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AMERICAN SMELTING AND REFINING COMPANY  
Tucson Arizona

October 6, 1966

W.E.S.  
OCT 10 1966

MR. W.E.S. SIB  
READ AND RETURN \_\_\_\_\_  
PREPARE ANSWERS \_\_\_\_\_ HANDLE \_\_\_\_\_  
FILE \_\_\_\_\_ INITIALS \_\_\_\_\_

TO: J. H. COURTRIGHT

FROM: S. VON FAY

MINE CANYON PROSPECT  
Whetstone Mountains  
Cochise County, Arizona

### Introduction

Some ten years ago Mr. B. J. Devere was shown a piece of chalcopryrite bearing igneous rock by a bulldozer operator then building a road in the Whetstone Mountains. In a porphyry note dated July 1952, Mr. K. G. Papke mentions an alleged spotty, irregular occurrence of chalcopryrite, bornite and pyrite in tactite. In the light of these two items of information, Mr. Devere and myself visited the area.

### Summary and Recommendations

A chalcopryrite bearing zone/zones, in unaltered monzonite, with a bornite bearing tactite near one end has been noted.

It is felt there is a reasonable chance that commercial tonnages and grades may be present.

Present status of patented and unpatented claims should be determined, and a hold should be obtained, if they are available for reasonable terms.

After determination of land status, detailed geological mapping and mineral appraisal should be undertaken, using aerial photographs as a base.

Once mapping is underway, we should claim open ground and do bulldozing to uncover outcrops.

### General

The area of interest is primarily in unsurveyed Section 20, T19S, R19E, in National Forest, in the southern portion of the Whetstone Mountains. Some production ( $\pm$  \$100,000) of copper was made in World War I by the Twin Peaks Mining Company, and/or preceding companies known as the Mascot-Nevada and Noriega properties.

One old patented claim "Mascot-Nevada", survey number 2246, exists. This was also known as "Gallens Patent". The Noriega Claim was also probably patented. Other patented claims may exist. Recent claim activity includes a location for the Double S S Mine, located 8/20/65 and recorded 8/22/65 by K. Shull and A. Samuels. Mr. Samuels, with whom I am acquainted,

operates the Fair Store in Benson, Arizona.

Some churn drilling (2-3 holes?) was done circa 1956-57, by parties unknown, in poorly advised locations. We also have reason to believe that Utah Construction has done geological mapping in the area.

Copper occurrences consist of thin ( $\pm 1/8"$ ) vertical veinlets, bearing chalcopryite, with scanty pyrite, in a fresh, unaltered, medium grained monzonite. One zone of veinlets is about 400 feet wide, and has a minimum strike length of about 300 feet, open on both ends.

This particular zone consists of a "high grade" middle portion about 110 feet wide, where the copper content should range between .6-1.00% Cu, with veinlets less than one inch apart. One sample was taken from dump material from this higher grade portion. The sample consisted of rock bearing chalcopryite veinlets, leached veinlets, and traces of malachite-azurite, and assayed .87% Cu, .01 oz Au and tr. Ag. Outside the middle high grade portion of the zone, the veinlets are wider spaced, up to or about eight inches apart. A sample of about 200 feet of the lean material, taken in a road cut, shows .42% Cu, tr. Au, .12 oz Ag, and .002%  $\text{MoS}_2$ .

The zone strikes N60-70E, where seen, open at both ends. Other parallel and sub-parallel zones may exist, as evidenced by faint color anomalies. Cross-cutting sets of mineralized fractures also exist, which appear to correspond in grade to the higher grade portions of the major NE trend. These sets do not appear to have lower grade edges, and are narrow, ranging from about 5 to 75 feet in width.

Approximately one-half mile from the portion of the zone sampled, on strike, the zone cuts across a zone of small to very large sedimentary zenoliths which strike about east-west. In and adjacent to the chalcopryite bearing northeast fracture zone, the zenoliths are altered to tactite. The tactites contain large blebby bornite and finely disseminated bornite, with rare chalcopryite, and little or no pyrite, as shown by dump material from old workings. On the outcrops, voids after copper bearing sulfides, with melaconite, are present.

West of this garnetized and mineralized area the zenoliths are not garnetized, but bear enough pyrite to give a red color anomaly. Only rare traces of copper sulfides have been seen (Cpy and Bo) in the pyritized zenoliths, and no commercial potential is thought to exist.

