

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: CLIMAX

ALTERNATE NAMES:

VIRGINIA DARE  
CUB  
LION  
LIOPARD  
MONTGOMERY  
STOCKS PROJECT

YAVAPAI COUNTY MILS NUMBER: 231B

LOCATION: TOWNSHIP 12 N RANGE 3 W SECTION 1 QUARTER NW  
LATITUDE: N 34DEG 24MIN 44SEC LONGITUDE: W 112DEG 31MIN 33SEC  
TOPO MAP NAME: WILHOIT - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:  
GOLD

BIBLIOGRAPHY:

ADMMR CLIMAX MINE FILE  
USGS BULL 782, P 113  
BLANDY, J.F. "MNG RGN AND PRESCOTT" AIME  
TRANSACTIONS VOL XI, P 286, 1882-3  
YAVAPAI MAGAZINE MAY 1918 P 5-6  
ADMMR CLIMAX COLVO FILE

CLIMAX MINE

YAVAPAI COUNTY

NJN WR 11/4/83: Chris French, a geologist, Ph: 445-0026, in Prescott, called seeking data for a report he was writing on the Peck Mine, Yavapai County. He reported the recent heavy rains have caused much damage to the Climax Mine road, Yavapai County. He now has to walk about one mile to his mapping/work area there. Fortunately their current phase there is nearly complete.

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NJN WR 2/10/84: Chris French (c) brought in a geologic abstract of the Climax Mine (AKA Catoctin) property, Hassayampa District, Yavapai County. A copy has been placed in the file. Mr. French reports they are going to submit the property to mining companies. He believes the property contains 500,000 tons at an average grade of .05 oz Au/ton (unproven however) which could be available by open pit methods. This would consist of high grade veins, low grade disseminated values.

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4/15/85: Mr. John Truffa, 277-6451, was in to let us know that his claim the Climax-Catoctin was for sale or lease. Anyone interested should contact him at the above phone number.

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KAP WR 5/24/85: Data on the Climax Mine in Sec 1, T12N R3W and the Catoctin Mine Sec 35 and 36, T12.5N R3W have been placed in the same file known as the Climax for many years. As the properties are separate and distinct, two files, the Climax and the Catoctin Mine, both in the Hassayampa Mining District, Yavapai County, have been established. It is possible that each file may continue to have data pertinent to the property covered by the other.

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KAP WR 11/7/86: John Truffa, (c) visited and reported that he would like to sell the Climax (file) Yavapai County. There has been no activity on the property since attempts to set up a heap leach operation at the Catoctin circa 1979-80.

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~~DO NOT REPRODUCE~~



CLIMAX MINE

Yavapai County

CJH WR 7/18/80: Phone Call from Bill Kirtland, 619 S. Copper, Apache Junction, Arizona 85220, phone 982-3131. He wanted to talk to Mr. Jett about the sale of his large size Escapule gold recovery unit at his Catoctin Mine near Wilhoit, Yavapai County. On Dr. Brown's (ASU) advice, they have abandoned the cyanide leach and going to flotation. Mr. Kirtland reported that the Catoctin ores are very similar to those at the Button Mine which is successfully employing flotation techniques.

*Went?*  
KAP WR 8/1/80: George Wantz, phone 800-227-3163, who heads an investment firm in San Francisco, requested assistance in evaluating the current status of Catoctin Mine in Yavapai County. He is the lead investor for a group that has previously invested in the property through the 4-K Corporation. Past work on the property so far has not produced any income.

KAP WR 11/12/82: Chris French, 3030 E. Clarendon, 7A, Phoenix, Arizona 85016 phone 957-6922 is evaluating the Climax Mine (near Wilhoit) as a possible gold mine venture with a mill. He reported the upper 350' is oxidized. Lower workings contains arsenopyrite and chalcopyrite with gold. He explained he has financial backing to finance trenching and sampling of dumps and to start underground exploration. He feels there is some ore left in the old stopes.

NJN WR 12/31/82: Chris French, now in Prescott, phone 445-0026 reported he has a 320 acre lease which includes the Climax Gold, Catoctin Silver and some placer ground on the Hassayampa River in Yavapai County. Mr. French is also looking for an 8" dredge.

NJN WR 2/11/83: John Truffa, owner of the Climax Gold Mine, Yavapai County, reported that Lee Smart had staked over some of his claims. Mr. Truffa's mine is currently under lease to Chris French till May, 1983. Following the end of Mr. French's option, Mr. Truffa would like to see the property.

NJN WR 9/16/83: Chris French reported he is putting together a report on the Climax Mine, Yavapai County, which will be used to generate about \$250,000.00 venture capital for a detailed sampling/mapping program to be followed up by drilling.

CLIMAX MINE

YAVAPAI COUNTY

GM/WR 3/20/79 - Purpose of meeting Forest Service officials along with Dave Rabb was to help the Forest Service evaluate a mining plan submitted to them by Bill Kirtland of Prescott. He wants to heap leach the dumps from two mines, the Old Climax and the Cotoctin (Sec. 1, 35 & 36, T121/4 N, R2W and R3W). Dave Rabb pointed out that safety is the most important consideration and should come first in any operation. With this in mind, Dave discussed two areas where potential problems could occur in this or similar type of operations: (1) Prepare a proper base for leach pad and (2) A proper secondary containment area for pregnant solutions should overflow occur from primary solution pond. A general discussion of these points followed and a consensus was reached regarding a proper pad base for operations of this nature. The area to be overdumped should be cleared of all vegetation and compacted. Then a base of clay material, a minimum of 2-feet thick must be laid and compacted.  
4/18/79 a.p.

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CJH/WR 10/23/79 - Mr. Edward J. Lowell reported extensive leach pad operations going on at the Catoctin (Climax) Mine in Yav. Co. Hassayampa District. This operation was the subject of a meeting of Department Engineers, Forest Service Officials, and Dave Rabb in Mr. Jett's Office, March 20, 1979.

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CH/Report 11/23/79 - Visited the Catoctin Mine, Held discussion with Jack Kirkland. William Kirkland (father) was away from the property trying to buy a crusher and ball mill. Mr. Kirkland said that Dr. Brown of ASU was developing a flow sheet for the gold ore. The Catoctin Mine adit was being cleaned out.

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KAP WR 3/31/80: John Truffa, 4422 North 18th Place, Phoenix, Arizona 85016, phone 277-6451, reported he owns the Climax Mine in Yavapai County, which he has leased to the 4-K Corporation (the Kirklands).

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*and the Catoctin (Dec 11/11/82)*

JHJ Memo 7/9/80: Stopped at the Catoctin Mine. It is still shut down. The caretaker was working on the road. He stated that a bed had been made on a flotation plant for installing at the mine. An attempt is being made to obtain additional funding.

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KAP WR 6/27/80: A California steel mill owner is reported to have invested \$70,000 into the Catoctin Mine of 4-K Corporation in Yavapai County. A cyanide leaching operation was constructed but was reportedly not successful.

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CLIMAX MINE

YAVAPAI COUNTY

4422 N 18th Placer 10-22-79

John P. Truffa, T & R Land & Land Mining Co., ~~2921 W. Rancho Drive~~, interested in this property. LP 5-20-64

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No work has been done on this property - Mr. Truffa trying to sell. EGW 7-17-64

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Lessor: Mr. John Truffa and T&R Land Mining Co.

Lessee: Commodities Unlimited, Inc., P.O. Box 3025, Scottsdale, Arizona

Gentlemen came into the office and gave us this information 2-28-67

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Mr. Troy Reeves, Phoenix, came in for information on the old Climax Au property on the Hassayampa River about 6 miles SE of Wilhoit. He is considering buying the 4 unpatented claims from John Truffa, Phoenix. The office file was shown to Mr. Reeves and some assay results were duplicated for him. He said he intends to clean out some of the adits and sample the exposures of the veins (3). GW WR 8/7/73

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<sup>STATED THEY</sup>  
Bill Reeves, along with his father, owns the Climax and Catoctin mine in the Hassayampa district (near Prescott). Bill Dusenberry, who is the promoter, is encouraging Reeves to build a mill on the property and Reeves is so planning. KAP WR 7/29/74

USGS Bull. 782, p. 113

## MINE AND OSPECT FIELD VISIT DATA SUMMAR

Sheet 1 of 2

COMMODITIES Gold, silverMILS ID No. Yavapai #231BDate May 23, 1985ENGINEER Ken A. Phillips, in company of Dr. Harold LinderINFORMATION FROM: Field visit

## PROPERTY SUMMARY

I. MINE NAME Climax OTHER POSSIBLE NAMES See MILS for AKAs  
also Virginia Dare INCLUDING ANY CLAIM NAMES NOTED

II. LOCATION: T 12N R 3 W SEC(S) 1 (SE, NW) MINE DISTRICT Hassayampa  
ELEV. 4800 COUNTY Yavapai TOPO QUAD. Wilhoit, Az.

DIRECTIONS From Wilhoit, go approx. 3 miles towards Prescott on U.S. 89. Right  
turn onto Prescott Forest Road #110, past Catoctin Mine, Hassayamp River, down  
river approx. 1/2 mile to mine on east bank. MAP ATTACHED yes

III. OWNERSHIP: NAME John Truffa PHONE 277-6451

ADDRESS: 4422 North 18th Place, Phoenix, Arizona 85016

COMPANY NAME IF ANY: \_\_\_\_\_

PERTINENT PEOPLE \_\_\_\_\_

IV. PROPERTY AND HOLDINGS: Unpatented claims

V. PAST PRODUCTION - NOTED, KNOWN, PROBABLE, UNKNOWN, NONE Yes, see Chris French  
report in file.

VI. CURRENT STATUS: Idle old mine, recently sampled

VII. WORKINGS: numerous adits, lowest level caved, upper west open, upper east are  
only short drifts.

VIII. GEOLOGY AND MINERALOGY: DEPOSIT TYPE: Vein and stock work  
LENGTH: +400 <sup>target 2700</sup> WIDTH: Vein 20' <sup>target +300</sup> VEIN STRIKE Target zone - East North East  
Major Vein - N 25 W  
HOST ROCK: Highly silicified, fine grained intrusive  
ECONOMIC MINERALS: Gold in sulfides and oxide boxworks

COMMENTS: See report by Chris French. Stockwork contains significant quartz  
stringers with sulfides.

IX. EQUIPMENT ON SIGHT: None

X. SAMPLING: NOTE TYPE IF ANY, DRILLING? Reportedly samples by Amselco.  
Sampling is evident.

XI. REFERENCES AND REMARKS Apparently never been drilled.



Climax Min. Co.  
Yavapai Co.

Mr. C. M. d'Autremont,  
910 Consolidated National Bank Building,  
Tucson, Arizona.

Dear Maurice:-

I am enclosing a report I just made for some people here that describes a gold property that might interest you. These people have recently got title to the old Climax Mine near Prescott and as they are not heavy enough to handle it themselves in the way it should be, are in a "receptive mood" relative to its disposition.

Mr. Waara of Prescott was consulting engineer for the old company for a long time and is familiar with all the details of its history, development and merits, and, in a talk I had with him over the phone, said he considers it an extremely good property.

You will note in the report the details of equipment, roads, development etc but there are a few more I can take up in this letter. All the tunnels are open and in good shape except the one following the north fault into the mountain. This, while not caved, is filled with some gobs that have run down out of a stope about 100ft past the intersection with the main fissure. One or two of the raises in the vein are in the same condition and in most of them the ladders need re-placing, which is now being in order to have everything in shape for a complete examination and sampling.

In the main air raise from the 500 to the 400, I was able to get up about 35 feet. Also down about the same distance from the 400. These two levels are 200ft apart with an intermediate between. The raise was evidently put up on a large pipe of ore as it is broken out for some 10ft wide near the bottom but is narrower at the top.

The ore exposed in the backs of the tunnels is from a few inches to 2ft wide with a vein filling that is said to be good mill rock. The walls are from 3 to 5 feet apart in most places and large blocks of the developed area have not been penetrated at all according to the mine maps. Mr. Waara confirms this also. The maps were made by him at the time the work was done. There should be a considerable amount of mill grade gobs in the mine as well as a large tonnage of mill rock and some shipping grade already developed.

These boys are putting in ladders, cleaning out the loose material and fixing up the roads and will soon have things in good shape for a better inspection than I could give it when I was there. We drove right to the camp in a Chevrolet (4) Sedan but the road-bed in places is rough and there are some steep pitches than can be cut out.

If this interests you, come up and have a look.

Sorry I was away when you were here. Have been doing considerable running around and have two more trips in prospect soon but will only be away a few days each time.

We get the Helena paper every day and I noted some time ago that Horton was having some trouble with his Company at the Wickes properties. Hope got in the clear all right.

How are the lead developments at Tombstone coming along? There should be a good future in lead; also silver when the "Powers" who run things for us wake up to some facts.

Regards to Hubert. In fact, this is to both of you.

Sincerely, *B. D. White*



# VIRGINIA DARE MINE

## YAVAPAI COUNTY

### ARIZONA

June 18, 1931

Messrs Richmond & Fetty,  
Phoenix, Arizona.

Gentlemen:-

The following is a Summary of the information I have been able to gather regarding the Virginia Dare Group, formerly known as the Climax Mine. This data has been compiled from what records are at hand covering the operations of the Climax Company, a visit to the property, and a brief interview with Mr. J. W. Waara of Prescott, who was connected with this Company in an advisory capacity for many years.

#### LOCATION:

The group of seven unpatented claims is situated in the Hassayampa Mining District, Yavapai County, Arizona, about 15 miles south of Prescott, the County Seat and 4 miles east of the Phoenix- Prescott (White Spar) Highway. It is within an area that has been highly productive in gold, silver, copper and some lead, the gold predominating.

The adjacent districts, from Congress and Octave on the south, through Prescott, Senator, Bigbug, Mayer, McCabe, and Walker-Poland, to and including the Jerome Quadrangle to the northeast, have been important factors in the development of the mineral wealth of Arizona, and are credited with a total production of over one-half billion dollars.

#### PHYSICAL ASPECTS:

The Virginia Dare holdings lie in the northern section of the Hassayampa River drainage basin and present an aspect of rugged and abrupt contours in a highly fractured zone in the Bradshaw Geologic Structure. The surface is cut by the deep canyon of the river and numerous side gulches and is covered with a dense growth of chaparral. It is, however, outside the limits of the forested areas and mine timbers and lumber will need be hauled in to the property from adjoining districts, a few miles distant.

The deep gorge of the Hassayampa at this point affords a very good tunnelsite into the ore zones of the property, of which advantage has been taken in the developments and operations of the former owners. No. 5 drift, a crosscut of some 500ft, cuts the veins at a depth of 600ft below the crest of the first western uplift in the canyon wall.

