week from month to month, but not more than forty (40) days apart as may be agreed upon by the parties hereto and the smelter.

LESSEE shall pay in cash or, at the option of LESSOR, in kind the royalties hereinabove provided based on sale price as above set forth and such remittance, accompanied by a statement containing full and complete information regarding all ores produced from the property and further treated during the preceding month, including the quantities of ore removed and processed, the amount and grade of the products derived therefrom, and the selling price of the refined metal after deduction of refining and transportation costs, shall be made within 15 days of settlement of a sale.

(d) All royalty payments shall be considered as partial payment of the option price quoted in Article 17. When, at the option of LESSOR, payments are made in dollars, the amounts shall be converted to ounces of gold based on the settlement price for gold on the New York Commodities Exchange on the date of payment

of the royalty.

5. ASSESSMENT WORK: For each year that this agreement shall remain in effect LESSEE shall do all assessment work on the unpatented claims of the Property on or before the first day of September of each year and shall file an affidavit of improvements made and labor performed upon said property in the office of the County Recorder in Yuma and the BLM in Phoenix, and otherwise fulfill all requirements for maintaining the claims.

6. TAXES: During the continuance of this lease, LESSEE, at its own cost and expense, shall pay punctually before the same become delinquent, all taxes of any kind (other than taxes on or measured by income or profits of LESSOR) levied or assessed upon or against the land and any machinery, equipment, or improvements, now or hereafter placed upon said premises, together with all production taxes, severance taxes, privilege sales taxes or similar taxes now or hereafter levied by the State of Arizona or California, or any subdivision thereof, or the Federal Government on ores, concentrates, and minerals produced or shipped from said premises by or on behalf of LESSEE, including any interest or penalty in connection therewith; provided, however, that LESSEE shall be under no obligation to pay any such taxes so long as such taxes are being contested in good faith by appropriate legal proceedings and the nonpayment thereof does not adversely affect LESSOR. All taxes assessed for 1984 by the Yuma County Treasurer's Office will be paid by the LESSEE. Succeeding years taxes will also be paid by the LESSEE as long as the lease is in effect.

In the case of taxes for the calendar year in which this lease may be terminated, if said property is being taxed as a producing mine because of LESSEE's production therefrom, LESSEE shall bear the ad valorem taxes thereon for the entire calendar year, notwithstanding a part of the calendar year is not included in this lease. The LESSOR shall in no event be responsible for any portion of any taxes on machinery, equipment or improvements placed upon the premises herein described by LESSEE, unless such machinery, equipment or improvements shall be left upon the said premises and shall inure to the benefit of the LESSOR.

7. SECURITY: LESSEE shall provide security to the property at all times, a minimum requirement of which shall be the placement on the premises of one security person, to be a full time guard.

On days when the regular watch person is temporarilty not on duty, the requirement of Security may be met by the presence of John and/or Dianne Tillotson on the premises. The Tillotson's use of the hilltop residence may continue throught this lease so long as it does not interfere with mining operations, and in such event thirty (30) day notice must be given by LESSEE.

8. MACHINERY REMOVAL: All machinery, equipment and personal property, together with all improvements (including houses and other structures) which may be or have been placed on said mining property by and at the expense of the LESSEE may be removed by LESSEE at any time within thirty (30) days after the termination of this lease; provided, however, (a) that such right or removal shall not extend to replacements of other property now in or on said mining property, or to headframes, or to ladders, timbers, ties, or tracks in place underground; (b) that no such property shall be removed at any time while the LESSEE may be in default under any of the terms or provisions of this lease; (c) the removal shall be effected in such manner as to avoid injury or damage to the mine and improvements that are to remain thereon. Personal property left more than six months after the termination shall become the property of the LESSOR.

9. INSURANCE CERTIFICATES: LESSEE will obtain and continue in full force and effect during the term of this Agreement, at its own expense, all insurance specified below. Each insurance policy to be obtained by LESSEE hereunder shall provide that the policy shall not be cancelled or changed without thirty (30) days prior written notice by certified mail, given by the insurance company to LESSOR at the address set forth in Article 16 of this Agreement. The insurance to be obtained and continued in force by LESSEE shall be the following:

(a) Worker's Compensation and Occupational Disease Disability Insurance as required by the laws of the State of Arizona.

