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12/10/96

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: DIVES MINE

ALTERNATE NAMES:

BEAR CAVE
PORTER
EMMA
NETTIE
NOBBEY
CONSOLIDATED GOLD MINES

COCHISE COUNTY MILS NUMBER: 74

LOCATION: TOWNSHIP 14 S RANGE 27 E SECTION 21 QUARTER SW
LATITUDE: N 32DEG 11MIN 56SEC LONGITUDE: W 109DEG 35MIN 51SEC
TOPO MAP NAME: DOS CABEZAS - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

GOLD LODE
LEAD SULFIDE
ZINC SULFIDE
COPPER SULFIDE
SILVER

BIBLIOGRAPHY:

KEITH, S.B., 1973, AZBM BULL. 187, P. 61
AZBM BULL. 137, P. 118
AZ. MINING JOURNAL 12/15/22, P. 19
ADMMR MAPS-UPSTAIRS IN ALPHABETICAL FILE
UNDER GOLD PRINCE
ADMMR DIVES MINE FILE
USGS MAP I 1570, 1985,

CONSOLIDATED GOLD MINES CO. LTD.

REFERENCES

COCHISE COUNTY

MAPS - Upstairs in the alphabetical file under Gold Prince

Mines Register - 1937 - p. 249

Dives Mine (green card)

ABM Bull. 187, p. 61

MILS Sheet sequence number 0040030127 (Dives Mine)

ABM Bull. 137 p. 118

Arizona Mining Journal 12/15/22, p. 19

Map I-1310-B p. 51; Mineral Deposit Map of the Silver City 1⁰ x 2⁰ quad., NM & AZ

Dos Cabezas 7' Quad (included in file)

DIVES

COCHISE COUNTY

MG WR 8/16/85: Visited the Dives mine (Cochise Co). The dirt road into this property has been improved recently by the Phelps Dodge Corp. The mine appears to center on a prominent, thick quartz vein locally known as the "big ledge". The vein, trending N80-85°W and dipping steeply north, or vertically, outcrops for 2½ to 3 miles. This same vein occurs in the Gold Prince area, to the southeast, where it is reportedly barren. The east shaft, just west of the center of Sec. 21, is in fair condition and appears to be about 80 feet deep and inclined. An adit, immediately west of this shaft, trends roughly N80°W for about 40 feet and turns in a northerly direction for an unknown distance. Approximately 1,000 feet south of these workings is a north-trending adit with a concrete portal and iron door. The portal is identified as C.G.M. Co. Ltd. (Consolidated Gold Mines?), Main Adit 1934. Water issues from this adit at the rate of several gallons per minute and flows over a rather extensive mine dump. To the south of the dump are the ruins of a large mill complex.

CJH WR 11/28/86: Visitor: don Anderson, Consultant, Green Valley, Az. (c) Don reported Ms. Annette Mowinckle (c) is the owner of the Gold Prince, Gold Ridge & Dives properties in the Dos Cabezas district, Cochise Co and has leased the property to queenstake Resources Ltd (c).

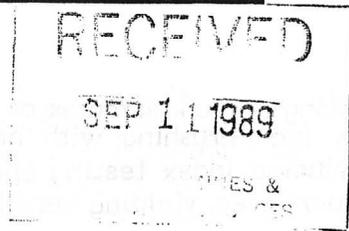
MG WR 2/7/87: Mr. Terry Antoniuk (c) of Toronto was in to review the Gold Prince (file) Cochise County. He reports that his company (Rayrock Yellowknife Resources Inc.) has been asked by Queenstake Resources to participate in the exploration and development of the Gold Prince mine. (The property package apparently also includes the First chance, Gold Ridge and Dives areas; all in files of Cochise County.) Mr. Antoniuk expressed the hope that enough tonnage could be developed to supply a 200 to 400 tpd mill on the property.

Gold Prince (F)
 Dos Cabezas (F)
 Div 2 (F)

NEWS RELEASE

News Release 89-1

12g Exemption # 82-565



August 31, 1989

**OPTION AGREEMENT SIGNED ON THE DOS CABEZAS PROPERTY
 ARGUS PROJECT REVERTS TO QUEENSTAKE**

Dos Cabezas Project, Willcox, Arizona

Queenstake Resources Ltd. is pleased to announce that an option to earn a 50% interest in the Dos Cabezas property has been granted to PBX Resources Ltd. (VSE:PBX) of Vancouver. Under the terms of the agreement PBX is required to spend U.S. \$1.5 million on exploration and development over a three year period and will become vested with a 25% interest once U.S. \$750,000 has been spent. Queenstake will remain the operator of the project.

The Dos Cabezas property, located near the town of Willcox in south eastern Arizona, consists of 59 patented and unpatented claims with 70 acres of deeded surface land encompassing the principal former producing mines of the Dos Cabezas District. Queenstake's work to date has defined a mineral inventory of 106,000 tons grading 0.37 ounces of gold per ton in the Gold Prince Mine. Queenstake is carrying out development work to ship up to 1,000+ tons per month of gold-bearing silica flux to the Phelps Dodge Hidalgo Smelter in Playas, New Mexico. Revenue from these shipments is used to partially fund on-going mine development and exploration.

The objective of the exploration and development program to be funded by PBX is to increase proven reserves, work toward a production rate of 200-300 tons per day and carry out a feasibility study to determine whether bulk shipping of ore should continue or if an on-site milling facility is justified. Currently, Queenstake receives credit for 85% of the gold from smelter shipments due to the high quality of the silica.

The aforementioned agreements are subject to the approval of the Boards of both companies.

Argus Project, Ridgecrest, California

The Argus property, which was being developed under an option agreement with Childs International Inc., an Australian real estate and financial concern, has reverted to Queenstake with Childs International retaining a 10% post payout net profits interest capped at U.S. \$550,000. Childs International spent in excess of U.S. \$500,000 over the past two years pursuant to the option agreement, however they have advised Queenstake that they are unprepared to fund their ongoing obligations. The Argus is currently estimated to contain 1.2 million tons of drill proven reserves grading 0.054 ounces of gold per ton and .8 million tons of drill inferred reserves grading 0.035 ounces of gold per ton on the Davenport vein structure.

Q

TSE SYMBOL:



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Dives (+), Gold Mine (+), Gold Prince + Cochise Co.

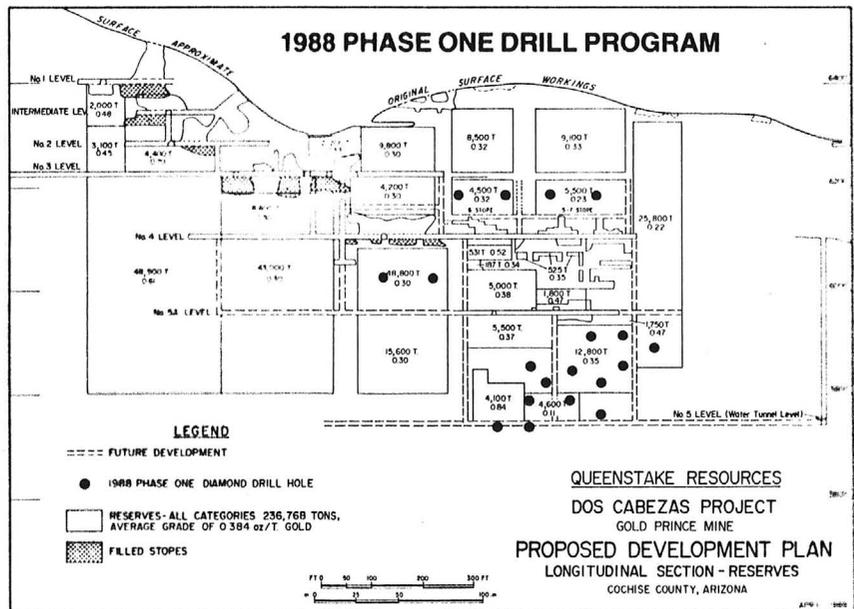
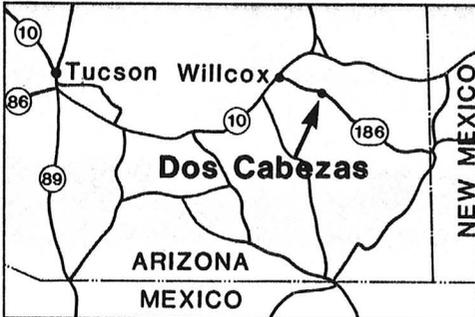
Dos Cabezas, Arizona

In 1987, Queenstake conducted an intensive underground sampling program at the Gold Prince Mine, aggregating over 600 samples. All principal structures were sampled at 5 or 10 foot centers. Following the sampling program, underground rehabilitation, construction of surface facilities, installation of services and mining equipment acquisition were completed.

