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PRINTED: 06/21/2002

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: QUEEN

ALTERNATE NAMES:  
SIERRA PRIETA

YAVAPAI COUNTY MILS NUMBER: 184

LOCATION: TOWNSHIP 14 N RANGE 3 W SECTION 32 QUARTER SW  
LATITUDE: N 34DEG 32MIN 45SEC LONGITUDE: W 112DEG 36MIN 10SEC  
TOPO MAP NAME: IRON SPRINGS - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:  
GOLD  
SILVER

BIBLIOGRAPHY:  
USGS IRON SPRINGS QUAD  
YAVAPAI MAGAZINE APRIL 1918 P 5 SHARLOT HALL  
MUSEUM PRESCOTT, AZ  
ADMMR QUEEN FILE

United States  
Department of  
Agriculture

Forest  
Service

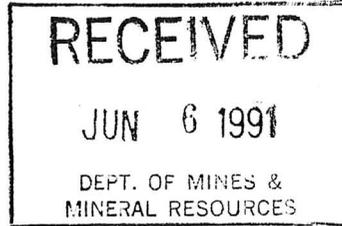
Bradshaw  
Ranger District

2230 East Highway 69  
Prescott, AZ 86301

Querry (T)  
The Pai Co.

Reply To: 2810

Date: June 4, 1991



Dear Concerned Citizen:

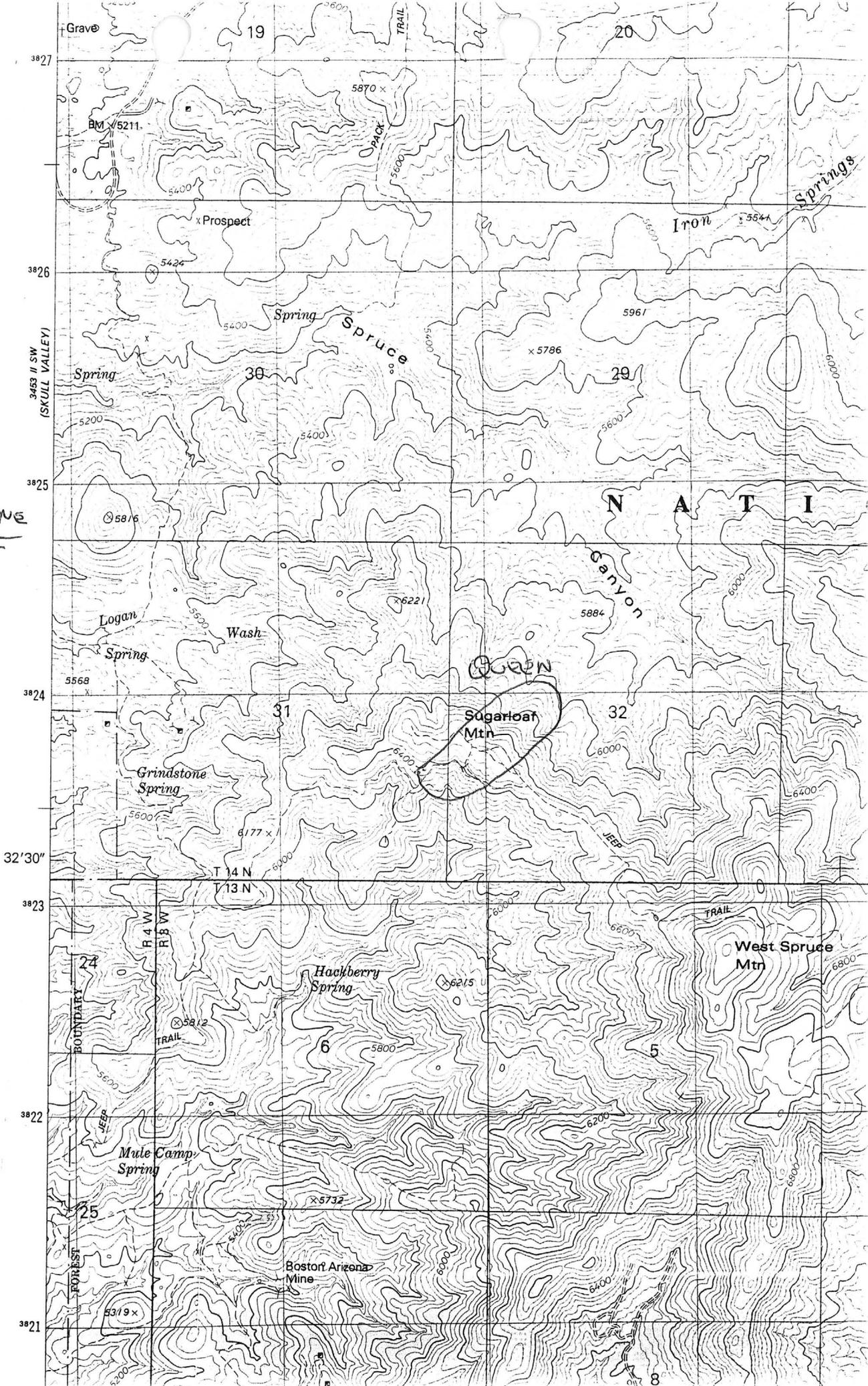
The Bradshaw Ranger District has received two Plans of Operation for placer mining and two for hardrock/lode operations.

The first proposal, legal description; T12 N., R1E., Section 8, GSRBM, calls for development of an 80' x 80' placer mining project west of Big Bug Creek. Settling ponds will be constructed and a small excavator will be used to process material through a washer. All activity will take place outside of the stream channel. Reclamation will include recontouring and revegetating the landscape. (Map location #1)

The second proposal, legal description; T14 N., R3W., Section 30, GSRBM, calls for placer mining a 500 yard section of the Iron Springs Wash. A backhoe will be used to remove overburden within the active stream channel, followed by processing exposed materials through a 4" to 5" dredge and into settling ponds outside of the active stream channel. A metal detector will then be used to locate exposed gold nuggets. Reclamation will consist of backfilling diggings and recontouring the stream channel. (Map location #2)

The third proposal, legal description T14 N., R3W., Section 32, GSRBM, calls for reopening two mine portals and digging (2) 50-70 foot trenches for removal of ore to be processed off-site for the purpose of extracting gold. In order to transport the ore, the proponent will perform minor maintenance on 5.5 miles of existing Forest roads and construct 300 feet of new roadway. Several small diameter oak shrubs and various species of chaparral will be removed during road construction. Reclamation will consist of closing the mine portals; obliterating 300 feet of the newly constructed roadway and 1200 feet of unwanted Forest roads. (This additional obliteration is required by direction of the Forest Land Management Plan.) Any disturbed landscape will be recontoured and revegetated. (Map location #3)

The fourth proposal, legal description T9 & 10N., Range 1 W, Sections 1, 2, 35, & 36, GSRBM, calls for clearing previously mined material from around the entrance to an existing underground mine. The material will be removed by backhoe. Upon completion, waste material will be backfilled. Roads will be closed out and disturbed areas revegetated. The proposal calls for use of existing roads to access the site. (Map location #4)



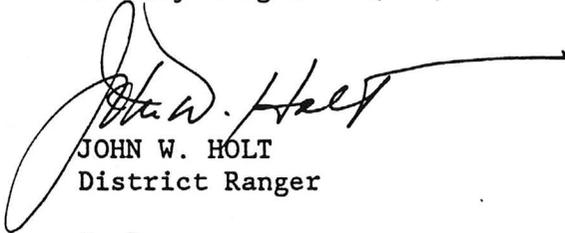
QUEEN MINE

IRON  
SPRINGS  
QUAD

T14N  
R3W  
Sec 32  
SW 1/4

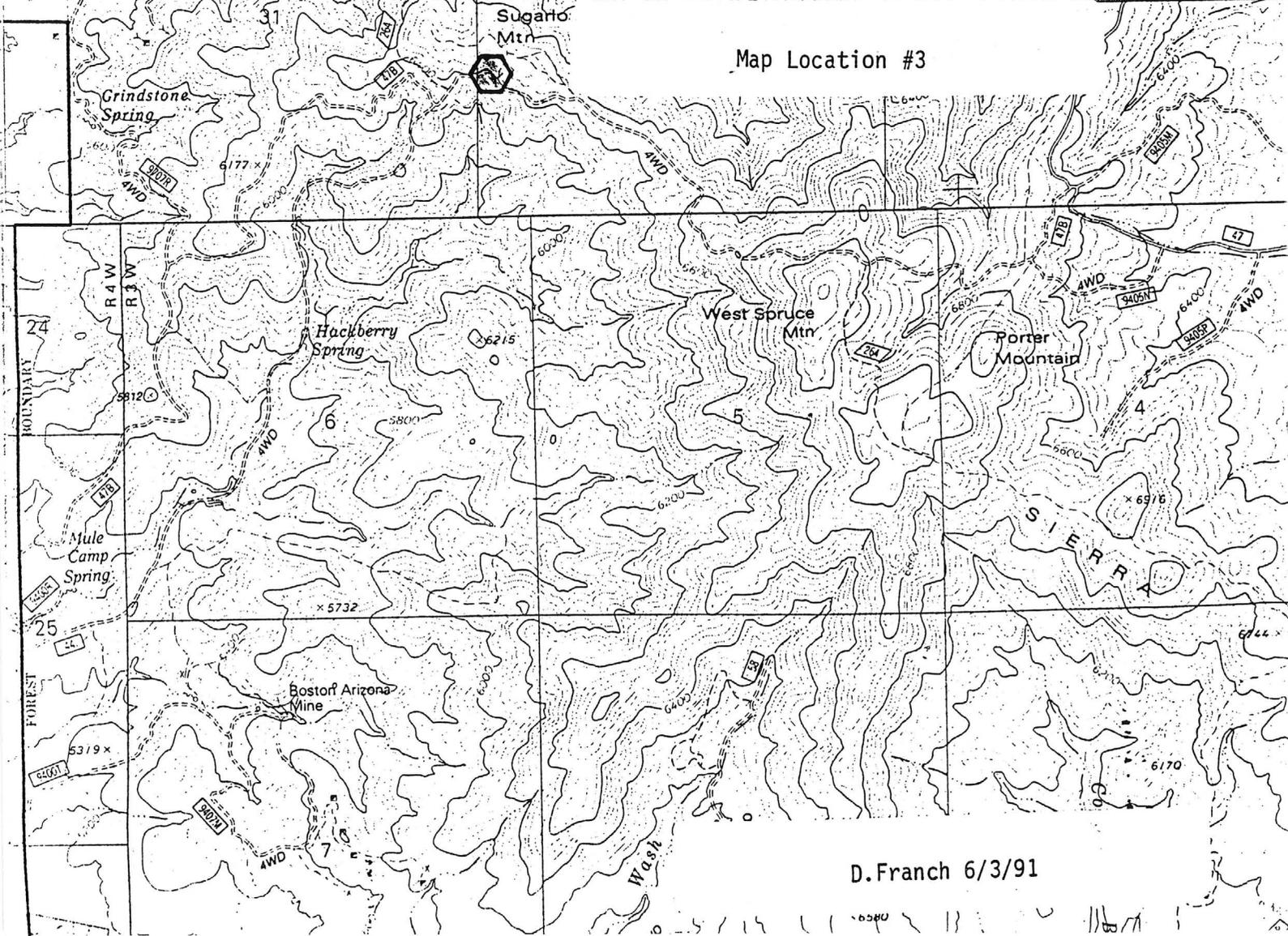
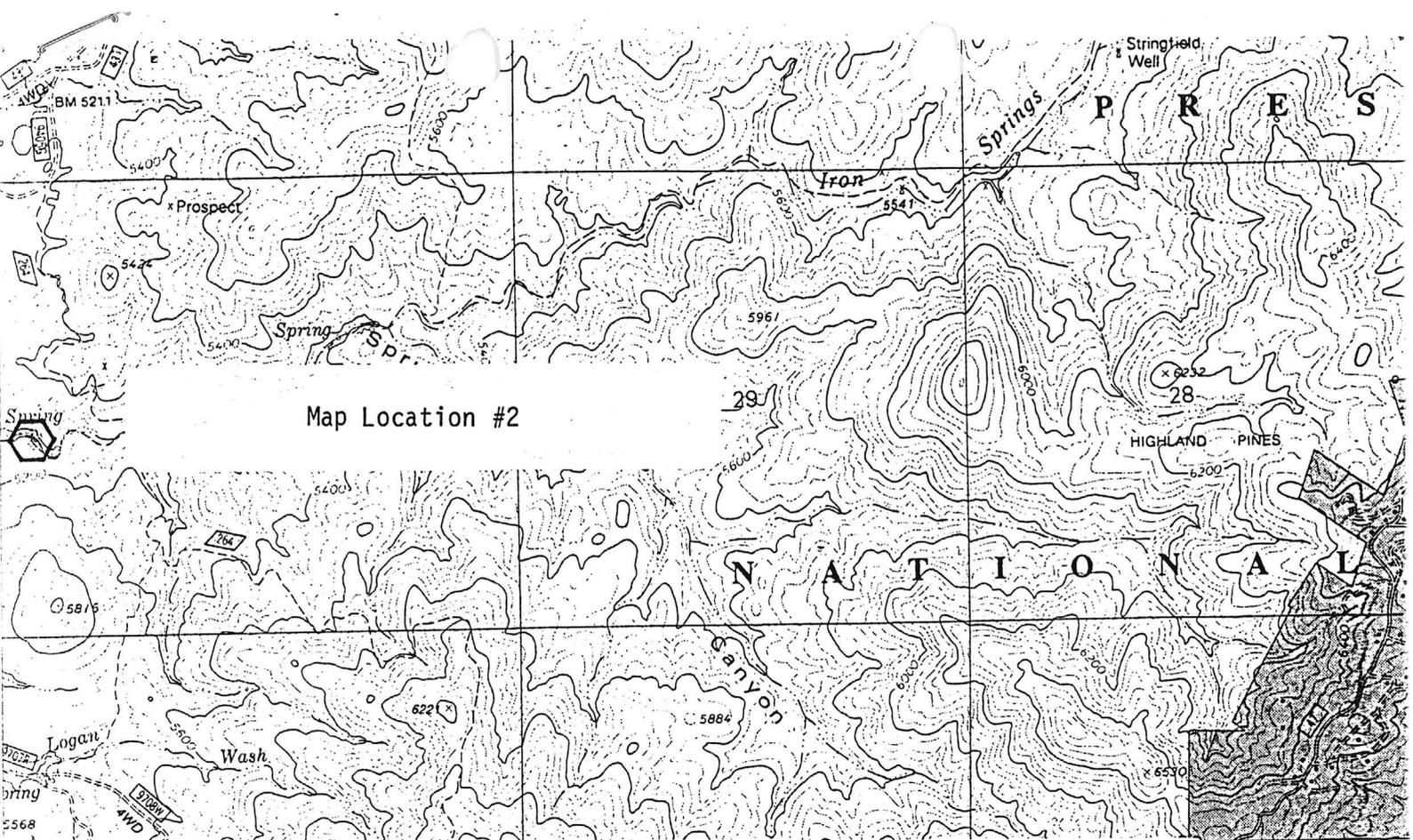
Mitigating measures, to minimize the impacts on vegetation, wildlife and water quality, will be enacted. Cultural resource inventories and biological evaluations will be completed on all projects prior to any disturbance.