(b) Employer's Liability Insurance, with a minimum coverage of $100,000.00.

(c) Comprehensive Automobile Liability Insurance with coverages of not less than Bodily Injury limits of $100,000.00 each person and $300,00.00 each accident, and Property Damage with a limit not less than $25,000.00 each accident.

(d) Comprehensive General Liability and Property Damage Insurance including Operations, Protective and Contractural Liability coverages of not less than Bodily Injury limits of $250,000.00 each person and $1,000,000.00 each occurrence, and Property Damage limits of $50,000 each occurrence and $100,000.00 aggregate operations, $200,000 aggregate Protective and $100,000.00 aggregate Contractual.

(e) LESSOR shall be included as an additional insured on all insurance policies set forth in (d) above, and the insurance company issuing this policy waives any right of contribution which it may have against any other insurance carried by LESSOR.

10. LIENS: The LESSEE shall not incur any debts or liens against said property or against any part thereof during the life of this lease, and shall indemnify and save harmless the LESSOR against all claims by miners, laborers and other persons who may labor or furnish materials on or for said premises during the life of this lease, and to whom any sum may be due from the LESSEE for labor or materials. All such sums which are not legitimately in dispute shall be promptly paid by the LESSEE.

11. LIABILITY FOR INJURIES: The LESSEE hereby assumes any and all liabilities arising or to arise from accidents or injuries to its agents or employees, or any other person in or about the premises while the same are in the possession of the lease, except as to those persons who are on the premises with the authorization of the LESSOR, and the LESSOR shall be indemnified against any liability or responsibility for or on account of any such injuries, it being understood that hazard of all such liability or liabilities is taken into consideration under this lease.

12. INSPECTION: The LESSOR, through any duly authorized representative, shall have the right to enter upon said premises, or any part thereof, and to inspect the same at any time during the life of this lease, at its risk, and shall have the right to inspect the records of the LESSEE insofar as the same cover or

relate to shipments of ores or any mineral products derived from the premises, at any reasonable time, but without unreasonable inconvenience to the LESSEE.

13. REPORT AND MAPS: The LESSEE shall keep complete maps, photos, surveys, assays, geological reports and records of all work carried on by the LESSEE. In case of termination of the Lease, LESSEE will surrender copies of all such documents to LESSOR at termination.

14. DEFAULT: In the event the LESSEE shall make default in any of the terms or provisions hereinabove contained, then the LESSOR may terminate this lease upon thirty (30) days' notice to the LESSEE of its intention to declare this lease at an end. If the LESSEE shall fail within the said thirty (30) days to correct and make good any violations of the terms and provisions of this lease on account of which such notice of default has been given, this lease shall terminate; provided, however, if the LESSEE shall fail to pay royalties as and when hereinabove provided before commencing operations hereunder, the LESSOR may terminate this lease forthwith and without notice. On termination all prepaid rentals shall be forfeited.

15. TERMINATION: LESSEE shall have the right to cancel this agreement at any time by giving LESSOR thirty (30) days' written notice of its desire to cancel, and thirty (30) days after said notice is mailed by certified mail, this agreement shall be of no further force and effect, and each of the parties shall be released from any further obligations to the other growing out of the execution of this Agreement, except that LESSEE shall remove no equipment, machinery, or improvements to the property if LESSEE is also in default of this Agreement or the payment of any royalties due hereunder.

In the event of a termination of said lease for any cause, the LESSEE shall forthwith deliver to the LESSOR the peaceable possession of said premises in good order and condition, with all shafts and tunnels and other passages leased to and operated by the LESSEE thoroughly cleared of rubbish and drained, ready

for immediate continued working and shall be relieved of any further liability hereunder; but in the event of the termination of this lease by either of said parties, the LESSEE shall not be discharged from any obligation in favor of the LESSOR that may theretofore have occurred under the terms hereof.