A 6,000 foot underground diamond drilling program is planned at the mine to evaluate the extensions of ore reserves defined in Queenstake's 1987-1988 mapping and sampling program and by 9,000 feet of previous diamond drilling done by Phelps Dodge Corporation between 1983 and 1986. A series of three en echelon gold bearing quartz-sulfide veins will be tested in the program, with the goal of bringing the reserves to the drill indicated category. A feasibility study will then be undertaken to evaluate the deposit and define a mining development plan.

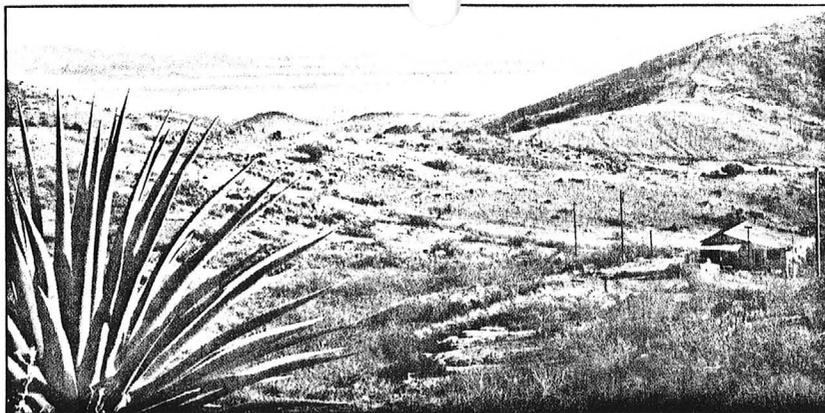
Drilling will be conducted by a contractor using a new underground drill recently purchased by Queenstake. The drilling will be done from both existing underground drill stations on the 5A Level and from new stations being constructed on the 5A and 4 Levels of the mine. The vein system will be tested along nearly 1000 feet of strike length and 500 feet of vertical extent.

Preliminary flotation and cyanidation test work conducted by Bateman Metallurgical Laboratories in Sparks, Nevada has been completed, with satisfactory gold recoveries using a combination gravity-flotation-cyanidation circuit. Additional testing is planned to further define grinding and selective flotation variables for the ores. Column leach cyanide testing is planned on near surface stockwork-hosted oxide ores which may be amenable to open pit heap leach technology.



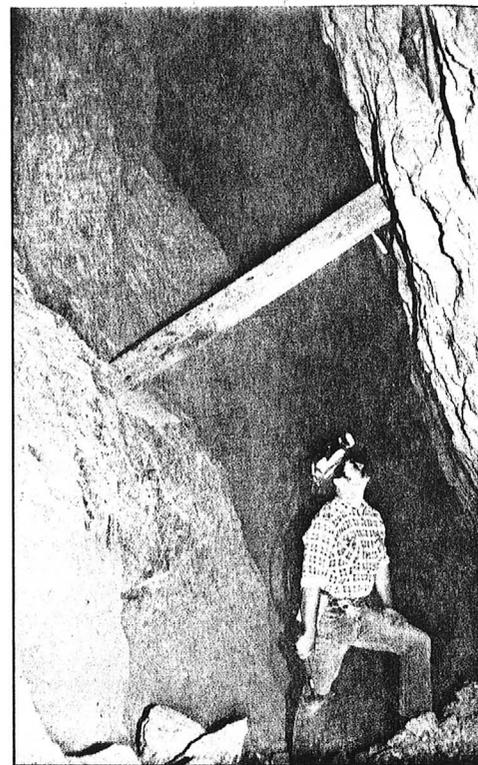
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Mine equipment purchases from former operator Phelps Dodge Corporation helped to speed the project to completion at substantial savings over projected equipment costs.

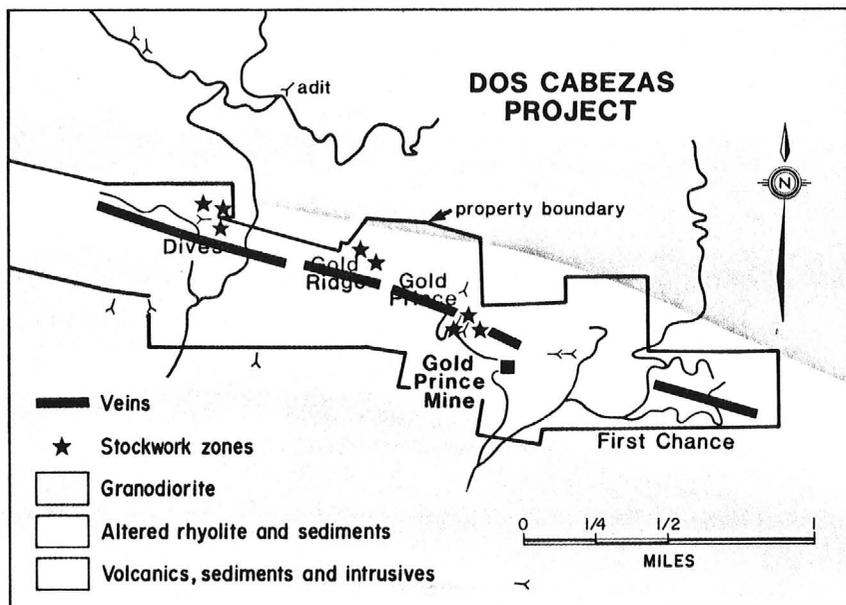


View from the Gold Prince Mine, Dos Cabezas, looking past the home of Kay and Lewis Stickradt (head of mine security) to the flats.

Additional claim locations made by Queenstake have almost doubled the project area, including both lode and mill site locations.



Dave Hembree, Queenstake's U.S. manager of exploration, examining underground workings in the Gold Prince Mine, Dos Cabezas project. In 1988, a 6,000 foot underground drilling program is planned to define reserves for a production decision.



The mine rehabilitation program was directed by Mine Manager, Al Voirin, with Project Geologist, Tim Pearson.



Al Voirin, Dos Cabezas mine manager (l) and Tim Pearson, project geologist (r), inspecting Dos Cabezas structure.

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NEWS RELEASE

Release #88-5

April 7, 1988

DOS CABEZAS PROGRESS REPORT

Initial mine rehabilitation and equipment acquisition for 1988 exploration has been completed in the Gold Prince Mine at Queenstake Resources' Dos Cabezas project in southeastern Arizona. A 6,000 foot underground diamond drilling program is now commencing to evaluate the extensions of reserves defined in Queenstake's 1987-1988 mapping and sampling program and by 9,000 feet of previous diamond drilling done by Phelps Dodge Corporation between 1983 and 1986. A series of three en echelon gold bearing quartz-sulfide veins will be tested in the program, with the goal of bringing the reserves to the drill indicated category.

The drilling will be done from the 5A and 4 Levels of the mine, testing the vein system along nearly 1,000 feet of strike length and 500 feet of vertical extent. The principle drilling target is below the 5A level and above the Water Tunnel level of the mine where present proven and probable reserves are 47,138 tons at 0.366 OPT gold. Also to be evaluated will be the area on the No. 1 vein above the 4 level with probable and possible reserves of 27, 614 tons at 0.33 OPT gold, with additional unknown potential on the No. 2 and No. 3 veins. A series of diamond drill holes is also planned to test the veins under the 4 Level, to the west of the 5A workings within favorable host rock units and below old underhand stopes which Queenstake mapped and sampled in late 1987 with very favorable results. This area of the mine may be rapidly developed from existing workings.

