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# Gold Angel Resources Inc.

107-691 THURLOW STREET  
VANCOUVER, B.C. V6E 3L9 CANADA

TELEPHONE AREA CODE (604) 685-4391

July, 1976

## PROGRESS REPORT

TO: SHAREHOLDERS OF GOLD-ANGEL RESOURCES INC.

Gold-Angel Resources Inc. is presently carrying out an Exploration and Drilling Program on its 'Penney' Project', near Payson, Arizona, based on the recommendations of the Company's Consultant, Peter W. Laczay, B.A. Sc., P. Eng., and Manny Consultants Ltd., P. Eng.

Gold-Angel Resources Inc. reports the following based on a report dated July 12, 1976, by Manny Consultants Ltd.:

"Gold-Angel Resources Inc. announced today that it is finalizing an agreement, subject to approval of Regulatory Bodies, to acquire the rights to a Patented Leaching Vessel. It is proposed that the process would be used to extract copper from the 'Penney Property', near Payson, Arizona, where extensive stripping, trenching and diamond drilling has indicated large reserves of copper oxides. Gold Angel's Consulting Engineers have conservatively estimated that an area of 1800' x 800' with a vertical depth of 240' indicates a body of approximately 32,000,000 tons of oxide copper.

In addition to this secondary copper mineralization, the current drilling program has been successful in establishing the presence of primary copper sulphide mineralization at depth.

Hole No. 2, initially in oxides, encountered sulphide mineralization, mainly consisting of chalcopyrite, at a depth of 300 feet and continued to 592 feet.

The No. 3 hole, some 650 feet north of No. 2 drill hole, on the south slope of the same ridge, was collared at a lower elevation than the No. 2 hole and intersected sulphide copper (chalcopyrite) at a depth of 10 feet with chalcopyrite still present at 280 feet. The drill hole will be continued as long as mineralization warrants.

In concluding a report, dated July 12, 1976, the company engineers, 'Manny Consultants', recommends that: "the property be completely explored to develop a major copper, gold and silver property". The recommendations are to drill-off the mineralized zone in a systematic grid to facilitate the calculation of an ore-body.

Terms of the agreement regarding the leaching process also provide that Gold-Angel may assign the right to the process to any other Company, in which case, Gold-Angel would derive a Royalty, based on production.

On Behalf of the Board of Directors,

*A. Hewitson*

A. Hewitson,  
President.

No3 Hole How 500ft Native Copper  
between 433ft to 500ft

# Gold Angel Resources Inc.

107-691 THURLOW STREET  
VANCOUVER, B.C. V6E 3L9 CANADA  
TELEPHONE AREA CODE (604) 685-4391

July 16, 1976

ESSEX INTERNATIONAL INC.  
1704 West Grant  
TUCSON, Arizona 85705

Dear Sir:

We have been recommended to you by  
Manny Consultants. Our reason for writing to you is as  
follows:

"We are looking for a Partner to help  
us develop the 'Big Penney' - 56 Claims."

Your early answer would be most  
appreciated.

Yours respectfully,



Elizabeth Carlson  
(Secretary & Vice-President)

Encls. - Engineer's Report (Manny Consultants) - July 12, 1976  
- Progress Report (Gold-Angel Resources Inc.) - July, 1976.

PLEASE NOTE: SEND REPLY TO: Gold-Angel Resources Inc.  
c/o Swiss Village Inn  
Highway 87  
PAYSON, Arizona

Tel.: (602) 474-3241 (ext. 121)

PROPERTY EVALUATION  
FOR  
GOLD-ANGEL RESOURCES INC.  
ON THE  
PENNEY COPPER PROSPECT  
IN  
GILA COUNTY  
ARIZONA  
U.S.A.

July 12, 1976

MANNY CONSULTANTS LTD.  
EMANUEL AMENDOLAGINE, P. Eng.

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## SUMMARY

The following is a progress report of the Gold-Angel Resources Inc. 'Penney Copper Prospect' near Payson, Arizona, U.S.A.

This report is based on my visit to the property during the period of May 31 to June 11, 1976, and also based upon the field work directed, performed and reported by Peter Marshall to Manny Consultants Inc.

The reported information consists of three (3) drill hole reports with some assays, and of twenty-nine (29) sporadic surface sample assays of the copper oxide mineralized areas of malachite, azurite, chrysocolla with minor chalcopyrite and bornite. The surface exposed copper mineralized area extends some 2,000 feet by 1,000 feet.

The purpose of the drill programme is mainly to substantiate the reports of copper sulphide mineralization at depths of  $\pm$  400 feet.

The drilling to date has confirmed the presence of chalcopyrite, the primary ore at depth. With this confirmation, it is recommended that a systematic drill program should be instigated on a predetermined drilling grid pattern to test and delineate the depth and extent of the primary copper mineralization.

The drill program should be carried out with core drilling for the copper sulphides at depth with at least one drill hole to a depth of some 1,500 feet vertically and the remaining drill holes to favourable depths based on information obtained from the 1,500 foot deep drill hole. The drill pattern should be at 200-foot centers for the primary sulphide ores.

The drilling should be programmed in phases with the first phase allowing for 7,000 feet of diamond drilling. The expenditures required for this program would be some \$173,000.00.

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PREVIOUS REPORTS OF COPPER PENNEY PROPERTY

The following three (3) reports by Willard D. Pye, J.W. Ambrose, and an unsigned report, describes the Penney Property and its potentialities.

Notes concerning  
Big Bear Mining Claims  
Payson, Arizona.

Toronto, Ontario,  
May 18, 1958

J.W. Ambrose, Ph.D.  
Consulting Geologist

Notes concerning  
Big Bear Mining Claims  
Payson, Arizona.

SUMMARY

The Big Bear group of 20 claims, under option to G. A. MacMillan of Toronto, Ontario, lies on the east flank of the Matanzal Mountains 12 miles north of Payson, Arizona. The claim group covers much of an area of gossan, roughly a mile in diameter; copper float has been found within the gossan over an area 4,000 feet square. Bedrock has been exposed in bulldozer cuts along the slopes of a canyon which crosses the northern side of the gossan. The cuts cover an area 1,800 feet long, 800 feet wide, extend over a vertical distance of about 300 feet, and expose oxidized copper ores in place throughout.

Previous work within the group consists of two short adits, a prospect shaft 30 feet or so deep and some shallow rock trenches. The area mentioned on the canyon slope was opened in May, 1958 by bulldozer cuts. Grab samples over this area give assays in copper ranging from 0.15 to 9.9 percent, but no overall grade has yet been established.

The bedrock consists of a series of volcanic rocks, intruded by several granitic sills, and overlain by quartzite.

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Malachite, chrysocolla, azurite, chalcocite, bornite and chalcopyrite coat fracture faces and are disseminated through the solid rock.

Copper is widely distributed on the surface both in float and in place. The deposit is of the blanket type typical of many of the great copper deposits in this country. The overall grade probably will not be high but the tonnage potential is very large indeed. With these possibilities in mind, the property is certainly worthy of a thorough test.

RECOMMENDATIONS

Two objectives can be kept in mind:

- (1) To establish average grade (a) in the oxidized zone (b) in the zone of secondary sulphides, and (c) in the protore.
- (2) To establish the area and depth, i.e. the tonnage, of ore-bearing material.

The first objective requires that a limited amount of drilling be done. I therefore recommend that at least five vertical holes be drilled for a total of approximately 2,000 feet, at sites to be indicated.

To attain the second objective will require a large amount of systematic drilling. This will be undertaken only if a satisfactory grade is established by the preliminary drilling. In preparation for the larger drilling programme a geological examination of the claim group should be made.

## INTRODUCTION

This report is based on visits to the claim group which I made on May 5 and May 12, 1956. The principal showings as exposed on the surface and as opened by recent bulldozer cuts were examined, and the property was viewed in a general way from points of vantage.

## PREVIOUS WORK

Openings on the property consists of a few (at least two) adits, one 62 feet long, a shaft 30 feet deep, and a few shallow trenches. These workings were evidently opened several, perhaps many, years ago, and I have seen no record of either their purpose or their accomplishments. Hearsay states they were made by prospectors for gold and silver, a reasonable possibility. In 1955 the property was acquired by E. Dudley of Payson, Arizona, and associates, and surface prospecting and location work was done. In April, 1956 the properties were optioned by G. A. MacMillan, roads were bulldozed to various parts of the area, and in May, under my direction a number of bulldozer cuts were put in to bedrock.

