

#### CONTACT INFORMATION

Mining Records Curator  
Arizona Geological Survey  
416 W. Congress St., Suite 100  
Tucson, Arizona 85701  
602-771-1601  
<http://www.azgs.az.gov>  
[inquiries@azgs.az.gov](mailto:inquiries@azgs.az.gov)

The following file is part of the Kelsey Boltz 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.

Make

File

Folder

Lat  $33^{\circ} 47'$

Long  $112^{\circ} 21'$



THE CHARLOTTE GOLD-SILVER PROPERTY  
MARICOPA COUNTY, ARIZONA

By  
Gerald Weathers

*March 24, 1978*

## TABLE OF CONTENTS

	<u>PAGE</u>
INTRODUCTION.....	1
THE PROPERTY LOCATION & ACCESSIBILITY.....	1
TOPOGRAPHY-CLIMATE-VEGETATION.....	2
HISTORY.....	2
DEVELOPMENT.....	3
PRODUCTION.....	4
GEOLOGY.....	4
MINERALIZATION AND SAMPLE ASSAYS.....	5
ORE RESERVES BLOCKED OUT TO DATE	
Measured Ore.....	6
Indicated Ore.....	7
PROPERTY POTENTIAL.....	8
PROPOSED DRILLING METHOD.....	8
ESTIMATED MINING COSTS.....	9
ESTIMATED LEACHING TEST COSTS.....	9
SUMMARY OF ORE RESERVES & COST ESTIMATES	
DEVELOPED TO DATE.....	10
WATER SOURCES.....	10
PHASE A	
Recommended Exploration Program.....	11
Proposed Drilling Program.....	11
ESTIMATED TIME REQUIRED.....	12
PHASE B.....	12

## ILLUSTRATIONS

### FIGURES

	<u>PAGE</u>
FIG. I - INDEX MAP - PROPERTY LOCATION	13
FIG. II - MT. BALDY QUAD SHEET	Pocket
FIG. III - PROPERTY MAP (Submitted by the Owners)	"
FIG. IV. - GEOLOGIC AND ASSAY MAP	"
FIG. V - DRILL PLAN MAP	"
FIG. VI - PROPOSED EXPLORATION HOLES	"

### EXHIBITS

EXHIBIT A - 8-25-77 Letter from Bureau Land Management Listing Claims	
EXHIBIT B - Surface Sample Assays Updated	
EXHIBIT C - Drill Hole Logs	
EXHIBIT D - Report from Arizona Department Mineral Resources dated 12-31-59.	
EXHIBIT E - Letter of Sample Submittal to Potter dated 7-10-73.	
EXHIBIT F - 2-17-61 Raabe Letter with assays.	
EXHIBIT G - 2-15-61 Property Report by Raabe of Shattuck Denn	
EXHIBIT H - 7-13-61 Property Report by Raabe of Shattuck Denn	

GERALD WEATHERS  
REGISTERED PROFESSIONAL GEOLOGIST  
MINERAL EXPLORATION

AREA CODE 602  
955-3590

3928 EAST MEADOWBROOK AVE.  
PHOENIX, ARIZONA 85018

THE CHARLOTTE GOLD-SILVER PROPERTY  
MARICOPA COUNTY, ARIZONA

INTRODUCTION

This geologic report on the Charlotte Gold-Silver Property has been prepared at the request of Carl C. Trihahn, President of United Mining Co., Inc., 748 East Broadway, Phoenix, Arizona, 85040, owners of the property. The writer has geologically examined and conducted limited exploration programs on this prospect at intervals for various clients since 1961.

THE PROPERTY

LOCATION AND ACCESSIBILITY

The Charlotte Property, located in Sections 9, 10, 16 and 15, T 5 N, R 1 W, G&SRB&M, White Peak (Pikes Peak) Mining District, Maricopa County, Arizona, consists of a group of contiguous mining claims about six miles north of the Sun City retirement community and thirty miles northwest of Phoenix, Arizona. (Refer to Index Map and Mt. Baldy Quadrangle, Map No. II).

The claim block is of record, as evidenced by a letter dated August 25th, 1977 from the United States Department of the Interior, Bureau of Land Management, granting a temporary deferment of annual



assessment work for 53 unpatented Federal lode mining claims covered by 23 placer claims. (Refer to Exhibit 1). In addition to these listed claims, the company claims an adjoining 5-acre Charlotte Mill Site.

The property can be reached by travelling north of Sun City, through a Beardsly irrigation canal underpass and across the C.A.P. Canal (under construction) to the vicinity of a prominent landmark, White Peak. (Fig. II).

#### TOPOGRAPHY-CLIMATE-VEGETATION

The property, ranging from 1,500 feet to 2,065 feet above sea level is located on the southeastern slopes of the Hierglyphic Mountains. The principal development is within a southeasterly draining basin. The winters are mild; summers hot and dry except for occasional thunderstorms. Vegetation consists of cacti, shrubs, mesquite and palo verde trees.

#### HISTORY

The area was located by D. B. Morgan in 1901, followed by Chas. McGinnis and Wm. E. Thomas in 1920. The Triphahn family has held the prospect since 1935, enlarging their holdings by staking additional contiguous claims at later dates. Property lessees have partially explored the prospect over these years. As a result of these past operations, United Mining has an accumulation of geologic data pertaining to the property, compiled and presented in this report.

The writer first became acquainted with the property in 1961 when requested to extend a drift from the existing shaft to intersect one of three diamond drill holes located and drilled under the direction of a prominent clairvoyant, Peter Hurkos. This assignment was followed by

surface geologic mapping and sampling, trenching and in 1973 by a limited exploration program designed to drill the principal structure to shallow depths to block out near surface gold ore.

#### DEVELOPMENT

Development consists of a 120 ft. deep shaft inclined  $53^{\circ}$  toward the southeast with approximately 250 feet of drifts, crosscuts and raises extending from it. A pocket of gold ore was stoped from the 32 level to the surface along the west side of the shaft. In addition to the shaft, approximately 80 shallow prospect pits, trenches, and shafts were dug into the gold bearing vein systems over the entire property prior to 1960. In 1960-61 two diamond drill holes were drilled to intersect the vein projections from the shaft and a third one into the mineralized zone on the westerly Tee Bone Claims.

In the latter part of 1961, a 15 foot wide trench was excavated across the vein structure east of the shaft for a distance of 200 feet and to a depth of 25 feet.

During the period 1961-1970 a 15 foot high pit exposing copper oxides in schist was dug on the western portion of the prospect. This pit provided copper oxide minerals for a small copper-leach precipitation operation.

Other older development includes a 6-inch plugged water well drilled to a depth of 475 feet, as well as remnants of mill foundations on the Charlotte Mill Site Claim.



In 1973, the writer supervised a drilling program designed to block out gold ore adjacent to the large trench and in the area between the trench and the shaft. (Refer to Fig. V). Considerable difficulty was experienced in obtaining reliable samples from the percussion drilling, as well as from the diamond core drilling.

#### PRODUCTION

There has been very little recorded production from the property.

A settlement sheet presented by the property owners from the Wickenburg Ore Buyer records a shipment of 8.29 dry tons by Mr. M. H. Church (Lessee) in 1946, assaying 1.85 oz. Au and 0.40 oz. Ag. No other record of production has been located.

#### GEOLOGY

The Charlotte Property is underlain by preCambrian Yavapai schist, intruded by Cretaceous andesite dikes and covered in places by Quaternary basalt and recent alluvium.

The schistosity trends northeasterly and dips steeply to the northwest, but has been locally disturbed by faulting causing the schistosity to vary greatly in dip.

A highly fractured gold bearing structural zone trending N 50° E, marked by criss-crossing and subparallel brecciated quartz-calcite veins in intermixed andesite and schist has been traced intermittently in surface exposures for 4,000 feet. This zone varies from a few to 200 feet in width. More recent cross-cutting manganese-siderite-quartz veins trending N 65° W and dipping 45° southwest have offset the main quartz-calcite vein at irregular intervals. (Fig. IV).



### MINERALIZATION AND SAMPLE ASSAYS

The northeasterly trending silicified quartz-calcite veins are mineralized with very fine particles of free gold in a zone heavily stained with powdered red hematite (iron oxide). Many of the quartz vugs within this vein structure are lined with amethyst crystals.

The cross-cutting northeasterly striking manganiferous siderite veins are mineralized with argentiferous (silver) galena.

Chrysacolla and malachite (copper oxides) occur in vein fractures and coat the planes of schistosity on portions of the property.

✓ Sample assays from the shaft and workings vary from 5.4 oz. gold on the 32-level to nil. A 4' 9" sample across the face of a drift assays 0.26 oz. Au/ton. A representative sample on the shaft dump assays 0.14 oz. Au/ton. (Refer to Fig. IV).

Samples across veins exposed in prospect pits vary from a trace to 1.45 oz. Au. (Refer to Fig. IV.)

Representative samples from the trench vary from .08 oz. Au/ton at the north end to .13 oz. Au/ton in the face of the south end. Samples across the numerous narrow veins exposed in the trench assay from .01 oz. Au/ton to 1.45 oz. Au/ton.

Holes 6, 5, 4 and 3 were drilled near the west edge of the trench in 1973 to compare with the muck assays from the trench and to expand the known gold ore westward. (Refer to Fig. V). These holes were followed by drilling a series of shallow percussion holes at an angle designed to cross the projected structure. A great deal of difficulty was experienced in obtaining representative samples from drill cuttings due to cavernous ground as well as the lack of ability to drill the holes to planned depths; however, the program was inflexible and the drilling was continued by the Lessees with the same equipment until it was completed.



A diamond core drill was brought in to drill three diamond drill holes to probe the structure at depth as well as to compare core sample assays with percussion cutting sample assays. A comparison of split core sample assays with sludge sample assays from the same depths exhibit very little correlation; a comparison of split core sample assays and sludge sample assays with percussion drill cuttings from an adjacent drill hole exhibits very little correlation.

Diamond Drill Hole No. 3, designed to probe the structure at depth, was still in highly oxidized material at a vertical depth of 527 feet.