Preliminary flotation and cyanidation test work conducted by Bateman Metallurgical Laboratories in Sparks, Nevada have been completed, with a 75.1% gold recovery using a combination gravity-flotation-cyanidation circuit.

Additional testing is planned to further define grinding and selective flotation variables for the ores. Column leach cyanide testing is planned on near surface stockworks-hosted oxide ores which may be amenable to open pit heap leach technology.

Additional claim locations made by Queenstake have doubled the original project area, including both lode and mill site locations. Results for the drilling program are expected by mid June.

-30-

Gordon C. Gutrath
President

ARIZONA DEPT. OF MINES & MINERAL RESOURCES
STATE OFFICE BUILDING
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For further information contact Don Sharp, Vice President

Gold Prince
Cochise Co

QUEENSTAKE RESOURCES LTD. THIRD QUARTER REPORT - 1987

On behalf of the board of directors, I am pleased to present the Company's unaudited September 30, 1987 financial statements and a report on operations to November, 1987.

HIGHLIGHTS

- **Placer Gold Production and Revenue Increase**

The 1987 placer mining season finished with higher than average grade and production rates, yielding record production of 13,150 fine troy ounces of gold, compared to 6,375 ounces from the same period in 1986. Gold production from start-up in June through August 9, 1987, (the reporting cut-off for Queenstake's Second Quarter Report) totalled 4,452 ounces. Gold production for the balance of the season from August 10th to late October was an additional 8,698 ounces.

The 1987 production increase is principally due to the acquisition of the Pine Creek, Atlin, B.C. placer gold property and mining equipment in May, 1987.

- **Chichagof Gold Mines Funding-Golden Sitka Resources Inc.**

The public issue of 2 million common shares of Golden Sitka Resources Inc. (VSE: GSZ) at \$1.50 per share was completed in early October, shortly before the sharp stock market drop in mid-October.

Queenstake's one third joint venture interest in the Chichagof Gold Mines project has now been transferred into a 25.8% shareholding in Golden Sitka, providing funds to bring the project through production feasibility. Mine crews and equipment are now at the site, and exploration/development work will continue this winter on both the Chichagof and Hirst-Chichagof Mines.

- **Dos Cabezas Reserve Evaluation**

Queenstake's mining engineering consultants and mine crews are now completing reserve calculations and planning a program of mine development as well as obtaining metallurgical test data on the Dos Cabezas ore. Depending on the consultant's report and recommendations, the Dos Cabezas project is expected to be advanced to feasibility in early 1988.

- **Argus Drilling Under Way**

A 5,000 foot reverse circulation drilling program is now under way on the Davenport vein on the Argus property. Also, a 3,000 lb. metallurgical sample from the vein has been shipped to Bateman Metallurgical for column cyanide leach testing.

- **Other Projects**

In addition to the foregoing projects, exploration programs are continuing on a number of other properties including:

Buckskin National Mines, Nevada
Riverside Pass Property, California
Quartz Hill Property, Montana
Mar Gold Property, Yukon
O'Connor River Gypsum Deposit, B.C.
Various B.C. and Yukon Placers

MANAGEMENT REVIEW

In the aftermath of the October 19, 1987 stock market shocks, the market value of Queenstake's shares has declined sharply even though the Company's revenues, cash flow, earnings, working capital and cash positions have all improved.

The Dos Cabezas mine properties contain both developed and excellent grade and extent. There are a number of mineralized zones along the Gold Prince vein system which may be quickly explored and developed using the recently rehabilitated mine workings with most services still intact. A surface and underground sampling and mapping program is planned for early 1987, to be followed by surface and underground diamond drilling, concentrating upon expanding known reserves and evaluation of the vein stockworks bulk tonnage potential.

The Dos Cabezas mine project is of particular importance to the hardrock exploration program, since it not only has an ore reserve partially developed for mining but also has excellent exploration potential for both high grade vein hosted mineralization and bulk tonnage stockworks and disseminated gold deposits suitable for open pit or bulk tonnage underground mining methods. The mine is unique because it can be placed into production as a silica flux-gold mine within six months and at a very low capital cost compared with a typical hardrock mine of similar size.

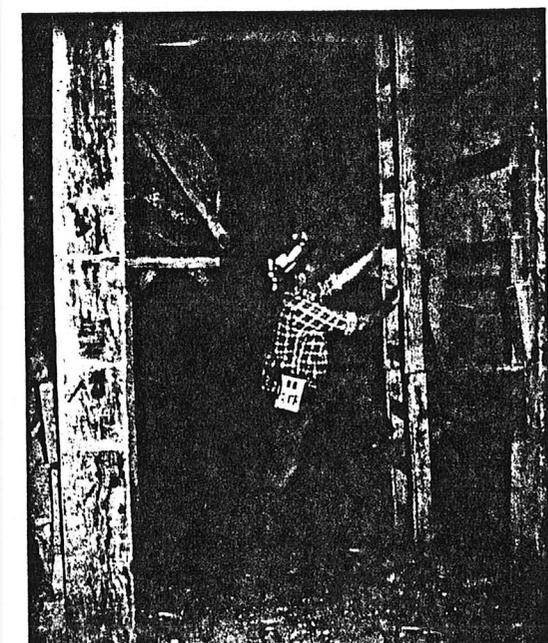
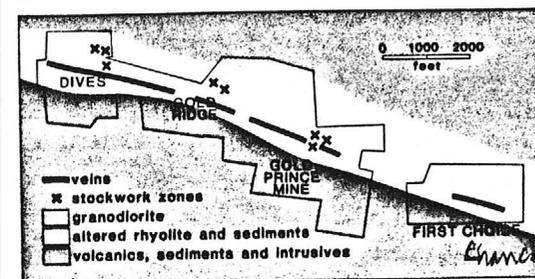
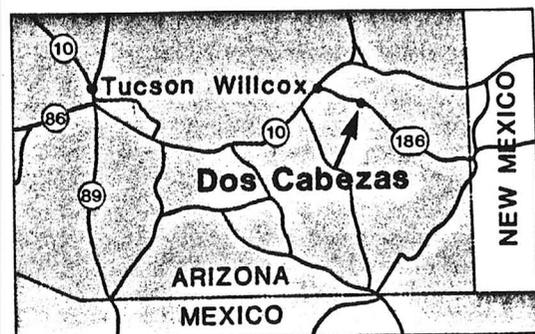
ARGUS GOLD PROPERTY, CALIFORNIA

Queenstake has signed an agreement with Childs International Inc., the American subsidiary of an Australian mining group headed by Barrie Childs of Sydney, New South Wales in which Childs International can earn a 60% interest in Queenstake's Argus gold mines project near Bakerfield, California by spending \$1 million U.S. in exploration, development and production capital on the Argus property by 1989.

The Company has recently completed a review of the Davenport and Arondo Mines on the Argus property. On the Davenport vein, the drill indicated reserves total 423,000 tons grading 0.053 ounces of gold per ton. Potential tonnage in the Davenport (at a 300-foot deep pit limit) is two million tons.

The conceptual mine plan is for open-pit mining and heap-leaching (using carbon-in-column gold recovery from pregnant solutions).