If you have any additional concerns or comments, please provide them to me by June 14, 1991. Copies of the proposals are available for review at this office. If you have questions, please contact Doug Franch or Beverly Morgan at (602) 445-7253.



JOHN W. HOLT  
District Ranger

Enclosures



D. Franch 6/3/91

STATE OF ARIZONA, County of Maricopa SS:

CERTIFICATION OF PAYMENT OF RENTAL FEE  
IN LIEU OF AFFIDAVIT OF ANNUAL ASSESSMENT WORK

Leon A. Johnson, trustee for Leon A. Johnson Trust, being first duly sworn, deposes and says that;

1. He is one of the owners of the following de4scribed unpatented lode and placer mining claims situated in Yavapai County, Arizona ( the "Claims"), the location notices of which are of record in said county, and in the records of the Arizona State Office of the Bureau of Land Management under the file number indicated as follows:

Name of claim	County Recorder's Data		BLM Serial AMC No.
	Book	Page	
Sierra Prieta # 1	2639	165	284131
Sierra Prieta # 2	2639	165	284132
Sierra Prieta # 3	2639	165	284133
Sierra Prieta # 4	2639	165	319306
Sierra Prieta # 5	2639	165	319307
Sierra Prieta # 6	2639	165	319308
Sierra Prieta # 7	2639	165	319309
Sierra Prieta # 8	2639	165	319310
Sierra Prieta # 9	2639	165	319311
Sierra Prieta #10	2639	165	319312

See Attached Exhibits for Legal Descriptions

2. Pursuant to Amendment Number 18 of H.R. 5503, of the Department of the Interior and Related Agencies Appropriations Act, 1993, owner has paid a rental fee of \$100 per claim for the assessment year ending September 1, 1993, and an advance rental of \$100 per claim for the assessment year beginning on September 1, 1993, in lieu of recording an affidavit of performance of annual assessment work. Owner further states, however, that mineral production activities have occurred upon the Claims during the past assessment year that would have ordinarily qualified as annual assessment work.

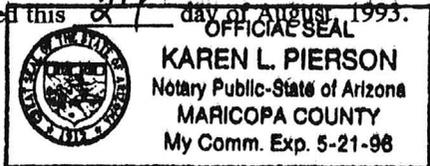
3. The name and address of the owners of the Claim for which the Certificate is prepared is:

Leon A. Johnson Trust	and	Pierson Family Trust
Rt 1 Box 912		7232 N. 46 th Avenue
Buckeye, Arizona 85326		Glendale, Arizona 85301

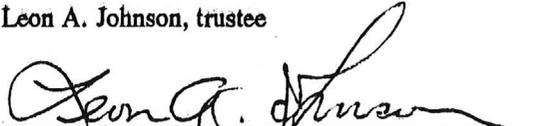
**THIS IS NOT A CHANGE OF ADDRESS**

4. The Claims are held and claimed by the owners for the valuable mineral contained therein, and the owners intends to continue development of the claims.

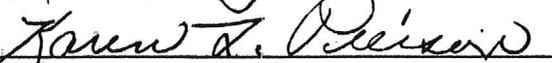
Dated this 24 day of August, 1993.



On behalf of Leon A. Johnson Trust  
Leon A. Johnson, trustee

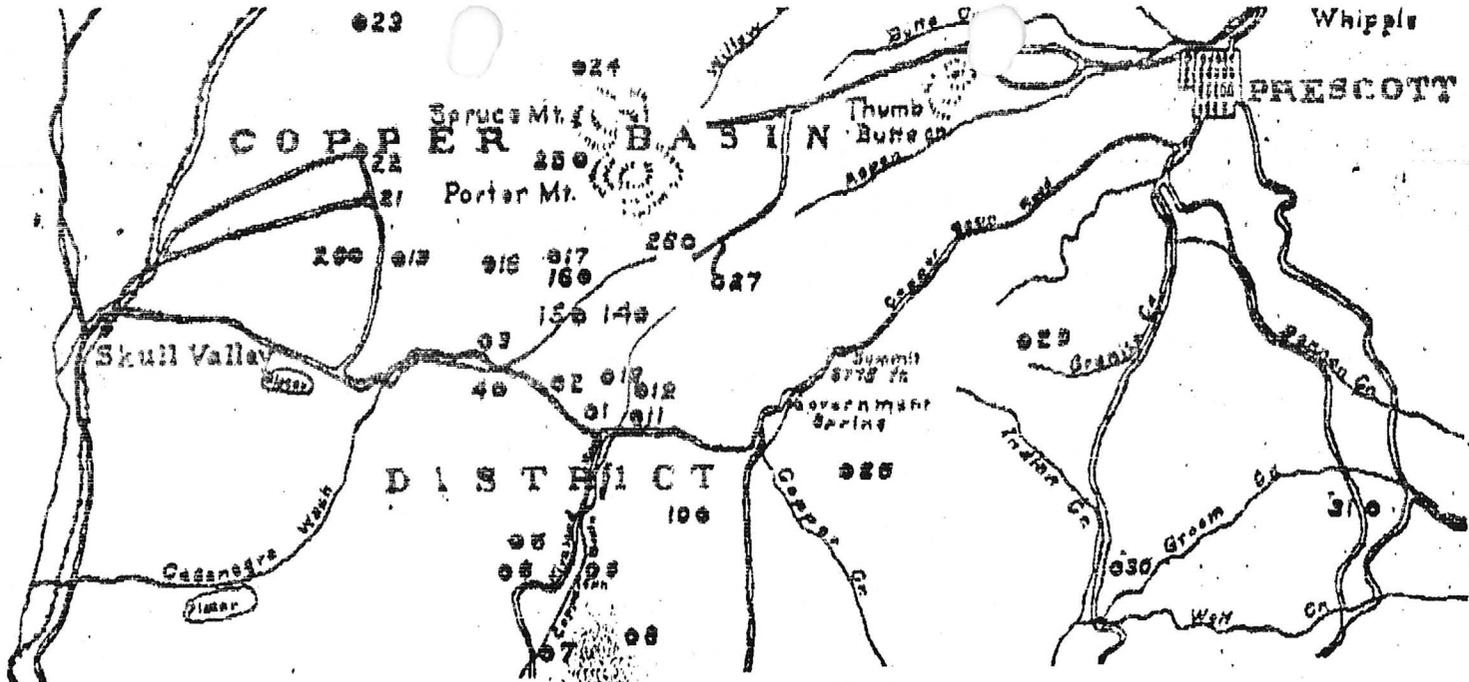


The foregoing instrument was acknowledged before me this 24 day of August, 1993, by Leon A. Johnson.



Notary Public

My Commission Expires: 5-21-93



ROADS AND PROPERTIES OF THE COPPER BASIN DISTRICT

- Commercial (Phelps-Dodge Co., Copper Basin Branch.)
- Copper Hill
- U. S. Navy
- Thumb Butte
- Old Metallic
- 6. Mint
- 7. Lucky 5
- 8. War Eagle
- 9. Arizona Portland
- 10. Sink to Rise
- 11. Loma Prieta

- 12. Martin Schuber
- 13. Herman Boehm
- 14. Arizona Opal
- 15. Plymouth
- 16. Alto
- 17. Oregon

- 18. Robinson (Russell)
- 19. Gold Star
- 20. Jerome Prescott
- 21. Copper Valley
- 22. Logan
- 23. Martin
- 24. Darby

- 25. Queen
- 26. Zachariah
- 27. Thumb Butte Con.
- 28. Beard
- 29. Comet
- 30. Silver King
- 31. Ruth

In July, a road will be built to the property preparatory to installing the machinery.

Gold Star property consists of one located claim, situated east of the home Prescott. Development work consists of a shaft down 345 feet. The drifting has been done from a 125 level. Work is carried on by gas hoist. The property is now inactive. A number of tons of ore now and on the dump.

Jerome Prescott Copper Company has 690 acres in Copper Basin about 14 miles from Prescott and 4 miles from Skull Valley. Development work on the property consists of several shafts, the deepest being 6 feet, and some drifting, and a 6 foot tunnel. Values encountered for these workings are principally pyrite and gold.

Equipment consists of stamp mill, necessary working machinery and a complete camp. For detailed report, a Mines Progress section, this is a

Copper Valley property consists of claims situated about 4 miles northwest from the Commercial mine. Management is now engaged in sinking a 500 foot shaft. All necessary machinery and equipment will be installed in the near future as a result of high values in gold, silver and copper encountered. For a complete detailed report on this property see later page in this issue.

Logan consists of three patented claims and several unpatented claims. On the property there is a complete steam power plant, a hoist, compressor, pumps and a fully equipped camp. The main working shaft is down about 150 feet. From the shaft the drifts and crosscuts have been made. Other development work consists of tunnels and small cuts. During the early history of the property quantities of high grade copper were shipped. Recently the Board of Supervisors has ordered the old Logan

plant, complete working equipment, 5-stamp mill and concentrating tables. There is also a complete and well appointed camp on the property, which is well kept up. A great deal of money was spent on these improvements and also on roads. The entire property is now in charge of a caretaker.

The Queen is an old property controlled by the Alto Mines Company. This property of four claims was last worked in the summer of 1917. Development work consists of a series of tunnels, ranging in length from 150 to 400 feet. The ore vein has a width of 4 inches to 4 feet and values in gold and silver run from twenty dollars to several hundred dollars a ton. The property was worked many years with a small milling plant and a hoist. Two years ago a new mill was built. The property is now inactive due to dissension in the management.

Zachariah Mining Company was incorporated June 2, 1917. The property consists of 10 claims about 7 miles southwest of Prescott and 1 mile south of Prieta siding. Development work consists of a shaft down 70 feet, a tunnel driven in 300 feet and other shallow workings. A total of 200 feet of work has been done within the past six months. A 2-h.p. Fairbanks-Morse hoist and a 3-stamp mill practically includes all the equipment on the property. There is also a camp. Values encountered have been high enough to warrant the management building the stamp mill. It is also planned to build a detraction mill on the property at a later date. The principal values encountered are gold and copper. The average assay is about \$20 a ton. A 2-inch ledge has been encountered which yields a gold value assaying \$8,000 a ton. The company has no stock for sale, being financed and operated by a group of five men.

Thumb Butte Con. Mines Co. has

on the rim of Copper Basin on the southwest slope of Thumb Butte about 6 1/2 miles from Prescott. The property consists of a total of 8 claims. Development work includes three shafts, drifts, cross cuts, tunneling and various open cuts on the surface. The deepest of the shafts, the Hurricane, is 150 feet deep. From various levels in this shaft about 300 feet of drifting has been run. The second shaft, the Prescott, is down 135 feet. It is the intention of the management to make the Prescott the main working shaft on the property. A new 15-h.p. Fairbanks-Morse gas hoist and galloways frame are now being placed in position at this shaft and will be in operation on or before April 15th. A compressor, drills and other equipment will be installed as soon as possible. This property has been worked for a number of years by S. H. Anderson, prior to its being taken over by the new management. Several small shipments of high grade silver have been made periodically by Anderson as his development work progressed. Heretofore no attention has been given to the copper ores in the property as it was being worked for its gold and silver values. As depth was attained, copper values increased and the present management is now planning to work the property as a copper proposition.

Beard group is one of the oldest properties in Copper Basin. The main workings were carried on from a 50 foot tunnel from which good values in gold, silver and copper were taken. Two or three shallow shafts were also sunk on the property.

Comet group consisting of 3 claims lies almost south of Prescott in what is known as the Groom Creek district. About 300 feet of development work has been done on the property in shafts, tunnels and cuts. There is no equipment on the property. As present, only location work is being done

**COMMERCIAL MINE ON THE PHELPS-DODGE COPPER BASIN BRANCH**

Acting Manager A. B. Peach reports Operations of the present Phelps-Dodge Corporation, Copper Basin Branch, began under the name Commercial Mining Company in early eighties.

The Copper Basin property, posed of 18 claims, was purchased by Dr. James Douglas from G. C. At the time the property was changed, there were small strata of increasingly high grade ores exposed by open cuts and a short on the surface.

I have been told that copper is almost pure copper, and which was as much as eight or nine pounds found on and around the base of Fair Hill. Beyond a question the promising showing for the main copper mine known in Arizona day, and which would immediately draw the attention of any one familiar with the copper mining in the Copper Basin district.