ORE RESERVES BLOCKED OUT TO DATE:

Measured Ore -

The large bulk muck sample assays from the trench are considered to be more accurate than drill sample assays obtained to date. Because of this difficulty in obtaining representative samples, the grade of the gold has been calculated only for Blocks A & B adjacent to and including the trench, shown on Fig. No. V.

Since a small portion of the material drilled is taken to represent the whole, more sample weight is assigned to the large muck samples than to drill cutting samples.

Blocks A and B are classified as measured ore in which the tonnage is computed from dimensions revealed in outcrops, trenches, and drill holes and the grade is derived from the results of detailed sampling.

BLOCK A:

200' long x 100' wide x 45' thick. Based on 12 cu. ft. per ton in place = 75,000 tons averaging .06 oz. Au/ton and .2 - .15 oz. Ag/ton or Au at \$180/oz. and Ag at \$4.50/oz.  
Value = \$11.47/ton x 75,000 tons = \$860,250.

BLOCK B:

A right triangle contiguous to Block A  $\frac{200' \times 100'}{2}$   
 $\times 45' \div 12 \text{ ft.}^3/\text{ton} = 37,500 \text{ tons at } .07 \text{ oz. Au/ton and } .2 -$   
 $.5 \text{ oz. Ag/ton. } .07 \text{ oz. Au/ton} \times \$180/\text{oz} = \$12.60 + .35 \text{ oz. Ag}$   
 $\text{at } \$4.50/\text{oz.} = \$1.57. \$14.17/\text{ton} \times 37,500 = \$531,375.$

BLOCKS A & B:

VALUE

75,000 tons	\$860,250.
<u>37,500 tons</u>	<u>531,375.</u>
112,500 tons Total Measured Ore	\$1,391,625.

INDICATED ORE:

"Indicated ore is ore for which tonnage and grade are computed partly from specific measurements, samples, or production data and partly from projection for a reasonable distance on geologic evidence. The sites available for inspection, measurement, and sampling are too widely or otherwise inappropriately spaced to outline the ore completely or to establish its grade throughout"<sup>1</sup>.

Blocks C, D and E are classified as "indicated ore".

BLOCK C:

$860' \times 150' \times 50' \text{ thick} \div 12 \text{ ft.}^3/\text{ton} = 537,500 \text{ tons}$

BLOCK D:

$1/2 (250 \times 100) \times 50' \div 12 \text{ ft.}^3/\text{ton} = 52,000 \text{ tons}$

BLOCK E:

$1/2 (50 \times 50) \times 50 \div 12 \text{ ft.}^3/\text{ton} = \underline{5,200} \text{ tons}$

Total 594,700 tons

Grade estimates are dependent upon more reliable sampling methods of material from these blocks, to be derived from the results of a large diameter reverse circulation drill hole exploration program.

1. Forrester, "Field and Mining Geology"

#### PROPERTY POTENTIAL:

This report covers a very small part of the entire Charlotte gold-silver property. Other mineralized structures and sample data are shown on Fig. IV. Structures and old workings elsewhere on the property have not been geologically mapped or sampled.

The large structure that has been partially examined and sampled exhibits the characteristics of a gossan overlying a zone of enrichment in which the surface exposes leached gangue consisting of fractured, porous, siliceous material intermixed with hematite and manganese oxides from which some of the gold has been removed and redeposited as an enrichment below.

#### PROPOSED DRILLING METHOD:

Representative drill samples have been difficult to obtain from this property because of the erratic occurrence of fine gold in cavernous ground, and lack of adequate representative sample material obtained from the small diameter (2") drill holes drilled to date. Percussion cuttings pack the voids, allowing only a small percent to return to the sampler. The diamond core drill encounters very loose material in the mineral zones resulting in either poor core recovery and drill fluids, are not returned, or if returned are not truly representative of the material sampled when collected as sludge.

It is recommended that a reverse circulation rotary drill be used to drill this property using a 5 5/8" bit to obtain more truly representative samples. A contract driller has been contacted who has this drill available locally at the present time. The contractor charges an hourly rate of \$125., but feels he can drill about 375 feet per day in dry ground resulting in a drilling cost ranging from \$3.00 to \$6.00 per foot.

$$2/2.5 \times 8 = \$1000 \div 375 = \$2.67/\text{ft}$$



#### ESTIMATED MINING COSTS:

A mining contractor was contacted who is familiar with this type of rock to submit an estimate for the cost of mining and placing the material on a leach pad. The contractor states it will cost at most \$1.00 per yard to drill and shoot the ground and another \$1.00/yd. to load and dump the ore on a nearby site. This amount could be reduced if blasting is not necessary and the material can be scraper moved. Based on this information, it is estimated it will cost \$1.00/ton to mine and move the ore to a nearby site.

#### ESTIMATED LEACHING TEST COSTS:

Recent heap leaching - carbon extraction of gold from low-grade gold ore deposits has illustrated the practicality of this method of gold extraction and can eliminate the necessity of costly mill construction. Since the Charlotte Prospect exhibited characteristics similar to those deposits being heap leached, gold bearing material from the Charlotte Property was sampled for leach testing.

These representative samples of material from the shaft dump, trench dump, and trench face were submitted to the U. S. Bureau of Mines, Salt Lake City, Utah in 1973. (Exhibit E). These assayed .14 oz., .08 oz., and .13 oz. Au/ton respectively. Mr. George M. Potter, Supervisor Metallurgist at the Salt Lake City Metallurgy Research Center conducted leaching tests on the gold bearing samples. According to an article describing the test results appearing in the "Canadian Shareholder", preliminary results from Mr. Potter's tests indicate that more than 85% of the gold can be easily removed from the ore, requiring a 3 or 4 day leaching cycle.

Mr. Potter has joined a private research firm in Arizona and this firm was contacted for an estimate of the cost of continued feasibility leach test studies of ore samples obtained from the Charlotte Property. The Manager of the Research Division estimated it would cost \$7,500. for a heap leach test on this ore.

# SUMMARY OF ORE RESERVES AND COST ESTIMATES

## DEVELOPED TO DATE

	<u>Tons</u>	<u>Cost</u>	<u>Value</u>
Measured reserves	112,500		\$1,391,625.
Assume 85% recovery			\$ 12.37/ton in place
Exploration Program to Prove ore		\$0.44/ton	\$ 10.50/ton
Mining and Moving Cost		1.00/ton	
Leaching Cost (no figures obtained)		<u>1.00/ton (?)</u>	
Total cost		\$ 2.44/ton (?)	\$10.50/ton

(Does not include the estimated cost of installing a pilot plant).

## WATER SOURCES:

A drilled well on the Charlotte Mill site is plugged; the availability of water in it and its capacity, if any, will have to be determined. However, only 10% make up water is required after circuits are loaded. Drill water for diamond core drilling was obtained in the past from the nearby Beardsly Canal upon authorization from the Beardsly Water District Office; however, this canal does not flow the entire year. Water in the future could be obtained from:

1. The existing drilled well.
2. From another well to be drilled in a more strategic location.
3. The C.A.P. Canal under construction and passing through the property. (If available)
4. From the Beardsly Canal.

The writer has in the past engaged the services of a Hydrologist to assist in solving the water source problems on mining ventures.

PHASE A - RECOMMENDED EXPLORATION PROGRAM:

It is recommended that a drilling contract be negotiated with the drilling contractor to use the reverse circulation rotary drill to drill 5 5/8" diameter drill holes on the grid pattern, as outlined in Fig. VI.

BLOCK A -

This drill pattern consists of holes spaced on 25 foot centers averaging 150 feet in depth at its down dip southern end and 50 feet in depth at the northern end. The sample assays from this drilling should correlate with the trench muck sample assays and confirm the tenor of the gold ore in this block to be "essentially certain" allowing the tonnage and grade to be classified, PROVEN ore.

BLOCK A - PROPOSED DRILLING PROGRAM:

27 drill holes x 100' Avg. depth x \$6/ft. = \$16,200.

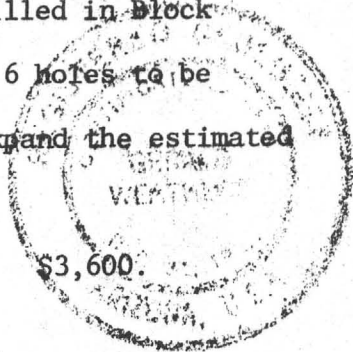
BLOCK B:

It is believed that sufficient knowledge will be gained from drilling and sampling Block A to project the subsurface gold ore occurrence with more confidence; therefore, it is proposed that Block B be drilled and expanded by a drill hole grid pattern spaced on 50 ft. centers, but offset where necessary.

The eastern fence of holes in Block B just drilled in Block A can be used in conjunction with a proposed fence of 6 holes to be drilled across its western extremity to confirm and expand the estimated tonnage and grade in the block.

6 holes x 100' avg. depth x \$6/ft. =

\$3,600.





ESTIMATED TIME REQUIRED:

$$\text{Block A} - 27 \times 100' = \frac{2,700'}{375'/\text{da.}} = 7.2 \text{ days}$$

$$\text{Block B} - 6 \times 100' = \frac{600'}{375'/\text{da.}} = 1.6 \text{ days}$$

Total estimated drilling time for Block A & B 10 days

Heap Leach Test \$ 7,500.

Support Structure - Geologist, Assistant,  
Sampler, assays, bulk sampling for leach  
tests, drill road, etc. 16,200.

Secured Storage Rental for Samples - 2 mos. 200.

Continued Geologic mapping & sampling 6,300.

TOTAL COST PHASE A \$50,000.

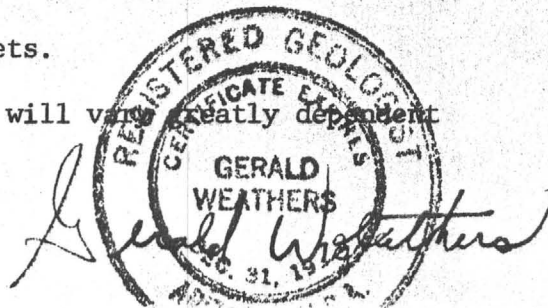
Estimated total time required for geology,  
sample preparation, assays, ore reserve  
calculation, etc. 2 months

The above outlined Phase A Program is designed to expand and confirm the measured ore reserves, which can then be classified as proven ore, as well as to establish the feasibility of heap leaching this gold ore based on the results of leach tests performed on bulk samples collected from the property.

