



CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
3550 N. Central Ave, 2nd floor
Phoenix, AZ, 85012
602-771-1601
<http://www.azgs.az.gov>
inquiries@azgs.az.gov

The following file is part of the Walter E. Heinrichs, Jr. Mining Collection

ACCESS STATEMENT

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

CONSTRAINTS STATEMENT

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

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

QUALITY STATEMENT

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

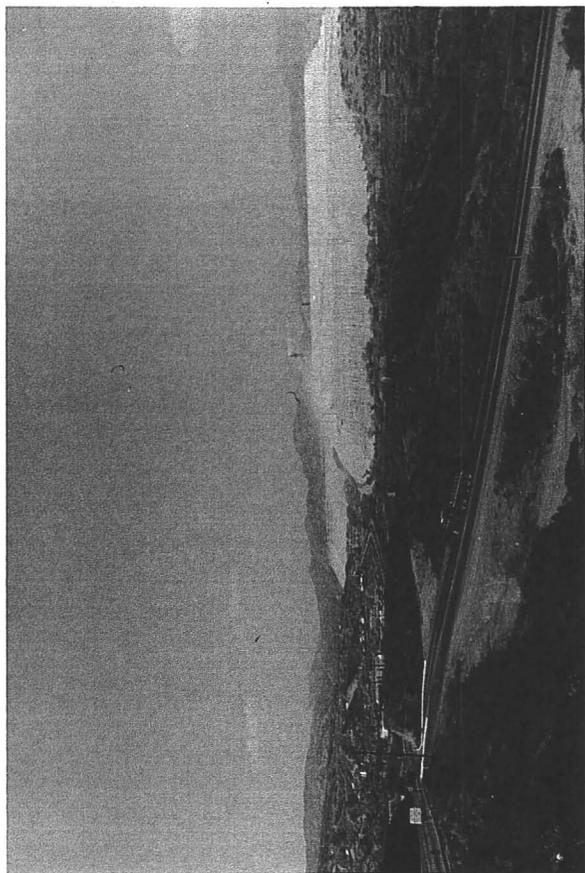
MAR • 63

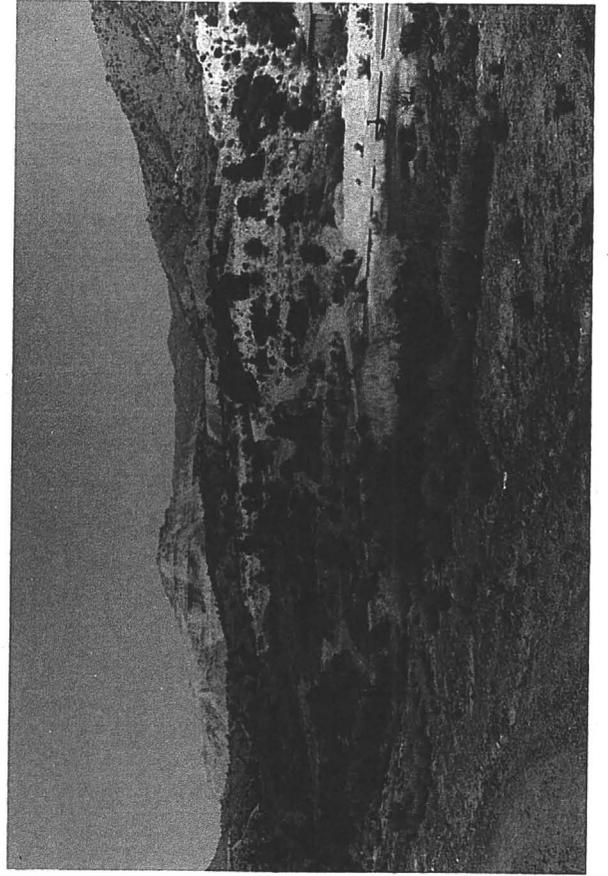
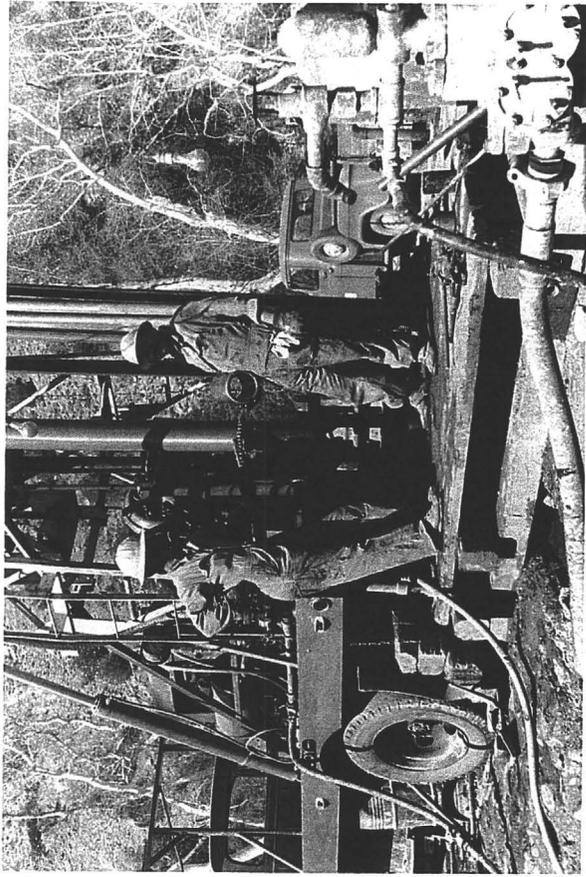