#### EQUIPMENT:

There is on the property at the portal of No. 5 tunnel, a ten-stamp mill with a 9 x 11 Blake Crusher and two amalgamating plates. The two concentrating tables have been dismantled. The batteries are driven by a 25-h.p. Corliss Diesel Engine. A 12-h.p. Corliss Diesel drives the Crusher. Two Challenge tappet driven ore feeders and various belting, shafting and pulleys complete the mill equipment. A 300 cu.ft. Giant Air Compressor and air receiver are in a separate building at the tunnel portal. This is driven by a 40-h.p. Corliss Diesel. All of this machinery is in good condition and can be put in running order with a little overhauling and very little replacements. A Blacksmith shop with forge, bellows, vise, anvil and some miscellaneous tools and some hundreds of feet of used rail

are on the lower dump. In addition to the mill building, power house and blacksmith shop there are: Boarding house, assay office, 3 bunk houses, cellar and outhouses. All the drifts have 12-lb T rail tracks in place and there are three ore cars and a track scale at No. 5 tunnel. A cookstove and some kitchen and table ware are in the boarding house. Accomodations for a crew of 30 men can be readily provided with a small amount of reclamation and repairs on these buildings. The timbers in the mill are hewn and in a fair state of preservation and will serve as a nucleus for a new structure.

#### DEVELOPMENT:

About 5,000 lineal feet of drifts, crosscuts and raises are shown on the maps of the property. The vein exposures are shown in the Climax, Cub, Lion and Leopard for about 2,000 feet. The total depth reached is some 600 feet. About 10% of the ore areas as shown in the drifts on the veins has been stoped. Details are shown on the maps to which reference is made.

#### GEOLOGY:

The geology of the Bradshaw Quadrangle was studied in minute detail in the early days by Jager and Palache (Pamphlet 126), and later, in 1926, by Lindgren (U.S.G.S. Bul. #782). The data compiled in these reconnaissances, together with the knowledge gained in over 40 years of intensive operations in these districts, make the local features of vein structure and conditions fairly well known and remove many of the elements of speculation and conjecture from new explorations in this field.

Briefly, the geologic aspects at this property are as follows: The holdings lie in an area of the Yavapai Formation that is made up, in large part, by a schistose groundmass, intruded by dykes and sheets of granodiorite and a gneissoidal (lenticular) phase of the rhyolite. This latter, with a brecciated andesine schist, quartz and some calcite, makes up the vein filling. While the intrusives are dense and more or less blocky, the schistosity extends into them and into the fissure aggregates. The whole area opened up by the workings is much faulted, and two major faults are shown on the map; the one to the south being along or near the contact of the schists with a zone of diabase in the Leopard Claim. This formation, while apparently containing the south extension of the Lion Fissure, with little or no displacement, presents ore inclosures differing from those found in the schists, and the values are mainly in a telluride complex, said to contain some copper. No samples or specimens of this were found, however, information given was derived from the old-time records of the Climax Company. The workings in this part of the mine are, at this time, inaccessible.

#### VEINS AND ORE MINERALS:

Due to the broken nature of the ground, it is difficult to determine the exact number of veins and ore-bearing fissures, dykes and faults disclosed in the workings on this property. One main vein, with a general course North 24° west, through the Climax, Cub, Lion and Leopard Claims is apparent. This has a dip to the east of 77° in the upper horizons and at the No. 5 Tunnel is nearly vertical. Displacements of 20 to 40 feet were noted at the two major faults with little or none along the smaller slips and the several dykes shown. A rather flat injection of white quartz is seen in the Yockey drift on No. 5 level. This cuts the fissure but its effect, if any, on the ore occurrence is not apparent. Seggregated blocks containing ore lenses appear in several crosscuts. Seepages are found, coming into the lower level from the east from



an area that was crosscut by the main adit to the north, indicating a migration of minerals from this part of the mine. These seepages show the oxides of iron and manganese, with some fluorite, inclosed in chalcedic incrustations on the wall of the drift. Mention is made of some black dykes in connection with the tellurides in the records of the old company. These, presumably, in the diabase area to the south.

All the exposures in the mine, from the surface down to the 500 level, show both oxide and sulphide ores, and it is fairly certain that the bottom of the transition zone has not been reached. As it is still some 100 feet or more to the canyon floor, it is likely that any secondary aggregates will be below this point, and that free gold milling ore may be expected to the 1,000ft level. The water table appears just above the 500 level, and a small flow runs out this tunnel to the surface.

No copper or lead minerals were noted. In the upper part of the mine, near the surface in the Lion ground, above a sill containing some disseminated arseno-pyrite, a deposition area was exposed, showing a wonderful range of colors in the arsenite complexes in connection with some fluorite. The composition of these was not determined and they have no apparent significance with respect to the value factor in the ores.

#### ECONOMIC ASPECTS:

No samples were taken at the time of this examination. Access was had, however, to some recent assays on samples from various parts of the mine and the mine and tailings dumps. These include several taken in the back of the north major fault some 100 feet east of the Lion-Cub vein. The returns were from \$9.00 to \$15.00 per ton in gold. Samples of the solid arseno-pyrite showed \$20.00, \$25.60 and \$29.60. Some disseminated pyrite, \$12.40. Ten inches at the foot of the Air Raise, \$33.60; West dump, fines, \$3.40; fines from dump under tramway, \$18.00 and \$20.00. A special sample from the lower drift, \$88.00; mill tailings \$3.20. All values given are for gold only. The silver ratio is low.

A copy of a smelter settlement sheet shows assays as follows: Gold, \$56.00; Silver 0.7 oz; Copper, 0.9%; Iron, 31.07%; Insoluble, 57.54%. Details of settlement not shown.

It has been estimated that the various dumps, screened to minus 1 inch, will yield some 3,000 tons of ore of \$10.00 grade (gold).

Old letters show: Floor of Yockey Drift, 70ft long, 10 inches wide, \$65.00. Climax Drift, 100ft long, \$60.00. Vein filling, \$15.00. Eight inches in winze (telluride in Leopard) \$300.00. 6 to 7 feet alongside, "low grade"

Mint returns, 1 bar 73.72 ozs, \$1,372.88.

Reference is also made in the old letters to ores of \$2,000 and \$4,000 value per ton and to one shipment of three sacks that returned some \$1,500.00. Most of the tonnage mined was milled, with a resultant concentrate that was shipped to the smelter, as was also the sorted sulphides from the crude ore.

An electric power line is within six miles of the property. Water for milling can be had from the Hassayampa River and from deeper workings in the mine. The south Fault throws a spring that can be developed for domestic use with gravity flow to the camp.

In the interview with Mr. Waara, he stated that during the early operations at this property only that development incidental to reaching the high grade lenses and pipes was carried on, and no systematic attempts were made by the owners to properly explore the ground. He stated further that the better grades of ores were found near the faults but that the rejects left in the mine at that time would be profitable now with proper metallurgical processes and efficient operating equipment. The concentrates made in the mill, and the sorted crude ores (sulphide) that were shipped to the smelter, always gave satisfactory returns. He characterized the vein as a contact between two facies of the schist.

#### RECOMMENDATIONS:

These would include the cleaning out of those entrances and passageways into the mine that are now blocked and a complete sampling of all the ore exposures. The ground stands well after many years without timbers, and the only places that are blocked are where the gobs have run into some of the raises and drifts.


A survey of the north major fault to determine at what point it will cross the canyon below the mill with the view to starting a still lower adit into the vein system. This would develop any ores in the fault itself and is a good line of prospecting as this fault shows values in the upper horizons. It would also pick up any fissures that may exist in the eastern area. If the survey should prove that this proposed tunnel would be longer than the depth attained would warrant, heavier compressor equipment should be installed and sinking begun.

Metallurgical tests should be made to determine a proper flow sheet for the ores so far developed and a plant commensurate with the indicated tonnage already developed should be erected. This could be so arranged that additional units could be added when conditions demand it.

A complete assay and laboratory equipment should be at the property and any values that may be in the many faults, dykes, bedding planes and slips as well as the vein fissures and offset lenses and blocks that are shown by the present developments, determined.

#### CONCLUSION:

In the light of the foregoing outline of the conditions that prevail at the Virginia Dare property, it is apparent that it has aspects of unusual merit and presents a rare opportunity for a safe and sound mining investment. The past history, while rather fragmentary and vague, is evidence of a profitable enterprise covering a period of many years. Working conditions and natural facilities are exceptional, and with the efficiency of present-day engineering practice and metallurgical processes, this property has attractive features that are hard to find elsewhere in the mining field.

  
Metallurgist.



Name of company

*Climax Mining Co*

Locations- Mine office

*Prescott*

Home Office

Mill

*Catoctin Ariz*

Smelter

Officers- President

*R.M. Martin*

Address

*Suite 1002, Century Bank Bldg,  
Los Angeles, Calif.*

Vice Pres.

Address

Secretary

*M.E. Shaulding*

Address

*Prescott Ariz*

Treasurer

*R.M. Martin*

Address

Operating- Gen. Mgr.

Asst. Gen. Mgr.

Mine Supt.

*J.L. Deane*

Mill Supt.

Smelter Supt.

Auditor

Chief Engineer

Chief Chemist

Geologist

Purchasing Agt

Safety Inspector

Efficiency Engineer

Ventilation Eng.

Master Mechanic

Milling process

*Amalgamation & Concentration  
A Ten Stamp Mill*

Smelting process

Mining Methods

*Machine & Hand drilling,  
Tunnels, drifts, winzes, raises  
and stops*

Kind of power

*Gasoline*

No. H.P.

*Twenty five*

No. men employed (approx. average)

Mine- Underground

*5*

Overground

*1*

Mill

*2*

Smelter

Mechanical Department

Kinds of ores

Silicious Gold

Average Daily tonnage

No other metals of value

Bibliography of literature published about above property as far as known

None

Respectfully

J. L. Duncan

Quite a batch of ore having accumulated upon the dumps of the Climax mine, the mill will be kept in operation until about October 15th, after which Stewart Duncan, the manager, will go to the camp of the Arizona Ore Reduction Company, about three miles from Chloride, where he will be in charge of practical work both underground and in the construction of a new 150-ton ore reduction plant, mentioned elsewhere in this column. At the Climax, the C. B. S. mine, both in this county, and the Copper Age group in Mohave county are all controlled by Messrs. Martin, Goerner and associates, and Mr. Duncan is simply transferred to the Mohave county mine because of his all-round efficiency. After the first of next year, it is the purpose of the management to continue work in the Climax, when the extension of the tunnel in Leopard 1 will be resumed. At the C. B. S. mine, Goerner found conditions most satisfactory. The shaft has reached a depth of 134 feet. It will be sunk to 200 feet, or perhaps to 250 feet, when drifting will be done. The vein in the shaft is strong, has every indication of permanency, and shows that there is a body of copper ore at no great distance below the present bottom of the shaft.

#### Breaking Ground for New Plant

Mr. George F. Goerner is in Prescott, in business in connection with the Climax and Catactin mines, in which he is interested. He came direct from the Chloride district, where he is associated with the Arizona Ore Reduction Company, operating mines three miles southeast of Chloride. This company is breaking ground for a 150-ton reduction plant which will begin operation by January 1st. The plant is designed to turn out a lead and copper alloy which will carry most of the lead and silver in the ore and in addition to this will produce a spelter that will be 98 per cent. pure zinc. This will be the first plant to turn out zinc in Arizona. The plant will be constructed under patents applied for by Mr. Goerner, and for which he has secured the exclusive rights for Arizona and the Ore Reduction Company. He reports Chloride wide awake just now and getting its full share of the activity and new life in metal production.

Climax (Hassayampa)—Stewart L. Duncan, who recently assumed charge of the Climax gold mines, Hassayampa district, states that the property is again in action. He was the superintendent when the company was in charge and a short time ago secured control under a lease.

Willcox News: Frank Petersen, who is developing the LeRoy and Climax groups of mining claims in the Dos Cabezas district, was in the city Tuesday. When asked concerning the progress being made at these properties he informed us that he has developed sufficient mineral showing to justify the installation of hoisting machinery and an air compressor as well as other machinery necessary for more aggressive development work. The machinery has been ordered and upon arrival will be taken to the property and installed at the earliest possible moment.



Important developments have followed the trip of inspection made last week of R. M. Martin, president of the Climax Mining Company, who was accompanied by a metallurgical engineer.

M. E. Spaulding, secretary of the company, who returned a few days ago from Los Angeles, partially outlined yesterday the plans for future operations, which, it is anticipated will be successful in solving the problem of treating the low grade ores running into many thousands of tons. One dyke having a width of from 60 to 100 feet, is to be exploited and the low grade values are to be milled under the direction of the expert, who is introducing for the first time his special process of reduction for Climax ores. This movement means that a large mine force is to be employed.

In the meantime the mill is to start up to treat a heavy tonnage of the high grade product, developed in the last few months and to get ready for the big test runs of lower grade ores.

The Climax in recent years has proven a desirable property in its limited sphere of operations, being quietly and steadily producing with results that are reported to be surprising. During one year with a force employed of not over ten miners, it had a record of yielding \$33,000. The development during the last five years, it is presumed, has been extensive enough to expose an immense tonnage of the lower grade ore, and the economical milling of its product now seems assured.

The inventor of the process to treat the Climax product, it was stated yesterday has been making experimental tests for over two years, and is now ready to make a practical demonstration.

#### Tests Made of Climax Ores.

F. Goerner, metallurgist and mine man, recently returned from the Climax mine, where he was engaged for about two weeks in making tests of the ores treated in the mill. The tests were made for the purpose of determining future operations. Alongside the rich vein of the Climax is a very large dyke, fifty to eighty feet in width, carrying gold value. From this dyke 116 tons were run through the mill, 42 tons of the high grade from the Climax vein, and 47 tons of medium grade ore. Under Mr. Goerner's supervision, samples were taken every hour of battery heads, plate tails, slimes and final tailings. These various mill products have been shipped to Los Angeles for assay and analysis. One of the incidents of the mill runs was the recovery of three bars of bullion which Mr. Goerner brought from the mine. Their value is close to \$1300. Should it be found that the big dyke will yield a profit, the Climax plant is apt to become one of the biggest ore reducing works in the county, as the tonnage is practically without limit.

#### Is Quarrying Tests

Mr. George F. Goerner returned to Prescott from Los Angeles a few days ago and is now at the Climax mine, doing further experimental work. The laboratory returns on the mill products of the three different grades of ore recently handled were sufficiently encouraging to justify another run for the purpose of checking up these tests. The experiments are being made primarily to try out the great mass of low grade ores in the big dyke which passes through the Climax property for a distance of more than 5,000 feet, with a width of 50 to 100 feet. The last trial on this material was made on 116 tons, and Mr. Goerner states that a run of not less than 300 tons will be made at once, and if the results are equal to the last test, operations will be continued permanently and the capacity of the present mill doubled within the next sixty days.

#### Shipped to Catoclin.

Moist has just been shipped to the old Catoclin mine, about 16 miles south of Prescott. This property adjoins the Climax and is under the same ownership. Mr. George F. Goerner, who is now making tests on Climax ores, is unwatering the Catoclin so as to get into the lower workings for an examination. The Catoclin was an active producer about twenty years ago, and the sampling map prepared when the property was last under operation shows considerable bodies of low and medium grade ore in reserve. This indication is also borne out by the values found in the dump material, which in the earlier days was regarded as too low to be profitable. Fifty tons of this ore are now being hauled to the Climax mill and will be tried out under Mr. Goerner's supervision. The values are in gold, silver and lead, and appear to be distinctively a concentrating proposition.