## OTHER MINING PROPERTIES IN THE AREA

Copper Mountain Mining Corporation (name uncertain) is developing a deposit of copper ore about 2½ miles north of the Big Bear claim group. In the Cu Bev Mine, about 5

*J.M.A.*

- 8 -

series dips twenty degrees or so eastward or northeastward, and strikes northerly, parallel to the trend of the mountain range. This series is overlain, along the east flank of the range, by fine grained to cherty, grey to red, quartzite.

The valley which lies east of the Matasal Range is here about 4 miles wide. It is floored with Tertiary and Recent alluvium. The Snowstorm Range which forms the east flank of the valley is composed of a medium grained granitoid rock, possibly monzonite or quartz monzonite.

## STRUCTURE

The rock is covered nearly everywhere by a few feet of weathered material and accurate determinations of attitudes are difficult. The flows and intercalated sills dip 20 degrees or so eastward and strike north. They are cut off to the south along a fault (or faults) which follows the main canyon westward across the claim group. The fault is poorly exposed but at one place near the canyon mouth it strikes 20 degrees north of west and dips 70 degrees north. Although no evidence of movement was seen, it was probably normal, north side down. Movement on the fault was probably post-mineralisation. Rocks south of the fault, i.e. those that form the footwall are, in part at least, barren purple slates, but these northern slopes are covered with thick vegetation and soil, so that little is known of details of character or structure of the bedrock.

miles south of Payson a narrow copper-gold bearing vein is being developed by a group of partners. The great copper mines of Globe, Miami and Superior lie about 80 miles south-east and these at Jerome about the same distance northwest.

## LOCATION

The Big Bear group of 20 mining claims, established by staking and now under option to G. A. MacMillan, lie on the east slope of the Matasal Mountains, approximately 12 miles northwest by road of Payson, Arizona. The mountain range rises two thousand feet or more from the valley level to its highest point, North Peak, a mile or so south of the claim group. Local relief, developed by eastwardly-trending, V-shaped canyons, is of the order of 500 feet. The general elevation of the claim group is between 4,000 and 5,000 feet above sea level. The climate is arid and most of the streams are intermittent. A small stream, said to be permanent, follows the main canyon across the property. The East Verde River flows southwards some three miles to the east.

## GENERAL GEOLOGY

The claim group is underlain by a series of volcanic rocks including tuffs, massive, amygdaloidal and pillowed (?) flows, intruded by sills of granitic rock. The volcanic

*J.M.A.*

- 8 -

## MINERALIZED AREA

The mineralized area is marked by a gossan that extends over the hills for more than a mile northward from the fault mentioned above, and is limited on the east by the overlying quartzite. I was not able to visit its northern or western limits but it is roughly circular, and not less than a mile in diameter. "Float", or residual blocks of rock carrying copper-oxides have been picked up within the gossan over an area about 4,000 feet square.

The mineralized area is best exposed on the north flank of the main canyon. There, in old workings, and in bulldozer cuts made during the week May 5th to 12th, copper minerals can be seen in bedrock over an area 1,800 feet east to west, 800 feet north to south, and from creek level to the top of the ridge, over a vertical distance of about 300 feet. Thus within this block alone some three million tons of copper-bearing rock lie above creek level. If the area of copper float is likewise underlain by copper-bearing rock and there is no reason to suppose it is not - this tonnage can be multiplied by a factor of a hundred.

## MINERALS PRESENT

The rocks, on the surface, are leached and barren. On the recently formed erosion surface on the canyon slopes, the depth of the barren zone appears to depend on the character

*J.M.A.*

of the rock; granitic rocks are barren for 3 to 6 inches, tuffs (?) for six feet or more. Below the superficial barren zone the rocks carry sparse to abundant oxidized copper minerals coating joint faces or, to a lesser extent, as impregnations. Malachite is most abundant, followed by chrysocolla and azurite, and possibly a very little cuprite. Where fresher surfaces can be broken bornite, chalcocite and chalcopyrite and perhaps other copper minerals occur in grains, tiny stringers, and as fillings of vesicles. Pyrite is extremely scarce.

The maximum depth of the barren zone so far exposed is about six feet. On the crest of the first ridge north of the creek oxidized ore lies within a foot of the surface, and similar oxidized ores are now exposed in cuts a few tens of feet apart down to creek level, i.e. to the canyon fault. In one place a little oxidized copper was found in footwall rocks adjacent to the fault, but in general the footwall block is barren.

In this country the zone of oxidized ores commonly passes downwards into a zone, formed at and below a water table, which carries secondary copper sulphide minerals. This sulphide zone is characteristically richest near the top, and gradually becomes leaner with depth as the secondary sulphides decrease in amount. The lowermost zone, of protore, carries only the primary copper minerals; its copper content is generally low but may be of ore grade.

*J.W.A.*

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out operation, and thus to low mining costs. Providing sufficient tonnage is developed it is possible to consider as ore material containing as little as 17 pounds of copper per ton. (Grade presently being mined by Inspiration Mining and Refining Corporation, Miami, Arizona.) Thus the present objective is to test this area for average grade within the oxidized zone, the secondary sulphide zone and the protore. Providing a mineable grade of ore is present the second objective would be to determine the tonnage, and so determine the type and size of mining operation to be undertaken.

Toronto, Ontario  
May 18, 1954.

*J. W. Ambrose*  
J. W. Ambrose, Ph.D.  
Consulting Geologist.

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It may be noted that the water table level which controlled the position of the enriched sulphide zone may have been - and in many places in Arizona has been - lowered by recent erosion and desiccation. Where this happens the sulphide zone is left perched, as it were, above the new water table, towards which it will move slowly with passage of downward-seeping groundwater. Depths to, and thicknesses of the several zones, the upper barren zone, the partially leached zone of oxidized ores, the enriched zone of secondary sulphides, and the protore can be established only by underground exploration.

#### GRADE OF ORE

Spot samples of oxidized ores grade from 0.15 percent to 8.9 percent copper. Copper is found in all types of rock on the property; until more complete exposures or drill cores are available I find it impossible to say which, if any, rock is most favorable, or to estimate an average grade for any substantial thickness.

#### ORE POTENTIAL

Copper mineralization is well exposed in an area 1,800 by 800 feet, for a vertical distance of 300 feet and is known over an area 4,000 feet square. (All distances approximate only.) As noted above, the potential tonnage is very large indeed. The topography and climate lend themselves to an open

*J.W.A.*

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DEVEK CORPORATION  
3418 N. Forecus Avenue  
Tucson, Arizona 85716  
(602) 327-2956  
October 6, 1972

COPPER PENNY PROSPECT  
GILA COUNTY, ARIZONA

Location and Property

The Copper Penny prospect, formerly known as the Big Bear prospect, consists of 56 lode claims located in sections 29 and 33, but overlapping slightly into some of the adjacent sections, T. 10 N., R. 9 E., Gila County, Arizona, which location is about 10 miles west-southwest of Payson. The claims are connected by dirt road to paved Arizona Highway 73 at Payson. The property lies along the east flank of the Mazatzal Mountains at an elevation of about 4700 feet; the claims have a relief of about 1000 feet.

The western 32 claims lie in the Mazatzal Wilderness Area. They can be held by work on those claims lying outside of the Wilderness, but cannot be mined and no power equipment can be taken onto them. If mineralization can be developed on the claims outside the Wilderness and the mineralization leads into the claims in the Wilderness area, it may be possible to secure permission to develop them. Some of the better shows of mineralization were found within the Wilderness area.

Basis for Report

The report is based upon a few hours visit late in the afternoon to the Mineral Ridge and Mineral Creek portions of the claims. No detailed tapping or examination was undertaken. Observations were supplemented by the writer's personal knowledge of the area, information in his and other files and information derived from various people familiar with the property and its past history of exploration.