The copper bearing rocks in the main northeast trend show non-descript outcrops, with no significant color anomaly, thin brown limonite bearing cracks, and normally no copper minerals on the surface of the rocks.

In the mineralized portion cited, for a 400 foot width, a strike length of 800 feet, and an arbitrary depth of 400 feet (outcrops show a vertical topographic range of about 150 feet with no mineralization change), there is room for a possible ten million tons, with a possible grade of .4 to .5% Cu.

Mr. Courtright

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October 6, 1966

and with possible gold, silver and moly credits.

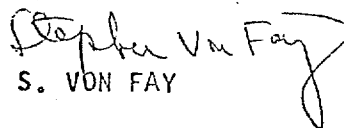
It is felt that this potential, taken together with the mineralized tactite, and other sub-parallel and cross-cutting copper bearing zones, gives sufficient encouragement to warrant a careful and detailed geological study to see if exploration targets do in fact exist, or can be developed.

It is recommended that aerial photographs be obtained for Sections 19, 20, and 30, at about 800 feet to the inch, and that the appropriate portions of Section 19 be blown up to 400 feet to the inch, or 200 feet, if required.

Accessible underground workings should be mapped and sampled.

A land study should be made to determine the status of patented and possible unpatented claims, and a hold should be obtained on such claims, assuming reasonable deals can be obtained.

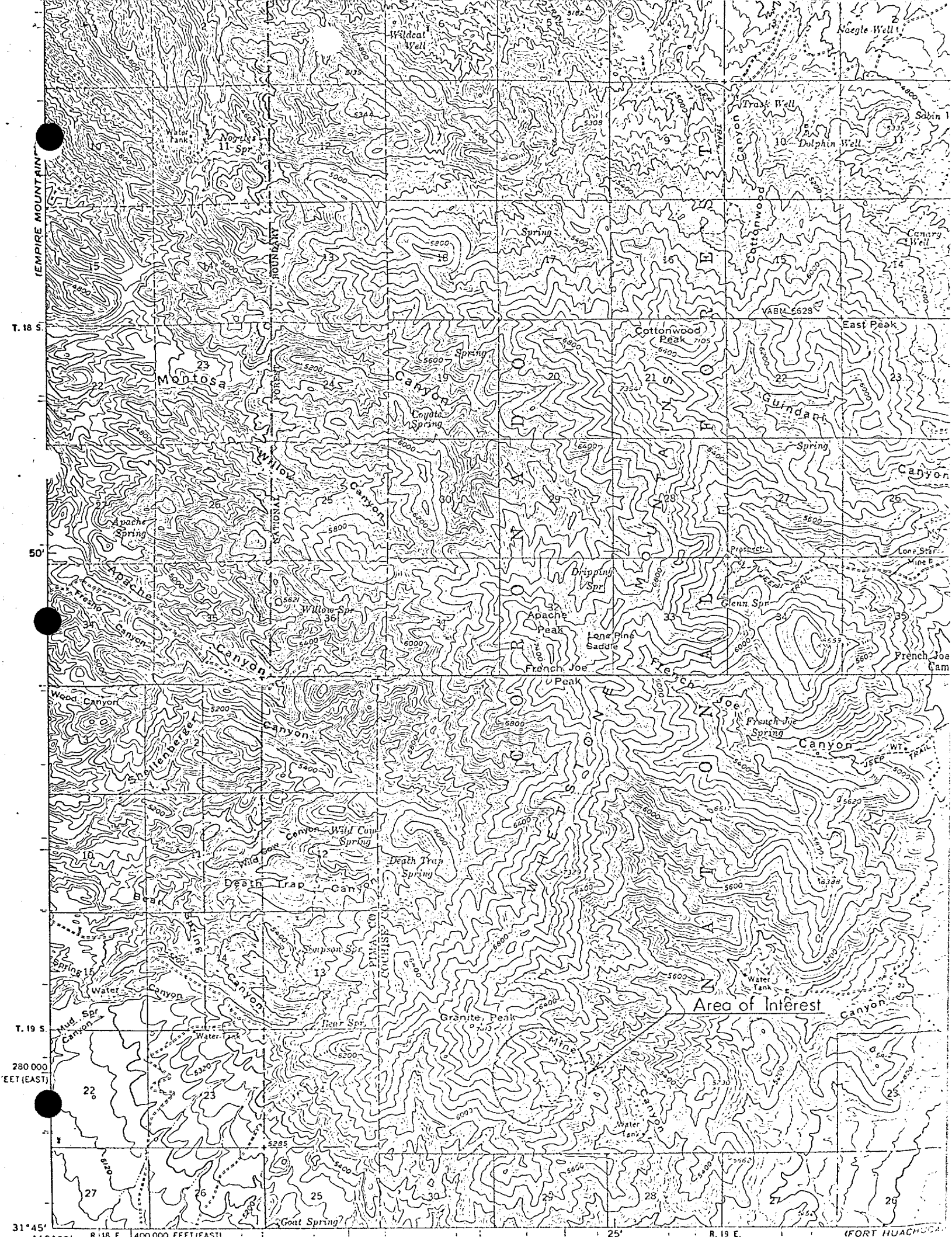
Outcrops are poor, and after mapping is initiated we should claim open ground, using a bulldozer to uncover outcrops, which should also suffice for some discovery work.

