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Arizona Department of Mines and Mineral Resources Mining Collection

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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: GIBSON MINE

ALTERNATE NAMES:

BELLEVUE-OLD SITE
KUNO PROPERTY
CLAIMS MS 2219
SUMMIT PROPERTY
REYNOLDS GROUP
PASQUALE GROUP

GILA COUNTY MILS NUMBER: 87B

LOCATION: TOWNSHIP 1 S RANGE 14 E SECTION 21 QUARTER W2
LATITUDE: N 33DEG 19MIN 40SEC LONGITUDE: W 110DEG 56MIN 45SEC
TOPO MAP NAME: PINAL RANCH - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

COPPER SULFIDE
COPPER OXIDE
SILVER
GOLD
BERYLLIUM

BIBLIOGRAPHY:

ADMMR GIBSON MINE FILE
ADMMR TUCSON-GLOBE GROUP FILE (VARIOUS RPTS)
RANSOME F L GEO GLOBE CU DIST USGS PP 12 1903
P 162
AZ MNG JRL NOV 1919 P 46, ABM BULL 180 P 105
PETERSON N P GEOL PINAL RANCH QUAD USGS 1141-
H 1963 P H11-H13
STEVENS S J CU HANDBOOK VOL 10 1911 P1618-162

08/07/87

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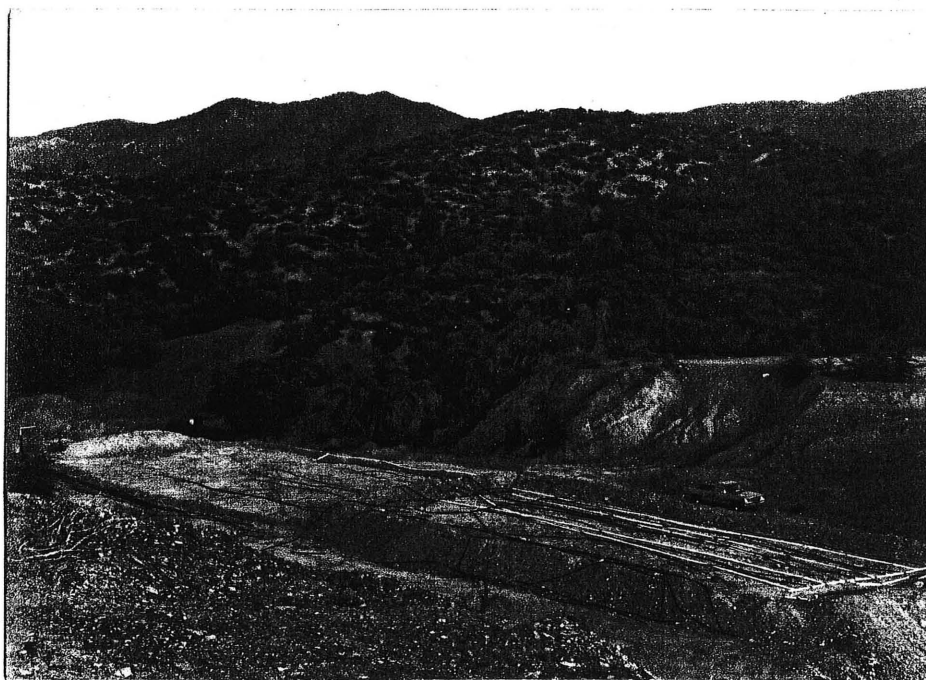
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Gibson Mine Gila County 1/3/80

View of the 2 most recent leach pads. Each pad is approx. 100' x 30'. PVC pipe is badly deteriorated at the time of visit. Leaching was carried out for copper.

Camera looking SE





Gulson Mine
T1S R1E Sec 21
W2

Pinal Ranch 1.5

The Mining News

The Current History of Mining

Alaska

The S.S. "Tetlin," the first boat to leave Fairbanks this season, left for Fort Gibbon, at the junction of the Yukon and Tanana Rivers, on May 1.

The spring cleanup at Nome is in full swing, and is the earliest in the history of the camp.

Arizona

GILA COUNTY

Miami—In April, 83,465 tons of ore were mined, of which about 29,000 tons came from development work, 32,000 from square-setting next to capping, 14,000 tons from the shrinkage stopes, and 8000 tons from the old dump at No. 2 shaft. Development work amounted to 6602 ft., comprising 4492 ft. of drifting and 2110 ft. of raising, virtually all in ore. The erection of the steel tailing-tower is finished and it is being equipped with four 60-ft. bucket-elevators, all of different make, to make a test of their wearing qualities. In the concentrator, the 100-hp. motors that drive the intermediate crushing machinery are being replaced by 150-hp. motors, and a small experimental section is being run in connection with the sixth unit. Another water-tube boiler will be added to the power-house equipment, after which both compressors can be run to capacity and will furnish air for hoisting, that work now being done by steam generated in the hoist building. A diamond drill will soon be rigged up on the 570-ft. level, and the ground below that level explored. J. Parke Channing is still at the mine.

Superior & Boston—The mine is shipping ore to the Old Dominion smelter, at Globe. The ore is all coming from the slope below the sixth level on the Great Eastern vein and local officials say that a car per day could be shipped if the cars could be obtained. Shipments were started on Apr. 22, and four cars were shipped during that month, the first three averaging 9½% copper and the fourth, 7½%. Six cars have been shipped up to date this month. Development work continues on the 12th level, where the southeast crosscut is being advanced.

Gibson—About 20 men are employed at the mine, nine miles west of Miami, and ore is being hauled regularly to Miami, whence it is shipped to the Old Dominion smelter. Work is confined to the fourth and fifth levels on the Pasquale

vein, and all ore is coming from five stopes on the fourth level. Crosscuts driven into the hanging wall have disclosed shoots of ore as wide and of as high a copper content as those now being stoped, and stoping will be started on these. The south drift on the fourth level is being advanced and drifts are being driven north and south on the fifth level. Shipments assay from 16 to 18% copper.

Duquesne—High-grade gold-lead ore is being hauled from the mine, seven miles northwest of Miami, preparatory to shipping to the El Paso smelter. Four men are reported to be mining about 10 tons of ore per day. The last shipment assayed about 15% lead and over 1 oz. per ton in gold.

New State—The development of this mine, seven miles northwest of Miami, is proceeding under the supervision of John Shaw. Five men are employed and work is confined to the sinking of the shaft in which 4 ft. of lead molybdenum ore were recently disclosed. The shaft is 45 ft. deep and the vein is of varying width.

Inspiration Consolidated—Development is proceeding steadily and the number of men employed is being gradually increased. Shafts No. 1 and 2, at the Live Oak mine, are being sunk and preparations made to resume sinking at the Scorpion shaft. Ore from development is being extracted through the Joe Bush shaft. Tests on the concentration of the ores, that J. M. Callow has been conducting in the experimental mill for the last five months, are completed, and some of the results will probably be made public soon. The survey of the Black Warrior ground for a possible mill site continues.

Southwestern Miami—Three churn drills are in continuous operation.

New Keystone—Negotiations are pending for the absorption of this company by the Inspiration Consolidated.

South Live Oak—The large churn drill is running steadily, and is drilling a 17½-in. hole, which is now over 100 ft. deep, and in the granite-porphry formation.

Old Dominion—The management does not expect to increase the production materially until the milling capacity has been increased. Appropriations have been made for construction work that will involve the expenditure of \$600,000 during the next two years. The work includes the improvement and enlargement of the concentrator that will increase its capacity from 500 tons to 1000 tons per

day, and the construction of a new crushing and sampling mill, all construction to be of steel and concrete. H. Kenyon Burch, designer of the Miami and other large concentrators, will have charge of the work. Skips will be substituted for cages, thereby increasing hoisting capacity. The shaft is being sunk from the 16th to the 18th level.

GRAHAM COUNTY

Arizona Copper Co.—The directors announce that the issue of £500,000 of 5% terminable debentures, recently authorized to meet the cost of the new construction, has been taken up in full and that the lists are now closed.

YAVAPAI COUNTY

Pacific—The matter of erecting a 100-ton reduction plant has been under consideration for some time, but nothing definite has been done. Various estimates have been obtained and some tests made on the ore. W. V. De Camp, Crown King, is general manager.

Arkansas

Madison—Plans for the resumption of operations on this zinc mine, south of Zinc, are being made.

California

AMADOR COUNTY

Doctor Lynch and associates, of Sutter Creek, recently purchased a 5-ton Avery auto-truck, to do general freighting between the mines and railroad, at Martells. The experiment will be watched locally with interest.

Fremont—The company recently installed a 16x10x14-in. Ingersoll-Rand, duplex, one-stage, belt-driven air compressor, with a 100-hp. General Electric motor, to operate the drills and pumps, respectively.

South Jackson—The transformers recently received are in position. The two 75-hp. electric motors are ready for installation. The new plant should be in operation by June 1. The hoist is good for 2000 ft. The shaft will be of 3-compartment size.

CALAVERAS COUNTY

Hexter—The retimbering of the tunnel is about completed. It is expected to tap the lower gravel channel known to be in Stockton Hill. Steve Hughes, of Mokelumne Hill, is superintendent.

Great Eastern—William Weymouth, of Plymouth, Amador County, is reported

to have taken an option on this mine at West Point. A large vein has been exposed and is said to extend across the line into Amador County.

FRESNO COUNTY

Coalinga Royal—Well No. 2 is reported to have 40 gravity oil at 2900 ft. and below the salt water sand. This is the first well to drill through this sand.

Standard—This company has drilled through the brown shale on Section 28 and has paraffine oil, the only producer of this character of oil in the state.

California Oilfields—The company is preparing to deepen two wells to reach the paraffine oil in the Coalinga field.

HUMBOLDT COUNTY

Klamath River—There are 1500 ft. of steel pipe line for use in conveying water for the hydraulic operations, and the intention is to install as much more this summer. The ground is full of large boulders and two Hendy giants are worked alternately, as the water has to be shut out of each digging while the rocks are being blasted. The flume and pipe line carry 2000 in. per min. C. A. Sample, Weitchpec, is general manager.

Cavanagh—This property, opposite the Klamath, was purchased in 1911 by C. A. Sample, but little work has been done. An electric pump will probably be installed this summer, to deliver 1500 in. per minute.

INYO COUNTY

Wiltshire-Bishop Creek—The mill machinery, which was shipped from the East, should arrive about June 1. The arrival of Algernon Del Mar and a crew of carpenters, indicates that the mill timbers will be ready in time. The stamps will be set on concrete. Underground development will not be delayed.

KERN COUNTY

Standard—Well No. 1 in the Lost Hills district has 30 gravity oil at 2140 feet.

MODOC COUNTY

Prospectors and investors are still going into Highgrade, and they who have been in for the last month are locating claims in the snow.