#### WORLD

#### Step by Step.

Extensive experimental work has been going on at the Climax and Catoclin mines for the past sixty days. Mr. George F. Goerner has been in charge of the operations. The ores from the different portions of the property have been segregated into high grade, medium and low grade. The high grade run consisted of 42 tons, the medium grade 47 tons, and the first run of low grade 116 tons. The second low grade run, made as a check, was on 302 tons. Of this latter material there is such a mass that it is virtually a quarrying proposition, and the expense of handling it so slight as to make it a more profitable product than either of the other two grades. The work of unwatering the Catoclin is under way, although it is expected that it will be fully thirty days before the lower levels are cleared for examination. The main shaft is 150 feet deep and levels were run in both directions every hundred feet. Eighty tons of the ores from the property were stacked in various piles and a mill run of 28 tons made from the mixed ores. The Catoclin ores are complex, showing gold, silver, lead, zinc, a trace of copper, sulphur, arsenic, iron and silica. The concentrates produced from this run, however, were more satisfactory than had been expected and assayed very close

### Brings Bullion.

Stewart L. Duncan, manager of the Climax mines, brought in a bar of bullion last Tuesday, the result of a recent run of 100 tons of ore. The Climax is one of the successful mines of Yavapai. Without making any noise, except the explosion of powder and the dropping of stamps, management of the mine work month after month and year after year, obtaining a really big profit when the number of men employed is taken into consideration. Since the completion of a small dam in the Hassayampa, and now that the whole country is water soaked, the mill will probably have ample water supply for several months to come.

### Climax Mill Ready for Run.

Word reaches us from the Climax camp on the Hassayampa that the mill will resume operation in a day or two. Also, that within the past few days there has been milled which runs \$1,500 a ton in gold. The quantity of the ore or the size of the ore streak was not stated.

### LION

For the second time during this year, the Climax mill has made a very successful run of ore, and the bringing in yesterday by Superintendent S. L. Duncan of a bar of gold bullion weighing several hundred dollars is evidence of the success of that property.

Duncan stated the last run was of 100 tons, and while withholding the values, stated, however, the grade was high, and the run was one of the best ever made. He also stated the mine never looked better, and development is going ahead energetically, with underground conditions as decidedly attractive.

This mine has been a remarkable producer in recent years of gold bullion, and with a force of only six miners, has yielded as high as \$30,000 in a single year, mine work alternating with that of milling as occasion requires. Kidneys of free ore have been taken out that ran to as high as \$300 to the ton, which were sacked and shipped. Under the system of operating, the Climax is paying its way, with a margin of profit and is expected to become one of the big gold mines of this field.

### Brings in Nine Pounds of Gold.

M. E. Spaulding, secretary of the Climax Mining Company, who for several years have been operating the old Montgomery or Quartz Mountain group of mines on the Hassayampa, was for a short time during the past week the custodian of a bar of gold bullion weighing 116 ounces.

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### Work at Climax

For some weeks past, the principal work in the Climax mine has been in extending the long drift into Leopard hill. In a few days the mill will start crushing a nice batch of ore which has accumulated.

S. L. Duncan, superintendent of the Climax mines on the Hassayampa, brought to the city yesterday the regular gold bullion output of a short mill run, which he stated was satisfactory from a tonnage standpoint treated. The actual value was withheld. This property is being quietly operated, but, according to reports in circulation, the grade of the ore is higher than at any time mined in recent years. Mr. Duncan states that in a short time larger operations are to begin.

*Journal-News*  
OCT 2 - 1915

The arrival yesterday from Los Angeles of R. M. Martin, president of the Climax Mining Co., which has valuable gold holdings on the Hassayampa river, is stated to be for the purpose of conducting development in the near future on a bigger and broader line than heretofore given, the details of which are to be closed up during his present trip.

With the Climax assuming a new role in big development, Mr. Martin will also resume work on his individually owned C. B. S. group of copper mines, in Copper Basin district, which is on the same belt as the Commercial, that lies to the north. On this group sufficient development has been performed in the past two years to warrant the consideration now being outlined to reach greater depth and begin production. Mr. Martin is to remain for several days at his two camps. He is accompanied by an engineer who will direct the important work outlined. Mrs. Martin accompanies her husband on the trip, this being her first visit.

SEP. - 1915



# PORTED IN STREAKS CARRYING THIS RARE MINERAL

The arrival in Prescott yesterday of R. M. Martin from Los Angeles president of the Climax Mining Company operating on the Hassayampa and his admissions that tellurium ores had been cut into from the old workings, that he was to investigate, proved a very interesting theme of discussion among mining men residing here.

While nothing definite was given as to the extent of the zone developed that exposes this rare metal, he stated, however, that values ranging to as high as \$4,000. was his belief from the reports made to him in the above city, and which occasioned him to come here at once.

Also at other places under development Mr. Martin was free to express himself as well pleased with the present outlook, which was substantiated several days ago by S. L. Duncan, the superintendent, while in the city. The Climax many years ago produced tellurium ores, and is reputed to be the only mine in the State that can justly claim this novel mineral rating. Four different points in this property expose high-grade free gold ores, in fact the showing made recently is said to be the best in the many years it has been operating on a small scale. Last year, the mine added to its credit a total output of over \$33,000 in gold, at an expense of maintaining a force of only five miners.

Arrivals from the Hassayampa yesterday stated the rumbling of the Climax mill is again heard, and ore stamps are dropping on high grade ore. According to reports, the plant will be active for the summer, an abundant ore supply being on hand from several months of development. The ore is said to be among the richest ever developed, and is free in character. This property is in charge of Stewart L. Duncan, R. M. Martin, of Los Angeles, is the president of the company.

Underground work is in steady progress at the Climax mine at Prescott and ore of excellent grade is being extracted and crushed in the mill.

Arrivals yesterday from the Hassayampa district reported that the Climax mill had suspended operations owing to the water supply failing, but it was stated the returns were quite heavy in free gold. The mine, according to statements, is making a better showing than at any previous time in its history. Several new zones had been opened up by recent development work that have placed the property in the class of a big producer.

Prescott Courier: Rich gold ore has been struck in the Climax mines, out on the Hassayampa river. The exact values have not been made public, but the ore is so rich that it is being sacked for hauling to the plant, only a short distance away, instead of being sent through the chute in the loose state. Over 100 sacks have been taken out. The ore body is large and was encountered in one of the tunnels that is being driven through virgin ground. Its extent has not been determined. More details are being anxiously awaited because the strike is regarded as the most important that has been made in Arizona since the rich body of ore was struck in the Commercial mine. A small quantity of gold ore that can be profitably worked with a mortar and pestle has been struck by Hawkins & Esser, who are leasing Ben. Silverman's Anita, claim in Crook Canyon. The ore will assay several thousands dollars a ton. Two Australia miners have leased the old silver mine of Roach and Mulvenon, from which much ore was shipped years ago.

## Climax Mill Running.

S. W. Clark, tool sharpener and all-round mechanic at the Climax mine, was in Prescott during the past week and reports that the recent rains have so increased the flow of water in the Hassayampa that there is now sufficient for milling purposes. The mill is now running on ore accumulated during the period when water was low. Mr. Clark also reports very favorable conditions in the mine.

OCT 17 1914

NOV 1914  
ZONE

Arrivals from the Hassayampa state that development on the Climax is attracting more interest than ordinary, and the striking of a two-foot body of sulphide ore, of very high grade in gold, has occasioned considerable excitement in the district.

Heretofore the Climax has been a producer of free milling ores, carrying but a small percentage of the baser metal and the change in the geological condition, with values assuming the highest ever known, occasions very much interest over the future of this property, that has been under operation for many months quietly and successfully.

The new zone cut into is in the lower tunnel, the mouth of which is but seventy-five feet from the level of the creek bed. The upper workings have been the source from which several mill runs have been made in recent years, some of the ore plating over \$100 to the ton. The force at present employed is ten miners, and S. L. Duncan is in charge as superintendent.

## Have Finished Concrete Dam.

Stuart Duncan, manager of the Climax mine, was in Prescott on Friday, and in the best of spirits because of the favorable conditions existing in that property. A good grade of ore is being taken from two of the stopes, and work of developing new ground continues. About two weeks ago the company completed the construction of a concrete dam across the Hassayampa at a point opposite and just below the mill. The dam has three spillways which will allow of the passage of flood waters without filling the dam with sediment. Upon the subsiding of flood waters, the dam will be allowed to fill with clean water. This will be pumped to the mill, and if necessary can be returned to the reservoir after use in the mill. Considerable ore is upon the dump awaiting treatment, and the mill will be started after minor repairs are made.

DEC 20 1914



CLIMAX—The 10-stamp mill is running steadily. The Hidden Treasure mill is to be dismantled and the equipment added to that of the Climax.

CLIMAX—This group on the Hassayampa River was recently inspected by R. M. Martin, who ordered resumption of work.

CLIMAX—Pending the arrival of two Wilfley tables, the mill is being operated steadily on the ores from the large low-grade vein. If the mill test shows a margin of profit the mill will be much enlarged.

Additions to the Climax mill will consist of 10 stamps from the Hidden Treasure mine, a tube mill, and a 50-ton cyanide plant to treat accumulated tailing. The Safe Mining Co. is erecting a new mill. The Cherry Creek district is active at present.

#### YAVAPAI COUNTY

It is probable that the Climax Mining Co. will construct two large dams across the Hassayampa river to insure a reliable supply of water for the mill, which is situated on the river. Shortage of water has resulted in the plant being shut down for several weeks this summer.

During the present trip of R. M. Martin, president of the Climax Mining Company it is his intention to make arrangements for the immediate hauling of the old Hidden Treasure ten-stamp mill and its erection on the Hassayampa, as an additional unit for the mill on the ground.

This mill was purchased several months ago and is now dismantled. It is located about four miles from Turkey station on the Bradshaw Mountain railway and will be loaded on cars at that point. From this city it will again be taken by freight teams over wagon roads and the intention is to get it running as soon as possible, in view of the early coming winter storms, which insure a steady supply of water for months to come.

With the added unit the Climax will have twenty stamps dropping and from recent development, the tonnage on the dump and blocked out is capable of keeping eighty stamps active for months to come.

Mr. Martin also is operating the Board Creek copper mines, recently purchased, and is quite optimistic over determinations made in the past three months. He is now at the Climax camp and is to remain in the field for several days before returning to Los Angeles.

President R. M. Martin of the Climax Mining Co., has returned to the city after making an inspection of recent development and expresses himself as pleased over new ore bodies cut into.

Th tellurium condition, he states, is of but little interest, occurring in streaks, as prevailed heretofore, and is but of secondary consideration compared with other gold conditions determined. The blocking out of ore goes ahead, and for the present mine work will be actively prosecuted to afford a supply for a mill run of the future.

#### Very Rich Ore from Climax.

About one ton of very rich ore was recently taken from the Climax mine. Pieces of the ore, when broken, showed wire gold in considerable quantity, and a small amount of tellurium was also associated with the gold. The finding of this class of ore in the Climax is an incident of somewhat frequent occurrence. Under the name of Montgomery, the mine gained notoriety forty years ago because of the rich bunches of ore mined from it, although the great bulk of the gold produced by it has been obtained from ore milling about \$30 per ton. Mr. R. M. Martin, of Los Angeles, who is president of the company, visited the mines during the early part of the present week, and expressed himself as well pleased with the showing in the mine. The principal work outlined for the immediate future is the driving of the lowest level, which connects with Tunnel No. 5. This level will pass under a gulch between the two principal mountains of the group at a depth of about 200 feet, and will be projected under Leopard hill, from which considerable good ore has been mined from superficial workings. The outcrop upon Leopard hill is said to be excellent, and the opening up of an additional ore body is confidently expected. Stuart Duncan, under whose management the mine has heretofore yielded handsomely, will remain in charge of the work.

OPERATION - JOE STOCKS  
- IMPK COBB

CLIMAX (file) YAVAPAI  
CO.

Reply To: 2810

Date: June 1, 1993

Dear Concerned Citizen:

The Bradshaw Ranger District has received (3) Plans of Operation for the following projects:

(1) The proposed STOCKS Project is located at the Climax Mine, which is 4 miles east of Wilhoit. The legal description for the proposal is Section 1, Township 12 North, Range 3 West.

The first stage of the proposal calls for the sampling of a 50,000 ton ore dump located adjacent to the mine. Sampling will be done off-site and the disturbed area will be reclaimed before beginning the next stage.

Stage 2 calls for opening and expanding the existing Climax Mine portal. Approximately 3,000 tons of waste will be removed to make the portal safe and to develop underground loading stations. The proponent hopes to remove another 50,000 tons of material from underground workings. The material will be stockpiled near the portal entrance and then removed from the site. Access in to the project is via existing roadways, although some maintenance will be necessary to insure safety. As part of the approval for this project, the proponent will be required to post a reclamation bond sufficient for rehabilitation of all disturbed areas.

(2) The proposed YAHN Project is adjacent to the Hassayampa River, 2 miles southwest of Groom Creek. The legal description for the proposal is Sections 26 & 35, Township 12 1/2 North, Range 2 West.

The proposal calls for excavating and processing materials dug from 3 trenches approximately 300 feet long, 50 feet wide and 10 feet deep. The material will be run through a grizzly, vibrating shaker screen, washed and sluiced and fed back into the trenches. Only one trench at a time will be open and reclamation will be on-going. The initial water source will be the Hassayampa River, however, water will be stored and utilized from 15,000 gallon holding pond, that is currently in place. A 5,000 gallon settling pond will be constructed to catch and filter wash water before it is allowed to return to the river. There will be no blockage or diversion of the river. The settling pond and excavations will be a sufficient distance from the river to avoid disturbance and pollution. Access in to the project will be via existing roadways. As a part of the approval of this project, the proponent will be required to post a reclamation bond sufficient for rehabilitation of all disturbed areas.

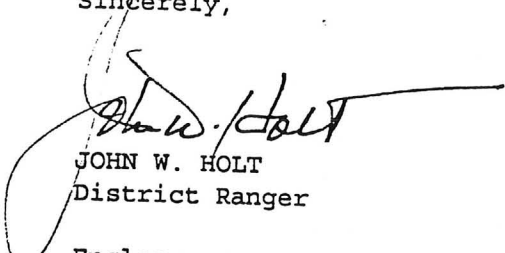
(3) The proposed POLEY Project is about seven miles north/northwest of Skull Valley and two miles southeast of Rancho Moano. The legal description for the proposed operation is Sections 12 & 13, T15N, R5W and Section 7, T15N, R4W.

The proposal calls for the excavation of ten 15' by 15' by 3' sample trenches and the construction of approximately one quarter mile of access road. Equipment to be used in the proposed operation includes a backhoe and 4WD pickup trucks. The proposed operation is in chaparral vegetation; total disturbance for the proposal is estimated at approximately one quarter acre. As a part of the approval of this project, the proponent will be required to post a reclamation bond sufficient for rehabilitation of all disturbed areas.