  
S. VON FAY

SVF/kw

Attachment

cc: BJDevere, w/att.



AMERICAN SMELTING AND REFINING COMPANY  
Tucson Arizona

January 10, 1967

TO: J. H. COURTRIGHT

FROM: S. VON FAY

MINE CANYON PROSPECT  
WHETSTONE MOUNTAINS  
COCHISE COUNTY, ARIZONA

Summary and Recommendations

Twenty claims have been staked in the Whetstone Mountains, covering a copper bearing shear zone which appears to be about 3000 feet long and 400 feet wide. The zone is in fresh monzonitic rocks, in mountainous topography, but close to highways and other facilities. Rocks are poorly exposed, being covered by talus and soil. Oxidation is shallow, and a few underground workings show some residual chalcopryrite, as do some arroyos, with minor pyrite. Limited sampling in underground workings shows ore grade values. It is recommended that the claims be validated, three angle diamond drill holes totaling about 1,000 feet be drilled as an initial test of the zone and the area be mapped in detail. In addition, an option should be obtained on two old patented claims. An authorization of \$20,000 should accomplish the claim validation, drilling, and mapping.

General

In September, 1966, Mr. B. J. Devere and myself paid an initial visit to the prospect. The visit was occasioned by Mr. Devere's recollection of a specimen of chalcopryrite bearing igneous rock purporting to come from the Whetstone Mountains. In addition, a porphyry note by K. G. Papke mentions an alledged spotty occurrence of chalcopryrite, bornite, and pyrite in a tactite, from which some  $\pm$ \$100,000 of copper ore was produced prior to and during World War I.

Two old patented claims, the Mascot and Nevada, Mineral Survey 2246, cover the old occurrences in tactite. Known mineral occurrences in these, and other tactites do not appear to be of interest. The prospect is in National Forest, in Section 20, T19S, R19E. Two claims were staked in November for initial protection, but not recorded. Twenty claims, Stone 4 through Stone 22 have now been staked to cover the zone (see map).

The prospect has been mapped in a reconnaissance fashion to determine limits of mineralization. It consists of a shear zone in monzonite slightly over 3,000 feet long and about 400 feet wide. Dips

of individual shears are high angle, passing back and forth through vertical, and resulting in a slightly sinuous strike, which approximates N53°E. The shears are mineralized with chalcopyrite and lesser amounts of pyrite. Individual shears are thin, ranging from paper thin to about 1/4 inch, and rarely  $\pm 1/2$  inch thick, but are relatively continuous. Spacing between shears varies between  $\pm 1/2$  inch to 6 to 12 inches. The closest spaced shearing occurs approximately in the center of the zone over a width of at least 50 feet. Samples taken from an old adit in the middle of the zone average about 1% Cu. Grades appear to decrease with the decrease in shearing intensity from the central higher grade zone to the edges of the shear zone. Disseminated sulfides are negligible, except in the central zone, where they appear in poikilitic feldspars, mica books, etc.

The expectable Cu grades in the leaner portions of the shear zone are difficult to appraise. Rock on the outcrop is essentially fresh, with minor feldspathization and possible recrystallization. Copper stain is almost non-existent, although diligent search will usually reveal traces of green or black copper oxides. Shear faces are usually covered with limonites of a color and texture such that they appear to be after chalcopyrite. This cannot be strictly correct, as some pyrite is noted where sulfides can be found.