Geology

The property is underlain by steeply dipping Older Precambrian Yavapai schists, greenstones and related rocks, although some of the section may be composed of lesser metamorphosed sediments of the Younger Precambrian. The Precambrian rocks have been intruded by basic and acidic dikes, also of Precambrian age. Precambrian granitic intrusives are also present in the area.

were uncovered that were approximately parallel to each other and dipping approximately 45° into a ridge, with widths of from 10 to 55 feet. The area between these five structures proved to be mostly barren at the surface; however, after diamond drilling it was found that the barren zone only extended to an average depth of 20 feet. Below this depth, the minimum copper content was 0.30 percent, which consisted of zones 15 to 20 feet in thickness between enriched zones with the copper content ranging from 1.5 to 2.5 percent, and with thicknesses of 8 to 20 feet, averaging 2.5% copper. The deepest hole was 425 feet vertical, had an average copper content of 2.5 percent in the mineralized zones, and bottomed in 2.5 percent copper. Along with the copper content, the 405-410 foot and 415-420 foot core sections assayed \$16.00 values in gold. To the depth of 400 feet, 80 percent of the copper mineralization of the ore bearing formations was malachite and azurite with the remainder mainly chalcocite. . . . The silver potential of this property is minor as the average value was approximately 1 oz. per ton, however, occasional 5 foot core samples assayed up to 4 oz. per ton silver."

In 1967 Phoenix Ventures drilled 11 holes on the property. Most of these were for assessment or location work and were shallow being 100 feet or less in depth. However, 3 were drilled to depths between 100 and 200 feet and one to a depth of 365 feet. All were vertical. None were cored. Cuttings were collected on at least the 365 foot hole which showed considerable chalcocite.

Only one spectrographic analysis sheet was found and it gave copper between 1.5 and 4.0 percent, gold nil, silver .0005 to .001 percent with nothing else of importance. The sheet states: "This rock appears to be a quartz-gabbro schist with good secondary copper enrichment in the mineral forms of malachite, azurite and some cuprite."

Other assay statements (but no sheets) are: "One tunnel goes back 55 feet and samples were taken every 5 feet and averaged 1.5% copper. Samples from the dump on this hole (tunnel) showed 0.5% copper and .05 silver with a trace of gold. At this site a sample taken from the outcropping near the entrance of the tunnel showed 3.1% copper, 0.2 silver and trace of gold. . . . Five grab samples taken from the property averaged 1.48% copper, 0.16% silver and all a trace of gold." (an undated and unsigned typed statement.)

Conclusions

The property is mineralized and lies in a general region of

Mineralization

Mineralization consists of oxides of copper exposed at the surface. In one of the shallow tunnels some chalcocite was found. Reportedly drilling has found copper and iron oxides extending for 100 feet or more of depth, and below this copper and iron sulfides. Mineralization is associated with greenstones and the basic intrusives, at least in some of the mineralized areas both on the claims and at a distance from them. Some quartz veins are present and show some mineralization. These may be related to the copper-gold bearing veins formerly mined southwest of Payson. Several veins or areas of mineralization are present which range from a foot or less wide to several feet wide. Most of these appear to be about 10 feet in width but may pinch and swell along strike. Reportedly some of the veins are 30 and up to 60 feet wide, but these were not observed.

Development, Assays and Production

Development consists of a number of shallow pits, trenches and short drifts along mineralized zones. There has been no production from the property.

There have been at least two periods of drilling, but records are unavailable. In 1957 Viola Mac Company drilled 7 diamond core holes (one report says 5) recovering about 30 percent of the core and keeping no record of the sludge. These holes averaged 150 feet and ranged from 275 feet to 425 feet in depth. Holes were both vertical and inclined. The deep hole apparently encountered bornite and chalcocite near its total depth and stopped in that mineralization. A report from the Arizona Department of Mineral Resources dated April 9, 1959, states "This drilling roughly indicated a mineralized zone which is 1800 feet in length and 900 feet wide, and averaged from 1% to 2% in copper with appreciable gold content." Another statement was that in the deep hole at 425 feet, the copper ore assayed 2.5%, and that higher in the section drilling had passed through "a section" which was as high as 7%.

An unsigned and undated report on this drilling states: ". . . The company immediately initiated an exploration program consisting of road building, landings for diamond drilling, 2250 feet of diamond drilling contracted by Boyles Brothers Drilling Co., Phoenix, Arizona, and limited stripping of mineralized structures for the purpose of obtaining assay data from unleached ore faces. Several hundred samples were collected and assayed by Arizona Testing Laboratories, Phoenix, Arizona, and it was found that the average copper content of mineralized vein material was 1.98 percent. Five (5) mineralized vein structures

Precambrian rocks carrying appreciable Precambrian copper and gold mineralization. If problems can be worked out with the U.S. Forestry Service, the property deserves additional study as a possible copper leach operation. However, it will have to be drilled to determine the extent of copper oxides present in the apparently surficial "barren" zones between the copper mineralized bodies. It will be necessary to also determine the persistence of the exposed mineralized bodies, although in some areas outside of this prospect they have been found to be quite persistent. There is also the possibility of a larger sulfide body, but it will probably be at depths greater than 500 feet and will have to be found by drilling or geophysics.

*Willard D. Pyle*

Willard D. Pyle  
Consulting Geologist  
Arizona State Board of  
Technical Registration  
#4033



THE "BIG PENNY" UNPATENTED MINING CLAIMS  
GREEN VALLEY MINING DISTRICT, GILA COUNTY, ARIZONA

The "Big Penny" group of 56 patented mining claims situated in unurveyed Sections 18, 20, 21, 28, 29, 30, 31, 32, 33, of unurveyed Township 10 N., Range 9 E., G.A.S.R.M., Green Valley Mining District, Gila County, Arizona, approximately 8 miles southwest of Payson, Arizona, is owned by Charles L. Dudley and Artie E. Dudley. Mr. Nicholas R. Carouse, Payson, Arizona, is the optionee and lessee of this group of claims.

The "Big Penny" group of claims was formerly known as the "Big Bear" group, and it was owned, at that time, by five partners whose names are as follows: Messrs. Raymond Dudley, Samuel Dudley, C. C. Dudley, Earl Chipley and Thomas Carr. This property was leased to the Viola Mac Mining Co., Toronto, Canada, during 1936-1937. The property was leased after Dr. J. Ambrose, Consulting Geologist for Viola Mac Mining Co., recommended its acquisition. The company immediately initiated an exploration program consisting of road building, land-lease for diamond drilling, 2250 feet of diamond drilling contracted by Boyles Bros. Drilling Co., Phoenix, Arizona, and limited stripping of mineralized structures for the purpose of obtaining assay data from unleached ore faces. Several hundred samples were collected and analyzed by Arizona Testing Laboratories, Phoenix, Arizona, and it was found that the average copper content of mineralized vein material was 1.98 percent. Five (5) mineralized vein structures were uncovered that were approximately parallel to each other and dipping approximately 45° into a ridge, with widths of from 10 to 55 feet. The area between these five structures proved to be mostly barren at the surface, however, after diamond drilling it was found that the barren zone only extended to an average depth of 20 feet. Below this depth, the minimum copper content was 0.30 percent, which consisted of zones 15 to 20 feet in thickness between enriched zones with the copper content ranging from 1.5 to 2.5 percent, and with thicknesses of 8 to 20 feet, averaging 2.5 percent copper. The deepest hole was 425 feet vertical, had an average copper content of 2.5 percent in the mineralized zones, and bottomed in 2.5 percent copper. Along with the copper content, the 405-410 feet and 415-420 feet core sections assayed 116.00 ounces in gold. To the depth of 400 feet, 80 percent of the copper mineralization of the ore bearing formations was Malachite and Azurite with the remainder mainly Chalcocryrite.

It was the opinion of Dr. J. Ambrose, that preliminary stripping of surface structures should produce 250 to 300 tons per day of 1.98 percent copper ore for a period of from 6 to 8 months before extensive benching would be required. It was also the opinion and speculation of Dr. J. Ambrose and several other geologists who examined the property, that the major ore body lay from 800 to 1500 feet below the surface. Mr. L. E. Heber, Phelps Dodge Corp., Jerome, Arizona, spent approximately 3 months on the property and he believed that this property was very similar to the mine at Jerome, Arizona.