NEVADA COUNTY

Little Nellie—A new orebody was recently found on the 370-ft. level. The mill has 15 stamps, two patent amalgamators, two Wilfley concentrators and four Johnson vanners. The mine is near the Iron Mountain mine, on the Iron Mountain Railway.

Gaston Gold Mining Co.—The 40-stamp mill is running at full capacity and 100 men are employed. The main shaft has been sunk to the 400-ft. level and a station cut. A raise is being driven to connect with this from the 500-ft. drain tunnel.

Iron Mountain Copper Co.—About 100

tons of ore per month are being shipped. The low-grade ore goes to the Standard Oil Co., and the high-grade to the smelter, at Martinez. The best ore is reported as being stored near the site of the old smelter at Keswick.

PLUMAS COUNTY

The auto-stage line from Keddie on the Western Pacific R.R. to the Greenville mining district is proving a winner so far as time and cost are concerned. The distance is 17 miles; the time is 45 min. for the daylight, and 50 min. for the night run by automobile. One of the auto lines has announced a rate of \$1 for the trip, a reduction from the former \$2 rate. The activity of the Great Western Power Co., in the Greenville district, is the answer to this competition. Freight as well as passenger rates will be affected and it was the freight rate demands that caused the passenger-rate reduction.

SHASTA COUNTY

Noble Electric Steel Co.—The first shipment of California pig iron went to Silver Brothers, Salt Lake City, May 10. The furnace has a capacity of 12 tons per day. The iron ore is mined near the Pitt River.

SIERRA COUNTY

Poker Flat—Work has been resumed after several months' idleness caused by water shortage. P. H. Dugan is superintendent.

Tri-Metallic—Ore has been uncovered at this Long Valley mine, carrying paying quantities of copper and silver as well as a good percentage of gold.

TUOLUMNE COUNTY

App—It is reported that the Tonopah-Belmont Development Co. has exercised its option on this mine.

Dutch—The unit of 20 stamps, added to the 20-stamp mill, was commissioned about May 1. The stamps weigh 1000 lb. apiece and have a crushing capacity of about five tons each. Eight Johnson concentrators were also installed. The new plant was built by the Union Iron Works, of San Francisco. The mill is electrically driven. At present the hoist is steam driven, but will be changed to electric power. C. H. Segerstrom, of Sonora, is manager.

Colorado

BOULDER COUNTY

Alpine Horn—This property, at Sugar Loaf, is making regular shipments of ore to the Globeville plant of the American Smelting & Refining Co. The ore averages about 2 oz. gold. The new intermediate shaft on the property is down 140 ft. and is within 25 ft. of the 130-ft. level of the workings connected with the property of the United States Gold Corporation. The connecting of this shaft with the workings of the latter company will undoubtedly settle the litigation.

tion of apex rights, which has been in the district court of Boulder County for nearly two years.

CLEAR CREEK COUNTY

The Argentine Central R.R., from Silver Plume to the Waldorf and other mines on McClellan Mountain, will be sold on May 29 by the sheriff to satisfy judgments held by the bondholders.

The suit between the May Day and Idaho, in the La Plata Mountains, both celebrated for their rich ore, has been decided in favor of A. E. Reynolds, owner of the May Day. The Idaho is credited with one shipment of 1½ tons of ore that brought \$35,000. The Incas mine in the same district is said to have produced \$25,000 since its discovery in the autumn of 1910. These mines are in horizontal deposits in limestones and sandstones.

Santiago—About 1000 tons of \$40 ore are now ready for shipment and ore hauling has been stopped owing to the tremendous snowfall of last week, which has made the roads impassable.

Rosebud—Work has been resumed and the crosscut tunnel is to be extended 100 ft., making a total length of 800 ft. Good ore has been opened on the Rosebud vein by a drift from the tunnel.

GUNNISON COUNTY

In the vicinity of Pitkin, H. B. Heffner's tunnel on the National, on North Quartz Creek, is in 225 ft., and Elmer Wiley's tunnel, on the Morning Glory, is in 500 ft. A. E. Reynolds's tunnel, in South Hall's Gulch, is in over 1000 ft. The Gold Belt Drainage & Transportation Co. is driving two tunnels with a good vein intersected in each, one showing copper ore and the other gold and tellurium ore. The Roosevelt tunnel, on South Quartz Creek, is also in 1000 ft. and nearing the Roosevelt vein, its objective point. In the Bowerman district the Abe Lincoln mine and mill will be operated again, with G. W. Brown as superintendent.

LAKE COUNTY-LEADVILLE

Chieftain—The shaft and surface workings at this and the By Chance mines are being repaired, and underground work will be commenced soon. Denver men are interested.

Sierra Nevada—A good body of zinc ore has been opened by lessees Garrett & McDonald, in a winze below the tunnel level, and regular shipments are going out.

SAN JUAN COUNTY

The shipments in April from Silverton over the Denver & Rio Grande Ry. were: Silver Lake mine, 837 tons of concentrates; Sunnyside, 675 tons; Iowa-Tiger, 648 tons; from the Gold Tunnel, 108 tons.

Bullion Bar—This group has been taken over by the Florida Mining Co., of which Samuel R. Piles and P. J. Nugent are the

Gibson Mine

R E F E R E N C E S

USGS P.P. #12 p. 162
(Summit Mine)
BLM Mining District Sheet
Tucson-Globe Group (file)
USGS PP 12, p. 162
Arizona Mining Journal 1919, p. 46
USGS Bull. 1141-H, p. H11-H13
Copper Handbook - Vol. 10, 1911, p. 1618-1620
MAPS - Upstairs in the ABM rolled file boxes (Arizona Globe Copper Co.)
MILS Sheet sequence number 0040070337
ABM Bull. 180, p. 105

PAY LIST 10/1969

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US Geological Survey Digital Data Series 20
Release 1 June 1996

RECNO M241234
REC_TYPE S
REP_DATE 82 05
FIL_LINK USBM 0040070337
REP GEST, DON E.
REP_AFF ABGMT
SYN KUNO, PASQUALE, SUMMIT
DIST SUMMIT DISTRICT
COUNTY GILA
STATE_CODE AZ
CTRY_CODE US
PHYS 12
DRAIN 15060103 LOWER COLORADO
LAND_ST 01
QUAD1 PINAL RANCH (1949)
Q1_SCALE 24000
ELEV 4700 FT
UTM_N 3688156
UTM_E 505438
UTM_Z +12
ACC NO UTM GRID ON QUADRANGLE, GROUP OF SHAFTS, CENTRAL POINT
USED
TOWNSHIP 001S;
RANGE 014E;
SECTION 21;
SECT_FRACT SE OF NW
MERIDIAN GILA AND SALT RIVER
POSITION 1 MILE ENE OF LOST HORSE SPRING, 2 MILES ESE OF FIVE
POINT MOUNTAIN
LOCATION AT BELLVUE TOWN SITE, 1 1/2 MILES E OF PINAL COUNTY LINE,
1/4 MILE W OF PINTO CREEK ; INFO FROM LAND.ST : (1979)
SITE GIBSON MINE
LAT 33.3342
LONG -110.9417
CTRY_NAME UNITED STATES
COMMODO CU AG AU
ORE_MAT CHALCOPYRITE
MAJOR CU
MINOR AG AU
PROD S
LOC_STRUCT N 25 E TRENDING VEINS WITH NW DIP OTHER NE TRENDING VEINS
NW OF MINERALIZED VEINS
STATUS 6
NAT_DISC B

YRFST_PROD 1903
 YRLST_PROD 1970'S
 OPER GEOPROCESS CO INC, AND ARIZONA GOLD AND SILVER CO, 1972
 EXPL_COM OPERATORS INCLUDED: GIBSON CONSOLIATED COPPER CO (MAIN
 PRODUCER). BELLVUE COPPER CO, PASQUALE COPPER CO, A.P.
 PEAKE AND H.E. BIERCE, 1917, KUNO MINES CO, SUMMIT COPPER
 MINES, MILLER AND KEYES, 1929, BEN HENDERSON, RAY
 PATTERSON, ROSE FINLEY, TADICH AND HAYMAN, SULTAN AND
 WAYNE, ELTON CLARK, AND LOUISE KEUHNE. 16 PATENTED AND 53
 UNPATENTED CLAIMS IN 1972

 DEP_TYPE VEIN
 DEP_FORM LINEAR
 MAX_WID 10
 M_W_U FT
 DEP_SIZE S
 STRIKE N 25 E
 DIP 35 TO 55 NW
 DDESC_COM SUMMIT VEIN N55W, BUT DIP DETAIL VERY IRREGULAR. ROLLS IN
 VEIN FAVORABLE FOR ORE DEPOSITION. PASQUALE VEIN N35W, MORE
 LINEAR, FAULT ZONE 3-10 FT WIDE. VEINS PARALLEL

 QUAD250 MESA
 DEPTH_WK 500
 D_W_U FT
 LEN_WK 10,000
 L_W_U FT
 DWORK_COM FOUR INCLINED SHAFTS, ONE VERTICAL SHAFT, 6 LEVELS
 WITH RAISES AND STOPES. MAIN SHAFT ON SUMMIT VEIN.
 MIN_AGE ETERNITY
 ORE_CNTL IN THREE LENTICULAR SHOOTS, SEPARATED BY INTERVALS IN
 WHICH

 VEIN FRACTURE IS OBSCURE AND PRACTICALLY BARREN OF ORE
 MINERALS. ROLLS AND FOLDS IN VEINS FAVORABLE FOR
 DEPOSITION
 HRU_AGE PREC
 HRU_NAME PINAL SCHIST
 NAME GEST, DON E.
 DATE 05/01/82
 CONT_CODE NA
 GEOL_COM MINERALIZATION ASSOCIATED WITH SCHULTZE GRANITE INTRUSION,
 1

 TO 1/2 MILES N, NW AND W. PASQUALE VEIN IS NOT CONFORMABLE
 TO THE BEDDING OF THE SCHIST. SUMMIT VEIN IS CLOSELY
 CONFORMABLE.
 GEN_COM INFO.SRC : 1 PUB LIT; 2 UNPUB REPT
 REF USGS BULLETIN 1141-H, 1963, P.11|ADMR GIBSON MINE
 FILE|ABGMT-USBM FILE DATA|ABGMT CLIPPINGS FILE
 CONT_NAME NORTH AMERICA
 STATE_NAME ARIZONA
 WORK_TYPE U
 COMMOD_TYP M

DATE_ISSUE 95/5/18
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PROF_LOC 100
PF_COMMOD 66
PROF_EXPL 75
PFDESC_DEP 50
PFDESC_WRK 100
PROF_GEOL 64
PROF_REF 100
PROF_ALL 72
HR_AGE_MV PREC
HR_TYPE_MV SCHIST
AR_AGE_MV ETERT
AR_TYPE_MV SCHULTZE GRANITE
TYPE R
AFFIL ABGMT
DEP_CODE 11000
HUC 15060103

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US Geological Survey Digital Data Series 20
Release 1 June 1996

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REP_AFF ABGMT
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DIST SUMMIT DISTRICT
COUNTY GILA
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 PROF_ID 100
 PROF_LOC 100

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PROF_EXPL	75
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PROF_REF	100
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HR_TYPE_MV	SCHIST
AR_AGE_MV	ETERT
AR_TYPE_MV	SCHULTZE GRANITE
TYPE	R
AFFIL	ABGMT
DEP_CODE	11000
HUC	15060103

SUMMARY OF
LODESTAR MINING AND EXPLORATION PARTNERSHIP

THE PARTNERSHIP. A limited partnership, LODESTAR MINING AND EXPLORATION PARTNERSHIP will be formed with LODESTAR MINERALS INC., A Delaware corporation, as General Partner, and investors as Limited Partners.