MAR • 63



MAR 63





RECONNAISSANCE GEOLOGICAL INVESTIGATION
Madera Claim Group and Powers Gulch Deposits
GLOBE - MIAMI DISTRICT, GILA COUNTY, ARIZONA

for
PINNACLE EXPLORATION COMPANY
100 Park Avenue
New York, New York

August 1963

by
HEINRICHS GEOEXPLORATION COMPANY
P. O. Box 5671 Tucson, Arizona

INTRODUCTION

This examination was the result of a telephone call from Mr. C. A. R. Lambly to Mr. Walter E. Heinrichs, Jr. on August 13, 1963 requesting a geologic appraisal of an area centering on and around a group of claims known as the Madera Claims located partially in and around Sec. 24, T 1 S, R 14 E, Gila County, Arizona. An additional area referred to in Peterson's Report (U.S.G.S. Prof. Paper #342) as the "Power's Gulch" deposits was also visited. During the course of the field examination unexpected circumstances developed leading to immediate conferences with Mr. Dave McGrillis, thus giving him on the spot basic findings, and this report, therefore, is a final summary of those discussions.

CONCLUSIONS AND RECOMMENDATIONS

Both areas examined exhibit some degree of mineralization and minor surface copper showings. In the Madera Claim group area there is widespread evidence in exposed rocks of former pyritization but little evidence that much copper may have been associated with it. The two basic rock types outcropping here are Pre-Cambrian Pinal schist and Pre-Cambrian Madera diorite. In the lower workings of the Madera Mine considerable fresh pyrite with minor chalcopyrite is exposed. In general the Madera diorite is not known to carry appreciable copper mineralization; on the other hand, north of the hill, which is of schist, the rock type

is Schultze granite and this granite in contact with the schist at places in the district has formed ore horizons.

With some mineralization evident in the area there is therefore a technical possibility that ore bodies of some significance may exist, but on the evidence seen during this brief examination, it would appear more likely that drilling would encounter only pervasive pyrite with minor other sulphides.

In the Power's Gulch area I saw nothing that would lead me to disagree with Peterson's analysis (pages 140-141).

On the Madera area I would have perhaps recommended trying to obtain an option from the owner, Mr. W. Ellis, on an exploration basis whereby little cost would have been involved and an eventual test drill hole put down. However, it would have been of a somewhat wildcat nature, and the circumstances of Bear Creek's advent into the picture altered this to the point where I felt the only justification for any activity now in this area would have been to pick up land as a means of riding on Bear Creek's tails in a manner so that Pinnacle Exploration Company would be able to get the advantage of any efforts and expenditures that Kennecott may make.