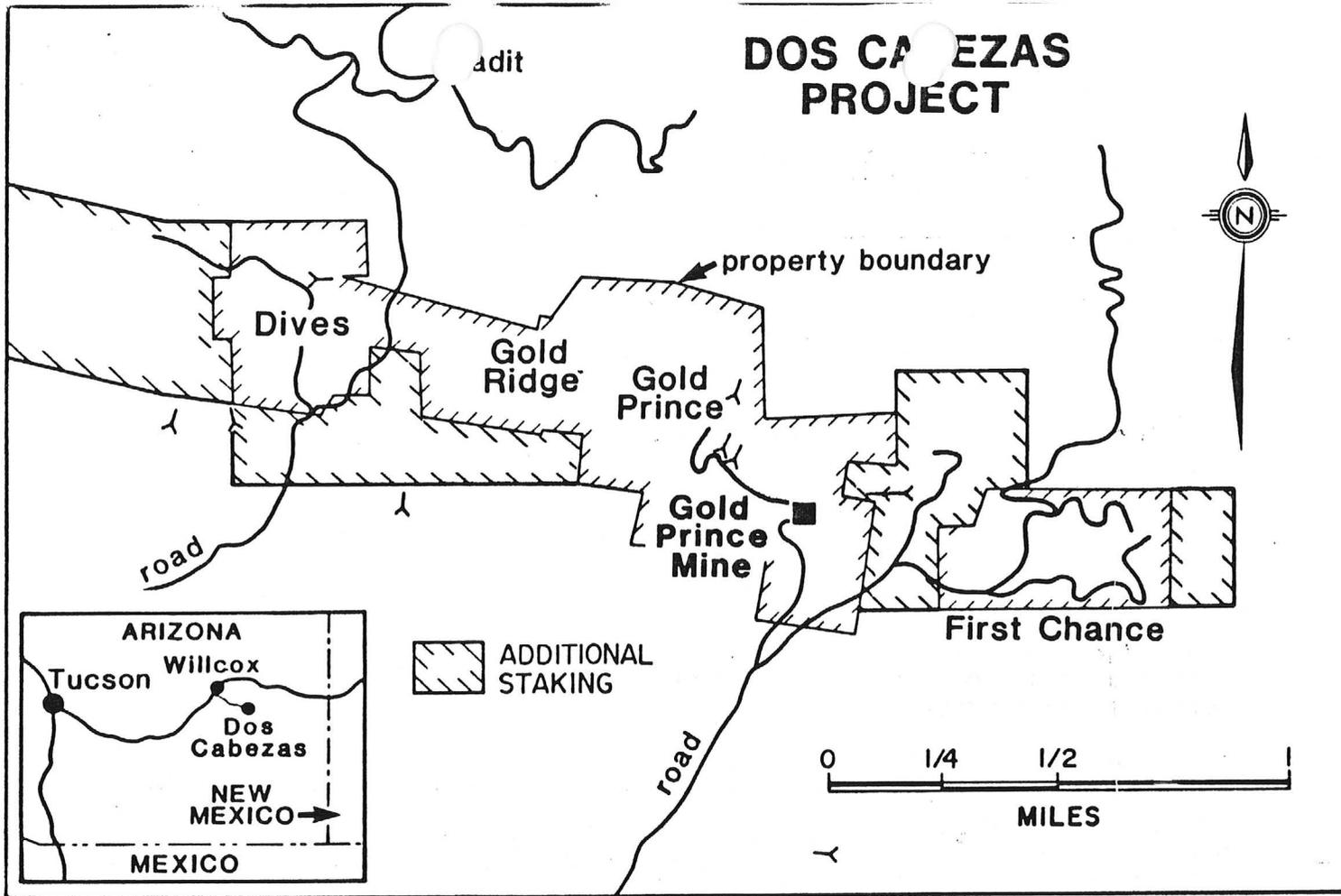
Subject to completion of certain agreements with landowners, a 1987 drilling program is planned for the Davenport property.



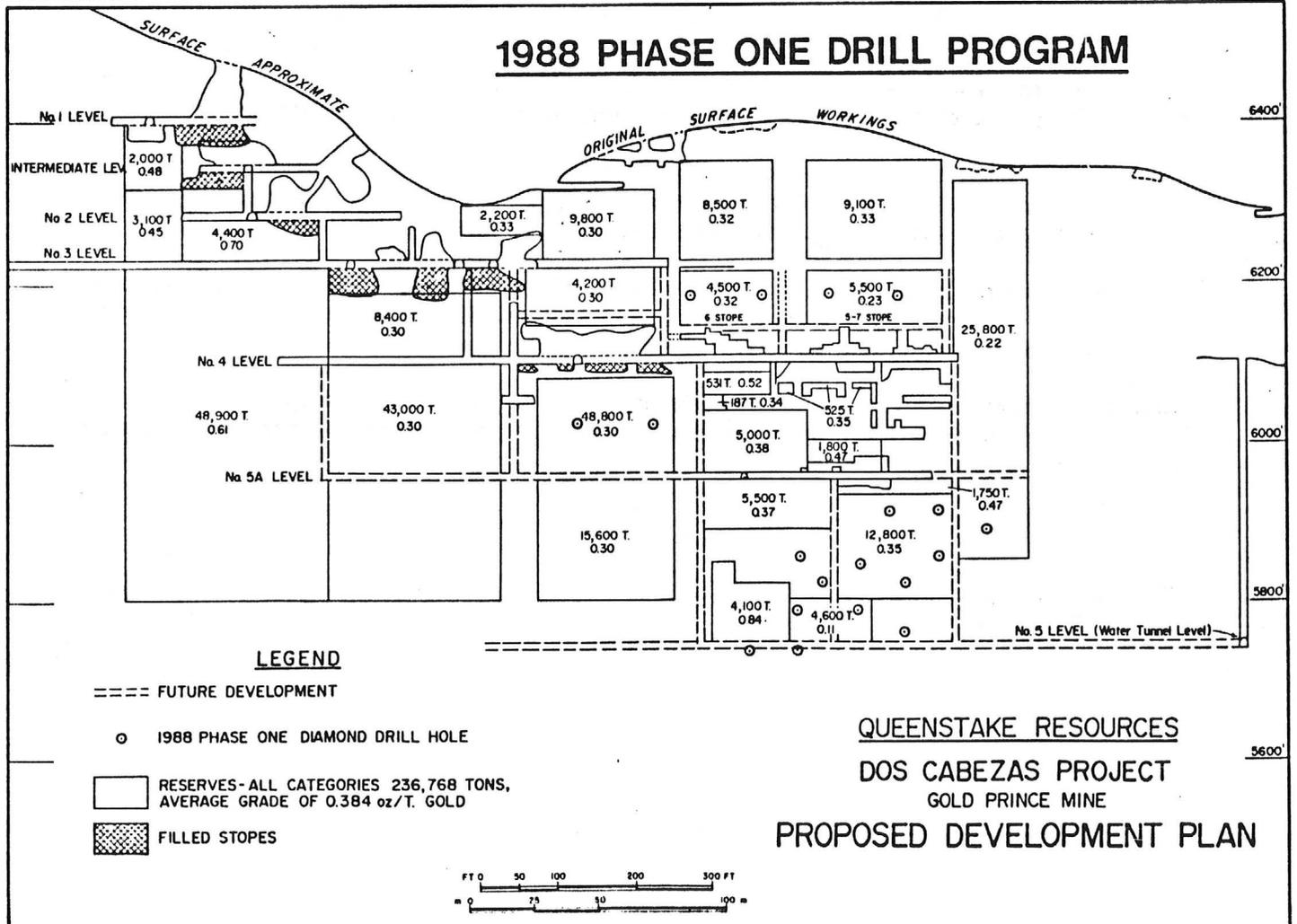
Phelps Dodge left the Dos Cabezas - Gold Prince Mine workings in good condition, allowing for a very quick production start.



DOS CABEZAS PROJECT



1988 PHASE ONE DRILL PROGRAM



Cochran

CONSOLIDATED GOLD MINES COMPANY

Remarks of Mr. A.B. Wadleigh, Superintendent, in conversation with E.D. Morton, 11-26-38, at Tucson.

Now, this isn't for publication. The company, (Consolidated Gold Mines) is in pretty bad shape financially. There is not much life ahead. I knew your company was interested and thought some kind of a deal could be worked up between now and February, when stock holders' meeting is held.

Gabrielson might be able to raise the money for the lease. He's a poor manager, - if he gets one dollar, he spends ten. His ideas of machinery and equipment are big and his ideas of what a dollar will do are not good. I think there is no chance of pulling out. Several weeks ago some people from Wisconsin were to come out and invest \$150,000.00; but they did not show up.

We've got all kinds of assays, we got working assays as we went along, - enough assays scattered around through the workings to make up an assay map. Since we have started up this time our mill heads will not average more than \$8; about a year and a half ago they averaged \$13. I would sink another 100 feet and possibly 300 feet, there is no question about the ore going down. The mine was never put in shape for a mill; from a promotion point of view I suppose it was all right. I wanted to get the ore all ready. Our mill equipment is larger than what we hope to put through for some time to come, due to the fact that we haven't opened up enough ground.