LODESTAR is presently starting pilot operations on the in-situ leaching of a portion of the underground mine workings and is in the process of starting operations on two heap leach pads already loaded with ore. Testing and assaying are underway to identify high grade copper and silver ore. Preparations are underway to produce copper concentrates from the pilot operation.

PROPOSED ACTIVITIES. The Partnership's first objective will be to increase the recovery of copper, silver and gold from a portion of the 4 sections of land (157 claims) the Partnership will have under its control, to produce a cash flow.

The second objective is to conduct development and exploratory activities for purposes of evaluating the commercial recoverability of additional mineral reserves. The reserves are primarily, but not exclusively, copper, silver and gold ores. The specific sites on the Gibson Property identified for development will be selected based on the outcome of the "Preliminary Property Evaluation Report" by mining engineer James B. Fletcher et al, as ammended. This phase of work includes:

- a. Data research
- b. Geological mapping.
- c. Geological report.
- d. Drill hole data.
- e. Photogrammetric aerial survey.
- f. Preparation of a mine model.

The third objective will be to expand the Gibson from a pilot operation to full production based on the conclusions and recommendations of the previous work. Preparations will be underway to secure the necessary additional financing to meet this goal. Substantial funds will be required to install equipment necessary for a modern mining operation. The securing of additional funds is not anticipated as a problem because the value of the property will have been greatly enhanced, once the second objective work has been completed.

USE OF PROCEEDS. The funds will be expended for the general purpose and in the estimated amounts shown below. The estimates furnished are only intended to indicate the proposed use of funds. Actual expenditures for particular items may vary substantially from those indicated.

Pre-mining exploration and pilot leach concepts.	26%
Pre-mining geological, and mining engineering study.	25%
Secondary finance search (objective 3)	18%
General Partner management fee.	10%
General and Administrative.	8%
Property acquisition costs.	7%
Lease payments.	6%
Total.	100%

CONTRIBUTIONS AND OWNERSHIP. For its General Partner's interest, LODESTAR will contribute a lease with an option to buy on 142 mining claims plus 15 deeded patented claims jointly known as the "Gibson Copper Mine" property. In addition to the mining claims, the existing work completed to date and the existing mine improvements will be included. For its Limited Partner's interest, the Limited Partner will contribute \$386,000.00 cash. Ownership will be 75% to the General Partner and 25% to the Limited Partner.

PARTICIPATION IN PROFITS AND CASH DISTRIBUTIONS. Partnership profits will be allocated 50% to the General Partner and 50% to the Limited Partner until the Limited Partners initial contribution is returned thence 75% to the General Partner and 25% to the Limited Partner.

CONDUCT OF OPERATIONS. The General Partner will manage and control Partnership activities, and the Limited Partners will not be permitted to engage themselves in such management and control. LODESTAR will direct the conduct of Partnership activities using members of LODESTAR'S staff, outside consultants (such as geologists, mining engineers, metallurgists, assayers), and third party contractors for drilling and other operations, as in its absolute discretion it deems necessary or desirable. The services of third party consultants and contractors will be obtained by the General Partner on such terms as it considers justifiable in view of the purposes for which the services are being obtained, fees customary in the industry for similar services, and the nature and extent of the services performed. The General Partner will also review, and as necessary, supervise the preparation of business, and other records and reports.

RISK FACTORS. Exploration for minerals is highly speculative, even when conducted on properties known to contain significant quantities of copper, silver and gold mineralization. There can be no assurance that the property will be developed and operated even if it appears, based on the results of exploration, that a commercially minable deposit exists. It should be anticipated, that it will be necessary to raise a very substantial amount of capital to bring the Gibson Property into full production. There is no assurance that adequate development funding may be obtained by any given time or in the amounts sought. Government regulation and laws may change from time to time, in a manner that has a material adverse effect on the operations to be conducted by the Partnership. The market into which minerals are sold or traded have in recent times been very volatile. In view of this fact, market conditions existing at the time of the decision to develop and operate the Property, may no longer exist, when the Property is ultimately placed in production. In such case,

it could be necessary for the Partnership to sell or otherwise dispose of its interest in the Property upon the best terms and conditions available, as the General Partner may determine.

MANAGEMENT. Lodestar Minerals Inc., a Delaware Corporation, was incorporated on May 28, 1987 for the purpose of acquiring mineral prospects and exploring for, developing, and exploiting minerals and mineral derivatives.

Principals' Biographical Data

Donald R. Ross, age 61, a director and President of Lodestar, attended the Montana School of Mines in Butte. For 15 years Mr. Ross was Vice President of the Kenite Corporation in Quincy, Washington. He was responsible for and supervised the open pit mining, the minerals processing plant, production and quality control. In 1969 Mr. Ross joined Sil Flo Inc. (a producer of perlite filteraid) in Fort Worth, Texas, as Vice President of operations. Mr. Ross developed the "Burning Hearth Furnace", an energy efficient system for calcining, roasting, sintering, drying, and exfoliating materials. Mr. Ross holds 6 patents on the furnace. Since 1982, Mr. Ross has been a private consultant on projects with (a) TEX-VAN, processes for recovery gold and silver from vermiculite ore. (b) Northwest Scientific, field testing of a portable cyanide plant for recovering gold and silver. (c) Nord Resources, investigating processes to produce new perlite products.

Jerry A. Covey, age 41, a director and Vice President and Chief Financial Officer of Lodestar, has been with the Federal Aviation Administration, Air Traffic Division since 1970. During this time, his duties have been Air Traffic Control and Plans and Procedures. In Procedures, he was responsible for airspace matters and for planning and procedures between the FAA, and military, commercial and civilian aviation. Mr. Covey has organized numerous successful partnerships that have owned and operated residential apartment projects and other properties in Long Beach, California and Phoenix Arizona. Since he relocated to Arizona in 1980 with the FAA, he has been involved in mining property research and with real estate as an owner, builder, and developer. Mr. Covey brings to Lodestar his skills in management, organization, finance, and computers.

James R. Covey, age 46, a director of Lodestar and General Manager of Mining and Construction, has since 1980, owned and operated his own company that specialized in foam roofing, insulation, and specialty coatings. After he left the U.S. Navy in 1965 as Nuclear Weapons Technician he gained experience as a heavy duty pump mechanic, pipeline welder, well rig foreman, booster pumps, turbines, highlift and submersible pumps, electric controls, wiring, motors, maintenance of this and mechanical equipment, and is a heavy equipment operator. His management experience began in 1972 as Plant Manager for Metro Minerals in Gardena, Ca. He held positions of Foreman, Superintendent and General Manager at Foam Paint and Coatings in Phoenix, and assistant foreman for the Phoenix Water Department. He holds an "Operators Certificate, Grade 3", from the State of Arizona Department of Water Quality and Control.

Received in mail / no personal knowledge or control
Send to
James Bond
for info
GIBSON (A)
JBL

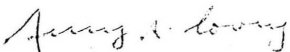
August 5, 1988

LODESTAR MINERALS INC.
P.O. Box 1089
Mesa, Arizona 85211
(602) 833-3355

Dear Sir,

The following is an information package on the "Gibson Copper Mine." Lodestar Minerals Inc. is presently conducting preliminary development work on the property. If your company or an associate is interested in additional information, please contact Don Ross or Jerry Covey or write Lodestar Minerals.

Sincerely yours,


Jerry A. Covey

Vice President &
Chief Financial Officer

GIBSON MINE Not here

WORKING POLICY CONT'D

An actual survey shows that there is more copper left in the mine mine, in the shape of low-grade ore left standing and used as fill in the stopes, than has ever been shipped in the shape of high-grade.

All the mining has been done by the simple system of raising and stoping and the mining of the high-grade has been accomplished largely by picking it down on canvas or iron sheets after it has been stripped off the low-grade. As the judgement of the miner had to be relied on, this resulted in a loss of an average of 20% high grade in with the stope fill, or was raised to the surface and dumped on the tailings pile.

HISTORY OF OPERATION :

Notwithstanding this method of extracting and marketing the ore values, the Gibson mine has been a steady producer of copper for the past eleven years. During that time there has never been a period of as much as one month in which it was not producing. A short history of the operation of this property is both interesting and necessary to get the proper perspective and will explain to a large extent, the seemingly indefensibility for the policy of the management.

In the year 1904 steady operations were begun on the property by S. L. Gibson and Wm. Henderson, without a dollar of real capital. The first work was done on the summit vein through what is called the "Whim shaft". At a very slight depth they encountered high grade chalcopyrite and soon opened a large body of this ore. Shipments began almost at once and with the income thus derived a large force of men were put on the job of developing the present "Wall" shaft. On this INCLINE SHAFT they placed a good gasoline driven hoisting outfit and proceeded to the two hundred foot level, where even larger bodies of high-grade ore were found. By August of 1906 the shaft was five hundred feet deep and four levels had been run, from which a great deal of stoping was in progress. It was at this time the gasoline hoist was replaced with a steam driven hoist. Until the fall of 1907 the mining was confined to the Summit vein down to the four hundred foot level and within a space of about 1000-feet overall length, breaking into the Pasquale vein in which another large body of ore was opened where the vein was cross cut, that was driven to it on the 300 foot level.

During this period the number of men employed at the mine averaged about 270 and the income of the company was immense. For the year 1907 alone, the production of the mine was 3,340,770 pounds of fine copper. Absolutely no attempt was made to sort and ship ore which assayed less than 16% copper and during these early days some very rich ore was ignored and became mixed in the low grade placed in the stopes.

In the three years of 1905, 1906 and 1907 money was lavishly spent by the owners both on and off the property. They had many new buildings erected and equipped and started to sink a new shaft now known as the "Vertical". Much greater investments were made elsewhere, however, i.e. Real Estate in Globe, in many unproven mining properties, in a large timber tract and saw mill in the Graham mountains, etc. but no investment was made in the one thing that would have likely made the property one of the most permanent and profitable, that was a milling plant which will values from all the ore which was being neglected just because it was lower grade than their conception of what the grade of shipping ore should be.