Chip sampling of leached rock in a road cut (upper road), two to ten feet below soil and on dip above material sampled in an adit, shows a grade of about .21% Cu. The corresponding rock in the adit shows .41 to .53% Cu, and is about one-half leached and oxidized. This indicates something over a twofold increase between the road cut sub-outcrop and the adit, with the adit grade being downgraded because of leaching. Extrapolating from this basis, and observing the grades obtained in the road cut sampling, one can arrive at a grade of about .5% Cu for the weaker portion of the zone. This is a questionable exercise in arithmetic involving too many variables to accept with any confidence such a copper grade. The sampling done, however, does appear to point out that there has been some actual removal of copper from the outcrop, rather than precipitation in the immediate surrounding rock as copper oxides.

Hard, polished, outcropping rock in a gully below the road cut, containing some sulfides shows grades ranging from .29 to .71% Cu (samples MC50-MC53). The tactite inclusion to the northwest of these samples shows considerable carbonates, and was not sampled. Dump samples MC16 and 23 to the southwest show copper is present. No sulfides were noted on these little dumps, and Cu stain is very minor. Very little outcrop occurs on the lower road, and this was not sampled.

The grades in the leaner portion are critical. If they are .2% Cu, the prospect has no value. Grades as high as .5 or .6% Cu in the lean portion together with possible moly and precious metal credits would make the prospect of decided interest. Considering the occurrence of fine grained sulfide disseminations where the grade

approaches 1% Cu, erratic shearing intensity with strong variations in thickness of chalcopyrite-pyrite on the shears, I would doubt if a consistent and accurate grade appraisal of sulfides in core to say nothing of leached outcrops could be made without assaying.

Mineralization is evident on the surface through a vertical range of about 750 feet. In the area sampled, continuity of mineralization is demonstrated over a length of about 800 feet and appears to continue, based on talus float, and sparse outcrops, for at least another 1400 feet to the southwest. To the northeast, from the area sampled, outcrops are poor, and talus is blocky. However, sulfides continue in a gully bottom for some hundreds of feet northeasterly from the area sampled, and are then lost. Farther northeast, sulfides again can be noted in a gully bottom near the old patented claims. Between these two points, discontinuity may occur. Beyond the northeasternmost gully mentioned, the zone appears to be feathering out into alternate bands of about 75 feet wide of mineralized and unmineralized rock.

In the area from which samples have been obtained over a length of 800 feet, and a width of 400 feet, about 10,000,000 tons would be present to a depth of 400 feet.

It is my opinion that the grades in the leaner portions of the zone may range as high as .4 to .6% Cu and therefore the prospect warrants a limited initial test. If such grades do occur, the deposit would be amenable to open pit mining. Physical conditions for such mining are ideal. Haulage would be down hill. The prospect is within about 4 miles of two major highways, about 5 miles from railway transportation, overlooks the San Pedro Valley, and its ample water, is close to power etc.

A limited test is suggested consisting of three  $\pm$ 300 foot long diamond drill holes. These holes are designed to cut a portion of the lower grade material and check part of the center of the shear zone. They will not crosscut the entire zone. They are shown as P. 1, 2, and 3. These proposed holes are angle holes ( $-45^\circ$ ), to be drilled with a skid rig. The holes are also designed to satisfy discovery requirements for the new claims. Concurrently with this initial drilling, a detailed mapping program should be undertaken.

It would be desirable to investigate the status of the patented claims and obtain an option, if possible. They have no apparent mineral worth, but are in an awkward physical location in respect to access at the end of the shear zone. Local real estate values within a very few miles of the claims approximate \$200 to \$300 per acre for parcels outside National Forest. Somewhat higher values might be attached by owners to land inside the forest.