A short time after the purchase of the Copper Basin property by Commercial Mining Company, a smelter was erected. At this time smelting of copper ores and especially rebellious ores was in its infancy copper was then worth only from 10 cents per pound and the transportation extremely heavy to bad roads and long hauls railroad points, the cost of producing copper was so high that the undoubtedly found it impossible to work the ore profitably by smelting.

They also erected a leaching. This method was no doubt to be too expensive, from the high consumption of acids, due to the association of lime and magnesia.

After expending large sums of money on the property, work was

**GEOLOGIC REPORT**  
**SIERRA PRIETA GOLD MINE**  
**YAVAPAI COUNTY, ARIZONA**

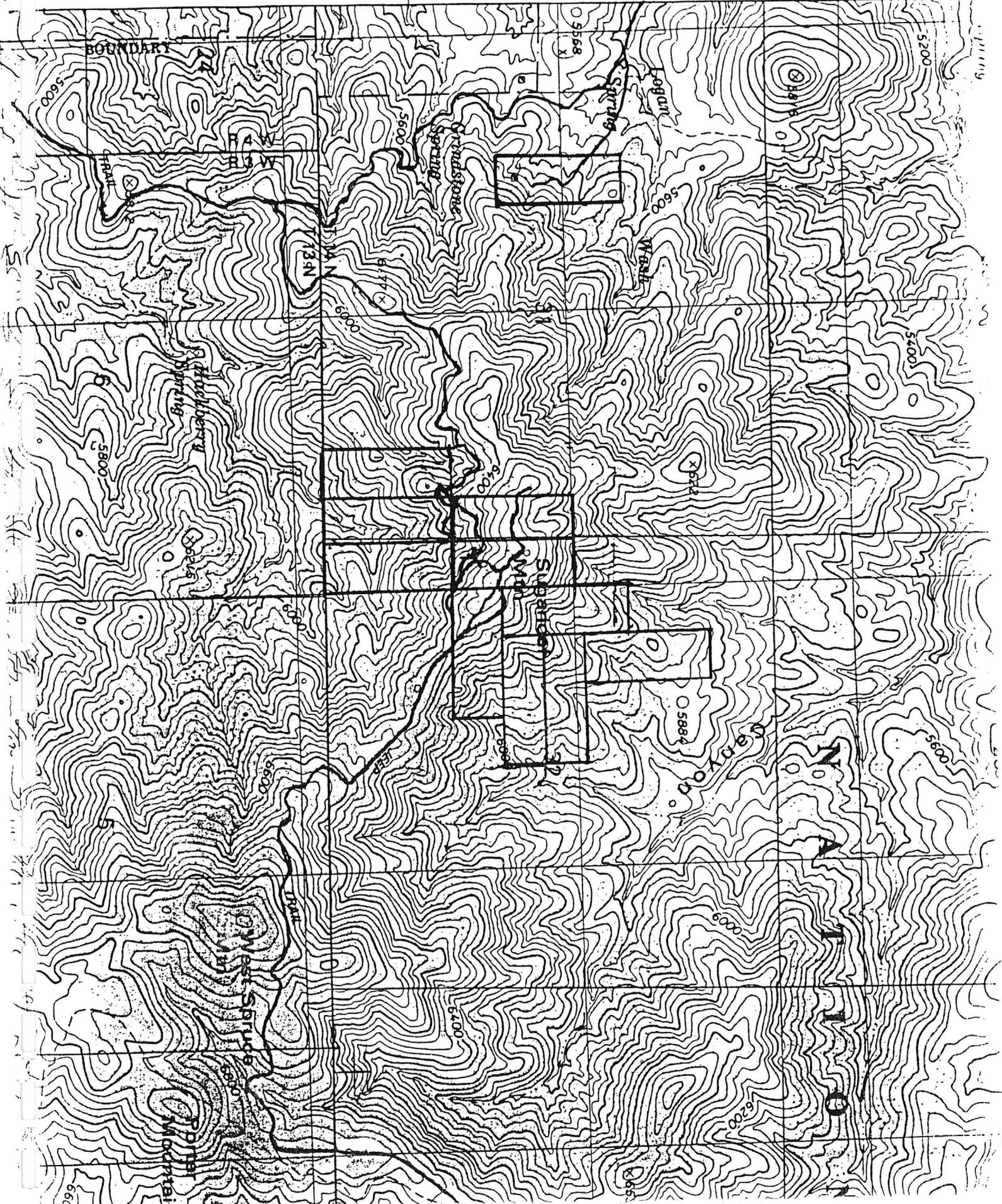
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This report is a collection of three separate geological surveys conducted by:

Frank W. Mack, Consulting Geologist.

## GEOLOGIC REPORT

### SIERRA PRIETA GOLD MINE

### YAVAPAI COUNTY , ARIZONA

#### INTRODUCTION

##### Location

The mine is located between Prescott and Skull Valley.

##### Access

Access is by means of four wheel drive type vehicle via Iron Springs road, thence through a small housing subdivision, to a jeep trail through USFS land to the mine. Access is also possible via Skull Valley. In either direction, the mine is reached via about four miles of improved jeep trail. This road will require some grading before production begins to facilitate the transportation of mining and milling equipment to the mine site and normal access of personnel and ore transportation to the mill site.

##### Purpose of Examination

The purpose of the examination was to determine the geologic setting of the gold mineralization and if additional potential for more mineralization could be expected below the haulage level ( upper adit ).

##### Method of Investigation

A Brunton Compass-hip chain survey was carried out to map the geology of the mine vicinity.

#### SUMMARY AND RECOMMENDATIONS

This small but high-grade gold property is not a prospect but a proven economically viable mine with probably at least 15,000 tons of ore running about one ounce of gold per ton. The ore is free milling quartz.

It is estimated that less than \$100,000 would be required to bring this property into commercial production in three to six months time. A modular trailer mounted processing plant from crushing to final concentration with a minimum capacity of 25-30 tons per day would gross about \$10,000 daily. Personnel would consist of : Project Supervisor, contract miners, ore trammers, ore truck driver and one or two mill hands. Additional

workers would be used as required. Daily mining/milling costs are estimated to be less than \$1,000 based on a 25-30 ton per day production scenario.

## GEOGRAPHY

### Relief and Elevations

The mine is located near the top of a relatively steep sided mostly south facing slope which is part of the rugged Sierra Prieta mountain range. The elevation of the mine is about 6700'. The mine may be worked during the entire year.

### Drainage

Only intermittent amounts of water flow in the normally dry stream courses after heavy rain storms or from melting snow during the winter season.

### Water Availability

Sufficient water is available for both mining and milling purposes.

### Power

It will be necessary to have electrical generators for the mine and mill power requirements.

### Vegetation

At the mine proper, only low growth scrub brush flourishes. Pine timber is confined to areas not affected by previous forest fires in canyon bottoms and isolated highland areas.

### Rock Exposures

Most of the mine area rock is covered by a thin layer of soil and decomposed wallrock. The trace of the vein is indicated by broken fragments of white quartz.

## REGIONAL GEOLOGY

The Sierra Prieta mountains are composed of a complex of older Precambrian felsic to intermediate intrusive rocks. The varying rock types are the result of the intrusive invading pre-existing masses of metasedimentary and metavolcanic rock formations. Remnants of the pre-existing metamorphic rocks are locally found in roof pendants within the intrusive.

The Precambrian rocks have been locally intruded by granitic stocks of Laramide age ( Cretaceous / Tertiary ).

The Arizona Bureau of Mines 1:375000 scale Yavapai County geologic map indicates that the Sierra Prieta Mountains are part of the Bradshaw granitic batholith.

### GEOLOGY OF THE MINE

The main rock type hosting the gold bearing quartz vein is a fine to medium grained, medium gray quartz diorite. The quartz diorite in places is in contact with a hybrid rock proximal to a metavolcanic felsic to intermediate tuff formation.

### VEIN DESCRIPTION

The vein strikes from N40°E to N60°E and dips about 43° to the southeast.

The width of the vein is variable. From observations made along the vein traverse from NE to SW, the vein, where measurable, was from two to locally three feet in width. The vein appears to be sigmoidal ( pinch and swell ). In areas between ore shoots the vein may narrow down to only a few inches. Distances between shoots appears to be about twenty or thirty feet.

The vein quartz is white, fractured and has scattered blebs of limonite ( oxidized pyrite / chalcopyrite ) with intermixed wire and moss gold. Locally, the sulfides are only partially oxidized with visible gold.

Adjoining the vein on the hangingwall and footwall the rock has been mineralized to a width of ten or fifteen feet with pyrite and chalcopyrite which are partially oxidized. This wallrock is also mineralized with gold. If economical amounts of gold are present in this wide pyritized halo around the vein, a significant additional tonnage will be available for mining.

### MINING WORK TO DATE

To date, the vein was drifted to a length of about 75'. From this level, the vein was stoped. Surface exploration along the surface resulted in a 300 - 400 pound pocket in the vein which contained 230 ounces of gold ( \$80,500 @ \$350/oz.). The downward extension of this shoot was not reached by the haulage level. The vein area that was stoped was not explored for gold values below the floor of the drift. The adit is now closed, as required by USFS for safety reasons.

## POTENTIAL

The estimated potential of at least 15,000 ounces of recoverable gold is based on a strike length between gold occurrences ( visible to the unaided eye ) along a 800' strike length and only to a depth of about 150'. The average vein width is assumed to be about 1.5'. As previously mentioned, this orebody is open ended along strike and with depth.

## STATISTICS OF THE SIERRA PRIETA GOLD MINE

Vein Strike length - 800'

Vein width average 1.5'

Depth of vein 150' (minimum)

15,000 tons of gold bearing quartz

@ one ounce of gold per ton contained metal of 15,000 ounces

@ \$350/ounce equals \$5,250,000 contained metal

Mining - milling rate 30 tons per day

Weekly Mining / Milling rate 180 tons

Recovered gold value per week \$63,000

One year recovered gold value \$3,276,000

One year mined ore tonnage 9360

Daily waste removal, possibly 90 tons.

Note: If the wall rock is sufficiently mineralized, there will be no waste and all mined rock will be sent to the mill for processing.

EXPLORATION WORK PROGRAM RECOMMENDED  
FOR SIERRA PRIETA GOLD MINE  
YAVAPAI COUNTY, ARIZONA

The following work is recommended to be carried out con-currently with pre-production activity:

1. Locate additional claims along the vein structure north and south of current claims.
2. Geologically map the area of the mine vicinity and sample prospective vein and adjoining altered host rocks (1"=200' map scale).
3. Determine if the main vein zone has a magnetic signature. If a magnetic signature is determined, buried or non-outcropping vein structures may be indirectly located by use of ground magnetic surveys.
4. Cut trenches perpendicular to the Sierra Prieta vein to sample wallrock mineralization.
5. As mining activity progresses, all old mines and prospects in the surrounding area should be carefully examined, geologically mapped and sampled for acquisition purposes.

Locally felsic - in low. schist  
Koned. (1'-2' thick)

Diorite / Granodiorite / gabbro  
Vein, Occas quartz  
lenses (1'-2' in length)  
Occas. H. beam limonite  
Spec. Coarct.

Occasional 1'-5" quartz  
veining in dark HW  
F.W.

Several  
of ore vein  
Visible  
from  
Diorite  
frag. & gabbro

Crosscutting fragments  
of quartz vein

10-15' wide  
pyritic & hematite  
vein  
(Foot wall side)  
= boundary

± 3' wide white quartz  
vein, a base line with  
py/cpy, Occas Unox.  
V. gold  
V. in trace

Approximate  
Vein Trace

Locally = boundary  
tuffal limit

Foot wall +  
mineralized  
py/cpy ± 10'  
width

Vein quartz  
stone / V. in  
gold

Vein NSW  
45° SE

230 ounces of  
gold removed  
from surface by  
D. Peck (300-904-010)  
Granodiorite -  
Diorite

Pyritic 10-15'  
wide hematite  
vein (Hanging wall side)  
= Boundary

Fine grained  
Diorite

75' Adit

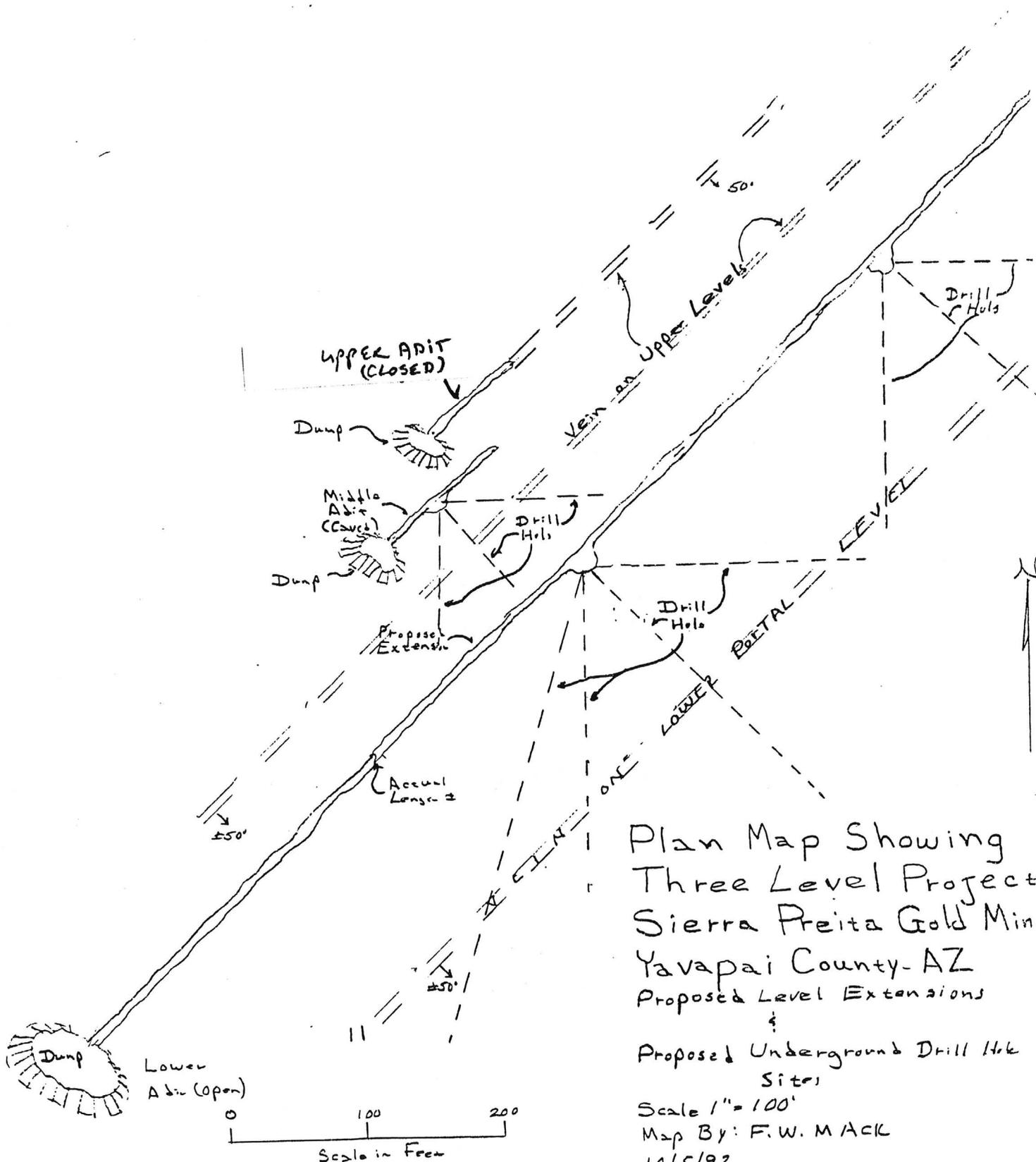
2' wide  
SiO<sub>2</sub> vein  
N 60° E  
43° SE