From a strictly exploration viewpoint the manner in which this area could be investigated more fully would be to spend a few days on geologic mapping for the purpose of determining the optimum positions to lay out induced polarization survey lines

which should detect the locales of greatest sulphide concentrations, then over and around these areas of sulphide concentrations, careful geochemical sampling should follow to determine whether or not there was a copper association with the sulphides. If these procedures were carefully followed, it should be possible to accurately predict whether or not it might be worthwhile to drill.

It seems apparent that the Power's Gulch area would require exploration on a very large scale and even then the chances are very slim that even the possibly great amount of copper there could be extracted economically.

GEOLOGY AND MINERALIZATION

The Madera Claims cover an area of exposures about equally divided between schist to the north and northwest, and diorite to the south and southeast. The schist is the oldest and is well defined in its character in Peterson's report and in this vicinity it is hard and siliceous, gray to tan in color, in places quite stained with brown, ferruginous coatings on the joints, fractures and schistose planes. The rock is actually so characteristic of its original composition that it might even be called a schistose quartzite. The only places there appear to be any copper mineralization associated with it is along faults, intruded dikes of silica, and its contact with younger intrusions. The Madera diorite is a quartz diorite or granodiorite, which weathers dark gray, is quite white on fresh surfaces, but speckled with the mafic

minerals, the major one of which appears to be biotite. Near the north-south fault on which the Madera Mine is located and also near other similar trending faults and at the head of Pinto Creek, this diorite has been mineralized with coarsely crystalline pyrite on the joint planes and tension fractures, apparently at a later date with silica fluids that penetrated these accessible areas, but with little alteration or penetration into the surrounding walls. No where away from faults did I see any evidence of alteration of the diorite other than surface weathering and decomposition. Undoubtedly, a little copper was contained with this mineralization and it found the schist to be a more favorable host for deposition. Many small quartz veins were noted in the schist, most of them only small seams and the majority of them striking approximately north-south although there are some that cut one another in varying directions. The vein on which the old mine was located is a large fault that was filled with a siliceous vein carrying appreciable copper sulphides, the molybdenum sulphide molybdite as well as pyrite and very probably some gold and silver, although none of the precious metals was found visible to the naked eye. Considerable groundwater percolates along this fault and has caused the oxidation and concentration of copper in the form of oxides and secondary sulphides.

It is apparent that some ore was produced and shipped from this mine and an unknown quantity still remains. The upper workings appear to be in the hanging wall and the lower workings in the

foot wall of the schist-diorite contact but neither the contact between the two nor the lateral extensions to the foot wall-hanging wall contact of the vein itself in the schist have been penetrated. The area appears to have a potential for more of the same deposits parallel to it and to the west of it along the north-south drainages on the north side of Pinto Creek and three such likely areas were observed. The Schultze granite is a much younger intrusion considered to be Tertiary-Cretaceous in age and it seems probable that the north-south siliceous veins emanated from it and penetrated both the schist and diorite. Because of the comparatively narrow exposure of schist in this area, I consider it likely that the schist may not be rooted here but may overlie a granite-diorite contact. As near as I could determine, Bear Creek's activities are centered on the schist toward the granite side, more or less in the northwest portion of Sec. 24 and the northeast portion of Sec. 23.

On the way down Power's Gulch I visited several of the old mines and prospects located on both sides of the highway high in the Schultze granite near the Gila-Pinal County lines. Minor mineralization was deposited in many areas along with the quartz veins and in small shears. All apparently are small and local and will not produce shippable quantities of ore. They are apparently too high and too near the middle of the stock. To the north, down Power's Gulch and Pinto Creek, where other rock types are encountered,

mineralization is more intense and the area more favorable for prospecting.

SUMMARY OF THE EXAMINATION

After meeting with Mr. McGrillis in his office on the morning of August 26, 1963, I contacted Mr. William Ellis, owner of the Madera Claims. A gentleman whom I recognized as Mr. Otis McCrae, a geologist from the Tucson office of Bear Creek Mining Company, but who at the moment failed to recognize me, was also waiting to see Mr. Ellis. After his departure, I had a discussion with Mr. Ellis which led to his taking me to the property, showing me a claim map and loaning me a flashlight so that I could go into the mine workings. Because of bad gas in the winze of the upper workings I did not linger long, but believe that it would be worth while to examine and map this mine in detail to see if it has potential for a small operation, possibly even by leaching.