Costs involved in the recommended program are about as follows:

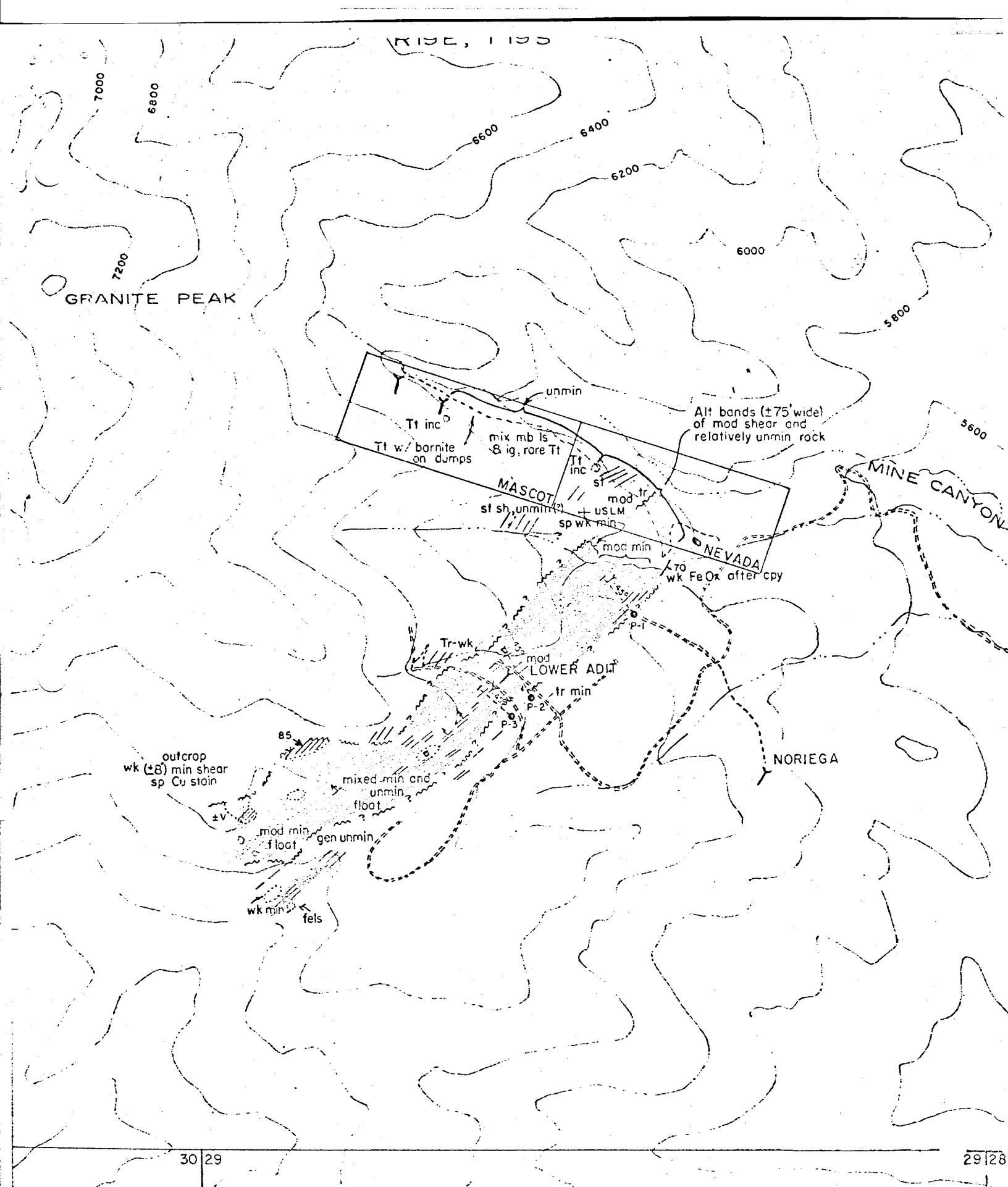
Surveying and setting corners for 20 claims, in difficult topography 20 claims @ \$125	- \$ 2,500.
3 diamond drill holes, 1200' @ \$10/ft.	- 12,000.
Move in charges	- 200.
Assaying	- 300.
Bulldozer hire, in rough topography $\pm$ 50¢/ft. of core	- 500.
Sampling and supervision $\pm$ \$2.00/ft of core	- 2,000.
Geological mapping	- 1,000.
Contingencies	- <u>1,500.</u>
TOTAL	- \$20,000.

*Stephen Von Fay pjc*  
STEPHEN VON FAY

SVF:pjc

Attachments

cc: JHCourtright, 3X



Geologic Sketch Map  
 MINE CANYON PROSPECT  
 Whetstone Mtn, Cochise County, Arizona