TO PROVIDE

IN THE DAYS OF THEIR GREAT PROSPERITY THEY FAILED TO PROVIDE THE MEANS WHICH WOULD MAKE POSSIBLE THE ONLY TRULY PRACTICAL AND EFFICIENT METHOD OF WORKING THE MINE.

IN THE YEAR 1907-1908 during the winter season the INCLINE shaft was sunk to 600 feet and extensive new development work was started, then the price of copper dropped in price and the expenses of the new development work was very high and the cost of the system of mining was mounting higher and higher. Furthermore there were many difficulties arose due to the outside investments they had made, and the mine could not provide all the money required and at the same time pay for its own development.



Gibson Mine Gila County 1/3/80

View of the 2 most recent leach pads. Each pad is approx. 100' x 30'. PVC pipe is badly deteriorated at the time of visit. Leaching was carried out for copper.

Camera looking SE

02/03/92

ARIZONA COPPER RESERVES

COMPILED BY

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

PROPERTY:

GIBSON

OPERATOR\OWNER:

Lodestar Minerals Inc.
P. O. Box 971
Miami, AZ 85539
602-830-8001

ROBERT AND ELA FRANKS
944 E. FRIAR AVE
APACHE JCT, AZ 85219
983-3577

PATENTED
+
(UNPATENTED)
CLAIMS

RETURNED TO OWNER ↗

LOCATION INFORMATION:

TOWNSHIP 1 S RANGE 14 E SECTION 21
COUNTY - Gila AZMILS - 87B
DESCRIPTION - 7 miles SW of Miami

ORE TYPE AND RESERVE INFORMATION:

Acid Soluble - 10.8 MILLION TONS AT 0.70% TCu
Acid Soluble - 43.2 MILLION TONS AT 0.40% TCu

SOURCES:

Fletcher, J.B. et al - "Gibson Mine Project Scope and Preliminary
Property Evaluation Report" pg viii - 4 & 5, Aug. 1984

~~9/26/69~~ 10/92
FRANKS, ROBERT, Gen Mgr. AND ILA
Arizona Mining Properties, Inc. 944 E. FRIAR AVE
1006 Main
Houston, Texas
APACHE JCT, AZ 85219
602-983-3577

OWNER
GIBSON MINE (file) Gila County Cu

VIS9.MJ1

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

VERBAL INFORMATION SUMMARY

1. Information from: Mona Johnson
2. Address: 8211 N. 1st Ave., Phoenix, AZ 85021
3. Phone: 943-1952
4. Mine or property name: Gibson Mine
5. ADMMR Mine file: Gibson
6. County: Gila
7. MILS number:
8. Operational Status:
9. Summary of information received, comments, etc.:

Ms. Johnson donated an extensive group of reports on the Gibson Mine. She explained that her husband and Nick Carouso were once involved with the property. They no longer have need for the data. Included are maps, assay results, drill logs, geophysical reports, and photographs. Mr. Carouso's Geo-Processing (card) operated a leaching plant at the Gibson Mine in the mid 1970's

Date: July 18, 1990

Ken A. Phillips 

ARIZONA DEPARTMENT OF MINERAL RESOURCES
MINERAL BUILDING, FAIRGROUNDS
PHOENIX, ARIZONA

April 14, 1958

To the Owner or Operator of the Arizona Mining Property named below:

KUNO MINES CO. (GILA COUNTY)	COPPER, GOLD AND SILVER
(Property)	(ore)

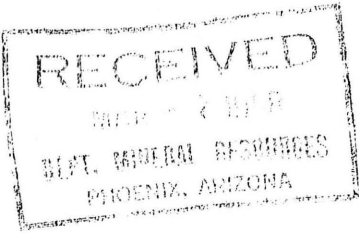
We have an old listing of the above property which we would like to have brought up to date.

Please fill out the enclosed Mine Owner's Report form with as complete detail as possible and attach copies of reports, maps, assay returns, shipment returns or other data which you have not sent us before and which might interest a prospective buyer in looking at the property.

Frank P. Knight

FRANK P. KNIGHT,
Director.

Enc: Mine Owner's Report



ARIZONA DEPARTMENT OF MINERAL RESOURCES
MINERAL BUILDING, FAIRGROUNDS
PHOENIX, ARIZONA

February 26, 1958

To the Owner or Operator of the Arizona Mining Property named below:

KUNO MINE

(Property)

COPPER GOLD AND SILVER

(ore)

We have an old listing of the above property which we would like to have brought up to date.

Please fill out the enclosed Mine Owner's Report form with as complete detail as possible and attach copies of reports, maps, assay returns, shipment returns or other data which you have not sent us before and which might interest a prospective buyer in looking at the property.

Frank P. Knight

FRANK P. KNIGHT,
Director.

Enc: Mine Owner's Report

Dear Sirs - This letter has evidently been mis-sent. Mr. Finley passed away in Nov. 1956. He never held any interest in the King Mine.

537-A Miller Drive
Ft. McPherson, Ga.

Respectfully, Mrs. Grace Finley

J. L. C. Ariz -
6/17/41

Dear Sir - Have received questionnaire concerning
gilding mine and have forwarded to Mr Fred Vallance
of Valco Mining Works. Kenilworth N. J. He has
a bond and lease on the mine and has a mill
installed. He can give you the information
desired -



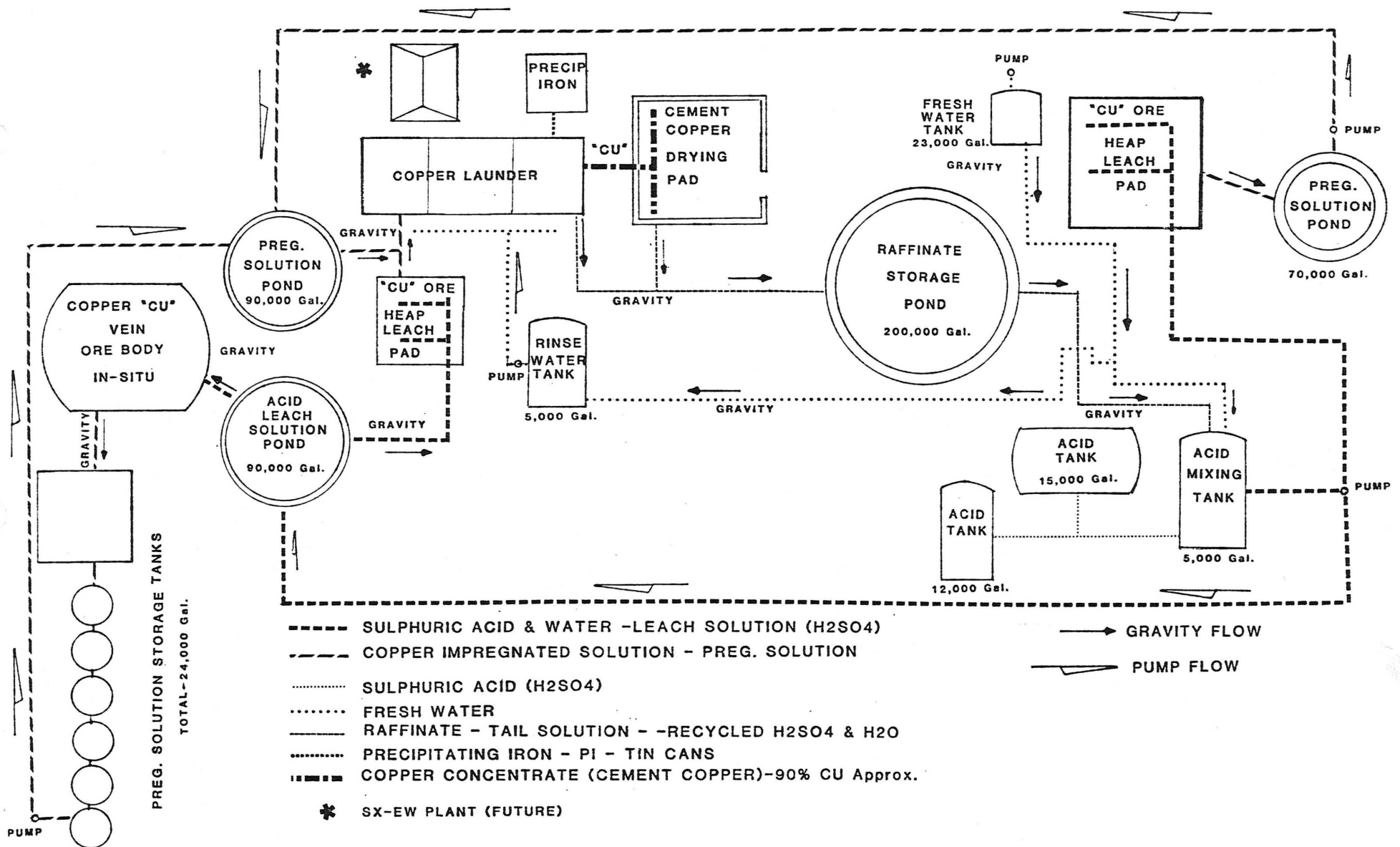
Yours Truly,

Ross C. Finley
#1586

J. L. C.
Ariz

11/15/89

GIBSON COPPER MINE HEAP LEACH AND IN-SITU LEACH FLOW SHEET



7-9-43

Sam
Ross C Finley. 512 So Hill St. Globe
Submits attached & states "I am attempting
a lease on hole"

Leaseon property not now operating. Have
had two lease periods. Both total failures
through inefficiency of operators.

OK

air compressor. but I am not able to
buy one. if I could get a little help
I could mine several tons of ore
per day, I have plenty of ore in
sight. some ready to stoppe
out and have good ore to drift
on both ways from the shaft
I have sunk a shaft 55 ft and
have ore about 16 to 24 in thick
I had 4 samples run this week
they went from \$12.50 pr ton to
\$46.75. Please advise me for the
information you need ~~for~~

Yours truly G. W. Roberts
P.O. Box 1728 Miami, Craig

August, 21, 50 -
P.O. Box - 1728 Miami

Craig

Dear Sir

I read the piece in the Pay dirt
paper. where you have sent out
some questionnaires to small
miners. I thought I would write
and see if I could get one
and more information about
getting help to increase my
production. I have a lease on
one of the old Gibson claims
and have a real good chance
of making a good producing
mine I have opened it up by hand
drilling and it is a slow go. I have
a good hoist, but need a small

DEPARTMENT OF MINERAL RESOURCES

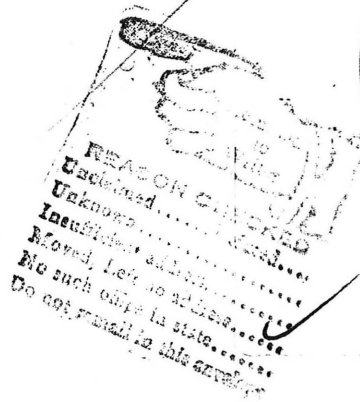
STATE OF ARIZONA

Mineral Bldg., Fairgrounds

PHOENIX, ARIZONA



*Delivered
Type*



Mr. Louis A. Kuehne
Kuno Mines Company
Box 366
Globe, Arizona

*Mrs. Grace Inil
Mrs. 537-A Miller Dr.
St. Mc Pherson, Ga.*

Kuno



*Dept. of Mineral Resources
Mineral Bldg., Fairgrounds
Phoenix
Arizona*

430 East, 66th St -
New York City

My dear Sir -

May 27th addition of a new
your paper gave an interesting
account of mining in Arizona.
Am seeking information on
Arizona Globe Copper Company
and would appreciate your help.
Very truly yours
E. F. Walsh.