PHASE B:

Phase B (assuming Phase A is successful) consists of the removal of a portion of the blocked out ore to a prepared leach pad, resolving the water source problem, construction of a pilot plant to leach the ore, continued expansion of the gold ore body toward the shaft, as well as eastward beyond DH #2 (Drill and surface samples are of ore grade), plus a continued geologic examination of the Charlotte Prospect to establish additional ore reserve targets.

The cost of the Phase B Program will vary greatly dependent upon the scope of the project planned.









# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

ARIZONA STATE OFFICE  
2400 VALLEY BANK CENTER  
PHOENIX, ARIZONA 85073

(602) 261-4774

IN REPLY REFER TO

3960 (943)  
A 10136  
Petition for  
Deferment

August 25, 1977

### DECISION

United Mining Company, Inc.  
Petitioner

Petition for Deferment  
A 10136

#### Temporary Deferment of Annual Assessment Work Granted

Pursuant to the Act of June 21, 1949 (63 Stat. 214; 30 U.S.C. 28b-c), on August 16, 1977, United Mining Company, Inc., the owner of unpatented lode and placer mining claims in the Pikes Peak Mining District, Maricopa County, Arizona, filed a petition through its president, Carl C. Triphahn, for temporary deferment of annual assessment work for the year ending September 1, 1977, at 12 noon, for the following listed claims:

<u>Name of Claim</u>	<u>Date of Location</u>	<u>Docket</u>	<u>Page</u>
<u>LODE MINING CLAIMS:</u>			
Charlotte No. 1	10/14/48	286	325-326
Charlotte No. 2	10/14/48	286	327-328
Charlotte No. 3	10/14/48	286	329-330
Charlotte No. 4	10/14/48	286	331-332
Charlotte No. 5	10/14/48	286	333-334
Charlotte No. 6	10/14/48	286	335-336
Charlotte No. 7	10/14/48	286	337-338
Charlotte No. 8	10/14/48	286	339-340
Charlotte No. 9	10/14/48	286	341, 342
Charlotte No. 10	4/22/56	1898	450
Charlotte No. 11	4/21/56	1898	451
Charlotte No. 12	4/21/56	1898	446
Charlotte No. 13	4/21/56	1898	443
Charlotte No. 14	3/29/56	3678	562
Charlotte No. 15	4/22/56	1898	447
Charlotte No. 21	4/22/56	1898	444
Charlotte No. 22	4/22/56	1898	445

2.

Plumber's Lode No. 1	4/16/60	3312	16
Plumber's Lode No. 2	4/16/60	3312	17
Plumber's Lode No. 3	4/16/60	3312	18
Plumber's Lode No. 4	4/16/60	3312	19
Plumber's Lode No. 5	4/16/60	3312	20
Plumber's Lode No. 6	4/16/60	3312	21
Plumber's Lode No. 7	4/16/60	3312	22
Plumber's Lode No. 8	4/16/60	3312	23
Plumber's Lode No. 9	4/16/60	3678	551
Plumber's Lode No. 10	4/16/60	3678	552
Plumber's Lode No. 12	4/16/60	3678	553
Plumber's Lode No. 13	4/16/60	3678	554
Plumber's Lode No. 14	4/16/60	3678	555
Plumber's Lode No. 15	4/16/60	3678	556
Plumber's Lode No. 16	4/16/60	3678	557
Plumber's Lode No. 17	4/16/60	3678	558
Plumber's Lode No. 18	4/16/60	3678	559
Plumber's Lode No. 19	4/16/60	3678	560
Plumber's Lode No. 20	4/16/60	3678	561
Sno White No. 1	4/11/58	2505	291
Sno White No. 2	4/11/58	2505	292
Sno White No. 3	4/11/58	2505	293
Sno White No. 4	4/11/58	2505	294
Sno White No. 5	4/11/58	2505	295
Sno White No. 6	4/11/58	2505	296
Sno White No. 7	4/11/58	2505	297
Sno White No. 8	4/11/58	2505	298
White Mt. No. 3	6/6/59	3225	597
White Mt. No. 4	6/6/59	3225	598
White Mt. No. 5	4/16/61	3676 (3678)	548
White Mt. No. 6	4/16/61	3678	549
White Mt. No. 7	4/16/61	3678	550
Tee Bone No. 1	5/2/60	3312	15
Tee Bone No. 2	4/16/61	3678	545
Tee Bone No. 3	4/16/61	3678	546
Tee Bone No. 4	4/16/61	3678	547

PLACER MINING CLAIMS:

Sno White No. 1	7/14/61	3782	437
Sno White No. 2	7/14/61	3782	438
Sno White No. 3	7/14/61	3782	439
Sno White No. 4	7/14/61	3782	440
Sno White No. 5	7/14/61	3782	441
Sno White No. 6	7/14/61	3782	442
Sno White No. 7	7/14/61	3782	443



3.

Sno White No. 8	7/14/61	3782	444
Sno White No. 9	7/14/61	3782	445
Sno White No. 10	11/18/62	4360	229
Sno White No. 11	11/13/62	4360	230
Sno White No. 12	7/14/61	3782	448
Sno White No. 13	7/14/61	3782	449
Sno White No. 14	11/18/62	4360	231
Sno White No. 15	11/18/62	4360	232
Sno White No. 16	7/14/61	3782	452
Sno White No. 17	7/14/61	3782	453
Sno White No. 18	7/14/61	3782	454
Sno White No. 19	7/14/61	3782	455
Sno White No. 20	7/14/61	3782	456
Sno White No. 21	7/14/61	3782	457
Sno White No. 22	7/14/61	3782	458
Sno White No. 23	7/14/61	3782	459

Said claims are situated in sections 9, 10, 11, 14, and 15, T. 5 N., R. 1 W., GSR Mer., Pikes Peak Mining District, Arizona.

The petitioner has been denied a right-of-way over and across the sole existing access road to said mining claims by reason of the fencing off of said road by the U.S. Bureau of Reclamation in connection with its fencing of a right-of-way for the Central Arizona Project. Negotiations are continuing and the matter is presently unresolved. There is no other available means of access to said mining claims or right-of-way over which the equipment necessary to perform the required assessment work can be transported.

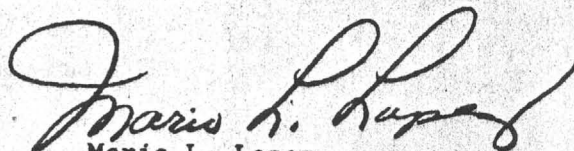
The requirements set out in 43 CFR 3852.2 have been met. Notice to the public was recorded August 16, 1977, in Docket 12378, Page 115, records of Maricopa County, Arizona.

The reasons given for requesting deferment are acceptable. Therefore, deferment of the annual assessment work on the above-described claims is hereby granted for a period of one year from September 1, 1977, for the assessment year of September 1, 1976 to September 1, 1977.

This deferment granted shall terminate automatically as of the date conditions preventing the assessment work from being done are removed.

All deferred assessment work may be performed at any time after termination of the deferment, or renewal thereof, but must be completed not later than the end of the first assessment year commencing after the termination of the deferment, and shall be in addition to the annual assessment work required by law for such latter year, see 43 CFR 3852.5.

4.  
Circular No. 2289, containing the regulations in 43 CFR Subpart 3852,  
is enclosed.



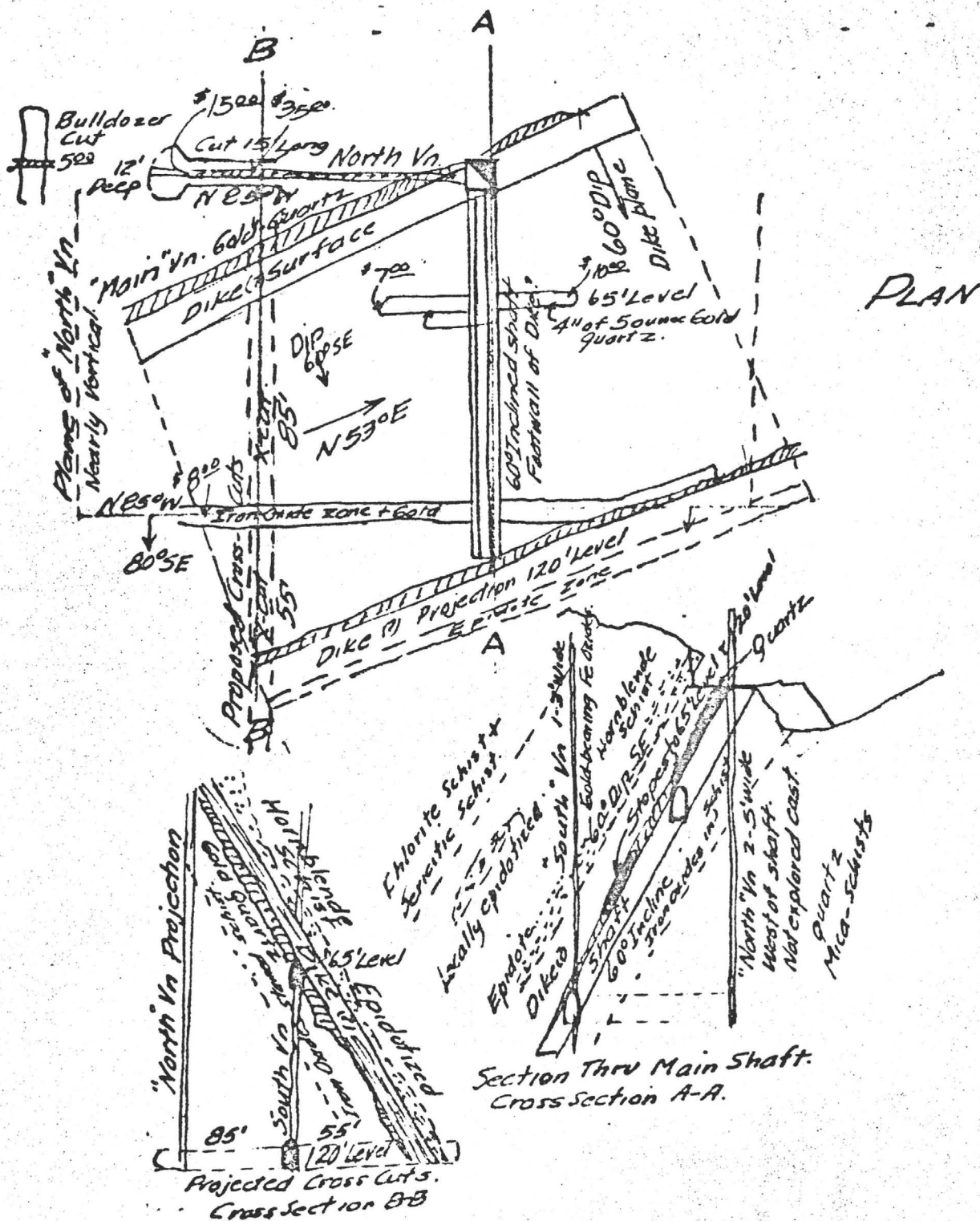
Mario L. Lopez  
Chief, Branch of Lands  
and Minerals Operations