I think if he (Gabrielson) doesn't make it this time, he will be very reasonable. Everything he has is in it. There are a lot of the stockholders that are pretty much discouraged. I think the probabilities are I could get hold of enough stock to, -- well, I don't suppose that I could get control, but there are a lot of people pretty much discouraged. I would like to protect the stockholders, - that's the reason I have stayed there with it, more or less. I have absolute confidence in the mine. No, we have no assayer now, we have laid off everybody. If Gabrielson comes back here without raising money, I think he'll be amenable to most any sort of a deal. Ed Tout has been there with both hands open to get that property.

Tout must have cleared \$150,000 on the sale of the equipment he bought with Central Copper claims at tax sale. The only thing he has left is a couple of rolls. They tore down the mill buildings. Central Copper? Yes, that is a good, big mine. There is a big body of 1 1/2% ore. Tout opened up a place, 15 or 20 feet of width of real good ore. When their main ore system was cut off by a fault they went west and should have gone east. If a man put in a diamond drill hole right down below those buildings, the upper power house, in canyon, you will find out where the ore is. Arthur Houle was up there one time and made an examination. There was a lot of work done. They have about thirty miles of underground workings. Several other orebodies carry low grade, 2 or 3 percent copper. Tout has been working below the buildings. I think you can deal with Tout. He is a hard man to deal with, - what they call a good trader. A good fellow and all that, and I think a good engineer, but he wants his pound of flesh. When he is in a state of mind, - well, a fellow can do some business. He has a property out in California he is working. I think he would be very glad to get this Central Copper thing off his mind. He talks about putting down a 1000 foot shaft, but he hasn't donw much but keep up the assessment work. There are 76 patented

claims, I think. That includes the best part. The unpatented claims are mostly the outlying ones. Where the work has been done are mostly patented. I don't know what he does about paying taxes.

I don't believe McCauley was behind the tax title purchase of Central Copper. I believe Tout's father-in-law, (Cook), was. For over a year that was part of my work, to take visitors through the mine; I know where the ore bodies are. We have fifteen or maybe twenty places where there are good-sized ore bodies, two or three pretty high grade. A lot of people think McCauley was a big crook, but I never saw any kind of crooked business. I worked for him for thirteen years. Some of his men were pretty crooked. He spent lots of money. He spent more than he took out, and his own money. I was never asked to do anything out of the way. Last time I saw McCauley in Tucson, he said "I have a stack of reports that high, and the best engineers in the country. They all said I was justified in doing what I did." He had good engineers. Houle and Prout. Houle was there a couple of months before we shut down. Houle is a very square fellow. I've known him ever since the old Cananea days when he first came down there.

I would drive a tunnel, - extend our crosscut tunnel, - and connect with the Central workings; about 5000 feet. John Prout was manager of Central Copper. Was there about twenty years. He is a very good geologist, but a poor manager. Did not spend the money the right way. Close on little things and then so much wasted. I have a very high opinion of McCauley. He was the fellow who started Tucson going. I don't think McCauley ever took any body's money.

The natural thing to do would be to have your adit tunnel into the Central connect from that adit tunnel of ours. It would catch the Central about 50 feet (?) below the workings. Down about 400 feet below that tunnel level and water is just about up to the tunnel level now. Was pumping about 150,000 gallons a day. When they had a mill there they spent fifty or sixty thousand dollars prospecting for water. They put down 25 wells in the basin, but didn't get any water. They went 9 miles down in the valley and pumped from there. Pretty expensive; three booster pumps. If they had put a little electric unit in, -.

Probable ore in the Central? Pretty hard to figure; but a lot of it. I imagine more than a half million tons averaging 3% for the entire thing. There is a lens over there, (other side of the mountain, diamond drill?), 300 feet across, probably 100 feet the other way, 150 feet in depth, ran somewhere about 4% and still going down. Out in the monzonite. Went into it 150 feet. A good deal of monzonite around there. The theory of geology is, there was a big crater $2\frac{1}{2}$ miles across. I helped Prout to prove up the outlines of this crater. Afterwards there were three different pipes came up. They were the ore bearers, one was the Consolidated up where Tout was working. These two were a half mile apart and this a mile. They were going down to get this high grade ore body, - it was very high grade, 20%. That was their reason for putting up the mill. Had it on the 400 level; they went down another 100 feet and drifted over to get on the ore body and it wasn't there. So they went up on the 400 and went down 100 feet. They figured they could come up from the west. They found no ore to amount to anything. They should have gone east. They they would have picked it up. Every indication points to that. That fault probably would cut one pipe. Of course they did not go deep enough. As you go up the hill there is an outcrop. I think the ore is there. They never developed it at all. That vein where Tout is working is just a rich feeder vein. A

tunnel 1700 feet and two or three thousand feet of crosscutting on each side; not the main tunnel. It was to the left as you went up hill. That's where most of the work is. That's on the S.W. pipe of the three. The one in the monzonite is on the other side of the mountain.

I don't know when Gabrielson will come back; he said he was going to stay until he got the money, don't know how long. We didn't part very good friends. He knows you have been around and know something about the country. I wouldn't want to do anything underhand. I have a lot of interest in the company. Its only because I question whether he will be able to pull the thing out. I knew you had been interested in the country. You come with the proper plan of development under ground and you will get out enough ore to run that mill.

The mill is good for 250 or 300 tons. The main objection I have to the mill was we should change it from a rod mill to a ball mill. Got to get the ore down to 200 mesh. We turned out some fairly good concentrates. We shipped about three cars. We opened up a couple of new veins that look very promising. One on the 600 and the other, - not a new vein, on the ?-- where the shaft is. The winze up -- We got some very good ore there. The tunnel is what we call the 500. The winze goes from five to 6. We were expecting to sink the winze and out the two veins south from there.

Houle came down there, Cananea, about 1906, and I did not see him for a good many years afterwards. He was the engineer for C. & A. Tout has all the reports, the whole thing. They kept very accurate maps, he has it all. It was a sort of a hobby of Prouts. I was sort of a general utility man, I helped Prout on surveys and mapping and looking after the diamond drill records, I know what's there, Lots of that stuff $1\frac{1}{2}\%$.

I say general average. Tout has a big pile of ore 10% or 12% copper. No lead or zinc. Molybdenum only on the one little vein he was working. Nobody ever made any particular tests for molybdenum. When they shut down was before they found molybdenum in the Cananea ores. They shut down about 1929. It was rather funny, they were going to have a meeting in Nogales of this section of the A.I.M.E. I was going over to it, but was looking after supplies and all that sort of thing. Prout told me to lay in a supply of everything, they were going to start up, - they hadn't been doing very much. He came back from this meeting and said "We're going to shut everything down". Then they did do a little for about a year, worked about a dozen men and then shut down altogether.

In the Dos Cabezas district there is a prominent outcrop of quartz called the "Big Ledge" that has a total length of about 4 miles and which traverses the foothills about a mile west of the Central Copper Company property. There are many small ore shoots, containing pay ore, along small quartz veins on the north side of the Big Ledge in the belt of Cretaceous shales. The property of the Consolidated Gold Mines Company covers the western half of this prominent outcrop. The Big Ledge is a pegmatitic, coarse grained vein of white quartz, about 100 feet in width at the surface and much greater at depth, and separates the Cretaceous shales from the granite. On the north side of the Big Ledge, within a lateral distance of 600 feet in the belt of upturned metamorphosed black shales, there are six steep dipping quartz veins that strike N 70 - 80 W. roughly paralleling the Big Ledge. The veins may join the Big Ledge within a depth of 1,000 feet. Many of the wide quartz showings on the north side have a pegmatitic character with much specularite as gangue. The belt of shales and limestone is about 1,000 feet in width and are terminated on the north by an andesite flow.