430 E 66th St.
N. Y. C.

NAME OF MINE: GIBSON		COUNTY: GILA E	
		DISTRICT:	
		METALS: CU	
OPERATOR AND ADDRESS:		MINE STATUS	
DATE:		DATE:	
6/44	Ross C. Finley 511 S. Hill Street, Globe L.A. Khune, Globe	2/44	Idle
		6/44	Working dumps
		9/44	Idle

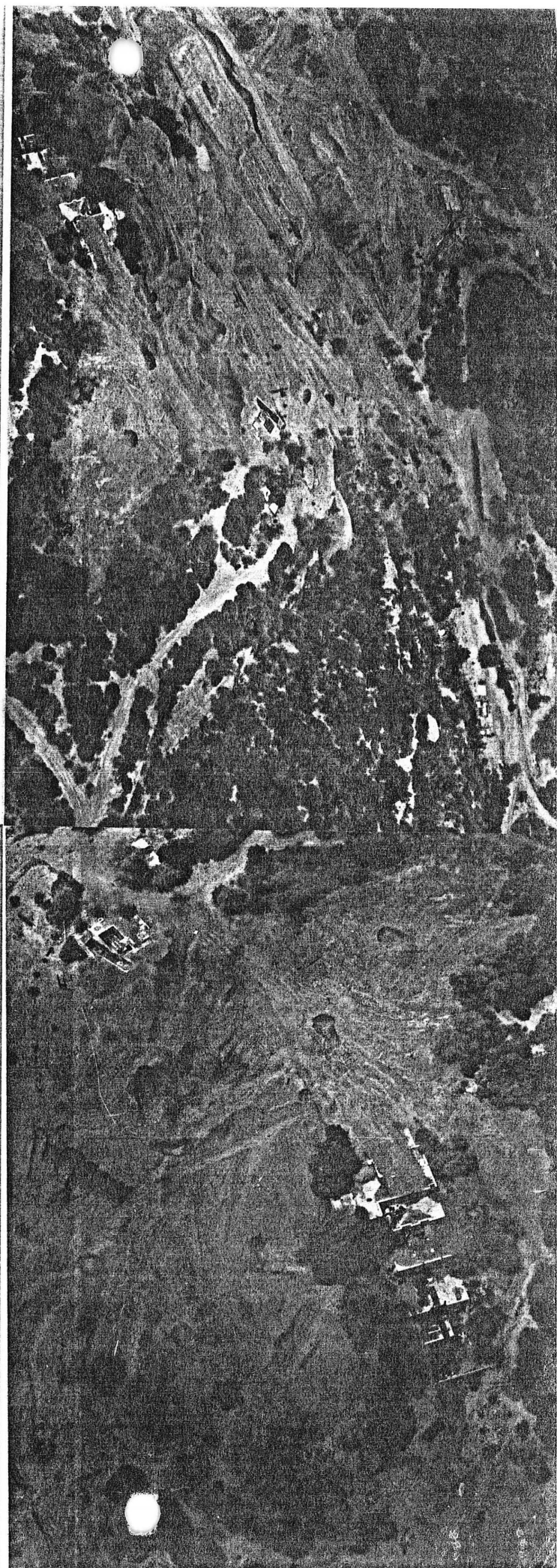
COPPER, GOLD, SILVER

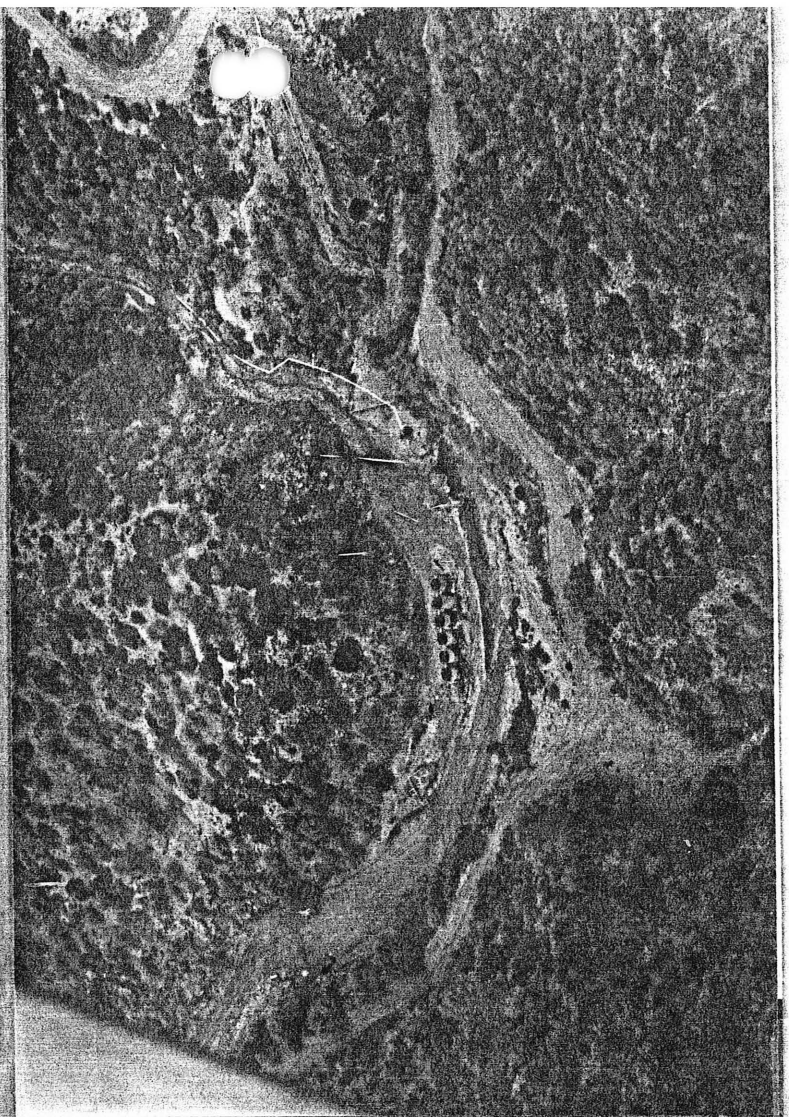
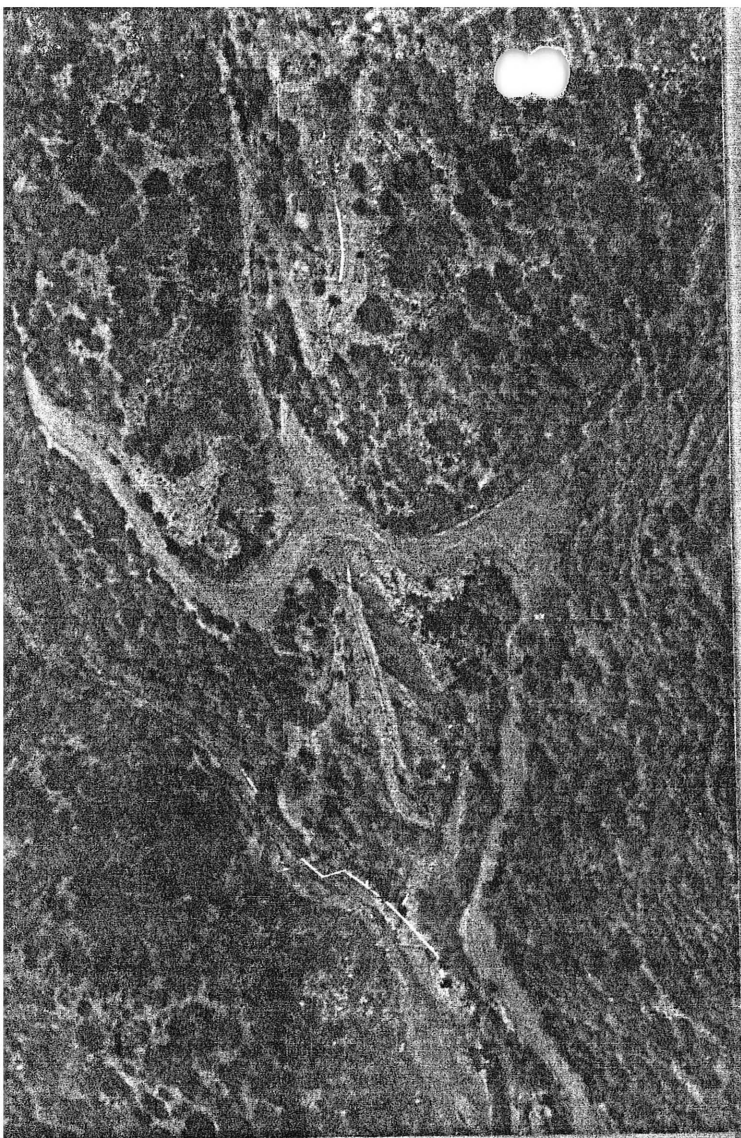
Kuno Mines Co.
Louis A. Kuehne
Box 366
Globe, Arizona

Report by F.H. Perkins
\$5,000 RFC loan

KUNO MINES CO.
Gila County
Summit Dist.