Enclosure

In duplicate to:

Mr. Carl C. Triphahn  
United Mining Company, Inc.  
748 East Broadway  
Phoenix, Arizona 85040

# SKETCHES AND CROSS-SECTION AT 'MAIN' SHAFT AND PROPOSED CROSS-CUTS ON 120' LEVEL.





Mar. '78  
\$180/oz.

Sample No.	Description Location & Sample Length	Rock Type	Assay Data Cz./Ton	Data Value	Value
3095	Pit, "Saddle", chip sample, 3' long east face pit	Andesite and schist	.66 0.22	\$7.70	\$ 39.60
3096	Pit "Saddle" Sample of muck from pit	Quartz	0.64	\$ 22.40	115.20
3097	Pit 40, collar of inclined hole plus 45', E. wall, chip sample, 3' long across vein	Brecciated Andesite & Quartz	.40 0.30	\$19.50	54.00
3098	Pit 38, Channel sample, 12' long, floor of pit	"	.72 0.06	\$ 2.10	10.80
3099	Pit #36, Chip sample, 4' long	Brecciated Andesite & qtz. calcite vein	.32 0.08	\$ 2.40	14.40
3005	Pit 28 A, N. end of pit, channel sample, 6' long across dike, N 65°W	"	.06 0.01	\$ 0.35	1.80
3006	Pit 28A, 12' S of 3005 channel sample, 14' long across dike, N 40° E	"	.56 0.04	\$ 1.40	7.20
3007	Pit 28A, 8' S. of 3006 channel sample, 16' long across dike, N 45° E	"	1.28 0.08	\$2.80	14.40
3008	Pit 28A, 10' S of 3007 channel sample, 10' long across dike, N 55° E	"	1.0 0.10	\$3.50	18.00
3009	Pit 28A, 11' south of 3008 channel sample, 9' long across dike, N 40° E	"	5.4 0.60	\$21.00	108.00
3010	Pit 28A, 11' South of 3009 channel sample, 6' long across dike N 25° E	"	1.92 0.32	\$11.20	57.60
3011	Pit 31A, extends into wash, chip sample 27' long across structures, N 50° E, 30° NW; N 10° W, 37° NE; N 75° E, 48° NW	Brecciated Andesite & qtz.	0.12	\$4.20	21.60
3012	Pit, 21' N 65° E from 31A in bottom of wash, Channel sample, 4' long across dike N 55° E	"	16.06 0.16	TR	
3013	Pit, 60' S. of Pit #8, chip sample, 1.5' long across dike, N 55° E, N 33° E	"		TR	
Samples by C. Triphahn:					
3014	Shaft, 32 level at intersection of shaft & drift in back, 3' sample of vein	"	28.20	\$987.00	5,076.00

Sample No.	Description Location & Sample Length	Rock Type	Assay Data		Mar. '78
			Oz./Ton	Value	\$180/oz. Value
3095	Pit, "Saddle", chip sample, 3' long east face pit	Andesite and schist	0.22	\$7.70	\$ 39.60
3096	Pit "Saddle" Sample of muck from pit	Quartz	0.64	\$ 22.40	115.20
3097	Pit 40, collar of inclined hole plus 45', E. wall, chip sample, 3' long across vein	Brecciated Andesite & Quartz	0.30	\$12.50	54.00
3098	Pit 38, Channel sample, 12' long, floor of pit	"	0.06	\$ 2.10	10.80
3099	Pit #36, Chip sample, 4' long	Brecciated Andesite & qtz. calcite vein	0.08	\$ 2.80	14.40
3005	Pit 28 A, N. end of pit, channel sample, 6' long across dike, N 65°W	"	0.01	\$ 0.35	1.80
3006	Pit 28A, 12' S of 3005 channel sample, 14' long across dike, N 40° E	"	0.04	\$ 1.40	7.20
3007	Pit 28A, 8' S. of 3006 channel sample, 16' long across dike, N 45° E	"	0.08	\$2.80	14.40
3008	Pit 28A, 10' S of 3007 channel sample, 10' long across dike, N 55° E	"	0.10	\$3.50	18.00
3009	Pit 28A, 11' south of 3008 channel sample, 9' long across dike, N 40° E	"	0.60	\$21.00	108.00
3010	Pit 28A, 11' South of 3009 channel sample, 6' long across dike N 25° E	"	0.32	\$11.20	57.60
3011	Pit 31A, extends into wash, chip sample 27' long across structures, N 50° E, 30° NW; N 10° W, 37° NE; N 75° E, 48° NW	Brecciated Andesite & qtz.	0.12	\$4.20	21.60
3012	Pit, 21' N 65° E from 31A in bottom of wash, Channel sample, 4' long across dike N 55° E	"		TR	
3013	Pit, 60' S. of Pit #8, chip sample, 1.5' long across dike, N 55° E, N 33° E	"		TR	
Samples by C. Triphahn:					
3014	Shaft, 32 level at intersection of shaft & drift in back, 3' sample of vein	"	28.20	\$987.00	5,076.00



Drilled 5-6-73  
Vertical  
S End Trench  
(See Survey)

El - 1,680.9

DRILL HOLE CPDH NO. 3

CHARLOTTE PROSPECT - SEC. 10, T 5 N, R 1 W

MARICOPA COUNTY, ARIZONA

Driller - Jake Jacobsen  
2" Percussion, Casing 10'

SAMPLE NO.	DEPTH	ASSAY OZ./TON		Pb	FROM - TO	DESCRIPTION
		Au	Ag			
714	10-20'	.010	0.73		0 - 10'	Casing
715	20-30'	Tr.	0.70		10 - 25'	Pre-Cambrian Yavapai hornblende-mica schist, dark gray.
716	30-40'	.030	0.79			
717	40-50'	.023	0.70		25 - 40'	Andesite & schist, red; quartz, chlorite and red andesite fragments with grey schist fragments.
718	50-60'	.010	0.89			
719	60-70'	.304 .264	1.01 0.98		40 - 50'	Schist and minor andesite
720	70-80'	.116 .124	0.99 0.98	.20	50 - 80'	Andesite and minor schist. Red iron oxide prevalent 60'-70' interval. No minerals(Au) observed in washed cuttings.

Bottomed at 80 feet in cavity

LOGGED BY: Gerald Weathers





Drilled 5-8-73  
Vertical  
152' N of DH 3

E1. 1,672.8

DRILL HOLE CPDH NO. 5

CHARLOTTE PROSPECT - SEC. 10, T 5 N, R 1 W

MARICOPA COUNTY, ARIZONA

Driller: Jake Jacobsen

2" Percussion, Casing 10'

SAMPLE NO.	DEPTH	ASSAY OZ./TON		FROM - TO	DESCRIPTION
		Au	Ag		
	10-20'	.230	1.00	0 - 10'	Weathered schist and andesite.
	20-30'	.016	0.75	10 - 60'	Andesite, lt. red and gray, abundant quartz fragments and red iron oxide.
	30-40'	Tr.	0.76		
	40-50'	.005	0.62		
	50-60'	Tr.	0.66	60 - 135'	Yavapai schist, gray, abundant epidote.
	60-70'	Tr.	0.62		
	70-80'	.015	0.55	135-140'	Andesite, lt. red and gray.
	80-90'	Tr.	0.68	140-148'	Schist and andesite, lt. grayish, red
	90-100	Tr.	0.80		
	100-110	Tr.	0.70		
	110-120	Tr.	0.54		
	120-130	Tr.	0.56		Bottom of hole - 148 feet in cavernous ground.
	130-140	Tr.	0.74		
	140-148	Tr.	0.70		



LOGGED BY: Gerald Weathers



Drilled 5-9-73  
Vertical  
180 feet N of DH-3

E1 - 1,671.6

DRILL HOLE CPDH NO. 6

CHARLOTTE PROSPECT - SEC. 10, T 5 N, R 1 W

MARICOPA COUNTY, ARIZONA

Driller - Jake Jacobsen  
2" percussion, 10' casing

SAMPLE NO.	DEPTH	ASSAY OZ./TON		FROM - TO	DESCRIPTION
		Au	Ag		
	10-20'	Tr.	0.74	0 - 10'	Weathered schist and andesite, reddish-gray
	20-30'	Tr.	0.70		
	30-40'	Tr.	0.78	10 - 15'	Yavapai schist, lt. gray; minor red andesite & quartz
	40-50'	Tr.	0.68	15 - 65'	Andesite, red with abundant quartz fragments
	50-60'	Tr.	0.74	65 - 120'	Schist, lt. gray, minor andesite, abundant epidote
	60-70'	Tr.	0.68		
	70-80'	Tr.	0.70	120 - 125'	Andesite with quartz fragments, minor schist.
	80-90'	Tr.	0.70		
	90-100'	Tr.	0.64		
	100-110'	Tr.	0.70		
	110-120'	Tr.	0.68		
	120-125'	Tr.	0.68		