Upon the termination of the lease period, Viola Mac Mining Co. withdrew against the recommendation of Dr. J. Ambrose, with the statement that the property was not quite what they wanted. However, thirty

days after the termination of the lease, Mr. George McMillan contacted Mr. Raymond Dudley requesting a one year extension of the lease, and appeared distressed when the owners could not agree and subsequently denied the request. Several other major companies tried unsuccessfully to obtain leases, due mainly to disagreement among the owners during negotiations.

Pilot plant leaching of surface and drill hole core samples proved very successful.

The silver potential of this property is minor as the average value was approximately 1 oz. per ton, however, occasional 5 foot core samples assayed up to 4 oz. per ton silver.

The above information was obtained from Mr. Raymond Dudley, a part owner of this property during 1936 and 1937, who was employed by the Viola Mac Mining Co., to supervise the surface work and diamond drilling program, and who along with Dr. J. Ambrose prepared all drill core and surface samples for assay.

Recent examinations of this property substantiate the surface showings referred to in the above information furnished by Mr. Raymond Dudley. The mineralized structures are readily traced on the surface. Structural interpretation utilizing the reported copper value at the bottom of the 425 foot diamond drill hole, and the attitude of mineralized structures substantiates the opinion of Dr. J. Ambrose and others as to the probability of copper mineralization at depths of 800 to 1500 feet.

Laboratory leaching studies currently being conducted indicate that this ore has excellent leaching characteristics and certainly substantiates Mr. Raymond Dudley's statement that pilot plant leaching of the ore proved very successful.

The area affords favorable sites for reduction plant and tailings disposal. Two year around springs are available at this property and appear to produce sufficient water for a plant to handle at least 1000 tons per day of ore.

## ASSAY REPORTS

The assays from the Iron King Assay Office in Humbolt, Arizona, are assays of the No. 2 Diamond Drill Hole and assays of surface samples taken by Peter Marshall. The assay sheets, dated July 8, 1976, are the surface samples taken. These are plotted on the Geologic map by Peter Marshall. The description of the surface samples are on the attached sheets.

The core assays dated June 19, 1976, represents sections of core from 345 feet to 498 feet. The remainder of the core will be sent out for assays.

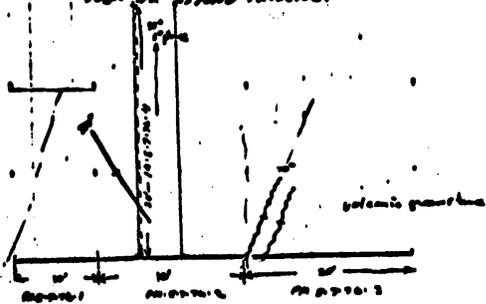




5-7-76 Sample - shield intrusion - hornblende - epidote - quartz  
 - malachite and variety, grains of chalcopyrite

5-7-76-3 20' Sample shield volcano granitic complex - several small  
 lens of intrusive material - no K-feldspar phenocrysts  
 scattered streaks of malachite on fracture and veins

5-7-76-4 20' Sample in old adit - along west wall - 8' above the floor  
 much malachite & shallow veins along, but  
 rock an altered intrusive.

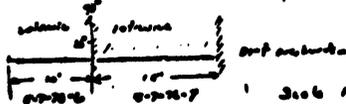


Scale 1"=100' sample 100000

5-7-76-5 with 10' Sample  
 north of the 11 area on roadway. left fractured  
 and stained granitic. no visible copper  
 mineralization

5-7-76-6 with 10' Sample - volcanic rock, hanging wall, dike of  
 an intrusive dike

5-7-76-7 10' Sample shield and fractured intrusive dike with  
 malachite and quartz - some grains of  
 bornite were noted.



Scale 1"=100'

5-7-76-8 10' Sample intrusive with malachite & shield volcano contact  
 sample taken along contact

5-7-76-10 2' wide sample across intrusive dike - about 20' up  
 strike from 10' - mineral outcrop in desert trail  
 no map

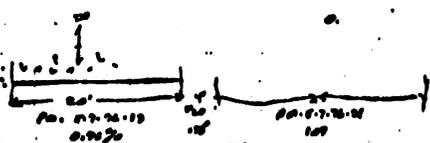
PM 5-7-76-16



PM 5-7-76-17 10' Sample see map - 5' intrusive vein  
 with 2' of volcanic on both  
 sides 0.00%

PM 5-7-76-18 2' sample small intrusive dike - with malachite  
 0.00%

PM 5-7-76-19 20' Sample hornblende granitic intrusive with zones  
 of the host volcano - little visible mineral



PM 5-7-76-20 9' sample mineral zone 0.00%

PM 5-7-76-21 25' zone volcanic granitic - very fractured and stained  
 with several small bits of intrusive material - some  
 malachite staining 0.00%

PM 5-7-76-22 10' Sample 5' wide intrusive dike  
 with 2' of volcanic on  
 both sides 0.00%

PM 5-7-76-10 10' Sample hornblende intrusive with epidote  
 small amounts of malachite as streaks on  
 fracture surfaces.

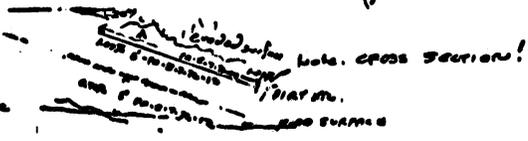
PM 5-7-76-11 10' Sample along same intrusive - malachite with  
 copper mineralization



see map location

PM 5-7-76-12 5' sample - across vertical width of intrusive dike  
 without some epidote

PM 5-7-76-13 0' Sample analyzing volcanic material  
 malachite staining with grains of bornite



see map location

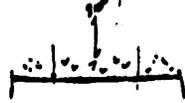
Scale 1"=100' this is the place to  
 "BLACK COPPER"? zone  
 where the bornite was found

PM 5-7-76-14 20' sample - taken along the same volcanic zone as above  
 small on it with unaltered intrusive dike

PM 5-7-76-15 10' sample across two small intrusive dikes with  
 a badly fractured and fractured volcanic zone between  
 them.



PM 5-7-76-23 20' wide sample across a 10' intrusive dike  
 with 5' east side of the host volcano



0.00%

PM 5-7-76-24 10' sample at the 001-102 location - well altered zone  
 to east of dike - badly fractured volcanic  
 material with malachite staining.



Scale 1"=100'

PM 5-7-76-25 10' sample across a 5' vein - 2' of volcanic rock  
 outside - vein with malachite  
 0.00%

PM 5-7-76-26 10' sample badly fractured and scattered volcanic  
 complex - shows surface coatings of cuprous  
 black to brown iron oxides  
 0.00%

PM 5-7-76-27 10' Sample 5' intrusive with  
 strike 330°

PM 5-7-76-28 vertical section taken on volcanic analyzing on  
 intrusive dike 0.00%

PETER MARSHALL'S REPORT:

The following twelve pages, compiled into a report, describing the drilling and geology on 'The Penney Group of Claims', was submitted by Peter Marshall.

125

## LOCATION AND ACCESS

The Penney Claims, No. 1 through to 56 inclusive, are staked as a rectangular block in an east-west direction, over the north-eastern flank at the Mazatzal Mountains. The claims fall in an unsurveyed portion of north-western Gila County; the eastern two thirds are situated in the Tonto National Forest, and the western third falls in the Mazatzal Wilderness Area.

The claims straddle Mineral Creek, which flows north-easterly, and then easterly from the Mazatzal Range, the center of the claims lie about 2 miles north-east of "north Peak" the most northerly named mountain is the Mazatzal Range.

They are situated 8 miles in a straight line bearing 242° from the center cross roads in the town of Payson, Gila County, Arizona.

Access from Payson, a market center for surrounding ranches and a tourist center, is via a series of dirt surfaced roads - a distance of 10 miles - maintained by the U.S. Forest Services. These roads, well marked, go to 'Cypress Thicket' and end at the 'North Peak Trail', a fire access foot path to North Peak. To this point the roads are accessible by almost any vehicle, except after heavy rainstorms.

From here company built roads to the various sections of the claims are passable by almost any vehicle with high ground clearance.