Initial concerns identified with these projects include the need to minimize soil erosion and impact on wildlife, and the preservation of timber and other vegetation, and cultural resources. Biological Evaluations including evaluation of the effect on spotted owl habitat and cultural inventories will be completed prior to approval of the proposals, and all other issues and concerns will be mitigated through the Appended Conditions to each Operating Plan approval.

If you have any additional concerns or comments for Projects 1 or 2 direct them to Doug Franch. Concerns or comments for Project 3 should be directed to Beverly Morgan and all comments and concerns must be received by June 14, 1993. Copies of these proposals are available at the Bradshaw Ranger Station, 445-7253.

Sincerely,



JOHN W. HOLT  
District Ranger

Enclosures

**DEPARTMENT OF MINERAL RESOURCES**  
**STATE OF ARIZONA**  
**FIELD ENGINEERS REPORT**

Mine Catoctin ✓

Date Jan. 4, 1953

District Hassayampa

Engineer Mark Gemmill

Subject: Present operations

The property is owned and operated by Gold Bend Partners, C. W. Gabrielson Genl. Mgr. Box 701, Prescott, Arizona. It is located about 12 miles south of Prescott two miles off the Main Highway. The road from the Highway is fairly good but rather steep in places. Elevation at the mine about 5400 ft.

Since acquiring the property about two years ago, the operators have done some 1400 ft. of tunneling, Cross-cutting and drifting. They are well equipped for this type of work, having a diesel driven compressor, mucking machine, air trammer and good air drills. The work has been done efficiently with a small crew.

Old workings consisted mainly of a shaft reported to be 400' deep, now inaccessible and a tunnel some 300' in length driven along the vein in the hillside to the north of the shaft. In the tunnel a shoot of ore was stoped to the surface and also stoped below the tunnel level to an unknown depth. There is no record of the grade or amount of ore extracted. The values were mostly in silver with some lead. There is no record of what was found in the shaft or of lateral workings from the shaft.

The present operators continued drifting in the main tunnel and also crosscut to three other veins with some drifting on each one. Small bunches of silver-lead ore have been encountered from time to time but Mr. Gabrielson states that in no place have they found shoots of minable size and grade.

At present drifting is being continued to the north on the No. 3 vein. 3 men are now employed.



## ABSTRACT

THE CLIMAX MINE OCCURS IN A DEEPLY ERODED MULTIPLE-PHASE STOCK OF CRETACEOUS QUARTZ LATITE AND QUARTZ LATITE PORPHYRY, WHICH HAS BEEN EMPLACED IN PRECAMBRIAN WALLROCKS CONSISTING OF THE GREEN GULCH METAVOLCANICS AND UNDIFFERENTIATED INTRUSIVES. LARAMIDE INTRUSIVES INCLUDE, IN ORDER OF EMPLACEMENT, A QUARTZ MELADIORITE, AN OLDER QUARTZ LATITE PORPHYRY, AND A YOUNGER QUARTZ LATITE PORPHYRY, INTO WHICH HAVE INTRUDED A CALC-ALKALINE SERIES OF DIKES OF PRE-, SYN-, AND POSTGENETIC RELATION TO MINERALIZATION. THE DEPOSIT SHOWS STRUCTURAL AND PETROLOGIC SIMILARITIES TO THE COPPER BASIN DEPOSIT, AS DESCRIBED BY JOHNSTON AND LOWELL (1961), AND CHRISTMAN (1978), AND APPEARS TO BE GENETICALLY RELATED TO THE GLEN OAKS OCCURENCE, DESCRIBED BY HENNESSEY (1981). THE GLEN OAKS DEPOSIT WAS INTRUDED BETWEEN 77 AND 79 M.Y. AGO. MINERALIZATION ASSOCIATED WITH INTRUSION AT THE CLIMAX PROBABLY OCCURED WITHIN A FEW MILLION YEARS OF THE GLEN OAKS OCCURENCE.

MINERALIZATION APPEARS TO OCCUR BOTH IN DISSEMINATED AND CONCENTRATED FORM IN A COMBINATION BRECCIA DIKE - CORDILLERAN VEIN SYSTEM WITH ASSOCIATED WIDESPREAD LOW-GRADE DISSEMINATION. STRUCTURAL AND LITHOLOGICAL ANISOTROPY IS THE DOMINATING CONTROL IN LOCALIZING MINERALIZATION, WITH ALL VEINS AND BRECCIA SYSTEMS EMANATING ALONG LINEAR STRUCTURES FROM CENTRAL SILICIFIED ORE CONDUITS. THE PRIMARY ECONOMIC MINERAL OF THE DEPOSIT IS GOLD, ASSOCIATED WITH SOME SILVER, COPPER, AND TUNGSTEN. ARSENOPYRITE AND CHALCOPYRITE WITH HUEBNERITE ARE THE CHIEF ACCESSORY MINERALS, IN A GANGUE OF QUARTZ, CALCITE, FLOURITE, PYRITE, BROWN COPPER OXIDES, AND HEMATITE. MAGNETITE ASSOCIATED WITH TOURMALINE OCCURS IN ZONES PERIPHERAL TO MINERALIZATION. HYDROTHERMAL ALTERATION IS CHIEFLY CHARACTERIZED BY SILICIFICATION ACCOMPANIED BY THE FORMATION OF SERICITE AND CLAY. ALTHOUGH A SYSTEMATIC STUDY OF ALTERATION ASSEMBLAGES HAS NOT YET TAKEN PLACE, THE ALTERATION PATTERN SUGGESTS THE INTERACTION OF DEEPLY CIRCULATING METEORIC WATERS WITH MAGMATIC VAPOR PHASES. LATE-STAGE PORPHYRY DIKES CONTAINING SECONDARY BIOTITE ARE ASSOCIATED WITH VEIN FORMATION. IT IS POSSIBLE THAT POST-MINERAL PHYLLIC ALTERATION HAS IN PART OVERPRINTED EARLIER POTASSIC AND PROPYLITIC ALTERATION.

FAULTING, UPLIFT, AND EROSION IN MIOCENE AND PLIO-PLEISTOCENE TIME HAS EXPOSED THE DEPOSIT TO ITS CURRENT DEPTH. EROSION-RESISTANT SILICIFIED ZONES CARRYING SIGNIFICANT GOLD VALUES STAND AS REMNANTS ABOVE THE DEEPLY ERODED CENTRAL BARREN CORE OF THE LATITE STOCK, THEREBY ENHANCING THE POTENTIAL A LIMITED STRIP MINING OPERATION. THE STRIP-MINE FEASIBILITY OF THIS DEPOSIT WAS RECOGNIZED AS EARLY AS THE TURN OF THE CENTURY. RECONNAISSANCE GEOLOGY HAS DEMONSTRATED THE NEED FOR A SYSTEMATIC STUDY OF THE SURROUNDING AREAS, FOR FIELD EVIDENCE SUGGESTS THE EXISTENCE OF SIMILAR DISSEMINATED PRECIOUS METAL OCCURENCES ELSEWHERE IN THE VICINITY, PARTICULARLY WHERE AERIAL PHOTOGRAPHY DEMONSTRATES THROUGHGOING STRUCTURES DIRECTLY ASSOCIATED WITH MINERALIZATION, BUT WHERE UNDERLYING LITHOLOGIES ARE COVERED BY YOUNGER TERTIARY GRAVELS.

Wilhoit  
Walnut Grove  
Peoples Valley  
Kirkland

Groom Creek  
Brushy Butte

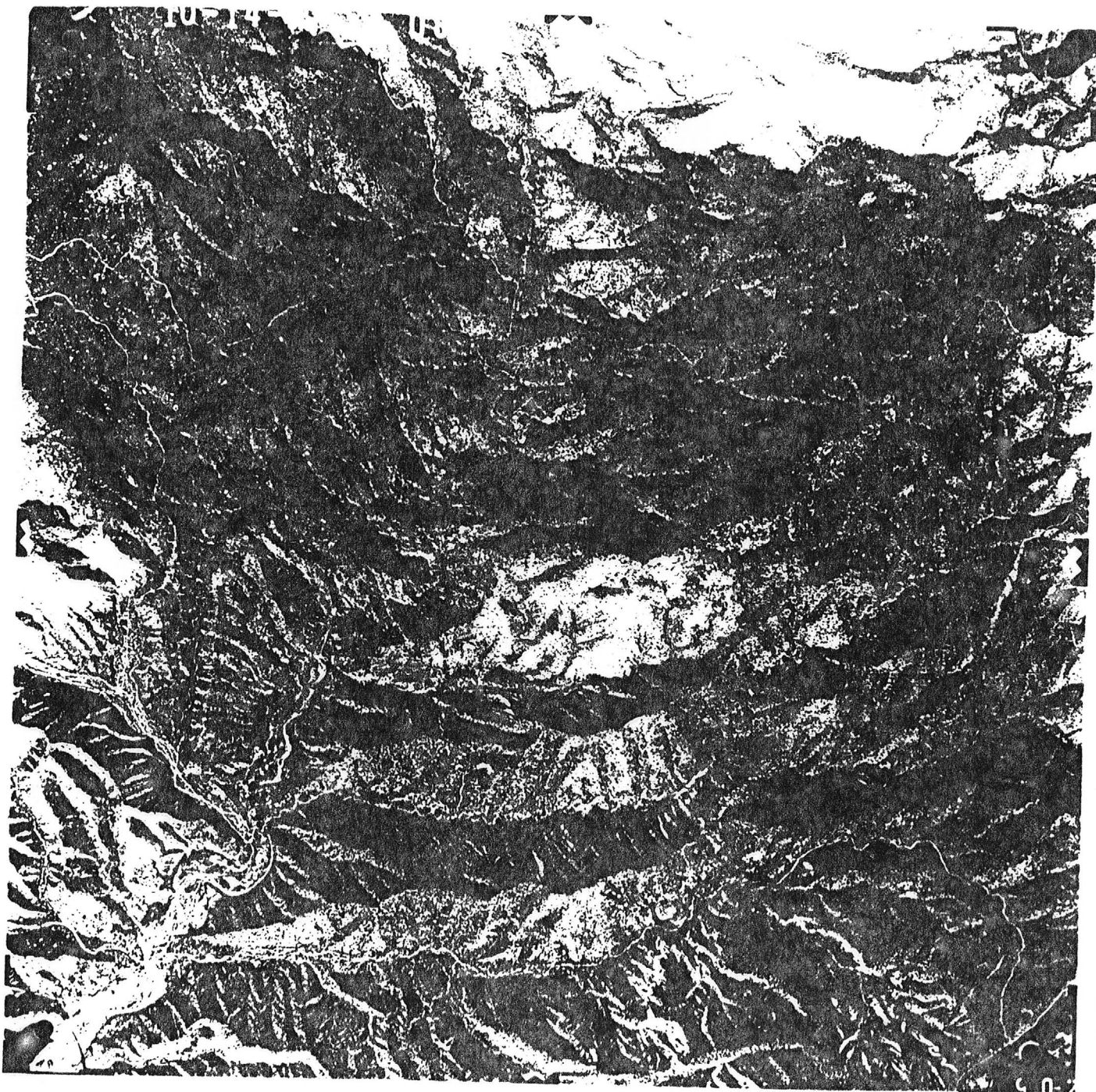
NAME: CLIMAX MINE

TYPE: ALKALIC TO CALC-ALKALIC PORPHYRY GOLD AND MESOTHERMAL VEIN

LOCATION: SECTION 1, TOWNSHIP 12 NORTH, RANGE 3 WEST, GILA AND  
SALT RIVER BASE AND MERIDIAN SURVEY; PRESCOTT NATIONAL FOREST;

PRODUCTION: 1911-1916, 1933-1937; 4,000 OZ. AU, 570 OZ. AG, AND  
744 LBS. CU FROM 5,300 SHORT TONS ORE;

CLAIMANTS: JOHN TRUFFA, PHOENIX, AZ.; ESTATE OF ED BLOCK, GREAT  
BEAR LAKE, CA.; CHRISTOPHER M. FRENCH, PHOENIX, AZ.



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#### ABSTRACT

THE CLIMAX MINE IS CENTERED WITHIN AN EAST-NORTHEAST ELONGATE, DOME-SHAPED FEATURE APPROXIMATELY THREE AND ONE-HALF MILES LONG AND TWO AND ONE-HALF MILES WIDE. DETECTABLE GOLD MINERALIZATION, AS DEFINED BY BULK ROCK CHIP SAMPLING (IN EXCESS OF 20 LBS. PER SAMPLE, CONDUCTED BY AMSELCO EXPLORATION), OCCURS OVER A WIDE DEPTH ZONE RANGE IN A VARIETY OF HABITS:

SAMPLE 1: LOC. NW4NE4NW4, SEC. 1, T. 12N., R. 3W.; (BAIRD PROSPECT) 0.06 OZ./T. IN STOCKWORK QUARTZ OVER INTERVAL OF 20 FEET;

SAMPLE 2: LOC. NE4NE4SW4, SEC. 1, T. 12N., R. 3W.; (CLIMAX MINE) 1.2 OZ./T. IN EN ECHELON FISSURE VEIN AND ENCLOSING WALLROCK OVER INTERVAL OF 20 FEET;

SAMPLE 3: LOC. NE4SE4NE4, SEC. 1, T. 12N., R. 3W.; (BUCKHAVEN MINE) .09 OZ./T. IN STOCKWORK OVER INTERVAL OF 20 FEET;

SAMPLE 4: LOC. SE4SW4NE4, SEC. 1, T. 12N., R. 3W.; (SILICIFIED OUTCROP) .01 OZ./T. OVER 5 FEET INTERVAL;

SAMPLE 5: LOC. NE4SW4NW4 SEC. 12, T. 12N., R. 3W.; (DIRECT REPLACEMENT OF RHYODACITE DIKE) .02 OZ./T. OVER 5 FEET INTERVAL;

SAMPLES 2, 3, AND 4, WHEN INTEGRATED WITH GEOLOGIC OBSERVATIONS, DEFINE AN INFERRED ZONE OF ANOMALOUS VALUES 2,700 FEET LONG AND SEVERAL HUNDRED FEET WIDE TRENDING ENE, ROUGHLY COINCIDENT IN A GEOMETRIC SENSE WITH THE MAJOR AXIS OF THE ELLIPSE. THE WIDE EXTENT AND DIVERSE NATURE OF MINERALIZATION ARE POSSIBLY INDICATIVE OF A SIGNIFICANT, UNUSUAL, AND PREVIOUSLY UNRECOGNIZED GOLD SYSTEM.