TOTAL DEPTH: 125 feet

LOGGED BY: Gerald Weathers



Drilled 5-10-73  
Vertical  
E. Side Trench  
(See Plat)

El. 1,671.6

DRILL HOLE CPDH NO. 7

CHARLOTTE PROSPECT - SEC. 10, T 5 N, R 1 W

MARICOPA COUNTY, ARIZONA

Driller: Jake Jacobsen  
2" Percussion, Casing 10'

SAMPLE DEPTH	ASSAY OZ./TON		FROM - TO	DESCRIPTION
	Au	Ag		
10-20'	Tr.	0.64	0 - 10	Overburden & schist
20-30'	.015	0.55	10- 35'	Andesite, red with white quartz fragments, and quartz veinlets, minor schist
30-40'	Tr.	0.70		
40-50'	Tr.	0.70		
50-60'	Tr.	0.54	35- 110'	Pre-Cambrian Yavapai schist, gray-green, abundant mica, hornblende and quartz. Minor andesite, abundant manganese 85-90'
60-70'	Tr.	0.62		
70-80'	Tr.	0.72		
80-90'	Tr.	0.68	110- 113'	Andesite, red, abundant quartz fragments and quartz veinlets.
90-100'	Tr.	0.82		
100-113'	Tr.	0.70		
				Bottom of hole at 113' in cavity

LOGGED BY: Gerald Weathers



Drilled 5-12-73  
Vertical  
E. of Trench  
(See Plat)

El. 1,658.6

DRILL HOLE CPDH NO. 8

CHARLOTTE PROSPECT - SEC. 10, T 5 N, R 1 W

MARICOPA COUNTY, ARIZONA

Driller: Jake Jacobsen  
2" Percussion, Casing 10'

SAMPLE DEPTH	ASSAY OZ./TON		FROM - TO	DESCRIPTION
	Au	Ag		
10-20'	Tr.	0.60	0 - 10'	Overburden
20-30'	Tr.	0.76	10- 65'	Andesite, Red with quartz fragments, minor schist
30-40'	Tr.	0.68		
40-50'	Tr.	0.68		
50-60'	Tr.	0.64	65-85'	Pre-Cambrian Yavapai schist, lt. gray, abundant chlorite and mica, minor andesite
60-70'	Tr.	0.60		
70-80'	Tr.	0.66		
80-90'	Tr.	0.62	85-95'	Andesite, red, as above described.
90-100'	Tr.	0.60		
100-110'	Tr.	0.72		
110-120'	Tr.	0.62		
120-130	Tr.	0.56	95-105'	Schist, as above.
130-140'	Tr.	0.60	105-115'	Andesite, as above.
140-150'	Tr.	0.66	115-135'	Schist, as above.
150-160'	Tr.	0.62	135-145'	Andesite, as above.
160-170'	Tr.	0.70	145-185'	Schist, as above.

CONTINUED ON PAGE 2



DRILL HOLE CPDH NO. 8

(CONTINUED)

PAGE 2

SAMPLE DEPTH	ASSAY OZ./TON		FROM - TO	DESCRIPTION
	Au	Ag		
170-180'	Tr.	0.68	185-232'	Andesite, lt. red, abundant quartz as fragments and veinlets.
180-190'	Tr.	0.64		
190-200'	.005	0.56		
200-210'	.018	0.60		
220-232'	Tr.	0.66		Bottom of Hole at 232'

LOGGED BY: Gerald Weathers



Drilled 5-13-73  
100' E of Trench  
(See Plat)

El. 1,658.1

DRILL HOLE CPDH NO. 9

CHARLOTTE PROSPECT - SEC. 10, T 5 N, R 1 W

MARICOPA COUNTY, ARIZONA

Driller: Jake Jacobsen

2" Percussion, Casing 10'

SAMPLE DEPTH	ASSAY OZ./TON		FROM - TO	DESCRIPTION
	Au	Ag		
10-20'	Tr.	0.54	0 - 10'	Overburden and weathered schist
20-30'	Tr.	0.50	10- 30'	Andesite, Lt. Red, abundant quartz & mica
30-40'	Tr.	0.58		
40-50'	Tr.	0.56		
50-60'	Tr.	0.56	30- 45'	Pre-Cambrian Yavapai schist, lt. gray, abundant hornblende, mica & quartz. Minor andesite.
60-70'	Tr.	0.60		
70-80'	Nil	0.60	45 -75'	Andesite as above.
80-90'	Tr.	0.50	75- 80'	Schist as above.
90-100'	.015	0.73		
100-110'	Tr.	0.56	80-165'	Andesite, lt. red, abundant iron oxide stained fragments. Qtz. and amethyst at 150'
110-120'	.005	0.46		
120-130'	.005	0.68		
130-140'	Tr.	0.62		
140-150'	Tr.	0.58		
150-160'	Tr.	0.64		
160-170				
170-175	.005	0.64		
180-190	Tr.	0.60		



(CONTINUED)

SAMPLE DEPTH	ASSAY OZ./TON		FROM - TO	DESCRIPTION
	Au	Ag		
190-200'	.008	0.60	165-220'	Schist, as above.
200--210'	Tr.	0.54	220-230'	Andesite, as above.
210-220'	Tr.	0.58		
220-230'	.005	0.54		

TOTALDEPTH 230 feet

LOGGED BY: Gerald Weathers



Charlotte Prospect  
Maricopa Co., Az.  
Location: Adjacent to  
Percussion Hole No. 3  
(See Plat A)  
Direction: Vertical  
Elevation: 1,680.9

LESSEE - COPPER LAKE EXPLORATION  
Vancouver, B. C.

CHARLOTTE DIAMOND DRILL HOLE NO. 1

Driller: Boyles Bros.  
Size N.C. (2.4" I.D.)  
Casing: 10' Left in Hole  
Start: 6-14-73  
Finish: 6-27-73, T.D. 170'  
Logged by: G. Weathers

RUNS						DESCRIPTION			ASSAYS				
From	To	Rec	%	From	To		From	To	Au (1)*(2)*	Ag (1)*(2)*	Cu (2)*	Zn (2)*	
8'	10'	1.1	55	0	8	Overburden & weathered schist.	10	20	Tr.	Tr.			
10	12	2.0	100	8	49	Pre-Cambrian Yavapai hornblende-mica-qtz	20	30	Tr.	.04			
12	22	9.3	93			Schist, Lt. gray, w/red iron oxide stained	30	40	Tr.	.01			
22	27	5.0	100			laminae parallel to schistosity and long	40	50	.006	.08			
27	32	5.0	100			axis of core (vertical)	50	60	.029	.12			
32	37	5.0	100				60	70	.24	.25			
37	40	2.5	83			16' Thin iron oxide stained qtz. veins 20° to	70	80	.035	.20			
40	44	3.8	96			core.	80	90	.043	.08			
44	49	4.9	97			Bright red hematite spots throughout core.	90	100	.024	.1			
49	53	4.4	110 ?			Core is blocky, resealed w/qtz. along	103	110	.018	.72	.04	.06	
53	58	4.1	82			fracture planes.	100	110	.014	.03			
58	64	4.3	72			44', 49', 50.3' Fault	110	120	Tr.	.01	.73	.04	
64	72	7.4	93			Qtz. sealed fractures 50° to core.	120	130	.01	.67	.03		
72	76.5	3.3	74				130	140	Tr.	.70	.02		
76.5	81.5	4.9	98			46' Core becoming porous with abundant hematite	140	150	Tr.	.50	.05		
81.5	91	7.8	82			& manganese seams	150	160	.005	.64	.04		
91	96.5	5.0	91	49.5-91		Altered red rhyolite breccia alternating w/							
96.5	100	4.0	114			schist, abundant qtz-calcite-manganese (Pyrolusite)							
100	105	5.3	106			lenses 50° to core, core is broken, faulted, &							
105	110	4.0	80			resealed, highly oxidized, open fractures &							
110	113	3.9	130			very porous, abundant vugs lined w/qtz. xtals.							
113	117	3.2	80			51.2-52 Qtz.-calcite vein	160	170	.005	.64	.04	.06	
117	122	5.0	100			53-57 Porous qtz.-calcite vein							
122	127	4.6	93			64.5-65.5 " " " "							
127	132	5.0	100			67.5-68.0 Manganese (pyrolusite) vein							
132	135	3	100			69 Amethystine qtz. vein							
135	138	2.9	97			70-70.7 Qtz.-Calcite vein-qtz. crystals							
138	142	3.8	96			lining open cavities							
142	147	4.6	92			73.4 Limonite & hematite spots with very fine							
147	150	2.8	93			Au particles.							
150	155	4.7	93			74.7-75.4 Qtz.-Calcite vein, qtz. crystals							
155	160	4.9	98			in open solution cavities							
160	165	5.0	100			78.5-78.8 Qtz.-calcite vein							
165	170	5.0	100			84 - 84.2 Qtz. vein, contacts 40° to core,							
						abundant iron oxide spots (Hematite &							
						Limonite)							

? Mismeasurement

- \* 1. Assays received via phone,
- Copper Lake Exploration.
- \* 2. Iron King Assayer, Humboldt, Az.

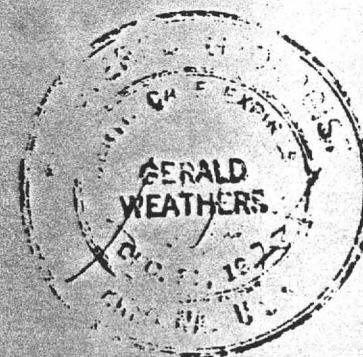


CHARLOTTE DIAMOND DRILL HOLE NO. I (Continued)

## DESCRIPTION

- 91-127.5 Pre-Cambrian Yavapai qtz-mica schist, lt. gray, Very fine texture, schistosity  $85^{\circ}$  to core, stained red w/iron oxide along qtz filled fracture planes.
- 93-93.2 Qtz vein and iron oxide.
- 95-95.2 Qtz vein, iron oxide and manganese (pyrolusite) along  $35^{\circ}$  fracture plane.
- 100- Vein
- 109 Oxidized vein
- 110 Fault, oxidized and vein
- 111.5-112' " " "
- 113 " " "
- 117 " " "
- Biotite in schist is altered to phlogophite. Disseminated pyrite and chalcopyrite(?) - very sparse.
- 120 Malachite along schistose planes.
- 127.5 Fault breccia, highly oxidized, red clay cementing breccia fragments. Fault planes  $60^{\circ}$  to core, slickensides vertical to core in clay seams. Iron oxide stained fracture planes.
- 142-147 Schist rubble
- 147-157 Pyrite elongated along schist planes
- 157-165 Rubble and clay
- 165-168 Blocky biotite schist orthoclase invading schist, abundant phlogophite, minor pyrite and chalco(?)
- 168-170 Schist rubble and clay qtz filled cavities.