The old Dives tunnel follows the Emma No. 1 vein for a distance of about 1,000 feet near the surface. Much of this early work is now caved. There was an important ore shoot called the "Dives Stope" that was glory holed down from the surface for a distance of about 110 feet. This stope is nearly above the important stope on the Emma No. 1 vein that has been mined from above the 600 foot level. However the ore pinched to a small stringer at a distance of 40 feet above the 500 foot level and a high raise fails to show much ore. About 350 feet west of this ore shoot there is another high raise that follows the wide quartz structure up a distance of about 120 feet. The top of this raise is about the same elevation as the early 100 foot level from the Old Dives shaft. A connection may be made to the old shaft. The Emma No. 1 vein had an average value of \$20 per ton for a distance of 100 feet on the 500 level, but the ore shoot was rather lenticular, and the production from the largest stope of the new, deep work amounted to only about \$65,000. Good values were also found on the 600 foot level below this important area, but in general the small ore bodies were difficult to mine and much waste was stoped in the expectation of finding new ore. No important values were found along the Emma No. 1 vein on the west side of the long cross cut tunnel. There is some suggestion of a fault, but the long crosscut 400 feet to the west of the orebody, does not show any evidence of an important vein.

The No. 3 vein is 145 feet to the north of the Emma No. 1 vein. The vein is 1 to 6 feet wide with an average width of 2 feet. This vein shows a fair amount of sulphides of lead and zinc and some copper. The ore near the Number 5 and 8 Raise averaged about \$15 per ton in gold and silver. The vein is fairly well developed and continuous to the west of Number 8 Raise but the values in gold and silver are very low. The

assay sheet of July 23 shows the low values of gold and silver that occur in this section where the galena is rather abundant.

Previous to the acquisition of the property by the present company, the work near the surface was mainly by leasers. The Gold Prince property, about 2,000 feet to the east of the long crosscut tunnel, is developed to a depth of 400 feet. The mill with a 40 ton daily capacity was constructed in 1935. The mill ran for several months in 1935 and 1936 and approximately \$80,000 worth of concentrates were produced. In August 1938 the power plant was equipped with a large vertical Fairbanks Morse Diesel engine that was second hand and causing considerable trouble. At the same time the mill capacity was enlarged to approximately 150 tons of ore per day. An attempt has been made during the past month to mine ore from the 600 foot level that will be of good grade.

There is very little ore developed, and the lenses of good grade ore are difficult to follow. In the past it has been the practice to stope considerable waste in the hope that good grade ore might be encountered. Neither drift or raise development proves the continuity of the irregular lenses. As a rule the mill heads have averaged very low because of the lack of regularity of the lenses. The assay sheet for the mill heads of the month of August 1936 is a good example of the amount of low grade ore that was milled. During the month the drifting to the east of the 600 foot level was in a good lense of ore under the best ore shoot of the mine.

There are many assays from the mine workings but no satisfactory record or assay map has been made. The assays are given without actual measurements in drifts, stopes, and raises. The car samples have not proven important in keeping the mill heads up. The "Big Ledge" does not show more than a trace of gold and silver on the surface or underground. There are many samples of the wide quartz-specularite veins, such as the No. 5 vein and the east end of the No. 1 vein, but these samples are nearly always very low. So far the sampling of the quartz veins does not indicate a large tonnage of very low grade ore.

The strong showing of galena on the No. 3 vein should be followed to the west, as I believe that another ore shoot will be found in this area. Leasers could work between the 500 and the Old Dives level to advantage and a good grade of ore can be sorted.

The large amount of specular hematite that is present where the vein of quartz is big and generous is not especially encouraging from a geological standpoint. There is also much evidence that the good grade ore is more abundant near the surface.

SIGNED
CHARGES E. HIGDON,
September 10, 1938

C O P Y

HEADS		FLOT. CONC		TABLE COND.		TAILS		ASSAYED	
Ag	Au	Ag	Au	Ag	Au	Ag	Au	Aug	Aug
.76	.70	8.14	3.46	-18.60	31.12	.18	.13	1	2
.82	.50	9.16	3.44	11.12	9.28	.08	.04	1-2	3
.98	.74	8.28	2.16	20.46	17.66	.16	.03	2	6
1.10	.64	6.36	1.84	15.66	15.20	.16	.11	6	7
.68	.48	6.42	1.92	19.26	18.24	.19	.03	6-7	8
.26	.22	7.10	1.96	17.08	14.80	.26	.09	7-8	9
.34	.26	6.52	2.28	20.96	21.76	.13	.05	8	10
.72	.28	12.48	3.42	50.96	70.44	.11	.10	9-10	11
.54	.28	8.16	2.00	41.48	62.80	.14	.02	11	13
.60	.34	5.66	1.44	24.56	22.40	.07	.02	13	14
.28	.18	6.68	.74	20.72	17.88	.01	.01	14	15
.10	.06	-	-	20.60	19.60	.01	.01		
.06	.04	5.08	.90	11.24	10.00	.02	.003	15	15
.14	.06	6.94	.50	11.22	2.98	.06	.005	16	17
.36	.06	6.90	.40	12.80	4.52	.06	.005	17	18
.84	.06	8.66	1.10	16.72	13.80	.05	.01	18	20
.37	.07	9.30	.76	22.44	8.84	.05	.0025	20	21
.67	.13	9.68	.78	15.68	3.84	.07	.005	21	22
.53	.05	8.32	.42	15.32	3.80	.07	.005	22	23
.36	.04	8.92	.48	19.68	3.80	.17	.08	23	24
.52	.24	11.60	.60	20.92	4.28	.04	.015	24	25
.22	.06	9.40	.52	14.40	2.48	.05	.0075	25	27
.22	.06	8.86	.56	18.56	4.80	.07	.015	27-26	28
.42	.08	9.90	.70	18.42	5.00	.06	.005	28-27	29
.32	.10	10.12	1.42	16.32	7.00	.06	.005	28	30
.32	.08	12.96	1.50	16.12	4.00	.05	.005	20	31
.29	.21	11.50	1.00	11.28	3.00	.05	.01	31	Sept. 1

DAILY ASSAY REPORT

CONSOLIDATED GOLD MINES COMPANY, LTD.

July 23, 1938

No.	Date		Ag.	Au.
4	7/21	Head Sample storage in upper bin and mill feed bin which held only 4 tons	3.2	0.15
5	7/20	Mr. Wadleigh Special 500 level 8 Raise Glassy quartz with good galena and a few patches manganese and copper carbonates	3.34 50' up	.26 width about 1 foot
6	7/23	500 level 10 Raise Grab sample of 4 cars Raise about 10 feet up Good sulphides of iron and lead with gangue of quartz and considerable black carbonaceous shale	1.2	0.17
7	7/23	500 level 1 Raise E Grab sample Raise about 15 feet up Vein width 4.0 feet. Mostly quartz showing fair sulphides of iron and lead and 20 percent is inclusions of dark carbonaceous shale	0.40	0.09
8	7/23	500 level 1 Raise W Grab sample Raise about 15 feet up Vein width about 3.5 feet Mostly vein quartz showing fair sulphides of lead and iron a few inclusions of black carbonaceous shale.	0.28	0.07

C.E. Higdon, Assayer

T. C. King

Cochise
Michigan College
7 March 1898

C. F. SPAULDING, E. M.

Metallurgist & Consulting Engineer

322 Chambers Building

Kansas City, Mo.

August 8th, 1931.

REPORT ON THE PROPERTY OF THE
CONSOLIDATED GOLD MINES CO. LTD.

PROPERTY: This property consists of 28 connected mining claims, approximately 500 acres in area. Three miles in length, this property covers the apex of a series of closely spaced gold bearing quartz veins - the outline of the property being best illustrated by accompanying printed Map. For operating purposes the property is divided into Western and Eastern groups of claims. The Western group of claims consisting of the Vanity Fair, Gold Nugget and associated claims, not being scheduled to be operated in the immediate future will not be described in detail in this report. The Eastern group, consisting of the Dives, Emma and other claims, are discussed in the following pages.