THE ELLIPTICAL FEATURE IS INFERRED TO REPRESENT A SUBSIDENCE STRUCTURE, POSSIBLY THE BOTTOM OF A CALDERA. THE SUBSIDENCE STRUCTURE HAS POSSIBLY SERVED AS THE FOCUS FOR RESURGENT INTRUSION OF ALKALIC TO CALC-ALKALIC STOCKS, DIKES, AND PLUGS IN LATE CRETACEOUS (?) TIME. A PRIMARILY ENE-WNW DIRECTED OBLIQUE-SLIP STRUCTURAL REGIME IS RESPONSIBLE FOR SIGNIFICANT DILATION ALONG A



NNW-NNE CONJUGATE FRACTURE SET. STRUCTURALLY, THESE MUTUALLY PERPENDICULAR FRACTURE SETS, WHICH ARE PRESUMABLY INHERITED FROM THE PRECAMBRIAN, FORM THE MAJOR AND MINOR AXIS OF THE (STRAIN) ELLIPSE. THE EPIZONAL, SUBVOLCANIC, CONTACT-HOSTED FISSURE VEIN DEPOSIT KNOWN AS THE CLIMAX MINE IS REMARKABLY COINCIDENT WITH THE NORTHWEST-TRENDING MINOR AXIS OF THIS ELLIPSE. WIDESPREAD STOCKWORK SILICIFICATION AND LOW GRADE GOLD MINERALIZATION WITHIN AN ALKALIC TO CALCALKALINE SYSTEM ARE INFERRED TO POSSIBLY DEFINE A GENETIC ASSOCIATION WITH SYENITE MODEL GOLD PORPHYRY SYSTEMS. THIS NEEDS TO BE EMPIRICALLY PROVEN ON THE BASIS OF MAGMACHEMISTRY. IN ADDITION, SOME FIELD EVIDENCE INDICATES POSSIBILITIES FOR MINERALIZATION ALONG DEEP-SEATED, SHALLOW-DIPPING STRUCTURES. ADDITIONAL SMALL GOLD-SILVER AND SILVER-LEAD OCCURENCES ARE LOCATED AROUND THE PERIMETER OF THE ELLIPSE.

PRECAMBRIAN HOST ROCKS INCLUDE THE SO-CALLED GREEN GULCH METAVOLCANIC GROUP OF THE YAVAPAI SERIES. AT LEAST THREE SEPERATE PRECAMBRIAN IGNEOUS EVENTS HAVE METAMORPHOSED THESE ROCKS FROM GREENSCHIST TO AMPHIBOLITE GRADE. THE GREEN GULCH METAVOLCANICS OCCUR WITHIN A NORTH-TRENDING GRABEN-LIKE OR SYNFORMAL STRUCTURE BOUNDED ON THE EAST BY THE GOVERNMENT CANYON GRANODIORITE AND ON THE WEST BY AN UNNAMED QUARTZ MONZONITE OF BATHOLITHIC PROPORTIONS. THE ANCIENT GRABEN-LIKE OR SYNFORMAL STRUCTURE WHICH THE METAVOLCANICS OCCUPY REPRESENTS A ZONE OF FUNDAMENTAL CRUSTAL ANISOTROPY NEAR THE SOUTHERN TERMINUS OF THE WASATSCH-JEROME LINEAMENT.

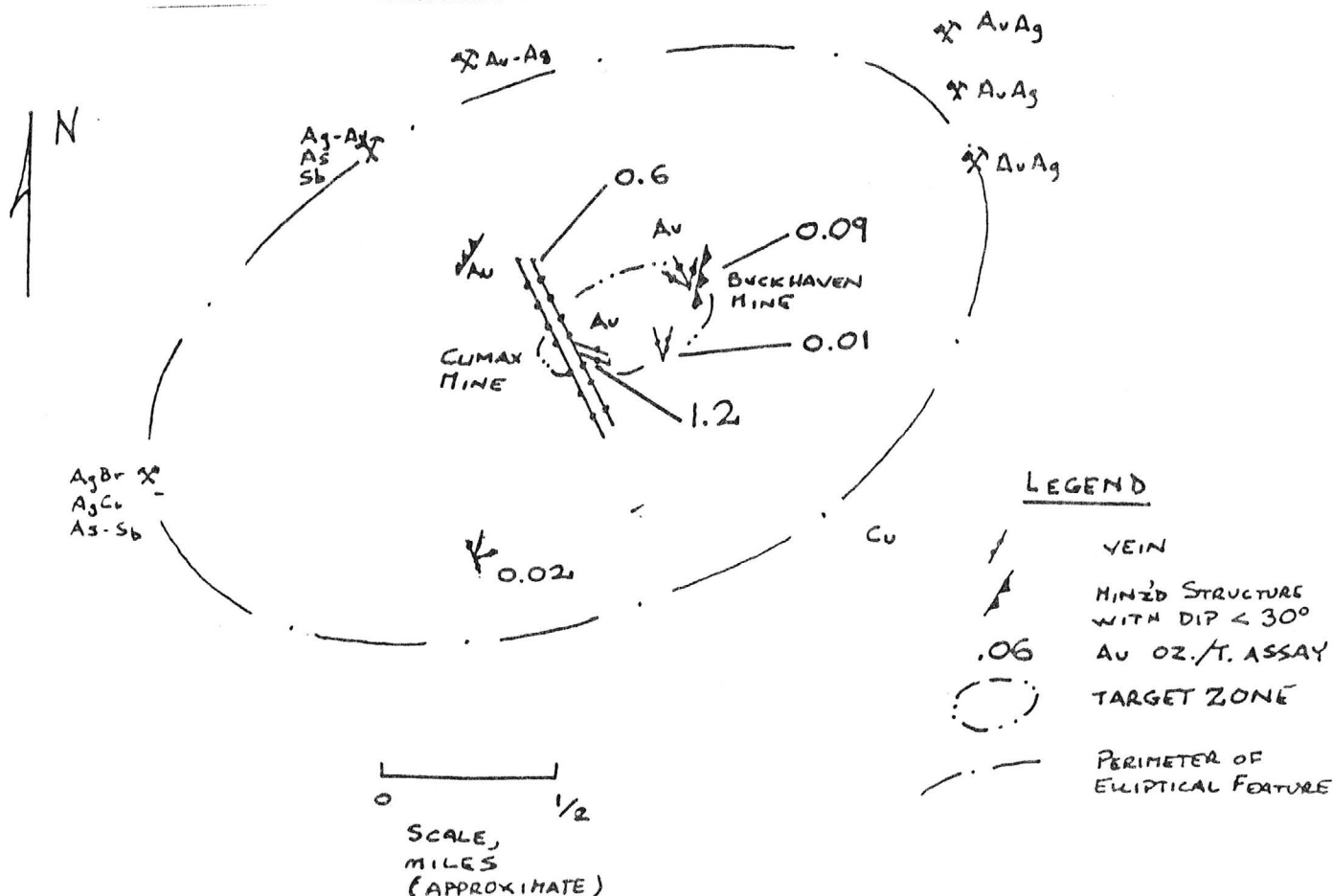
THE LATE CRETACEOUS (?) INTRUSIVE ROCKS IN THE CLIMAX MINE AREA ARE CLASSIFIED AS MEMBERS OF THE ALKALIC TO CALC-ALKALIC SUITE. A RARE EARLY BIMODAL SUITE OF SYENITES AND MELADIORITES YIELD TO A VOLUMETRICALLY MAJOR QUARTZ LATITE CHONOLITHIC STOCK AND A PLETHORA OF RELATED PLUGS AND DIKES. THESE ARE IN TURN INTRUDED BY PREMINERAL DIKES OF PYROXENITE, DIORITE, AND ANDESITES. DIKES INFERRED TO BE TEMPORALLY RELATED TO MINERALIZATION INCLUDE QUARTZ LATITES, RHYOLITES, ALASKITES, SILICIC VITROPHYRES, SILICA-FELDSPAR ROCK, QUARTZ PORPHYRIES, BIOTITE-K-FELDSPAR-ANHYDRITE (?) DIKES, AND HYDROTHERMAL BRECCIA DIKES. THE LATTER TWO SHOW A COMPLEX INTERRELATIONSHIP WITH THE GOLD-BEARING FISSURE VEINS.

MINERALIZATION AT THE CLIMAX MINE IS CLASSIFIED AS AN EPIZONAL, CONTACT-HOSTED FISSURE VEIN AND STOCKWORK DEPOSIT. SILICIFICATION IS THE PRIMARY ALTERATION PRODUCT ASSOCIATED WITH MINERALIZATION, ACCOMPANIED BY K-FELDSPAR, SECONDARY BIOTITE, AND SERICITE. ALTERATION IS VERY SUBTLE, AND IS DIFFICULT TO RECOGNIZE BECAUSE OF THE MINERALOGICAL SIMILARITIES BETWEEN THE AFFECTED OF THE MINERALOGICAL SIMILARITIES BETWEEN THE AFFECTED HOSTROCK AND THE FLUIDS IMPREGNATING IT. THE ALTERATION ENVELOPE DECREASES DRAMATICALLY AWAY FROM THE CENTRAL ORE CONDUITS. THE PRINCIPLE ECONOMIC MINERAL IS GOLD, OFTEN ASSOCIATED WITH BORNITE OR CHALCOPYRITE. MAGNETITE AND ARSENOPYRITE ARE COMMON ACCESSORIES. THE HIGH MAGNETITE CONTENT IS INDICATIVE OF A SYSTEM WITH A HIGH OXYGEN FUGACITY. HUEBNERITE ( $MnWO_4$ ) HAS BEEN IDENTIFIED WITHIN THE CENTRAL ORE CONDUIT. TETRADYMITITE ( $BiTeS_2$ ) HAS BEEN REPORTED IN THE LITERATURE. FLOURITE OCCURS IN SEVERAL LOCALITIES. PETROLOGIC AND MINERALOGIC FIELD OBSERVATIONS ARE COMPATIBLE WITH DATA COLLECTED FROM ALKALIC GOLD PORPHYRY MODELS (STAN KEITH, PERSONAL COMMUNICATION), ALTHOUGH THIS HAS NOT BEEN EMPIRICALLY DEMONSTRATED.



EVIDENCE FOR MINERALIZATION AT DEPTH MUST BE EXPLORED. SIGNIFICANT MINERALIZATION ALONG THE CLIMAX VEIN OCCURS OVER A STRIKE INTERVAL IN EXCESS OF 4,800 FEET. WORKINGS EXTEND OVER A VERTICAL INTERVAL OF 600 FEET. MINE REPORTS INDICATE THAT THE GOLD CONTENT INCREASED IN THE DEEPER, UNOXIDIZED LEVELS OF THE CLIMAX WORKINGS. THIS HAS NOT BEEN VERIFIED. PLASTIC CATACLASIS, INDICATIVE OF ELEVATED P-T CONDITIONS, IS OBSERVABLE NEAR DETECTABLE GOLD MINERALIZATION. DEEPER LEVELS OF THE MINE CONTAIN SHALLOWLY-DIPPING CALCITE VEINS REPORTED TO BE OF HIGH GOLD CONTENT. FIELD EVIDENCE SUGGESTS A RELATIONSHIP EXISTS BETWEEN CALCITE-ANKERITE VEINS AND DEEPER LEVELS OF MINERALIZATION.

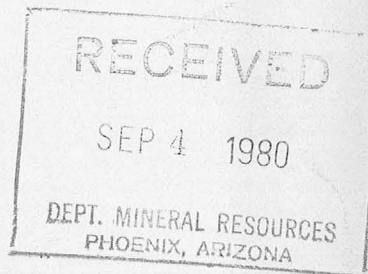
IN SUMMARY, THE CLIMAX MINE IS COINCIDENT WITH THE MINOR AXIS OF AN ELLIPTICAL FEATURE OF REGIONAL SCALE. THIS FEATURE IS MAGMATICALLY CHARACTERIZED BY THE RESURGENT EMPLACEMENT OF AN INCREASINGLY SILICIC SERIES OF ALKALIC TO CALC-ALKALIC LATE CRETACEOUS (?) COMPOSITE DIFFERENTIATES. ANCIENT DEEP-SEATED FRACTURES WITHIN A STABLE CRATON REACTIVATED BY A TRANSCURRENT STRESS REGIME GUIDE EMPLACEMENT OF A SERIES OF MINERALIZING EVENTS CHARACTERIZED BY ANOMALOUSLY HIGH GOLD VALUES MINERALOGICALLY ASSOCIATED WITH BORNITE, HUEBNERITE, ARSENOPYRITE, MAGNETITE, AND TETRADYMIT. STRUCTURES ASSOCIATED WITH MINERALIZATION ARE CHARACTERIZED BY IMPRESSIVE STRIKE LENGTH. AT THE PRESENT TIME, LIMITED EVIDENCE SUGGESTS THAT MINERALIZATION CONTINUES AT DEPTH. THIS HYPOTHESIS NEEDS TO BE TESTED BY DRILLING. MINERALIZATION OCCURS IN A VARIETY OF LOCATIONS AND HABITS OVER A WIDE DEPTH-ZONE RANGE WITHIN A SUBVOLCANIC EPIZONAL ENVIRONMENT AS FISSURE VEINS AND PORPHYRY-TYPE STOCKWORK.



*Mr. George P. Wanty III*  
*2652 Union Street*  
*San Francisco, California 94123*

September 2, 1980

Mr. Ken Phillips  
Arizona Dept. of Mineral Resources  
Mineral Bldg. - Fairgrounds  
Phoenix, Arizona 85007



Dear Ken:

Enclosed are what papers we have available on our mining property. Much of the material is somewhat dated, but there are a number of reasonably current assay reports.

When you've had a chance to look the material over, I'd like to get together with you, perhaps up at the mine site, and discuss what you think the best direction for us to follow might be.

When it is convenient for you, you might give me a call at 800/227-3163 and we can try and set up a convenient time to meet.

Sincerely,

George P. Wanty

GPW/llm

Enclosure

Telephone 363-3302

Hand Sample Serial.....4294-4298.....

ASSAY REPORT  
**UNION ASSAY OFFICE, Inc.**

Mine ..... Smoke Tree Stables .....  
..... 2500 Toledo Ave .....  
..... Palm Springs, CA .....

BRYANT L. LARSEN, President  
G. P. WILLIAMS, Vice President  
JAMES G. STRATTON, Secretary  
A. S. JOLLIFFE, Treasurer  
P. O. Box 1528  
Salt Lake City, Utah 84110  
(801) 363-3302

RESULTS PER TON OF 2000 POUNDS

Feb 13, 1980

NUMBER	GOLD Ozs. per Ton	SILVER Ozs. Per Ton	LEAD Per Cent	COPPER Per Cent	INSOL. Per Cent	ZINC Per Cent	SULPHUR Per Cent	IRON Per Cent	LIME Per Cent	Per Cent	Per Cent
Smoke Tree 1	0.660	11.3									
" 2	0.370	12.1									
" 3	0.850	14.8									
" 4	0.020	1.2									
" 5	0.020	2.6									

Remarks.....

Charges \$ 37.50 Pd \$47.50

*G. P. Williams*

A C M - T E S T - L A B.

ASSAYED FOR\* G.W. KIRTLAND

3 I97 SAN MARTIN CIRCLE

PALM SPRINGS, CALIF. 92262

A U	14.07
A G	4.05
P B	TRACE
F C	10.08
Z N	TRACE

DR. LOUIS DEAN\*\*\*\*\*PRES.