In the event of the failure of the LESSEE to peaceably surrender the possession of said premises as aforesaid, the said LESSOR, or his agent, may, without demand for possession, enter upon said premises and dispossess all persons occupying the same, with or without force, and with or without process of law, retaining attorneys for said purposes, whose fees in a reasonable amount LESSEE agrees to pay, together with such other costs as may be incurred by the LESSOR.

16. NOTICES: All notices herein provided for may be given by regular mail, except where specified herein, to the following addresses:

To LESSOR: Dr. Philip A. Birdick
P.O. Box 231,
Yuma, Arizona 85364

To LESSEE: Basic Gold, Inc.
445 E. Second South, Suite 300
Salt Lake City, UT 84111

17. OPTION TO PURCHASE: During the term of this lease and when not in default thereunder, LESSEE is hereby granted an option to purchase said Property and all of the personal property of the LESSOR delivered with this lease for Twelve Thousand (12,000) ounces of gold paid in gold bullion. In computing the total amount of 12,000 ounces, the LESSEE will pay only the amount due to make a total of 12,000 ounces after all previous royalties and advance royalties have been credited towards the total. If this option is not exercised and the payment of royalties to LESSOR continues until the amount paid totals Twelve Thousand (12,000) ounces of gold, with all cash payments being converted to gold equivalent at its value at the respective times the royalty payments were made as quoted on the New York Commodities Exchange on the date of said payments, then the title to said claims and property will be conveyed to LESSEE by good and sufficient deeds and bill of sale free of all encumbrances.

18. TREATMENT OF FOREIGN ORES: LESSEE shall have the right to treat ores not derived from the Property in plants constructed on the Property.

19. KNOWLEDGE OF PROPERTY: It is understood that LESSOR, who, by virtue of time and work expended on the Property, his extensive knowledge thereof, will make his knowledge available to LESSEE, will consult with and advise LESSEE, will do whatever he can within reason to help LESSEE in the development and operation of the Property.

20. MINIMUM WORK COMMITMENT: LESSEE agrees to diligently pursue the exploration and development of the Property. To insure this diligent pursuit, LESSEE agrees to perform the minimum work defined in Exhibit "B", attached hereto and made a part hereof.

21. ASSIGNMENT: The rights of the LESSEE hereunder shall not be assigned, sublet or otherwise transferred, in whole or in part, without the written consent of LESSOR, which consent shall not unreasonably be withheld as to any assignee having the financial and technical capabilities to assume the obligations of LESSEE hereunder and to conduct workmanlike mining operations upon these claims. The provisions hereof shall inure to the benefit of and be binding upon LESSEE and its permitted successors and assigns and upon LESSOR and his successors and assigns, providing that no assignment permitted to be made by LESSEE hereunder shall be binding upon LESSOR until LESSOR has been furnished a true or certified copy of the instrument evidencing such assignment.

22. MEMORANDUM: The parties to this Agreement agree to execute and record a Memorandum or short form of the Agreement in a form sufficient to constitute record notice to third parties of the rights granted hereunder, which may be recorded with the appropriate County Recorder.

23. FORCE MAJEURE: In the event LESSEE is prevented from preforming this lease or from conducting mining operations by

labor strikes, fires, floods, explosions, riots, any unusual mining casualties, Acts of God, government restrictions or orders, severe weather condition, or other extraordinary events beyond its control, then the time for preformance of this Agreement by LESSEE shall be suspended during the continuance of such acts which prevent performance, excepting any payments due and owing as described in Article 3 (a)(i through iv) of this Agreement or to be advanced to the LESSOR.

24. CONSTRUCTION; ENTIRE AGREEMENT: This Agreement shall be construed in accordance with the laws of the State of Arizona. The headings and subheadings used herein are for convenience only and shall not be deemed to be part of the Agreement for purposes of construction thereof. This Agreement embodies the entire Agreement between the parties and may be modified in writing only.

25. PROOF OF OWNERSHIP: LESSEE hereby acknowledges receipt of copies of the following documents as evidence of proof of LESSOR's ownership:

(a) Title Report--Yuma Title and Trust Comapny, dated September 1, 1983.