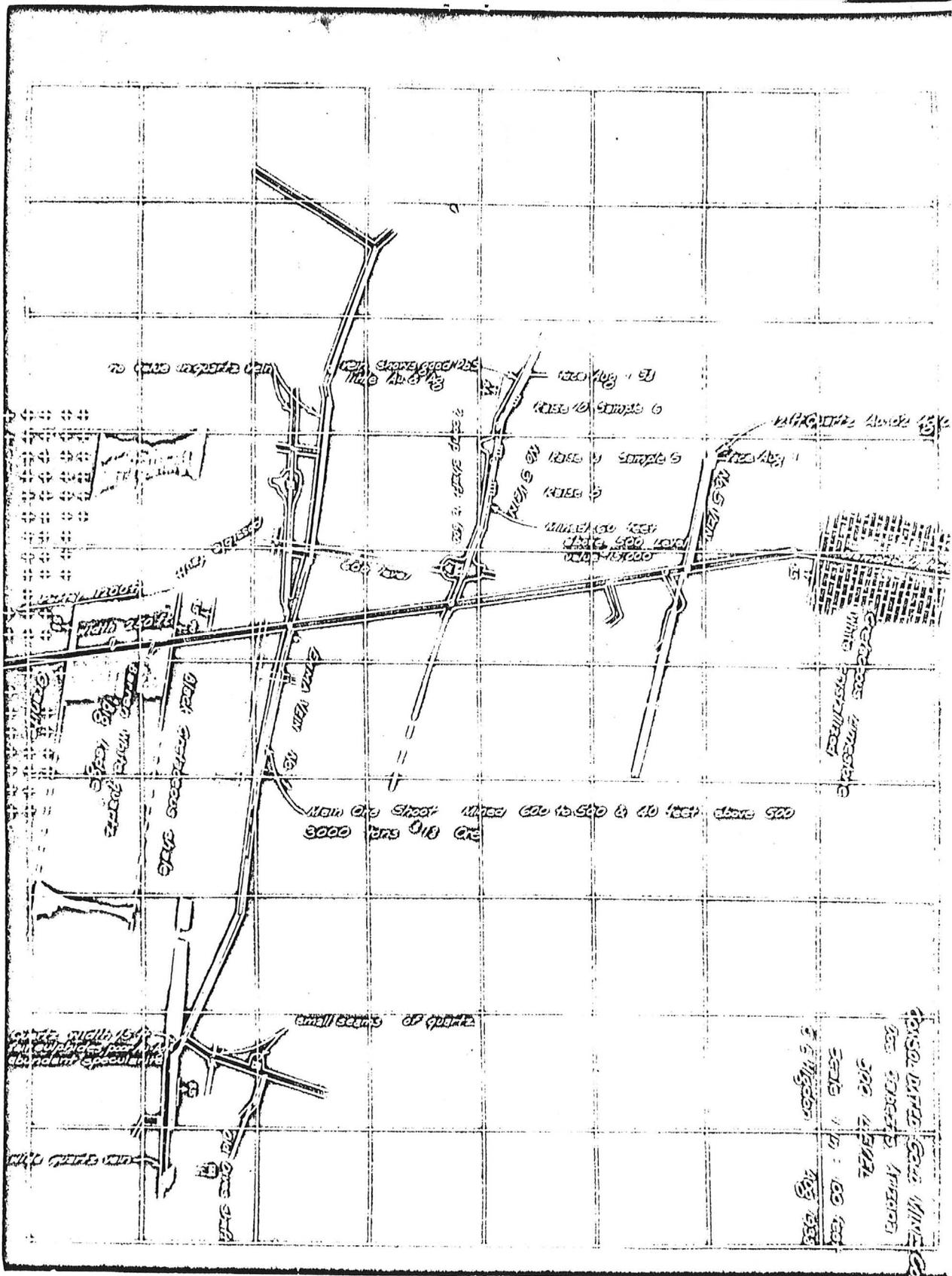
LOCATION: The property is located two miles North of the railroad depot at Mascot, with a good road to the main workings. Willcox, Arizona, on the S. P. R. R. is 15 miles distant on a good highway.

TITLES: Original owners of practically all the claims here being described personally assured me they have been paid in full for their claims - and the Company has Mining Deeds to the properties shown by their Map.

GEOLOGY: The veins are in a belt, approximately 1,500 ft. wide, of Paleozoic schists and Limestones. This belt was intruded by a mountain sized mass of Andesite and related "intermediate" intrusives, which afterwards were intruded by large dikes and masses of Rhyolite. The veins and ores are later than the Rhyolite, and in various places in the district are to be seen cutting the Rhyolite Dikes.

VEIN SYSTEM: The entire belt of schists and limestones was intensely fractured by the successive intrusions of andesite and rhyolite - and subsequent settling of the crust resulted in a major fault zone up which gold bearing quartz ascended from depth in enormous quantities, filling every fracture in this zone. The entire property is thus a series of parallel and interlocking veins of all sizes, varying from narrow stringers to an enormous vein over 175 ft. wide. The main veins strike E - W and dip towards the North, towards the principal mass of intrusive Andesite. Subordinate but well mineralized veins are on both sides of the main vein system, these striking at right angles or N - S, with westerly dip.

These veins are part of a vein system over 15 miles long, proven to be gold bearing the entire distance by placer gold in every creek draining the veined areas - and by gold mines located at intervals on ore shoots along the vein system.



On the adjoining properties, the Gold Ridge, and farther East the Gold Prince, the ores increase in width and value with depth from the surface. In the Gold Prince the primary heavy sulphide ore of the #4 tunnel, which is 350 ft. below the outcrop, is much stronger and richer than that nearer the surface. I believe the same condition will obtain on this property, as it is on the same vein system.

I have in my possession reports by other engineers in which mention was made of this property, and will here quote from a report by L. M. Banks, dated 1923.

"The Twin Peaks (now the Dives claim) made a mill run on a large stock pile. The tonnage is not known, but the average of a large number of samples taken by Rush Sill of Los Angeles, Consulting Engineer for Mr. Luther T. Baldwin, who is the dominant factor in the new Twin Peaks Co., gave an average of \$40 per ton in gold. The property is now being prepared for a development campaign and is being unwatered. The present Superintendent, Mr. George Parshall, informed the writer that the sampling done to date shows a large tonnage of milling grade ore."

Quoting from a report by Dr. Talmage - dated April 12th, 1918:

"The operating conditions are ideal and the properties can be operated the year around. For many years the mine can be operated through tunnels, assuring low operating costs. Costs will depend entirely upon the tonnage handled and the methods of mining followed. There are several places where steam shovels can be operated - and on a fairly large tonnage basis costs can be kept well below \$5 a ton."

ORES: All ores are typical gold quartz ores of the deep seated type. Free gold is in the near-surface partly oxidized portion of the veins, and in primary ore the gold in the quartz is associated with pyrite and galena as sulphides. Gangue minerals are principally quartz - with some Siderite and Fluorite. The ore will continue to great depth.

ORE SHOOTS: There are many well defined and strong ore shoots on the property. The Vanity Fair; Gold Nugget; Silver Fox; Legal Tender, and other ore shoots on the Western portion of the property have to date not been as well opened up as those of the Eastern group, and while they have identical possibilities and ore characteristics as the eastern ore shoots - will not be detailed here, for they are not scheduled for immediate development, all work is to be concentrated on the ore shoots to be reached through the Main adit for quickest and surest results.

The Eastern ore shoots are the Dives; Emma; Caved Shaft; Silver Dike; and #5 vein - together with other ore shoots of lesser indicated present importance.

The Dives ore shoot is developed by one stope. Former operators sank a shaft to a depth of 100 ft., starting the stope from this shaft. Results were good enough to warrant driving the Dives upper tunnel to get under this stope - this tunnel now is 1,000 ft. long, without any crosscuts to the large and well mineralized veins on both sides. This tunnel is 175 ft. below the collar of the shaft, and from it connections were made to the stope, which is about 400 ft. long, from 5 to over 20 ft. wide, and 175 ft. deep. Large pillars and blocks of ore were left in this stope, now available for mining, and about as much ore was left in the stope as was taken out. Estimates of the stoped areas show a past extraction of about 25,000 tons of ore with reported production of over \$500,000 in gold, or \$20 ore. This ore shoot is now being opened up on the surface an additional 150 ft. to the East. Figured from the upper tunnel to the surface this new block of ore adds an additional 7,500 tons to the ore reserves.