Scale in Feet

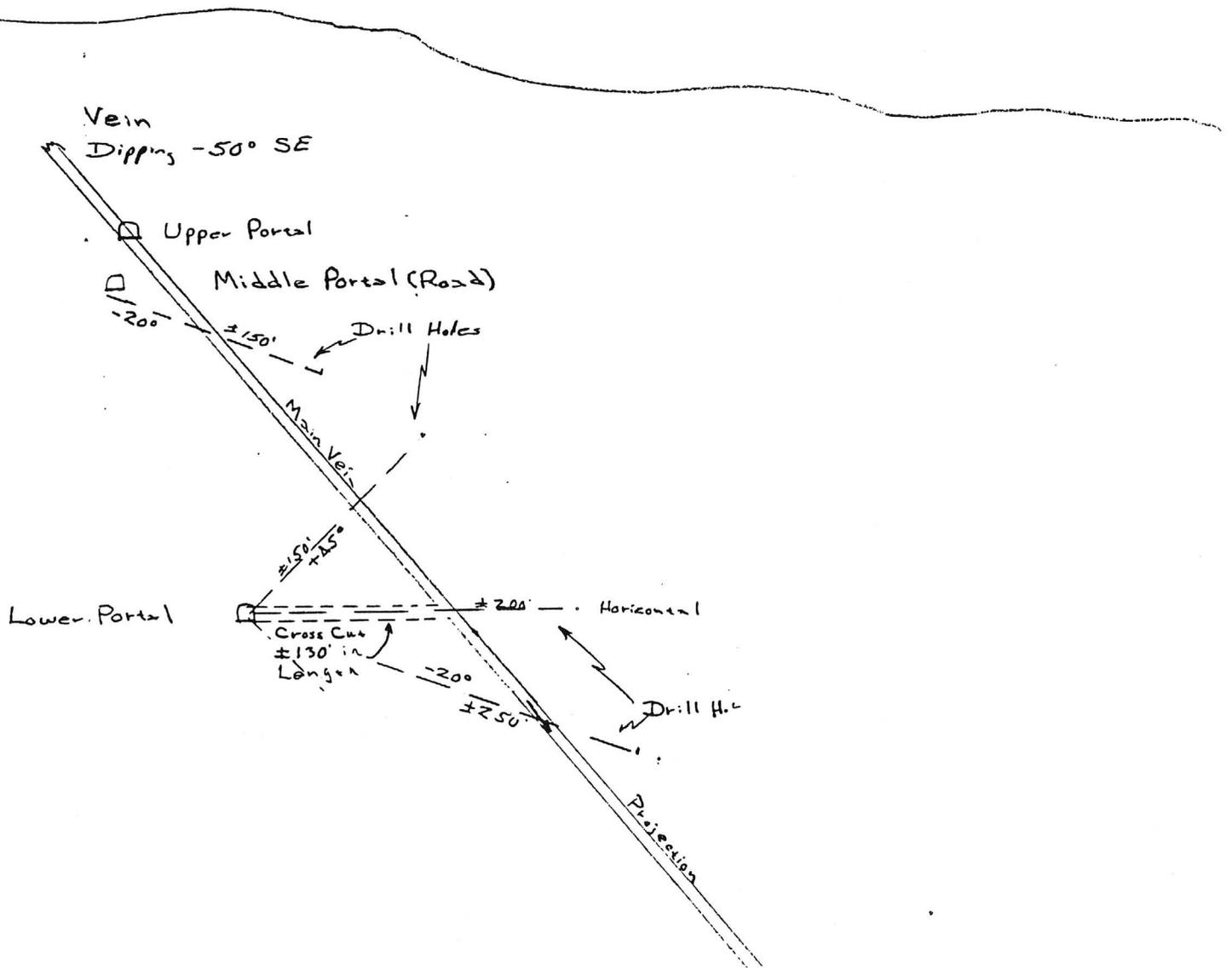
--- Vein Trace

Geologic Map  
SIERRA PREITA GOLD MINE  
Yavapai County - Arizona  
Scale 1" = 100'



Plan Map Showing  
 Three Level Project  
 Sierra Preita Gold Mine  
 Yavapai County-AZ  
 Proposed Level Extensions  
 &  
 Proposed Underground Drill Hole  
 Sites  
 Scale 1" = 100'  
 Map By: F.W. MACK  
 10/5/92

Proposed Drill Holes  
Sierra Prieta Gold Mine  
Yavapai County - AZ  
Scale 1" = 100'  
Section Perpendicular To Vein



## POTENTIAL OF THE SIERRA PRIETA GOLD MINE FOR ADDITIONAL SIGNIFICANT AMOUNTS OF GOLD MINERALIZATION

Based on very preliminary mapping and examination of the geologic environment of the Sierra Prieta gold mine, certain characteristics were noted that are associated with and suggest that as mining and development continues, more are will be encountered over and above the initial estimated tonnage figure of 15,000 tons.

The following are characteristics of the Sierra Prieta gold deposit:

1. The deposit is of mesothermal origin. The vein lacks high temperature minerals and mostly low temperature mineralization.
2. The vein has a "Pinch and Swell" character.
3. Wall rock alteration forms a narrow halo.
4. Less than 5% randomly distributed blebs of pyrite / chalcopyrite with varying amounts of coarse gold inclusions.
5. Mixed sulfide / oxide zone at surface which readily releases free gold by normal milling techniques.
6. "Tight" and / or cool wall rock during alteration / mineralization has limited depth of penetration and confided for the most part gold to the quartz vein, possibly resulting in higher grade concentration.
7. Better concentrations of gold occur within "shoots" spaced along the main structure.

The Sierra Prieta gold mine is similar in certain geologic respects to the following Yavapai County gold mines: Congress, Octave, Crown King and Walker.

The overall characteristic of these mines are narrow quartz veins that are persistent both along strike and with depth. The enclosing wall rock usually does not have wide alteration halos.

The diorite intrusive rock ( metamorphosed ) in which the Sierra Prieta vein occurs is in close proximity to an older rock ( Yavapai Schist ).

The host rock of the Sierra Prieta gold mine vein is an intrusive Precambrian diorite which has invaded the pre-existing older Precambrian Yavapai Schist which consists of a "thick assemblage of submarine volcanic, volcanoclastic and epiclastic rock". In the general area of this prospect are small zones of syngenetic massive sulfide mineralization formed simultaneously with submarine volcanic activity within units of the Yavapai Schist. In addition to base metals within the massive sulfide deposits, there is usually a certain amount of gold and silver. When the formations hosting the massive sulfide mineralization are intruded by batholiths, stocks or smaller masses of rock, a certain amount of precious and base metal remobilization takes place. Near surface areas of the intrusive will undergo a certain amount of dilation resulting from rapid cooling.

Deeper zones of the intrusive will retain sufficient heat to cause the movement of remobilized metals to sites of deposition such as the dilated near surface fissures. The lower temperature wall rock will not be affected by the alteration / mineralization event resulting in a very thin halo of alteration.

The above suggested scenario is suggested for the formation of the narrow but persistent quartz veining hosting significant amounts of gold and silver mineralization not only at the Sierra Prieta deposits but at Congress, Octave and other mines previously mentioned as well. Base metal mineralization probably will not be very significant especially in the upper levels of the vein systems. Assuming a zonation of the mineralized veins, greater amounts of base metal may be expected with depth.

The Sierra Prieta gold deposits have a very good potential to become very significant.

It is my opinion that when advanced exploration work is eventually carried out on the quartz vein system of the Sierra Prieta, the ore zones will be found to be persistent to significant depths and horizontally along strike.



Frank Mack  
Consulting Geologist

SUPPLEMENTARY GEOLOGIC REPORT

OF

THE SIERRA PRIETA GOLD MINE

YAVAPAI COUNTY, ARIZONA

BY

FRANK W. MACK

OCTOBER TO NOVEMBER, 1991

## GENERAL COMMENTS

1. This current study indicates significant amounts of gold ore potential for this property both along strike and down dip of the main vein as well as other parallel structures.
2. As lower levels of this vein structure are mined past the partially oxidized / enriched zone, gold values will probably be more "locked" into the crystal lattices of the sulfide minerals. This sulfide ore will more than likely require floatation concentration and smelting recovery for the gold. The depth to this complex sulfide ore level will probably be more than two hundred feet below the current mining levels or more specifically where the effects of oxidation / enrichment end. Milling costs of this complex ore will be higher than processing free milling gold ore.
3. Preliminary surveying indicates that the lower most adit and the road adit were driven into the foot wall of the main vein. These adits however, will serve as haulage levels after cross cutting eastward and raising to the mineralized vein.
4. If a "cash out" is ever considered, it is recommended that if less than one or two million dollars are offered, the property should not be sold due to the high potential of the orebody.

GEOLOGIC DISCUSSION OF THE SIERRA PRIETA GOLD MINE  
AND  
THE ECONOMIC POTENTIAL ALONG THE STRIKE OF THE VEIN

VEIN DESCRIPTION

The Sierra Prieta Gold Mine vein exposed in the production area is from nearly two feet up to four feet in width. The vein attitude is N 52° E and dips 41° southeasterly.

The vein is composed of a highly fractured to massive hard white to grayish colored quartz. The quartz is vitreous and locally has a "greasy" luster. Occasionally there are surfaces with a golden iridescence. It is estimated that this quartz formed at a high intermediate temperature ( 570° - 870° C ). The vein is sheet fractured parallel with the plane of the vein structure. The fractures occur with a density of about fourteen per foot of width locally. Deposited along these fractures is a thin film of limonite which appears to be transported from the oxidation of partially to completely oxidized chalcopyrite / pyrite blebs. Additionally, there are some other fracture attitudes randomly oriented and later than the sheeting fracture set.

MINERALOGY DESCRIPTION

The sulfide blebs are emplaced throughout the quartz with no regularity. The size of the blebs varies from about one inch up to six inches in diameter. Secondary copper minerals have been formed from the primary chalcopyrite. On some chalcopyrite there are very thin ( less than 0.1 mm wide ) veinlets that appear to be chalcocite development. Minor amounts of covellite are occasionally present. Very minor amounts of pyrite and possibly arsenopyrite (?) were observed. Chalcopyrite occasionally forms a crudely interconnected ring pattern within quartz as if fracture filling around broken quartz grains. Black oxide copper is also possibly present along with minor amounts of malachite. Minor amounts of silver are detected in most assays indicating the possible presence of freibergite(?), a silver bearing copper sulfide. The preceding mineralogy indicates that the current production level is a zone of secondary enrichment.

The oxidation of the sulfide minerals results in the formation of well formed limonite boxworks. Irregular shaped fragments of gold, less than 1 mm in diameter can readily be seen by the unaided eye clinging to the oxidized remains of the sulfide which formerly enclosed the grains of native metal. The gold is a bright shiny yellow color with a fineness value of nearly one thousand. The gold / silver ratio is very high. The fragments of gold are very loosely held in the limonite matrix which results in easy detachment when the enclosing limonite within the quartz is mined or transported. Although not frequently observed, there is a certain amount of native gold disseminated within the quartz not associated with sulfide mineralization., This gold is not easily dislodged. This encapsulation of gold requires a fine grind to liberate the metal.



## ORIGIN OF MINERALIZATION

The presumed origin of the Sierra Prieta gold ore and adjoining mineralized areas will be based on field data observations. No polished sections of ore, rock thin sections, fluid inclusion studies or other laboratory studies were performed for this deposit to date.

The primary sulfide mineralization formed simultaneously with the emplacement of the fluid quartz into the vein structure. It is probable that at least one additional pulse of mineralization was deposited in the crystallized quartz vein.

The age of the host rocks of this deposit are not certain although for the most part they may be grouped within the very broad older Precambrian aged rock units. Later pulses of intrusive rock acted as mobilizers and concentrators of metal bearing fluids. It is the authors opinion that the source of the enriched metal zones were the piles of submarine volcanic rocks and their syngenetic massive sulfide deposits. Hydrothermal fluids leached parts of the metal rich massive sulfide zones and subsequently mobilized them up fault structures where they were emplaced along, among other sites, in primary joint planes when conditions were favorable.