10-1-42





Gibson mine area

BATCH - VAT TYPE LEACHING PLANT

VAT 50' x 50' x 10' for leaching 500 tons
- 3/16" crushed ore per day

Cost of construction of vat

Excavation	≈ \$1,000
Labor & forms	≈ 3,000
Concrete	≈ 6,000
Dump valve	≈ 1,200
	<hr/> \$11,200

Pump & piping	≈ \$5,000
Compressor 250cfm	≈ 6,000
	<hr/> \$11,000

\$22,200

MATERIAL HANDLING FACILITIES

Crusher - Hammer mill type	≈ \$10,000
Coarse ore bin	≈ 6,000
Fine ore bin	
Conveyors	≈ 10,000
	<hr/> \$26,000

26,000

OTHER FACILITIES

Expand & modify pregnant water head pond	≈ 2,000
Tail water pond	≈ 3,000
Decantation sump for Fe launders	≈ 5,000
Electric generating plant	≈ 6,000
Tailing pond & Pumps & piping	≈ 5,000
	<hr/> \$21,000

21,000
\$69,200

plus { Contingency ≈ \$15,000
Working capital

Estimated financial requirement = \$85,000

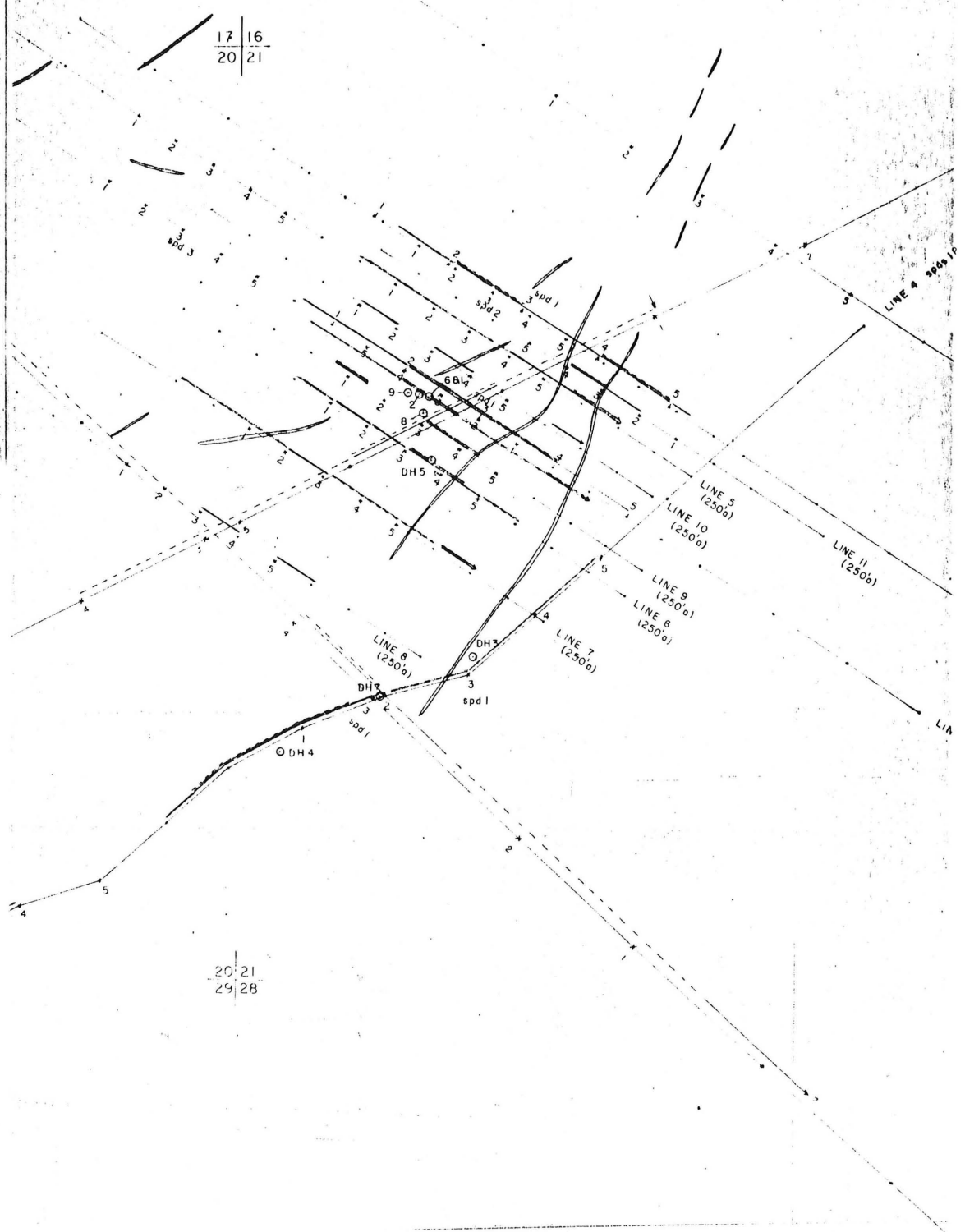
Expected production: 3-5 tons cement copper
per day

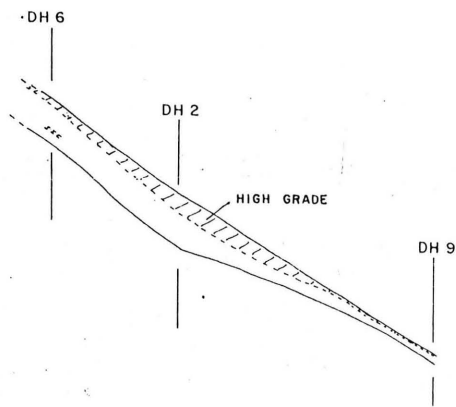
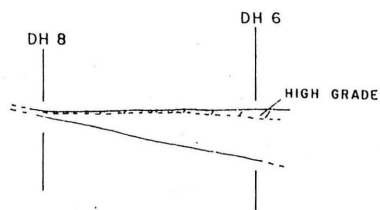
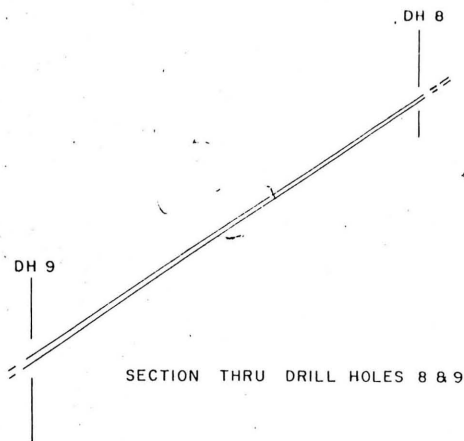
@ 50¢ per pound copper

Then daily gross dollar should be:

\$ 3000 - 5000 per day

\$ 90,000 - 150,000 per month

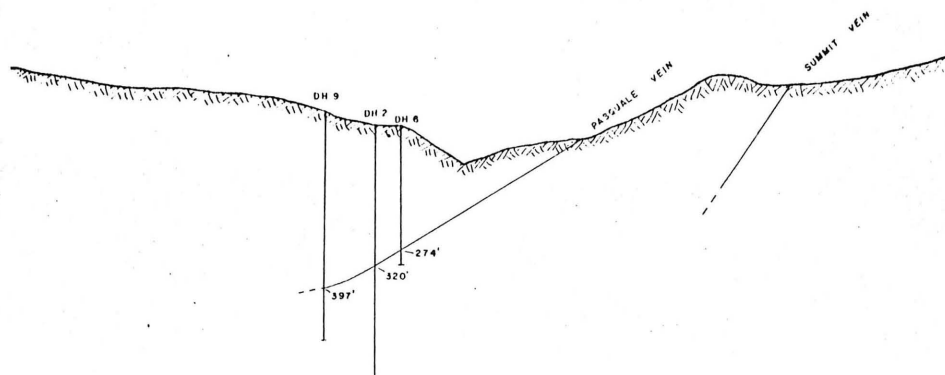




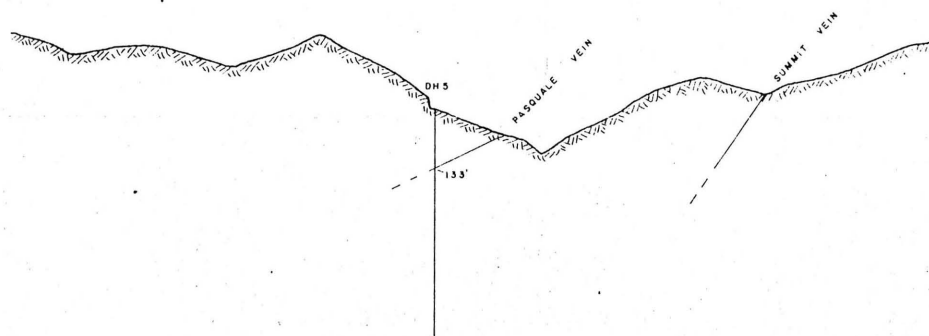
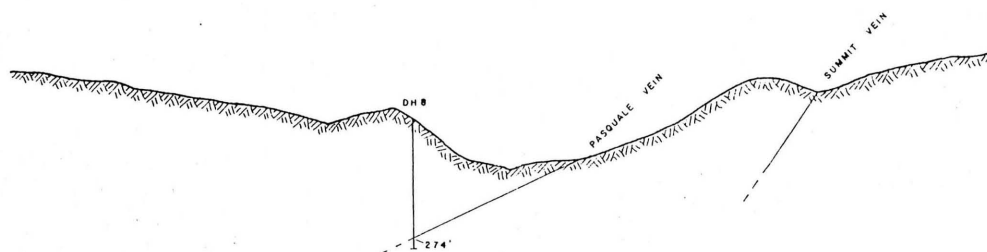
SCALE 1" = 50'

SECTIONS OF PASQUALE VEIN

N85W SECTION



N56W SECTIONS



SCALE 1" = 250'

CROSS SECTIONS
GIBSON MINE
PINAL CO ARIZONA

4/6/67

GIBSON MINE

INTRODUCTION

The Gibson mine property was leased by Geo-Processing, Inc., from Arizona Mining Properties, Inc.

Geo-Processing, Inc. interest in this property is two-fold. One, to derive a profit from the leaching operation and two, to research and develop hydrometallurgical induced oxidation techniques for conversion of sulfides to an acid leachable form and thereby greatly increasing the ore reserves of this property. The proposed techniques, which should be patentable, could be used for heap leaching, vat leaching, in place leaching and mill concentrates. The latter could eventually eliminate the need for pyrometallurgical smelters.

PROPERTY AND DEVELOPMENT

The leased property consists of 16 patented mining claims and 53 unpatented mining claims, situated in the Pinal Mts., 9 miles SW of Miami, Arizona, at an elevation of about 4700 feet above sea level. The property was developed by several incline shafts, a vertical shaft 600 feet deep and approximately 2600 feet of underground workings on two copper bearing veins, the Summit and Pasquale veins. Total production to 1934 is recorded as \$2,100,000. Average grade of ore shipped to the Old Dominion smelter was about 20% copper. It is reported that ore grade much below 15% was left in the workings. This was because shipments to the smelter were made by 10 horse teams and wagons and the price of copper was low. If the lower grade

material was raised to the surface to allow working room underground, it was piled in large waste dumps. These dumps are now a part of the ore reserves and consist of approximately 250,000 tons of average grade of at least 1.5% total copper per ton.

GEOLOGY

Country rock is Pinal schist and granite carrying several approximately parallel fissure veins having a NE strike. The Summit vein of 4 to 7 feet in width, traceable for a distance of $1\frac{1}{4}$ miles, and the Pasquale vein, about 250 feet to the west and of equal length, were the principal veins mined during the early operations.