After the brief look at the mine, I returned Mr. Ellis to his home and Mr. McCrae was awaiting him there. By this time, Mr. McCrae had become aware of my identity as a Geoex employee, but not whom we represented. Over a cup of coffee and the usual fencing type of conversation, I did manage to learn from McCrae that at least two of his men had been working in the area for several weeks. I then left to go back up to the prospect. The following day, while continuing my observations on the ground I saw an airplane flying low over the area repeatedly, and assumed

it was a Bear Creek operation. Upon leaving the area that afternoon, I met Mr. Ellis on the road and had another talk with him. He was just returning from Miami where he had met with Mr. J. L. Splane and Mr. Bob Holt of the Bear Creek Land Department who had approached him with an option offer for his property. He had turned down their first offer and they they had made a second offer that fell within the realm of what he desired. However, he had informed me earlier that after having had strong words some time ago with the Bear Creek people that are working in the area, he preferred to make a deal with anybody but Bear Creek, and since I had shown up at a propitious time to examine his property, he had informed Mr. Holt that he would delay a few days before signing with them until he determined if he would receive a proposal from a third interested party. I. therefore, went to Miami and relayed this information to Mr. McCrillis and Mr. Scott. It seemed unadvisable under the circumstances to prolong the investigation in this area although there was still some ground that I intended to look at and had not yet seen. It appeared that one way or another, besides not having gained too favorable an impression of the area, the ground was to be optioned soon to someone and if not to Pinnacle, then no need to do more work now, and if to Pinnacle, then the investigation might continue by entirely different approaches.

The following day, August 28, I made a short visit to the Stoval operations at the Blue Bird and then went to the Bronx Veins area (where John Bustemente of Globe is re-opening the old workings) and then from there down into Power's Gulch via the Clark Ranch. On leaving there, I returned to Miami by way of Pinto Creek and Castle Dome road. Where the road crosses Pinto Creek I saw a very good outcrop in the area, of copper, and mentioned this to Mr. McCrillis later, but was very chagrined later in the evening while studying various maps and data on hand to note that the place was Miami Copper's Cactus ore body which of course is well known but not yet mined. In general and from a distance it appears likely that the area between Castle Dome and Power's Gulch is the more favorable prospecting ground of any of the area visited during this examination.

Some samples of rocks and mineralization were taken for office examination under the binocular microscope. Here the possibility was mentioned that perhaps Bear Creek's interest lies in the molybdenum potential for there are quantities of it concentrated with the silica in the Madera Mine.

Respectfully submitted,

HEINRICHS GEOEXPLORATION COMPANY

J. W. Marlatt

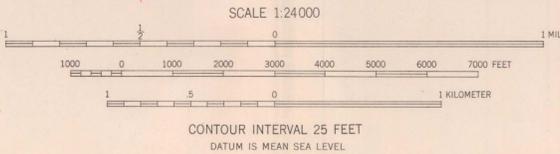
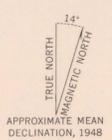
J. W. Marlatt
Chief Geologist

September 3, 1963
P. O. Box 5671
Tucson, Arizona



*Very approx
only
as to bearing*

Mapped, edited, and published by the Geological Survey
Control by USGS and USC&GS
Topography from aerial photographs by multiplex methods
Aerial photographs taken 1943. Field check 1948
Polyconic projection. 1927 North American datum
10,000-foot grid based on Arizona coordinate system,
east and central zones
Unchecked elevations are shown in brown



ROAD CLASSIFICATION

HARD-SURFACE ALL WEATHER ROADS	DRY WEATHER ROADS
Heavy-duty LANE IS LANE	Improved dirt
Medium-duty LANE IS LANE	Unimproved dirt
Loose-surface, graded, or narrow hard-surface	
U. S. Route	State Route