As the highly corrosive hydrothermal fluids were moving upward and along a network of open fractures, metals were deposited into intermediate or mesothermal zones. Evidence of the passage of corrosive fluids was observed in rocks above the production zone.

In the case of the Sierra Prieta deposit, inspection of the wall rock enclosing the vein indicates that the principal plane of a joint set of the footwall and hanging wall acted as an open space for the emplacement of the vein. This principal joint set attitude was found in several other areas away from the vein indicating that this attitude is widespread. A similar joint set pattern has been observed in a mineralized area southeast of the main mine. Due to extremely deep weathering, the older rocks have not retained clear joint set patterns.

A genetic origin for this deposit may be proven as work progresses downward into the vein is that the vein along the joint plane host may at some point be intersected by a fault which acted as an access of hydrothermal fluids with subsequent mineralization into the joint plane. This fault could conceivably be inclined at a steep angle to access deep seated hydrothermal fluid sources. The magnetic survey has indicated the presence of a major fault east of the mine area.

## GOLD POTENTIAL ALONG THE VEIN STRIKE LENGTH

Several sites southwest and northeast of the mine area have, in the authors opinion, potential for the localization of significant gold bearing quartz veins. Additional testing, including ground magnetic surveys and geochemistry, will be used to delineate potential sites for future exploration.

## GEOLOGY OF THE SIERRA PRIETA GOLD MINE AREA

### INTRODUCTION

A Brunton Compass-Hip Chain geologic survey of the Sierra Prieta Gold Mine and adjoining areas was performed during parts of the months of October and November, 1991. To illustrate adequate geologic detail, a scale of " = 20' was used.

### PROPOSED SEQUENCE OF GEOLOGIC EVENTS

1. Mostly mafic submarine volcanism and local syngenetic deposition of massive sulfides.
2. Metamorphism of volcanic terrain.
3. Intrusion of a dioritic mass.
4. Intrusion into both the metavolcanics and diorite by a granitic mass, not observed, Inferred by numerous aplitic and pegmatitic veining in diorite.
5. Diorite dyke emplacement with numerous inclusions of metavolcanic rocks.
6. Granodiorite dyke emplacement.
7. Some metamorphic overprinting of dykes resulting from deep seated intrusive activity.

### DESCRIPTION OF MAPPED ROCK UNITS

#### REMNANTS OF METAVOLCANIC ROCKS ( OLDER PRECAMBRIAN )

Although there are good exposures of mafic submarine metavolcanic rocks, for example, in Spruce Creek to the north of the Sierra Prieta Gold Mine, only varying sized xenoliths of this formation were found within the mapped area. Xenoliths varying in size from a few inches up to several feet in diameter were observed in the older diorite intrusive mass. Mostly smaller sized fragments were observed in the older diorite intrusive mass.

The metavolcanic xenoliths are dark gray, fine grained, foliated, chloritized and epidotized.

## DIORITE INTRUSIVE MASS ( OLDER PRECAMBRIAN )

Intrusive into the metavolcanic unit is a widespread dioritic mass. The diorite is medium to dark gray, medium grained and strongly weathered. Locally, metavolcanic xenoliths, previously described, are found within this rock unit. Most likely, the composition of the intrusive is in large part due to the assimilation of large volumes of metavolcanic rocks. The xenoliths represent remnants of metavolcanic rock not completely assimilated into the intrusive magma.

### EVIDENCE OF GRANITIC INTRUSIVE

Although not observed in outcrop, there is evidence that a granite mass was emplaced not far from the mine area. Indirect indications of intrusive activity are aplite and pegmatitic veining in the diorite intrusive.

There is a very coarse grained granitic intrusive mass exposed in lower Spruce Creek, northwest of the mine area. The aplite and pegmatitic dykes may be related to this granitic emplacement.

### DIORITIC DYKES

Obvious evidence regarding the time of emplacement for these dykes was not observed. Perhaps additional mapping will reveal this information. All that can be stated with any certainty is that they along with the granodiorite dykes are the youngest rocks in the area.

It may be that the granitic intrusion remelted parts of the older diorite intrusive with resultant dyke emplacement. The other possible origin is that Laramide aged intrusive activity may have remelted and mobilized the diorite intrusive to form dykes.

Based on field observations, this consultant feels that the dykes were not the result of Precambrian intrusives but were emplaced at a much later time, possibly during the Laramide.

### GRANODIORITE DYKES

No clear evidence regarding which dyking took place before the other. The granodiorite lacks xenoliths but this may be due to complete assimilation. The granodiorite may also have been emplaced with no proximity with the metamorphic rock units.

## DISCUSSION OF STRUCTURE

### FAULTING

Within the mapped area, the only evidence of significant faulting was observed and noted along the roads ( upper and lower ) east of the mine. This fault is a shear zone about four to five feet in width striking N 20° - 30° E and dipping 44° - 56° to the southeast. The rock within this fault is crushed, locally quartzose with abundant limonite after sulfides. An "augen" type of texture is developed along the strike direction. It is estimated that this fault may crosscut the main vein at depth down dip from the production area.

This fault is considered to be important. It will be sampled and attempts will be made to explore it along strike either by projection or geophysically ( magnetics ).

The only other fault observed was an apparent right lateral displacement of a dioritic dyke west of the mine site.

### JOINTING

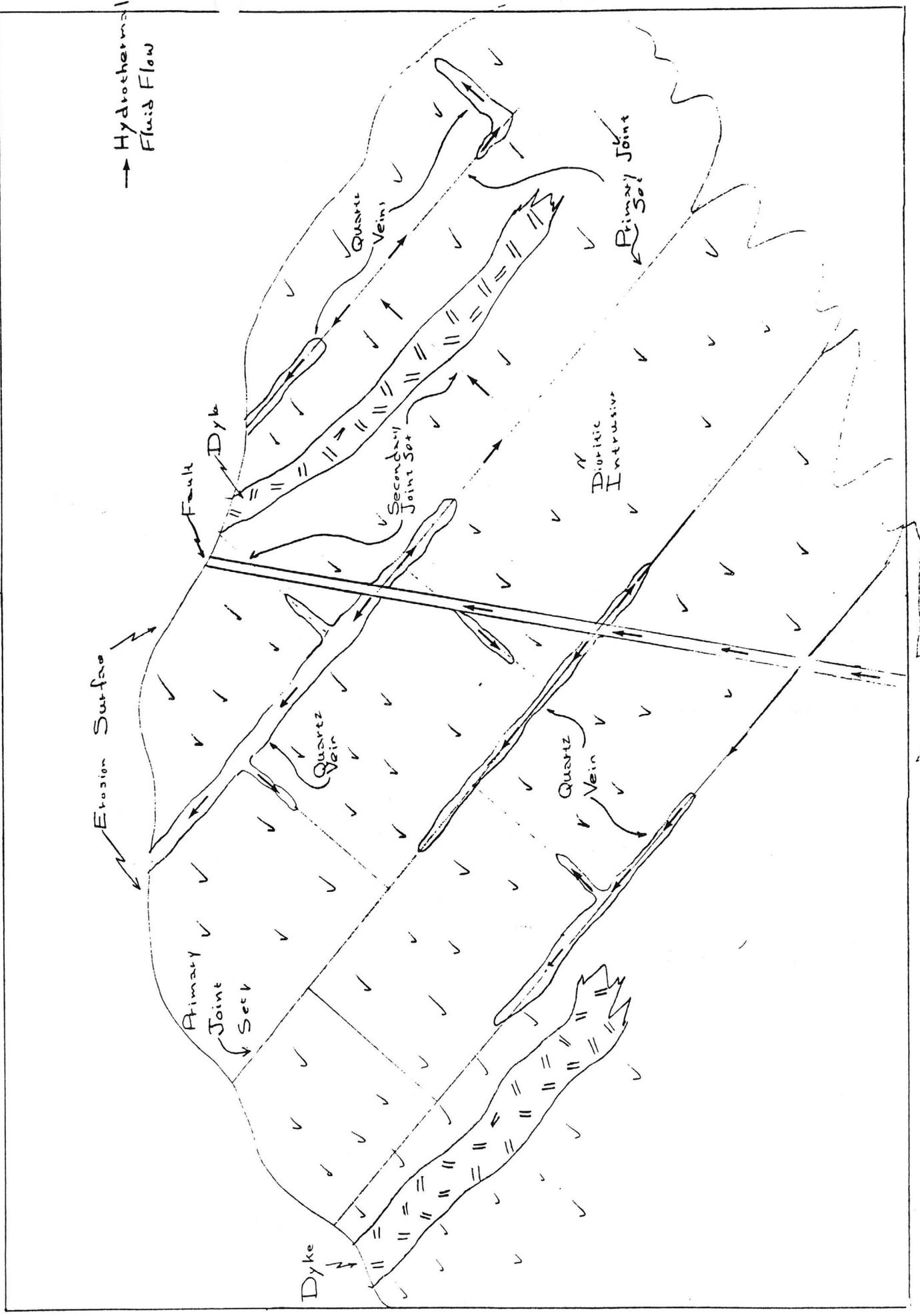
Jointing is locally well developed in the older dioritic intrusive however most outcrops are so strongly weathered that jointing has been obliterated for measuring purposes. It is presumed that in part, the location of dyking was controlled by pre-existing joint sets although there are instances where the dykes cut across joint planes.

Most importantly, in the case of the gold mine, it appears that the main vein is emplaced along a major joint set. This is discussed in another part of this same report.

### PROPOSED GENETIC MODEL FOR THE SIERRA PRIETA GOLD MINE

The sketch depicted of a possible genetic model for the Sierra Prieta Gold Mine illustrates how the quartz veins may have been localized along primary and secondary joint plane surfaces. Areas with no veining may have served as a solution path way for mineralizing fluids with no deposition. Veins not continuing past certain points along the planes may have been blocked or pinched off and not permitting continued movement of fluids. The fault may have been solely a conduit of solutions with only minor areas of mineralization.

Possible General Model  
Sierra Pelita Gold Mine - Yavapai County - AZ  
By: F.W. MACK  
Note: Schematic Drawing



# Hypothetical Gold Distribution



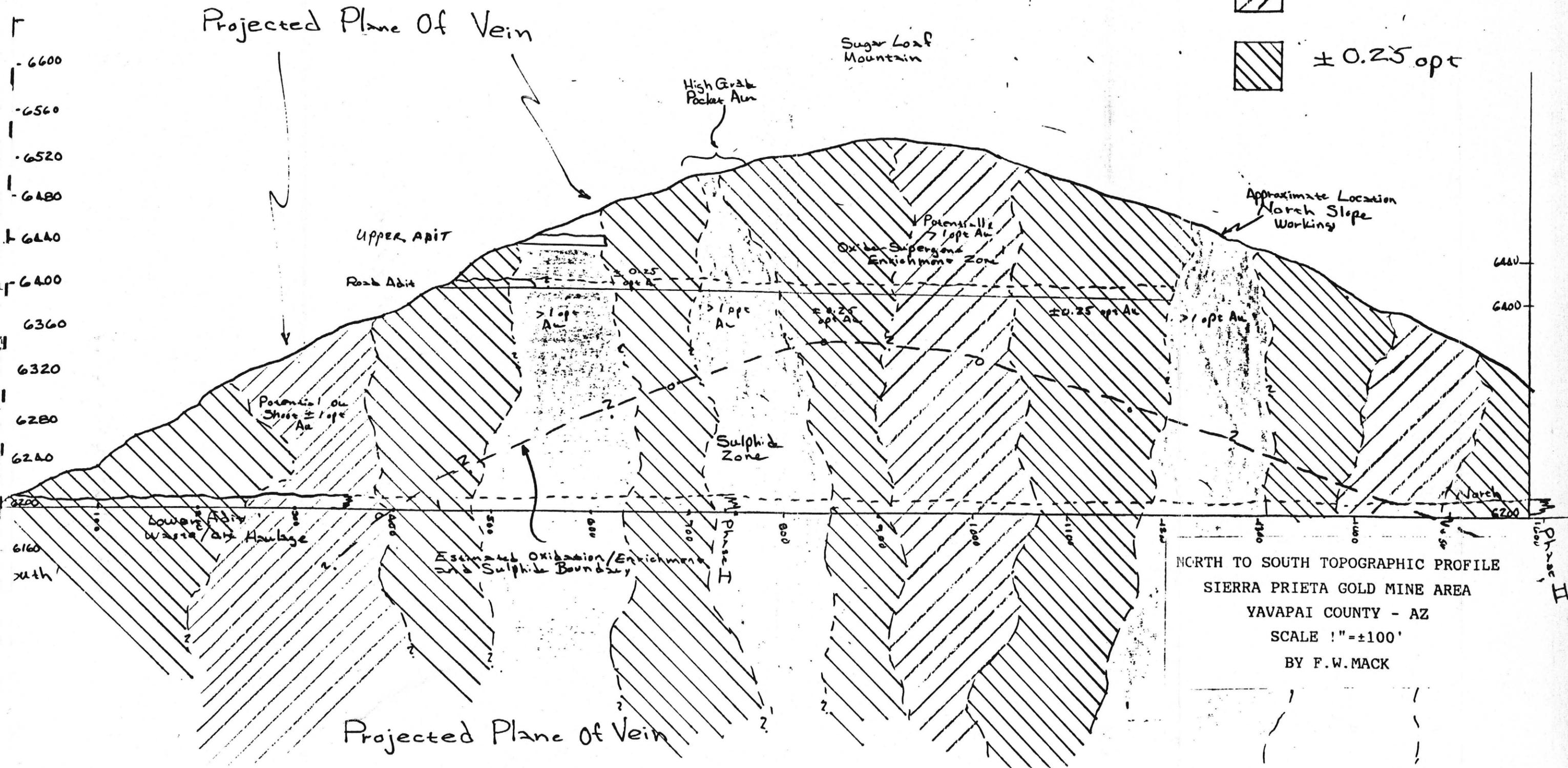
> 1 opt



Potentially > 1 opt



± 0.25 opt



NORTH TO SOUTH TOPOGRAPHIC PROFILE  
 SIERRA PRIETA GOLD MINE AREA  
 YAVAPAI COUNTY - AZ  
 SCALE 1" = ±100'  
 BY F.W. MACK

DISCUSSION OF MAGNETIC PROFILES  
ACROSS KNOWN AND UNKNOWN QUARTZ VEIN PROJECTIONS  
SIERRA PRIETA GOLD MINE AREA  
YAVAPAI COUNTY, ARIZONA

INTRODUCTION

Although it has been assumed that a certain detectable magnetic response would be associated with the main quartz vein structure of the Sierra Prieta Gold Mine, no previous surveys had been performed to determine what the actual signature would be. It was the purpose of this survey to determine the magnetic characteristics of the known vein so that this pattern or signature would be recognized in areas where the vein / structure do not outcrop. By performing ground magnetic surveys over large areas, exploration / exploitation work would be narrowed to relatively small areas of interest concentration.