Dr. Louis Bern PRES.

A C M - T E S T I N G - L A B .

FOR:MR.DICK ROGERS

P.C. DRAWER ZZZ

INDIO, CALIF. 92201

gold	AU	5.08
silver	AG	62.03
Platinum	FE	3.01 PER-CENT
	ZN	.03 PER-CENT
	FE	8.06
	PT	1.07
	WO	1.06 PER-CENT

DR. LOUIS DEAN-----PRES.

St. Louis, Mo.

GEO-SEC.

HORNE, CHANCE & ASSOCIATES—Engineering & Mining Geologists

237 S. WATERMAN AVE.

SAN BERNARDINO, CA 92408

(714) 885-7072

REPORT ON ANALYSIS

Submitted By:

Mr. Jerry Young  
83791 Avenue 45  
Indio, California 92202

Date: February 11, 1980

Analytical Method: Fire assay

Report On: Two Samples

Sample Mark

Gold  
oz/ton

Silver  
oz/ton

GS-36

8.214

27.07 Vain

GS-37

1.414

7.53 Dump

HORNE, CHANCE & ASSOCIATES

D. R. Chance

60

$$8.214 \times 600 = 4,928.40$$

$$27.07 \times 40.00 = 1,082.80$$

$$6,011.20 \text{ per ton.}$$

50 ton per day =

$$50 \times 6011.20 = \$300,560.00$$

$$\begin{array}{r} 900 \\ 350 \\ \hline 1250 \\ 50 \\ \hline 1300 \\ 50 \\ \hline 1350 \\ 50 \\ \hline 1400 \\ 50 \\ \hline 1450 \\ 50 \\ \hline 1500 \end{array}$$

70

8

ABSOLUTE ASSAY LABORATORY

BOX 64, Rancho, California 92390

GOLD— 99.9999% PURE

Made from your impure  
product @ \$1.00/gram  
Minimum order \$10.00

JUNE 25, 1979

PLATINUM GROUP METALS


Separated and purified  
@ \$1.00/gram  
Minimum order \$10.00

Dear Mr. Kirtland,

Following are the results from a second sample of the ore  
that was left with us on June 14, 1979. The same method was used  
as per your first sample. (Chemical and Ion-Exchange separation.)

Gold

4.30 oz. per ton

  
John P. McCloskey  
Technical director

# ABSOLUTE ASSAY LABORATORY

BOX 64, Rancho, California 92390

(714) 889-1455

**GOLD— 99.9999% PURE**  
*Made from your impure  
product @ \$1.00/gram  
Minimum order \$10.00*

**PLATINUM GROUP METALS**  
*Separated and purified  
@ \$1.00/gram  
Minimum order \$10.00*

June 22, 1979

Dear Mr. Kirtland,

The following are the results from the ore sample that was left with us on June 14, 1979. The results are from our chemical analysis and Ion-Exchange separation technique. If you are interested in having us work with you on developing an economical extraction process for you we would be happy to do so.

Gold

1.76 oz per ton

1-354-8617

Silver

7.7 oz per ton

*John P. McCloskey*  
John P. McCloskey  
Technical director

ABSOLUTE ASSAY  
OF ORES FOR  
PRECIOUS METALS

PROCESS DEVELOPMENT  
FOR THE EXTRACTION  
OF VALUES FROM ORES

*John P. McCloskey*

824-6185

OFFICE 714 889-1455

HOMER 714 887-1844



# IRON KING ASSAY OFFICE ASSAY CERTIFICATE

BOX 247 — PHONE 632-7410  
HUMBOLDT, ARIZONA 86329



ASSAY  
MADE  
FOR

Jack Kirtland  
1512 Secretariat  
Tempe, Ariz. 85284

July 20, 1979

SAMPLE DESCRIPTION

Oz/ton

Percent

Pre for analysis - Gold

1.208

Silver

11.56

Copper

4.0

Zinc

1.2

Molybdenum

0.11

Antimony

0.05

Sulfur

5.14

Vanadium

Nil

60.25 paid

CHARGES

ASSAYER

*originally the mine*

### ESTRELLA ORO GOLD MINE

The Estrella Oro Gold Mining Claims are in the Hassayampa mining District, 14.75 miles from Prescott, on the easterly bank of the Hassayampa River.

### ACCESSIBILITY:

From Prescott to the mine is 12.75 miles on Highway 89, a paved highway, two miles of mine road which is fairly good.

### WATER:

The Hassayampa River usually has a fair flow of water, ample for milling purposes. The mine produces water for most other purposes, a domestic spring for the Board House.

### TIMBER:

No timber grown on this property. Mining Timbers can be had from dealers in Prescott.

### TOPOGRAPHY:

The property is situated upon steep mountain sides, making it ideal for tunnel mining, a depth of over 500 feet, upon the veins, has been obtained by tunnels in the Cub and Lion hills, a depth of over 900 feet will be attained when the present lowest tunnel is extended into the Leopard Hill. The Hassayampa River crosses the extreme North end of the property, passing right by the camp and mill site. The camp is 65 feet above the river bed.

### AREA:

The property consists of the Estrella Ore No. 1, Estrella Ore No. 2, Estrella Ore No. 3, Estrella Ore No. 4, Estrella Ore No. 5, and Golden Age No. 5, lode mining claims, each claim being 600' X 1500', containing approximately 20.67 acres, a total acreage of slightly over 120 acres, with a linear dimension along the strike of the veins of 4500 feet.

### GEOLOGY:

The country rock is granite and gneiss. This is broken by intrusive dykes. A large porphyry dyke extends through the property with a general course of North 28 degrees west, this dyke varies in width from 350 to 600 feet, in this dyke are numerous veins, the ones upon which the principle work has been done in a parallel with the dyke, in fact, are fissures in the dyke. There are numerous cross veins and several faults, however, the faults are not large and the veins have been easily picked up across the faults. The vein fillings are chiefly quartz in which is found free gold, iron oxides carrying gold and iron sulphides also carrying gold. So far as exposed by the workings the mineralization is

all contained within the porphyry dyke and held consistently within the several parallel veins.

#### VEINS:

The main workings on the veins extend along the strike of the dyke. A main cross-cut tunnel, which follows a general easterly direction intersects several of the veins. This tunnel followed a cross fracture most of its length. The several veins will be mentioned by their local names.

#### YOCKEY VEIN:

The Yockey vein was out by the main cross-cut tunnel about 378 feet from the portal, a short drift was extended south on this vein and a stope extended up about 30 feet. Good mill ore was extracted from this stope, width varying from 30' to 48'. Samples taken from the face gave an average of 0.55 ounces gold per ton. The ore shows trenches cut across the vein about six feet apart, were all placed in a composite sample which returned 1.08 ounces gold per ton. No other work has been done upon this vein and it is not opened any other place in the mine.

#### INTERMEDIATE VEIN:

This vein lies east of the Yockey vein about 22 feet. A short drift was extended north on this vein. No workings of any kind to the south. A stope was extended up about 30 feet, carrying a width of 54". Face samples gave a return of 0.35 oz. gold. A raise was extended upwards 157 feet where it intersected the intermediate drift. Apparently the intermediate vein left the pitch of the raise and went into the hanging wall before it reached the intermediate drift, and so far as can be observed has not been opened at any other places in the mine. About half way up the raise a small drift was extended north showing the vein to have a width of 34" of payable ore, 30 tons milled from this drift gave a recovery of 0.33 oz. gold. The intermediate drift extends north from the intersection some distance showing a large body of low grade ore, samples taken indicate it should return a recovery of about \$9.00 per ton. From the intersection the drift extends south 465 feet, following a vein all the way, however, no development work was done in all this distance. About 50 feet before reaching the end of the drift a raise was extended upwards 93 feet. In going up, this raise left the vein it started upon and dropped to another vein in the foot wall. This last vein is known as the 65 vein. There is some doubt whether the intermediate vein is the one shown at the bottom of the intermediate raise, however, it may be.

#### 65 VEIN:

This vein was encountered at the top of the raise from the intermediate drift, a drift was extended along the vein for about 175 feet and a very fine shoot of ore was opened, which was stoped up various distances from 15 to 55 feet. The ore was very rich, shipment returning

more than 3 ounces gold per ton was made. This vein has not been touched below the 65 drift. The 65 vein was left in the hanging wall before the raise from the 65 level to the Lion tunnel reached the Lion tunnel and the Lion vein was picked up, from which good ore was stoped. There remains plenty of unexplored ground where the 65 vein should be opened.

#### LION VEIN:

This vein extends through the Lion Hill and the Lion tunnel is on the vein its entire length. The vein is quite wide with two high grade streaks, one on the hanging and one on the foot wall. This was chiefly worked by lessees who worked the high grade streaks only, leaving the old stopes filled with the low grade ore, much of which will pay to withdraw and mill. In a few places the vein pinches down to a few inches but on the whole, it runs better than four feet in width, some places as much as 12 to 14 feet. The last 100 feet of the Lion tunnel going south shows a vein between well-defined walls about 6 feet in width. This has not been opened below the Lion Tunnel, which is 305 feet above the lowest tunnel.

#### CLIMAX VEIN:

This vein is opened by a cross-cut tunnel into the Cub Hill and several good stopes of excellent ore were worked out, however, nothing has been done on this vein below the drift level, a vast area remains to be opened up between the main cross-cut tunnel and the tunnel in the Cub Hill, difference in altitude being slightly over 300 feet. From remains in the old stopes it is apparent that the width was in excess of 30". Samples taken from a few remaining pillar indicate that the ore was above one ounce gold.

#### LEOPARD VEIN:

This vein is on the Golden Age No. 5 claim, shows a good strong vein, surface samples run very high. There are some old workings which are caved, extent unknown, ore fragments on the dump indicate very high values.

#### HOBBS VEIN:

This vein is on the Northeast side of the property and was opened by an open cut or surface underhand stope, a large quantity of ore was taken therefrom. The former superintendent said the ore ran four ounces, that they save two and two went down the river. The ore pinched in the bottom of the stope and the then operators abandoned the work on the Hobbs vein.

#### SURFACE ORE BODY:

There is a surface body of low grade ore showing to be between 500 and 600 feet in length, a width of over 50 feet. Former operators blasted out 100 tons which was milled with a return of \$4.00 per ton,

when gold was \$20.67 per ounce. Sampling indicates that this ore body will run better than \$7.00 per ton in gold. It has been proven to a depth of 65 feet. Being 300 feet above the main cross-cut tunnel the ore can be dropped to the mill level by gravity. This ore should be mined and milled for not to exceed \$5.00 per ton or perhaps less.

OPENINGS:

In all there are six levels opened, there are three main tunnels, opening up along the vein system show more than 500 feet above the main cross-cut tunnel. The levels are all connected so that ore from the very top can be dropped to the main cross-cut. In all there is over 6500 feet of tunnels, drifts, raises, winzes and other openings. The ground stands fine without timber, stopes more than 45 years of age stand good without timber.

The mine has a production record of over \$300,000.00.

This is a real mine awaiting equipment and further development. Present equipment is worthless, old, rusted, worn and out of date.

9/30/34

Edw. L. Tomlinson, E. M.



## MEMORANDUM OF ASSAY

[illegible]

CHARGE \$ 12.00 Paid

BY

**Registered Assayer.**

# ASSAY CERTIFICATE

CON 2-9328

Los Angeles, Calif. June 15/62 1962

J. Truffa

assay as follows:

Owner's Mark and Sample	GOLD		SILVER		TOTAL VALUE PER TON	PERCENTAGE OF		
	OZS. PER TON	VALUE PER TON	OZS. PER TON	VALUE PER TON		COPPER	LEAD	ZINC
#1-Rainbow	1.80	\$ 63.00	.58	\$ 1.58	\$ 63.58			
#2-Sunset	2.77	\$ 96.95	1.40	\$ 1.40	\$ 98.35			

MEMORANDUM

To : File  
From : John H. Jett, Director  
Subject: Mine Visit - October 12, 1979  
4-K CORPORATION

4-K Corporation have leased Cotacton and Climax mine. See card for principals. Bill K is owner. Jack (son) is manager.

Installed 50X72 concrete leach pad followed with estimated 40,000 gallon concrete catchment. System was purchased from Escapules in Tombstone (\$15,000.00). 1000-1200 tons was put on dump. Was not successful with cyanide leach. At time of visit they were removing ore from the pad in preparation to installing a flotation mill. The values are locked up in the sulfides.

Have 207,000 tons on the dump. Will crush 50 tons per day, grind 150 to 300 mesh then float concentrates will be taken to Tempe where Dr. Brown of ASU has developed chemical method to extract values.

The virgin vein rock runs from 1-8 oz. of gold and 7-14 oz. of silver, according to Mr. Kirkland. They will start cleaning out cotacton and start underground mining.

JHJ:mw

10/23/79

982-3131

COTACTON  
CATA CLIMAX

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE

Thumb Butte Ranger District  
Highway 69 - Dewey Route  
Prescott, Arizona 86301

*Have some mill slimes*

2810

March 26, 1979

*RON MILLER TELE 1252*  
*Bureau of Water Quality Control*

Mr. William Kirtland  
619 South Copper Lane  
Apache Junction, Arizona 85220



*Will sand  
compact & stop  
percolation*

Dear Mr. Kirtland:

I have reviewed your Plan of Operation, dated February 13, 1979, and it is approved per the conditions of the attached "Approval" sheet. If the stipulations as listed are agreeable to you, please sign all copies and return the two copies to this office in the enclosed envelope. The third copy with an attached copy of your Operating Plan is your copy for your files.

I wish you good luck in this venture and should you have any questions concerning this matter, please feel free to contact Sig. Palm of my District Staff.

Sincerely,

LEE E. POAGUE  
Thumb Butte District Ranger

Enclosure



982-3131

Apache Set

2810

WILLIAM KIRTLAND  
JACK R. KIRTLAND  
GORDON HENDRY  
RICHARD A. HENDRY  
JOHN P. TRUEFA

1. Approval of this Operating Plan:
  - A. Does not constitute recognition of certification of ownership by any person named as owner herein.
  - B. Does not constitute now or in the future recognition or certification of the validity of any mining claim to which it may relate or to the mineral character of the land on which it lies.
2. When another party asserts a title interest in the area covered by this plan, it will be the sole responsibility of the concerned parties to resolve such conflict before proceeding with claim development.
3. The required bond, to assure reclamation of the disturbed area, in the amount of \$1,000.00 (cash deposit) per the attached Bill for Collection, issued February 16, 1979, paid February 21, 1979, is attached to this approved plan.
4. Other Stipulations:
  - A. Improve the access route to the extent that reasonable access can be accomplished, per our discussions on the ground and our letter of 2/20/79. Clearing and widening is permitted to a maximum of 12 feet and the existing route must be followed. Efficient drainage can be accomplished by constructing the "rolling-dip" type water bar rather than installing culvert devices.
  - B. Installation of the milling equipment per your submitted plan is acceptable.



- C. The specifications of the primary leaching pad will have to be modified to include approximately two feet of clay in the bottom covered by at least one foot of sand, followed by the sealed reinforced "Griffolyn T-85" mat. This should be covered by at least one foot of sand.