Total depth at 170'. 10:00 A.M. 6-27-73. 10' casing left in collar of hole.





Drilled - 5-3,4-73  
N 55° W - 50°  
32.7' S 45° W from shaft  
thence 30° S. 55° E to  
Hole (See Plat)

DRILL HOLE CPDH NO. 1

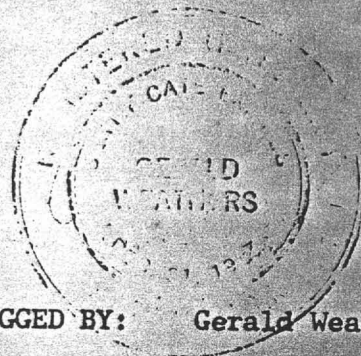
CHARLOTTE PROSPECT - SEC. 10, T 5 N, R 1 W

MARICOPA COUNTY, ARIZONA

Driller: Jake Jacobsen  
2" Percussion Drill Hole  
Casing: 30'

El. 1,743.6'

SAMPLE NO.	DEPTH	ASSAY OZ./TON		FROM-TO	DESCRIPTION
		Au	Ag (- .5)		
677A	10-20'	Tr.	0.94 .47	0 - 10	Overburden & loose weathered schist
679A	20-30'	.01	0.67	10 - 20	Pre-Cambrian Yavapai schist & quartz fragments occasional chlorite & yellow mineral (embolite?)
681 A	30-40'	.04	0.74	20-75	Anesite, red, abundant, iron oxide & quartz green-yellow fragments (embolite?)
683A	40-50'	.045	0.68	75 - 93	Andesite, dark red, decreasing iron oxide.
685A	50-60'	.050	0.81		
687A	60-70'	.044	0.58		
689A	70-80'	.018	0.58		Bottomed at 93 feet in cavity.
692	80-93	Tr.	0.70		



LOGGED BY: Gerald Weathers



Drilled 5-7-73  
Vertical  
90' N of DH -3  
(See Plat)

E1 - 1,672.8

DRILL HOLE CPDH NO. 4

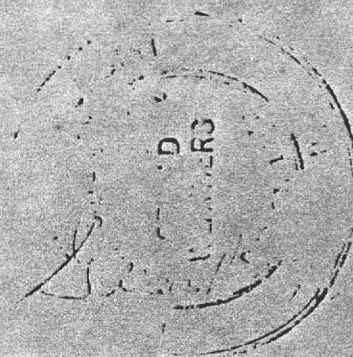
CHARLOTTE PROSPECT - SEC. 10, T 5 N, R 1 W

MARICOPA COUNTY, ARIZONA

Driller - Jake Jacobsen  
2" Percussion, Casing 10'

SAMPLE NO.	DEPTH	ASSAY OZ./TON		FROM - TO	DESCRIPTION
		Au	Ag		
	10-20'	.040	1.04	0' - 10'	Weathered schist & andesite.
	20-30'	.070	0.87	10 - 30'	Andesite, Lt. red, mixed with schist fragments, abundant quartz and manganese
	30-40'	.084	0.99		
	40-50'	.020	0.74		
	50-60'	.005	0.74	30 - 35'	Yavapai schist, dark gray, abundant manganese and minor andesite.
	60-70'	.005	0.72		
	70-75'	.005	0.55	35 - 75'	Andesite, lt. red, abundant quartz fragments.

Hole bottomed in cavernous ground at 75'



LOGGED BY: Gerald Weathers



Drilled - 5-3,4-73  
N 55° W - 50°  
32.7' S 45° W from shaft  
thence 30' S. 55° E to  
Hole (See Plat)

DRILL HOLE CPDH NO. 1

CHARLOTTE PROSPECT - SEC. 10, T 5 N, R 1 W

MARICOPA COUNTY, ARIZONA

Driller: Jake Jacobsen  
2" Percussion Drill Hole  
Casing: 30'

El. 1,743.6'

SAMPLE NO.	DEPTH	ASSAY OZ./TON		FROM-TO	DESCRIPTION
		Au	Ag (- .5)		
677A	10-20'	Tr.	0.94 .44	0 - 10	Overburden & loose weathered schist
679A	20-30'	.01	0.67	10 - 20	Pre-Cambrian Yavapai schist & quartz fragments occasional chlorite & yellow mineral (embolite?)
681 A	30-40'	.04	0.74	20-75	Andesite, red, abundant, iron oxide & quartz green-yellow fragments (embolite?)
683A	40-50'	.045	0.68	75 - 93	Andesite, dark red, decreasing iron oxide.  Bottomed at 93 feet in cavity.
685A	50-60'	.050	0.81		
687A	60-70'	.044	0.58		
689A	70-80'	.018	0.58		
692	80-93	Tr.	0.70		

LOGGED BY: Gerald Weathers



Drilled - 5-5-73  
Vertical  
16' E of Shaft thence  
45' S. 55° E.  
(See Plat)

DRILL HOLE CPDH No. 2

CHARLOTTE PROSPECT - SEC. 10, T 5 N, R 1 W

MARICOPA COUNTY, ARIZONA

Driller - Jake Jacobsen  
2" Percussion, Casing 10'

E1 - 1,736.0

SAMPLE NO.	DEPTH	ASSAY OZ./TON		FROM - TO	DESCRIPTION
		Au	Ag		
703	10-20'	.005	0.74	0 - 10'	Overburden & schist
704	20-30'	.015	0.59	10 - 35'	Pre-Cambrian, Yavapai hornblende-quartz mica schist, Lt. grey.
705	30-40'	.020	0.72	35 - 50'	Andesite & quartz, red iron oxide stained
706	40-50'	.005	0.60	50 - 95'	Schist as above. (Est. 75%) 25% red andesite
707	50-60'	Tr.	0.62	95 - 117'	Andesite & quartz, abundant red iron oxide, very soft
708	60-70'	Tr.	0.64		
709	70-80'	.008	0.64	Cavernous	Host rock
710	80-90'	Tr.	0.70		Bottomed at 117 feet in a cavity
711	90-100'	.022	0.72		
712	100-110'	.030	0.67		
713	110-117'	.040	0.66		

LOGGED BY: Gerald Weathers





**EXHIBIT "B"**  
**PROGRESS REPORT NO. 4 - WHITE PEAK GOLD PROSPECT**

For Period March 1 - 15, 1961

**I. SURFACE MAPPING AND SAMPLING PROGRESS:**

The field mapping and sampling of the principal dike system has been completed. From the information gained, a Geologic, claim, and assay base map has been prepared. Presently, cross sections and down-dip projections of intersecting gold bearing structures are being drawn. These drawings, as well as assay data, will be used to determine target areas for further exploration and development in addition or modification to that proposed.

**II. SAMPLE RESULTS:**

Sample No.	Description Location & Sample Length	Rock Type	Assay Data		March '78 \$180/oz. Value
			Oz./Ton	Value	
3085	Pit #9, W Wall at portal, chip sample, 3' long, across dike, N 85° W 50° SW	Brecciated Andesite	0.02	\$ 0.70	\$ 3.60
3086	Pit #9, E Wall, south end, chip sample, 2' long across dike, N 30° E, 85° NW	"		TR	
3087	Pit No. 10, N. end of pit, chip sample, 2' long across dike; N 60° E, 53° SE	"	0.02	\$ 0.70	3.60
3088	Pit, 100' SE of R.P., Channel sample, 6' long across bottom of pit, dikes N 50° W 28° SW and N 45° 55° SE	"		TR	
3089	Pit 22, near shaft, chip sample, 2.6' long across dike N 80° E 85° SE	"	0.12	\$ 4.20	21.60
3090	Pit, immediately SW of shaft. Dike strikes into shaft trends N 49° E 55° SE - Channel 16' long	Brecciated Andesite with coarse grained qtz & calcite stringers	0.08	\$ 2.50	14.40
3091	Pit #25, chip sample 4' long across dike N 45° E 54° SE	"		TR	
3092	Pit #33A, extends into wash channel, 24' long across dike N 45° E 33° SE	"		TR	
3093	Pit #26B, chip sample 2.5' long across dike N 20° W 43° SW	"		TR	
3094	Pit #26C, chip sample 21.5' across dike at intersection w/ another dike	Brecciated Andesite and siderite	0.12	\$ 4.20	21.60

45.1

45.1

4.27 0.095



GERALD WEATHERS  
REGISTERED - CONSULTING GEOLOGIST  
3928 EAST MEADOWBROOK AVE.  
PHOENIX 18, ARIZONA

602-955-3590  
~~GREENWOOD 4-0705~~

MINING  
GROUND-WATER  
ENGINEERING GEOLOGIST

May 23, 1973

CHARLOTTE PROSPECT

SUMMARY OF SAMPLE ASSAYS FROM  
DRILL HOLES 3, 4 & 5, A DISTANCE NORTHERLY OF 152 FEET  
VALUES BASED ON \$110.8/OZ. Au AND \$2.50/OZ. Ag

DH - 3

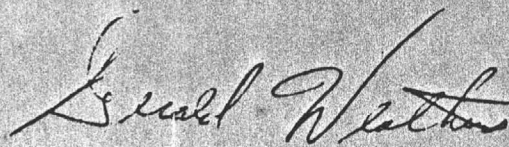
<u>DEPTH</u>	<u>Au</u>	<u>Ag</u>	<u>VALUE</u>	
30-40'	3.32	1.98	5.30	
40-50'	2.55	1.75	4.30	
50-60'	1.10	2.23	3.33	
60-70'	33.68	2.53	36.21	
70-80	13.73	2.45	16.18	\$65.32 or \$13.06/ton

DH-4

10-20'	4.43	2.60	7.03	
20-30'	7.76	2.17	9.93	
30-40'	9.31	2.48	11.79	\$ 28.75 or \$9.58/ton

DH -5

10-20	25.48	2.50	27.98	
20-30	1.99	1.88	3.87	\$31.85 or \$15.92/ton

  
Gerald Weathers

PROGRESS REPORT

COPPER LAKE'S CHARLOTTE GOLD-SILVER-COPPER PROSPECT

MARICOPA COUNTY, ARIZONA

*Triphahn Family,  
owners*

*N.W. of Phoenix*

From Information Provided By Gerald Weathers

July 15, 1978

*Otto Rintzner*

*Valley Hb Room 148*

## PROGRESS REPORT

### COPPER LAKE'S CHARLOTTE GOLD-SILVER-COPPER PROSPECT

#### MARICOPA COUNTY, ARIZONA

### INTRODUCTION

The Charlotte Prospect Geological Report was submitted May, 1972 in which a Phase I exploration program was recommended. Phase I, a drilling program, was designed to probe a structural zone to shallow depths over a strike length of 1,700 feet and width of 200', but concentrating in an area bounded by a shaft to the west and a large trench to the east. High grade gold-silver ore pockets had been mined from the shaft, and assays of bulk samples from the trench ranged from .08 to .13 oz. Au/ton.