SURVEY WORK SUMMARY

A total of eight lines, with varying lengths, were run as nearly perpendicular as possible to the vein structure. The shortest line was fifty feet ( Line - 1 ) and the longest line was five hundred feet ( Line-3 ). A total of 1605 linear feet were run with three hundred and twenty one observation stations.

PROFILE LOCATIONS ( See Geophysical Line Location Map )

Line-One	Quartz vein on knoll approximately 1600' southwest of the mine.
Line-Two	Most lower adit southwest of mine.
Line-Three	Along main road across closed adit portal just below main mine.
Line-Four	Along first dozer cut above main vein.
Line-Five	Along second dozer cut near "high grade pocket" south of fence.
Line-Six	On ridge north of fence line (100').
Line-Seven	North of ridge along most lower road to prospect cut on a vein.
Line-Eight	North of ridge on road between L-7 and main ridge road to prospect cut on a vein.

RESTRICTIVE LINE CONDITIONS

It was not feasible, due to strict Forest Service requirements regarding cutting lines in the brush, to perform more lengthy surveys. Normally, lines are surveyed and brush along these lines cut to allow access by the operator and his survey equipment. When the brush is not very dense, it is possible to conduct a reasonably straight survey profile. If on the other hand, brush is very dense, as it is in most cases around the mine, cut lines are the only way to perform adequate surveys. Despite this problem, a maximum effort will be made toward completing additional magnetic survey lines.

## GEOLOGY AS RELATED TO SURVEY

The geology in the vicinity of the mine is very complex lithologically and structurally. Wherever possible, geologic information has been noted in conjunction with the profiles. No notes were possible where bedrock geology has been masked by soil or talus debris. The position of the vein where exposed or its approximate location when dealing with closed workings with no visible in place vein quartz were noted on each profile for interpretation purposes.

Several very wide variations of values were, at least superficially, explainable based on observed outcrop.

The reason for this complex geology is the very old Precambrian aged rocks which have undergone metamorphism of cyclic marine sediments and volcanic rocks, tectonic activity, repeated intrusion by later batholiths and stocks and erosion weathering effects.

The chemical composition of the rocks were changed and zones of element enrichment and depletion were created. This rearranging of elements included the magnetic minerals as related to the deposition of base and precious metals. Vein structures will as a result of this chemical activity will readily be detected by magnetic surveys.

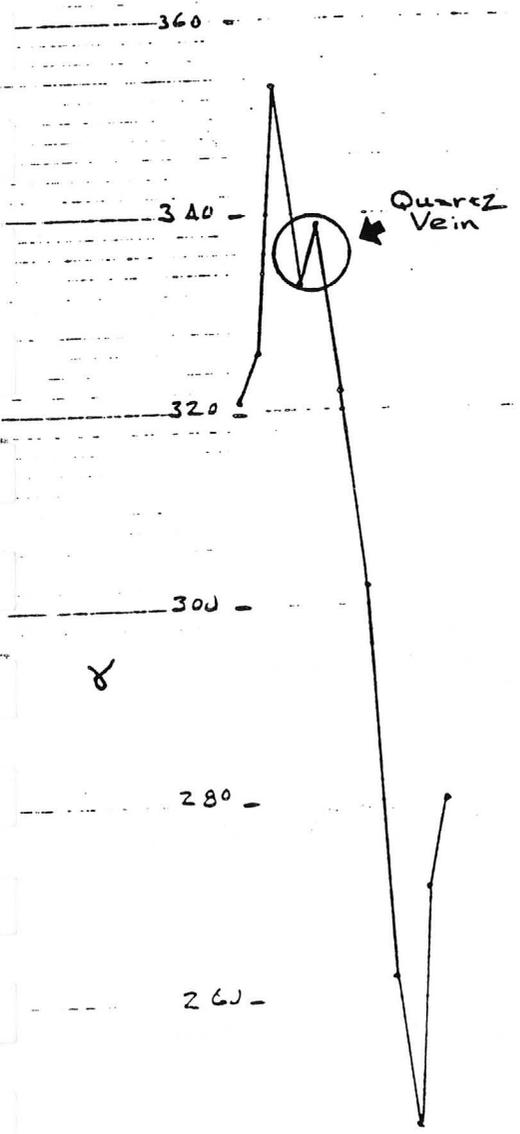
## DISCUSSION OF PROFILES

### LINE ONE

Based on a projection of the main vein outcrop pattern northeast and southwest of the production area, a vein quartz occurrence was indicated on a knoll about sixteen hundred feet to the southwest of the mine. This outcropping vein has been surfically explored in times past and is accessible by an old dozer cut. It is assumed to be the same structure that hosts the main vein.

The configuration of the profile was run directly on exposed wall rock and the quartz vein. The survey started from the eastward at 50,321 gammas and steeply increased to 50,353 gammas ( hanging wall rock ) within ten horizontal feet. From ten to fifteen feet the value dropped from 50,353 gammas to 50,323 gammas ( hanging wall ) then sharply up six gammas ( the vein ) and declined along a steep gradient to forty horizontal feet to 50,247 gammas ( schist footwall ) then sharply upward tot the end of the survey at fifty feet with a value of 50,280 gammas ( dyke ). The vein was from fifteen to twenty five horizontal feet along the survey. The steep downward gradient had a six gamma interruption at the location of the vein which was the signature. The footwall was composed of schist and dyking adjacent to the vein. As the line passed the schist and entered the dyke, the magnetic values started increasing.

GROUND MAGNETIC GEOPHYSICAL SURVEY  
 SIERRA PREITA GOLD MINE  
 YAVAPAI COUNTY-ARIZONA  
 SURVEY BY: F.W. MACK      OCTOBER/1991  
 OBSERVATION INTERVAL FIVE FEET  
 DIURNAL VARIATIONS CORRECTED  
 INSTRUMENT: GEOMETRICS PROTON MAGNETOMETER  
 SURVEY LINE ONE, E-W



Scale: Horizontal 1" = 50'  
 Vertical - 1" = 20 γ

50, 240 }  
 1.0 }  
 F.W. }  
 Vein }  
 H.W. }

## DISCUSSION OF PROFILES

### LINE TWO

This profile was run more or less perpendicular to the strike of the main vein structure. The line started east of the most lower adit portal, passed the portal and continued past the portal up the access road.

The first reading was 50,444 gammas ( felsic dyke ). From this point, the magnetic gradient sharply decreased to 50,280 gammas over a horizontal distance of only twenty feet. From this low point the gradient increased moderately over about eighty five feet ( hanging wall ), was interrupted by a weak two gamma break ( portal 95' - 105' ) in the line. The line increased ( foot wall ) further about sixty gammas up to 50,438 gammas ( mafic dyke ) then sharply decreased over one hundred gammas to 50,326 gammas ( felsic dyke ) and increased again nearly one hundred and twenty gammas ( older intrusive diorite ) at which point another decrease took place at the end of the survey.

Again, as in the case of line one, the vein appears, although weakly, as a minor interruption along a moderately steep magnetic gradient. The weaker character is probably due to the vein structure being further from the detection level of the instrument sensor. The mafic dyke was a pronounced high and the felsic dyke a low while in contrast to other lines the deeply weathered older intrusive was a high.



## DISCUSSION OF PROFILES

### LINE THREE

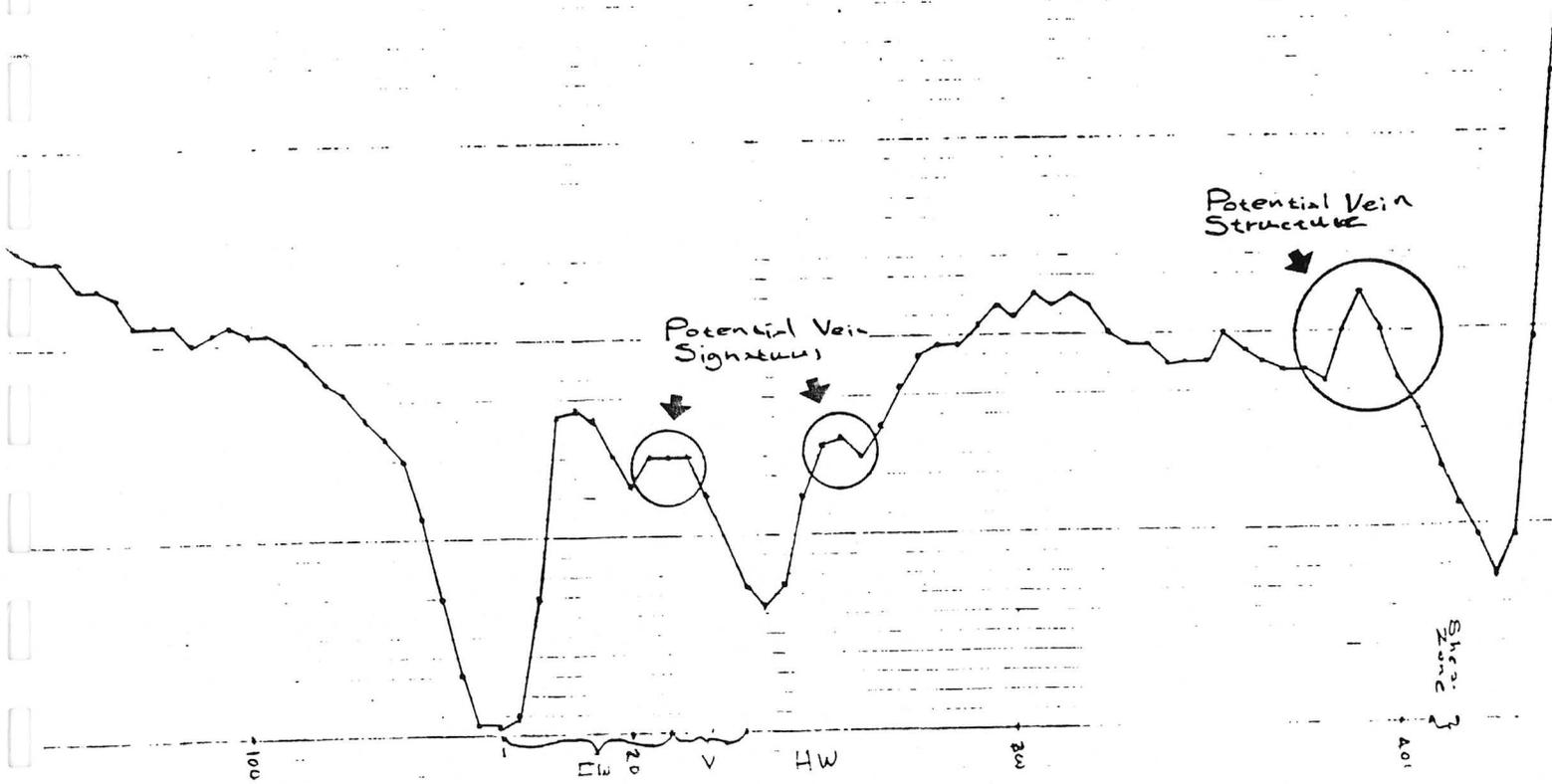
This line was run along the main access road ( west to east ), in places perpendicular to the vein. Both hanging wall and footwall and closed adit portal areas were crossed by this line.

This line began at 50,315 gammas ( diorite dykes ), decreases sharply to 50,270 gammas. The line remained constant until the 100' point where a gradual then steep drop of values continued to about 160' of the footwall area with a 50,211 gamma value. The line increased about 150 gammas, slightly decreased to the 190' point where a moderate gradient with a two gamma interruption from 250' to 260' possibly indicates the actual vein position. The profile fluctuates in minor amplitudes until 390' where a moderately steep gradient decreases thirty gammas then steeply increases about 327 gammas to 50,551 gammas in the vicinity of a 4' - 5' wide shear zone.

The vein signature appears well defined albeit weakly and the shear zone is very well defined. The vein signature is off of the closed drift that was driven into the ridge eastward about twenty to thirty feet. The drift was apparently driven below the vein at this point, missing it 20' - 30'.