WOODLAND
Woods-Brushwood
Scrub
Orchard

PINAL RANCH, ARIZ.
N3315-W11052.5/7.5

**BLUEBIRD AND SCHULTZE CLAIMS
and vicinity**

**GLOBE - MIAMI DISTRICT
Gila County, Arizona**

**for
Pinnacle Exploration Company
100 Park Avenue
New York, New York**

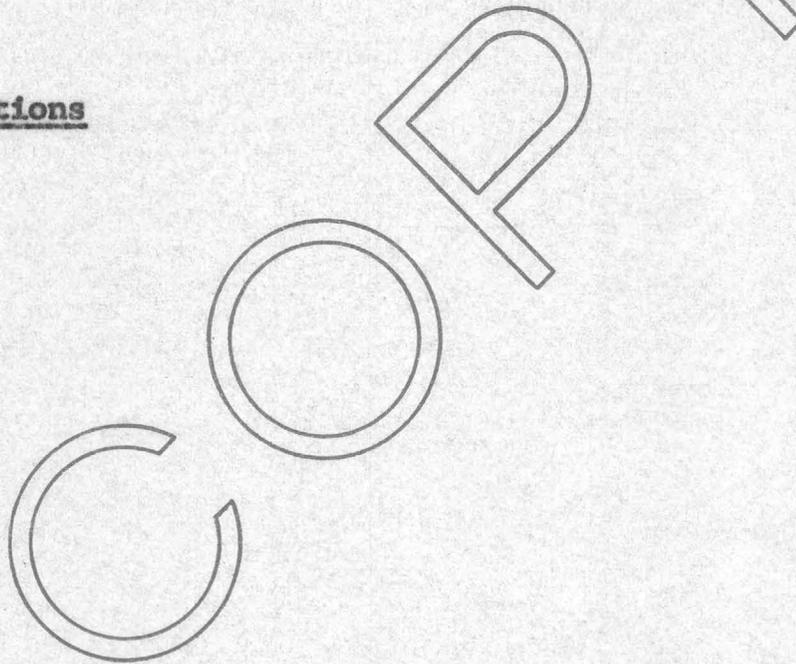
March 1963

**by
HEINRICHS GEOEXPLORATION COMPANY
P. O. Box 5671 Tucson, Arizona**

TABLE OF CONTENTS

	Page
Introduction-----	1
Summary and Recommendations-----	1
Conclusions-----	2
Observations-----	2
Suggestions-----	4
References-----	5

Illustrations



INTRODUCTION

This examination was the result of a phone call from Mr. Charles A. R. Lambly on March 10, 1963, following a previous call from Mr. Harold Warnock on March 8, 1963. Although I have done work for both Miami and Inspiration Copper Companies, my knowledge of the Globe-Miami District was actually quite casual and results from one-day field trips, very broad conversations over the years with local personnel and one very general and brief assignment for Miami Copper Co. Consequently several hours were spent on March 10, 1963 reviewing references on the district, before departing Tucson on March 11 and returning March 12. Field time was as follows: 4 hours on Blue Bird, 2 hours on Schultze area, 1 hour in Live Oak Gulch, and a couple of hours of general area observing with the remaining time spent with Messers Bill Scott and Dave McCrillis in going over data.

SUMMARY AND RECOMMENDATION

The area observed, southwest of Inspiration's main pit suggests a possibility of unexplored and/or undeveloped potential which warrants competent and at least some systematic investigation. Such is recommended, consistent with reasonable property rights acquisition. Geologically, when compared with most well known and recent current mining exploration venture opportunities, this one appears superior to many.

CONCLUSIONS

1. Certainly the time spent by Mr. McGrillis and Mr. Scott in further examination at this point is worthwhile.

2. Sulfide evidence is obviously and admittedly very sparse. However, its existence is not impossible, either as secondary enrichment, or eventually primary at depth.

3. Low seven figure tonnage reserve appears definite, but eight or even nine figure tonnages could exist in the general area.

4. Sulfide - oxide - grade - and production cost ratios are most likely the main key to technical feasibility rather than quantity per se.

5. True and exact status of Miami and Inspiration interest is unknown and therefore somewhat puzzling. It must be assumed that their infinitely more extensive familiarity, or preoccupation with better holdings nearby has resulted in more negative ideas. Or they have been awaiting easier opportunities to pick up options in the area.