## PHYSIOGRAPHY AND VEGETATION

The Penney Group of Claims were staked in a westerly direction, across the north-eastern flank of the Mazatzal Mountains, the eastern two-thirds of the claims are situated in the Tonto National Forest, and the western third is in the Mazatzal Wilderness Area.

The general slope of the land tends downward, from an elevation slightly in excess of 5000' ASL, in a north-easterly direction to an elevation of about 4000' ASL.

As is typical of arid areas, where much of the rainfall occurs in summer thunder storms, the effects of water erosion are very pronounced.

An intermittent stream, known as Mineral Creek, has eroded an easterly trenching 'V' shaped valley, ranging in depth from 300' to about 100' across the general trend. The walls of this valley, except where modified by more resistant intrusive dikes, average about 25° down slope.

Numerous tributary streams, flowing only after rain storms have incised numerous smaller 'V' shaped valleys up to 50' deep. These small valleys generally trend normal to or at acute angles to the main valley of Mineral Creek.

By mid-June the flow of Mineral Creek has been much reduced, and the major portion of the flow occurs under the numerous soil and gravel deposits, surface water is found only where the stream has cut down to the bed rock.

Much of the area is mantled with residual soil, caused by weathering and mechanical break-down of the underlying rocks. Little

mass movement except down hill soil creep and some stream erosion has taken place.

The eastern third of the property is mantled by deep deposits of unsorted alluvium probably derived from the erosion of the Mazatzal Range proper.

Bed rock exposure occurs over about 10 - 15% of the property, and even where it is exposed, except in the cases of the more resistant intrusive dikes, it has undergone deep weathering and mechanical fracturing giving rise to an almost unconsolidated surface.

#### VEGETATION

Much of the hillsides and ridge tops, except over areas of outcrop, are covered with a dense tangle of manzanita, live oak, catspaw, and other forms of low prickly brush. At times these tangles form almost impenetrable thickets.

Scattered pygmy conifers such as pinon, juniper and cypress grow wherever there is sufficient soil and moisture, in places such as washes, near springs or seeps, and in moisture bearing fault and shear zones.

Along the ridge crests yuccas and century plants are common.

In the valley bottom of Mineral Creek, and in some of its tributaries, which contain sufficient water, deciduous trees such as cotton wood, oak, sycamore, walnut, and other species thrive. Here and there ponderosa pines, up to 60 feet high grow throughout the valley areas.

Poison Ivy is very common throughout the damp areas near the stream beds.

Various cacti such as the prickly pear, and hedge hogs, grow throughout the area from wet valley bottoms to the dry ridge crests.

### CLIMATE

The area has a semi-arid climate averaging from 24 to 27 inches of rainfall per year. There are two peak rainfall periods, a winter period peaking in March, and a summer period peaking in July.

The winter rains are associated with stratus-form clouds, and occur as relatively gentle rainfall with occasional snow. The snow usually melts within several days and only persists on mountain tops in excess of 7000'.

The summer rains take the form of thunder showers with very strong winds. The storm cells generally rise in the morning over the White Mountain area about 50 miles east, then move westward, gathering momentum, giving late afternoon storms over the area.

The annual temperature ranges from the mid 30's F. from November through until February, then rising about 10<sup>o</sup> F per month to a summer average in the mid 60's from mid May through mid September, then it falls again at an average of about 10<sup>o</sup> F. per month.

Winter extremes show a night-time temperature rarely in excess of -10<sup>o</sup> F, but generally rising above the freezing level during the day.

The summer extremes show temperatures in excess of 100<sup>o</sup> F but cooling at night down to 60<sup>o</sup> F, and sometimes as low as 50<sup>o</sup> F.

## GEOLOGY

GREENSTONE<sup>1</sup> - A metamorphic, epidotized volcanic flow and intrusive complex of Pre-Cambrian<sup>1</sup> Age. The material is essentially a dark grey-green, medium to fine grained textured rock with a ground-mass of chlorite and other dark minerals, and tiny 'laths' of feldspar, much of which has been altered to a mixture of granular epidote and albite.

Areas of slower cooling are evidenced by rather diffuse bands of pink to red feldspar as subhedral phenocrysts up to ¼" in size, these phenocrysts are often altered to epidote, or in some cases are rimmed in epidote. Other evidence of differential cooling consists of numerous abrupt chilled contacts between extremely fine grained rock to a more coarse grained material. On surface outcrops this rock has undergone extreme weathering, leaching and mechanical breakdown, much of the broken surfaces are 'smeared' with ochreous iron oxides, and more rarely, near intrusives, secondary copper carbonates.

## INTRUSIVE

Where outcropping in larger sills, dikes, or plugs this material is essentially a coarse grained HORNBLLENDE GRANITE, generally the feldspar content has been more or less epidotized. Epidotization has also occurred along the contacts and in post emplacement sheared zones.

Moderate seritization occurs in en echelon zones with zonal lenses of epidotization. It is within these zones that, at depth, a large disseminated deposit has its greatest potential.

1 - Mapped 1959 by Eldred D. Wilson - Geologic Map of Gila County, Arizona.

Surface and upper sub-surface structures as evidenced by drilling tends to exhibit the intrusive body in the form of dikes and sills. At depth this plutonic intrusion would reveal larger bodies of zonal and diffused alteration.

In small scale dikes and sills the material tends to exhibit a finer grained groundmass, with fairly large pink to red feldspar subhedral to euhedral crystals, these crystals after show small scale fracturing and rotation indicating emplacement as a crystalline mush. Generally the smaller bodies show a higher degree of epidotization than the larger intrusives.

The intrusive material tends to withstand the effects of surface weathering better than the volcanic greenstone and forms small cliffs or ridges on the weathered side slopes.

#### ANDESITE

A siliceous, extremely fine grained material with either a dark green, or dark purple colour. Right angled jointing with relatively closely spaced pairs gives an almost slate-like appearance to much of the outcrop. A well developed sheared contact between this material and the overlying Greenstone Complex is exposed along the north side of Mineral Creek.

#### STRUCTURE

The host rock, a metamorphic greenstone complex, highly weathered and fractured on surface appears to trend roughly in an east-west direction, and dips to the north.

This material has been intruded by what appears to be a Hornblende Granite, which outcrops on two small knolls on the western portion of the property.

A series of dikes and sills have been intruded outwards from the main body, through zones of weakness in the host greenstones.

While the general trend of these dikes is again in an east-west direction, there are several exceptions where the intrusive bodies trend in a north-south direction, following major fractures across the general trend.

A well developed fault zone occurs just to the north of Mineral Creek, this fault appears to override the underlying andesites, and could represent a faulted or heavily sheared contact between the andesites and the overlying greenstone complex.

#### MINERALIZATION -- (SURFACE)

Generally the surface manifestation of copper mineralization on this property consists of secondary copper carbonates coating the fracture and shear surfaces of the host greenstones. In most cases these areas of secondary mineralization are associated with intrusive dikes or sills. Therefore at depth, larger bodies of intrusive rock would show secondary mineralization.

The copper carbonates, mainly malachite and azurite occur generally as thin amorphous coatings on the fracture and shear surfaces of the host volcanics. Malachite also occurs interstitially in the intrusive dikes, in these cases crystalline malachite usually occurs near the contacts, and lining fracture voids. Thin blue crusts of the hydrous copper silicate, chrysocolla also occurs in many of these mineralized cores.

Bornite also occurs in many of these surface mineral zones. This material, especially noted under an intrusive dike (marked 'A') is in the form of small grains and also rather large masses up to 1/2" thick and several inches long, filling what appears to be fracture voids.

Much of the bornite, especially in the granular form is closely associated with epidote, often an epidote grain or phenocryst has a bornite center.

This surface mineralization occurs over a wide area, with a general length of about 1800 feet, an average width of about 800 feet, and a vertical depth of 240 feet. A conservative estimate of the oxidation zone from surface down to 240 feet would indicate a body of approximately 32,000,000 tons of oxide copper.

Almost all fracture and shear surfaces have coatings of black to brown opaque oxides, in many cases these oxide coatings are in the form of well developed dendritic patterns. Another form of oxide coatings occurs in the form of small circular deposits over the fracture and shear surfaces of the rock.

While most of these oxide coatings are probably iron oxides, it is more than probable that copper oxides are also present throughout the area.