GROUND MAGNETIC GEOPHYSICAL SURVEY  
SIERRA PREITA GOLD MINE  
YAVAPAI COUNTY-ARIZONA  
SURVEY BY: F.W. MACK      OCTOBER/1999  
OBSERVATION INTERVAL FIVE FEET  
DIURNAL VARIATIONS CORRECTED  
SURVEY LINE THREE-W-E

Scale: Horizontal 1" = 50'  
Vertical 1" = 20γ



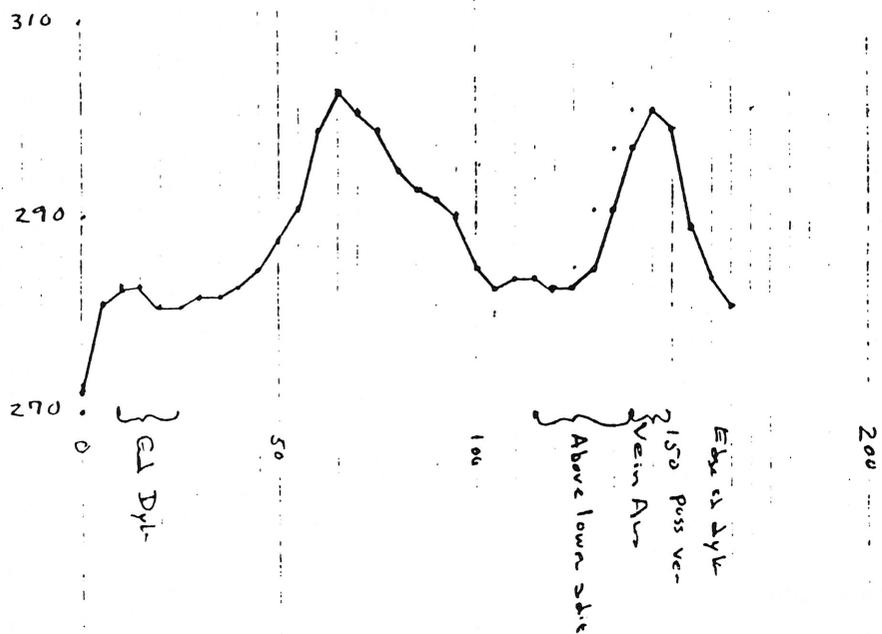
## DISCUSSION OF PROFILES

### LINE FOUR

This profile was run on the first dozer cut above the main portal level. Both sides of the vein cut were surveyed as far as the brush would permit.

The line starts at 50,272 gammas near a granodiorite dyke which only had a minor increase of several gammas before increasing moderately 20 gammas at which point the line decreased equally on the other side. From about 100' to 130' the line slightly leveled before increasing again where the vein was supposed to be from 140' to 150'. No characteristic break in a steep magnetic gradient was detected along this line, especially where presumably the vein was approximately located. The magnetic intensity was also lower compared to the other lines where the vein appears well defined. A depth factor may also explain the lack of a vein anomaly. If typical magnetic conditions were not present, as in other lines, it may be that this high point from 140' - 150' with about a 50,300 gamma value is indeed the vein reflection.

GROUND MAGNETIC GEOPHYSICAL SURVEY  
 SIERRA PREITA GOLD MINE  
 YAVAPAI COUNTY-ARIZONA  
 SURVEY BY: F.W. MACK      OCTOBER/1991  
 OBSERVATION INTERVAL FIVE FEET  
 DIURNAL VARIATIONS CORRECTED  
 INSTRUMENT: GEOMETRICS PROTON MAGNETOMETER  
 SURVEY LINE FOUR-E-W



Scale: Horizontal 1" = 50'  
 Vertical 1" = 20 G

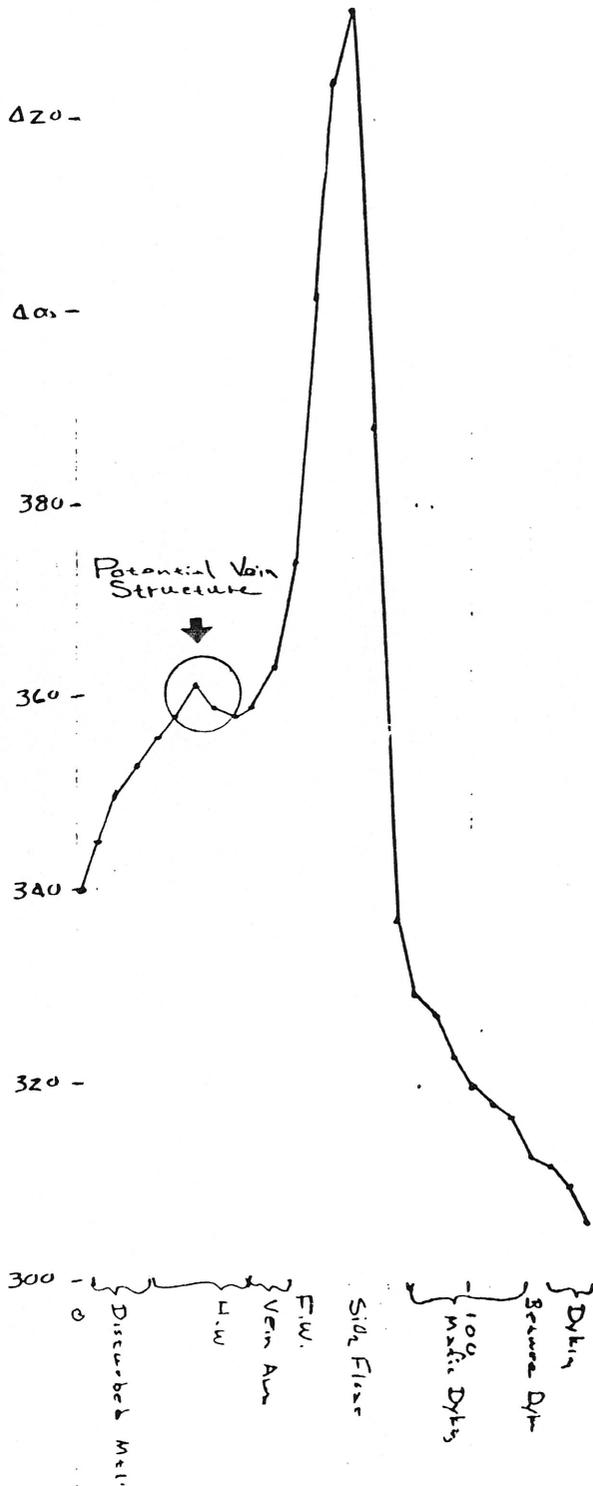
## DISCUSSION OF PROFILES

### LINE FIVE

This line is located along the last dozer cut on the south slope, about 100' south of the fence. This is in the vicinity of the high grade "pocket" of gold site.

This line begins at 50,340 gammas, moderately increases to 50,361 gammas, dips three gammas ( vein indication ) then sharply increases to 50,430 gammas ( vicinity of quartz float ). The line then decreases sharply down to 50,330 gammas then moderately decreases to 50,306 gammas in mafic dyking.

The vein signature indicates that the position of the structure is about thirty feet while the indicated ground position is at from 45' - 55'. The typical steep magnetic gradient with a slight ( 3 gamma in this case ) increased break is seen in this profile.



Scale: Horizontal 1" = 50'  
Vertical 1" = 20γ

SURVEY LINE FIVE-E-W

GROUND MAGNETIC GEOPHYSICAL SURVEY  
SIERRA PREITA GOLD MINE  
YAVAPAI COUNTY-ARIZONA  
SURVEY BY: F.W. MACK      OCTOBER/1991  
OBSERVATION INTERVAL FIVE FEET  
DIURNAL VARIATIONS CORRECTED  
INSTRUMENT: GEOMETRICS PROTON MAGNETOMETER

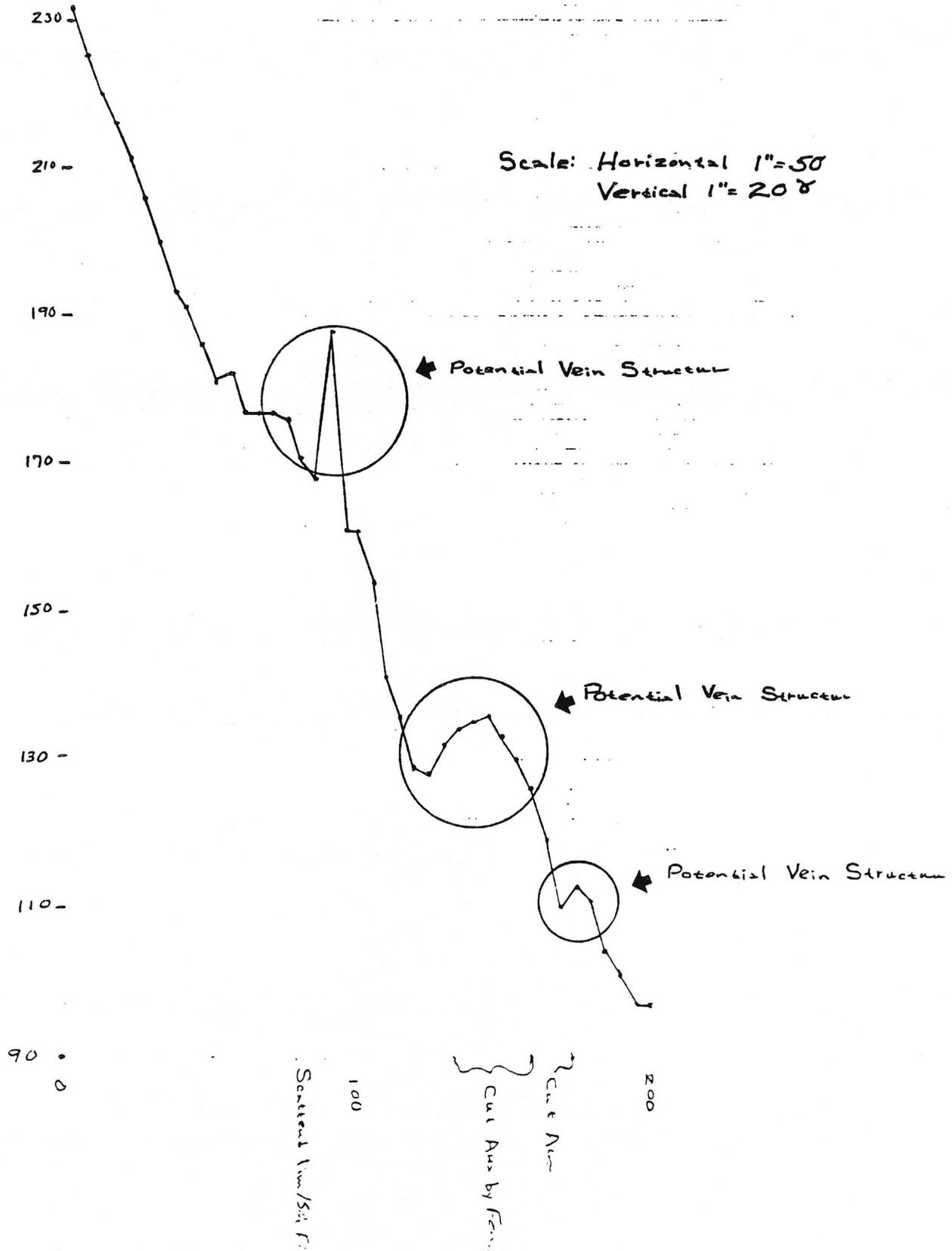
## DISCUSSION OF PROFILES

### LINE SIX

This line is about 100' north of the fence and parallel to it ( N55°W ). There was no outcrop on this line off the road and in scattered brush.

The starting point of this line was at 50,232 gammas. Generally, the magnetic gradient was steep from the start of the line to the finish at two hundred feet with a value of 50,097 gammas. Interestingly, there were three breaks in the gradient which may represent vein structures. The most probably vein structure was from 85' - 90' with a 20 gamma difference. At 125' - 155' ( 30' wide zone ) there was another zone with an 8 gamma difference and beyond this from 170' - 180' a 3 gamma anomaly. The last two anomalies were located approximately opposite the "cut" zone to the south of the fence. The sharp, well pronounced possible vein zone from 85' - 90' was in the vicinity of scattered hard limonite and vein quartz float. This consultant suggests that this anomaly may be the surface trace of the vein as it crosses the ridge before migrating more easterly as elevation decreases.

GROUND MAGNETIC GEOPHYSICAL SURVEY  
 SIERRA PREITA GOLD MINE  
 YAVAPAI COUNTY-ARIZONA  
 SURVEY BY: F.W. MACK      OCTOBER/1991  
 OBSERVATION INTERVAL FIVE FEET  
 DIURNAL VARIATIONS CORRECTED  
 INSTRUMENT: GEOMETRICS PROTON MAGNETOMETER  
 SURVEY LINE SIX-W-E



## DISCUSSION OF PROFILES

### LINE SEVEN

This line lies eastward from the main vein along a cat trail on the north slope of the ridge. It is almost at the same elevation as the most northerly working of the main vein. The vein structure here may be genetically related to the principal mineralizing event.

The profile starts at about 50,235 gammas, increases gradually 9 gammas and curves over for about twenty horizontal feet and decreases steeply to 50,196 gammas before decreasing again. This last break ( 50,196 gammas ) occurs about five feet eastward past the open cut where a vein was exposed. From 50,196 gammas the gradient strongly ( 95' - 105' ) increases to 50,636 gammas before decreasing steeply to 50,110 gammas at 135' the end of the profile.

If it had been possible to extend the line further west, it may possibly show the break in a steep gradient to be from 0 - 30' as the location of the anomalous vein structure. Additional length of line westward was prevented by a thick growth of oak saplings.

The extremely high value encountered was not due to any surficially apparent rock type exposed in the side of the ridge along the survey although there must be a high magnetic source nearby to have caused this very high group of values. Additional lines north and south may indicate a fault zone

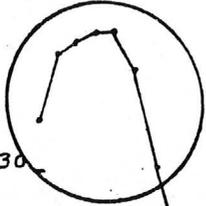
310

290

270

Potential  
Vein  
Structure

250



230

210

190

170

150

130

50110

GROUND MAGNETIC GEOPHYSICAL SURVEY  
 SIERRA PREITA GOLD MINE  
 YAVAPAI COUNTY-ARIZONA  
 SURVEY BY: F.W. MACK      OCTOBER/1991  
 OBSERVATION INTERVAL FIVE FEET  
 DIURNAL VARIATIONS CORRECTED  
 INSTRUMENT: GEOMETRICS PROTON MAGNETOMETER

SURVEY LINE SEVEN W-E

Scale: Horizontal 1" = 50'  
 Vertical 1" = 20'

## DISCUSSION OF PROFILES

### LINE EIGHT

Line eight is on a cat trail parallel to and between Line Seven and the ridge road.