Your planned method of filling the pond with crushed material to be leached is satisfactory. The outer berm must be of hard core composition to prevent slippage.

- D. The size and location of the two safety "catch" basins will have to be located and agreed upon out on the ground before construction. Your idea of providing the emergency chlorine treatment at the primary "catch" basin appears to be an adequate safety measure.
- E. The primary leaching pad, the safety catch basins and the treatment plant will have to be fenced and signed adequately to protect and warn the user public.
- F. Rehabilitation requirements and standards will have to be evaluated and developed as this venture progresses.
6. The remainder of this Operating Plan is satisfactory, however, before each phase of this operation develops, an on-the-ground evaluation and clearance will be necessary.
7. Furnish this office a copy of your chlorine treatment logs on a bi-weekly basis.

Proposal Evaluated by: \_\_\_\_\_

Date 3 23 79

Signature of Forest Service  
Evaluator

Approved by: \_\_\_\_\_

Date 3 24 79

Signature of Authorized Officer

ACCEPTANCE OF STIPULATIONS:

The stipulations and/or modifications to this plan attached has been reviewed, and will be incorporated into and become a part of this Operating Plan.

\_\_\_\_\_  
Signature of Operator

Date \_\_\_\_\_



W. C. Broadgate

Office copy

UNIVERSITY OF ARIZONA

TUCSON

COLLEGE OF MINES AND BUREAU OF MINES.

OFFICE OF THE DIRECTOR

May 19th, 1932.

Col. C. W. Steinman,  
127 N. Fourth Street,  
Phoenix, Arizona

Dear Col. Steinman:

In reply to your letter dated the 16th, I wish to say, that I do not think any member of the staff has ever personally examined the Climax Mine (Now incorporated as The Virginia Dare Gold Mine), on the Hassayampa River, but we have considerable information concernint it in the form of newspaper articles and reports, which run as far back as the early nineties, and has operated intermittently since that time. There is a ton stamp mill on the property, as well as buildings, compressor, etc. It has been developed by tunnels, of which the longest measures at least a thousand feet. It is claimed that these tunnels show pay shoots of from two inches to two feet in width, and that the average oxidized ore runs around \$35.00. The sulphide in Tunnel No. 5 is said to average \$21.00 per ton. A number of rich strikes have been reported at one time and another. Lack of water has interferred with the manning of the mill on several occasions.

As much as 40 years ago the property, known then as the Montgomery, gained some fame, because of the pockets of very rich ore found in it, although the great bulk of the production has been from milling ore around \$30.00 per ton. Within the past 20 years ore has been found that was so rich it was sacked and pcked down to the mill, a short distance from the mine, instead of being sent thru the chutes. Over 100 sacks of such ore were taken out at one time.

All our date indicate that the property has merit, and that considerable development work has been done. Gold is now relatively so valuable that it is quite likely it may be worked profitably.

Yours sincerely,  
G. M. Butler,  
Dean and Director.

I hereby certify that the above is a true copy of the original letter from Dean G. M. Butler, this the 17th day of October, 1932.

Georgia E. Fulland  
Notary Public

Commission expire Mar. 26, 1933.



PROPERTY	TITLE
1	2
3	4
5	6
7	8
9	10
11	12
13	14
15	16
17	18
19	20
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91	92
93	94
95	96
97	98
99	100

President.  
VIRGINIA DARE GOLD MINING COMPANY.

John Herman, Chemist  
Los Angeles, California

August 5, 1910

<u>Gold Oz.</u>	<u>Value</u>	<u>Silver Oz.</u>	<u>Value</u>	<u>Copper</u>	<u>Value</u>	<u>Total</u>
2.41	49.81	1.8/10	.90	6	\$15.00	\$65.71

Concentrating Sheet

<u>Concentration Test</u>	<u>Silver</u>	<u>Value</u>	<u>Gold</u>	<u>Value</u>	<u>Copper</u>
Ore	.60	---	2.68	53.60	0.60
Tailings	.10	---	.59	10.00	0.27
Cone	2.00	---	13.00	260.00	1.47
Slimes	.20	---	.13	6.00	0.67
Regrinds	.11	---	1.54	30.80	---

\*\*\*\*\*



UNIVERSITY OF ARIZONA

TUCSON

COLLEGE OF MINES AND BUREAU OF MINES

Office of the Director

May 19th, 1932

Col. C. W. Steinman,  
127 N. Fourth Street,  
Phoenix, Arizona.

Dear Col. Steinman:

In reply to your letter dated the 16th, I wish to say, that I do not think any member of the staff has ever personally examined the Climax Mine (Now incorporated as the Virginia Dare Gold Mine), on the Hassayampa River, but we have considerable information concerning it in the form of newspaper articles and reports, which run as far back as the early ninties and has operated intermittently since that time. There is a ten stamp mill on the property, as well as buildings, compressor, etc. It has been developed by tunnels, of which the longest measures at least a thousand feet. It is claimed that these tunnels show pay sheets of from two inches to two feet in width, and that the average oxidized ore runs around \$35.00. The sulphide in Tunnel No. 5 is said to average \$21.00 per ton. A number of rich strikes have been reported at one time and another. Lack of water has interferred with the running of the mill on several occasions.

As much as 40 years ago the property, known then as the Montgomery, gained some fame, because of the pockets of very rich ore found in it, although the great bulk of the production has been from milling ore around \$30.00 per ton. Within the past 20 years ore has been found that was so rich it was sacked and packed down to the mill, a short distance from the mine, instead of being sent thru the chutes. Over 100 sacks of such ore were taken out at any one time.

All our data indicate that the property has merit, and that considerable development work has been done. Gold is now relatively so valuable that it is quite likely it may be worked profitably.

Yours sincerely,  
G. M. Butler,  
Dean and Director.

I hereby certify that the above is a true copy of the original letter from Dean G. M. Butler, this the 17th day of October, 1932.

Georgia E. Gullard  
Notary Public

Commission expires March 26, 1933.



# VIRGINIA DARE MINE

## A S S A Y S

<u>Date Sample Taken</u>	<u>Ozs. Gold per Ton</u>	<u>Value *</u>
April 10, 1931		
General Sample	4.40	\$ 88.00
West Dump	.42	8.40
April 21, 1931		
Sulfide	.62	12.40
Quartzsite	.02	.40
East Dump	.55	11.00
Tails	.16	3.20
April 27, 1931		
General	1.68	33.60
May 13, 1931		
300 ft. level	1.48	25.60
July 13, 1931		
Heads (40 samples)	.76	15.20
Concentrates (47 tons ore)	35.25	705.00
#2 Heads (10 samples)	27.70	554.00
Nov. 28, 1931		
300 ft. level	4.57	87.40

Original assay reports covering the above samples and values are now in my possession.

Dozens of other assays not verified by documents in my possession show values similar to those above listed. From various reliable sources I have evidence of the shipment of a considerable quantity of high grade ore running \$400.00 per ton and better. Some shipments are reported to have run as high as \$4,000.00 per ton.

A report from the Humboldt Smelter covering a carload of ore shipped from this property in 1912 shows the following: Gold: 2.80 ozs.; Silver: .7 ozs; Copper: 9%; Iron: 31.07%; Silica: 22.07%; Insoluble: 35.47%; Vanadium: 1.0%; and Arsenic: .2%; and 1931 assay of the East and West dumps show values in gold of \$42.00 and \$55.00 per ton.

\*

Gold valued at \$20.00 an ounce in 1931.

CHARLES R. WARD CORPORATION

Mining Development & Mineral Recovery

PHOENIX, ARIZONA 85015

4728 N. 21ST AVENUE

PARCEL # 13

LOCATION: Copper Basin Mining District, 6 miles East of Wilhoit, Arizona.

NUMBER OF CLAIMS: Thirty unpatented for two mines.

PRINCIPAL ORE: Silver and Gold.

TYPE OF MINE: Underground - open pit dumps.

ROADS: 2 miles of steep grades must be reconstructed.

ELECTRICITY: Available 3 miles to the North - Diesel Electric is suggested at this time.

WATER: Available on property.

LENGTH OF OPERATION: Year around if road reworked.

SHAFT AND DRIFT: Mine "A", has a 700 foot main drift with a stope at the 500 foot level station. Veins run from 2 feet to 8 feet in width.

Mine "B", has a 500 foot main drift and a 500 foot shaft near the main drift. This shaft is flooded at present and is non-accessible. It is reported to have drifts at different levels. Information not available at this time.

OUTSTANDING FEATURES: Combined dumps contain 400,000 tons containing approximately \$111 per ton of gold and silver.

TERMS: \$20,000 down for one year; 10% NSR to present owner and assume balance of \$290,000 for buy out.

RECOMMENDATIONS: It will cost approximately \$5,000 to open Mine "A", and \$100,000 to open Mine "B", after the initial exploration has been completed.

The exciting features of this package lies in that the dumps can be processed simultaneously with the development of the mine ore bodies from the minimal installation of a 150 TPD mill and concentrating plant. These concentrates can then be shipped allowing incoming cash flows to offset expenditures.

REPORT ON  
VIRGINIA DARE MINE  
YAVAPAI COUNTY  
ARIZONA

June 18, 1931

The following is a summary of the information I have been able to gather regarding the Virginia Dare Group, formerly known as the Climax Mine. This data has been compiled from what records are at hand covering the operations of the Climax Company, a visit to the property, and a brief interview with Mr. J. W. Waara of Prescott, who was connected with this company in an advisory capacity for many years.

LOCATION

The group of seven unpatented claims is situated in the Hassayampa Mining District, Yavapai County, Arizona, about 15 miles south of Prescott, the County Seat and 4 miles east of the Phoenix-Prescott (White Spar) Highway. It is within an area that has been highly productive in gold, silver, copper and some lead, the gold predominating.

The adjacent districts, from Congress and Octave on the south, through Prescott, Senator, Bigbug, Mayer, McGabe, and Walker-Poland, to and including the Jerome Quadrangle to the northeast, have been important factors in the development of the mineral wealth of Arizona, and are credited with a total production of over one-half billion dollars.

PHYSICAL ASPECTS

The Virginia Dare holdings lie in the northern section of the Hassayampa River drainage basin and present an aspect of rugged and abrupt contours in a highly fractured zone in the Bradshaw Geologic Structure. The surface is out by the deep canyon of the river and numerous side gulches and is covered with a dense growth of chaparral. It is, however, outside the limits of the forested areas and mine timbers and lumber will need to be hauled in to the property from adjoining districts, a few miles distant.

The deep gorge of the Hassayampa at this point affords a very good tunnel side into the ore zones of the property, of which advantage has been taken in the developments and operations of the former owners. No. 5 drift, a cross-cut of some 500 feet, cuts the veins at a depth of 600 feet below the crest of the first western uplift in the canyon wall.

EQUIPMENT

There is on the property at the portal of No. 5 tunnel, a ten-stamp mill with a 9 x 11 Blake Crusher and two amalgamating plates. The two concentrating tables have been disman-



tled. The batteries are driven by a 25 h.p. Oorlies Diesel Engine. A 12 h.p. Oorlies Diesel drives the Crusher. The Challenge tappet driven ore feeders and various belting, shafting and pulleys complete the mill equipment. A 300 cu. ft. Giant Air Compressor and air receiver are in a separate building at the tunnel portal. This is driven by a 40 h.p. Oorlies Diesel. All of this machinery is in good condition and can be put in running order with a little overhauling and very little replacements. A Blacksmith shop with forge, bellows, vice, anvil and some miscellaneous tools and some hundreds of feet of used rail are on the lower dump. In addition to the mill building, power house and blacksmith shop there are: boarding house, assay office, 5 bunk houses, cellar and outhouses. All the drifts have 12 lb. T rail tracks in place and there are three ore cars and a truck scale at No. 5 tunnel. A cookstove and some kitchen and table ware are in the boarding house. Accommodations for a crew of 30 men can be readily provided with a small amount of reclamation and repairs on these buildings. The timbers in the mill are hewn and in a fir state of preservation and will serve as a nucleus for a new structure.

#### DEVELOPMENT

About 5,000 lineal feet of drifts, crosscuts and raises are shown on the maps of the property. The vein exposures are shown in the Climax, Cub, Lion and Leopard for about 2,000 feet. The total depth reached is some 600 feet. About 10% of the ore areas as shown in the drifts on the veins has been stoped. Details are shown on the maps to which reference is made.

#### GEOLOGY

The geology of the Bradshaw Quadrangle was studied in minute detail in the early days by Jagor and Palache (Pamphlet 126), and later, in 1926, by Lindgren (U.S.G.S. Bul. #782). The data compiled in these reconnoissances, together with the knowledge gained in over 40 years of intensive operations in these districts, make the local features of vein structure and conditions fairly well known and remove many of the elements of speculation and conjecture from new explorations in this field.

Briefly, the geologic aspects at this property are as follows: The holdings lie in an area of the Yavapai Formation that is made up, in large part, by a schistose groundmass, intruded by dykes and sheets of granodiorite and a gneissoidal (Lenticular) phase of rhyolite. This latter, with a brecciated andesine schist, quartz and some calcite, makes up the vein fillings. While the intrusives are dense and more or less blocky, the schistosity extends into them and into the fissure aggregates. The whole area opened up by the workings is much faulted, the two major faults are shown on the map; the one to the south being alone or near the contact of the schists with a zone of diabase in the Leopard Claim. This formation, while apparently containing the south extension of the Lion Fissure, with little or no displacement, presents ore inclosures differing from those found in the schists, and the values are mainly in a telluride complex, said to contain some copper. No sample or specimens of this were found, however, information given was derived from the old-time records of the Climax Company. The workings in this part of



the mine are, at this time, inaccessible.

### VEINS AND ORE MINERALS

Due to the broken nature of the ground, it is difficult to determine the exact number of veins and ore-bearing fissures, dykes and faults disclosed in the workings on this property. One main vein, with a general course North 24° west, through the Climax, Cub, Lion and Liopard Claims is apparent. This has a dip to the east of 77° in the upper horizons and at the No. 5 tunnel is nearly vertical. Displacements of 20 to 40 feet were noted at the two major faults with little or none along the smaller slips and the several dykes shown. A rather flat injection of white quartz is seen in the Yockey drift on No. 5 level. This cuts the fissure, but its effect, if any, on the ore occurrence is not apparent. Segregated blocks containing ore lenses appear in several crosscuts. Scopages are found, coming into the lower level from the east from an area that was cross-cut by the main adit to the north, indicating a migration of minerals from this part of the mine. These scopages show the oxides of iron and manganese, with some fluorite, inclosed in chalcidic incrustations on the wall of the drift. Mention is made of some black dykes in connection with the tellurides in the records of the old company. These, presumably, in the diabase area to the south.

All the exposures in the mine, from the surface down to the 500 level, show both oxide and sulphide ores, and it is fairly certain that the bottom of the transition zone has not been reached. As it is still some 100 feet or more to the canyon floor, it is likely that any secondary aggregates will be below this point, and that free gold milling ore may be expected to the 1,000 feet level. The water table appears just above the 500 level, and a small flow runs out this tunnel to the surface.