OBSERVATIONS

1. Relationship, at least in the Blue Bird part, to Inspiration's main pit deposition, may be more than just geographic proximity. It could even be a directly related extension along unrecognized or unmapped northerly-southerly lineation (somewhat like the Miami Fault and others such as Dome fault near Castle

Dome and Coronado fault near Copper Cities); and/or, irregularities in or along the Schultze Granite and/or its contact with Pinal Schist. Relationship with certain areas along the margins of the Schultze Granite seem especially important and could even be equally or even more important than the schist.

2. Mineralization might be somehow (?) related with observed zones of surface bleaching of the schist and granite in the area and ferruginous staining of the Gila conglomerate around Needle Mountain.

3. In most of the whole area examined, but especially at Blue Bird, the mineralization appears definitely epigenetic. There is considerable kaolinitic and sericitic alteration on granitic joints and fractures and at least some evidently secondary silica. The latter suggests some hydrothermal action, but the former appear somewhat secondary and are more doubtfully hydrothermal, due to the alteration being mostly fracture confined and not disseminated throughout the rock. In other words, in most of the rock, other than fractures, the quartz feldspar and mica are all fresh and seemingly relatively unaltered, and grade appears proportional to fracturing. Nevertheless it is still technically possible that the mineralization is epithermal and there is secondary sulfide enrichment, at depth. There is already some evidence of shallow enrichment of oxidized mineral.

4. Added support for some previous sulfide is in a weak "capping" or gossan effect over some of the upper Blue Bird and

Schultze areas. Of course this in itself could have been secondary, but there is also weak technical evidence of pyrite.

5. The assay sections of drill hole samples prepared by Messers McGrillis and Scott on the Blue Bird indicate that the continuity possibilities of this one deposit remain open to the north at about a 45° increasing depth angle and also to the east with an indefinite and probably varying depth relationship.

6. Of course it is possible that most all of this mineralization came from leaching of the presumably larger and richer deposits to the northeast as suggested by Peterson. However, there is no good direct proof or even evidence that this is in fact the case, except on a purely circumstantial basis.

SUGGESTIONS

If suitable exploration options can be obtained, the following steps for further appraisal are suggested:

1. Concurrently, or consecutively if it is felt that negative results from either a, b, or c below could rule out the need for the other:
 - a) Recon photo geology and ground study concentrating on alteration, geochem and structural mapping.
 - b) Cost analysis of present Stovall leaching operation.
 - c) Minimum confirmation drilling with a couple of core holes or so to about 500' plus.
2. Depending on sulfide indications from results of above work, or if more comprehensive analysis is needed or desired,

cover certain better parts of the area as selected by geological and geochem results, first by geophysical reconnaissance and then more detail if recon results are favorable.

3. Additional drilling as indicated.

REFERENCES

1. U.S.G.S. PP #342 by Peterson
2. Misc. GEOEX Tucson office files.

Mr. T. E. Tachell, foreman was met at Blue Bird, said that Bill McClure was manager of the leach operation and that McClure's father was a partner of Stovall's.

Mr. J. H. Henderson lives in the first place just north of Sec. 2, T 1 S, R 14 E on unpatented claim in Tonto National Forest. His address is Gen. Del. or R. F. D. Miami. He stated that Delmuth Sears, George Ellis and Dick Russell were also claimants of at least one unpatented claim each, in this area surrounded by Schultze and Blue Bird Claims. Russell's claim is farthest north-east and closest to Blue Bird operation, according to Henderson.