Primary mineralization takes the form of disseminated grains and crystalline aggregates of chalcopyrite. This disseminated material was found in an intrusive outcrop at a low elevation on the eastern end of the mineralized zone (marked zone 'B').

Grains and small aggregates of chalcopyrite were also found in the host volcanic greenstone complex near the adit on the western end of the mineralized zone (marked zone 'C').

Several small 1/2" - 1" white crystallized calcite veins exposed in a wash to the west of this adit also contained grains of chalcopyrite.

Several pieces of intrusive rock, picked from the tailings of this adit also contained minor amounts of disseminated chalcopyrite.

Pyrite occurs, as disseminated cubic crystals and crystalline aggregates associated with tensional fractures and calcite veins.

This material is exposed in a north trending creek bed, on the north slope of the property (marked zone 'D').

Studies of alteration products and oxidized copper mineralization are generally instrumental in tracing down large copper ore bodies. The copper oxidized surface area on the Penney Property is extensive.

In reference to Dr. K. W. Ambrose's report of 1956, on the 'Big Bear Mining Claims', there is a possibility of a large copper bearing mineralized zone. Quoting from his report on page 6. (see page 4 of my report), Dr. Ambrose states:

"The mineralized area is best exposed on the north flank of the main canyon. There, in old workings, and in bulldozer cuts made during the week May 5th to 12th, copper minerals can be seen in bedrock over an area 1,800 feet east to west, 800 feet north to south, and from creek level to the top of the ridge, over a vertical distance of about 300 feet. Thus within this block alone some three million tons of copper-bearing rock lie above creek level. If the area of copper float is likewise underlain by copper-bearing rock - and there is no reason to suppose it is not - this tonnage can be multiplied by a factor of a hundred."

#### SURFACE EXPLORATION

A large amount of bulldozing has been carried out on the property using a D-8 Caterpillar with rippers.

At the southern end of the property, to the south of Mineral Creek, 4000 feet of road was put in along the ridge.

At the top of the ridge about 5,500 feet of stripping and roads were put in which exposed continuation of the zones exposed on the south side of the ridge.

At the north end of the property, about 3000 feet of roads and accompanying trenches were constructed.

Approximately six miles of Cat. work has been completed. This has exposed some new zones, confirmed the continuity of existing exposure zones and put in many access roads that would further facilitate and expedite more work on the property.

Diamond drilling exploration reveals that oxide copper is present on the south slope of the ridge from the surface down hole. Sulphide copper (chalcopyrite) was intersected at a depth of 300 feet and continued to the bottom of the No. 2 drill hole. The No. 3 drill hole, some 650 feet north of the No. 2 drill hole, on the north slope of the same ridge, was collared at a lower elevation than the No. 2 drill hole and has intersected sulphide copper (chalcopyrite) at a depth of 10 feet with chalcopyrite mineralization still present in the down hole at 280 feet. The drill hole will be continued as long as mineralization warrants.

Surface sampling on the south slope has returned very interesting copper assays. One chip sample returned an assay of 2.34% Copper. Twenty-nine chip samples were taken, all returning assays of copper in varying degrees.

The north slope of the ridge has several oxide copper showings, and on this slope some float was found containing chalcopyrite.

## SUMMARY OF DIAMOND DRILL HOLE NO. 2

The hole, collared at an elevation of about 4560' A.S.L. was drilled vertically to a depth of 592 feet, casing was set to 11 feet, and recovery began at about 16 feet.

Initially the core return began in the altered greenstone complex, as described in the section of the report on the geology. Several intrusive zones ranging from a length of about 6 inches to over 40 feet were encountered throughout and the hole bottomed in several feet of a volcanic crystal tuff.

Most of the rock had undergone intensive fracturing and shearing, much of the shearing was vertical, with cross fracturing. Most of the fracture and shear surfaces were coated with smears of opaque brown to black oxides, these oxides often occurred as dendritic granules.

Brecciation was common, with the small angular fragments cemented by white crystalline calcite.

While crystalline calcite also occurred as hairline veins, and filling the numerous tensional fractures.

A major shear zone, 6 feet in thickness was encountered at 138'0".

Two large faults, the first 10 feet and the second 8 feet in thickness were encountered at 426'0" and 570'0". Recovery was poor in these faulted zones because much of the material was crushed to clay and sand sized particles.

## MINERALIZATION - (DRILL CORE)

16'0" to 43'6" - an oxidized zone with secondary copper carbonate minerals, mainly malachite, and lesser amounts of azurite, coating shear and fracture surfaces, is the host volcanics. Several zones sheared visible grains of bornite.

64'0" to 164'0" - several diffuse zones of copper carbonates occurred in both the greenstones and the intrusives throughout this section of the core. Again grains of bornite were seen.

326'4" to 330'0" - chalcopyrite as disseminated grains, and tiny veinlets occurred in this zone.

358'0" to 393'10" - an oxidized zone in which secondary copper carbonates and the hydrous copper silicate, chrysocolla occurred in both the volcanics and the intrusive. Small grains of bornite appeared to be concentrated on or near sheared and fractured zones.

393'1-" to 402'0" - an oxidized zone, again occurred in both the volcanics and the intrusive rocks. Abundant iron oxide pseudomorphs, often rimmed with malachite or chrysocolla, after the primary sulphides occurred. This zone ended in a small sheared band of secondary enrichment, a red powdery material, possibly cuprite contains small grains of native copper.

402'0" to 563'0" - a primary sulphide zone occurred in a sheared and fractured greenstone complex. The sulphides mainly chalcopyrite were found in several nodes; disseminated grains; small granular aggregates filling tensional fractures; smears on fracture and shear surfaces; and as centers in epidote grains.

Visual chalcopyrite mineralization appears continuous in varying amounts throughout the first 90 feet. Past there it occurs in a series of diffuse bands - ranging from about 2 feet up to about 10 feet in thickness. These mineralized zones alternated with rock shows visible sulphides.

### DIAMOND DRILL HOLE NO. 3

Diamond Drill Hole No. 3 collared at about 4420 feet A.S.L., approximately 650 feet from Diamond Drill Hole No. 2., measured in a north 20° east direction.

The first 200 feet recovered showed a medium grained, fractured and sheared dark greenstone complex material.

Fine grained sulphides were disseminated throughout, with some concentration near fracture fillings. Scattered 'clots' of chalcopyrite were seen associated with feldspar phenocrysts.

CONCLUSION

The aim of the current drill program (to test for the primary copper sulphide) at a depth of  $\pm$  400 feet has been successful!

Chalcopyrite has been present in the drill hole - mainly below the 400 foot depth. Oxide copper has also been present from the collar of the drill hole. With this information available, it is recommended that the property be completely explored to develop a major copper, gold and silver ore body.

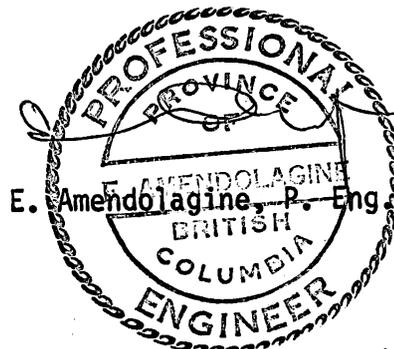
The recommendations are to drill-off the mineralized zone in a systematic grid to facilitate the calculation of an ore body.

The program should be carried out in a series of phases. The first phase would be to core drill some 7,000 feet. The first drill hole should penetrate to some 1,500 feet or until mineralization warrants it. The depth of the remainder of the drilling will be determined by the results of the deep drill hole. The drill holes should be drilled at 200 foot centers.

The expenditures required for this program would be some \$173,000.00.