No copper or lead minerals were noted. In the upper part of the mine, near the surface in the Lion ground, above a sill containing some disseminated arsenopyrite, a deposition area was exposed, showing a wonderful range of colors in the arsenite complexes in connection with some fluorite. The composition of these was not determined and they have no apparent significance with respect to the value factor in the area.

### ECONOMIC ASPECTS

No samples were taken at the time of this examination. Access was had, however, to some recent assays on samples from various parts of the mine and the mine and tailings dumps. These include several taken in the back of the north major fault some 100 feet east of the Lion-Cub vein. The returns were from \$9.00 to \$15.00 per ton in gold. Samples of the solid arsenopyrite showed \$20.00, \$25.60 and \$29.60. Some disseminated pyrite, \$12.40. Ten inches at the foot of the Air Raice, \$33.60; West dump, fines, \$8.40; fines from dump under tramway, \$18.00 and \$20.00. A special sample from the lower drift, \$88.00; mill tailings \$3.20. All values given are for gold only. The silver ratio is low.

A copy of a smelter settlement sheet shown assays as follows: Gold, \$56.00; Silver 0.7 oz.; Copper, 0.9%; Iron, 31.07%; Insol-

ble, 57.54%. Details of settlement not shown.

It has been estimated that the various dumps, screened to minus 1 inch, will yield some 3,000 tons of ore of \$10.00 grade (gold).

Old letters show: Floor of Yockey Drift, 70 ft. long, 10 inches wide, \$65.00. Climax Drift, 100 ft. long, \$60.00. Vein fillings, \$15.00. Eight inches in winzé (telluride in Leopard) \$300.00. 6 to 7 feet alongside, "low grade".

Mint returns, 1 bar 73.72 ozs., \$1,372.88.

Reference is also made in the old letters to ores of \$2,000 and \$4,000 value per ton and to one shipment of three sacks that returned some \$1,500.00. Most of the tonnage mined was milled, with a resultant concentrate that was shipped to the smelter, as was also the sorted sulphides from the crude ore.

An electric power line is within six miles of the property. Water for milling can be had from the Hassayampa River and from deeper workings in the mine. The south fault throws a spring that can be developed for domestic use with gravity flow to the camp.

In the interview with Mr. Waara, he stated that during the early operations at this property only that development incidental to reaching the high grade lenses and pipes was carried on, and no systematic attempts were made by the owners to properly explore the ground. He stated further, that the better grades of ores were found near the faults but that the rejects left in the mine at that time would be profitable now with proper metallurgical processes and efficient operating equipment. The concentrates made in the mill, and the sorted crude ores (sulphide) that were shipped to the smelter, always gave satisfactory returns. He characterized the vein as a contact between two vacics of the schist.

#### RECOMMENDATIONS

These would include the cleaning out of these entrances and passageways into the mine that are now blocked and a complete sampling of all the ore exposures. The ground stands well after many years without timbers, and the only places that are blocked are where the gobs have run into some of the raises and drifts.

A survey of the north major fault to determine at what point it will cross the canyon below the mill with the view to starting a still lower adit into the vein system. This would develop any ores in the fault itself and is a good line of prospecting as this fault shows values in the upper horizons. It would also pick up any fissures that may exist in the eastern area. If the survey should prove that this proposed tunnel would be longer than the depth attained would warrant, heavier compressor equipment should be installed and sinking begun.

Metallurgical taste should be made to determine a proper flow sheet for the ores so far developed and a plant commensurate with the indicated tonnage already developed should be erected.

This could be so arranged that additional units could be added when conditions demand it.

A complete assay and laboratory equipment should be at the property and any values that may be in the many faults, dykes, bedding planes and slips as well as the vein fissures and offset lenses and blocks that are shown by the present developments determined.

#### CONCLUSION

In the light of the foregoing outline of the conditions that prevail at the Virginia Dare property, it is apparent that it has aspects of unusual merit and presents a rare opportunity for a safe and sound mining investment. The past history, while rather fragmentary and vague, is evidence of a profitable enterprise covering a period of many years. Working conditions and natural facilities are exceptional, and with the efficiency of present-day engineering practice and metallurgical processes, this property has attractive features that are hard to find elsewhere in the mining field.

O. K. TIBBETTS

Metallurgist

An original copy of this report signed by O. K. Tibbetts is now in my possession.

(signed) H. W. Greene

President

VIRGINIA DARE GOLD MINING CO.

ORE SHIPMENTS FROM ESTRELLA ORE MINE-- ESSIE M. RUSSELL, OWNER

Following test shipments of ore were made to Jack Branch, ore buyer,  
Prescott Arizona

May 6, 1937, crude ore, 22856#	Au. 3.36 oz. per ton.
June 7, 1937, crude ore, 12159#	Au. 2.48 oz. per ton.
June 24, 1937, crude ore, 44095#	Au. 3.47 oz. per ton.
July 1, 1937, crude ore, 9000#	Au. 1.68 oz. per ton.
July 17, 1937, crude ore, 10471#	Au. 2.98 oz. per ton.
September 18, 1937, crude ore, 654#	Au. 3.11 oz. per ton.
June 23, 1938, crude ore, 18999#	Au. 1.60 oz. per ton.

The predominate value is gold, with silver running about one ounce to each ounce of gold, no other values.



ORE SHIPMENTS FROM ESTRELLA ORE MINE-- EDDIE M. RUSSELL, OWNER

Following test shipments of ore were made to Jack ~~Branch~~ Branch, ore buyer,  
Prescott Arizona

May 6, 1937, crude ore, 22856#	Au. 3.36 oz. per ton.
June 7, 1937, crude ore, 12159#	Au. 2.48 oz. per ton.
June 24, 1937, crude ore, 44095#	Au. 3.47 oz. per ton.
July 1, 1937, crude ore, 9000#	Au. 1.68 oz. per ton.
July 17, 1937, crude ore, 10471#	Au. 2.98 oz. per ton.
September 18, 1937, crude ore, 654#	Au. 3.11 oz. per ton.
June 23, 1938, crude ore, 18999#	Au. 1.60 oz. per ton.

The predominate value is gold, with silver running about one ounce to each ounce of gold, no other values.

# ASSAY CERTIFICATE

PHONE MADISON 2-9328

Los Angeles, Calif. April 6/62 1962

I hereby Certify that the samples described below, received from  
Mining & Metals, Inc.

assay as follows:

Owner's Mark and Sample	GOLD		SILVER		TOTAL VALUE PER TON	PERCENTAGE OF		
	OZS. PER TON	VALUE PER TON	OZS. PER TON	VALUE PER TON		COPPER	LEAD	ZINC
Climax Mine-Prescott, Ariz.								
sample #1	4.48	\$ 156.80	2.08	\$ 2.08	\$ 158.88			
sample #2	3.84	\$ 134.40	1.83	\$ 1.83	\$ 136.23			
sample #3	.88	\$ 30.80	1.20	\$ 1.20	\$ 32.00			
sample P-3	10.02	\$ 350.70	2.70	\$ 2.70	\$ 353.40			

GOLD @ \$ 35 PER OZ.  
SILVER @ \$ 1.00 PER OZ.  
LEAD @      C.  
COPPER @      C.

CHARGES Paid

Established 1916

*E. E. Eisenhauer*  
ASSAYER

# ASSAY CERTIFICATE

PHONE MADISON 2-9328

Los Angeles, Calif. June 15/62 1962

I hereby Certify that the samples described below, received from  
J. Truffa

assay as follows:

Owner's Mark and Sample	GOLD		SILVER		TOTAL VALUE PER TON	PERCENTAGE OF		
	OZS. PER TON	VALUE PER TON	OZS. PER TON	VALUE PER TON		COPPER	LEAD	ZINC
#1-Rainbow	1.80	\$ 63.00	.58	\$ .58	\$ 63.58			
#2-Sunset	2.77	\$ 96.95	1.40	\$ 1.40	\$ 98.35			

GOLD @ \$ 35 PER OZ.  
SILVER @ \$ 1.00 PER OZ.  
LEAD @      C.  
COPPER @      C.

CHARGES Paid

*E. E. Eisenhauer*  
ASSAYER

# ASSAY CERTIFICATE

PHONE MADISON 2-8225

Los Angeles, Calif. April 6/62 19

I hereby Certify that the samples described below, received from  
**Mining & Metals, Inc.**

assay as follows:

Owner's Mark and Sample	GOLD		SILVER		TOTAL VALUE PER TON	PERCENTAGE OF		
	OZS. PER TON	VALUE PER TON	OZS. PER TON	VALUE PER TON		COPPER	LEAD	ZINC
Elmax Mine-Prescott, Ariz.								
sample #1	4.48	\$ 156.80	2.08	\$ 2.08	\$ 158.88			
sample #2	3.84	\$ 134.40	1.83	\$ 1.83	\$ 136.23			
sample #3	.88	\$ 30.80	1.20	\$ 1.20	\$ 32.00			
sample P-3	10.02	\$ 350.70	2.70	\$ 2.70	\$ 353.40			

*Light  
Samples  
to Roger*

GOLD @ \$ 35 PER OZ.  
SILVER @ \$ 1.00 PER OZ.  
LEAD @ \_\_\_\_ C.  
COPPER @ \_\_\_\_ C.

CHARGES Paid

*E. Eisenhauer*  
ASSAYER

Established 1916

# ASSAY CERTIFICATE

PHONE MADISON 2-8225

Los Angeles, Calif. June 15/62 19

I hereby Certify that the samples described below, received from  
**J. Truffa**

assay as follows:

Owner's Mark and Sample	GOLD		SILVER		TOTAL VALUE PER TON	PERCENTAGE OF		
	OZS. PER TON	VALUE PER TON	OZS. PER TON	VALUE PER TON		COPPER	LEAD	ZINC
#1-Rainbow	1.80	\$ 63.00	.58	\$ .58	\$ 63.58			
#2-Sunset	2.77	\$ 96.95	1.40	\$ 1.40	\$ 98.35			

GOLD @ \$ 35 PER OZ.  
SILVER @ \$ 1.00 PER OZ.  
LEAD @ \_\_\_\_ C.  
COPPER @ \_\_\_\_ C.

CHARGES Paid

*E. Eisenhauer*  
ASSAYER

Established 1916

# ASSAY CERTIFICATE

PHONE MADISON 2-8328

Los Angeles, Calif. April 6/62 19

I hereby Certify that the samples described below, received from  
Mining & Metals, Inc.

assay as follows:

Owner's Mark and Sample	GOLD		SILVER		TOTAL VALUE PER TON	PERCENTAGE OF		
	OZS. PER TON	VALUE PER TON	OZS. PER TON	VALUE PER TON		COPPER	LEAD	ZINC
Climax Mine-Prescott, Ariz.								
Sample #1	4.48	\$ 156.80	2.08	\$ 2.08	\$ 158.88			
Sample #2	3.84	\$ 134.40	1.83	\$ 1.83	\$ 136.23			
Sample #3	.88	\$ 30.80	1.20	\$ 1.20	\$ 32.00			
Sample P-3	10.02	\$ 350.70	2.70	\$ 2.70	\$ 353.40			

GOLD @ \$ 35 PER OZ.

SILVER @ \$ 1.00 PER OZ.

LEAD @      C.

COPPER @      C.

CHARGES Paid

Established 1916

# ASSAY CERTIFICATE

PHONE MADISON 2-8328

Los Angeles, Calif. June 15/62 19

I hereby Certify that the samples described below, received from  
J. Truffa

assay as follows:

Owner's Mark and Sample	GOLD		SILVER		TOTAL VALUE PER TON	PERCENTAGE OF		
	OZS. PER TON	VALUE PER TON	OZS. PER TON	VALUE PER TON		COPPER	LEAD	ZINC
#1-Rainbow	1.80	\$ 63.00	.58	\$ .58	\$ 63.58			
#2-Sunset	2.77	\$ 96.95	1.40	\$ 1.40	\$ 98.35			

GOLD @ \$ 35 PER OZ.

SILVER @ \$ 1.00 PER OZ.

LEAD @      C.

COPPER @      C.

CHARGES Paid

Established 1916



## MEMORANDUM OF ASSAY

[illegible]

BY L. L. Boyer  
Registered Assayer.

# ASSAY CERTIFICATE

IGN 2-5288

Los Angeles, Calif. June 15/62 1962

I hereby Certify that the samples described below, received from  
J. Truffa

**assay as follows:**

Owner's Mark and Sample	GOLD		SILVER		TOTAL VALUE PER TON	PERCENTAGE OF		
	OZS. PER TON	VALUE PER TON	OZS. PER TON	VALUE PER TON		COPPER	LEAD	ZINC
#1-Rainbow	1.80	\$ 63.00	.58	\$ .58	\$ 63.58			
#2-Sunset	2.77	\$ 96.95	1.40	\$ 1.40	\$ 98.35			

# ARIZONA TESTING LABORATORIES

A DIVISION OF CLAUDE E. McLEAN & SON LABORATORIES, INC.

817 WEST MADISON ST.

PHOENIX, ARIZONA 85007

PHONE 254-6181

For Mr. Troy Reeves  
Star Route  
Kirkland, Arizona 86332

Date August 28, 1974

Sample of Ore

Received: 8-27-74

Submitted by: ----

## ASSAY CERTIFICATE

Gold figured at \$ 200.00 per ounce

Silver figured at \$ 5.00 per ounce

LAB. NO.	IDENTIFICATION	GOLD		SILVER		PERCENTAGES	
		OZ. PERTON	VALUE	OZ. PERTON	VALUE		
7608	#1 from bucket on end of trays	0.02	\$ 4.00	0.25	\$ 1.25		
	#2 from #1 tray	0.28	\$56.00	11.0	\$55.00		
	#1 from Dump	40	\$8000.00	(not enough material for silver assay)			

Respectfully submitted,

ARIZONA TESTING LABORATORIES

*Claude E. McLean Jr.*  
Claude E. McLean, Jr.

# ARIZONA TESTING LABORATORIES

A DIVISION OF CLAUDE E. McLEAN & SON LABORATORIES, INC.  
817 WEST MADISON ST. PHOENIX, ARIZONA 85007

PHONE 254-6181

For Mr. Troy Reeves  
307 West Siesta Way  
Phoenix, Arizona 85004

Date January 30, 1974

Sample of Ore

Received: ----

Submitted by: Same

## ASSAY CERTIFICATE

Gold figured at \$ 100.00 per ounce

Silver figured at \$ 2.00 per ounce

LAB. NO.	IDENTIFICATION	GOLD		SILVER		PERCENTAGES	
		OZ. PER TON	VALUE	OZ. PER TON	VALUE		
6053	#1	2.5	\$250.00				
	#2	0.36	\$ 36.00	9.0	\$18.00		
	#3	0.02	\$ 2.00				

*Clay*  
*Leopard Hill*  
*Glacier from Ridge*

Respectfully submitted,

ARIZONA TESTING LABORATORIES

*Claude E McLean Jr*

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