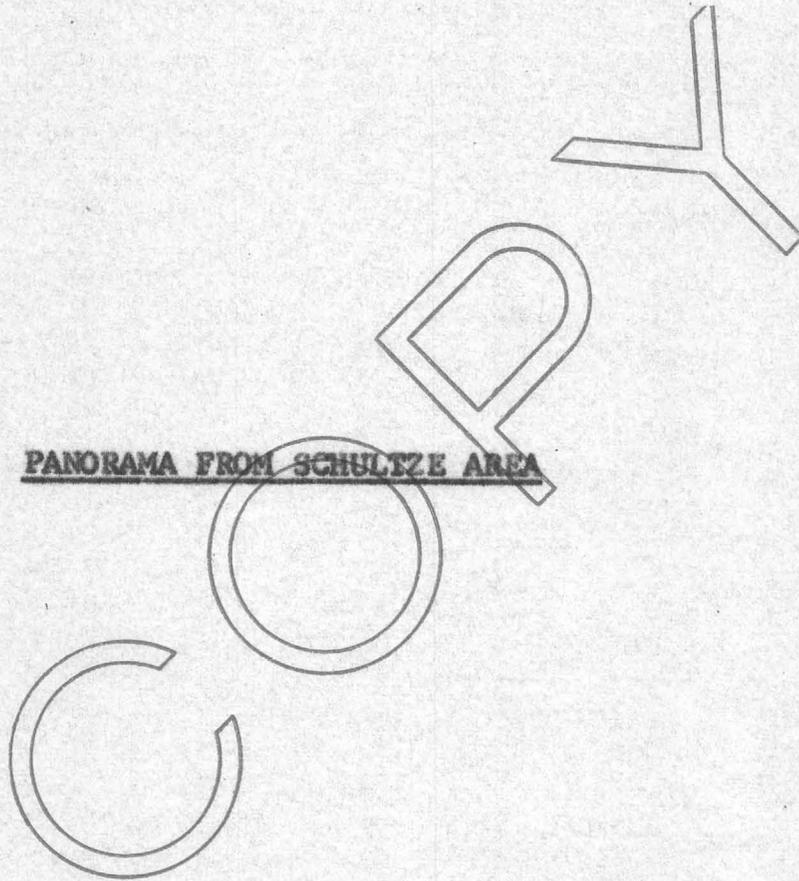
Respectfully submitted,


Walter E. Heinrichs, Jr.



March 18, 1963
P. O. Box 5671
Tucson, Arizona

PANORAMA FROM SCHULTZE AREA



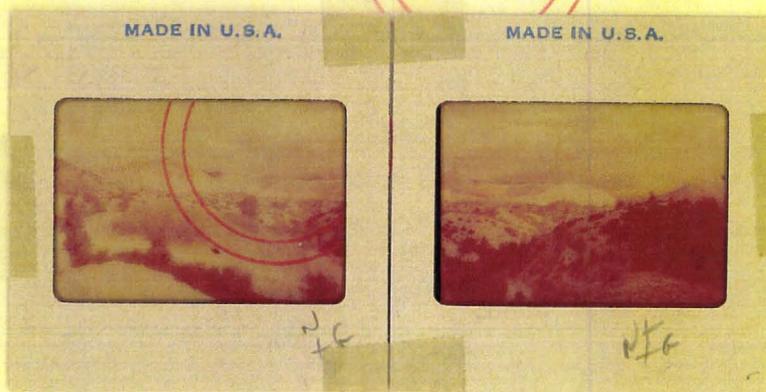
Looking West from Highway 60 - 70
at Bloody Tanks Blue Bird operation.
In middle distance Schultze Claims
on west to horizon.

Inspiration Pit from Live Oak Gulch
road looking northeast.

Blue Bird, Main Leach
Spray Area.