(b) Affidavits of Assessment Work recorded as filed with the U. S. Bureau of Land Management for 1983, consisting of 25 pages.

(c) A geologic reconnaissance of the Rob Roy Claim Group dated August 1982, with maps.

(d) Current tax records of the Yuma County Assessor.

(e) Memo from Yuma County Assessor dated 8/26/83.

(f) Abstract of Title prepared by Yuma Title Abstract and Trust Company, dated December 16, 1983, consisting of 67 pages.

26. ESCROW: LESSOR shall execute quit claim deeds for all of the Property and place these deeds with an acdeptable escrow agent to convey said deeds to LESSEE upon payment of the amounts specified in Article 17 of this Agreement and to return them to LESSOR on default or termination of the lease. All fees for said escrow shall be paid by LESSEE.

THIS AGREEMENT, made and entered into the date first above written is hereby agreed to by both parties hereto:

Signature page for Mining Lease Agreement dated June 16, 1984 between Dr. Philip A. Birdick and Basic Gold, Inc.

LESSOR:

By Philip A. Birdick
Dr. Philip A. Birdick

LESSEE: BASIC GOLD, INC.

By
President, Gary M. Lee

STATE OF COLORADO)
) ss.
County of Denver)

SUBSCRIBED AND SWORN TO before me this 16th day of June, 1984.

Tekla Whitlock
Notary Public

My Commission Expires:

10-6-86

EXHIBIT A
PROPERTY

The lode mining claims described below make up the parcels of land defined herein as the Property. These claims are all located in Yuma County, Arizona.

PATENTED LODE MINING CLAIMS:

Name	USLM NO.	Township	Range	Section
Muchobueno	1275	2S	17W	12
Homestake	1275	2S	17W	12
King of Arizona	1275	2S	17W	12
Last Hope	1275	2S	17W	12
San Carlos	2523	2S	17W	1
Frances H	2523	2S	17W	1
Nuggett	2523	2S	17W	1
St. Elmo	2523	2S	17W	1
Evelyn	2523	2S	17W	1
Commercial	2523	2S	17W	1
Commercial Addition	2523	2S	17W	1
Chicago	2523	1S	17W	36

UNPATENTED LODE MINING CLAIMS:

Name	Township	Range	Section	Book	Page	BLM N AMC
Queen of Arizona	2S	17W	12	15	561	76462
Queen of Arizona Extension	2S	17W	12	17	01	76463
Katy Ross	2S	17W	12	H	499	76466
Hub	2S	17W	12	24	95	76464
	2S	16W	7			
Gateway	2S	17W	12	24	213	76465
	2S	16W	7			

EXHIBIT B

MINIMUM WORK COMMITMENT

LESSEE agrees to expend the following amounts of money on the Property as part of the Agreement. Said expenditures shall be in the form of exploration, engineering design, construction, mine development and operations.

1st Year	$50,000
2nd Year	$50,000
3rd Year	$50,000
4th Year	$100,000
5th Year	$100,000

DEPARTMENT OF MINERAL RESOURCES

News Items

Date 11/16

Mine KING OF ARIZONA

Location 50 MI. - S OF QUARTZSITE

Owner ?

Address

Operating Co. ? LEASE & BOND GIVEN

Address LEASERS NOW DRIVING TUNNEL AHEAD ON DEVELOPMENT WORK

Pres.

Genl. Mgr.

Mine Supt.

Mill Supt.

Principal Metals AU - (MANGANESE OXIDE)

Men Employed ?

Production Rate

Mill, Type & Capacity

Power, Amt. & Type

Signed J.C.

(Over)

The Mining Journal 7/30/28

KING OF ARIZONA **YUMA COUNTY**

Report submitted by Messrs. Arthur Hoole and C. S. Bronson
Visited by Messrs Duff and Morton in 1945

Desirable from the standpoint of possible increase in gold price, and in addition possibility of improved metallurgy with possible increased efficiency of Chapman process.
Eagle Picher one-half interest; E. C. Morton half interest, which he will allow to revert to the company. (Deed dated July 28, 1943, giving Eagle Picher half interest.