Respectfully submitted,  
MANNY CONSULTANTS LTD.,

July 12, 1976

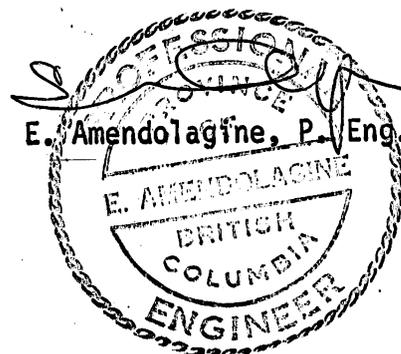


CERTIFICATE

I, EMANUEL AMENDOLAGINE, of the City of Vancouver, in the Province of British Columbia, hereby certify:

1. That I am a geologist and reside in Vancouver, British Columbia;
2. That I am a graduate of Hunter College, of the City of New York, and Columbia University, with a B.A. and M.A. respectively, and that I have been practising my profession as a geologist for 23 years;
3. That I am registered as a Professional Engineer in the Province of British Columbia;
4. That this report is based on visits to the property of GOLD-ANGEL RESOURCES, INC., during the period from May 31 to June 11, 1976, and on information obtained from geologic maps, reports of the area and on information from engineering reports of the Property;
5. That the writer does not have, nor does he expect to receive, either directly or indirectly, any interest in the named property and/or Company;
6. That this report may be used for the purpose of a Prospectus if so desired.

DATED at Vancouver, in the Province of British Columbia, on the 12th day of July, in the year 1976.





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GOLD-ANGEL				BIG PENNEY (1-56)			
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	22	20	17	55			
	23	1	16	54			
	24	2	15	53			
	25	3	14	52			
	26	4	13	51			
	27	5	12	50			
	28	6	11	49			
	29	7	10	48			
	30	9	9	47			
	31	38	39	46			
	32	37	40	45			
	33	36	41	44			
	34	35	42	43			

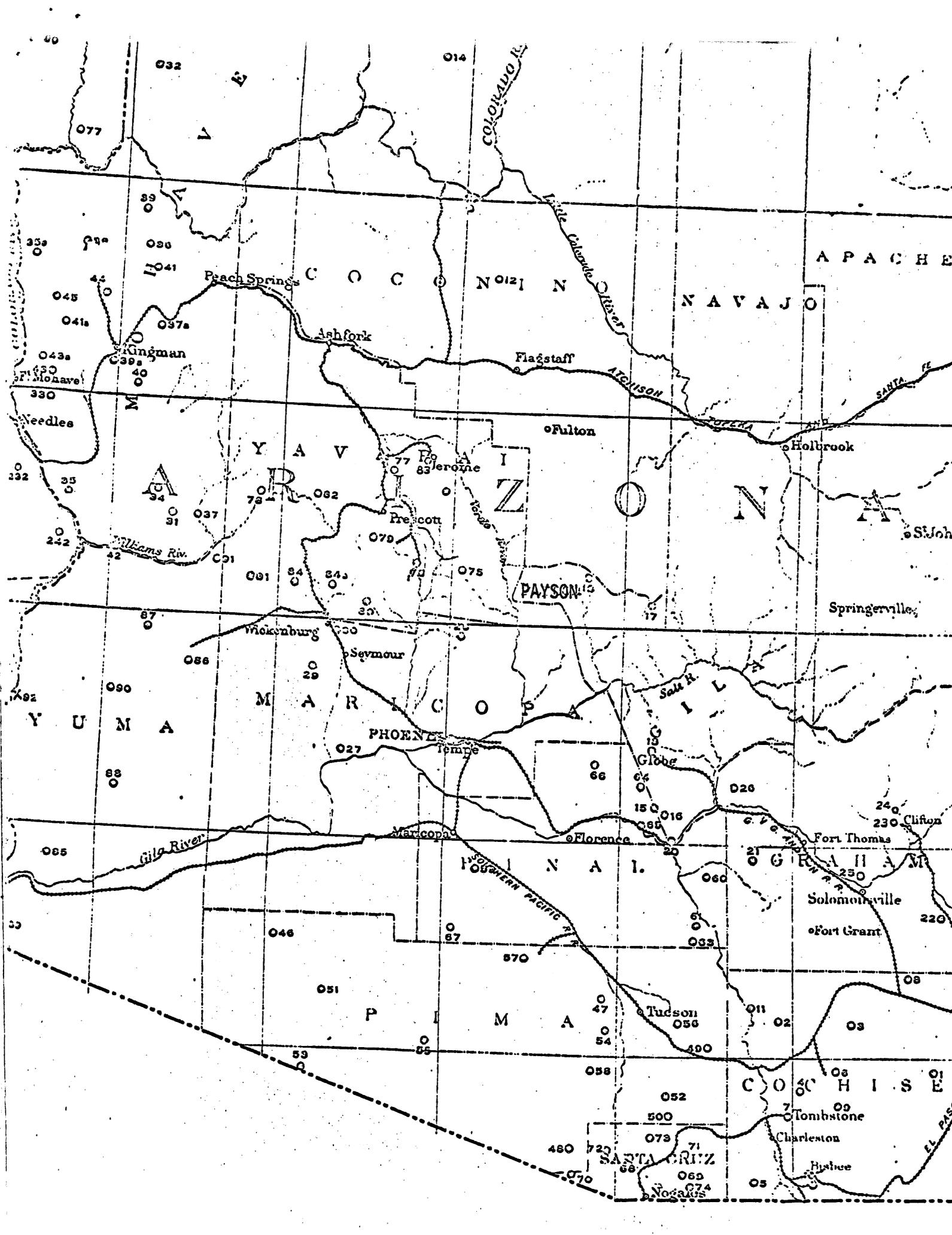
Hard To Get (1 & 2)

Band Tail (11-15)

Band Tail (0 - 00 & 1 - 10)

Mini Mines (1 to 8)

Pay Off (1 & 2)



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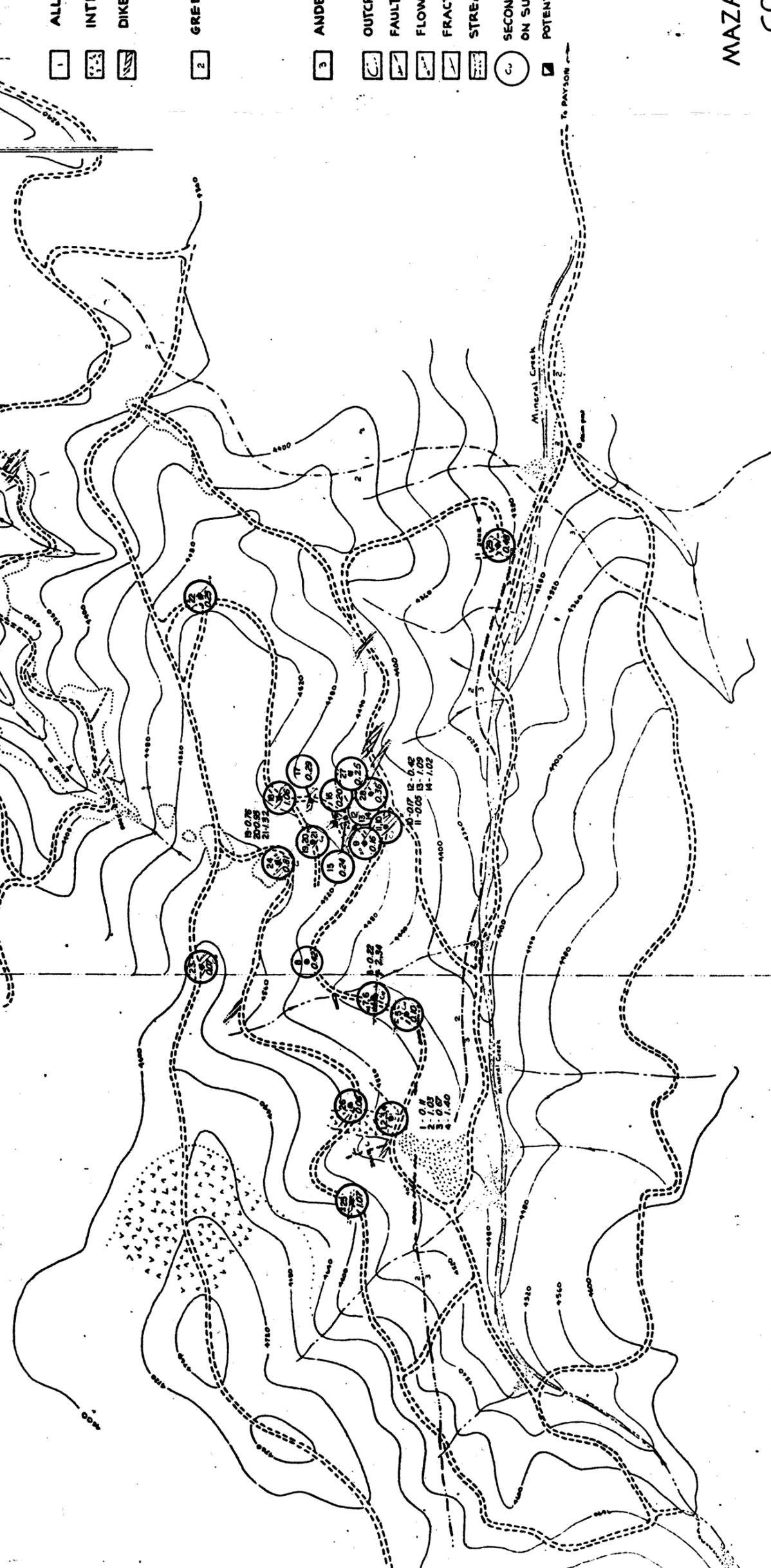
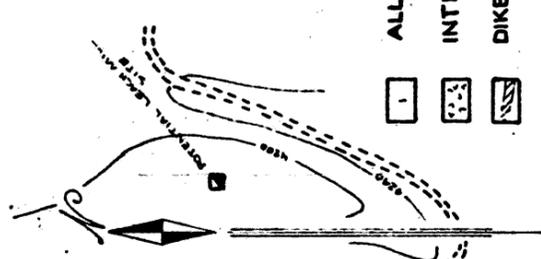
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**LEGEND**