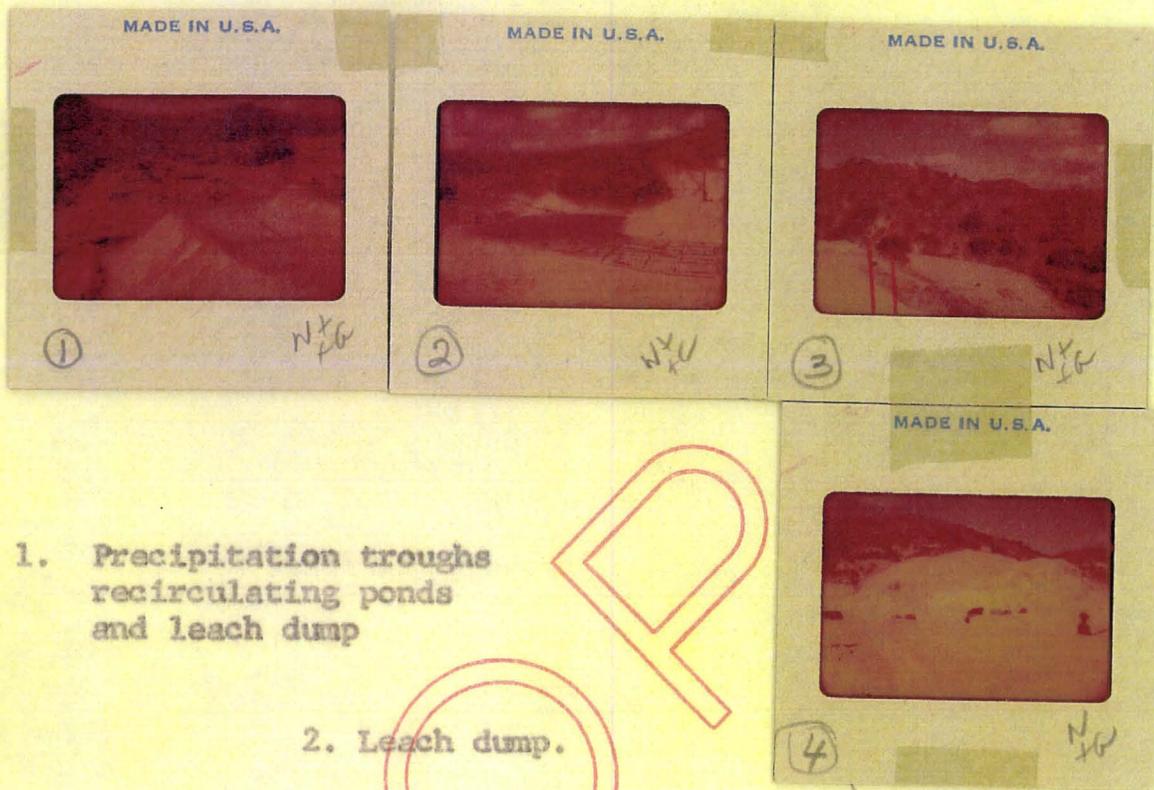
Inspiration Pit
Looking NE from
upper Blue Bird Area.
Note bleached zones.



Upper NE Blue Bird Area looking NE toward Live Oak Gulch
and Inspiration Pit and dumps. Oxidized copper stained
schist and tunnel in middle foreground on left.

BLUE BIRD OPERATION

An approximate panorama looking westerly.



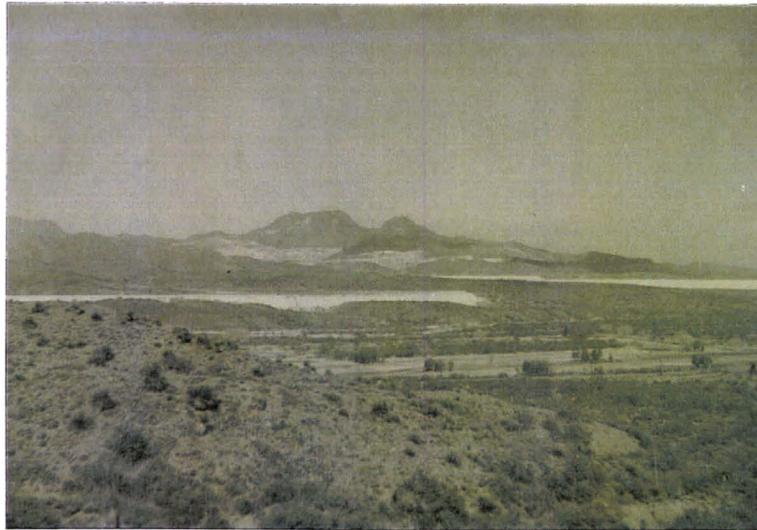
1. Precipitation troughs
recirculating ponds
and leach dump

2. Leach dump.

3. Main ore exposure
and weak Fe stained
capping zone above.

4. Unmineralized (?)
granite to NE.

MAR • 63



Looking westerly from Highway
60 - 70 near Central Heights,
Copper Cities operation in
distance.

West toward Needle Mt.
and ferruginous stained
Gila Conglomerate and
schist.

N-W Note bleached zones.

N-E toward Inspiration
Pit.

E. toward Blue Bird and
Hwy 60-70 in middle
distance.