The Emma ore shoot shows ore a good 15 ft. wide at the surface, East of the Dives upper tunnel. This ore shoot has been "gophered" and ore shipped from the surface for a continuous stretch of almost 1,000 ft., and in my opinion will prove to be an ore shoot of maximum dimensions with correspondingly large tonnage. Being practically alongside the Big Quartz vein, which is here 175 ft. wide, the gold and sulphides cooling later than this enormous mass of quartz had a chance to pass off to the sides and form this ore shoot, which seems to carry more galena than the Dives ore shoot, a good sign - for the sulphides carry the gold.

The Caved Shaft ore shoot is so named because of a shaft, now caved, from which earlier operators are reliably stated to have produced ore, rich in wire and massive gold. It is now being worked and shows rich free milling ore some 200 ft. east of this shaft. It is a good strong vein, 2 to 5 ft. wide and carries rich ores.

The Silver Dike ore shoot is a manganese and iron stained, honeycombed quartz, black and reddish mass, right in the middle of the Big Ledge, 175 ft. wide. This is developed only by one tunnel at shallow depth some 150 ft. long. Ore shows on both walls, the ore evidently being much wider than the 10 ft. width of the workings. A few carloads of ore assaying over \$20 a ton in gold were shipped from this working - and the ore shoot is important principally in that it positively proves that the Big Ledge itself is in places richly mineralized, and due to its great size this Big Ledge has a most tremendous potential production. This Silver Dike ore shoot can be reached from both the Dives upper tunnel and the Main Adit levels.

The #5 vein ore shoot is now being worked from the surface, showing a strong and richly mineralized ore shoot over 150 ft. in length at present writing. The ore varies from 3 ft. to over 10 ft. in width, much of it showing free gold. A sample taken of three piles of ore, totalling about 40 tons, ready for shipment by the leasers, assays \$26 a ton in gold.

The several ore shoots mentioned are so closely spaced, and the rock in between these veins is so impregnated with quartz, that for a width of about 300 ft. North of the Big Ledge it seems possible to economically mine this entire width with steam shovels from the surface - or other large-scale mining system. Several million tons of ore can then be mined in a relatively small block of ground.

operations. The topography is steep, yet not rugged, and the adit level will provide stoning backs varying from 250 to over 500 ft. on the veins in the area to be mined from the Adit. For years to come large scale mining operations can be conducted through this adit - assuring low cost operations.

*1 -
2500 ft. Drift
from
Adit*

EQUIPMENT: Equipment consists of two semi-diesel air compressor plants housed at the portal of the main adit, which under fair operating conditions, should enable about 1,000 ft. of development work per month. Blacksmith shop and other buildings are on the ground, giving the property a good start.

PLANS AND RECOMMENDATIONS: Without reservations I endorse the plan of operations of the Management of the Company. They propose to complete as an initial development program 10,000 ft. of crosscuts, drifts, raises, winzes, etc. from the Main Adit, now 1,200 ft. long. This adit is to be continued to ore showings at the Limestone-Andesite contact, about 1,000 ft. distant, and should cut many veins in this distance, there being five well defined and proven gold bearing veins within the first 500 ft. As these veins are cut they are to be drifted upon in both directions, and, as they will be cut about 300 ft. below the surface, I am confident an immense tonnage of ore will be proven and blocked out by this program of development.

To place the property on an immediate profitable earning basis, the Management proposes to erect a concentrator of 100 tons daily capacity at the portal of the adit, through which all ores can be handled. This mill is primarily to mill-run sample all ores encountered during development - adding enough high grade to sweeten the low grade to meet all operating costs and earn profits. The earnings of this mill can be used to supplement development funds - and the experience gained in metallurgical problems will determine future larger scale milling practise.

CAPITAL REQUIREMENTS: to complete the initial development program above outlined:

Initial 10,000 ft. of development from and above Main Adit.....	\$100,000
100 ton mill (without power-available elsewhere).....	50,000
Additional machinery and equipment.....	25,000
Cash Reserve, etc.....	25,000
Total	\$200,000

ESTIMATED COSTS: with 100 ton mill, during initial development campaign.

Mining.....	1.50	per	ton
Milling.....	1.00	"	"
Administration and Taxes.....	.75	"	"
Development.....	1.00	"	"
Total	\$5.00	"	"

When operated on a larger tonnage basis these costs can be cut more than half.

Every indication points to an abundance of ore averaging \$10 a ton for this 100 ton mill.

CONCLUSIONS: Operations of previous owners and managements were entirely devoted to mining and milling selected rich ores through selective mining in one stope, on what is now proven to be merely one of the smaller veins of the property. The ores they mined and milled apparently averaged about \$40 per ton, and in mining this rich ore they completely overlooked the enormous tonnage of lower grade and many high grade lenses shown in the massive veins and other ore shoots of the property.

I wish to also emphasize that the entire 3 mile length of the property has in places very similar ore zone characteristics as mentioned in the foregoing paragraph - and that future operation of the property will probably follow, first, selective mining of the veins, getting higher grade ores and lesser tonnages, followed by caving of the entire ore zone, handling enormous tonnages of low grade ores.

PRESENT GRADE OF ORES BEING MINED: Leasers are now working on Dives: #5 and other ore shoots. They are working from the surface and the Dives upper tunnel. Piles of their ores assay in 50 ton carload lots from \$26 to \$54 per ton in gold content. These results check closely with affidavits of men who worked in this mine in 1914 and 1920, and with published data regarding production during that time. This data states that ores mined and milled averaged \$40 per ton, with a large tonnage going over \$100 per ton in gold. Most of this ore came from the Dives stope, and must have been wholly or partly oxidized, some being leached of values, other enriched. My experience in mines of this character indicates that it is reasonable to expect as rich or even richer ore from the deeper levels and primary ores of the many veins of this property.

The workings are so extensive there was not enough time at the disposal of the writer to enable an assay map to be made - and at the same time experience shows that such an assay map would under the conditions existing be of but little practical values, for the backs of the old stope cannot be reached, most of the old workings are merely entrances and are not in ore - yet there is sufficient ore developed and in sight to warrant developing the property for very large scale production.

DEVELOPMENT: Some 4,000 ft. of development work is completed, the principal items being the Dives tunnel 1,000 ft. long, which reached a depth of 175 ft. above which the Dives ore shoot was partially stoped with reported production of over \$500,000 in gold, and the 1,200 ft. long adit tunnel driven to cut the Dives vein at an additional depth of 165 ft. Study of the mine maps show this adit has not yet cut the Dives vein, but has about 100 ft. yet to go, depending upon the dip of the vein.

There are several shafts, tunnels and other workings on the property, all of lesser importance at present - but from which good ore has been taken.

METALLURGY: My experience indicates that the best practise on the ores of the property is Flotation, making concentrates. A small blast furnace can be erected on the property and the concentrates smelted and refined, recovering all the Gold and Silver - converting the Lead into Litharge, to be sold at a higher price. This is the method I followed at the Veta Colorado mine at Parral, Chihuahua, Mexico. It was successful and effected great savings compared to shipping to smelters.

OPERATING CONDITIONS: I do not believe it possible to improve upon the favorable operating conditions existing at this property. It is two miles from the portal of the main adit to the railroad depot; a town is nearby with houses for workmen, stores, and abundant labor supply. Water now issues from the adit in volume sufficient for a small mill, and sinking on the veins from the adit level should develop abundant water for a large mill - and the Central Copper Co. have wells 9 miles distant with an 8" pipe line, guaranteeing ample water for all future milling operations. The topography is

It is the intention of the present Management to develop the property for very large scale operation on lower grade ores, averaging \$10 per ton - and there are millions of tons of this grade of ore indicated in the veins, with many high grade lenses available to sweeten and step up the grade and operating profits. This plan meets with my endorsement - and I am confident it will be successful.

It is my opinion the expenditure of the \$200,000 above mentioned will result in placing the property on a profitable earning basis - and complete the development program outlined, proving and blocking out sufficient ore to warrant the erection of a mill of much larger capacity.

(Signed) Chas. F. Spaulding, E. M.

Chas. F. Spaulding, E. M.
Graduate 1898, Michigan College
of Mines
Houghton, Michigan