This profile starts at 50,189 gammas, decreases 16 gammas in the vicinity of the vein exploration cut then sharply increases to 50,287 gammas and immediately decreases 36 gammas to 50,241 gammas then increases 29 gammas to 50,292 gammas and 50,287 gammas peaks before decreasing to 50,193 gammas at the end of the survey ( 200' ).

As in the case of Line Sever, if additional line had been run westward and the steep magnetic gradient were to continue, this interruption would fit the location of the vein exploration cut, however thick brush prevented further advance in that direction.

The massive vein quartz float in the bank 120' - 135' may be represented by break along the steep gradient from 50,292 gammas to 50,193 gammas or between 90' and 105' or 15' west of the anomaly.

### MAGNETIC SURVEY CONCLUSIONS

It is the opinion of this consultant that a magnetic signature or pattern is present for the vein structures that will be useful when exploring along projected vein zones buried beneath soil or transported debris. This pinpointing of areas of interest will increase the efficiency of the development work.

370

GROUND MAGNETIC GEOPHYSICAL SURVEY

SIERRA PREITA GOLD MINE

YAVAPAI COUNTY-ARIZONA

SURVEY BY: F.W. MACK      OCTOBER/1991

OBSERVATION INTERVAL FIVE FEET

DIURNAL VARIATIONS CORRECTED

INSTRUMENT: GEOMETRICS PROTON MAGNETOMETER

SURVEY LINE EIGHT W-E

350

330

310

290

270

250

230

210

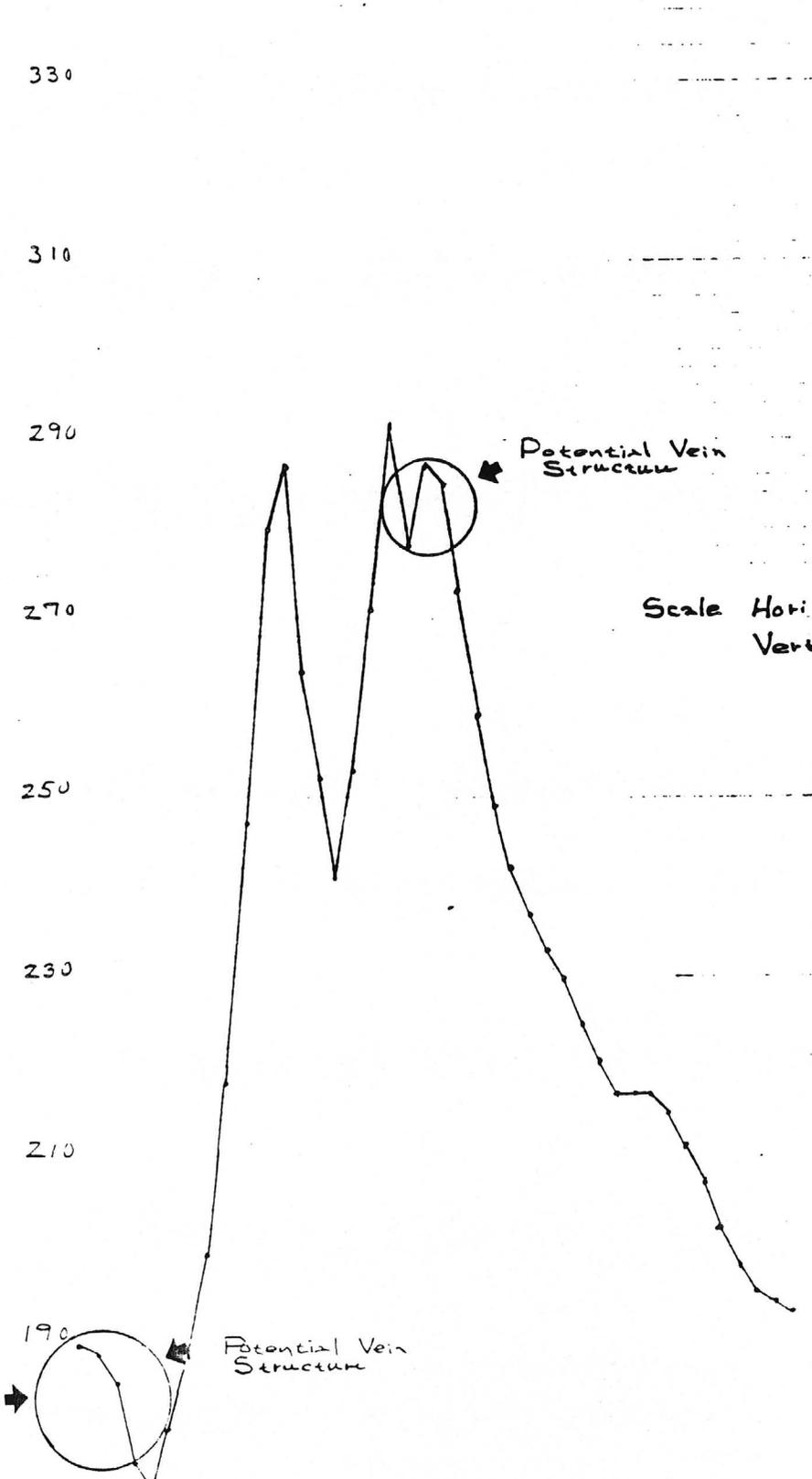
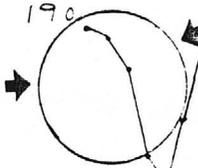
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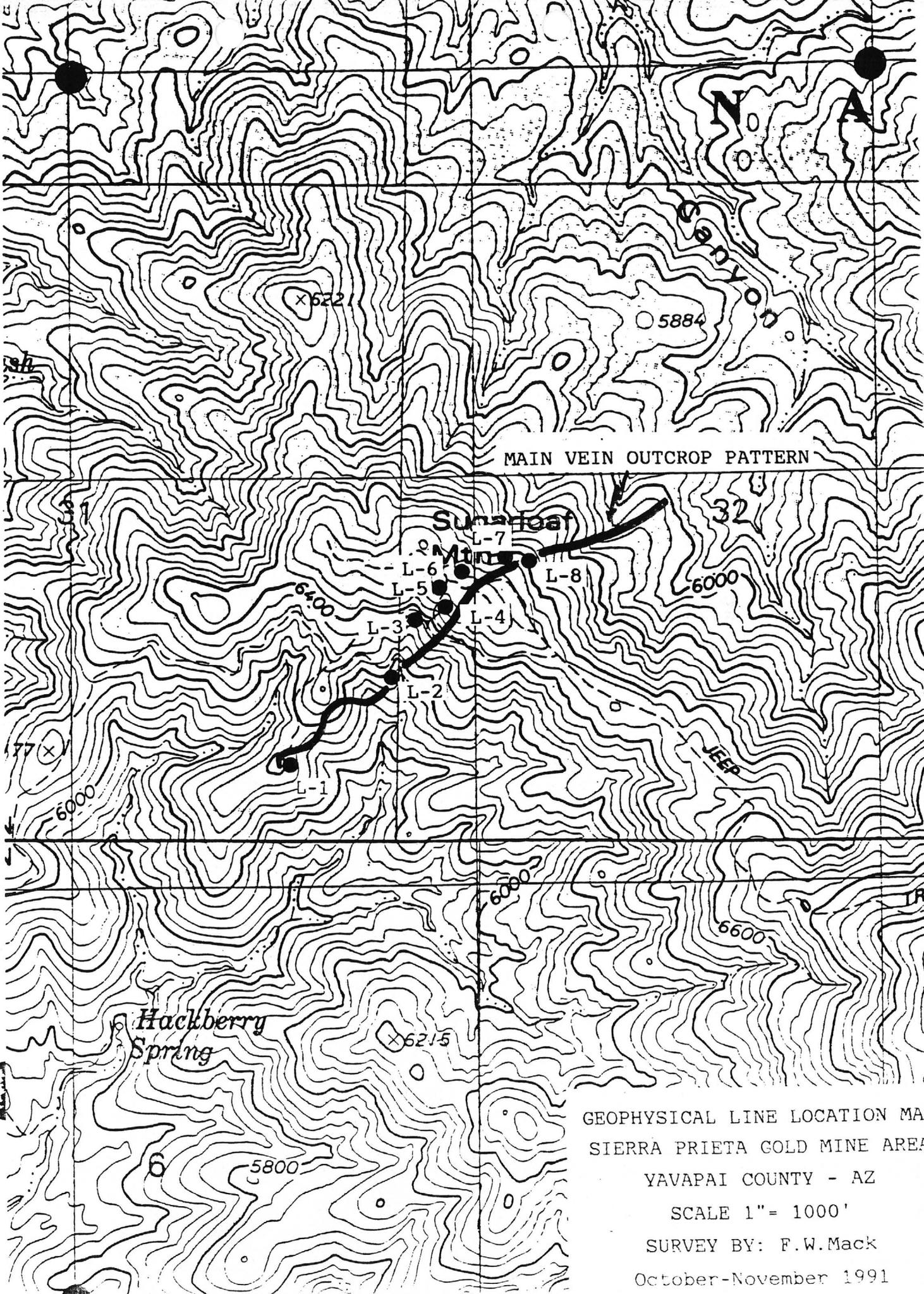
170

Potential Vein Structure

Scale Horizontal 1" = 50'  
Vertical 1" = 20'

Potential Vein Structure





MAIN VEIN OUTCROP PATTERN

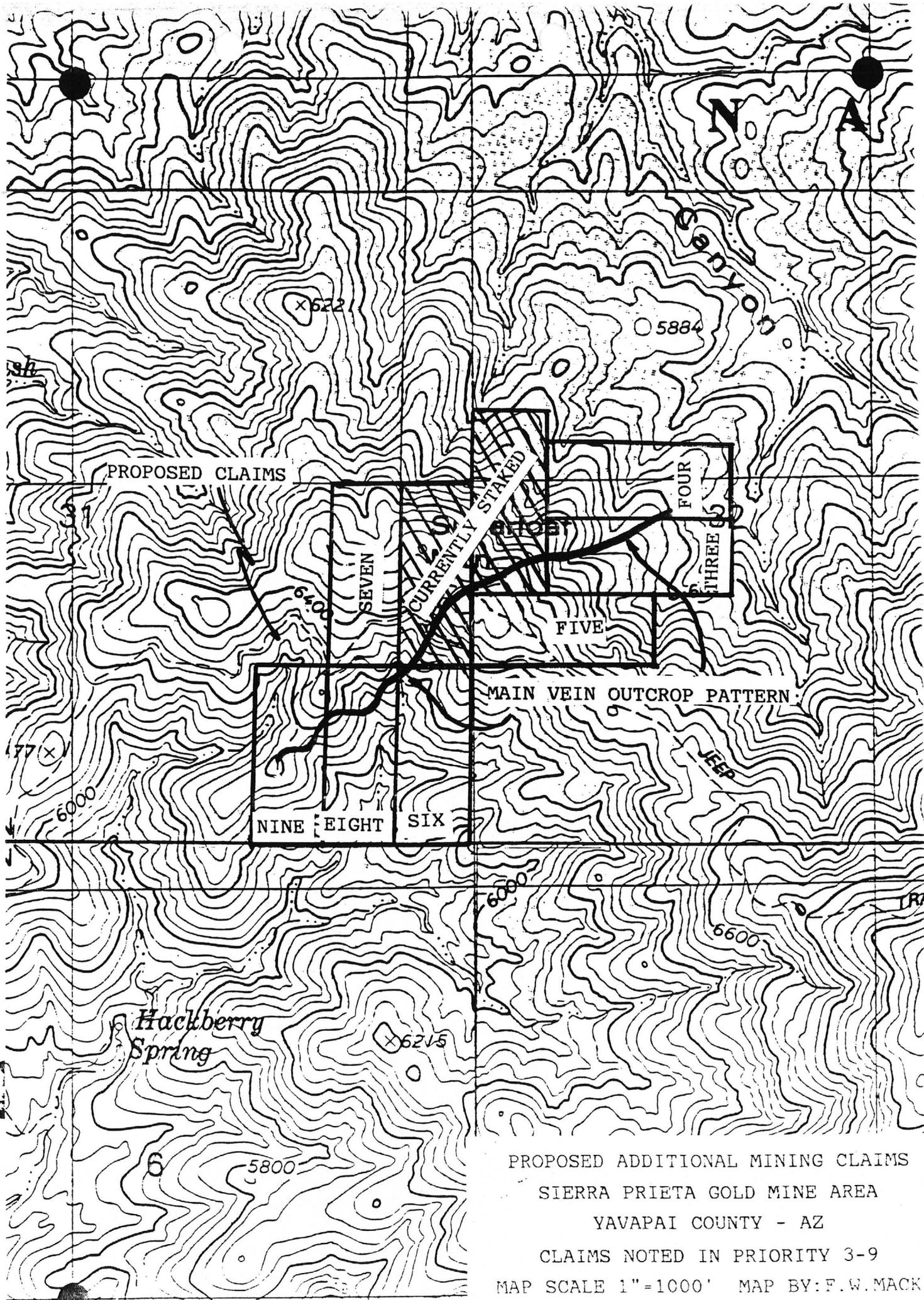
Sunleaf Mine

- L-1
- L-2
- L-3
- L-4
- L-5
- L-6
- L-7
- L-8

Hackberry Spring

JEEP

GEOPHYSICAL LINE LOCATION MAP  
 SIERRA PRIETA GOLD MINE AREA  
 YAVAPAI COUNTY - AZ  
 SCALE 1" = 1000'  
 SURVEY BY: F.W.Mack  
 October-November 1991



PROPOSED ADDITIONAL MINING CLAIMS  
SIERRA PRIETA GOLD MINE AREA  
YAVAPAI COUNTY - AZ  
CLAIMS NOTED IN PRIORITY 3-9  
MAP SCALE 1"=1000' MAP BY:F.W.MACK