### CONCLUSIONS

A portion of the Phase I exploration program has been completed and assays of surface, trench and drill hole samples compared. There is a large variance between these assays as illustrated in this report; often the bulk sample assays are 10 times greater than adjacent percussion drill hole sample assays. Evaluations of grades based on drill samples are subject to error due to sample loss, the small segment of mineralized ground probed by the drill and lack of correlation between assayed samples collected from various exploration methods. Also, the assays in the .01 - .1 oz. Au/ton range are approaching the accuracy limits of the fire assay technique.



Measured reserves, based primarily on percussion drill hole sample results, are 112,500 tons .06 oz. Au, 13 oz. Ag/ton. Indicated reserves are 594,700 tons, in which the grade has not been calculated due to insufficient information; however, it is assumed the grade will be comparable to the measured reserves. Inferred reserves are 5,000,000 tons.

According to recent reports, .06 oz. Au/ton is regarded as ore grade in open pit gold mines.

Bulk samples from the dumps and trench face have been submitted for heap leach tests. (The trench face sample assays 0.18 oz. Au and .40 oz. Ag/ton. See Exhibit H.)

Boyles Bros. Drilling Co. is drilling the third diamond drill hole. The hole is located in a valley south of the shaft and is designed to probe the projected structure at depth.

The Heinrich Geophysical Company has contracted to run an I.P. survey over the property in an effort to delineate an anomaly which may represent an underlying copper sulfide ore body related to the copper bearing surface outcrops.

#### RECOMMENDATIONS

It is strongly recommended that the large trench be extended and deepened to the southwest to test the subsurface probed by Drill Hole 3 and Core Hole 1. (Refer to Fig. VI). Bulk samples of the material should be taken for assay and beneficiation tests. The remainder of the material removed should be stockpiled for a possible pilot plant ore source.

It is also recommended that splits of the pulps from the bulk samples be submitted to various selected assay laboratories for comparative sample assay

results. The assays should be compared with drill sample assays, representing the same material, to develop a dependable factor for ore reserve evaluation based on drill sample assays.

After satisfactory completion of the bulk sampling program, it is recommended the indicated reserve area be drilled on a grid pattern.

#### GOLD-SILVER PROSPECTING PHASE

##### PERCUSSION DRILL HOLES

Thirty-two 2" diameter percussion holes totalling 4,228 feet were drilled into the mineralized structure to depths ranging from 80 to 230 feet. (Refer to Fig. VI, Charlotte Plan Map showing drill hole locations). Drill cutting samples were collected at 10 foot intervals and submitted to the Iron King Laboratories for sample preparation and fire assay for gold and silver. Check samples were submitted to the Rocky Mountain Geochemical Laboratories for assay by atomic absorption methods. The gold assays are in close agreement; the silver assays are not. (Refer to Exhibit G - Assay Certificates). Sample rejects and pulps are stored for future reference.

The sample collecting device on this drill was crude resulting in a large proportion of fine cuttings loss and also the percussion drill was unable to probe to the desired depths due to the cavernous, broken subsurface rock conditions. Either no cuttings were returned from the bottom hole depths or the rods were seized in the soft, faulted ground.

##### DIAMOND CORE DRILL HOLES

Because of the difficulty in collecting complete samples from percussion drilling, a diamond drilling program was initiated in an attempt to check the percussion drill holes and also to probe the structure at depth.



Diamond Core Drill Hole No. 1 was drilled vertically adjacent to Percussion Drill Hole No. 3 using a N.C. face discharge bit (2.4" core diameter). The hole was stopped at a depth of 170 feet, passing through the cavity encountered at 80 feet in Percussion Drill Hole No. 3. The diamond drill hole was drilled without return circulation due to the cavernous, faulted, permeable subsurface rock condition.

Diamond Core Drill Hole No. 2 was drilled near percussion Drill Hole No. 25, using an N.X. face discharge bit (1.78" core size). Abundant use of drill mud and additives resulted in a return circulation permitting collection of sludge samples.

Core recovery ranged from 100% in unbroken ground to 37% in the mineralized, faulted, brecciated structure.

Diamond Drill Hole No. 3 is being drilled 550 feet southwest of the shaft and is designed to probe the projected structure 440 feet below the surface.

#### SAMPLE ASSAY COMPARISONS

##### DIAMOND CORE DRILL NO. 1 WITH PERCUSSION DRILL HOLE 3:

Assays of split core samples from Diamond Drill Hole No. 1 are not complete; information will be submitted upon receipt of this information.

##### DIAMOND CORE DRILL NO. 2 WITH PERCUSSION HOLE NO. 25:

Diamond Drill Hole No. 2 split core sample assays, sludge sample assays and No. 25 Percussion Drill Cutting Sample assays are tabulated below:

<u>Internal</u>	<u>Core</u>		<u>Sludge</u>		<u>Percussion</u>	
	<u>Au</u>	<u>Ag</u>	<u>Au</u>	<u>Ag</u>	<u>Au</u>	<u>Ag</u>
20-30'	.01	.22			Tr.	0.0
30-40'	Tr.	.26			.01	0.0
40-50'	Tr.	.20			.025	0.18
50-60'	.01	.14			.020	0.00
60-70'	.04	.16			.015	0.17
70-80'	.02	.26			.125	0.48
80-90'	.02	.10	.005	.24	.03	0.27
90-100'	0.20	0.50	.03	.27	.02	0.28
100-110'	0.01	0.24				
100-104'			.05	.21	.07	0.15
104-110'			.038	.12		
110-120'	0.01	0.23	.035	.32	.04	0.12
120-130'	0.012	0.37			.038	0.14
133-142'			.02	.37		
130-140'	.005	0.14			.007	0.04

The sludge sample assays approximate the percussion sample assays, otherwise there is little correlation between assays of samples from corresponding intervals.

PERCUSSION HOLE NO. 3 WITH TRENCH MUCK SAMPLES:

Assays of Percussion Drill Hole No. 3 samples from 20 feet to 80 feet in depth averaged .08 oz. Au/ton and .2 to .4 oz. Ag/ton. 10 foot interval sample cuttings from 10 to 30 feet assayed .01 and a trace of gold; however, a 50 lb. sample from the trench face 18 feet to 24-1/2 feet below the surface adjacent to



the drill hole assayed 0.18 oz. Au/ton and 0.40 oz. Ag/ton (Refer to Exhibit H). This sample was submitted to the U. S. Bureau of Mines for leach tests. Muck samples from the south end of the trench have assayed in excess of 0.1 oz. Au/ton.

This comparison suggests the percussion sample assays may represent one tenth the actual gold content of the rock.

#### COMPARISON OF CORE DRILL HOLE SAMPLE ASSAY WITH A FACE SAMPLE ASSAY FROM THE SHAFT WORKINGS:

A drift was extended westward on the 120 level of the shaft, by former operators, to intersect an interval in a diamond core drill hole that assayed 0.02 oz. Au/ton. A 4.9' sample across the face of the drift at the drill hole intersection assayed 0.26 oz. Au/ton. (Refer to Fig. IV - Plan and Assay Map of Charlotte Mine). This comparison indicates the drill hole sample assay to be one-tenth the actual gold content in the rock.

#### ORE GRADE ESTIMATE

According to verbal reports, ore grades of open pit gold mines are in the .06 oz. Au/ton range, wherein fine gold-silver particles can be recovered using the heap leach method.

The Charlotte Prospect is mineralized with very fine free gold particles, thus the ore should be amenable to this method of recovery.

#### MINING COST ESTIMATE

The apparent dip of the top of mineralized zone from the surface southward though Holes 6-3 is 5°. (Refer to Fig. VI). A contractor has bid 17¢/ton to mine this zone.

### LEACH TEST SAMPLES

Three bulk samples totalling 158 lbs. have been submitted to the U. S. Bureau of Mines for heap leach testing for recoverable gold and silver. Sample No. 1 was taken from the shaft dump from which samples assayed 0.14 Au; Sample No. 2 was taken from the trench muck pile from which samples assayed .08 Au, and Sample No. 3 was taken from the trench face, assaying 0.18 Au and 0.40 Ag. (Refer to Exhibit H.)

### RESERVES

The reserves to date are based primarily on percussion sample assays subject to correcting pending receipt of more accurate assay data.

### MEASURED RESERVES

(From dimensions revealed by drill holes and surface outcrops. Grades are weighed averages).

#### BLOCK A:

200' x 100' x 45' thick. Assuming 12 cubic feet/ton in place = 75,000 tons @ 0.06 oz. Au/ton. .2 - .15 oz. Ag/ton.