The zone of oxidation is at least 200 feet in depth with copper sulfides at depth. The oxidized zone contains malachite and azurite copper mineralization and the sulfide ore at depth is mainly massive chalcopyrite. The oxidized ore is favorable for leaching as very little, if any, acid consumers are present. In fact, acid is generated in both the heap leaching dumps and the in place leaching site.

Exploration efforts, utilizing induced polarization geophysical survey methods, geochemical survey methods with geological correlation studies and drilling indicate that the Gibson mine area has excellent ore reserves potential.

ORE RESERVES

It would be difficult to assign a definite ore reserves tonnage to this property, at least, until the exploration phase has been completed, however, an approximate ore reserves tonnage and dollar value will be estimated.

The old mine dumps have been estimated to be in excess of 250,000 tons with an average grade of 1.5% total copper per ton. This amounts to about 7,500,000 pounds of copper with a gross dollar value of \$4,500,000. However, it is expected that the leachable portion of ore, by dilute sulfuric acid solution, will be approximately 0.75% copper per ton, and with an expected recovery of 80%, thus by simple leaching, the above gross dollar value should be adjusted to about \$1,800,000. One must assume that the sulfide minerals in the dumps will be recovered to some extent by simple acid leaching, however, technological breakthroughs can be expected in the leaching processes, especially in the induced oxidation of sulfide copper minerals, and thus will greatly expand the recoverable ore reserves picture. Therefore, it is expected that the gross dollar value recoverable could be about \$3,600,000, for the processing of the old mine dumps.

Ore in place expands the ore reserves estimate many fold. The Forester No. 1 vein alone can be estimated to be at least 1,000,000 tons of about 1% copper per ton. This amounts to 20,000,000 pounds of copper with a gross dollar value of approximately \$12,000,000. Assuming the acid soluble portion as 0.5% copper per ton with an expected recovery of 80%, this would adjust the gross dollar value to about \$4,800,000. If the induced oxidation techniques are successful, then one can expect to double this dollar value to about \$9,600,000.

To summarize the ore reserves potential at this property, the writer feels that a conservative estimate should be at least 5,000,000 tons of ore with a grade of at least 1% copper per ton,

or a gross dollar value of \$60,000,000 based on the current market price of copper. This estimate includes the potential of leaching in place the underground workings of the Summit and Pasquale veins.

LEACH PLANT

The present leaching plant includes heap leaching and in place leaching of copper ore, however, to approach the cash flow potential of this property, the leaching facilities should be expanded. This would include construction of a vat for agitated leaching, a crushing plant, a decant sump for copper precipitates and expanded pregnant and barren water reservoirs.

To implement this expansion of the facilities to treat 500 tons of ore per day, a realistic estimate is as follows:

CONCRETE VAT FOR LEACHING 500 TONS -3/16 INCH CRUSHED ORE PER DAY

Cost of construction of vat		
Excavation	\$1,000	
Labor & forms	3,000	
Concrete	6,000	
Dump valve	1,200	
	<u>\$11,200</u>	
Pump & piping	\$5,000	
Compressor, 250 CFM	6,000	
	<u>\$11,000</u>	
		\$22,200

MATERIAL HANDLING FACILITIES

Crusher-Hammermill type	\$10,000	
Coarse ore bin	2,000	
Fine ore bin	4,000	
Conveyors	10,000	
	<u>\$26,000</u>	
		\$26,000

August 19, 1971

Geo-Processing, Inc.
Payson, Arizona

Attention: Mr. Carouso

Gentlemen:

There is attached hereto as EXHIBIT "B" an inventory of the personal property covered by our Lease Contract of even date hereof, situated on the claims in the Gibson area and described in EXHIBIT "A" of said Contract. By placing your initials on said EXHIBIT "B", you acknowledge receipt of said personal property under the terms of our Contract.

As you know, the Collins Claims require a payment of \$10,000.00 a year if the option to purchase is exercised, but after the exercise of the option, the parties can release the property after payments in the amount of \$30,000.00 have been made. In respect to the payments required on the Collins Claims, we agree that First Party will pay one-half of such payments up to \$30,000.00, after which time either party may surrender to the other all rights or title in said claims and be relieved from further payment of its half of such payments on the Collins Claims.

In respect to the Warranty set forth in Paragraph 2 of said Lease Contract, we have held and done exploration and mining operations on these claims since November, 1966, and no adverse claim has been asserted against us, except, in the case of the Collins Claims, Inspiration Copper Company has in the past few days asserted claims against certain of the Collins Claims. We are resisting these claims and are quite sure the Collins Claims are superior to the claims asserted by Inspiration. First Party does not warrant the title generally, but warrants it has placed no liens or encumbrances against said property. In case of any claims being made against the property, they will be handled as provided in paragraph 16 of said Lease Contract.

You will please indicate your acceptance of this Letter Agreement by signing on the line below.

ARIZONA PROPERTIES, INC.

By 
President

Accepted

GEO-PROCESSING, INC.

By 

GIBSON MINE EQUIPMENT INVENTORY

HOBART Welder, electric

Model GPB 258, Specs. #24890, Serial #12CW-20061, Type #914361
40 volts, 250 amps, RPM 1800, Duty cycle 60%
Trailer mounted and welding cable

BALMAR 4 wheel drive loader, wheel type, G-60 Industrial

Acid pumps:

Worthington pump, Serial #A184224, Rebuilt with
Chrysler Power Industrial

Model HT 413, Type 361
Serial #303564, Part # AT-A1-4-21

Worthington pump, Serial #A184225 with
Chrysler Power Industrial---motor is not in running condition
Model HT 413-361
Serial #343085

Camac pump #CP 4100-2
Lincguard motor

Serial #617113, Frame #182 T, 3 HP, volts 230/460, amps 9.2/4.6
Service factor 1.15, 60 cycles, Lincoln code TV 2518
Starter switch and wiring complete

Acid storage tanks:

Rail car tank, Capacity 80,000#/ 8075 gallons

Small acid tank, make up tank, approximately 300 gallons capacity

Small acid tank, mounted on Flatbed Dump Truck, approx. 560 gals. cap.

Photovolt pH meter, Serial #21000, Model #126A

Burette, 50 Ml capacity, and miscellaneous glassware

Fairbanks-Morse portable platform scale

Model #41-3132, Capacity 1000#, Serial # G67078

Wheelbarrow, rubber tire

Rubber covered 3 conductor cable for submergible pump, lot

Reda Pump Co. submergible, HP 15, Serial #669510350, Type 53S, RPM 3450
Volts 440, Amps 23, 4" discharge,

Plastic pipe, 3" for submergible pump, lot of 320 feet

Stainless wire cable for pump support, lot

Water storage tank, approximately 1000 gallons capacity

6 horizontal ppt. cells 'x 4' x 25', complete

6 vertical ppt. cells, 8' diameter x 12' high, complete

GIBBSON MINE EQUIPMENT INVENTORY, continued:

Pipe:

Bond Strand pipe, lot of 500 feet

3" Black plastic sewer pipe, lot of 600 feet

3" PVC pipe, lot of 640 feet

4" PVC pipe, lot of 670 feet

2" PVC pipe, lot of 3600 feet

Fittings, pipe, assorted lot

Truck, CHEVR Type TK, year 1951, Flatbed dump
Category C, axle 2, Fuel gasoline
Vehicle I.D. #20U7G1811
Unladen Wt. 7670, First Registration 1951
License plate #BC 7426, Tag #N09945
Owner: Mr. Paul Kayser
1006 Main St.
Houston, Texas

Corrugated steel culvert, 16" dia. x 25' long

Rubber-lined 55 gal. barrels, 2

Power plant

Self regulating alternator, Palmer Electric Mfg. Co.
Model #A23-124, Serial #H55271
KVA 33.3, PF 0.9, KW 30, Phase 3, RPM 1200, Cycles 60
Volts 127/220/440, Amps 87.3/44, Rise 50°C, Amb. 40°C
Field amps 15, Excitation volts 42

International UD-9 Diesel engine
Model #UD98, Serial UDCB 23937-SM1
RPM rated load 1800, Max idle 2000 RPM

Assorted filters, Fuel and oil

Pump, small

Reliance--Duty Master AC Motor
Identification #435421-MS, Type #P, FRM 56C
Phase 3, HP 1, 60 cycles, RPM 1725
Volts 230/460, Amps 4.1/2.05
AMB 40°C, Class B

Pump #2/3161, Echo Engine Co.
3/4" pump

**ORE RESERVE ESTIMATE
FOR
GIBSON PROPERTY**

For

Mr. Paul Kayser

April 1967

By

**Heinrichs Geoexploration Company
P. O. Box 5671 Tucson, Arizona 85703
Phone: 623-0578 Area Code: 602**

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INTRODUCTION

At the request of Mr. Paul Kayser, Houston, Texas, Heinrichs Geoexploration Company conducted and completed an ore reserve estimate on the Gibson Area, Pinal County, Arizona, through the interim April 6-7, 1967.

The ore reserve estimates were based on assay data obtained from four drill holes which intersect a N25°E striking vein. The polygon methods of ore reserve estimation was used. Assay data sheets, polygon lay-out, ore reserve computation sheets, and structural vein sections are included.

CONCLUSIONS AND RECOMMENDATIONS

Considering the present value of possible ore, the property appears to be marginal for a small scale operation; however, since the above estimate is conservative and does not take in possible ore extensions to the north and east of drill holes 2 and 6, it is recommended that the following considerations be made.

1. A cost estimate for a possible exploration shaft located approximately 125 feet east of drill hole 6. Topography favors exploration in this manner since a shaft would only have to be 125-150 feet deep to intersect the vein, therefore, exploration and mining could commence as one operation.
2. A cost estimate to sink a shaft at drill hole 2 and mine estimated ore
3. Conduct a check of land status with lawyers, considering extralateral rights of Gibson Mine holders since the Pasquale vein outcrops on the Gibson Property.

GEOLOGY

The mineralized portion of the Pasquale vein (quartz vein) under consideration is located in part on the Gibson Property and in part on two claims known as the Lucky Claims. The Pasquale vein has a general strike of $N25^{\circ}E$, dipping approximately $35^{\circ}NW$, occupying a clearly defined fracture zone which is not conformable with the bedding of the Pinal schist ($N55^{\circ}W$). The Pinal schist is the only rock type immediate to the Gibson Mine area.

One churn drill hole CB 2, and three diamond drill holes GB 6, 8, and 9 were drilled, intersecting the Pasquale at depths ranging from 133 feet to 397 feet. Drill holes GB 2 and 6 appear to have intersected the major portion of the mineralization, denoting a mineralized thickness of 21 feet. At GB 8 and 9 the vein thickness was less than two feet indicating the mineralized portion of the vein pinches out to the south and west. As to the character of the vein north of holes 2, 6, and 9 and east of holes 6, little is known since no drill holes are in these areas. Induced polarization information indicates that the mineralized portion of the vein north of holes 2, 6, and 9 pinches out as well as to the east of hole 6. Therefore, it appears that the mineralized portion of the Pasquale vein is pod shape in character.