**ALLUVIUM** 1 a deep deposit of unsorted sediments and silt probably derived from erosion of the Mazatzal Mountains

**INTRUSIVE** 2 Hornblende Granite, the main body is a coarse-grained relatively unaltered material with Epidote near the contacts. Numerous sills and dikes occur, essentially related to the main body. This dike material is highly eroded, with a more chloritic groundmass, and red feldspar phenocrysts often altered to or rimmed with epidote; these crystals are often fractured and rotated, indicating intrusion as a crystalline mush.

**DIKES** 3

**GREENSTONE** 4 mapped by E. D. Wilson as a metamorphosed volcanic complex of Pre-Cambrian age. The material is essentially a medium to fine grained, dark gray-green rock, with a groundmass of quartz and other mafic minerals with tiny illite. Diffuse zones of red mineral phenocrysts of feldspar, often partially altered to a mixture of albite and epidote, dense zones of aliferrous coating. Other evidences of such coating are numerous sharp, chilled contacts between fine and medium grained phases of the rock complex.

**ANDESITE** 5 a fine grained dark green to purple material with a well developed set of mutually perpendicular joints. The material exhibits a shaly contact to the underlying greenstone complex.

**OUTCROP AREA** 6

**FAULTING and SHEARING** 7

**FLOW** 8

**FRACTURES or JOINTING** 9

**STREAM DEPOSIT** 10

**SECONDARY COPPER MINERALS ON SURFACE** 11

**POTENTIAL LEACH MILL SITE** 12

**ADIT** 13

**TAILINGS** 14

**ROAD** 15

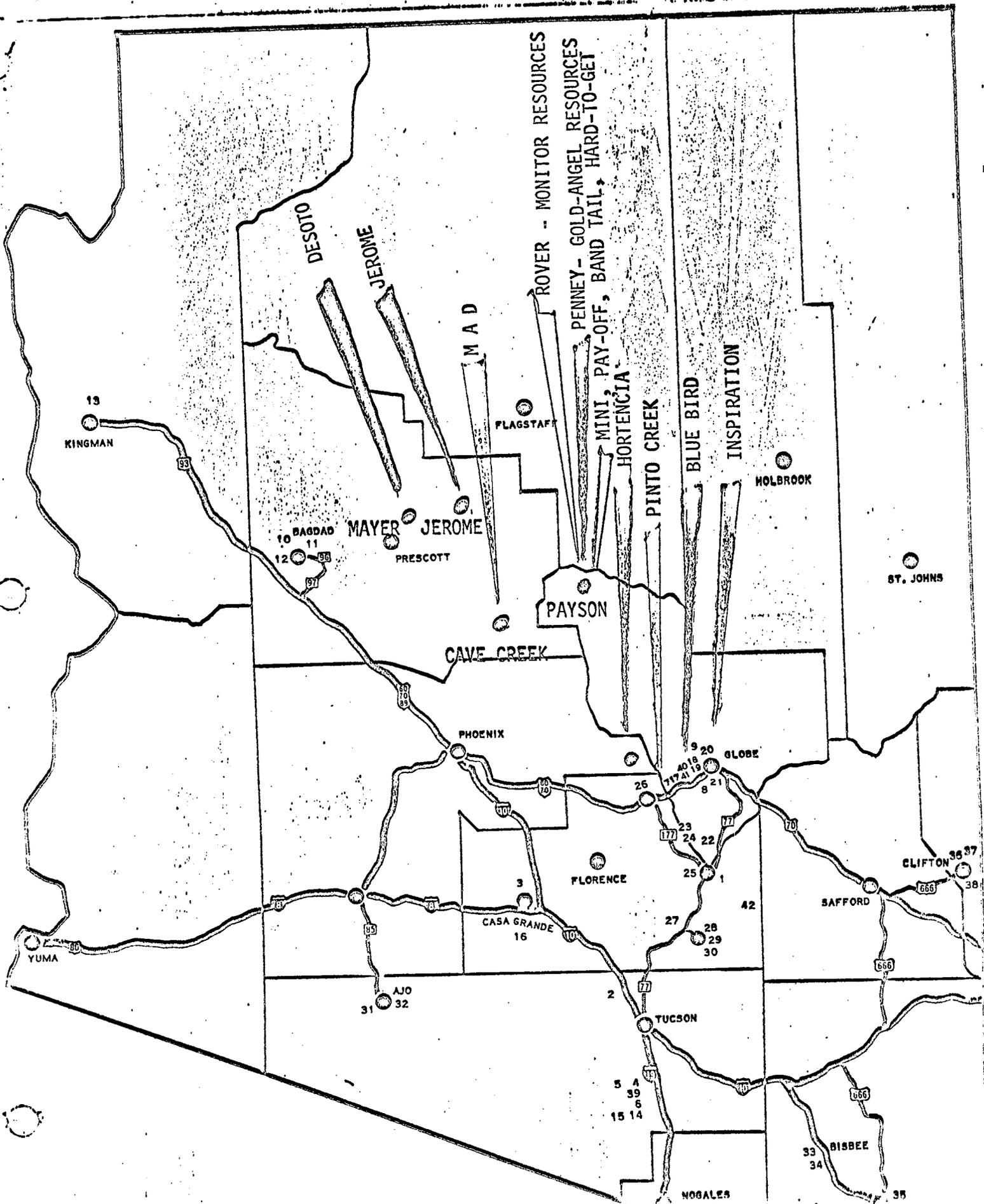
**DIAMOND DRILL HOLE** 16

**WELL** 17

**GEOLOGICAL MAP**  
 OF PART OF THE  
**PENNY CLAIMS**  
**MAZATZAL MTS. GILA CO. ARIZONA**  
**GOLD ANGEL RESOURCES**  
 GEOLOGY BY P.G. MARSHALL  
 MAY - JUNE 1976

0 200 400 600 FEET

Base map traced from a photostatic enlargement of the US Forest Service Map "North Mazatzal"



DESOTO

JEROME

M A D

ROVER - MONITOR RESOURCES

PENNEY - GOLD-ANGEL RESOURCES

MINI, PAY-OFF, BAND TAIL, HARD-TO-GET

HORTENCIA

PINTO CREEK

BLUE BIRD

INSPIRATION

13 KINGMAN

10 BAGDAD  
11  
12 96

MAYER

JEROME

PRESCOTT

FLAGSTAFF

PAYSON

HOLBROOK

ST. JOHNS

CAVE CREEK

PHOENIX

GLOBE

FLORENCE

CASA GRANDE

TUCSON

YUMA

31 AJO  
32

CLIFTON 36 37

SAFFORD

5 4  
39  
6  
15 14

33 BISBEE  
34

NOGALES

35