#### BLOCK B:

A right triangle contiguous to Block A,  $\frac{200' \times 100' \times 45'}{2}$  = 12 ft. <sup>3</sup>/ton = 37,500 tons @ 0.07 oz. Au/ton. <sup>2</sup>.2 - .5 oz Ag/ton. Total measured reserves = 112,500 tons. .06 oz. Au, .3 oz. Ag/ton. (Refer to Fig. VI - Reserves, Charlotte Mine).



### INDICATED RESERVES

(Based on Drill Hole Information and Geologic Projections)

The southernmost line of percussion drill holes encountered the mineralized structure immediately below the surface 150 feet south of the structure outcrops. (Refer to Fig. VI).

Grade determinations have been omitted due to the lack of sufficient drill holes in this block and discrepancy in assays; however, it is assumed the grade will be comparable to the grade of Blocks A and B.

#### BLOCK C:

$860' \times 150' \times 50' \text{ thick} \div 12 \text{ ft.}^3 \text{ in place (assumed) = 537,500 tons.}$

(Refer to Fig. VI).

#### BLOCK D:

$1/2(250 \times 100) \times 50 \div 12 = 52,000 \text{ tons.}$

#### BLOCK E:

$1/2(50 \times 50) \times 50 \div 12 = 5,200 \text{ tons.}$

TOTAL = 594,700 tons.

### INFERRED RESERVES

(Based on shaft, pits, trench, and outcrop sample assays, plus structural projections - Refer to Fig. V - United Mines Geologic and Gold Assay Map of a Portion of Charlotte Prospect).

The mineralized structure has been traced intermittently along its strike for 4,000 feet, and contains gold values to the bottom or 120 level of the shaft.

Assuming an average width of 200 feet and omitting the 1,000 feet of structure in Blocks A, B, C, D, and E.

#### BLOCK F:

$3,000' \times 200 \times 100 \text{ feet deep} \div 12 \text{ ft.}^3/\text{ton} = 5,000,000 \text{ tons.}$

### COPPER POTENTIAL

Copper oxides occur in small pits on the western portion of the prospect and as oxides and sulfides near the bottom of Diamond Core Drill Hole No. 1.

It is possible that copper sulfides occur at depth, but not necessarily directly below the presently drilled area.

A bid of \$4,000 has been received from Heinrich Geoexploration Co. to run "8 to 10 lines along 4,000' of strike, across a 200' wide structural zone, of induced polarization surveys and interpretations at roughly 500 feet of depth according to good technical and economic practice in the industry."

The contract has been submitted with this report.

Gerald Weathers

July 15, 1973



# CHARLOTTE GOLD-SILVER PROSPECT

## MEASURED RESERVES

### BLOCK A:

	<u>Width</u>		<u>Length</u>		<u>Depth</u>		<u>Density</u>	<u>Au(.06/ton)</u>	<u>Ag(.15/ton)</u>
(1)	200	x	100	x	45	÷	12 ft <sup>3</sup> /ton	4,500 oz.	11,250 oz.
(2)	200	x	100	x	90	÷	12 ft <sup>3</sup> /ton	9,000 oz.	22,500 oz.
(3)	200	x	100	x	135	÷	12 ft <sup>3</sup> /ton	13,500 oz.	33,750 oz.
(4)	200	x	100	x	180	÷	12 ft <sup>3</sup> /ton	18,000 oz.	45,000 oz.

Based on Current Prices of Au @ \$400/oz. & Au @ \$11.00/oz.:

(1)	4,500 oz.	x	\$400/oz.	=	\$1.9 Million Au	11,250	x	11	=	\$123,750 Ag
(2)	9,000 oz.	x	\$400/oz.	=	\$3.6 Million Au	22,500	x	11	=	\$247,500 Ag
(3)	13,500 oz.	x	\$400/oz.	=	\$5.4 Million Au	33,750	x	11	=	\$371,250 Ag
(4)	18,000 oz.	x	\$400/oz.	=	\$7.2 Million Au	45,000	x	11	=	\$495,000 Ag

### BLOCK B:

Area = 1/2(200 x 100) = 10,000 S.F.

	<u>Area</u>	x	<u>Depth</u>	÷	<u>Density</u>	=	<u>Tons of ore</u>	x	(.07oz/ton)Au	x	(.3oz/ton)Ag
(1)	10,000	x	45	÷	12 ft <sup>3</sup> /ton	=	37,500	x	.07	=	2,625 oz (x.3) = 11,255 oz
(2)	10,000	x	90	÷	12 ft <sup>3</sup> /ton	=	75,000	x	.07	=	5,250 oz (x.3) = 22,500 oz
(3)	10,000	x	135	÷	12 ft <sup>3</sup> /ton	=	112,500	x	.07	=	7,875 oz (x.3) = 33,750 oz
(4)	10,000	x	180	÷	12 ft <sup>3</sup> /ton	=	150,000	x	.07	=	10,500 oz (x.3) = 45,000 oz

CHARLOTTE GOLD-SILVER PROSPECT

MEASURED RESERVES (Continued)

BLOCK B: (Continued)

	@ \$400/oz. Au	& \$11/oz. Ag
(1)	2,625 x 400 = \$1,050,000	11,250 x 11 = \$123,750
(2)	5,250 x 400 = \$2,100,000	22,500 x 11 = \$247,500
(3)	7,875 x 400 = \$3,150,000	33,750 x 11 = \$371,250
(4)	10,500 x 400 = \$4,200,000	45,000 x 11 = \$495,000



INDICATED RESERVES

---

BLOCK G:

$$860' \times 150' \times 200' \text{ thick} \div 12 \text{ ft.}^3/\text{ton} = 2,150,000 \text{ tons.}$$

BLOCK D:

$$1/2(250 \times 100) \times 200 \div 12 = 208,334 \text{ tons.}$$

BLOCK E:

$$1/2(50 \times 50) \times 200 \div 12 = 20,834 \text{ tons}$$

$$\text{TOTAL} = 2,379,167 \text{ tons}$$

Assuming ore grade is same as A

$$2,379,167 \text{ tons} \times .06 \text{ oz/ton Au} = 142,750 \text{ oz. Au}$$

$$2,379,167 \text{ tons} \times .15 \text{ oz/ton Ag} = 356,875 \text{ oz. Ag}$$

Assuming \$400/oz Au & \$11/oz Ag

$$142,750 \times 400 = \underline{\$57,100,000 \text{ Au}}$$

$$356,875 \times 11 = \underline{\$3,925,625 \text{ Ag}}$$

## INFERRED RESERVES

### BLOCK F:

$$3000' \times 200' \times 150 \text{ feet deep} \div 12 = 7,500,000 \text{ tons}$$

Assuming ore grade is constant @ .06 & .15

$$7,500,000 \text{ tons} \times .06 \text{ oz/ton Au} = 450,000 \text{ oz. Au}$$

$$7,500,000 \text{ tons} \times .15 \text{ oz/ton Ag} = 1,125,000 \text{ oz. Ag}$$

Assuming \$400/oz. Au & \$11/oz. Ag

$$450,000 \times 400 = \underline{\$180,000,000} \text{ Au}$$

$$1,125,000 \times 11 = \underline{\$12,375,000} \text{ Ag}$$



## SUMMARY

At this point, using outmoded collection methods and insufficient test depths, it is not certifiable how much ore can be mined or at what grade the ore will assay. However, based on an extrapolation of the existing data plus a minor increase in production which was assumed to acknowledge current technology, the following yield is possible:

Total ore tonnage: 10,329,168

Total mineral yield:

Au @ .06 oz/ton = 619,750.1 oz. Au

Ag @ .15 oz/ton = 1,549,375.2 oz. Ag

Total mineral value (Au & Ag only):

619,750.1 x \$400/oz. = \$247,900,032 Au

1,549,375.2 x \$ 11/oz. = \$17,043,127.2 Ag

TOTAL VALUE = \$264,943,159.2

# Arizona Testing Laboratories

815 West Madison • Phoenix, Arizona 85007 • Telephone 254-6181

For: Isbell & Pritchard  
Development Corporation  
4812 East Berneil Drive  
Paradise Valley, AZ, 85253

Date: April 21, 1978

Lab. No.: 6699

Received: 4-17-78

Marked: Composite of 9216 & 9218

Submitted by: Mr. Gil J. Matthews

## REPORT OF QUALITATIVE SPECTROGRAPHIC EXAMINATION

### ELEMENT

### APPROXIMATE PERCENT

Boron	0.01
Silicon	Major Constituent
Aluminum	8.0
Manganese	Intermediate Constituent
Magnesium	2.0
Lead	0.1
Copper	0.01
Iron	4.0
Molybdenum	0.01
Calcium	2.0
Vanadium	0.005
Sodium	1.0
Zinc	0.5
Titanium	0.1
Silver	0.01
Strontium	0.4

cc:  
Mr. Gil J. Matthews  
13126 N. 20th Lane  
Phoenix, AZ. 85029

Respectfully submitted,

ARIZONA TESTING LABORATORIES

Claude E. McLean, Jr.





# Arizona Testing Laboratories

815 West Madison • Phoenix, Arizona 85007 • Telephone 254-6181

For Isbell & Pritchard  
Development Corporation  
4812 East Berneil Drive  
Paradise Valley, Arizona 85253

Date April 21, 1978

## ASSAY CERTIFICATE

LAB NO.	IDENTIFICATION	OZ. PER TON		PERCENTAGES			
		GOLD	SILVER	COPPER			
6699	9209	0.01	0.05				
	9210	trace	trace				
	9211	0.02	0.30				
	9212	0.02	0.10				
	9213	0.05	0.10				
	9214	0.03	0.05				
	9215	0.01	0.05				
	9216	0.16	4.4				
	9217	0.02	0.15				
	9218	0.05	1.70				
	9219	0.01	0.05				
	9220	0.01	0.05				
	9221	0.04	0.10				
	9222	0.06	0.20				
	9223	0.11	0.20				
	9224	0.05	0.15				
	9225	0.09	0.20				
	9226	0.02	0.05				
	9227	0.02	trace				

cc: Mr. Gil J. Matthews  
13126 N. 20th Lane  
Phoenix, AZ. 85029

Respectfully submitted,

ARIZONA TESTING LABORATORIES

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