As to the mineralogy of the pod, chalcopyrite comprises the copper mineralization occurring as massive lenses at the contact between the schist and the Pasquale vein. The Hanging Wall contact is favored for ore localization although occasionally high grade streaks are found within the vein. Pyrite is also found.

POSSIBLE ORE ESTIMATE

Considering the triangle formed by drill holes 2, 6, 8, and 9 a total value of \$163,600.00 for copper is estimated. Since

the polygons for drill holes 8 and 9 have little value (\$3,000.00) these portions of the known mineralization should be excluded from the possible ore reserves leaving a probable total value of \$160,600.00. Silver was not considered in the total value estimate since the value for silver was less than \$2.00 per ton.

Respectfully submitted,

HEINRICHS GEOEXPLORATION COMPANY

Harvey S. Durand
Geologist

APPROVED: _____

E. Grover Heinrichs
Vice President

Tucson, Arizona
April 7, 1967

Delivered to Ramada Inn by
Geoex for pick up April 10

COMPUTATION FOR HOLE NO. 2

Assays

Sludge samples:

	Footage	Cu	Ag	Au
	310-315	.125		
	315-320	.135		
	320-325	13.30	.5	.01
	325-330	4.50	.16	.01
Footage considered	330-335	1.35	.8	T
	335-340	.80		
	340-345	.76		
	345-350	.51		

Total width of vein from drill hole data 25 feet

Average assay for 320'-345'

5' x 13.30 =	66.5		
5' x 4.50 =	22.5		
5' x 1.35 =	6.75	$\frac{103.55}{25'}$	4.14% Cu/Ton
5' x .80 =	4.0		
5' x .76 =	3.8		

Surface area for No. 2 Polygon 2,400 ft²

True thickness of vein 21 ft

Area for No. 2 polygon 2,400 ft² x 21 ft = 50,400 ft³

For H₂O 1 ft³ = 62.4#

Therefore on 2.7 SpGr

1 ft³ ore = 62.4 x 2.7 = 168.5 lbs

50,400 ft³ x 168.5 lbs = $\frac{8,492,400 \text{ lbs ore}}{2,000 \text{ lbs/T}} = 4246.2 \text{ T}$

Assay average 4.14% Cu/T therefore 1 ton yields 828 lbs. copper

Computation for Hole No. 2 Continued

April 7, 1967

82.8 lb Cu/Ton x 4246.2 tons ore = 35,158.4 lbs Cu
\$0.38/lb Cu x 351,585.4 = \$133,602.44 for copper

COMPUTATION FOR HOLE NO. 6

Assays

		Cu	Ag	Au
Sludge samples collected	274-276' approx.	6.72	.6	.02
by Mr. L. Cox	288½-291'	14.22	1.8	.02
By Heinrichs	274-276' approx.	5.15	.4	
	290-291'	12.5		
	276-290' to 291-297'	.63	.3	.005

Total width of vein 274-297' = 23'
from drill hole data

Average assay for	274-276'	5.93	.5
Average assay for	288½-291'	13.72	1.8
	290-291'		
	276-290' to 291-297'	.63	.3

Average assay for 23':

2' x 5.93 Cu =	11.86	
2.5' x 13.72 Cu =	34.30	-
18.5 x .63 Cu =	11.65	2.51

Surface area for #6 polygon 800'²
True thickness of vein 21'
Area for #6 polygon 800'² x 21' = 16,800'³

For H₂O 1 ft³ = 62.4[#]

Therefore on 2.7 SpGr

1 ft³ ore = 62.4 x 2.7[#] = 168.5 lbs.

Therefore 16,800 ft³ x 168.5[#] = 2,830,800 lbs. ore - *

2,000 lbs./T

*1415.4 tons ore

Assay average 2.51% Cu therefore 1 ton. yields 50.2[#] Cu
50.2[#] Cu/ton x 1415.4 ton ore = 71,053 lbs. Cu
\$0.38/lb. x 71,053 = \$27,000.00 for copper

COMPUTATION FOR HOLE NO. 8

Assays

Core samples:

Footage	Cu	Ag	Au
274'2"-274'6"	3.9	.5	.005
274'6"-276'	.10	.2	T

Total width of vein from drill hole data 1 ft 10 inches

Average assay for 274'2"-276'

$$\begin{array}{rcl} .33' \times 3.9 & = & 1.29 \\ 1.5' \times .10 & = & .15 \end{array} \quad \begin{array}{r} 1.44 \\ \hline 1.83' \end{array} = .79\% \text{ Cu/Ton}$$

Surface area for No. 8 polygon 2,950 ft²

True thickness of vein 1 ft 6 inches

Area for No. 8 polygon 2,950 ft² x 1.5 ft = 4425 ft³

For H₂O 1 ft³ = 62.4#

Therefore on 2.7 SpGr

$$1 \text{ ft}^3 \text{ ore} = 62.4\# \times 2.7\# = 168.5 \text{ lbs}$$

$$\text{therefore } 4425 \text{ ft}^3 \times 168.5 \text{ lbs} = \frac{745,612.50}{2,000 \text{ lbs/ton}} = 372.8 \text{ T ore}$$

Assay average .79% Cu therefore 1 ton yields 15.8 lbs Cu/Ton

Yields 15.8 lbs Cu/Ton

$$15.8\# \text{ Cu/Ton} \times 372.8 = 5890 \text{ lbs Cu}$$

$$\$0.38/\text{lb} \times 5890 = \$2,238.29 \text{ for copper}$$

COMPUTATION FOR HOLE NO. 9

<u>Assay</u>		Cu	Ag	Au
vein	396'6"-397' to	.12	.1	T
	397'3"-400'			
High grade	397-397'3"	.94	.3	.01

Total width of vein 396'6"-400' = 3'6"

Average assay for 3'6"

$$3.25' \times .12 = .39$$

$$.25' \times .94 = .23 \quad = .18\% \text{ Cu/Ton}$$

Surface area for No. 9 polygon 2050 ft²

True thickness of vein 3'3"

Area for No. 9 polygon 2050 ft² x 3.25' = 6662.5 ft³

For H₂O 1 ft³ = 62.4[#]

Therefore on 2.7 SpGr

$$1 \text{ ft}^3 \text{ ore} = 62.4 \times 2.7^{\#} = 168.5 \text{ lbs}$$

$$\text{Therefore } 6662.5 \text{ ft}^3 \times 168.5 \text{ lbs} = \underline{1,122,631^{\#}} \text{ ore} = 561 \text{ Tons ore}$$

$$2000 \text{ lbs/Ton}$$

Assay average .18% Cu therefore 1 ton yields 3.6 lbs Cu

3.6 lbs Cu/T x 561 tons ore = 2,019 lbs copper

\$0.38/lb x 2,019 lbs = \$767.44 for copper

**GIBSON PROPERTY
ASSAY RESULTS
DRILL HOLE NO. 6**

<u>Sample No.</u>	<u>Footage</u>	<u>Cu %/Ton</u>	<u>Ag oz/Ton</u>	<u>Au oz/Ton</u>
76	120-130'	.22	.2	T
77	130-140'	.05		
78	140-150'	.04		
79	150-160'	.05		
80	160-170'	.05		
81	170-180'	.04	.1	T
82	180-190'	.03		
83	190-200'	.03		
84	200-210'	.05		
85	210-220'	.04		
86	220-230'	.06	.1	T
87	230-240'	.05		
88	240-250'	.03		
89	250-260'	.07		
90	260-270'	.04		
	274-276'	5.15	.4	
91	276-290'to291-297'	.63	.3	.005
	(Schist and vein material)			
	290-291'	12.5		
	(High grade steak in vein)			
92	270-274'	.14	.2	.005
93	297-300'	.15		
94	300-310'	.43		
95	310-322'	.13		

April 7, 1967

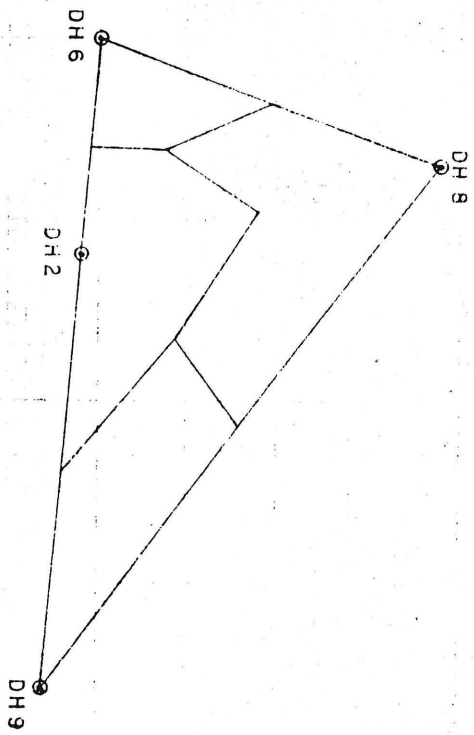
GIBSON PROPERTY
ASSAY RESULTS
DRILL HOLE NO. 8

<u>Sample No.</u>	<u>Footages</u>	<u>Cu %/Ton</u>	<u>Ag Oz/Ton</u>	<u>Au oz/Ton</u>
55	120-130'	.11	.2	T
56	130-140'	.23		
57	140-150'	.12		
58	150-160'	.10		
59	160-170'	.06	.1	T
60	170-180'	.05		
61	180-190'	.03		
62	190-200'	.08		
63	200-210'	.05		
64	210-220'	.07	.3	.005
65	220-230'	.09		
66	230-240'	.05		
67	240-250'	.04		
68	250-260'	.11		
69	260-270'	.06	.2	T
70	274'2"-274'6"	3.90	.5	.005
	(High grade portion of vein)			
71	244'6"-276'	.10	.2	T
	(quartz vein)			
72	270-274'2"to276-280'	.15	.2	
73	280-290'	.15		
74	290-300'	.45		
75	300-305	.13		

**GIBSON PROPERTY
ASSAY RESULTS
DRILL HOLE NO. 9**

Sample No.	Footage	Cu %/Ton	Ag oz/Ton	Au oz/Ton
96	396'6"-397' to 397'3"-400' (quartz vein)	.12	.1	T
	397'1"-397'3" (high grade)	.94	.3	.01
97	380-390'	.07		
98	390-396'6"	.05		
99	400-410'	.08		
100	410-420'	.28		

S



SCALE 1" = 50'

PLAN MAP OF DRILL HOLES
ORE ESTIMATE POLYGONS SHOWN